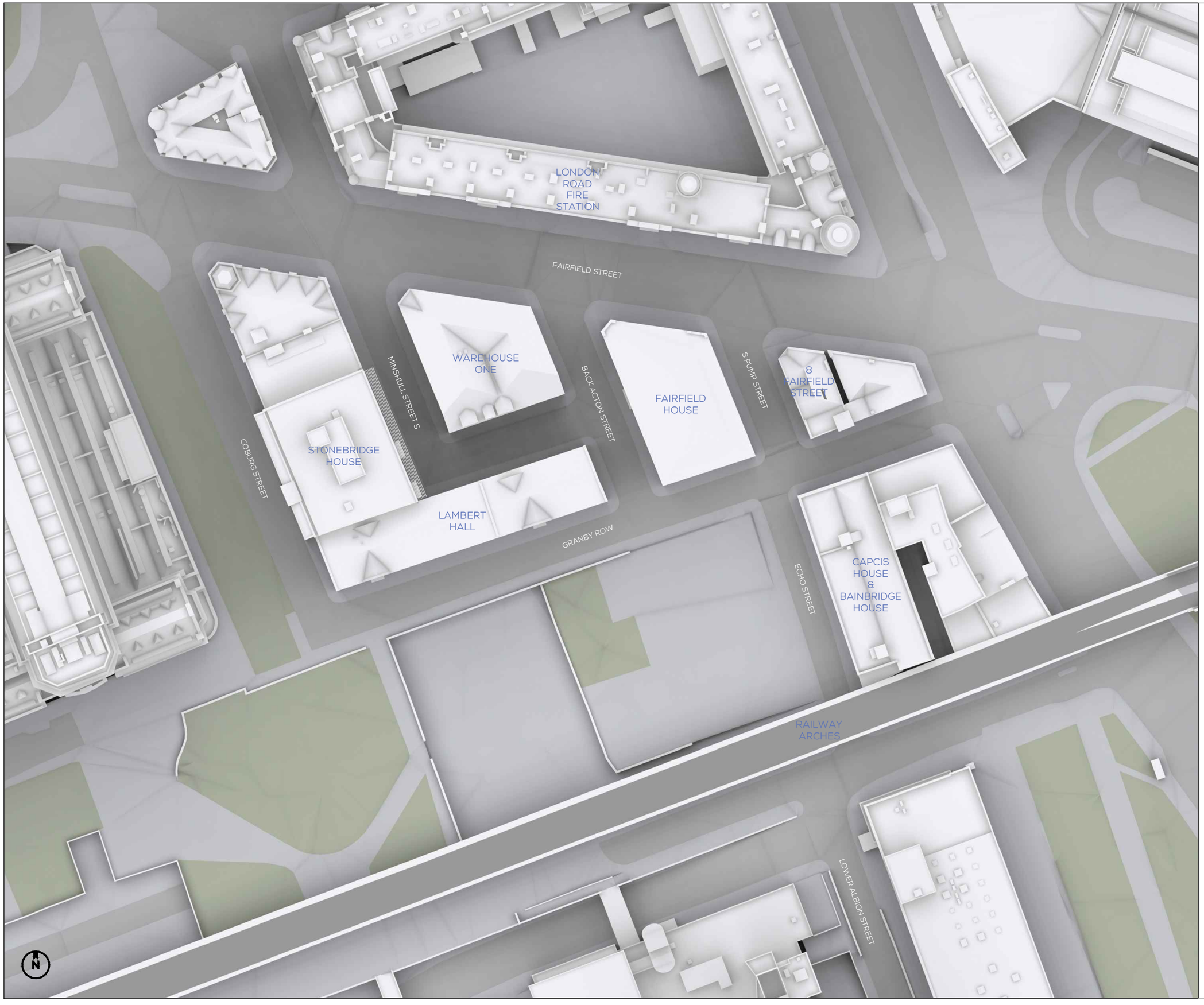


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NOTES:
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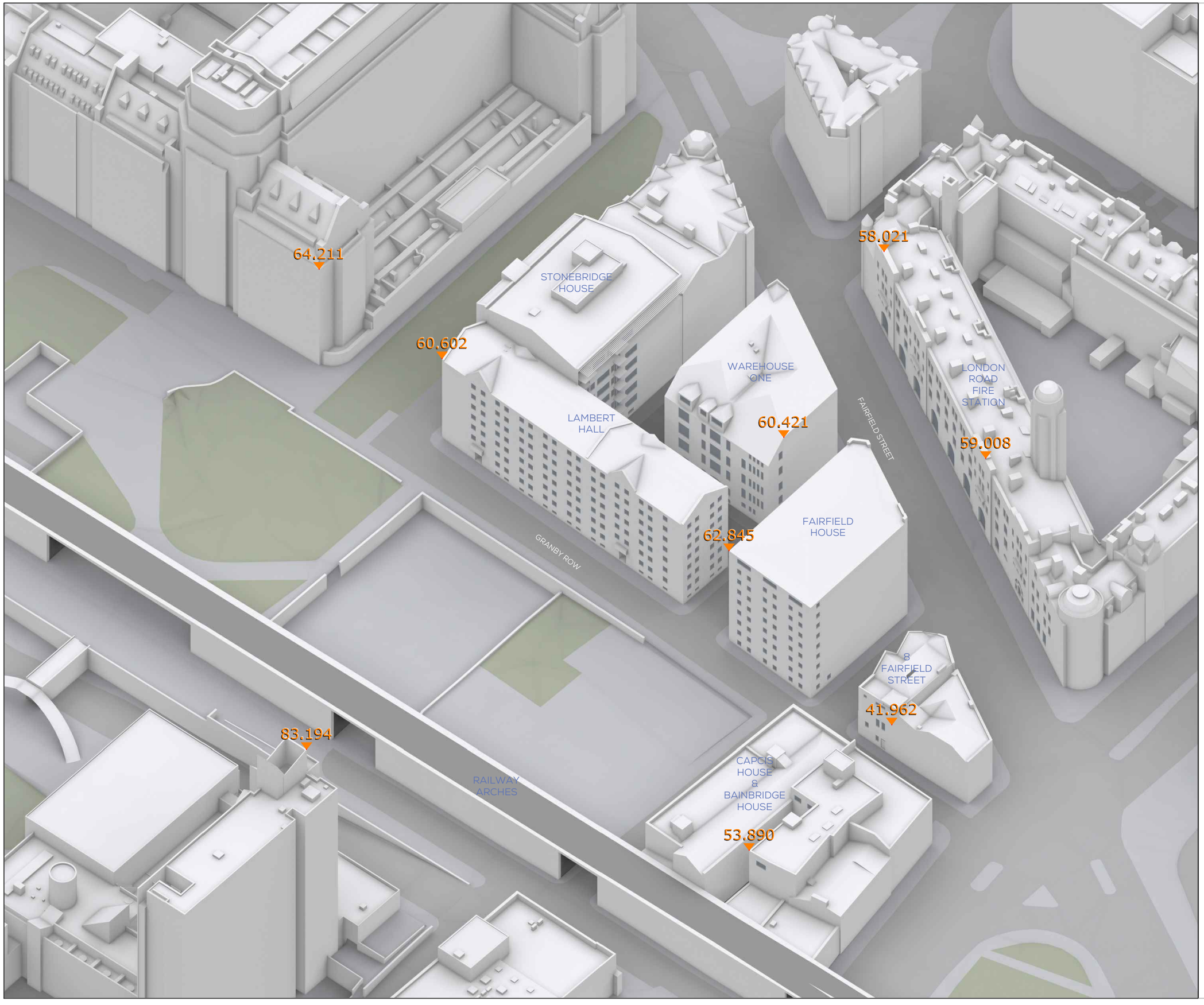
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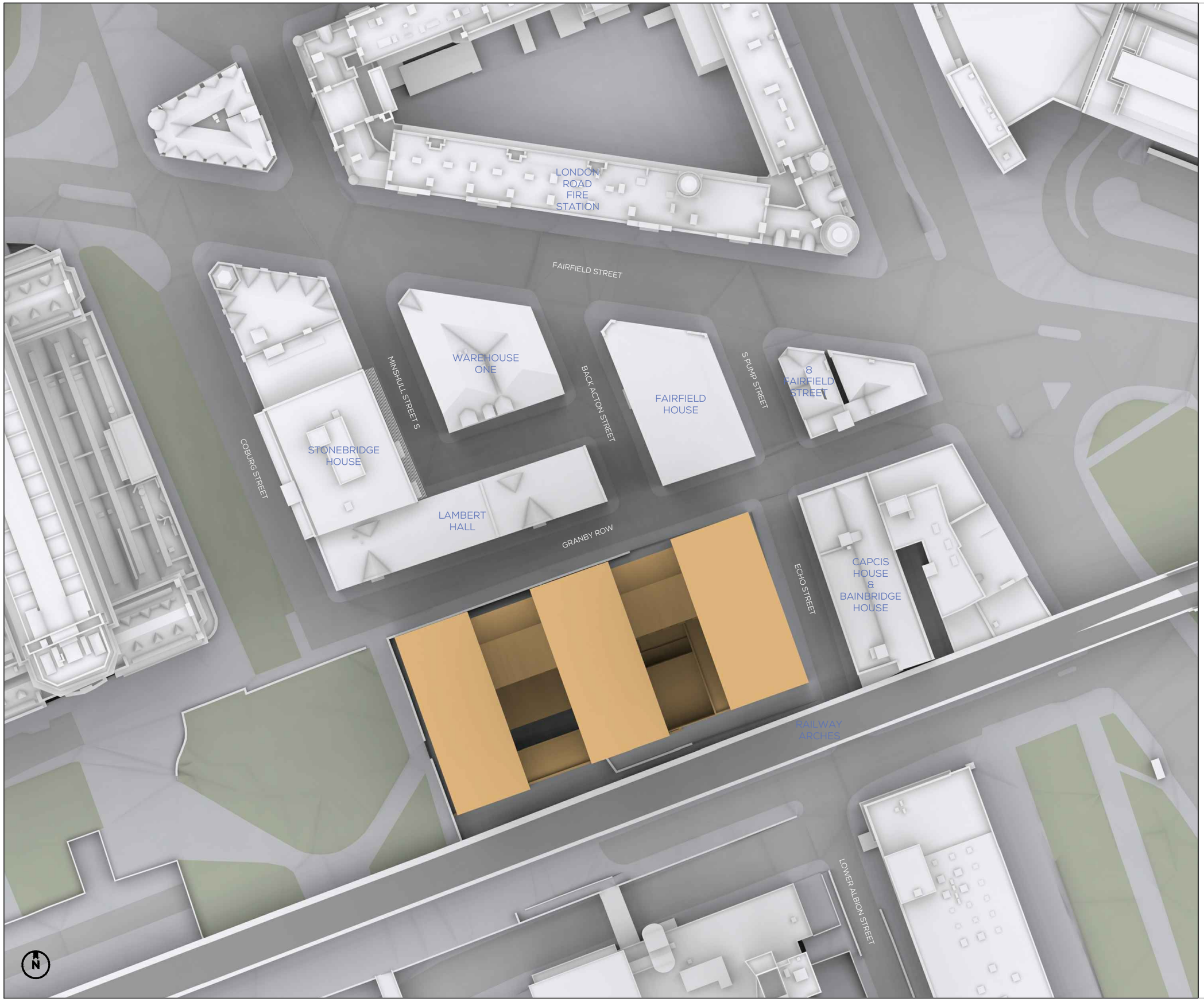
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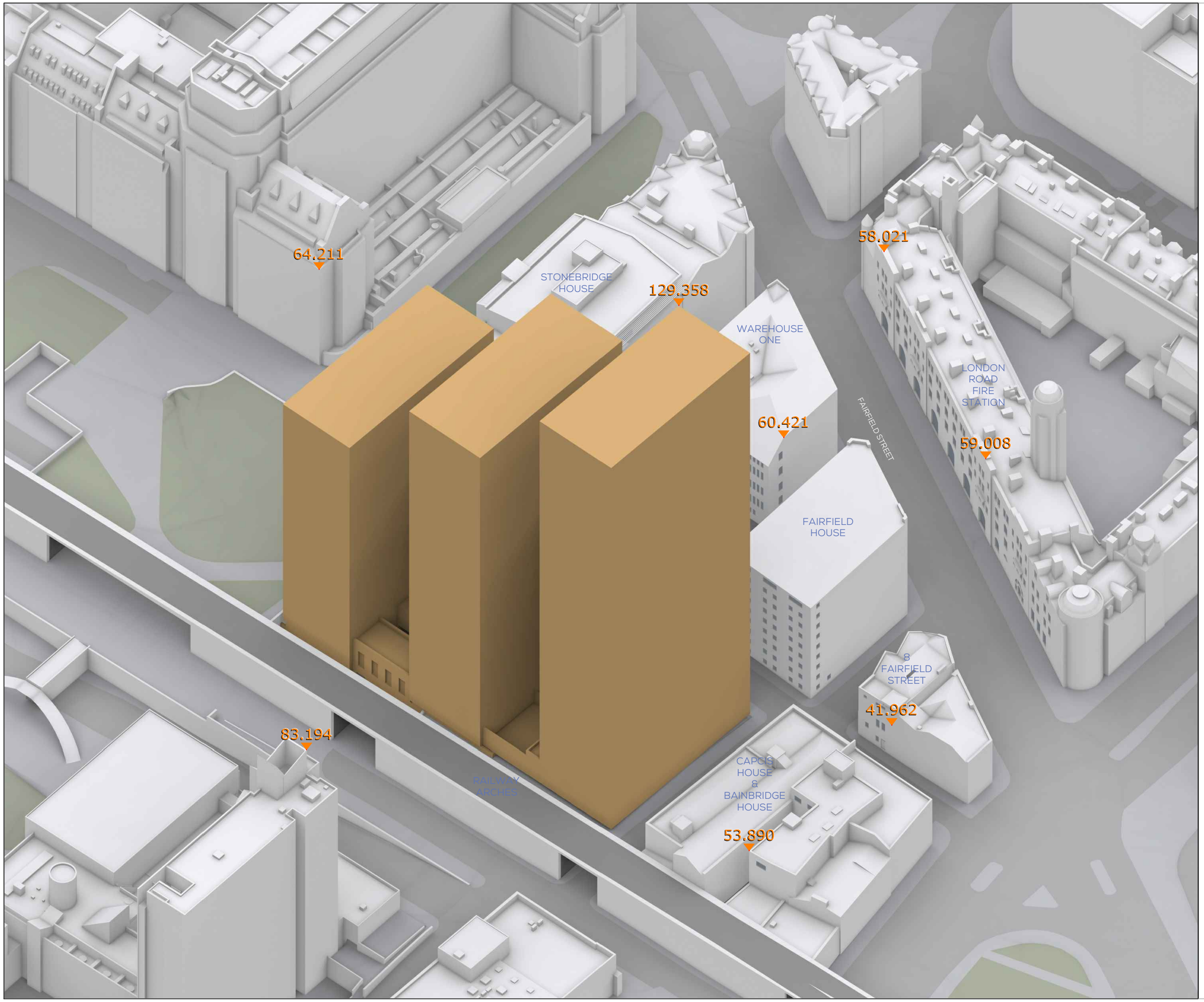
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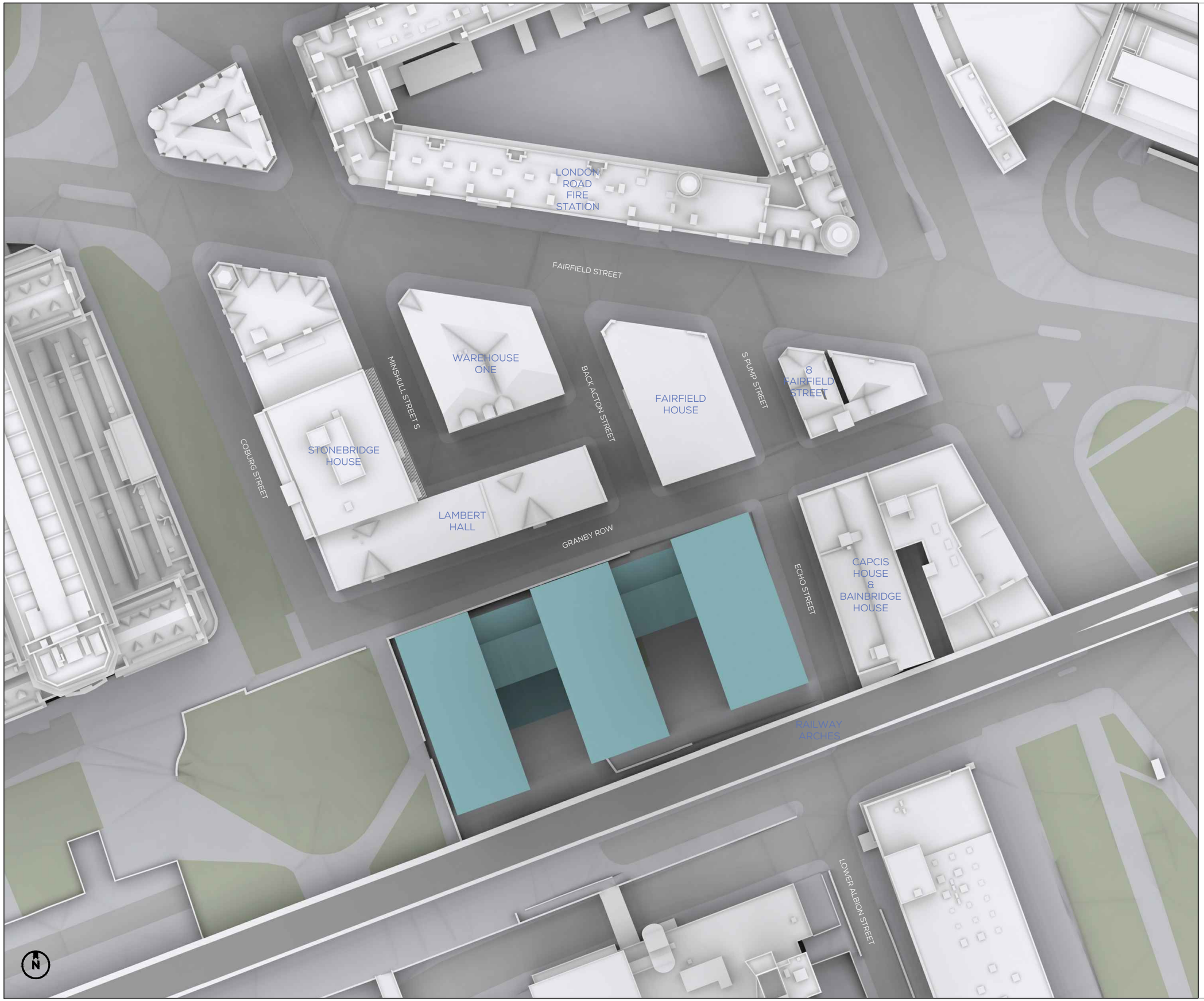
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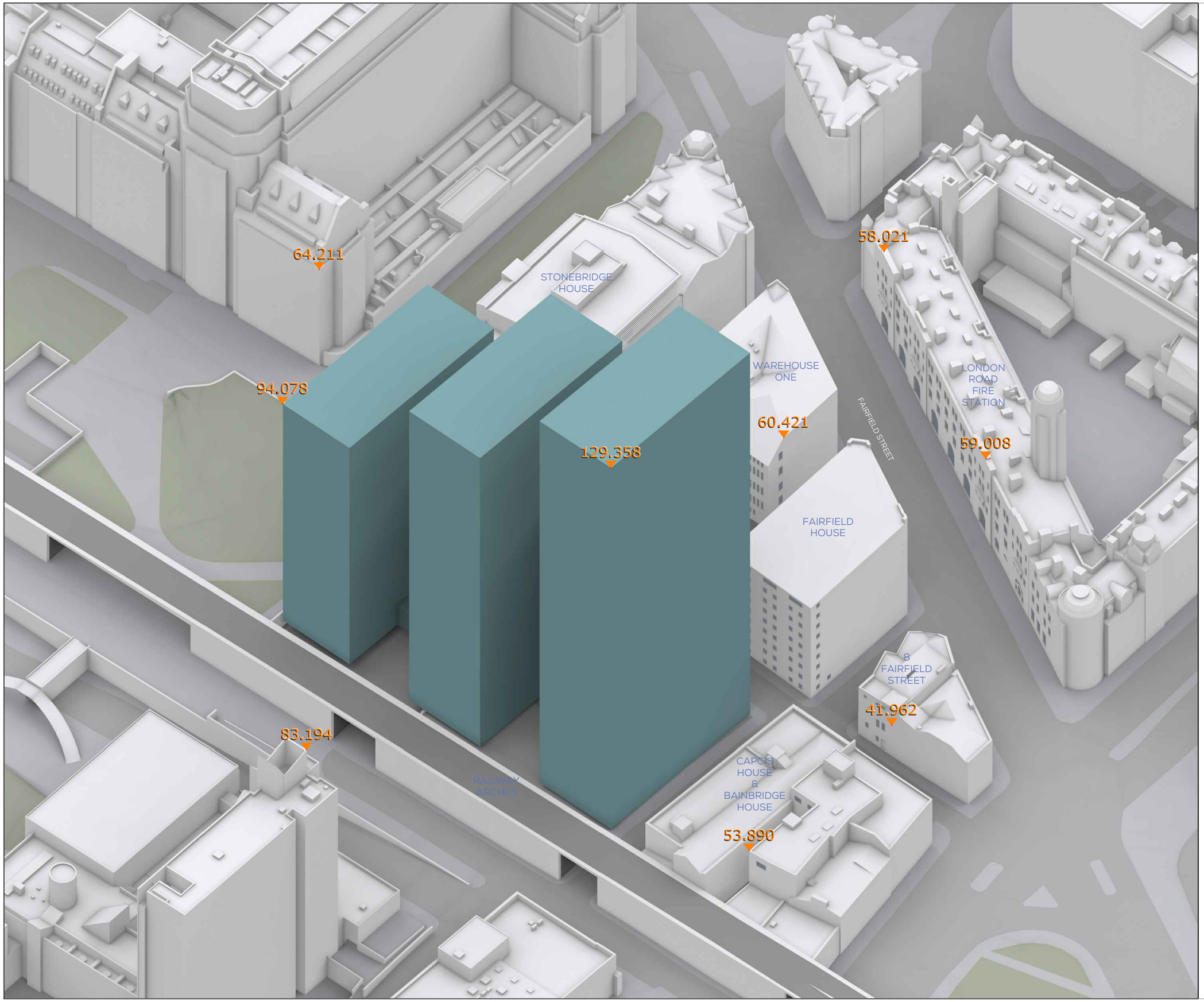
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					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX. ANNUAL	EX. WINTER	PR. ANNUAL	PR. WINTER	LOSS % ANNUAL	LOSS % WINTER	MEETS CRITERIA
LONDON ROAD FIRE STATION																					
F01	R11	HOTEL	BEDROOM	W24/F01	21.7	18.4	3.3	15.2%	YES	92.9	86.7	1.4	6.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W25/F01	22.1	18.3	3.8	17.2%	YES												
			BEDROOM	W26/F01	24.4	20.3	4.1	16.8%	YES												
	R12	HOTEL	BEDROOM	W27/F01	26.5	21.4	5.1	19.2%	YES	96.1	87.9	1.5	8.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W28/F01	27.2	21.6	5.6	20.6%	NO												
	R13	HOTEL	BEDROOM	W29/F01	27.8	22.1	5.7	20.5%	NO	97.1	96.1	0.2	1.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W30/F01	28.3	22.6	5.7	20.1%	NO												
F02	R10	HOTEL	BEDROOM	W23/F02	27.2	23.3	3.9	14.3%	YES	96	80.5	2.8	16.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W24/F02	27.9	23.4	4.5	16.1%	YES												
	R11	HOTEL	BEDROOM	W25/F02	28.2	23.4	4.8	17.0%	YES	92.5	82.2	1.8	11.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W26/F02	28.6	23.4	5.2	18.2%	YES												
	R12	HOTEL	BEDROOM	W27/F02	29.5	23.5	6	20.3%	NO	95.3	86.2	1.9	9.6%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W28/F02	30.2	23.8	6.4	21.2%	NO												
	R13	HOTEL	BEDROOM	W29/F02	31	24.3	6.7	21.6%	NO	97.1	96.8	0.0	0.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W30/F02	31.5	24.6	6.9	21.9%	NO												
F03	R10	HOTEL	BEDROOM	W33/F03	30.2	25.1	5.1	16.9%	YES	98.4	83.5	2.7	15.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W34/F03	30.9	25.2	5.7	18.4%	YES												
	R11	HOTEL	BEDROOM	W35/F03	31.2	25.2	6	19.2%	YES	96.9	90	1.2	7.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W36/F03	31.4	25.1	6.3	20.1%	NO												
	R12	HOTEL	BEDROOM	W37/F03	29.9	22.7	7.2	24.1%	NO	79.6	67.6	2.5	15.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	HOTEL	BEDROOM	W38/F03	31	23.3	7.7	24.8%	NO	83.4	66.9	2.3	19.8%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FAIRFIELD HOUSE																					
F00	R1	RESIDENTIAL	UNKNOWN	W1/F00	10.9	9	1.9	17.4%	YES	64.1	63.1	0.8	1.6%	YES	41	6	29	0	29.3%	100.0%	NO
			UNKNOWN	W2/F00	11.5	9.6	1.9	16.5%	YES												
			UNKNOWN	W3/F00	12.7	10.7	2	15.7%	YES												
			UNKNOWN	W4/F00	13.4	11.4	2	14.9%	YES												
			UNKNOWN	W16/F00	17.4	17.4	0	0.0%	YES												
			UNKNOWN	W17/F00	17.4	17.4	0	0.0%	YES												
			UNKNOWN	W18/F00	16.9	16.9	0	0.0%	YES												
	R2 (3)	RESIDENTIAL	UNKNOWN	W5/F00	12.7	6.9	5.8	45.7%	NO	52.9	21.7	8.3	59.0%	NO	30	12	0	0	100.0%	100.0%	NO
FAIRFIELD HOUSE (CONTINUED)																					
			UNKNOWN	W6/F00	13.5	6.2	7.3	54.1%	NO												
	R3	RESIDENTIAL	UNKNOWN	W7/F00	16.3	7.7	8.6	52.8%	NO	96.6	70.6	3.8	27.0%	NO	70	15	20	1	71.4%	93.3%	NO

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
			UNKNOWN	W8/F00	26.8	4.1	22.7	84.7%	NO												
			UNKNOWN	W9/F00	26.8	5	21.8	81.3%	NO												
	R4	RESIDENTIAL	UNKNOWN	W10/F00	26.7	7.2	19.5	73.0%	NO	84.9	56.8	4.7	33.1%	NO	69	15	31	3	55.1%	80.0%	NO
			UNKNOWN	W11/F00	26.5	9.4	17.1	64.5%	NO												
	R5	RESIDENTIAL	UNKNOWN	W12/F00	26.6	13.9	12.7	47.7%	NO	80	80	0.0	0.0%	YES	71	15	41	6	42.3%	60.0%	YES
			UNKNOWN	W13/F00	26.4	13.8	12.6	47.7%	NO												
			UNKNOWN	W14/F00	18.6	18.6	0	0.0%	YES												
			UNKNOWN	W15/F00	17.1	17.1	0	0.0%	YES												
F01	R1	RESIDENTIAL	UNKNOWN	W1/F01	12.6	10.4	2.2	17.5%	YES	63	62.8	0.1	0.4%	YES	36	7	24	1	33.3%	85.7%	NO
			UNKNOWN	W2/F01	13.2	11	2.2	16.7%	YES												
			UNKNOWN	W20/F01	20	20	0	0.0%	YES												
			UNKNOWN	W21/F01	19.9	19.9	0	0.0%	YES												
			UNKNOWN	W22/F01	19.1	19.1	0	0.0%	YES												
	R2	RESIDENTIAL	BEDROOM	W3/F01	14.6	12.3	2.3	15.8%	YES	43.5	42.1	0.1	3.2%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R3	RESIDENTIAL	BEDROOM	W4/F01	15.5	13.1	2.4	15.5%	YES	43.8	41.9	0.1	4.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F01	16	13.2	2.8	17.5%	YES	31	29	0.2	6.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W6/F01	16.5	12.9	3.6	21.8%	NO	46.4	40	0.5	13.9%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F01	16.4	12.4	4	24.4%	NO	45.8	42.1	0.2	8.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W8/F01	16	11.3	4.7	29.4%	NO	47.7	41	0.5	14.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W9/F01	14.9	9.7	5.2	34.9%	NO	41.6	35.9	0.4	13.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W10/F01	14.1	8	6.1	43.3%	NO	34.8	24.6	0.7	29.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W11/F01	15	7.2	7.8	52.0%	NO	50.9	21.3	2.2	58.1%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	UNKNOWN	W12/F01	17.8	8.5	9.3	52.2%	NO	90.3	68.5	3.4	24.2%	NO	77	20	24	2	68.8%	90.0%	NO
			UNKNOWN	W13/F01	30.4	4.5	25.9	85.2%	NO												
			UNKNOWN	W14/F01	30.4	5.5	24.9	81.9%	NO												
	R12	RESIDENTIAL	BEDROOM	W15/F01	30.3	8.1	22.2	73.3%	NO	95.4	23.3	7.6	75.6%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W16/F01	30.2	10.6	19.6	64.9%	NO	93.9	29.7	6.7	68.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	UNKNOWN	W17/F01	30	15.5	14.5	48.3%	NO	92.4	87.6	1.0	5.2%	YES	76	20	43	8	43.4%	60.0%	YES
			UNKNOWN	W18/F01	29.5	15.7	13.8	46.8%	NO												
FAIRFIELD HOUSE (CONTINUED)																					
			UNKNOWN	W19/F01	22.5	22.5	0	0.0%	YES												
F02	R1	RESIDENTIAL	UNKNOWN	W1/F02	14.9	12.3	2.6	17.4%	YES	71.8	71.4	0.1	0.5%	YES	38	8	25	1	34.2%	87.5%	NO
			UNKNOWN	W2/F02	15.7	13.1	2.6	16.6%	YES												
			UNKNOWN	W20/F02	22.6	22.6	0	0.0%	YES												
			UNKNOWN	W21/F02	22.7	22.7	0	0.0%	YES												

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX. ANNUAL	EX. WINTER	PR. ANNUAL	PR. WINTER	LOSS % ANNUAL	LOSS % WINTER	MEETS CRITERIA
			UNKNOWN	W22/F02	21.7	21.7	0	0.0%	YES												
	R2	RESIDENTIAL	BEDROOM	W3/F02	17.1	14.4	2.7	15.8%	YES	60.1	57	0.2	5.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R3	RESIDENTIAL	BEDROOM	W4/F02	18	15.4	2.6	14.4%	YES	59.7	57.1	0.2	4.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F02	18.6	15.5	3.1	16.7%	YES	42.9	40.9	0.2	4.6%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W6/F02	18.9	15.2	3.7	19.6%	YES	61.6	55.7	0.4	9.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F02	18.7	14.5	4.2	22.5%	NO	63.8	60.3	0.2	5.6%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W8/F02	17.9	13	4.9	27.4%	NO	58.1	51.2	0.5	12.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W9/F02	16.7	11.2	5.5	32.9%	NO	53.3	47.4	0.4	11.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W10/F02	15.9	9.5	6.4	40.3%	NO	40.5	30.4	0.7	24.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W11/F02	16.7	8.5	8.2	49.1%	NO	58.3	29.9	2.1	48.7%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	UNKNOWN	W12/F02	19.4	9.6	9.8	50.5%	NO	90.9	71.7	3.0	21.2%	NO	78	21	24	2	69.2%	90.5%	NO
			UNKNOWN	W13/F02	32.8	4.8	28	85.4%	NO												
			UNKNOWN	W14/F02	33	6	27	81.8%	NO												
	R12	RESIDENTIAL	BEDROOM	W15/F02	33.1	9	24.1	72.8%	NO	97.1	23.5	7.7	75.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W16/F02	33	11.8	21.2	64.2%	NO	96.1	30.2	6.9	68.6%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	UNKNOWN	W17/F02	32.6	17.2	15.4	47.2%	NO	95.9	93.6	0.5	2.4%	YES	79	21	44	8	44.3%	61.9%	YES
			UNKNOWN	W18/F02	32.2	17.6	14.6	45.3%	NO												
			UNKNOWN	W19/F02	27.3	27.3	0	0.0%	YES												
F03	R1	RESIDENTIAL	UNKNOWN	W1/F03	17.9	14.9	3	16.8%	YES	83.8	82.7	0.4	1.2%	YES	41	10	28	2	31.7%	80.0%	NO
			UNKNOWN	W2/F03	18.8	15.6	3.2	17.0%	YES												
			UNKNOWN	W20/F03	25.7	25.7	0	0.0%	YES												
			UNKNOWN	W21/F03	25.7	25.7	0	0.0%	YES												
			UNKNOWN	W22/F03	24.1	24.1	0	0.0%	YES												
	R2	RESIDENTIAL	BEDROOM	W3/F03	20.1	16.9	3.2	15.9%	YES	75.2	68.7	0.4	8.6%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R3	RESIDENTIAL	BEDROOM	W4/F03	21.1	17.9	3.2	15.2%	YES	75.4	71.7	0.3	4.9%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F03	21.6	18.3	3.3	15.3%	YES	56.4	54.4	0.2	3.6%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FAIRFIELD HOUSE (CONTINUED)																					
	R5	RESIDENTIAL	BEDROOM	W6/F03	21.8	17.8	4	18.3%	YES	75.5	69.8	0.4	7.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F03	21.2	16.8	4.4	20.8%	NO	80.8	77.5	0.2	4.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W8/F03	20.1	15	5.1	25.4%	NO	67.5	60.9	0.4	9.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W9/F03	18.8	13.1	5.7	30.3%	NO	60.7	55.3	0.4	8.8%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W10/F03	17.9	11.3	6.6	36.9%	NO	43.4	33.5	0.7	22.9%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W11/F03	18.5	10.2	8.3	44.9%	NO	61.9	34.7	2.0	44.0%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	UNKNOWN	W12/F03	21	11.1	9.9	47.1%	NO	91.3	73.1	2.9	19.9%	YES	80	22	25	3	68.8%	86.4%	NO
			UNKNOWN	W13/F03	33.6	5.1	28.5	84.8%	NO												

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX. ANNUAL	EX. WINTER	PR. ANNUAL	PR. WINTER	LOSS % ANNUAL	LOSS % WINTER	MEETS CRITERIA
			UNKNOWN	W14/F03	33.8	6.3	27.5	81.4%	NO												
	R12	RESIDENTIAL	BEDROOM	W15/F03	34	9.4	24.6	72.4%	NO	97.4	23.6	7.7	75.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W16/F03	34.1	12.5	21.6	63.3%	NO	97	30.3	7.0	68.7%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	UNKNOWN	W17/F03	34.2	18.5	15.7	45.9%	NO	96.2	94.2	0.4	2.1%	YES	81	22	45	9	44.4%	59.1%	YES
			UNKNOWN	W18/F03	34.2	19.3	14.9	43.6%	NO												
			UNKNOWN	W19/F03	32.1	32.1	0	0.0%	YES												
F04	R1	RESIDENTIAL	UNKNOWN	W1/F04	21.4	18.1	3.3	15.4%	YES	88.7	88.6	0.0	0.1%	YES	49	12	34	2	30.6%	83.3%	NO
			UNKNOWN	W2/F04	22.4	18.8	3.6	16.1%	YES												
			UNKNOWN	W20/F04	28.5	28.5	0	0.0%	YES												
			UNKNOWN	W21/F04	28.5	28.5	0	0.0%	YES												
			UNKNOWN	W22/F04	26.9	26.9	0	0.0%	YES												
	R2	RESIDENTIAL	BEDROOM	W3/F04	23.8	20	3.8	16.0%	YES	86.7	77.8	0.6	10.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R3	RESIDENTIAL	BEDROOM	W4/F04	24.6	20.7	3.9	15.9%	YES	87.7	82.1	0.4	6.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F04	25	21.1	3.9	15.6%	YES	69.5	66.6	0.3	4.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W6/F04	24.7	20.4	4.3	17.4%	YES	80.6	74.8	0.4	7.2%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F04	24	19.2	4.8	20.0%	YES	85	82	0.2	3.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W8/F04	22.7	17.3	5.4	23.8%	NO	69.5	63.3	0.4	8.9%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W9/F04	21.4	15.4	6	28.0%	NO	63.1	58.5	0.3	7.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W10/F04	20.4	13.5	6.9	33.8%	NO	45.7	36.4	0.6	20.3%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W11/F04	20.9	12.4	8.5	40.7%	NO	63	38.1	1.8	39.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	UNKNOWN	W12/F04	23.1	12.9	10.2	44.2%	NO	91.7	73.5	2.9	19.8%	YES	80	22	25	3	68.8%	86.4%	NO
			UNKNOWN	W13/F04	34.3	5.3	29	84.5%	NO												
			UNKNOWN	W14/F04	34.5	6.5	28	81.2%	NO												
FAIRFIELD HOUSE (CONTINUED)																					
	R12	RESIDENTIAL	BEDROOM	W15/F04	34.7	9.7	25	72.0%	NO	98	23.7	7.8	75.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W16/F04	34.8	12.8	22	63.2%	NO	97.9	30.4	7.1	69.0%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	UNKNOWN	W17/F04	35	18.9	16.1	46.0%	NO	99	97.4	0.3	1.7%	YES	82	23	46	10	43.9%	56.5%	YES
			UNKNOWN	W18/F04	35	19.8	15.2	43.4%	NO												
			UNKNOWN	W19/F04	35.4	35.4	0	0.0%	YES												
F05	R1	RESIDENTIAL	UNKNOWN	W1/F05	26	22.4	3.6	13.8%	YES	95.6	95.6	0.0	0.0%	YES	52	13	38	3	26.9%	76.9%	NO
			UNKNOWN	W2/F05	26.8	23	3.8	14.2%	YES												
			UNKNOWN	W20/F05	30.8	30.8	0	0.0%	YES												
			UNKNOWN	W21/F05	30.8	30.8	0	0.0%	YES												
			UNKNOWN	W22/F05	29.7	29.7	0	0.0%	YES												
	R2	RESIDENTIAL	BEDROOM	W3/F05	27.8	23.6	4.2	15.1%	YES	96.2	87.2	0.6	9.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R3	RESIDENTIAL	BEDROOM	W4/F05	28.4	23.9	4.5	15.8%	YES	96.7	91.7	0.4	5.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F05	28.5	23.7	4.8	16.8%	YES	86.1	82.9	0.3	3.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W6/F05	27.9	22.8	5.1	18.3%	YES	89.7	81.1	0.6	9.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F05	26.9	21.7	5.2	19.3%	YES	91.5	88.4	0.2	3.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W8/F05	25.6	19.8	5.8	22.7%	NO	75.5	68.2	0.5	9.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W9/F05	24.5	18	6.5	26.5%	NO	70.4	65	0.4	7.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W10/F05	23.6	16.2	7.4	31.4%	NO	55.5	44.6	0.7	19.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W11/F05	24	15.1	8.9	37.1%	NO	67.4	49.1	1.4	27.2%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	UNKNOWN	W12/F05	25.7	15.4	10.3	40.1%	NO	92.4	74.6	2.8	19.2%	YES	83	24	27	4	67.5%	83.3%	NO
			UNKNOWN	W13/F05	34.9	5.5	29.4	84.2%	NO												
			UNKNOWN	W14/F05	35.1	6.8	28.3	80.6%	NO												
	R12	RESIDENTIAL	BEDROOM	W15/F05	35.3	10	25.3	71.7%	NO	98.1	23.7	7.8	75.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W16/F05	35.4	13.1	22.3	63.0%	NO	98.1	30.5	7.1	69.0%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	UNKNOWN	W17/F05	35.6	19.3	16.3	45.8%	NO	99	97.4	0.3	1.7%	YES	83	24	47	11	43.4%	54.2%	YES
			UNKNOWN	W18/F05	35.7	20.2	15.5	43.4%	NO												
			UNKNOWN	W19/F05	36.4	36.4	0	0.0%	YES												
F06	R1	RESIDENTIAL	UNKNOWN	W1/F06	30	26.3	3.7	12.3%	YES	100	100	0.0	0.0%	YES	59	14	45	3	23.7%	78.6%	NO
			UNKNOWN	W2/F06	30.5	26.4	4.1	13.4%	YES												
			UNKNOWN	W20/F06	32.5	32.5	0	0.0%	YES												
			UNKNOWN	W21/F06	32.5	32.5	0	0.0%	YES												
FAIRFIELD HOUSE (CONTINUED)																					
			UNKNOWN	W22/F06	32	32	0	0.0%	YES												
	R2	RESIDENTIAL	BEDROOM	W3/F06	30.8	26.3	4.5	14.6%	YES	96.3	87.7	0.6	8.9%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R3	RESIDENTIAL	BEDROOM	W4/F06	31	26.1	4.9	15.8%	YES	96.7	92.4	0.3	4.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F06	31	25.6	5.4	17.4%	YES	90.5	88	0.3	2.8%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W6/F06	30.6	24.9	5.7	18.6%	YES	96.6	85.8	0.8	11.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F06	29.9	23.9	6	20.1%	NO	97.1	94.6	0.2	2.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W8/F06	28.8	22.4	6.4	22.2%	NO	90.5	81.3	0.6	10.2%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W9/F06	28	20.9	7.1	25.4%	NO	88.5	81.8	0.5	7.6%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W10/F06	27.4	19.3	8.1	29.6%	NO	86	68.3	1.2	20.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W11/F06	27.7	18.4	9.3	33.6%	NO	87	80.8	0.5	7.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	UNKNOWN	W12/F06	28.9	18.3	10.6	36.7%	NO	93.2	76.5	2.6	17.8%	YES	86	24	31	4	64.0%	83.3%	NO
			UNKNOWN	W13/F06	35.4	5.7	29.7	83.9%	NO												
			UNKNOWN	W14/F06	35.6	6.9	28.7	80.6%	NO												
	R12	RESIDENTIAL	BEDROOM	W15/F06	35.8	10.2	25.6	71.5%	NO	98.2	23.9	7.8	75.7%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R13	RESIDENTIAL	BEDROOM	W16/F06	35.9	13.3	22.6	63.0%	NO	98.1	30.5	7.1	68.9%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	UNKNOWN	W17/F06	36.1	19.5	16.6	46.0%	NO	99.1	97.4	0.4	1.7%	YES	86	26	49	12	43.0%	53.8%	YES
			UNKNOWN	W18/F06	36.2	20.5	15.7	43.4%	NO												
			UNKNOWN	W19/F06	37	37	0	0.0%	YES												
F07	R1	RESIDENTIAL	UNKNOWN	W1/F07	33.3	29.4	3.9	11.7%	YES	100	100	0.0	0.0%	YES	63	17	48	5	23.8%	70.6%	YES
			UNKNOWN	W2/F07	33.2	29	4.2	12.7%	YES												
			UNKNOWN	W20/F07	33.4	33.4	0	0.0%	YES												
			UNKNOWN	W21/F07	33.5	33.5	0	0.0%	YES												
			UNKNOWN	W22/F07	34.1	34.1	0	0.0%	YES												
	R2	RESIDENTIAL	BEDROOM	W3/F07	33.1	28.4	4.7	14.2%	YES	96.3	89.4	0.5	7.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R3	RESIDENTIAL	BEDROOM	W4/F07	33	27.9	5.1	15.5%	YES	96.7	93.1	0.3	3.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F07	32.9	27.3	5.6	17.0%	YES	96.2	94.1	0.2	2.2%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W6/F07	32.8	26.6	6.2	18.9%	YES	96.6	87.2	0.7	9.8%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F07	32.5	26	6.5	20.0%	YES	97.1	95	0.1	2.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W8/F07	31.7	24.7	7	22.1%	NO	97	88.5	0.6	8.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W9/F07	31.3	23.6	7.7	24.6%	NO	97.1	93.7	0.2	3.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W10/F07	31.2	22.5	8.7	27.9%	NO	97.2	85.8	0.8	11.8%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FAIRFIELD HOUSE (CONTINUED)																					
	R10	RESIDENTIAL	BEDROOM	W11/F07	31.6	21.9	9.7	30.7%	NO	95.9	91.8	0.3	4.2%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	UNKNOWN	W12/F07	32.2	21.4	10.8	33.5%	NO	95.2	85.3	1.6	10.4%	YES	92	25	36	4	60.9%	84.0%	NO
			UNKNOWN	W13/F07	35.9	5.8	30.1	83.8%	NO												
			UNKNOWN	W14/F07	36	7	29	80.6%	NO												
	R12	RESIDENTIAL	BEDROOM	W15/F07	36.2	10.3	25.9	71.5%	NO	98.1	24.1	7.8	75.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W16/F07	36.3	13.4	22.9	63.1%	NO	98.1	30.6	7.1	68.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	UNKNOWN	W17/F07	36.5	19.6	16.9	46.3%	NO	99.2	97.4	0.4	1.8%	YES	86	26	49	12	43.0%	53.8%	YES
			UNKNOWN	W18/F07	36.6	20.6	16	43.7%	NO												
			UNKNOWN	W19/F07	37.4	37.4	0	0.0%	YES												
F08	R1	RESIDENTIAL	UNKNOWN	W1/F08	34.9	30.7	4.2	12.0%	YES	100	100	0.0	0.0%	YES	64	17	49	5	23.4%	70.6%	YES
			UNKNOWN	W12/F08	34.3	34.3	0	0.0%	YES												
			UNKNOWN	W13/F08	35	35	0	0.0%	YES												
	R2	RESIDENTIAL	BEDROOM	W2/F08	34.7	29.6	5.1	14.7%	YES	99.2	96.8	0.5	2.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R3	RESIDENTIAL	BEDROOM	W3/F08	34.5	28.7	5.8	16.8%	YES	98.4	96.5	0.2	1.9%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W4/F08	34.3	27.7	6.6	19.2%	YES	99.2	95.8	0.8	3.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W5/F08	33.8	26	7.8	23.1%	NO	99.4	96.5	0.7	2.9%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W6/F08	33.9	24.2	9.7	28.6%	NO	99.3	95.7	0.8	3.6%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R7	RESIDENTIAL	UNKNOWN	W7/F08	33.6	22.7	10.9	32.4%	NO	98.9	91.2	1.2	7.8%	YES	94	26	36	4	61.7%	84.6%	NO
			UNKNOWN	W8/F08	36.4	6.5	29.9	82.1%	NO												
	R8 (3)	RESIDENTIAL	UNKNOWN	W9/F08	36.7	11.9	24.8	67.6%	NO	99.5	60.4	11.7	39.3%	NO	85	26	34	6	60.0%	76.9%	YES
	R9	RESIDENTIAL	UNKNOWN	W10/F08	36.9	20.3	16.6	45.0%	NO	99.8	97.8	0.4	2.0%	YES	86	26	48	12	44.2%	53.8%	YES
			UNKNOWN	W11/F08	37.6	37.6	0	0.0%	YES												
LAMBERT HALL																					
B01	R1	RESIDENTIAL	UNKNOWN	W1/B01	9.8	4.7	5.1	52.0%	NO	44.1	6.3	7.3	85.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W2/B01	10.7	4.5	6.2	57.9%	NO												
	R2	RESIDENTIAL	UNKNOWN	W3/B01	13.5	6	7.5	55.6%	NO	80.1	49	7.0	38.8%	NO	70	18	15	0	78.6%	100.0%	NO
			UNKNOWN	W4/B01	15.2	7.2	8	52.6%	NO												
			UNKNOWN	W5/B01	27.5	2.3	25.2	91.6%	NO												
	R3	RESIDENTIAL	UNKNOWN	W6/B01	27.3	2.2	25.1	91.9%	NO	88.8	0	19.8	100.0%	NO	69	17	11	1	84.1%	94.1%	NO
			UNKNOWN	W7/B01	27.1	2.2	24.9	91.9%	NO												
LAMBERT HALL (CONTINUED)																					
	R4	RESIDENTIAL	UNKNOWN	W8/B01	26.2	2.7	23.5	89.7%	NO	88.6	2.6	19.2	97.0%	NO	69	19	16	3	76.8%	84.2%	NO
			UNKNOWN	W9/B01	25.9	2.9	23	88.8%	NO												
	R5	RESIDENTIAL	UNKNOWN	W10/B01	25.5	3.3	22.2	87.1%	NO	89.3	6.9	18.6	92.3%	NO	69	18	20	4	71.0%	77.8%	NO
			UNKNOWN	W11/B01	25.4	3.6	21.8	85.8%	NO												
	R6	RESIDENTIAL	UNKNOWN	W12/B01	24.9	4.3	20.6	82.7%	NO	89.3	15.6	16.6	82.5%	NO	70	20	24	6	65.7%	70.0%	NO
			UNKNOWN	W13/B01	24.6	4.9	19.7	80.1%	NO												
	R7	RESIDENTIAL	UNKNOWN	W14/B01	25	6.3	18.7	74.8%	NO	89.4	31.3	13.0	65.0%	NO	69	19	26	7	62.3%	63.2%	YES
			UNKNOWN	W15/B01	25.5	7.3	18.2	71.4%	NO												
	R8	RESIDENTIAL	UNKNOWN	W16/B01	26.3	9.7	16.6	63.1%	NO	89.3	51.9	8.7	41.9%	NO	69	21	36	13	47.8%	38.1%	YES
			UNKNOWN	W17/B01	26.6	11.5	15.1	56.8%	NO												
F00	R1	RESIDENTIAL	UNKNOWN	W1/F00	10.9	5.5	5.4	49.5%	NO	48.5	13.9	7.5	71.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W2/F00	11.8	5.3	6.5	55.1%	NO												
	R2	RESIDENTIAL	UNKNOWN	W3/F00	14.8	6.9	7.9	53.4%	NO	78.4	60.7	2.3	22.6%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W4/F00	17.1	8.3	8.8	51.5%	NO												
	R3	RESIDENTIAL	BEDROOM	W5/F00	29.1	2.4	26.7	91.8%	NO	96.1	2.8	6.8	97.1%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W6/F00	28.7	2.4	26.3	91.6%	NO	93.8	2.3	6.7	97.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W7/F00	28.3	2.3	26	91.9%	NO	96.5	2.4	6.9	97.6%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W8/F00	26.8	2.8	24	89.6%	NO	88.3	4.3	6.1	95.1%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W9/F00	26.5	3.1	23.4	88.3%	NO	96.4	3.1	6.8	96.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W10/F00	26	3.4	22.6	86.9%	NO	85.5	7.4	5.7	91.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R9	RESIDENTIAL	BEDROOM	W11/F00	25.8	3.7	22.1	85.7%	NO	92.8	4.2	6.5	95.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W12/F00	25.3	4.4	20.9	82.6%	NO	89.4	11.2	5.7	87.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	BEDROOM	W13/F00	25	5	20	80.0%	NO	87.8	6.2	6.0	92.9%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	BEDROOM	W14/F00	25.4	6.4	19	74.8%	NO	87.5	18.1	5.1	79.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W15/F00	25.9	7.5	18.4	71.0%	NO	86.9	10.1	5.6	88.3%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	BEDROOM	W16/F00	26.8	9.8	17	63.4%	NO	90.4	41.1	3.6	54.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R15	RESIDENTIAL	BEDROOM	W17/F00	27.1	11.7	15.4	56.8%	NO	85.5	26.9	4.5	68.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	RESIDENTIAL	UNKNOWN	W1/F01	12.4	6.9	5.5	44.4%	NO	51.3	17.1	7.4	66.6%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W2/F01	13.3	6.7	6.6	49.6%	NO												
	R2	RESIDENTIAL	UNKNOWN	W3/F01	16.3	8.1	8.2	50.3%	NO	79.3	62.5	2.2	21.1%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W4/F01	18.5	9.4	9.1	49.2%	NO												
LAMBERT HALL (CONTINUED)																					
	R3	RESIDENTIAL	BEDROOM	W5/F01	30.5	2.6	27.9	91.5%	NO	96.2	3.2	6.8	96.7%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W6/F01	29.7	2.5	27.2	91.6%	NO	93.8	3	6.6	96.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W7/F01	29.3	2.6	26.7	91.1%	NO	96.5	3.2	6.8	96.7%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W8/F01	28.5	2.7	25.8	90.5%	NO	93	3.6	6.5	96.1%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W9/F01	28.1	2.8	25.3	90.0%	NO	96.8	4.1	6.8	95.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W10/F01	27.5	3.1	24.4	88.7%	NO	88.4	5.4	6.1	93.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W11/F01	27	3.3	23.7	87.8%	NO	96.3	4.2	6.7	95.6%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W12/F01	26.5	3.6	22.9	86.4%	NO	85.4	8.1	5.7	90.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	BEDROOM	W13/F01	26.3	3.9	22.4	85.2%	NO	92.8	5.2	6.4	94.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	BEDROOM	W14/F01	25.8	4.6	21.2	82.2%	NO	89.4	12.2	5.6	86.3%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W15/F01	25.5	5.2	20.3	79.6%	NO	87.9	6.9	5.9	92.1%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	BEDROOM	W16/F01	25.9	6.5	19.4	74.9%	NO	87.8	18.6	5.1	78.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R15	RESIDENTIAL	BEDROOM	W17/F01	26.4	7.6	18.8	71.2%	NO	86.9	10.7	5.6	87.7%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R16	RESIDENTIAL	BEDROOM	W18/F01	27.2	10	17.2	63.2%	NO	90.6	41.5	3.6	54.2%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R17	RESIDENTIAL	BEDROOM	W19/F01	27.6	12	15.6	56.5%	NO	84.9	28.5	4.2	66.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R18	RESIDENTIAL	BEDROOM	W20/F01	27.9	16.6	11.3	40.5%	NO	91.7	68.5	1.7	25.3%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R19	RESIDENTIAL	BEDROOM	W21/F01	28.1	19.5	8.6	30.6%	NO	82.3	53.7	2.2	34.7%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	RESIDENTIAL	UNKNOWN	W1/F02	14.3	8.7	5.6	39.2%	NO	52.7	21.1	6.9	59.9%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W2/F02	15.2	8.5	6.7	44.1%	NO												
	R2	RESIDENTIAL	UNKNOWN	W3/F02	18.1	9.8	8.3	45.9%	NO	81	65.2	2.1	19.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W4/F02	20.2	11	9.2	45.5%	NO												
	R3	RESIDENTIAL	BEDROOM	W5/F02	31.2	2.7	28.5	91.3%	NO	96.2	2.2	6.9	97.7%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W6/F02	30.4	2.7	27.7	91.1%	NO	94	2.5	6.7	97.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R5	RESIDENTIAL	BEDROOM	W7/F02	29.9	2.7	27.2	91.0%	NO	96.4	3.4	6.8	96.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W8/F02	29.2	2.9	26.3	90.1%	NO	93	4.1	6.5	95.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W9/F02	28.7	3	25.7	89.5%	NO	96.8	4.8	6.7	95.1%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W10/F02	28.1	3.3	24.8	88.3%	NO	88.6	6.4	6.0	92.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W11/F02	27.6	3.5	24.1	87.3%	NO	96.3	5.1	6.7	94.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W12/F02	27	3.9	23.1	85.6%	NO	85.4	9	5.6	89.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	BEDROOM	W13/F02	26.8	4.1	22.7	84.7%	NO	92.8	6.2	6.3	93.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	BEDROOM	W14/F02	26.2	4.8	21.4	81.7%	NO	89.4	13.1	5.6	85.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LAMBERT HALL (CONTINUED)																					
	R13	RESIDENTIAL	BEDROOM	W15/F02	26	5.4	20.6	79.2%	NO	87.8	7.8	5.8	91.1%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	BEDROOM	W16/F02	26.3	6.7	19.6	74.5%	NO	87.9	19.2	5.0	78.2%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R15	RESIDENTIAL	BEDROOM	W17/F02	26.8	7.8	19	70.9%	NO	87	10.8	5.6	87.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R16	RESIDENTIAL	BEDROOM	W18/F02	27.7	10.2	17.5	63.2%	NO	90.6	41.7	3.6	53.9%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R17	RESIDENTIAL	BEDROOM	W19/F02	28.1	12.2	15.9	56.6%	NO	84.9	28.4	4.2	66.6%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R18	RESIDENTIAL	BEDROOM	W20/F02	28.4	16.9	11.5	40.5%	NO	91.7	68.4	1.7	25.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R19	RESIDENTIAL	BEDROOM	W21/F02	28.7	19.7	9	31.4%	NO	82.3	53.7	2.2	34.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F03	R1	RESIDENTIAL	UNKNOWN	W1/F03	16.9	11.2	5.7	33.7%	NO	53.3	23.3	6.5	56.2%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W2/F03	17.7	10.9	6.8	38.4%	NO												
	R2	RESIDENTIAL	UNKNOWN	W3/F03	20.4	12	8.4	41.2%	NO	81.8	67.5	1.9	17.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W4/F03	22.4	13	9.4	42.0%	NO												
	R3	RESIDENTIAL	BEDROOM	W5/F03	31.8	2.9	28.9	90.9%	NO	96.3	4	6.8	95.9%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W6/F03	31	2.8	28.2	91.0%	NO	94.4	3.9	6.6	95.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W7/F03	30.6	2.9	27.7	90.5%	NO	96.5	4.6	6.7	95.3%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W8/F03	29.8	3	26.8	89.9%	NO	93	4.6	6.5	95.1%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W9/F03	29.3	3.2	26.1	89.1%	NO	96.8	5.8	6.7	94.0%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W10/F03	28.6	3.6	25	87.4%	NO	88.7	7.4	5.9	91.7%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W11/F03	28.2	3.8	24.4	86.5%	NO	96.3	6.4	6.6	93.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W12/F03	27.6	4.1	23.5	85.1%	NO	85.4	10.2	5.5	88.0%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	BEDROOM	W13/F03	27.4	4.4	23	83.9%	NO	92.8	7.2	6.3	92.2%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	BEDROOM	W14/F03	26.8	5.1	21.7	81.0%	NO	89.5	13.7	5.5	84.7%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W15/F03	26.5	5.7	20.8	78.5%	NO	87.9	8.7	5.8	90.1%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	BEDROOM	W16/F03	26.8	6.9	19.9	74.3%	NO	88.2	19.8	5.0	77.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R15	RESIDENTIAL	BEDROOM	W17/F03	27.3	8	19.3	70.7%	NO	87	11.8	5.5	86.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R16	RESIDENTIAL	BEDROOM	W18/F03	28.1	10.4	17.7	63.0%	NO	90.6	41.8	3.6	53.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R17	RESIDENTIAL	BEDROOM	W19/F03	28.6	12.4	16.2	56.6%	NO	84.8	28.5	4.2	66.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R18	RESIDENTIAL	BEDROOM	W20/F03	28.9	17.1	11.8	40.8%	NO	91.7	68.8	1.7	25.0%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R19	RESIDENTIAL	BEDROOM	W21/F03	29.2	20	9.2	31.5%	NO	82.3	53.8	2.2	34.6%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F04	R1	RESIDENTIAL	UNKNOWN	W1/F04	20.6	14.7	5.9	28.6%	NO	55	30.3	5.4	44.9%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W2/F04	21.2	14.3	6.9	32.5%	NO												
	R2	RESIDENTIAL	UNKNOWN	W3/F04	23.6	15	8.6	36.4%	NO	84.3	72.4	1.6	14.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LAMBERT HALL (CONTINUED)																					
			UNKNOWN	W4/F04	25.2	15.7	9.5	37.7%	NO												
	R3	RESIDENTIAL	BEDROOM	W5/F04	32.5	3	29.5	90.8%	NO	96.2	4.9	6.7	94.9%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W6/F04	31.7	3	28.7	90.5%	NO	94.9	4.6	6.6	95.1%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W7/F04	31.2	3.1	28.1	90.1%	NO	96.4	5.7	6.6	94.1%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W8/F04	30.4	3.3	27.1	89.1%	NO	93.1	6.1	6.4	93.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W9/F04	30	3.5	26.5	88.3%	NO	96.8	7	6.6	92.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W10/F04	29.3	3.9	25.4	86.7%	NO	88.6	9.2	5.8	89.6%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W11/F04	28.8	4.1	24.7	85.8%	NO	96.2	7.9	6.5	91.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W12/F04	28.2	4.5	23.7	84.0%	NO	85.4	11.5	5.4	86.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	BEDROOM	W13/F04	27.9	4.7	23.2	83.2%	NO	92.8	8.8	6.1	90.6%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	BEDROOM	W14/F04	27.3	5.4	21.9	80.2%	NO	89.5	15.3	5.4	82.9%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W15/F04	27.1	6	21.1	77.9%	NO	87.9	9.9	5.7	88.7%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	BEDROOM	W16/F04	27.3	7.2	20.1	73.6%	NO	88.3	21.4	4.9	75.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R15	RESIDENTIAL	BEDROOM	W17/F04	27.7	8.2	19.5	70.4%	NO	87.1	12.6	5.4	85.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R16	RESIDENTIAL	BEDROOM	W18/F04	28.6	10.6	18	62.9%	NO	90.6	42	3.6	53.6%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R17	RESIDENTIAL	BEDROOM	W19/F04	29.1	12.6	16.5	56.7%	NO	84.8	28.7	4.1	66.2%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R18	RESIDENTIAL	BEDROOM	W20/F04	29.4	17.3	12.1	41.2%	NO	91.7	68.7	1.7	25.0%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R19	RESIDENTIAL	BEDROOM	W21/F04	29.8	20.3	9.5	31.9%	NO	82.3	53.9	2.2	34.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F05	R1	RESIDENTIAL	UNKNOWN	W1/F05	25.3	19.3	6	23.7%	NO	62.4	45.6	3.6	26.9%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W2/F05	25.7	18.8	6.9	26.8%	NO												
	R2	RESIDENTIAL	UNKNOWN	W3/F05	27.5	18.9	8.6	31.3%	NO	90.1	82.4	1.0	8.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W4/F05	28.7	19.2	9.5	33.1%	NO												
	R3	RESIDENTIAL	BEDROOM	W5/F05	33.1	3.2	29.9	90.3%	NO	96.2	5.3	6.7	94.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W6/F05	32.3	3.2	29.1	90.1%	NO	95.5	5	6.6	94.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W7/F05	31.8	3.2	28.6	89.9%	NO	96.4	6.4	6.6	93.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W8/F05	31.1	3.5	27.6	88.7%	NO	94	7.5	6.3	92.1%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W9/F05	30.6	3.8	26.8	87.6%	NO	96.8	8.1	6.5	91.6%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W10/F05	29.9	4.3	25.6	85.6%	NO	88.7	10.7	5.7	88.0%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W11/F05	29.4	4.6	24.8	84.4%	NO	96.2	9.2	6.4	90.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R10	RESIDENTIAL	BEDROOM	W12/F05	28.8	4.9	23.9	83.0%	NO	85.4	12.9	5.3	84.9%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	BEDROOM	W13/F05	28.5	5.1	23.4	82.1%	NO	92.8	10.2	6.0	89.0%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LAMBERT HALL (CONTINUED)																					
	R12	RESIDENTIAL	BEDROOM	W14/F05	27.9	5.8	22.1	79.2%	NO	89.5	16.7	5.3	81.3%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W15/F05	27.7	6.3	21.4	77.3%	NO	87.9	11.2	5.6	87.3%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	BEDROOM	W16/F05	27.9	7.5	20.4	73.1%	NO	88.3	22.6	4.8	74.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R15	RESIDENTIAL	BEDROOM	W17/F05	28.3	8.4	19.9	70.3%	NO	87.1	13.7	5.4	84.3%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R16	RESIDENTIAL	BEDROOM	W18/F05	29.2	10.8	18.4	63.0%	NO	90.6	42.2	3.5	53.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R17	RESIDENTIAL	BEDROOM	W19/F05	29.6	12.9	16.7	56.4%	NO	84.8	28.8	4.1	66.0%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R18	RESIDENTIAL	BEDROOM	W20/F05	30	17.6	12.4	41.3%	NO	91.7	68.8	1.7	24.9%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R19	RESIDENTIAL	BEDROOM	W21/F05	30.4	20.6	9.8	32.2%	NO	82.3	53.9	2.2	34.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F06	R1	RESIDENTIAL	UNKNOWN	W1/F06	30	23.9	6.1	20.3%	NO	80.3	73.8	1.4	8.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W2/F06	30.3	23.4	6.9	22.8%	NO												
	R2	RESIDENTIAL	UNKNOWN	W3/F06	31.5	22.9	8.6	27.3%	NO	98.7	94.8	0.5	3.9%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W4/F06	32.3	22.6	9.7	30.0%	NO												
	R3	RESIDENTIAL	BEDROOM	W5/F06	33.7	3.4	30.3	89.9%	NO	96.2	6.3	6.6	93.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W6/F06	32.9	3.4	29.5	89.7%	NO	96.5	7.1	6.5	92.6%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W7/F06	32.5	3.4	29.1	89.5%	NO	96.5	7.2	6.5	92.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W8/F06	31.7	3.8	27.9	88.0%	NO	94.4	9.8	6.2	89.6%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W9/F06	31.3	4.1	27.2	86.9%	NO	96.8	10.1	6.3	89.6%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W10/F06	30.6	4.8	25.8	84.3%	NO	88.9	13	5.5	85.3%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W11/F06	30.1	5.1	25	83.1%	NO	96.3	11.8	6.2	87.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W12/F06	29.4	5.4	24	81.6%	NO	85.5	15.4	5.1	82.0%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	BEDROOM	W13/F06	29.2	5.7	23.5	80.5%	NO	92.9	12.7	5.9	86.3%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	BEDROOM	W14/F06	28.5	6.3	22.2	77.9%	NO	89.5	19.5	5.1	78.2%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W15/F06	28.3	6.8	21.5	76.0%	NO	87.9	13.9	5.4	84.2%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	BEDROOM	W16/F06	28.5	7.8	20.7	72.6%	NO	88.4	24.7	4.7	72.1%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R15	RESIDENTIAL	BEDROOM	W17/F06	28.8	8.7	20.1	69.8%	NO	87.1	15.1	5.3	82.7%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R16	RESIDENTIAL	BEDROOM	W18/F06	29.7	11.1	18.6	62.6%	NO	90.6	42.4	3.5	53.2%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R17	RESIDENTIAL	BEDROOM	W19/F06	30.2	13.1	17.1	56.6%	NO	84.8	29	4.1	65.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R18	RESIDENTIAL	BEDROOM	W20/F06	30.7	17.8	12.9	42.0%	NO	91.7	68.9	1.7	24.9%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R19	RESIDENTIAL	BEDROOM	W21/F06	31	20.9	10.1	32.6%	NO	82.5	54.3	2.2	34.2%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
STONEBRIDGE HOUSE																					
F00	R1	RESIDENTIAL	BEDROOM	W1/F00	10.6	9	1.6	15.1%	YES	64.4	64.4	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	LKD	W2/F00	7.8	7.6	0.2	2.6%	YES	60.4	60.4	0.0	0.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W3/F00	5.5	5.3	0.2	3.6%	YES												
			LKD	W4/F00	8.5	7.8	0.7	8.2%	YES												
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	13.6	11.3	2.3	16.9%	YES	78.8	78.8	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	LKD	W2/F01	10.3	9.8	0.5	4.9%	YES	75.4	75.3	0.0	0.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W3/F01	9	8.3	0.7	7.8%	YES												
			LKD	W4/F01	9.2	7.7	1.5	16.3%	YES												
			LKD	W5/F01	0.1	0.1	0	0.0%	YES												
			LKD	W6/F01	10.3	8.9	1.4	13.6%	YES												
	R3	RESIDENTIAL	BEDROOM	W7/F01	14.7	14.1	0.6	4.1%	YES	100	100	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	LKD	W8/F01	14.3	14.3	0	0.0%	YES	92.3	92.3	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W9/F01	13.5	13.5	0	0.0%	YES												
			LKD	W10/F01	13.1	13.1	0	0.0%	YES												
			LKD	W11/F01	14.3	14.3	0	0.0%	YES												
			LKD	W12/F01	12.7	12.7	0	0.0%	YES												
F02	R1	RESIDENTIAL	BEDROOM	W1/F02	17.7	14.6	3.1	17.5%	YES	83.1	83.1	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	LKD	W2/F02	13.3	12.6	0.7	5.3%	YES	85.1	85	0.0	0.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W3/F02	12	10.6	1.4	11.7%	YES												
			LKD	W4/F02	12.2	9.8	2.4	19.7%	YES												
			LKD	W5/F02	0	0	0	-	YES												
			LKD	W6/F02	13.1	10.9	2.2	16.8%	YES												
	R3	RESIDENTIAL	BEDROOM	W7/F02	18.5	17.1	1.4	7.6%	YES	100	100	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	LKD	W8/F02	17.6	17.4	0.2	1.1%	YES	99.2	99.2	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W9/F02	16.3	16.3	0	0.0%	YES												
			LKD	W10/F02	15.7	15.7	0	0.0%	YES												
			LKD	W11/F02	17.1	17.1	0	0.0%	YES												
			LKD	W12/F02	15	15	0	0.0%	YES												
F03	R1	RESIDENTIAL	BEDROOM	W1/F03	22.6	18.7	3.9	17.3%	YES	90.7	90.7	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	LKD	W2/F03	18.3	16.6	1.7	9.3%	YES	94.8	94.7	0.0	0.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W3/F03	17.6	14.7	2.9	16.5%	YES												
STONEBRIDGE HOUSE (CONTINUED)																					
			LKD	W4/F03	17.7	14.2	3.5	19.8%	YES												
			LKD	W5/F03	0.3	0.3	0	0.0%	YES												

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
			LKD	W6/F03	18.5	15	3.5	18.9%	YES												
	R3	RESIDENTIAL	BEDROOM	W7/F03	23	20.4	2.6	11.3%	YES	100	100	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	LKD	W8/F03	21.4	20.4	1	4.7%	YES	99.2	99.2	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W9/F03	19.6	19.4	0.2	1.0%	YES												
			LKD	W10/F03	18.6	18.6	0	0.0%	YES												
			LKD	W11/F03	20.4	20.3	0.1	0.5%	YES												
			LKD	W12/F03	17.6	17.6	0	0.0%	YES												
F04	R1	RESIDENTIAL	BEDROOM	W1/F04	27	22.5	4.5	16.7%	YES	100	100	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	LKD	W2/F04	22.7	20	2.7	11.9%	YES	100	99.9	0.0	0.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W3/F04	22.3	18.3	4	17.9%	YES												
			LKD	W4/F04	22.4	17.7	4.7	21.0%	NO												
			LKD	W5/F04	0.6	0.6	0	0.0%	YES												
			LKD	W6/F04	22.9	18.1	4.8	21.0%	NO												
	R3	RESIDENTIAL	BEDROOM	W7/F04	27.5	22.9	4.6	16.7%	YES	100	100	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	LKD	W8/F04	25.9	22.7	3.2	12.4%	YES	99.2	99.1	0.0	0.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W9/F04	23.7	22.1	1.6	6.8%	YES												
			LKD	W10/F04	22.3	21.7	0.6	2.7%	YES												
			LKD	W11/F04	20.7	20.7	0	0.0%	YES												
			LKD	W12/F04	24.4	22.2	2.2	9.0%	YES												
F05	R1	RESIDENTIAL	BEDROOM	W1/F05	22.9	19.6	3.3	14.4%	YES	100	99.9	0.0	0.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	LKD	W2/F05	17	14.7	2.3	13.5%	YES	100	99.9	0.0	0.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W3/F05	18.6	15.2	3.4	18.3%	YES												
			LKD	W4/F05	18.6	14.4	4.2	22.6%	NO												
			LKD	W5/F05	1.8	1.3	0.5	27.8%	NO												
			LKD	W6/F05	17	12.4	4.6	27.1%	NO												
	R3	RESIDENTIAL	BEDROOM	W7/F05	22.5	18.2	4.3	19.1%	YES	100	100	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	LKD	W8/F05	18.4	16.7	1.7	9.2%	YES	99.1	98.9	0.0	0.2%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W9/F05	17.8	15.2	2.6	14.6%	YES												
			LKD	W10/F05	16.7	14	2.7	16.2%	YES												
STONEBRIDGE HOUSE (CONTINUED)																					
			LKD	W11/F05	15.4	12.9	2.5	16.2%	YES												
			LKD	W12/F05	1.5	1.5	0	0.0%	YES												
F06	R1	RESIDENTIAL	BEDROOM	W1/F06	5.1	4.2	0.9	17.6%	YES	96.8	96.7	0.0	0.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	LKD	W2/F06	5.1	4.2	0.9	17.6%	YES	98.9	98.7	0.0	0.2%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W3/F06	8.6	7.1	1.5	17.4%	YES												

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
			LKD	W4/F06	8.6	7.1	1.5	17.4%	YES												
			LKD	W5/F06	5.2	4.2	1	19.2%	YES												
	R3	RESIDENTIAL	BEDROOM	W6/F06	5.3	4.2	1.1	20.8%	NO	97.6	96.7	0.1	0.9%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	LKD	W7/F06	5.4	4.1	1.3	24.1%	NO	98.5	98	0.1	0.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W8/F06	9.1	6.7	2.4	26.4%	NO												
			LKD	W9/F06	9.5	6.7	2.8	29.5%	NO												
			LKD	W10/F06	9.8	6.4	3.4	34.7%	NO												
			LKD	W11/F06	0	0	0	-	YES												
WAREHOUSE ONE																					
B01	R1	RESIDENTIAL	UNKNOWN	W1/B01	10.5	5.7	4.8	45.7%	NO	46.6	14.8	9.4	68.2%	NO	23	2	12	0	47.8%	100.0%	NO
			UNKNOWN	W2/B01	9.8	5.7	4.1	41.8%	NO												
			UNKNOWN	W3/B01	8.8	5.8	3	34.1%	NO												
	R2	RESIDENTIAL	UNKNOWN	W4/B01	6.4	5.4	1	15.6%	YES	19.7	15.7	1.1	20.5%	NO	8	0	8	0	0.0%	0.0%	YES
			UNKNOWN	W5/B01	6.2	5.4	0.8	12.9%	YES												
F00	R1	RESIDENTIAL	UNKNOWN	W1/F00	12.1	9.9	2.2	18.2%	YES	90.7	40.5	14.9	55.3%	NO	36	6	20	0	44.4%	100.0%	NO
			UNKNOWN	W2/F00	14.3	6.9	7.4	51.7%	NO												
			UNKNOWN	W3/F00	13.5	7	6.5	48.1%	NO												
			UNKNOWN	W4/F00	12.8	7.1	5.7	44.5%	NO												
			UNKNOWN	W5/F00	12.1	7.2	4.9	40.5%	NO												
			UNKNOWN	W6/F00	11	7.3	3.7	33.6%	NO												
	R2	RESIDENTIAL	UNKNOWN	W7/F00	7.9	6.4	1.5	19.0%	YES	26.5	22	1.2	17.1%	YES	13	0	13	0	0.0%	0.0%	YES
			UNKNOWN	W8/F00	7.8	6.5	1.3	16.7%	YES												
	R3	RESIDENTIAL	UNKNOWN	W9/F00	7.5	6.3	1.2	16.0%	YES	16.8	16.3	0.2	3.0%	YES	9	0	9	0	0.0%	0.0%	YES
			UNKNOWN	W10/F00	7.3	6.1	1.2	16.4%	YES												
F01	R1	RESIDENTIAL	UNKNOWN	W1/F01	7.5	7.2	0.3	4.0%	YES	39.6	38	0.6	4.1%	YES	29	0	21	0	27.6%	0.0%	NO
WAREHOUSE ONE (CONTINUED)																					
			UNKNOWN	W10/F01	11	8.3	2.7	24.5%	NO												
			UNKNOWN	W11/F01	10.5	7.8	2.7	25.7%	NO												
	R2	RESIDENTIAL	UNKNOWN	W2/F01	14.8	12.4	2.4	16.2%	YES	93.8	47.3	13.7	49.5%	NO	49	7	29	1	40.8%	85.7%	NO
			UNKNOWN	W3/F01	17.9	8.9	9	50.3%	NO												
			UNKNOWN	W4/F01	17.2	9.1	8.1	47.1%	NO												
			UNKNOWN	W5/F01	16.6	9.2	7.4	44.6%	NO												
			UNKNOWN	W6/F01	16	9.3	6.7	41.9%	NO												
			UNKNOWN	W7/F01	15	9.4	5.6	37.3%	NO												

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R3	RESIDENTIAL	UNKNOWN	W8/F01	11.6	8.5	3.1	26.7%	NO	41	35.9	1.4	12.4%	YES	31	0	24	0	22.6%	0.0%	NO
			UNKNOWN	W9/F01	11.3	8.5	2.8	24.8%	NO												
F02	R1	RESIDENTIAL	UNKNOWN	W1/F02	11.1	10.5	0.6	5.4%	YES	65.4	60.4	1.9	7.5%	YES	45	2	29	1	35.6%	50.0%	NO
			UNKNOWN	W10/F02	16.1	10.6	5.5	34.2%	NO												
			UNKNOWN	W11/F02	15.8	10.3	5.5	34.8%	NO												
	R2	RESIDENTIAL	UNKNOWN	W2/F02	19.2	16.5	2.7	14.1%	YES	98.1	70	8.3	28.6%	NO	62	13	39	3	37.1%	76.9%	NO
			UNKNOWN	W3/F02	23.4	11.2	12.2	52.1%	NO												
			UNKNOWN	W4/F02	22.9	11.4	11.5	50.2%	NO												
			UNKNOWN	W5/F02	22.4	11.6	10.8	48.2%	NO												
			UNKNOWN	W6/F02	22	11.7	10.3	46.8%	NO												
			UNKNOWN	W7/F02	21.3	11.8	9.5	44.6%	NO												
	R3	RESIDENTIAL	UNKNOWN	W8/F02	16.7	10.7	6	35.9%	NO	64.3	56.3	2.2	12.5%	YES	45	1	32	1	28.9%	0.0%	YES
			UNKNOWN	W9/F02	16.7	10.7	6	35.9%	NO												
F03	R1	RESIDENTIAL	UNKNOWN	W1/F03	16.2	15.3	0.9	5.6%	YES	98.9	94.4	1.7	4.5%	YES	64	11	40	5	37.5%	54.5%	YES
			UNKNOWN	W8/F03	23.6	13.4	10.2	43.2%	NO												
			UNKNOWN	W9/F03	23	13.4	9.6	41.7%	NO												
	R2	RESIDENTIAL	UNKNOWN	W2/F03	27.5	13	14.5	52.7%	NO	80.6	54.8	7.6	32.0%	NO	65	14	42	4	35.4%	71.4%	NO
			UNKNOWN	W3/F03	27.1	13.1	14	51.7%	NO												
			UNKNOWN	W4/F03	26.8	13.3	13.5	50.4%	NO												
			UNKNOWN	W5/F03	26.6	13.4	13.2	49.6%	NO												
			UNKNOWN	W1/F04	25.3	22.4	2.9	11.5%	YES												
	R3	RESIDENTIAL	UNKNOWN	W6/F03	24.4	13.2	11.2	45.9%	NO	99.1	88.7	2.8	10.4%	YES	63	11	39	4	38.1%	63.6%	NO
			UNKNOWN	W7/F03	24	13.3	10.7	44.6%	NO												
WAREHOUSE ONE (CONTINUED)																					
F04	R1	RESIDENTIAL	UNKNOWN	W2/F04	29.8	15.3	14.5	48.7%	NO	82.1	47.5	13.5	42.2%	NO	77	21	45	7	41.6%	66.7%	YES
			UNKNOWN	W3/F04	29.6	15.6	14	47.3%	NO												
	R2	RESIDENTIAL	UNKNOWN	W4/F04	29.2	15.9	13.3	45.5%	NO	79.8	41.7	10.2	47.7%	NO	73	17	43	6	41.1%	64.7%	YES

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

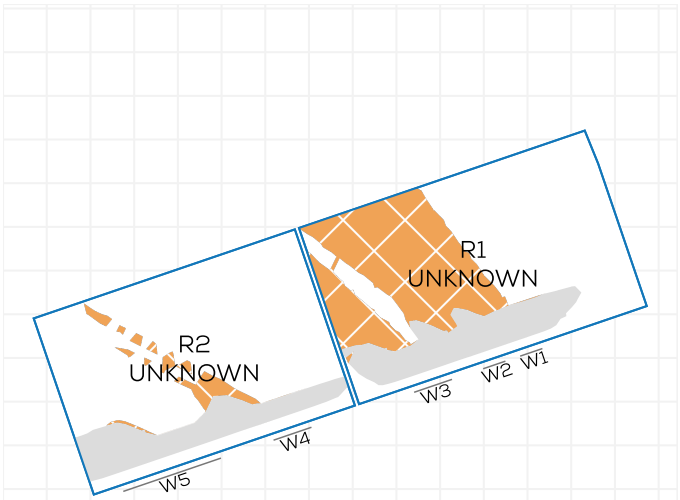
(3) SINGLE ASPECT ROOM DEEPER THAN 5m

NSL CONTOURS

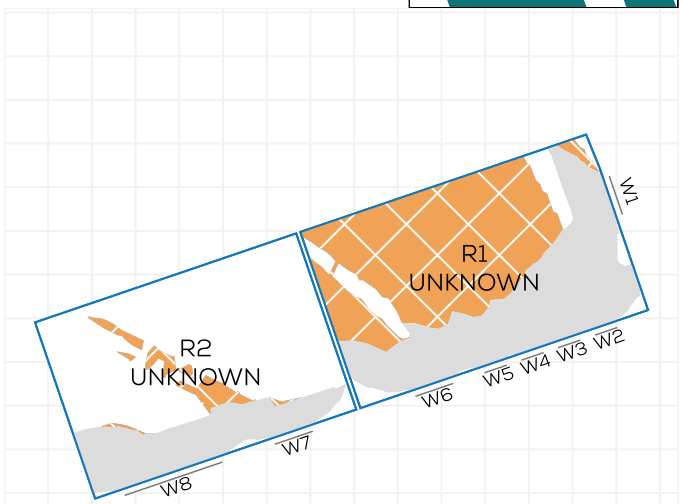
PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: WAREHOUSE ONE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL1

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

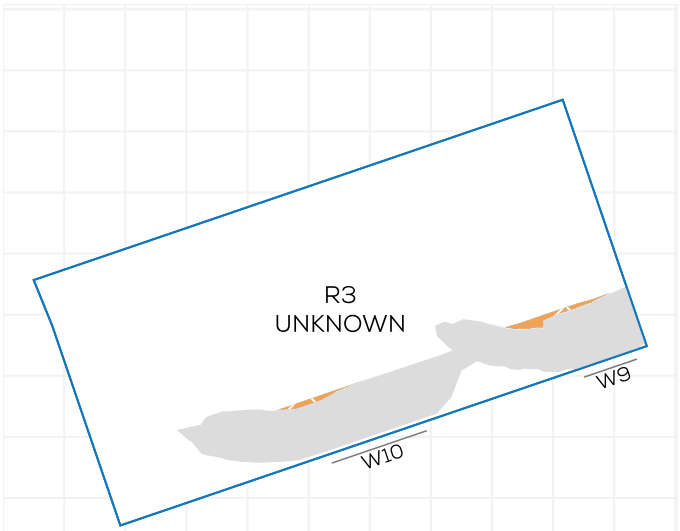




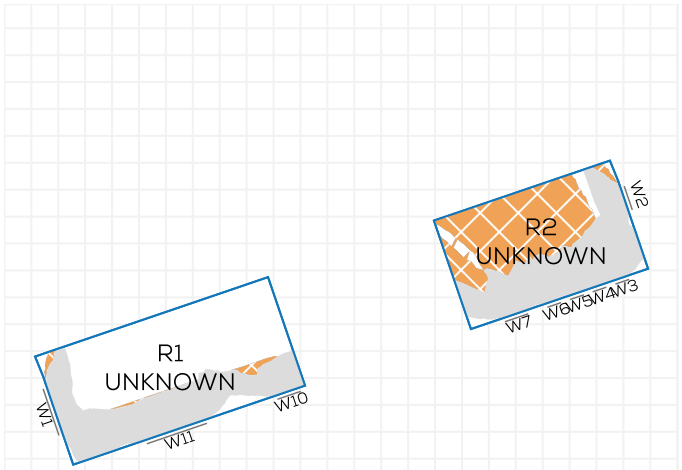
B01



F00



F00



F01

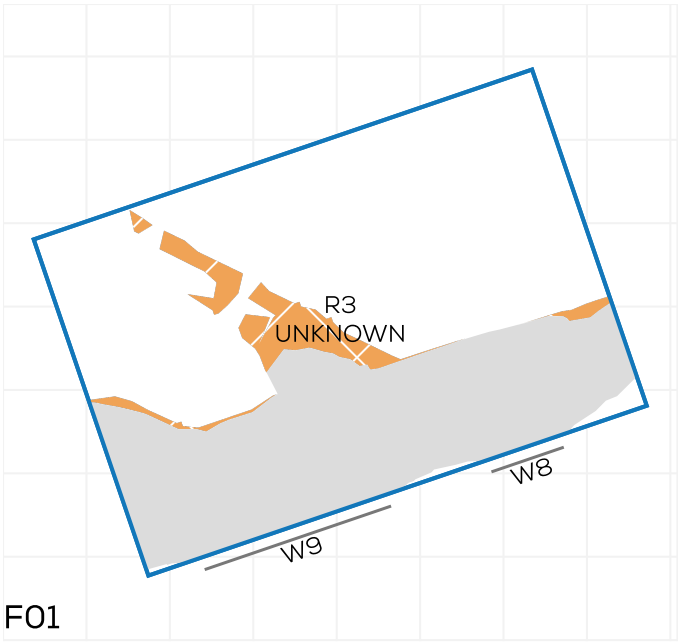
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
WAREHOUSE ONE								
B01	R1	RESIDENTIAL	UNKNOWN	29.6	46.6	14.8	9.4	68.2
B01	R2	RESIDENTIAL	UNKNOWN	26.9	19.7	15.7	1.1	20.5
F00	R1	RESIDENTIAL	UNKNOWN	29.6	90.7	40.5	14.9	55.3
F00	R2	RESIDENTIAL	UNKNOWN	26.9	26.5	22	1.2	17.1
F00	R3	RESIDENTIAL	UNKNOWN	38.8	16.8	16.3	0.2	3
F01	R1	RESIDENTIAL	UNKNOWN	38.8	39.6	38	0.6	4.1
F01	R2	RESIDENTIAL	UNKNOWN	29.6	93.8	47.3	13.7	49.5

NSL CONTOURS

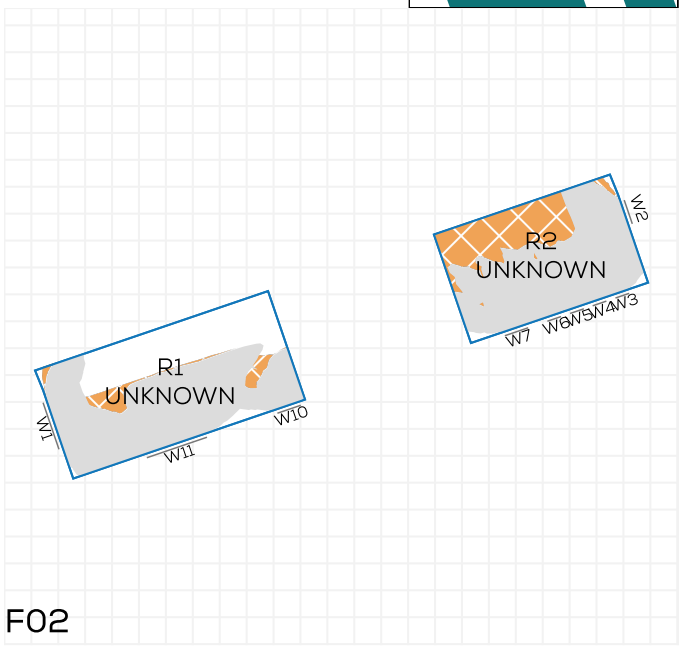
PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: WAREHOUSE ONE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL2

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

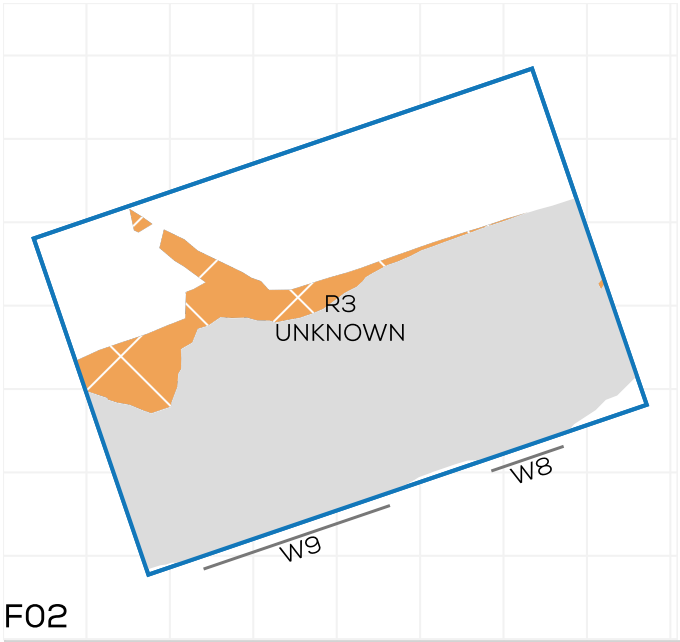




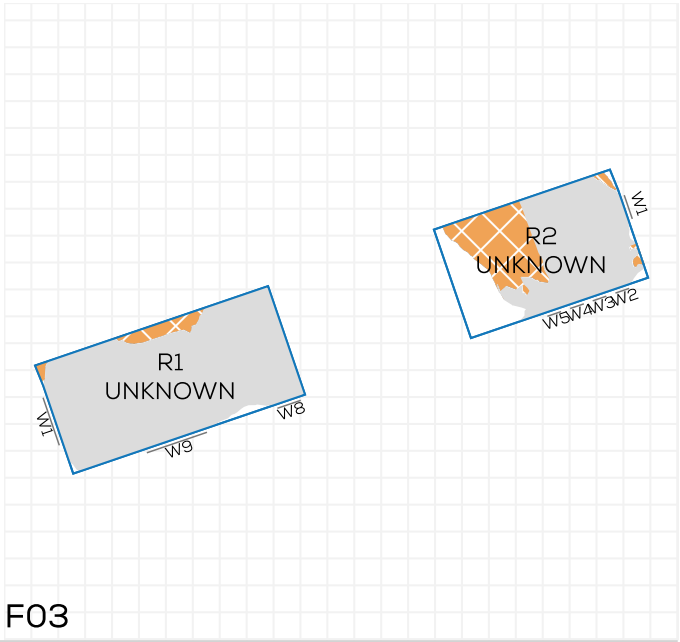
F01



F02



F02



F03

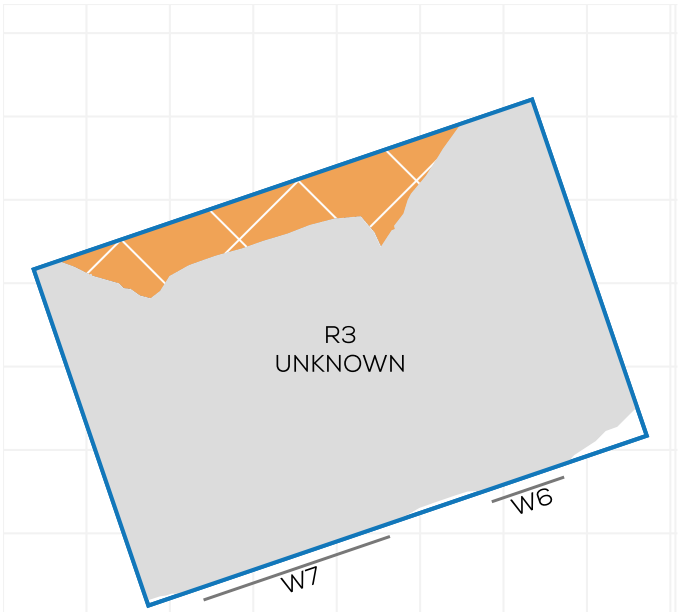
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
WAREHOUSE ONE								
F01	R3	RESIDENTIAL	UNKNOWN	26.9	41	35.9	1.4	12.4
F02	R1	RESIDENTIAL	UNKNOWN	38.8	65.4	60.4	1.9	7.5
F02	R2	RESIDENTIAL	UNKNOWN	29.6	98.1	70	8.3	28.6
F02	R3	RESIDENTIAL	UNKNOWN	26.9	64.3	56.3	2.2	12.5
F03	R1	RESIDENTIAL	UNKNOWN	38.8	98.9	94.4	1.7	4.5
F03	R2	RESIDENTIAL	UNKNOWN	29.6	80.6	54.8	7.6	32

NSL CONTOURS

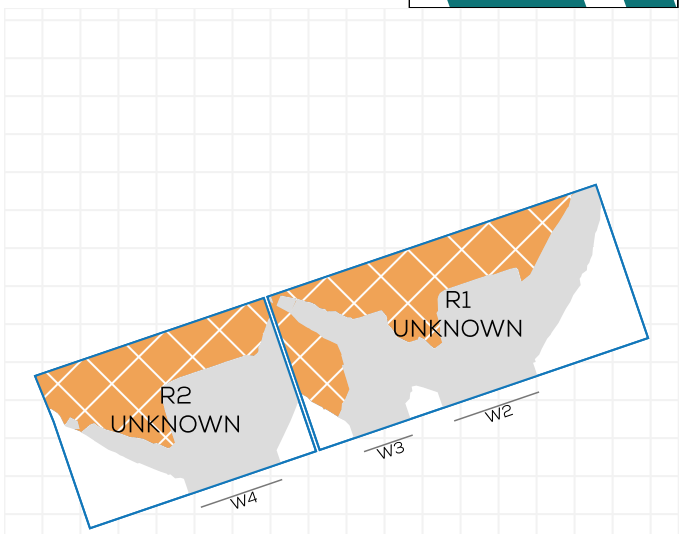
PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: WAREHOUSE ONE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL3

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F03



F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
WAREHOUSE ONE								
F03	R3	RESIDENTIAL	UNKNOWN	26.9	99.1	88.7	2.8	10.4
F04	R1	RESIDENTIAL	UNKNOWN	38.9	82.1	47.5	13.5	42.2
F04	R2	RESIDENTIAL	UNKNOWN	26.8	79.8	41.7	10.2	47.7

NSL CONTOURS

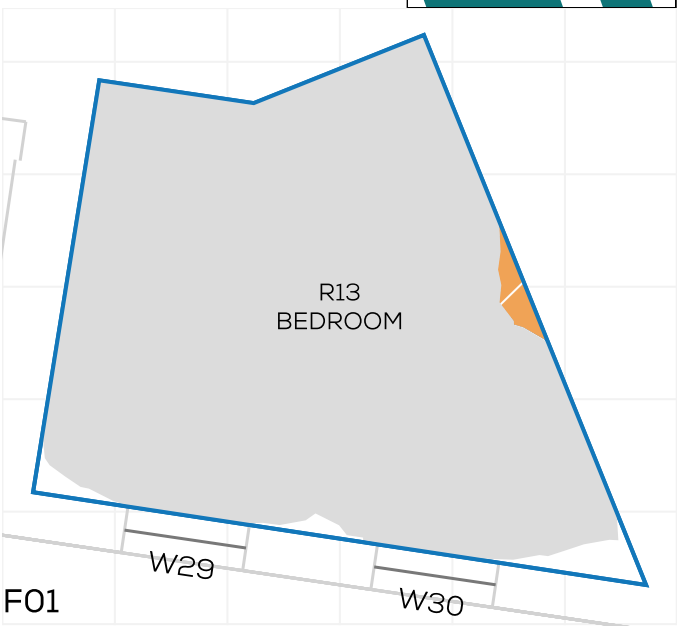
PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LONDON ROAD FIRE STATION
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL4

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F01



F01



F02



F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LONDON ROAD FIRE STATION								
F01	R11	HOTEL	BEDROOM	23.3	92.9	86.7	1.4	6.7
F01	R12	HOTEL	BEDROOM	18.2	96.1	87.9	1.5	8.5
F01	R13	HOTEL	BEDROOM	17.1	97.1	96.1	0.2	1
F02	R10	HOTEL	BEDROOM	18.0	96	80.5	2.8	16.1
F02	R11	HOTEL	BEDROOM	17.7	92.5	82.2	1.8	11.1
F02	R12	HOTEL	BEDROOM	21.0	95.3	86.2	1.9	9.6
F02	R13	HOTEL	BEDROOM	13.9	97.1	96.8	0.0	0.3

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LONDON ROAD FIRE STATION
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL5

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





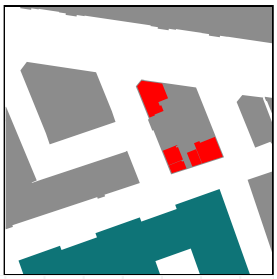
F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LONDON ROAD FIRE STATION								
F03	R10	HOTEL	BEDROOM	18.0	98.4	83.5	2.7	15.1
F03	R11	HOTEL	BEDROOM	17.7	96.9	90	1.2	7.1
F03	R12	HOTEL	BEDROOM	21.0	79.6	67.6	2.5	15.1
F03	R13	HOTEL	BEDROOM	13.9	83.4	66.9	2.3	19.8

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL6

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





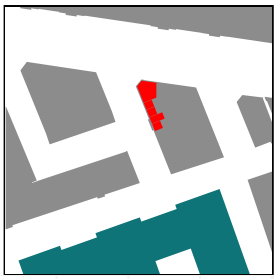
F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F00	R1	RESIDENTIAL	UNKNOWN	76.2	64.1	63.1	0.8	1.6
F00	R2	RESIDENTIAL	UNKNOWN	26.5	52.9	21.7	8.3	59
F00	R3	RESIDENTIAL	UNKNOWN	14.7	96.6	70.6	3.8	27
F00	R4	RESIDENTIAL	UNKNOWN	16.7	84.9	56.8	4.7	33.1
F00	R5	RESIDENTIAL	UNKNOWN	50.9	80	80	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL7

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





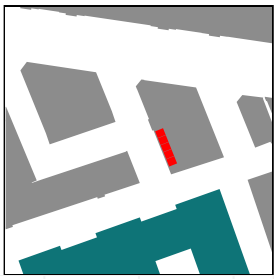
F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F01	R1	RESIDENTIAL	UNKNOWN	34.4	63	62.8	0.1	0.4
F01	R2	RESIDENTIAL	BEDROOM	6.8	43.5	42.1	0.1	3.2
F01	R3	RESIDENTIAL	BEDROOM	7.3	43.8	41.9	0.1	4.4
F01	R4	RESIDENTIAL	BEDROOM	10.2	31	29	0.2	6.5
F01	R5	RESIDENTIAL	BEDROOM	7.3	46.4	40	0.5	13.9

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL8

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F01

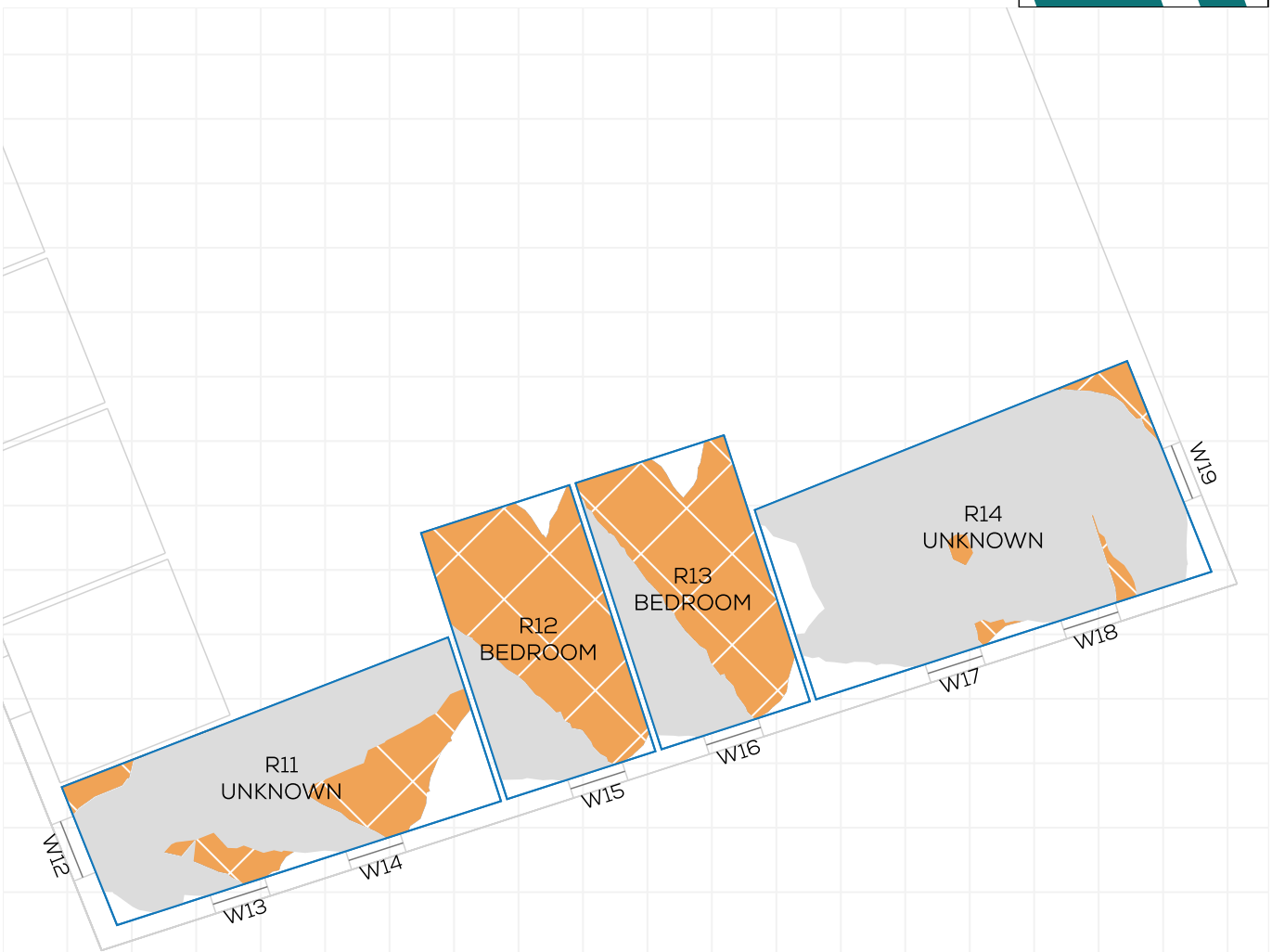
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F01	R6	RESIDENTIAL	BEDROOM	6.8	45.8	42.1	0.2	8
F01	R7	RESIDENTIAL	BEDROOM	6.8	47.7	41	0.5	14.1
F01	R8	RESIDENTIAL	BEDROOM	6.9	41.6	35.9	0.4	13.7
F01	R9	RESIDENTIAL	BEDROOM	6.9	34.8	24.6	0.7	29.5
F01	R10	RESIDENTIAL	BEDROOM	7.4	50.9	21.3	2.2	58.1

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL9

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





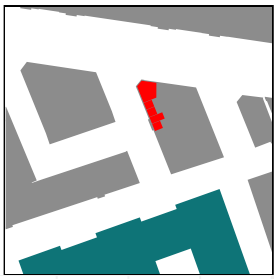
F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F01	R11	RESIDENTIAL	UNKNOWN	15.8	90.3	68.5	3.4	24.2
F01	R12	RESIDENTIAL	BEDROOM	10.5	95.4	23.3	7.6	75.6
F01	R13	RESIDENTIAL	BEDROOM	10.5	93.9	29.7	6.7	68.4
F01	R14	RESIDENTIAL	UNKNOWN	20.9	92.4	87.6	1.0	5.2

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL10

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





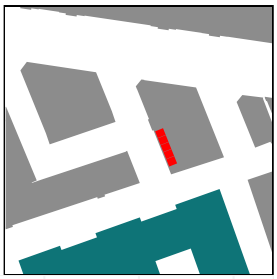
F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F02	R1	RESIDENTIAL	UNKNOWN	34.4	71.8	71.4	0.1	0.5
F02	R2	RESIDENTIAL	BEDROOM	6.8	60.1	57	0.2	5.1
F02	R3	RESIDENTIAL	BEDROOM	7.3	59.7	57.1	0.2	4.3
F02	R4	RESIDENTIAL	BEDROOM	10.2	42.9	40.9	0.2	4.6
F02	R5	RESIDENTIAL	BEDROOM	7.3	61.6	55.7	0.4	9.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL11

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F02

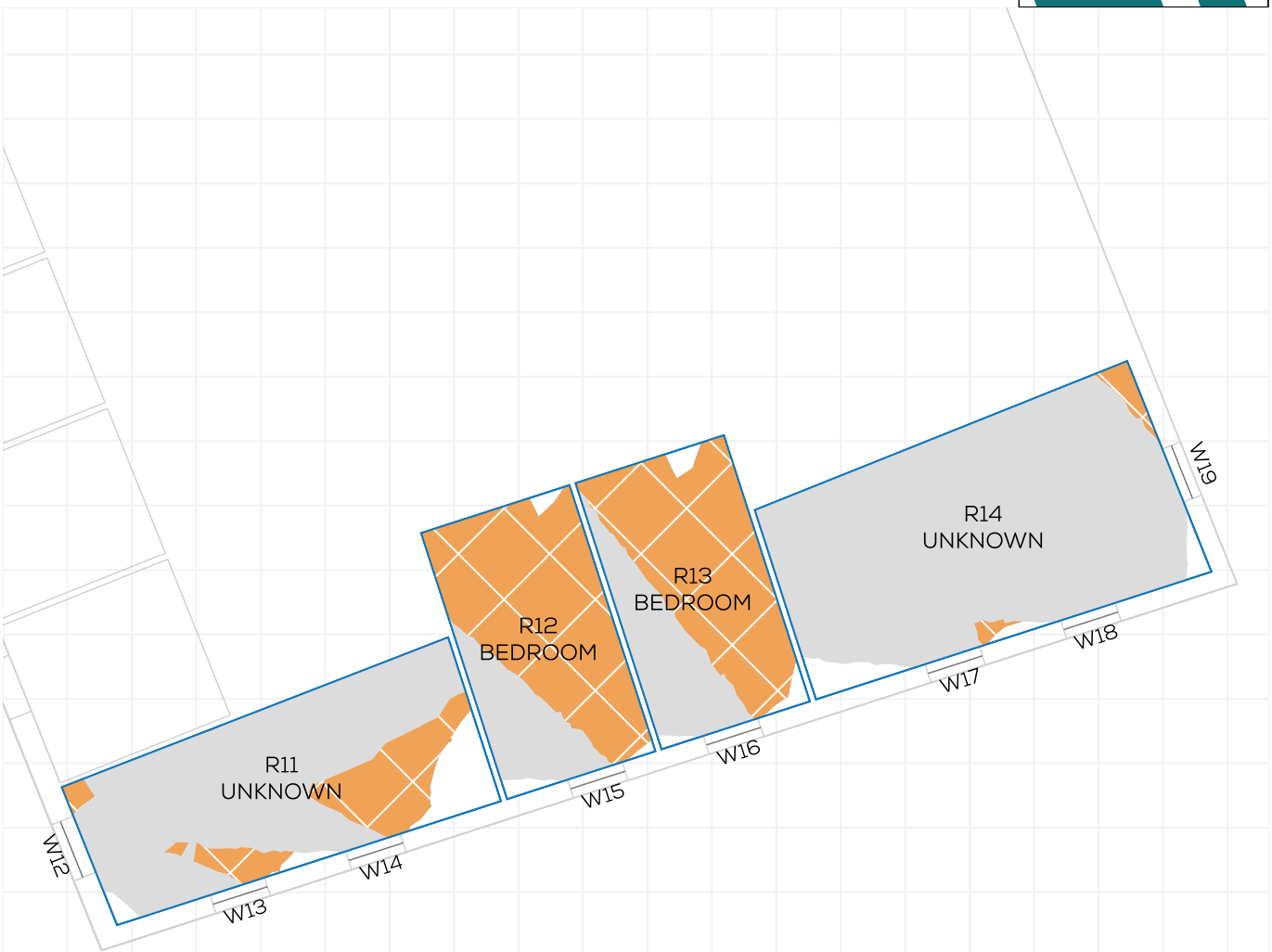
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F02	R6	RESIDENTIAL	BEDROOM	6.8	63.8	60.3	0.2	5.6
F02	R7	RESIDENTIAL	BEDROOM	6.8	58.1	51.2	0.5	12
F02	R8	RESIDENTIAL	BEDROOM	6.9	53.3	47.4	0.4	11.1
F02	R9	RESIDENTIAL	BEDROOM	6.9	40.5	30.4	0.7	24.8
F02	R10	RESIDENTIAL	BEDROOM	7.4	58.3	29.9	2.1	48.7

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL12

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





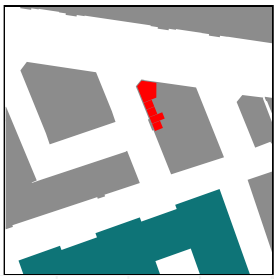
F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F02	R11	RESIDENTIAL	UNKNOWN	15.8	90.9	71.7	3.0	21.2
F02	R12	RESIDENTIAL	BEDROOM	10.5	97.1	23.5	7.7	75.8
F02	R13	RESIDENTIAL	BEDROOM	10.5	96.1	30.2	6.9	68.6
F02	R14	RESIDENTIAL	UNKNOWN	20.9	95.9	93.6	0.5	2.4

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL13

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





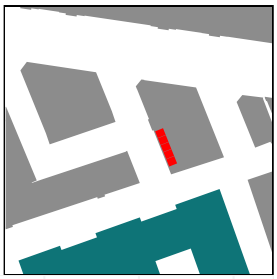
F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F03	R1	RESIDENTIAL	UNKNOWN	34.4	83.8	82.7	0.4	1.2
F03	R2	RESIDENTIAL	BEDROOM	6.8	75.2	68.7	0.4	8.6
F03	R3	RESIDENTIAL	BEDROOM	7.3	75.4	71.7	0.3	4.9
F03	R4	RESIDENTIAL	BEDROOM	10.2	56.4	54.4	0.2	3.6
F03	R5	RESIDENTIAL	BEDROOM	7.3	75.5	69.8	0.4	7.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL14

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F03

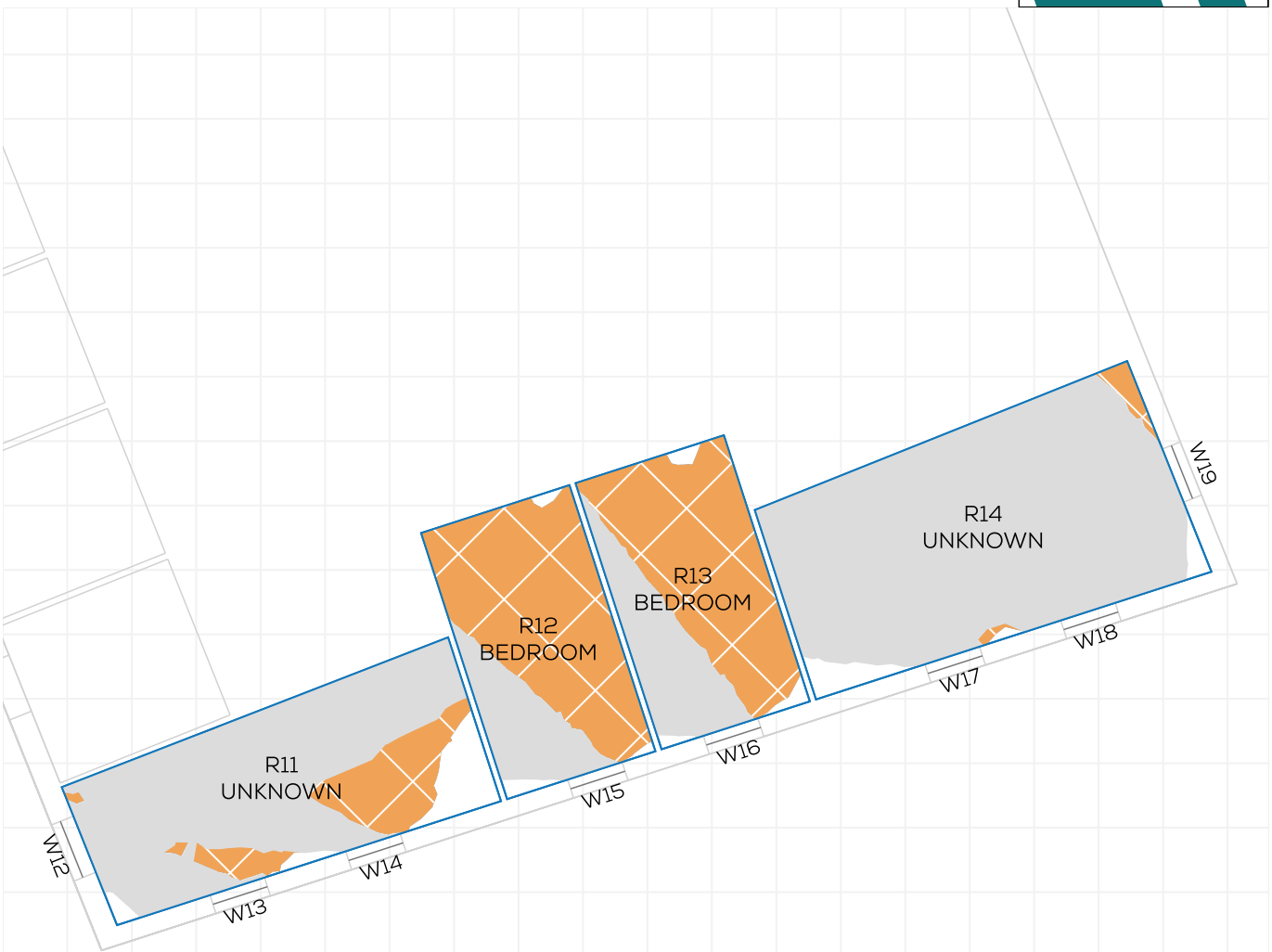
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F03	R6	RESIDENTIAL	BEDROOM	6.8	80.8	77.5	0.2	4
F03	R7	RESIDENTIAL	BEDROOM	6.8	67.5	60.9	0.4	9.7
F03	R8	RESIDENTIAL	BEDROOM	6.9	60.7	55.3	0.4	8.8
F03	R9	RESIDENTIAL	BEDROOM	6.9	43.4	33.5	0.7	22.9
F03	R10	RESIDENTIAL	BEDROOM	7.4	61.9	34.7	2.0	44

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL15

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





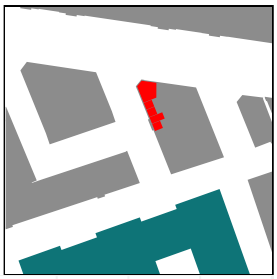
F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F03	R11	RESIDENTIAL	UNKNOWN	15.8	91.3	73.1	2.9	19.9
F03	R12	RESIDENTIAL	BEDROOM	10.5	97.4	23.6	7.7	75.8
F03	R13	RESIDENTIAL	BEDROOM	10.5	97	30.3	7.0	68.7
F03	R14	RESIDENTIAL	UNKNOWN	20.9	96.2	94.2	0.4	2.1

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL16

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





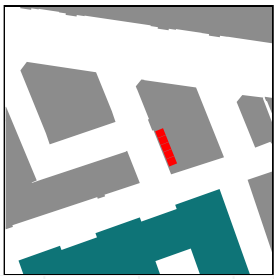
F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F04	R1	RESIDENTIAL	UNKNOWN	34.4	88.7	88.6	0.0	0.1
F04	R2	RESIDENTIAL	BEDROOM	6.8	86.7	77.8	0.6	10.3
F04	R3	RESIDENTIAL	BEDROOM	7.3	87.7	82.1	0.4	6.3
F04	R4	RESIDENTIAL	BEDROOM	10.2	69.5	66.6	0.3	4.1
F04	R5	RESIDENTIAL	BEDROOM	7.3	80.6	74.8	0.4	7.2

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL17

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F04

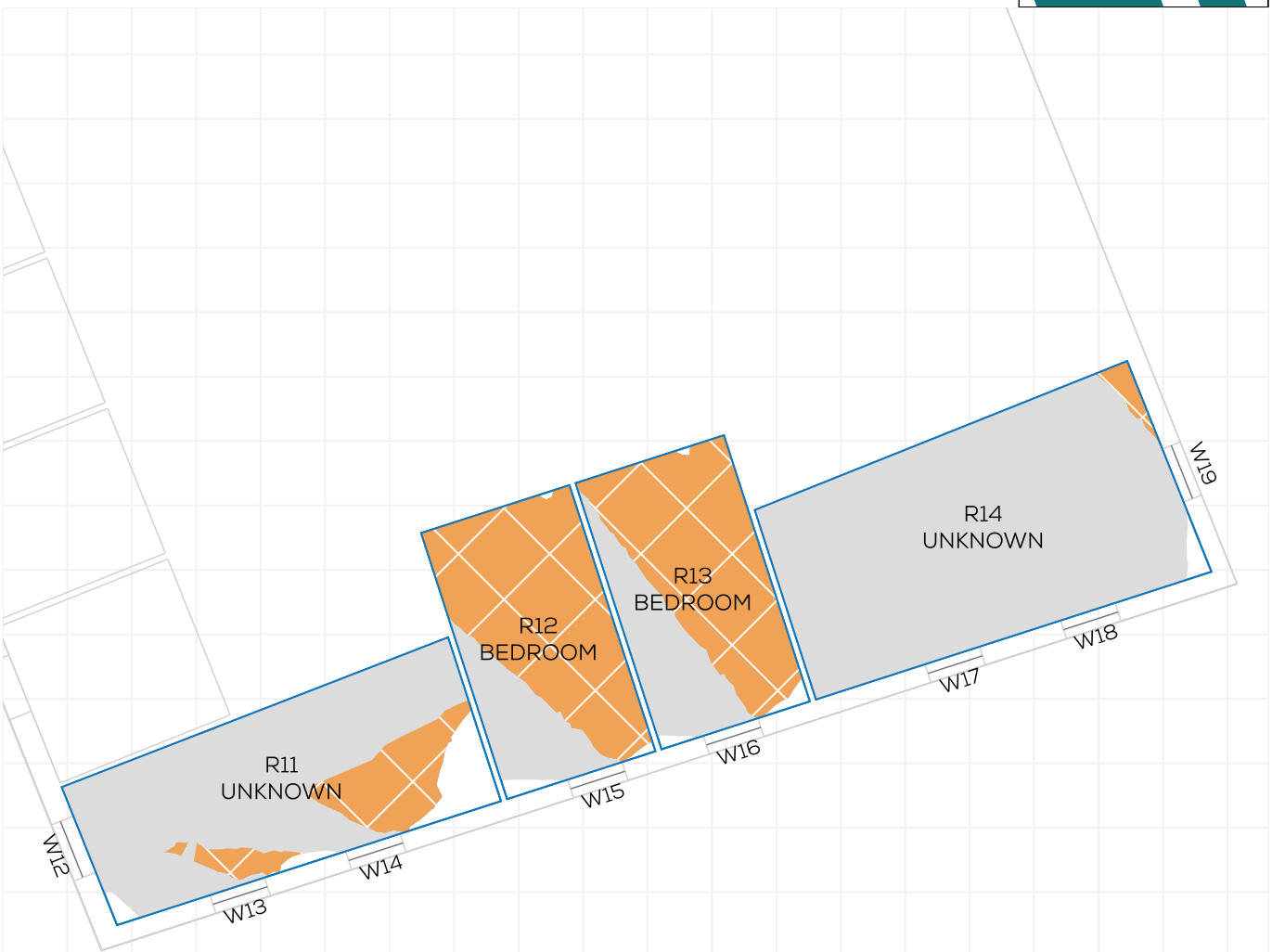
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F04	R6	RESIDENTIAL	BEDROOM	6.8	85	82	0.2	3.5
F04	R7	RESIDENTIAL	BEDROOM	6.8	69.5	63.3	0.4	8.9
F04	R8	RESIDENTIAL	BEDROOM	6.9	63.1	58.5	0.3	7.3
F04	R9	RESIDENTIAL	BEDROOM	6.9	45.7	36.4	0.6	20.3
F04	R10	RESIDENTIAL	BEDROOM	7.4	63	38.1	1.8	39.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL18

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





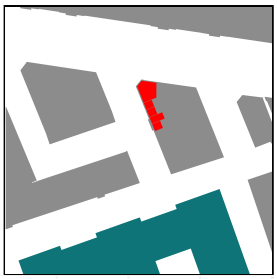
F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F04	R11	RESIDENTIAL	UNKNOWN	15.8	91.7	73.5	2.9	19.8
F04	R12	RESIDENTIAL	BEDROOM	10.5	98	23.7	7.8	75.8
F04	R13	RESIDENTIAL	BEDROOM	10.5	97.9	30.4	7.1	69
F04	R14	RESIDENTIAL	UNKNOWN	20.9	99	97.4	0.3	1.7

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL19

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





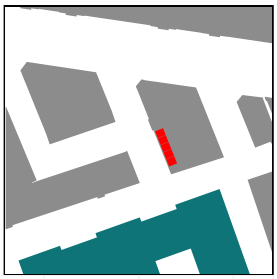
F05

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F05	R1	RESIDENTIAL	UNKNOWN	34.4	95.6	95.6	0.0	0
F05	R2	RESIDENTIAL	BEDROOM	6.8	96.2	87.2	0.6	9.4
F05	R3	RESIDENTIAL	BEDROOM	7.3	96.7	91.7	0.4	5.1
F05	R4	RESIDENTIAL	BEDROOM	10.2	86.1	82.9	0.3	3.7
F05	R5	RESIDENTIAL	BEDROOM	7.3	89.7	81.1	0.6	9.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL20

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F05

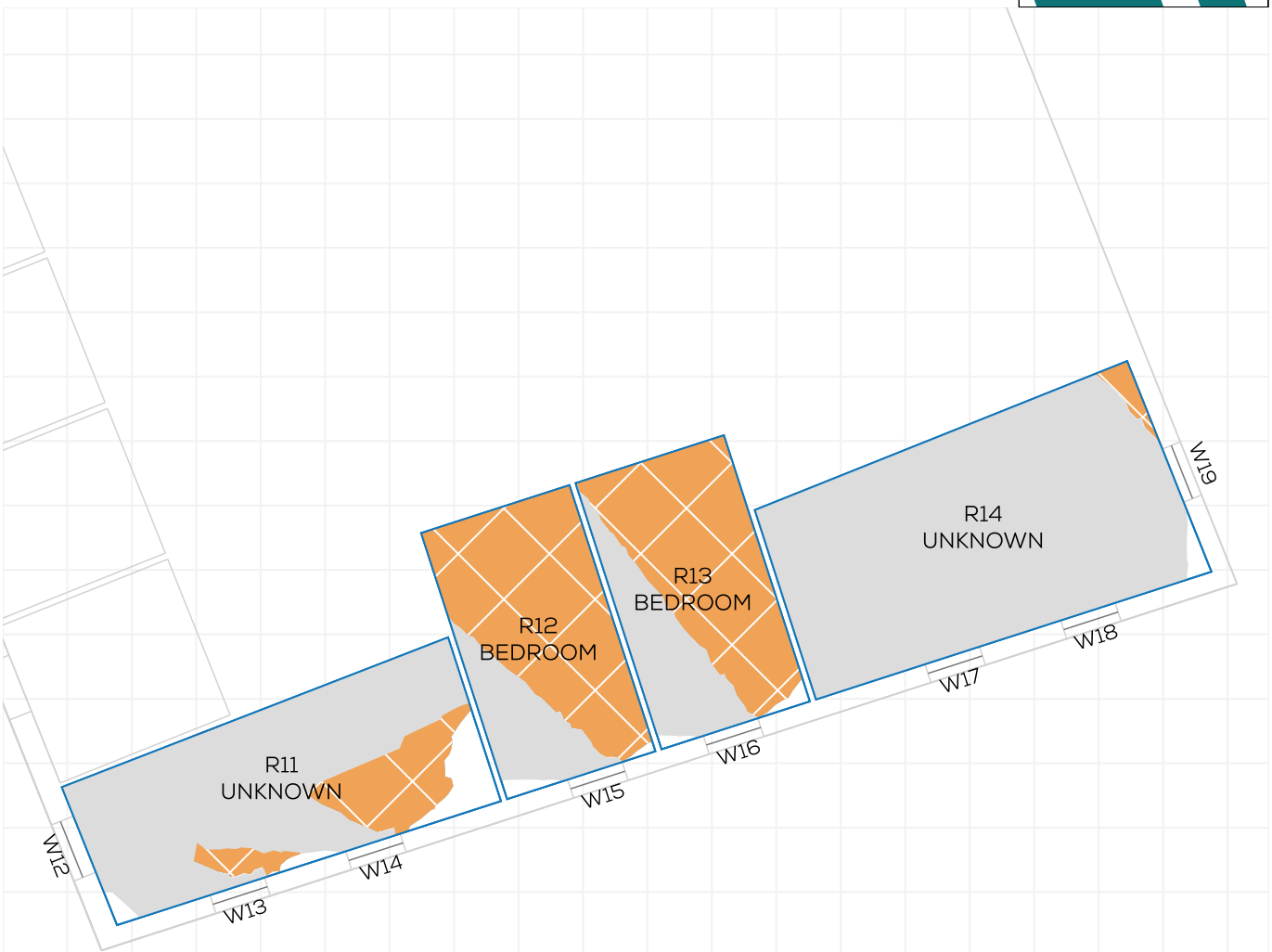
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F05	R6	RESIDENTIAL	BEDROOM	6.8	91.5	88.4	0.2	3.5
F05	R7	RESIDENTIAL	BEDROOM	6.8	75.5	68.2	0.5	9.7
F05	R8	RESIDENTIAL	BEDROOM	6.9	70.4	65	0.4	7.7
F05	R9	RESIDENTIAL	BEDROOM	6.9	55.5	44.6	0.7	19.7
F05	R10	RESIDENTIAL	BEDROOM	7.4	67.4	49.1	1.4	27.2

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL21

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





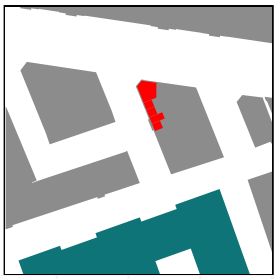
F05

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F05	R11	RESIDENTIAL	UNKNOWN	15.8	92.4	74.6	2.8	19.2
F05	R12	RESIDENTIAL	BEDROOM	10.5	98.1	23.7	7.8	75.8
F05	R13	RESIDENTIAL	BEDROOM	10.5	98.1	30.5	7.1	69
F05	R14	RESIDENTIAL	UNKNOWN	20.9	99	97.4	0.3	1.7

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL22

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





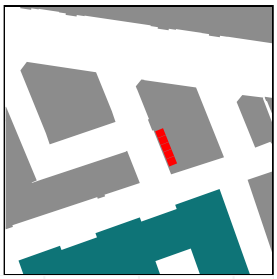
F06

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F06	R1	RESIDENTIAL	UNKNOWN	34.4	100	100	0.0	0
F06	R2	RESIDENTIAL	BEDROOM	6.8	96.3	87.7	0.6	8.9
F06	R3	RESIDENTIAL	BEDROOM	7.3	96.7	92.4	0.3	4.4
F06	R4	RESIDENTIAL	BEDROOM	10.2	90.5	88	0.3	2.8
F06	R5	RESIDENTIAL	BEDROOM	7.3	96.6	85.8	0.8	11.3

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL23

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F06

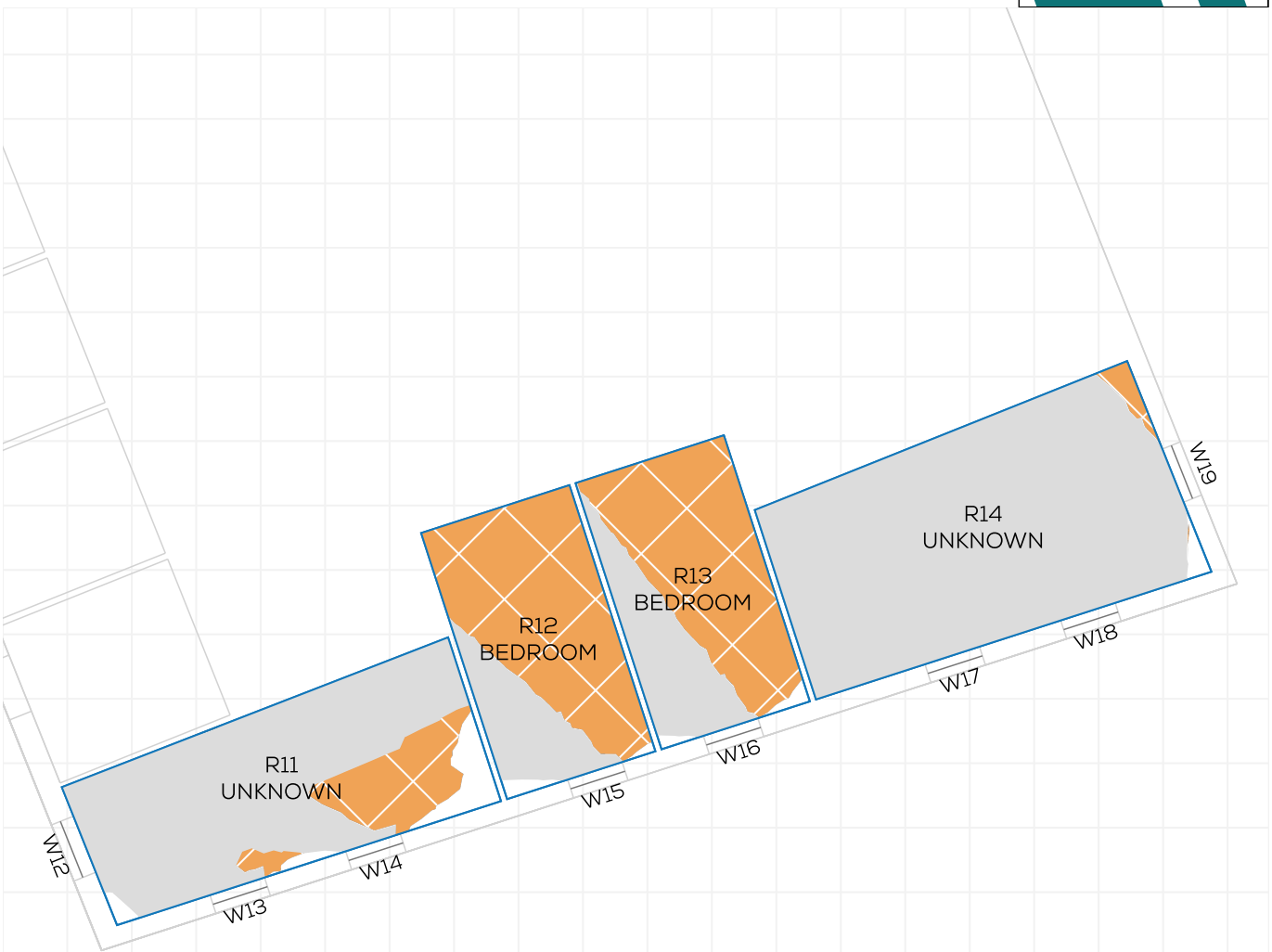
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F06	R6	RESIDENTIAL	BEDROOM	6.8	97.1	94.6	0.2	2.5
F06	R7	RESIDENTIAL	BEDROOM	6.8	90.5	81.3	0.6	10.2
F06	R8	RESIDENTIAL	BEDROOM	6.9	88.5	81.8	0.5	7.6
F06	R9	RESIDENTIAL	BEDROOM	6.9	86	68.3	1.2	20.5
F06	R10	RESIDENTIAL	BEDROOM	7.4	87	80.8	0.5	7.1

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL24

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





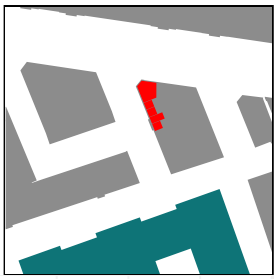
F06

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F06	R11	RESIDENTIAL	UNKNOWN	15.8	93.2	76.5	2.6	17.8
F06	R12	RESIDENTIAL	BEDROOM	10.5	98.2	23.9	7.8	75.7
F06	R13	RESIDENTIAL	BEDROOM	10.5	98.1	30.5	7.1	68.9
F06	R14	RESIDENTIAL	UNKNOWN	20.9	99.1	97.4	0.4	1.7

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL25

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





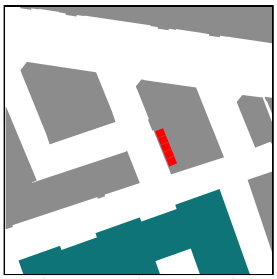
F07

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F07	R1	RESIDENTIAL	UNKNOWN	34.4	100	100	0.0	0
F07	R2	RESIDENTIAL	BEDROOM	6.8	96.3	89.4	0.5	7.1
F07	R3	RESIDENTIAL	BEDROOM	7.3	96.7	93.1	0.3	3.7
F07	R4	RESIDENTIAL	BEDROOM	10.2	96.2	94.1	0.2	2.2
F07	R5	RESIDENTIAL	BEDROOM	7.3	96.6	87.2	0.7	9.8

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL26

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F07

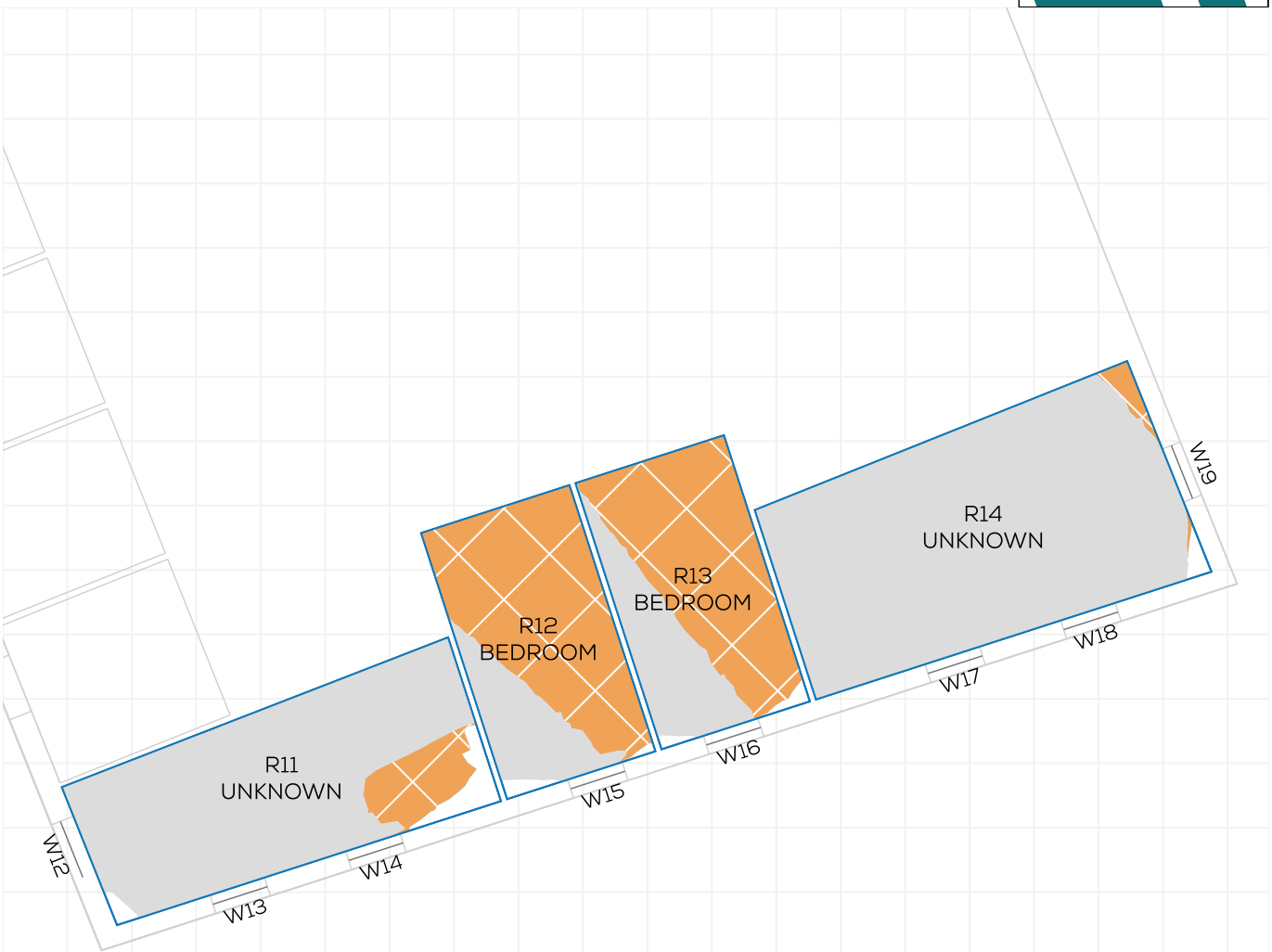
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F07	R6	RESIDENTIAL	BEDROOM	6.8	97.1	95	0.1	2.1
F07	R7	RESIDENTIAL	BEDROOM	6.8	97	88.5	0.6	8.7
F07	R8	RESIDENTIAL	BEDROOM	6.9	97.1	93.7	0.2	3.5
F07	R9	RESIDENTIAL	BEDROOM	6.9	97.2	85.8	0.8	11.8
F07	R10	RESIDENTIAL	BEDROOM	7.4	95.9	91.8	0.3	4.2

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL27

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F07

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F07	R11	RESIDENTIAL	UNKNOWN	15.8	95.2	85.3	1.6	10.4
F07	R12	RESIDENTIAL	BEDROOM	10.5	98.1	24.1	7.8	75.4
F07	R13	RESIDENTIAL	BEDROOM	10.5	98.1	30.6	7.1	68.8
F07	R14	RESIDENTIAL	UNKNOWN	20.9	99.2	97.4	0.4	1.8

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL28

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





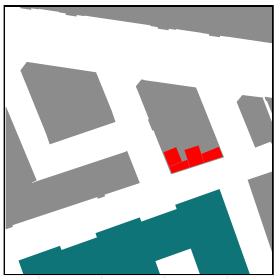
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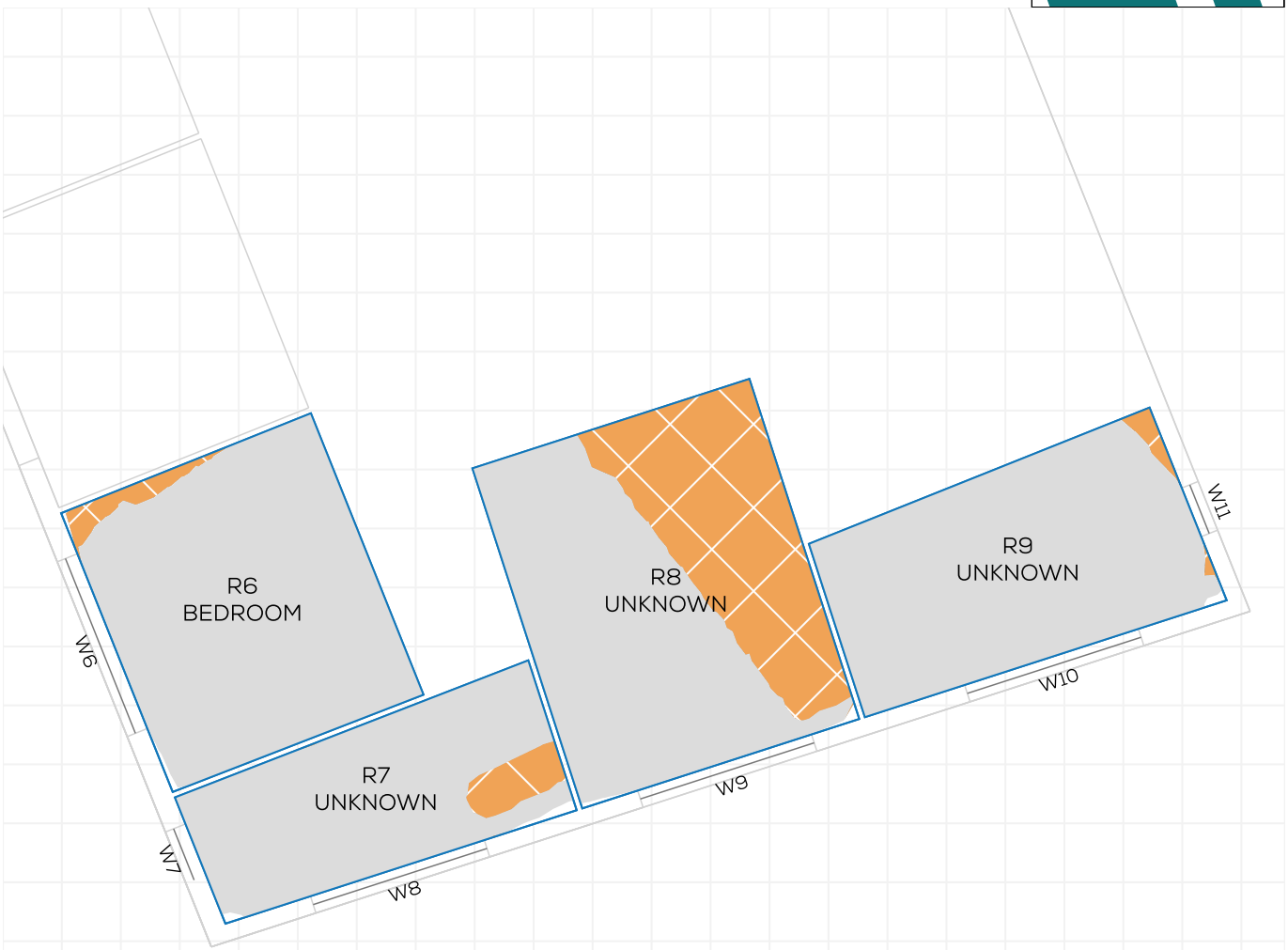
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F08	R1	RESIDENTIAL	UNKNOWN	34.4	100	100	0.0	0
F08	R2	RESIDENTIAL	BEDROOM	23.1	99.2	96.8	0.5	2.4
F08	R3	RESIDENTIAL	BEDROOM	10.2	98.4	96.5	0.2	1.9
F08	R4	RESIDENTIAL	BEDROOM	23.1	99.2	95.8	0.8	3.4
F08	R5	RESIDENTIAL	BEDROOM	22.4	99.4	96.5	0.7	2.9

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL29

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





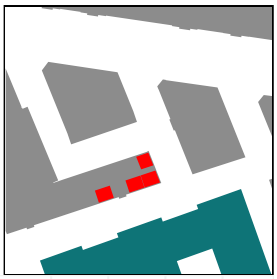
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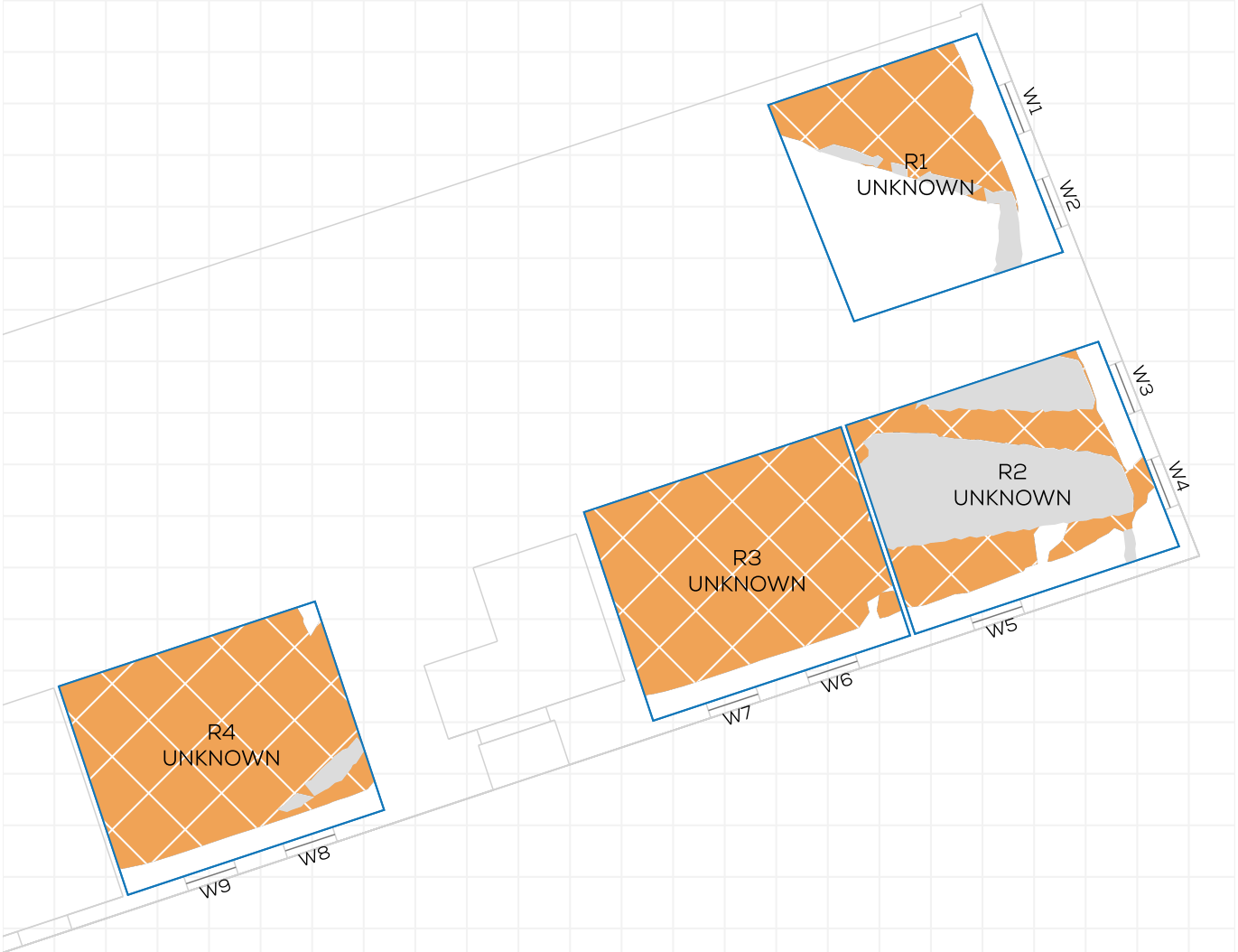
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F08	R6	RESIDENTIAL	BEDROOM	23.3	99.3	95.7	0.8	3.6
F08	R7	RESIDENTIAL	UNKNOWN	15.8	98.9	91.2	1.2	7.8
F08	R8	RESIDENTIAL	UNKNOWN	29.9	99.5	60.4	11.7	39.3
F08	R9	RESIDENTIAL	UNKNOWN	20.9	99.8	97.8	0.4	2

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL30

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





B01

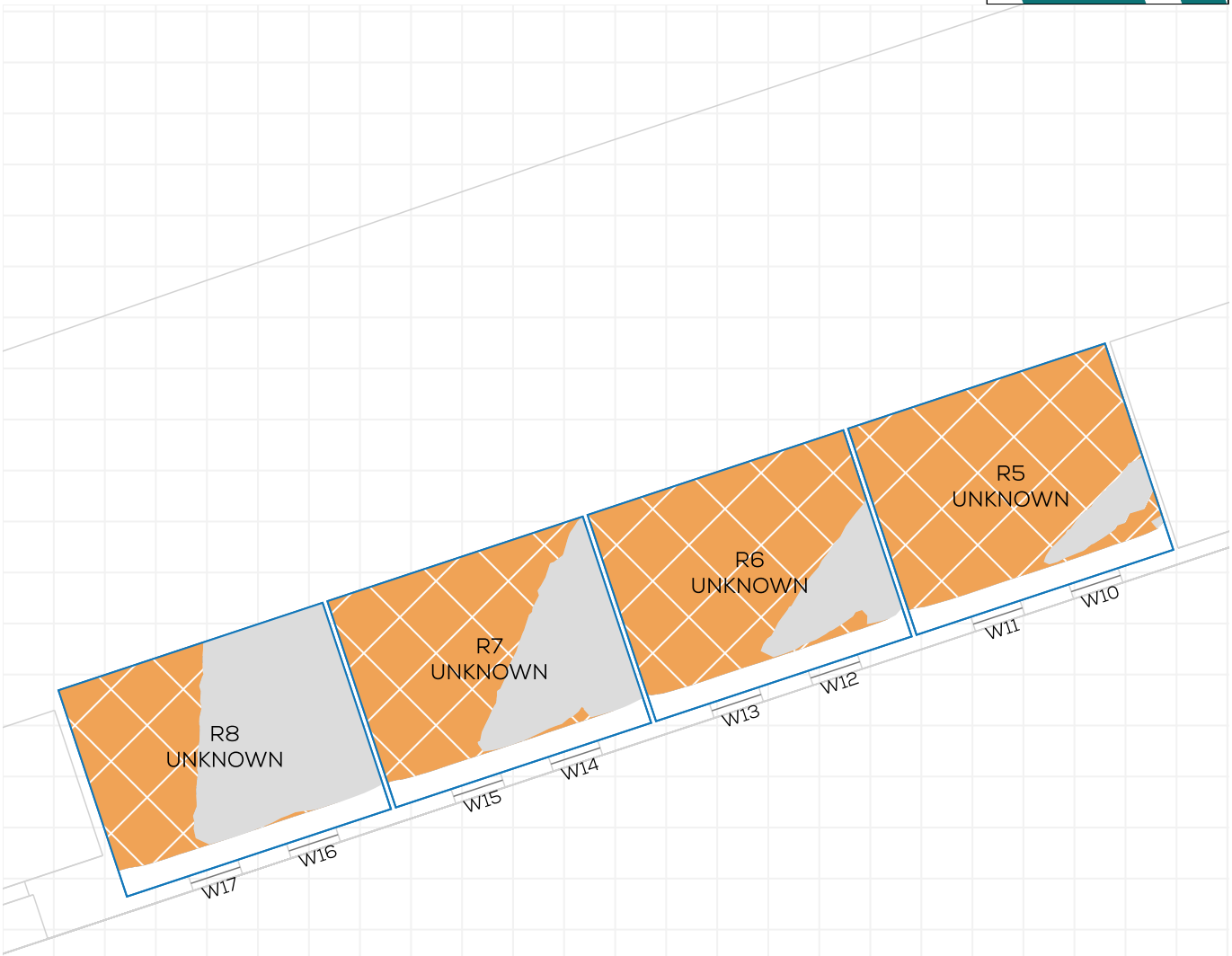
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
B01	R1	RESIDENTIAL	UNKNOWN	19.3	44.1	6.3	7.3	85.8
B01	R2	RESIDENTIAL	UNKNOWN	22.5	80.1	49	7.0	38.8
B01	R3	RESIDENTIAL	UNKNOWN	22.4	88.8	0	19.8	100
B01	R4	RESIDENTIAL	UNKNOWN	22.3	88.6	2.6	19.2	97

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL31

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





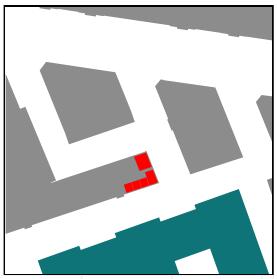
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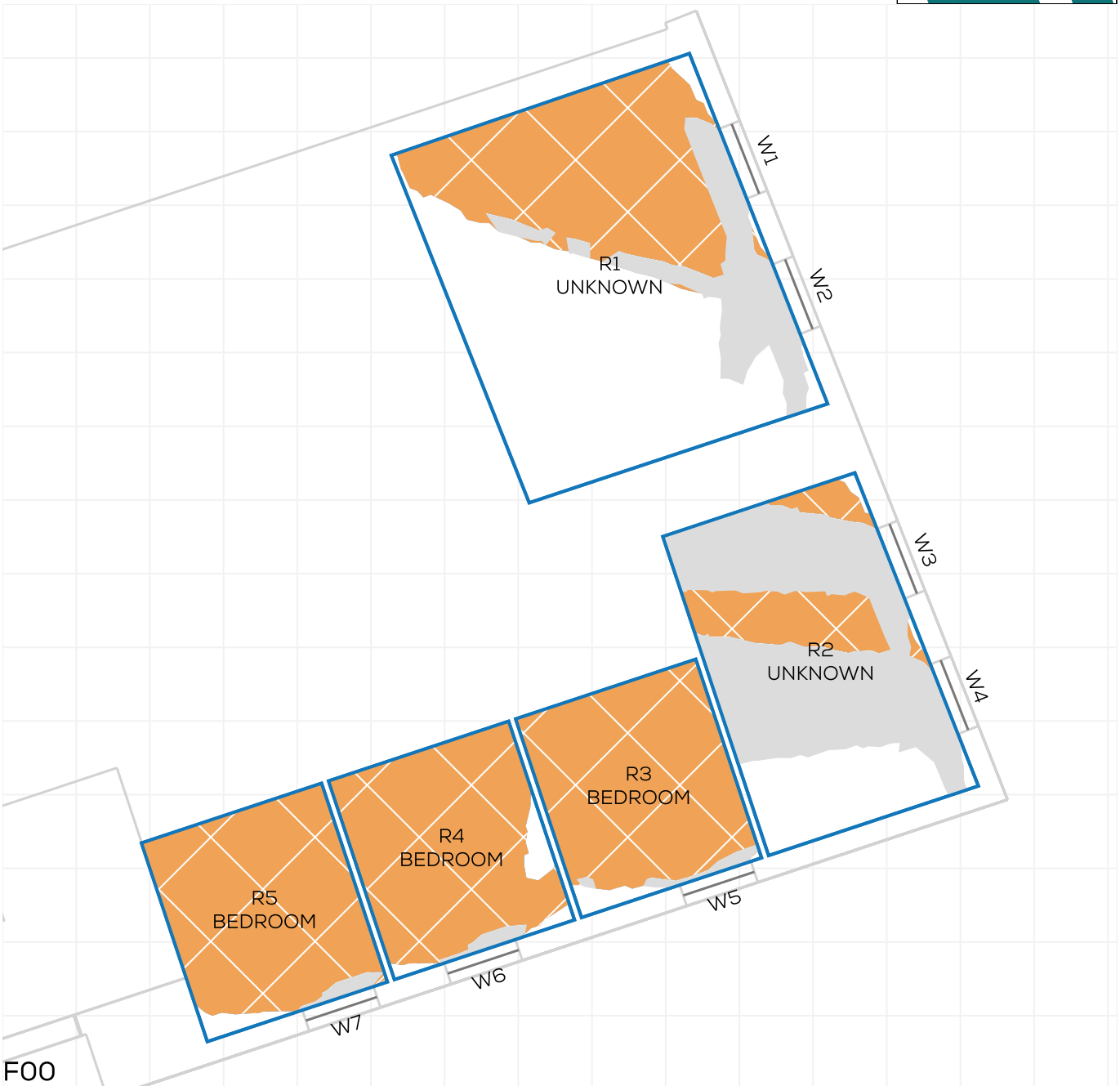
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
B01	R5	RESIDENTIAL	UNKNOWN	22.6	89.3	6.9	18.6	92.3
B01	R6	RESIDENTIAL	UNKNOWN	22.5	89.3	15.6	16.6	82.5
B01	R7	RESIDENTIAL	UNKNOWN	22.5	89.4	31.3	13.0	65
B01	R8	RESIDENTIAL	UNKNOWN	23.2	89.3	51.9	8.7	41.9

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL32

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F00

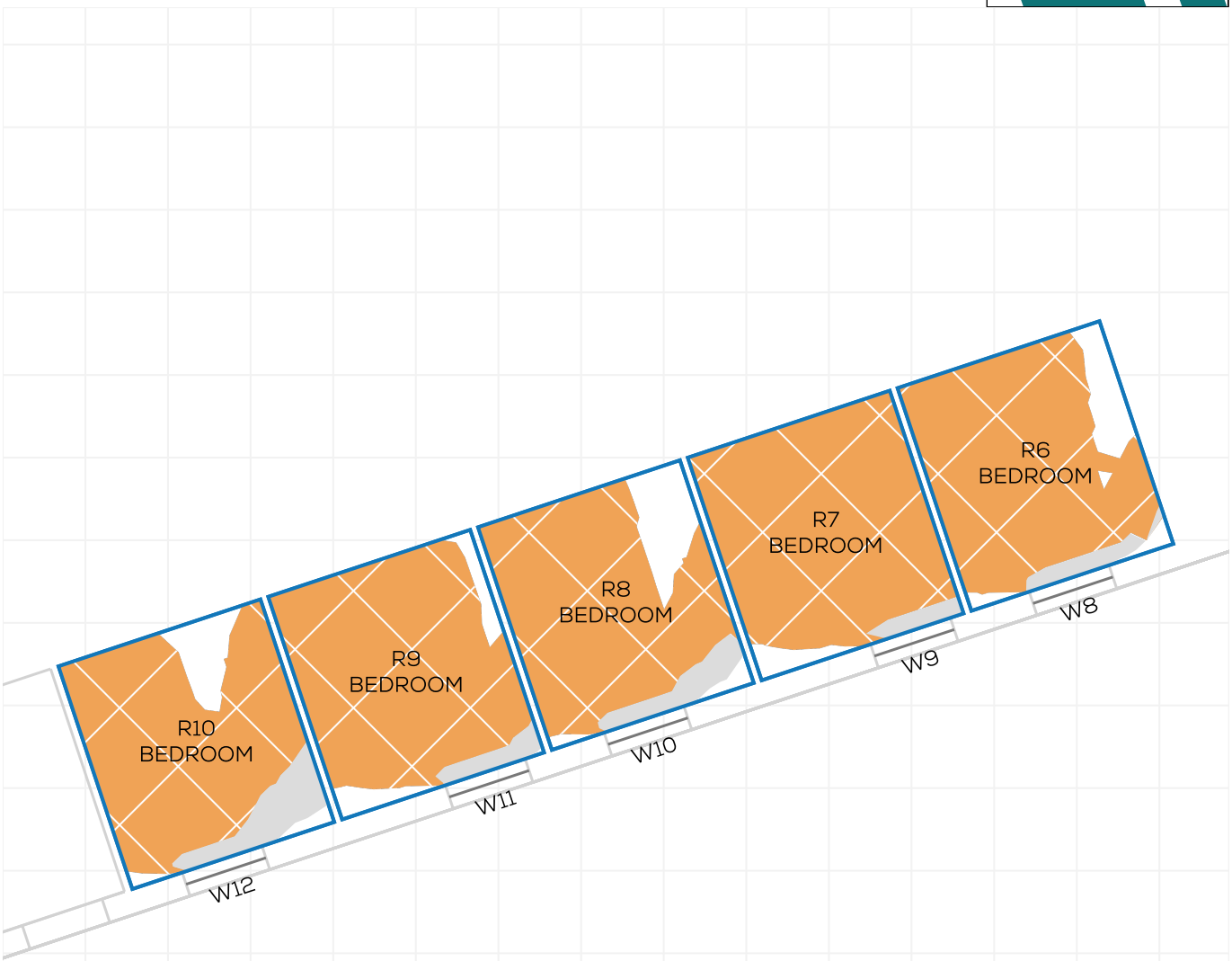
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F00	R1	RESIDENTIAL	UNKNOWN	21.7	48.5	13.9	7.5	71.4
F00	R2	RESIDENTIAL	UNKNOWN	13.1	78.4	60.7	2.3	22.6
F00	R3	RESIDENTIAL	BEDROOM	7.3	96.1	2.8	6.8	97.1
F00	R4	RESIDENTIAL	BEDROOM	7.3	93.8	2.3	6.7	97.5
F00	R5	RESIDENTIAL	BEDROOM	7.3	96.5	2.4	6.9	97.6

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL33

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F00

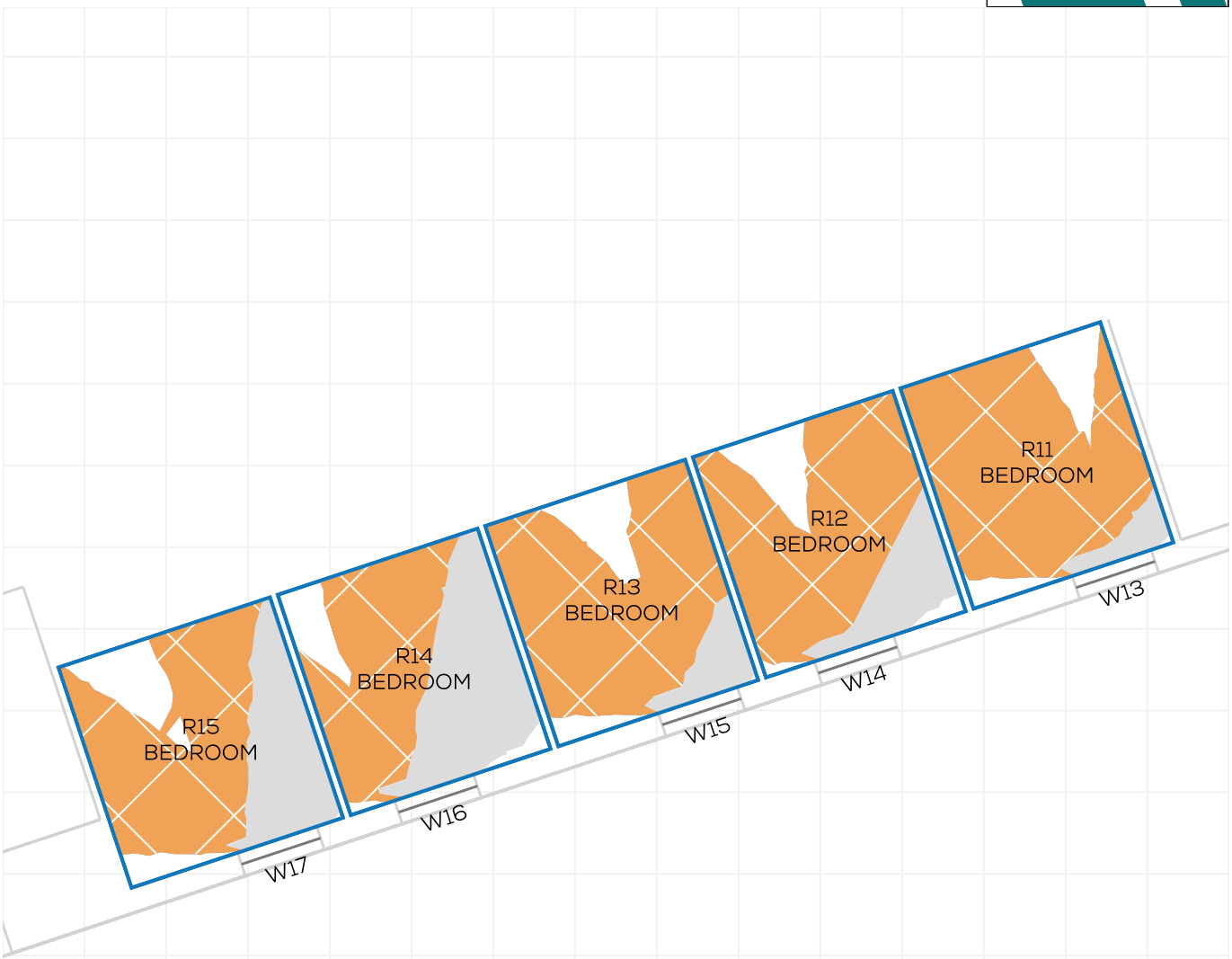
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F00	R6	RESIDENTIAL	BEDROOM	7.3	88.3	4.3	6.1	95.1
F00	R7	RESIDENTIAL	BEDROOM	7.3	96.4	3.1	6.8	96.8
F00	R8	RESIDENTIAL	BEDROOM	7.3	85.5	7.4	5.7	91.4
F00	R9	RESIDENTIAL	BEDROOM	7.3	92.8	4.2	6.5	95.4
F00	R10	RESIDENTIAL	BEDROOM	7.3	89.4	11.2	5.7	87.4

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL34

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





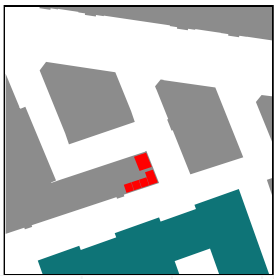
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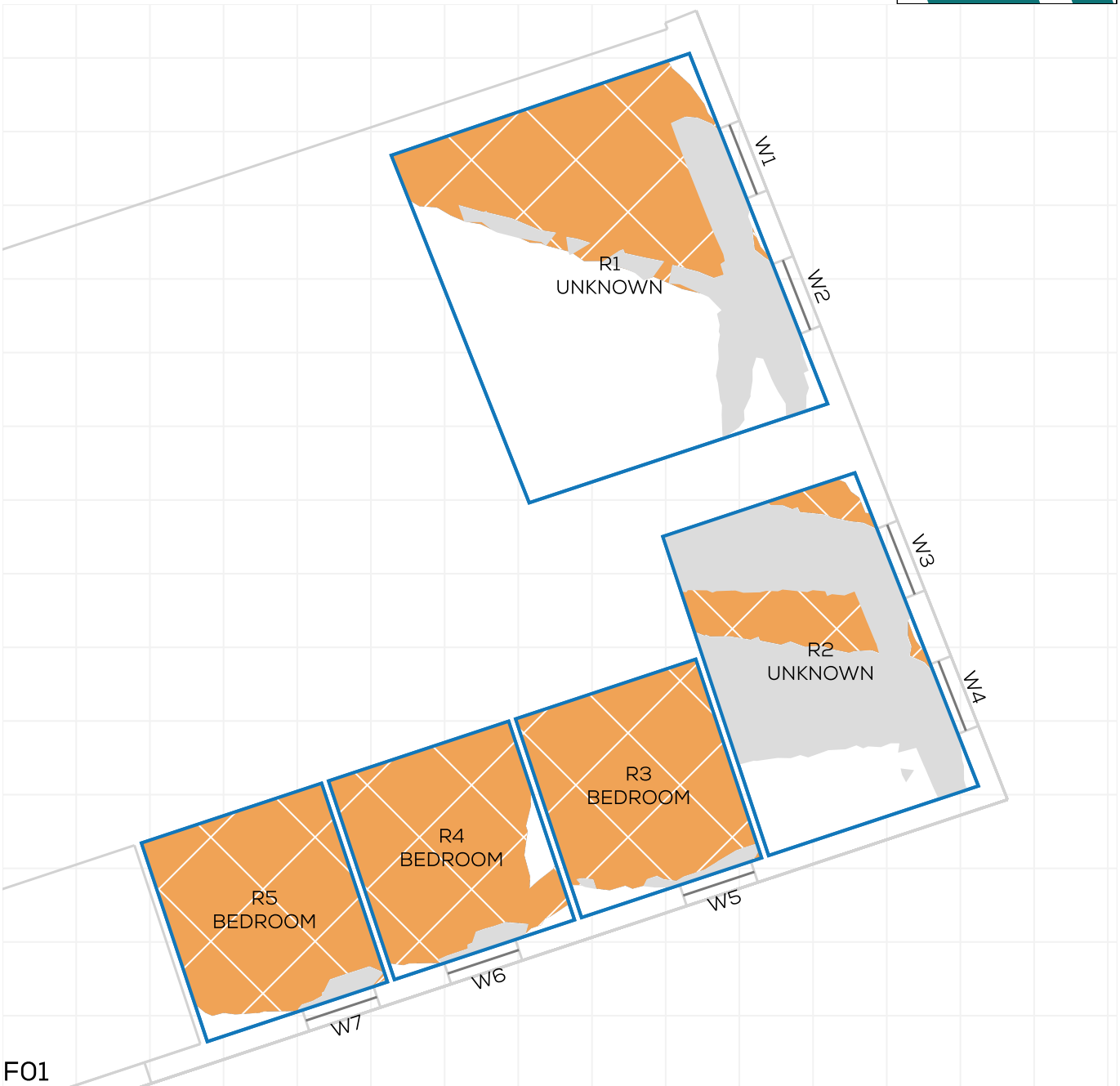
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F00	R11	RESIDENTIAL	BEDROOM	7.3	87.8	6.2	6.0	92.9
F00	R12	RESIDENTIAL	BEDROOM	7.3	87.5	18.1	5.1	79.4
F00	R13	RESIDENTIAL	BEDROOM	7.3	86.9	10.1	5.6	88.3
F00	R14	RESIDENTIAL	BEDROOM	7.3	90.4	41.1	3.6	54.5
F00	R15	RESIDENTIAL	BEDROOM	7.7	85.5	26.9	4.5	68.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL35

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F01

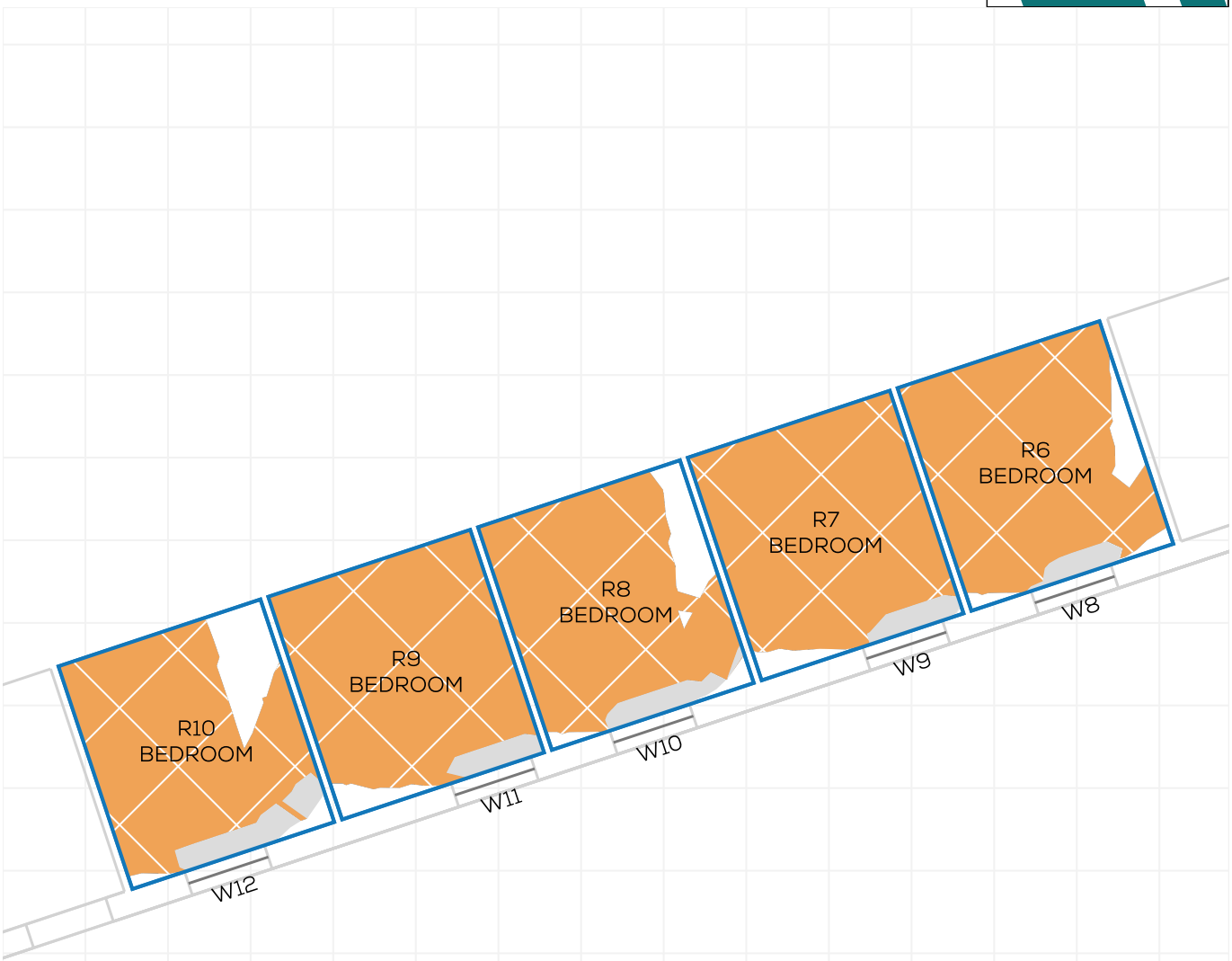
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F01	R1	RESIDENTIAL	UNKNOWN	21.7	51.3	17.1	7.4	66.6
F01	R2	RESIDENTIAL	UNKNOWN	13.1	79.3	62.5	2.2	21.1
F01	R3	RESIDENTIAL	BEDROOM	7.3	96.2	3.2	6.8	96.7
F01	R4	RESIDENTIAL	BEDROOM	7.3	93.8	3	6.6	96.8
F01	R5	RESIDENTIAL	BEDROOM	7.3	96.5	3.2	6.8	96.7

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL36

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F01

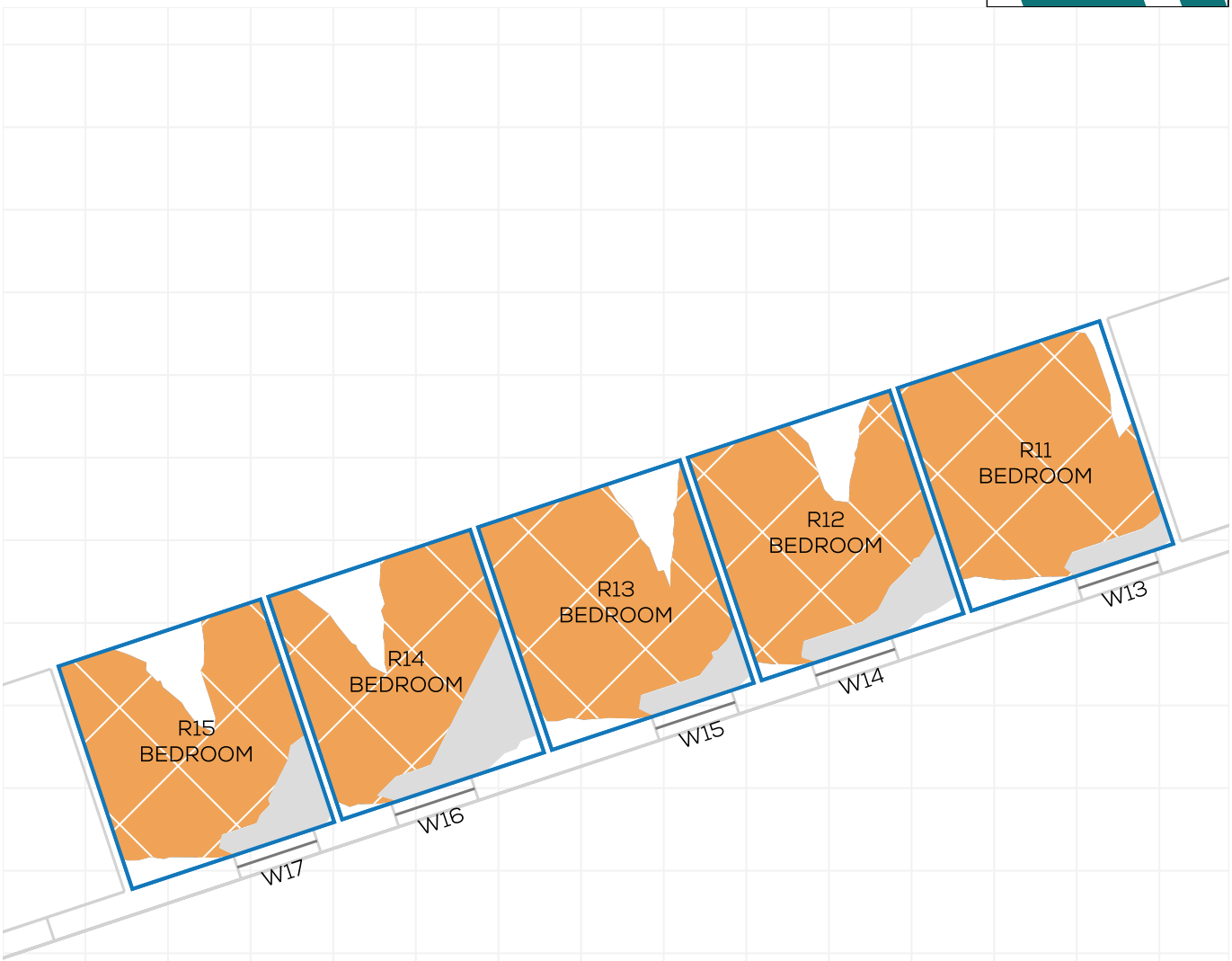
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F01	R6	RESIDENTIAL	BEDROOM	7.3	93	3.6	6.5	96.1
F01	R7	RESIDENTIAL	BEDROOM	7.3	96.8	4.1	6.8	95.8
F01	R8	RESIDENTIAL	BEDROOM	7.3	88.4	5.4	6.1	93.8
F01	R9	RESIDENTIAL	BEDROOM	7.3	96.3	4.2	6.7	95.6
F01	R10	RESIDENTIAL	BEDROOM	7.3	85.4	8.1	5.7	90.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL37

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F01

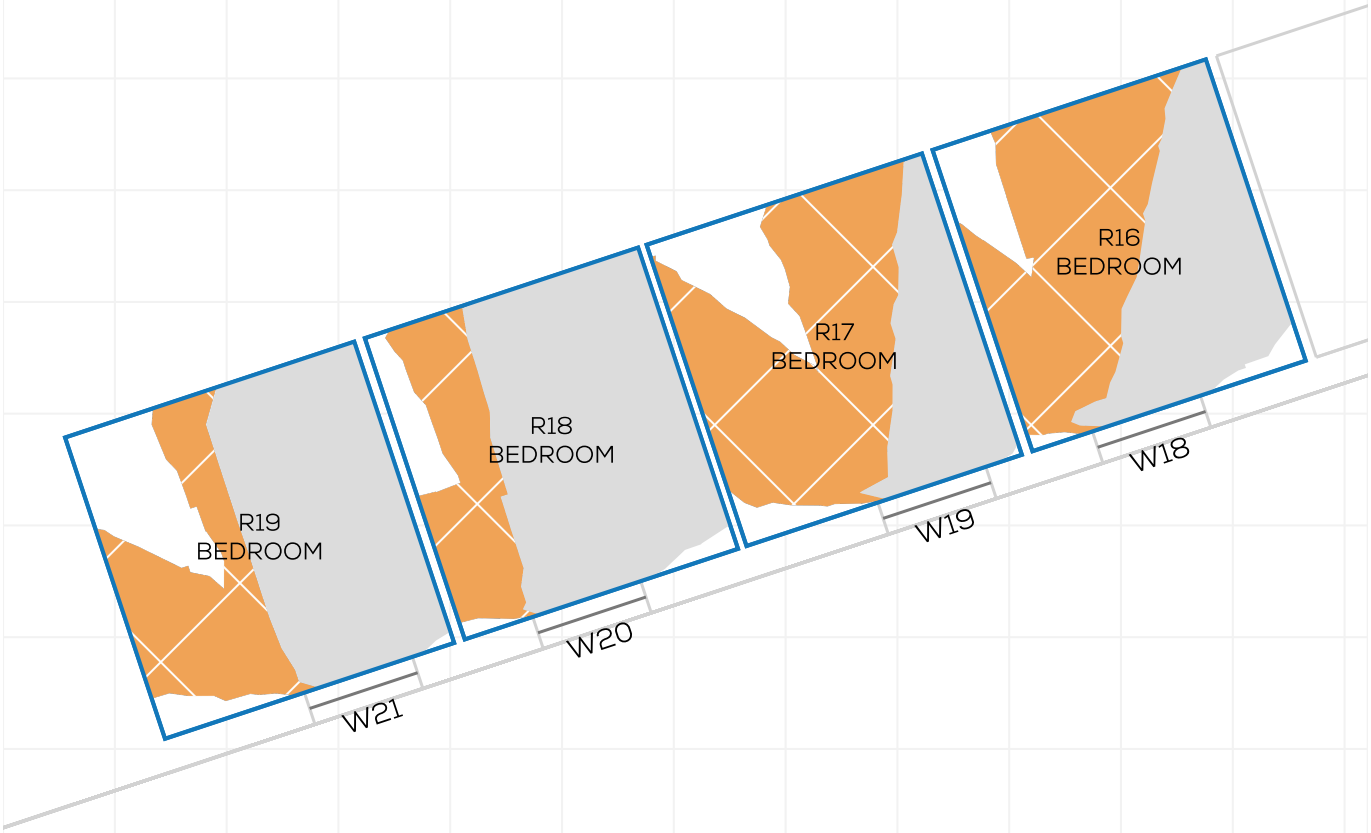
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F01	R11	RESIDENTIAL	BEDROOM	7.3	92.8	5.2	6.4	94.4
F01	R12	RESIDENTIAL	BEDROOM	7.3	89.4	12.2	5.6	86.3
F01	R13	RESIDENTIAL	BEDROOM	7.3	87.9	6.9	5.9	92.1
F01	R14	RESIDENTIAL	BEDROOM	7.3	87.8	18.6	5.1	78.8
F01	R15	RESIDENTIAL	BEDROOM	7.3	86.9	10.7	5.6	87.7

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL38

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





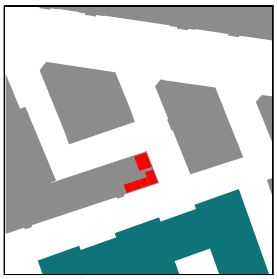
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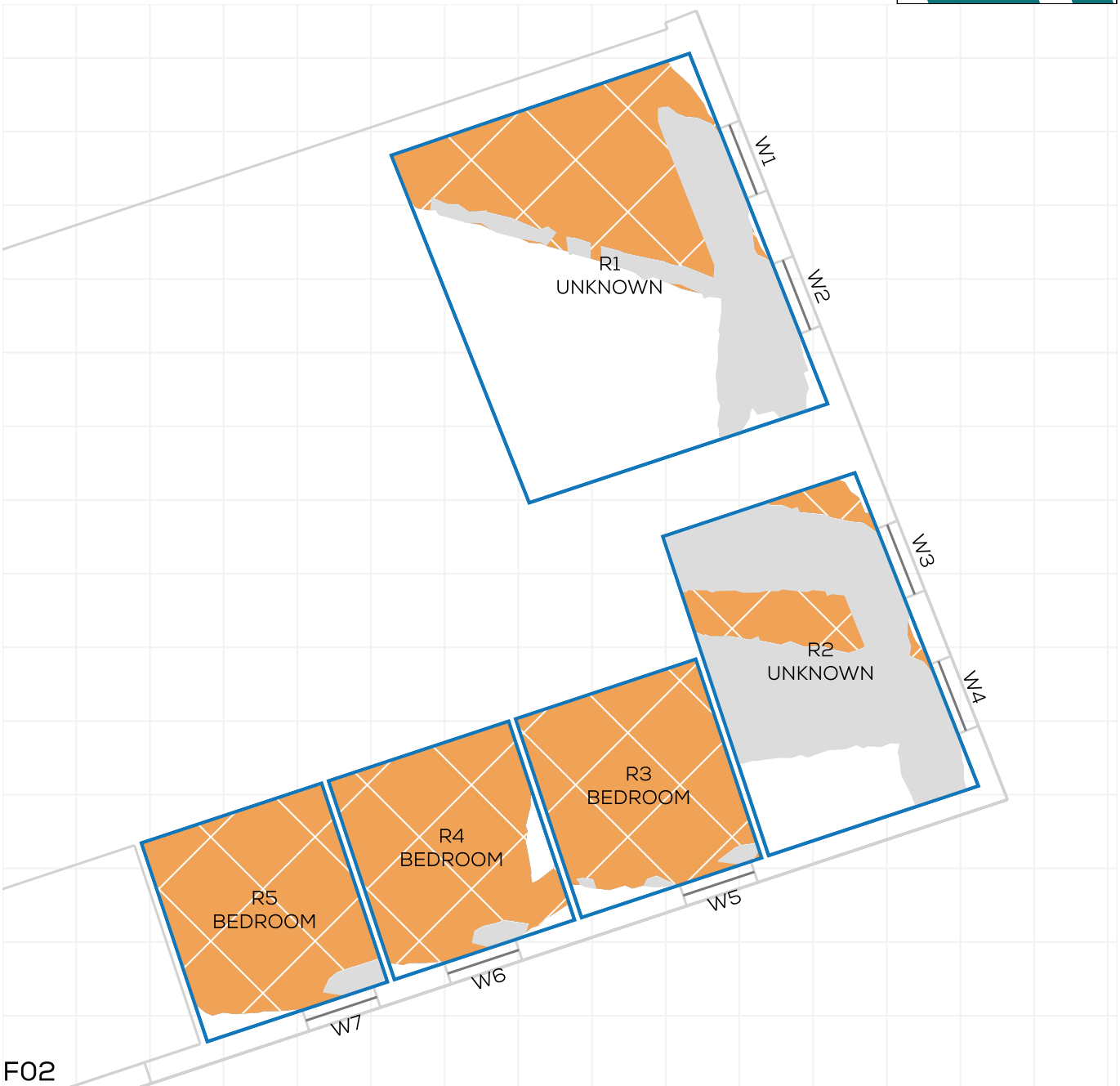
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F01	R16	RESIDENTIAL	BEDROOM	7.3	90.6	41.5	3.6	54.2
F01	R17	RESIDENTIAL	BEDROOM	7.4	84.9	28.5	4.2	66.5
F01	R18	RESIDENTIAL	BEDROOM	7.3	91.7	68.5	1.7	25.3
F01	R19	RESIDENTIAL	BEDROOM	7.7	82.3	53.7	2.2	34.7

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL39

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F02

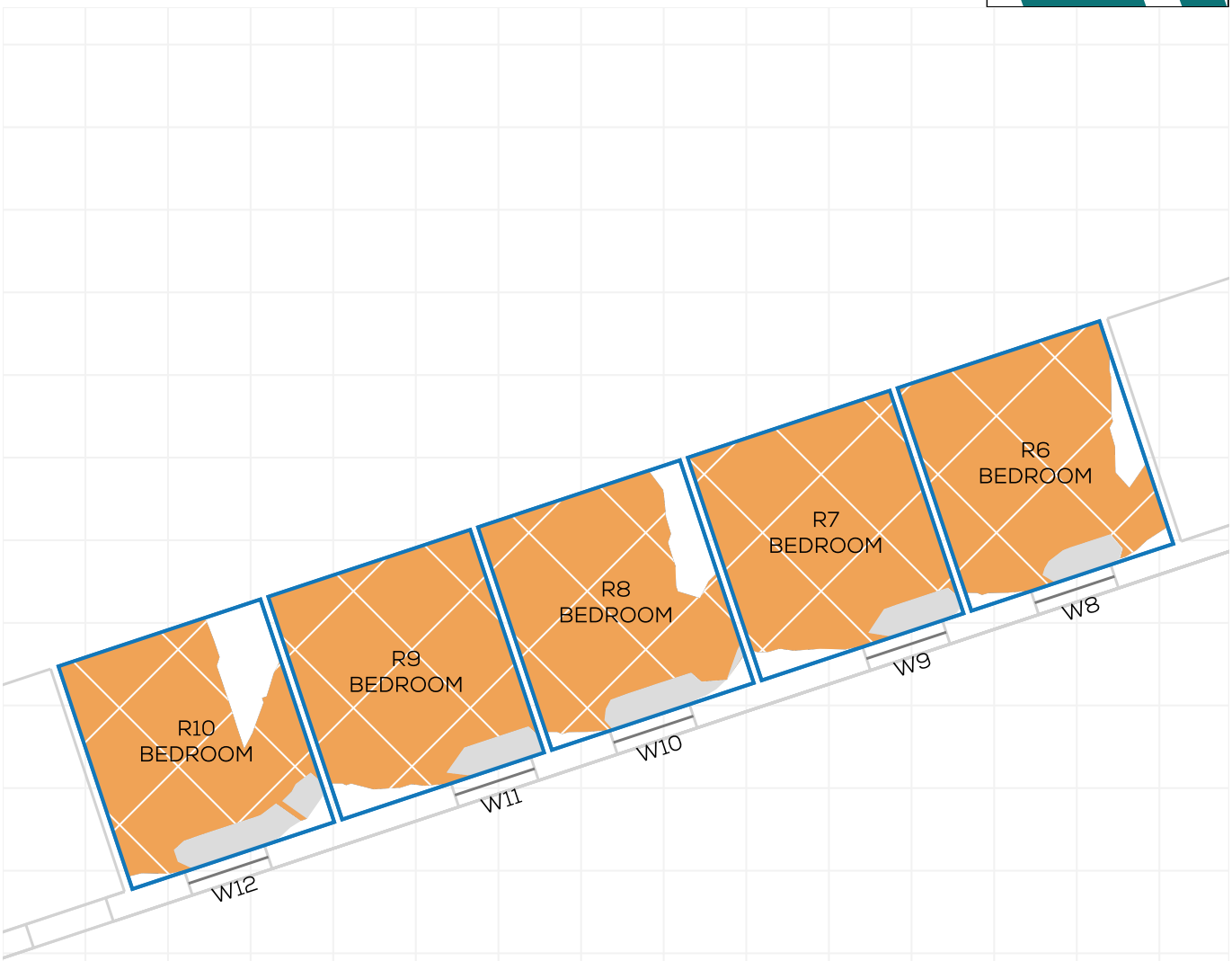
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F02	R1	RESIDENTIAL	UNKNOWN	21.7	52.7	21.1	6.9	59.9
F02	R2	RESIDENTIAL	UNKNOWN	13.1	81	65.2	2.1	19.4
F02	R3	RESIDENTIAL	BEDROOM	7.3	96.2	2.2	6.9	97.7
F02	R4	RESIDENTIAL	BEDROOM	7.3	94	2.5	6.7	97.4
F02	R5	RESIDENTIAL	BEDROOM	7.3	96.4	3.4	6.8	96.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL40

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F02

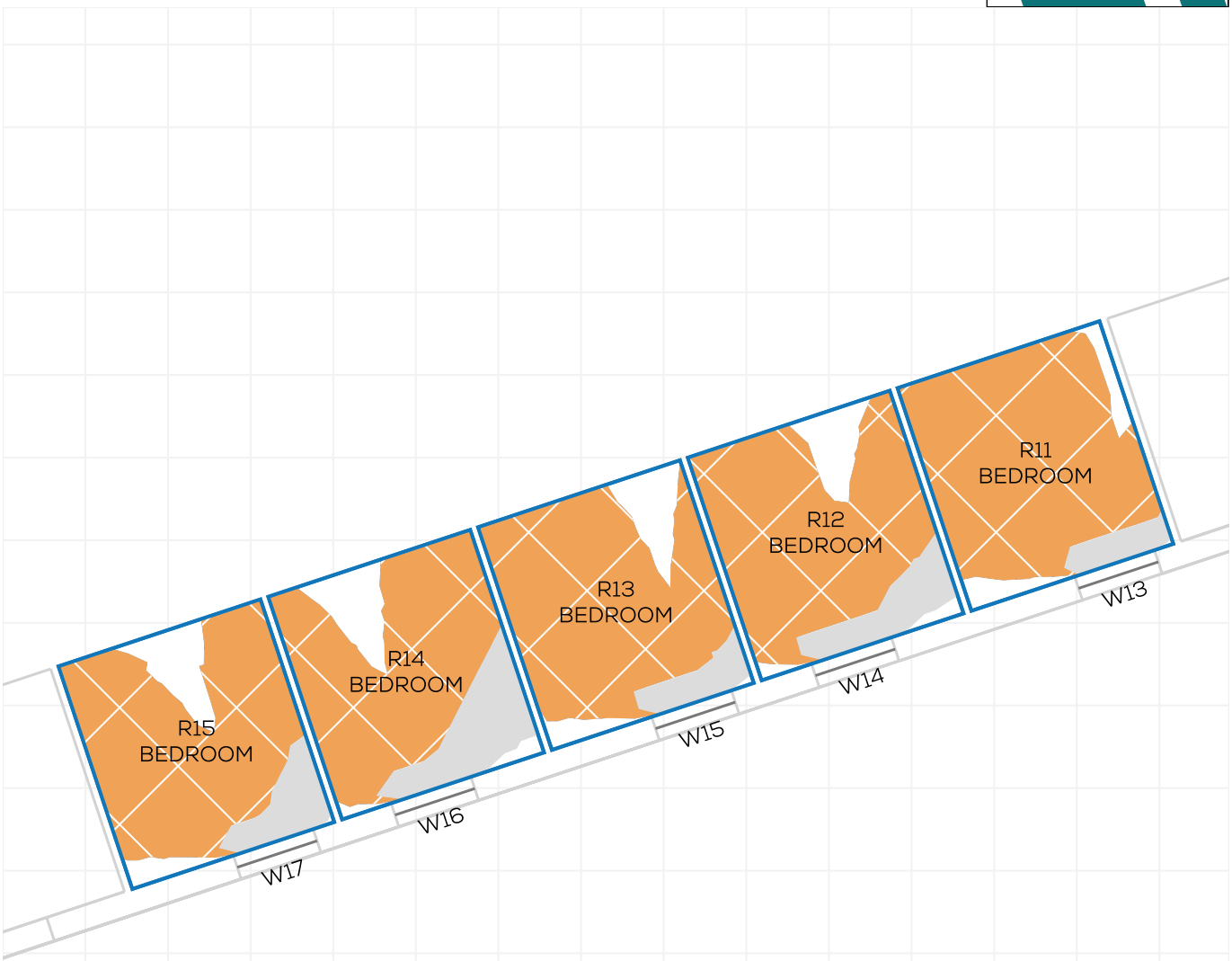
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F02	R6	RESIDENTIAL	BEDROOM	7.3	93	4.1	6.5	95.5
F02	R7	RESIDENTIAL	BEDROOM	7.3	96.8	4.8	6.7	95.1
F02	R8	RESIDENTIAL	BEDROOM	7.3	88.6	6.4	6.0	92.8
F02	R9	RESIDENTIAL	BEDROOM	7.3	96.3	5.1	6.7	94.8
F02	R10	RESIDENTIAL	BEDROOM	7.3	85.4	9	5.6	89.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL41

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F02

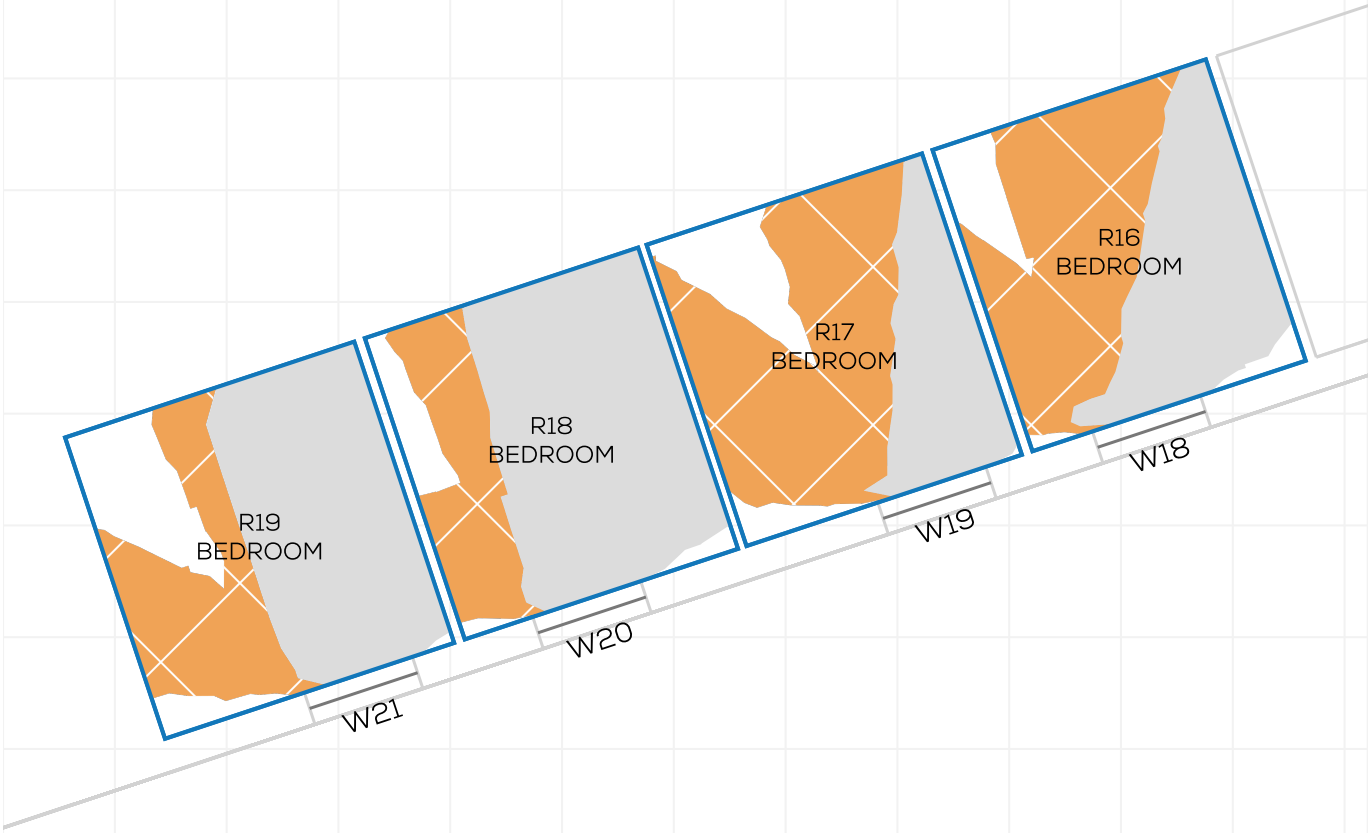
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F02	R11	RESIDENTIAL	BEDROOM	7.3	92.8	6.2	6.3	93.4
F02	R12	RESIDENTIAL	BEDROOM	7.3	89.4	13.1	5.6	85.4
F02	R13	RESIDENTIAL	BEDROOM	7.3	87.8	7.8	5.8	91.1
F02	R14	RESIDENTIAL	BEDROOM	7.3	87.9	19.2	5.0	78.2
F02	R15	RESIDENTIAL	BEDROOM	7.3	87	10.8	5.6	87.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL42

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





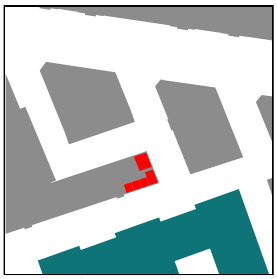
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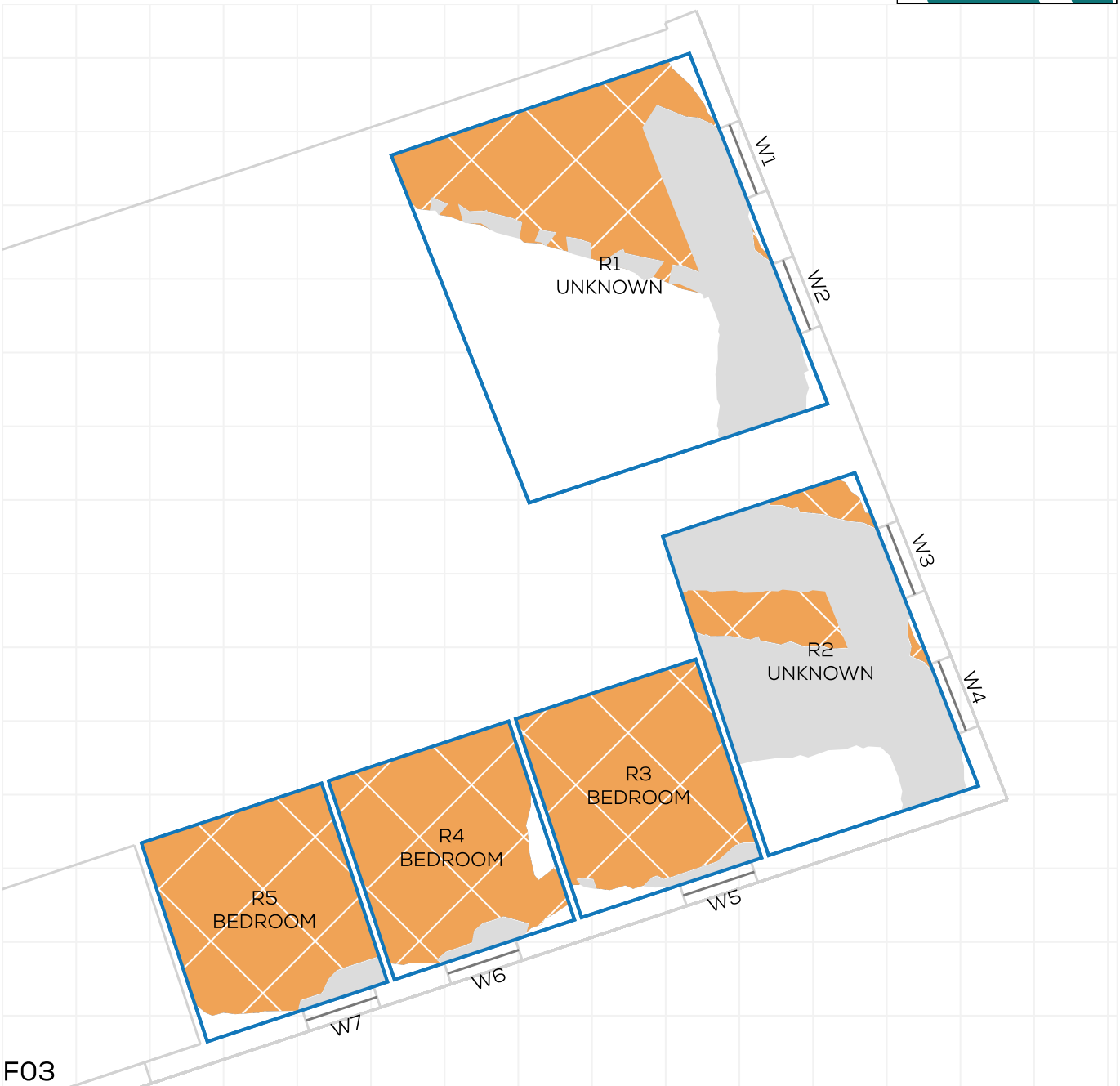
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F02	R16	RESIDENTIAL	BEDROOM	7.3	90.6	41.7	3.6	53.9
F02	R17	RESIDENTIAL	BEDROOM	7.4	84.9	28.4	4.2	66.6
F02	R18	RESIDENTIAL	BEDROOM	7.3	91.7	68.4	1.7	25.4
F02	R19	RESIDENTIAL	BEDROOM	7.7	82.3	53.7	2.2	34.8

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL43

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F03

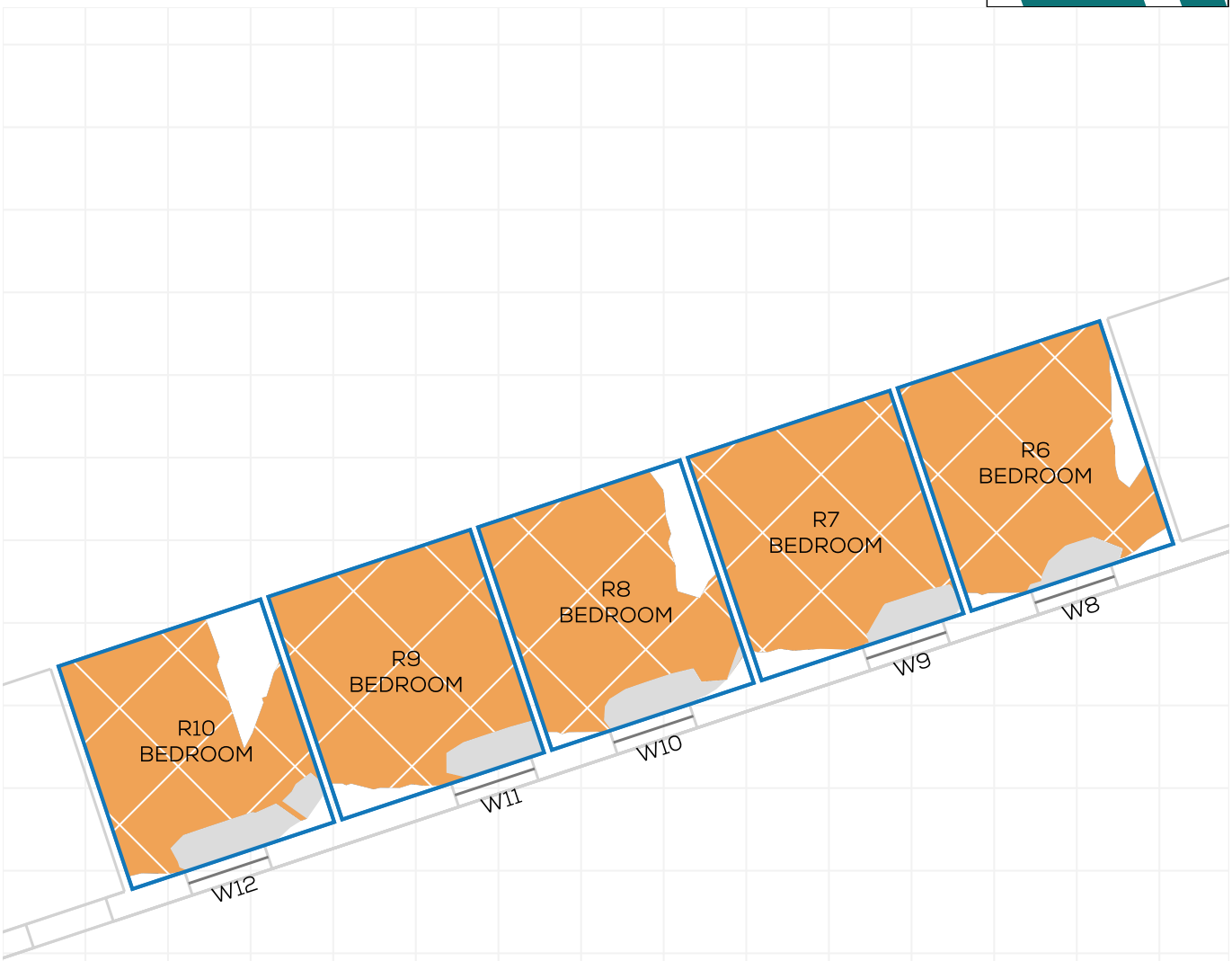
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F03	R1	RESIDENTIAL	UNKNOWN	21.7	53.3	23.3	6.5	56.2
F03	R2	RESIDENTIAL	UNKNOWN	13.1	81.8	67.5	1.9	17.4
F03	R3	RESIDENTIAL	BEDROOM	7.3	96.3	4	6.8	95.9
F03	R4	RESIDENTIAL	BEDROOM	7.3	94.4	3.9	6.6	95.8
F03	R5	RESIDENTIAL	BEDROOM	7.3	96.5	4.6	6.7	95.3

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL44

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F03

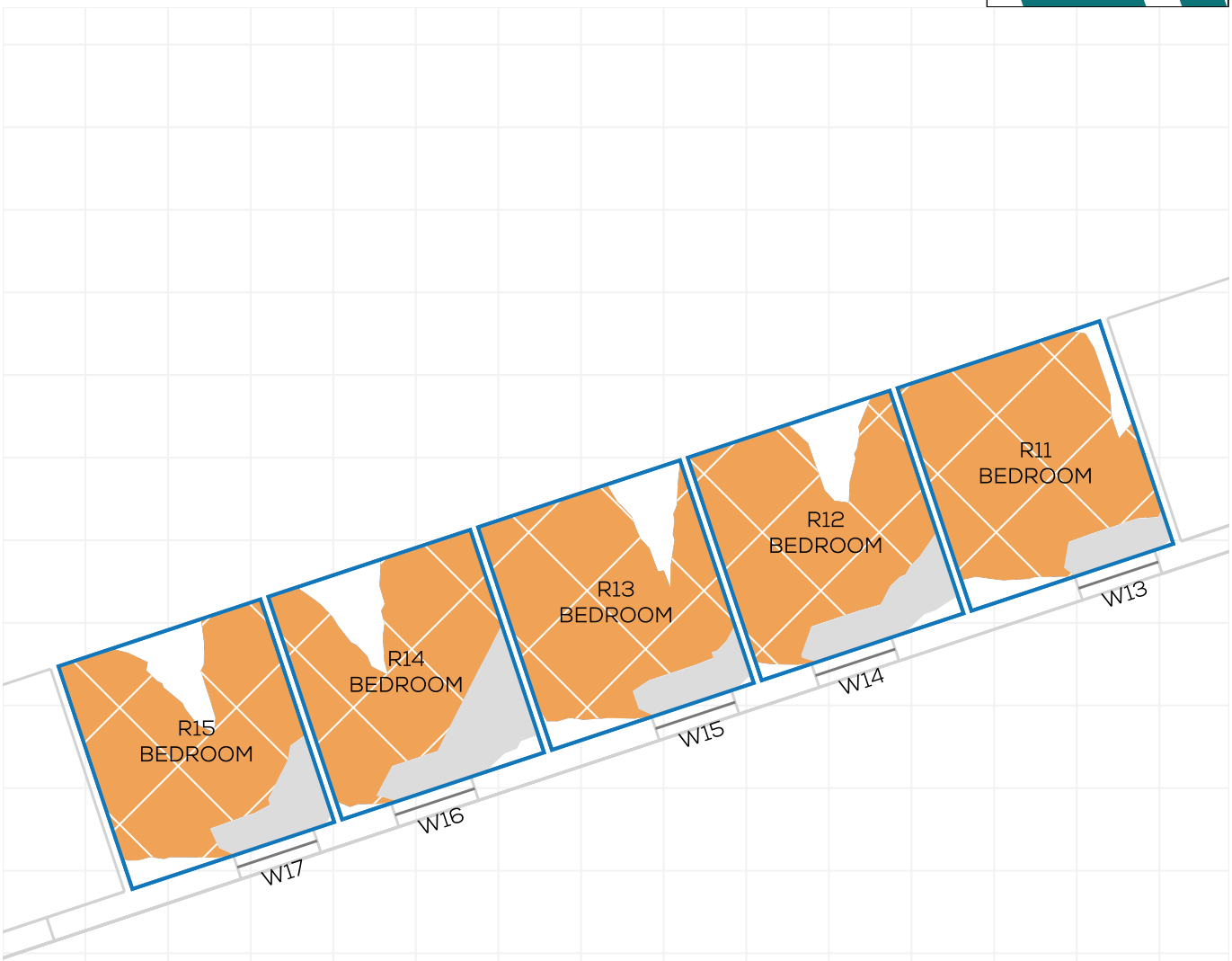
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F03	R6	RESIDENTIAL	BEDROOM	7.3	93	4.6	6.5	95.1
F03	R7	RESIDENTIAL	BEDROOM	7.3	96.8	5.8	6.7	94
F03	R8	RESIDENTIAL	BEDROOM	7.3	88.7	7.4	5.9	91.7
F03	R9	RESIDENTIAL	BEDROOM	7.3	96.3	6.4	6.6	93.4
F03	R10	RESIDENTIAL	BEDROOM	7.3	85.4	10.2	5.5	88

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL45

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F03

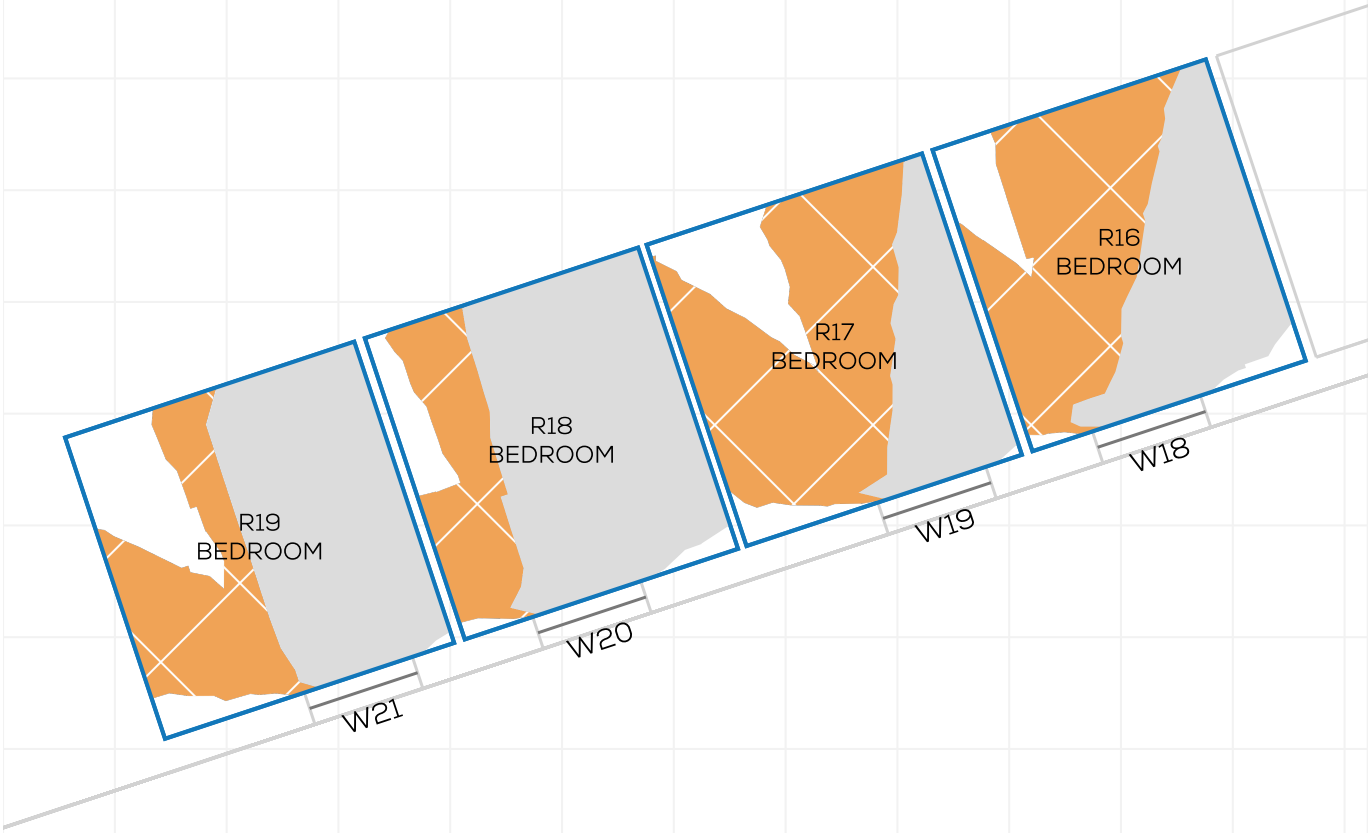
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F03	R11	RESIDENTIAL	BEDROOM	7.3	92.8	7.2	6.3	92.2
F03	R12	RESIDENTIAL	BEDROOM	7.3	89.5	13.7	5.5	84.7
F03	R13	RESIDENTIAL	BEDROOM	7.3	87.9	8.7	5.8	90.1
F03	R14	RESIDENTIAL	BEDROOM	7.3	88.2	19.8	5.0	77.5
F03	R15	RESIDENTIAL	BEDROOM	7.3	87	11.8	5.5	86.4

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL46

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





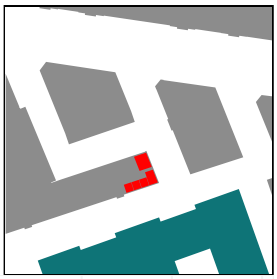
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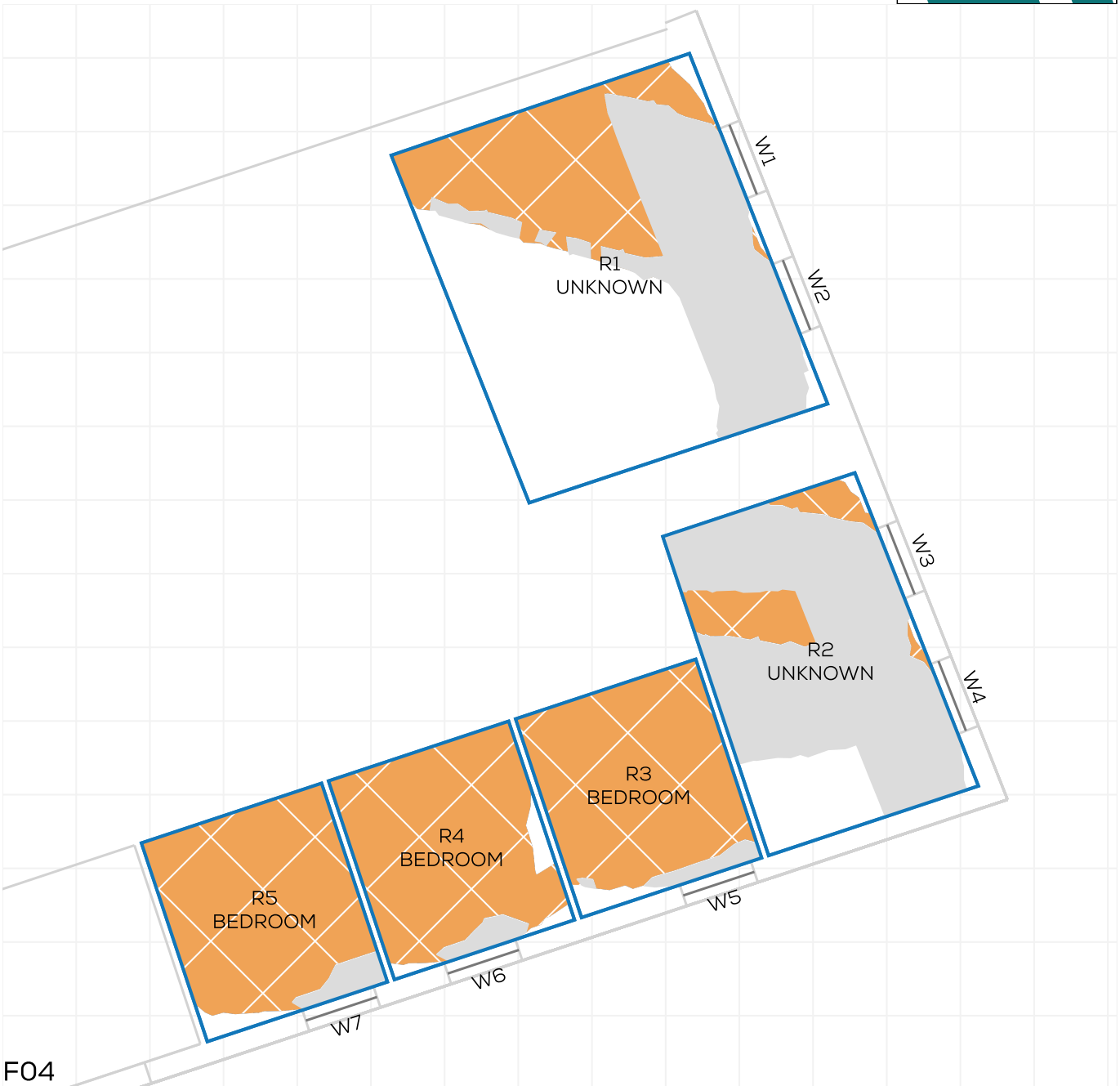
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F03	R16	RESIDENTIAL	BEDROOM	7.3	90.6	41.8	3.6	53.8
F03	R17	RESIDENTIAL	BEDROOM	7.4	84.8	28.5	4.2	66.4
F03	R18	RESIDENTIAL	BEDROOM	7.3	91.7	68.8	1.7	25
F03	R19	RESIDENTIAL	BEDROOM	7.7	82.3	53.8	2.2	34.6

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL47

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F04

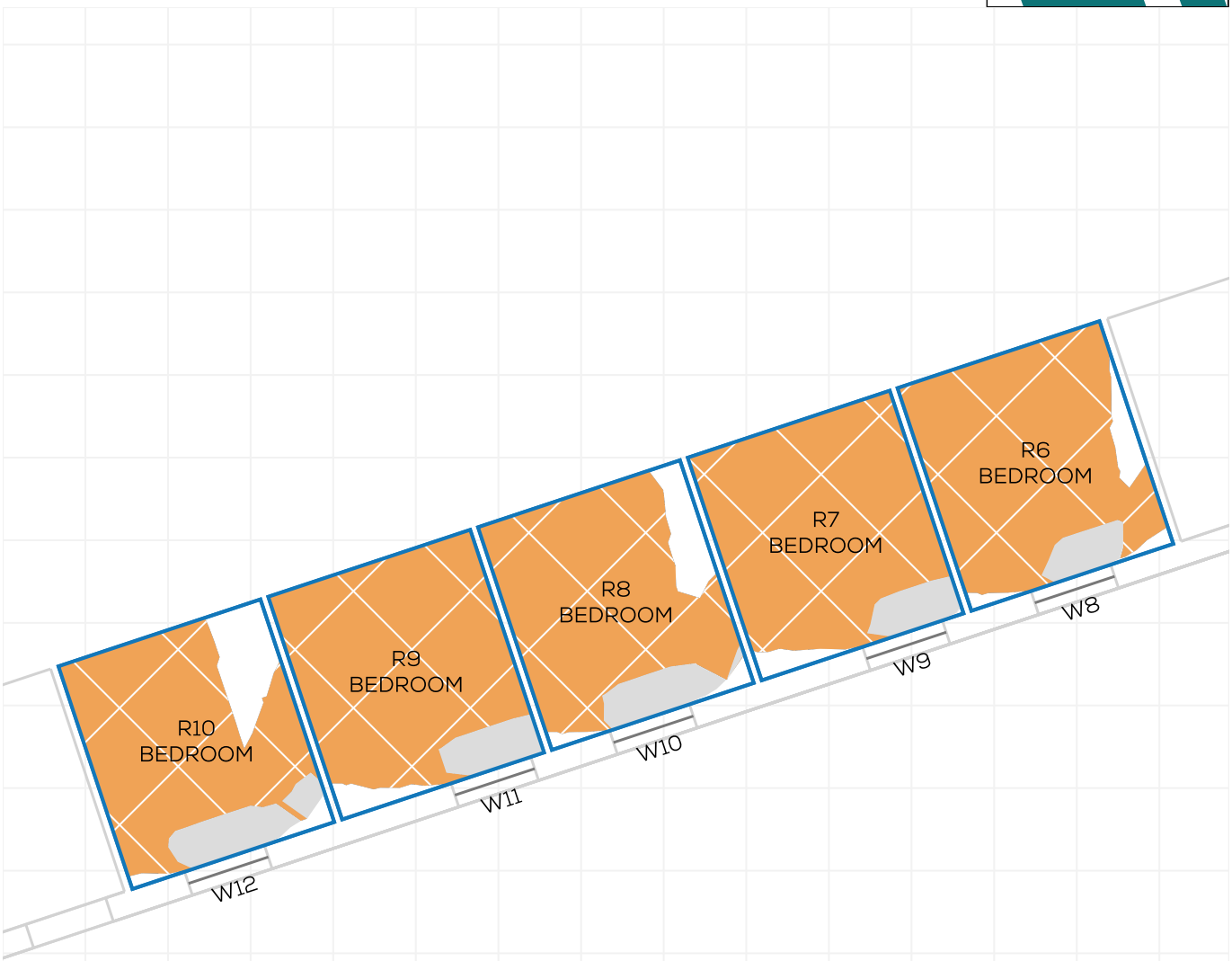
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F04	R1	RESIDENTIAL	UNKNOWN	21.7	55	30.3	5.4	44.9
F04	R2	RESIDENTIAL	UNKNOWN	13.1	84.3	72.4	1.6	14.1
F04	R3	RESIDENTIAL	BEDROOM	7.3	96.2	4.9	6.7	94.9
F04	R4	RESIDENTIAL	BEDROOM	7.3	94.9	4.6	6.6	95.1
F04	R5	RESIDENTIAL	BEDROOM	7.3	96.4	5.7	6.6	94.1

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL48

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F04

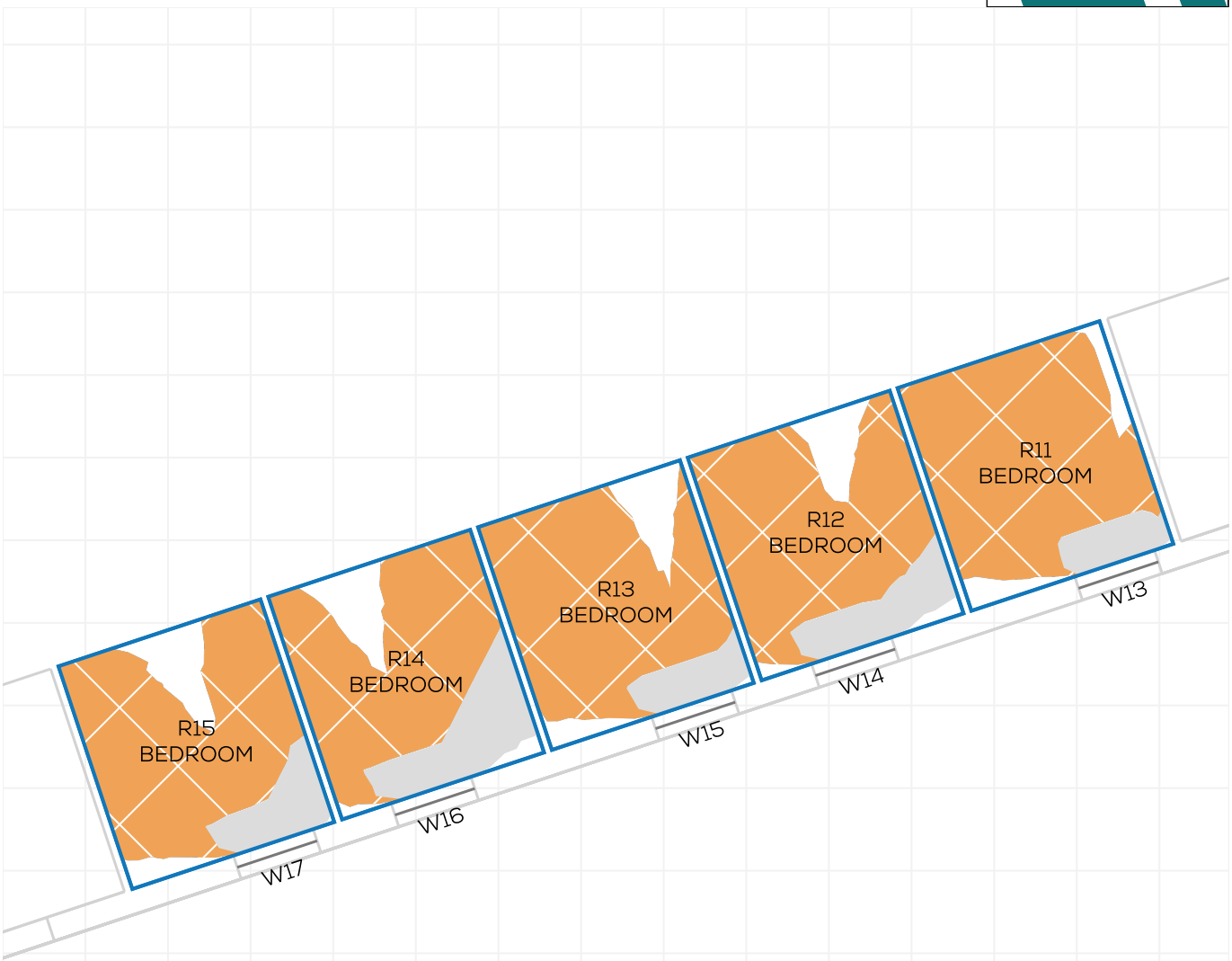
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F04	R6	RESIDENTIAL	BEDROOM	7.3	93.1	6.1	6.4	93.5
F04	R7	RESIDENTIAL	BEDROOM	7.3	96.8	7	6.6	92.8
F04	R8	RESIDENTIAL	BEDROOM	7.3	88.6	9.2	5.8	89.6
F04	R9	RESIDENTIAL	BEDROOM	7.3	96.2	7.9	6.5	91.8
F04	R10	RESIDENTIAL	BEDROOM	7.3	85.4	11.5	5.4	86.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL49

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F04

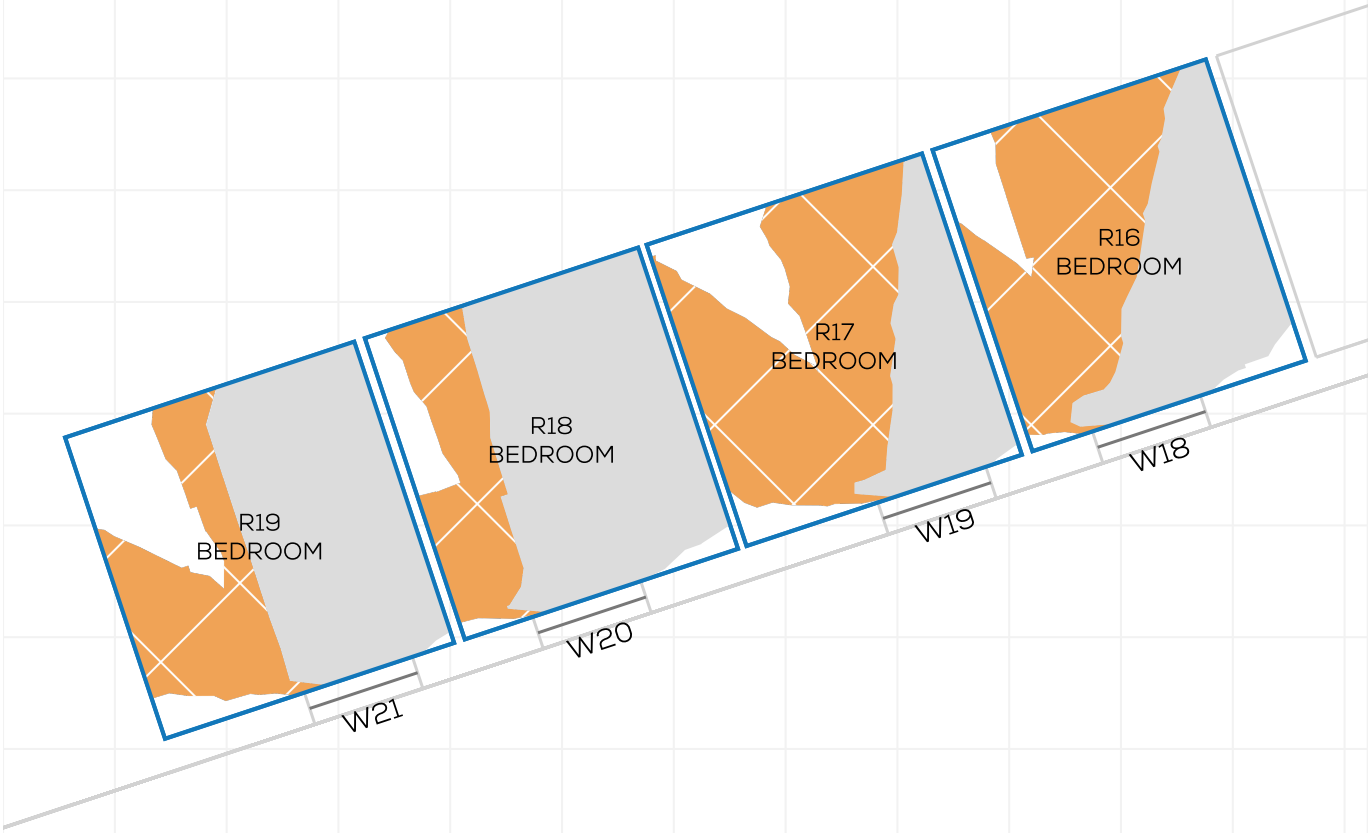
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F04	R11	RESIDENTIAL	BEDROOM	7.3	92.8	8.8	6.1	90.6
F04	R12	RESIDENTIAL	BEDROOM	7.3	89.5	15.3	5.4	82.9
F04	R13	RESIDENTIAL	BEDROOM	7.3	87.9	9.9	5.7	88.7
F04	R14	RESIDENTIAL	BEDROOM	7.3	88.3	21.4	4.9	75.8
F04	R15	RESIDENTIAL	BEDROOM	7.3	87.1	12.6	5.4	85.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL50

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





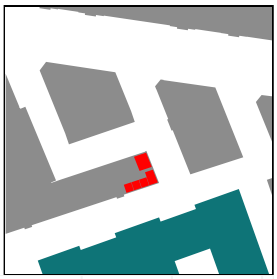
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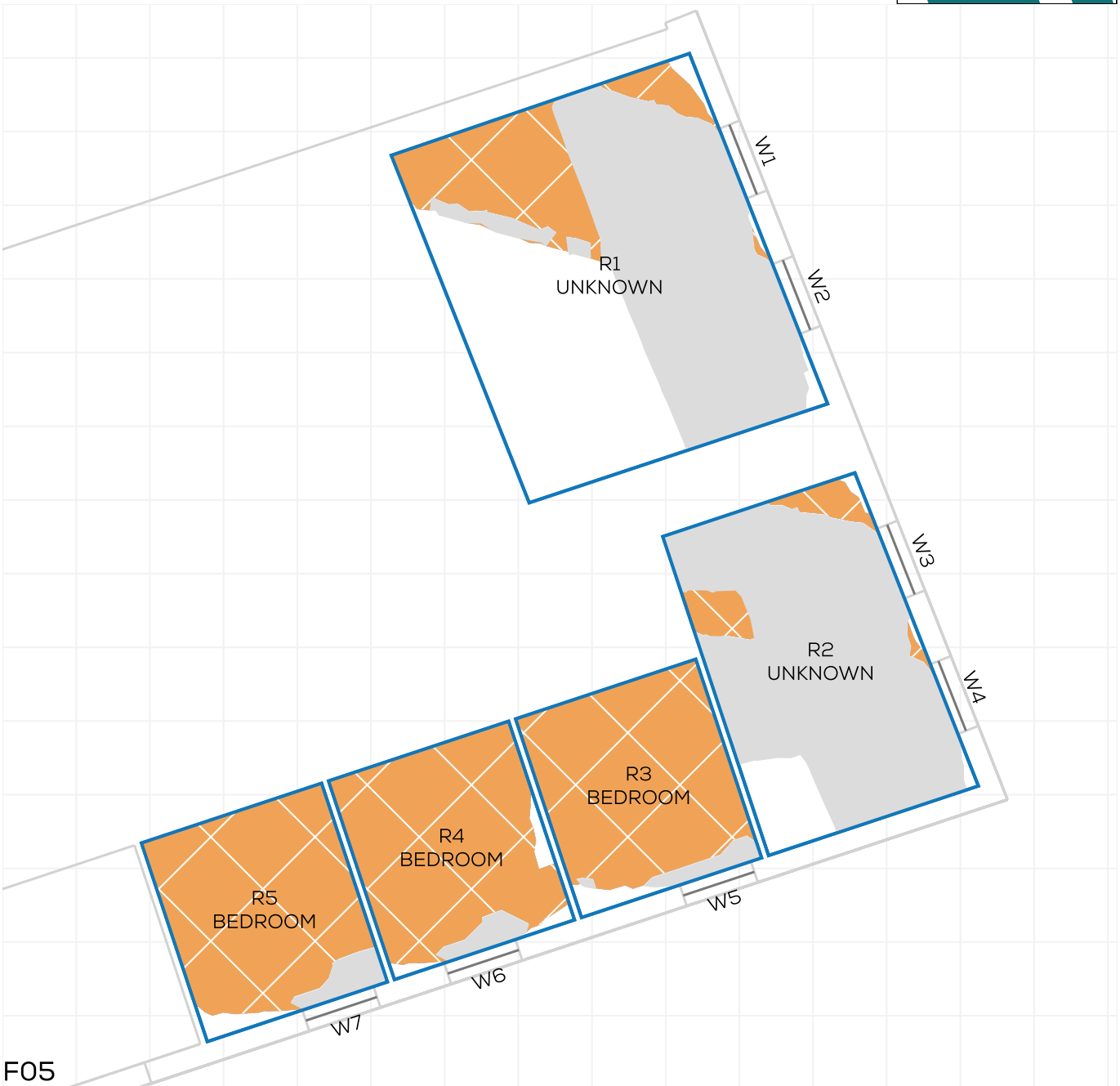
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F04	R16	RESIDENTIAL	BEDROOM	7.3	90.6	42	3.6	53.6
F04	R17	RESIDENTIAL	BEDROOM	7.4	84.8	28.7	4.1	66.2
F04	R18	RESIDENTIAL	BEDROOM	7.3	91.7	68.7	1.7	25
F04	R19	RESIDENTIAL	BEDROOM	7.7	82.3	53.9	2.2	34.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL51

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F05

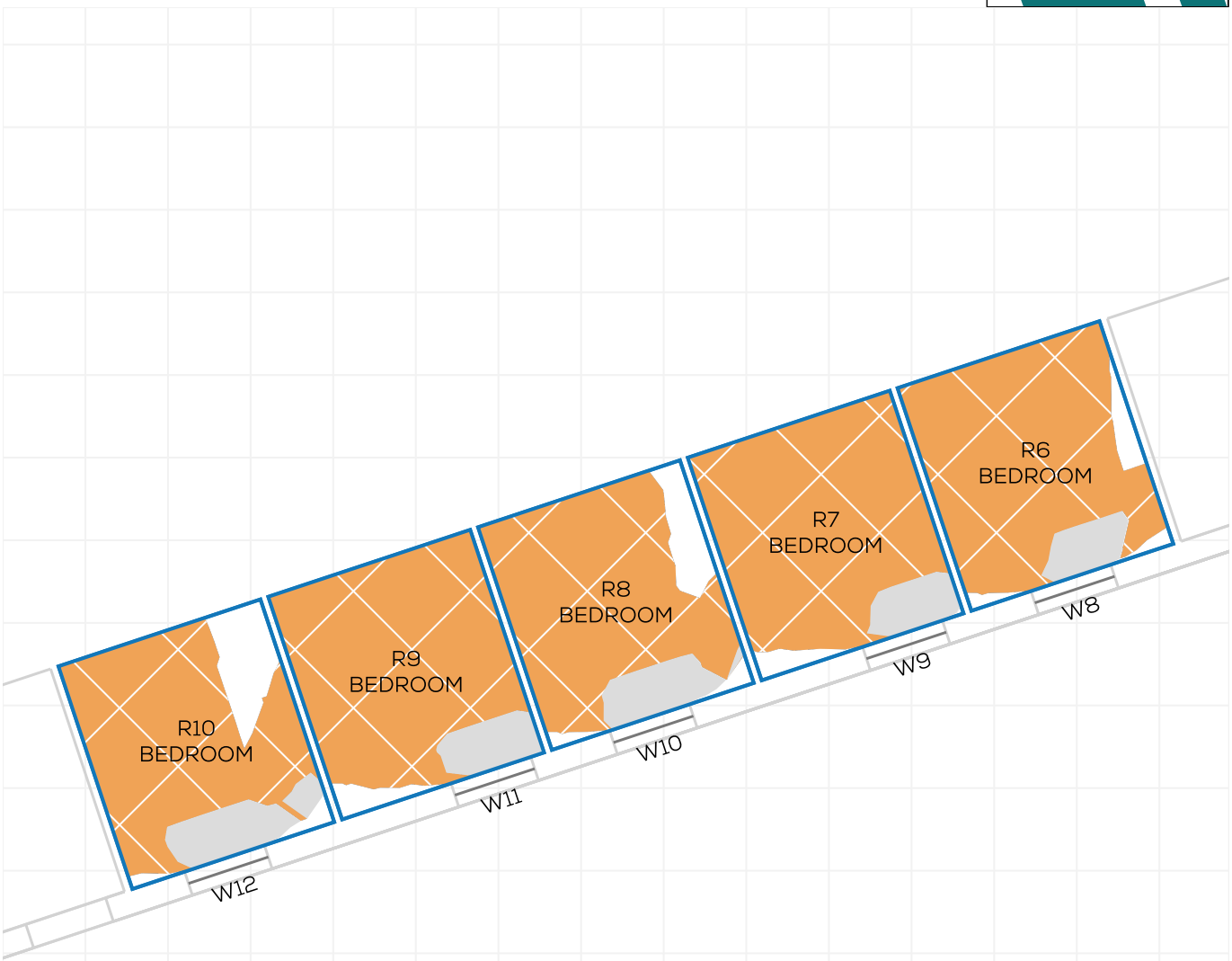
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F05	R1	RESIDENTIAL	UNKNOWN	21.7	62.4	45.6	3.6	26.9
F05	R2	RESIDENTIAL	UNKNOWN	13.1	90.1	82.4	1.0	8.5
F05	R3	RESIDENTIAL	BEDROOM	7.3	96.2	5.3	6.7	94.5
F05	R4	RESIDENTIAL	BEDROOM	7.3	95.5	5	6.6	94.8
F05	R5	RESIDENTIAL	BEDROOM	7.3	96.4	6.4	6.6	93.4

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL52

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F05

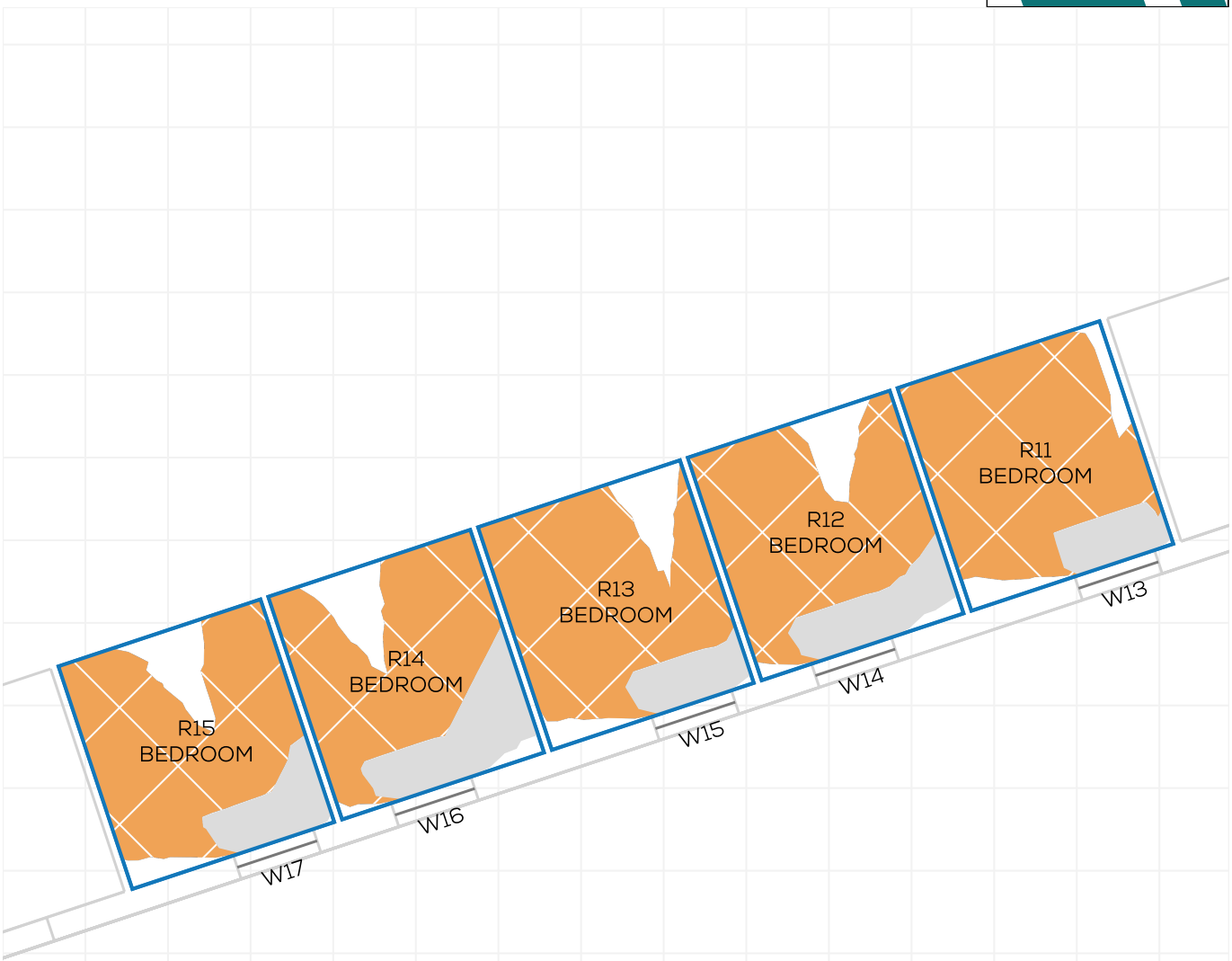
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F05	R6	RESIDENTIAL	BEDROOM	7.3	94	7.5	6.3	92.1
F05	R7	RESIDENTIAL	BEDROOM	7.3	96.8	8.1	6.5	91.6
F05	R8	RESIDENTIAL	BEDROOM	7.3	88.7	10.7	5.7	88
F05	R9	RESIDENTIAL	BEDROOM	7.3	96.2	9.2	6.4	90.5
F05	R10	RESIDENTIAL	BEDROOM	7.3	85.4	12.9	5.3	84.9

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL53

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F05

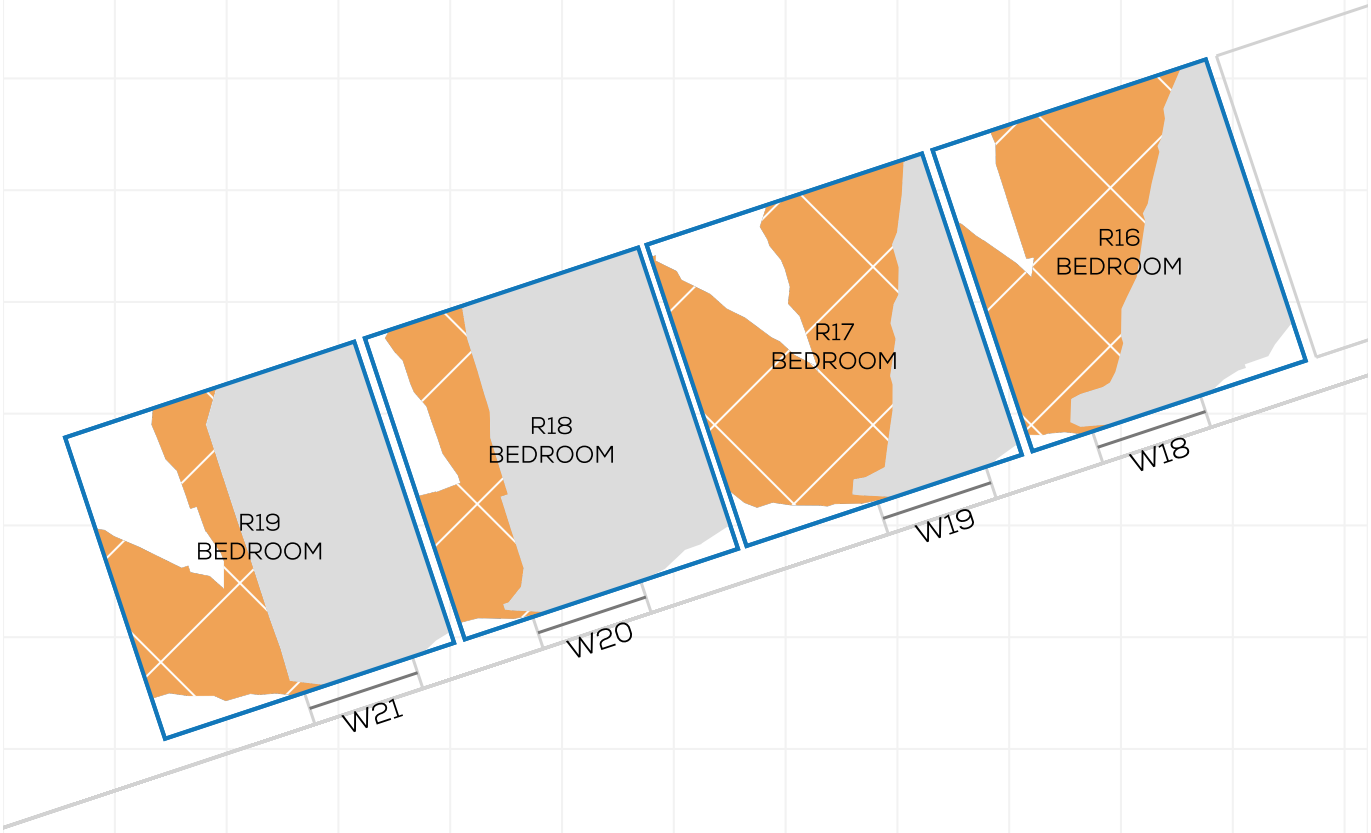
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F05	R11	RESIDENTIAL	BEDROOM	7.3	92.8	10.2	6.0	89
F05	R12	RESIDENTIAL	BEDROOM	7.3	89.5	16.7	5.3	81.3
F05	R13	RESIDENTIAL	BEDROOM	7.3	87.9	11.2	5.6	87.3
F05	R14	RESIDENTIAL	BEDROOM	7.3	88.3	22.6	4.8	74.4
F05	R15	RESIDENTIAL	BEDROOM	7.3	87.1	13.7	5.4	84.3

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL54

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





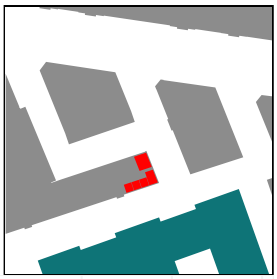
F05

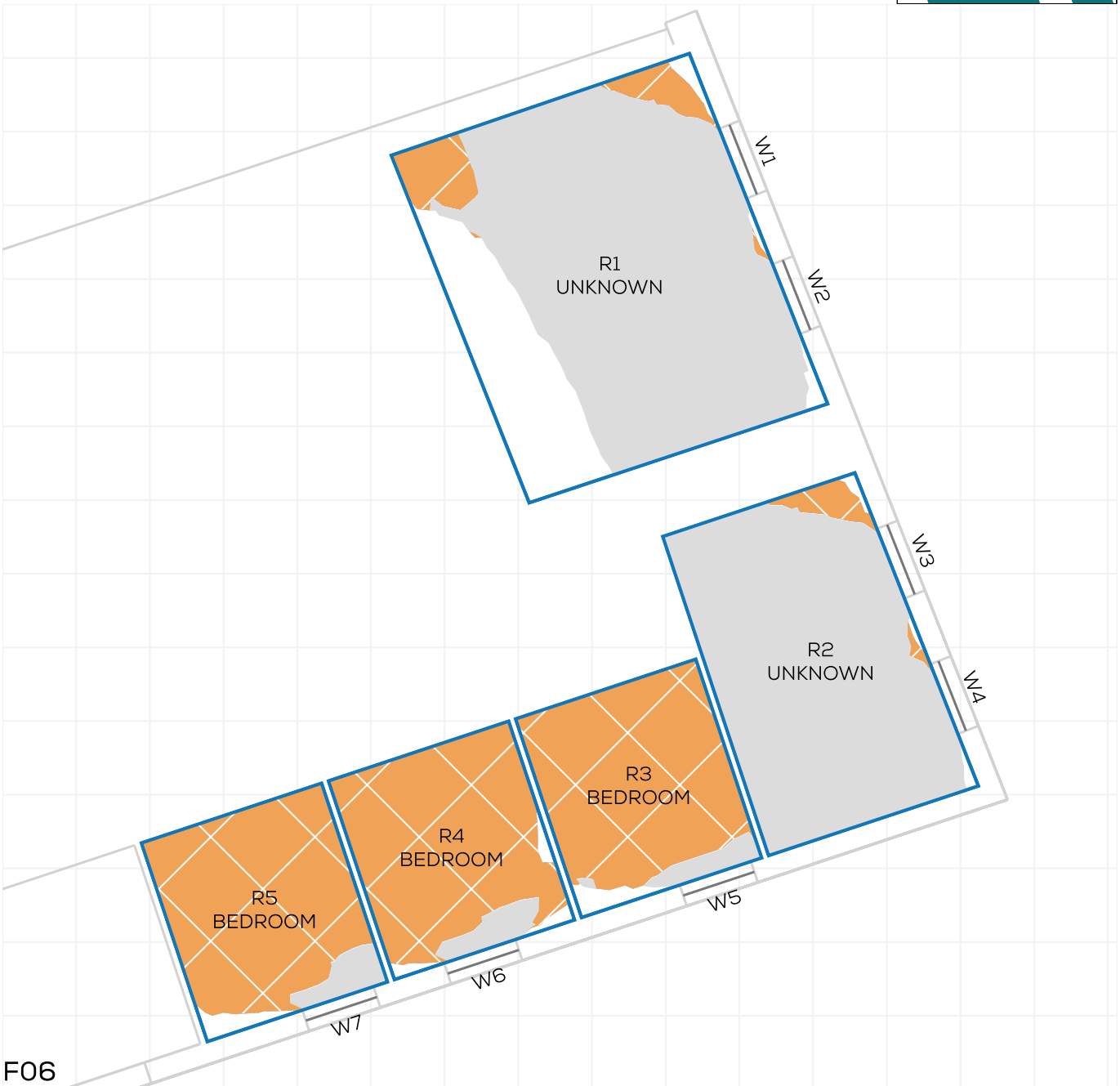
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F05	R16	RESIDENTIAL	BEDROOM	7.3	90.6	42.2	3.5	53.5
F05	R17	RESIDENTIAL	BEDROOM	7.4	84.8	28.8	4.1	66
F05	R18	RESIDENTIAL	BEDROOM	7.3	91.7	68.8	1.7	24.9
F05	R19	RESIDENTIAL	BEDROOM	7.7	82.3	53.9	2.2	34.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL55

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F06

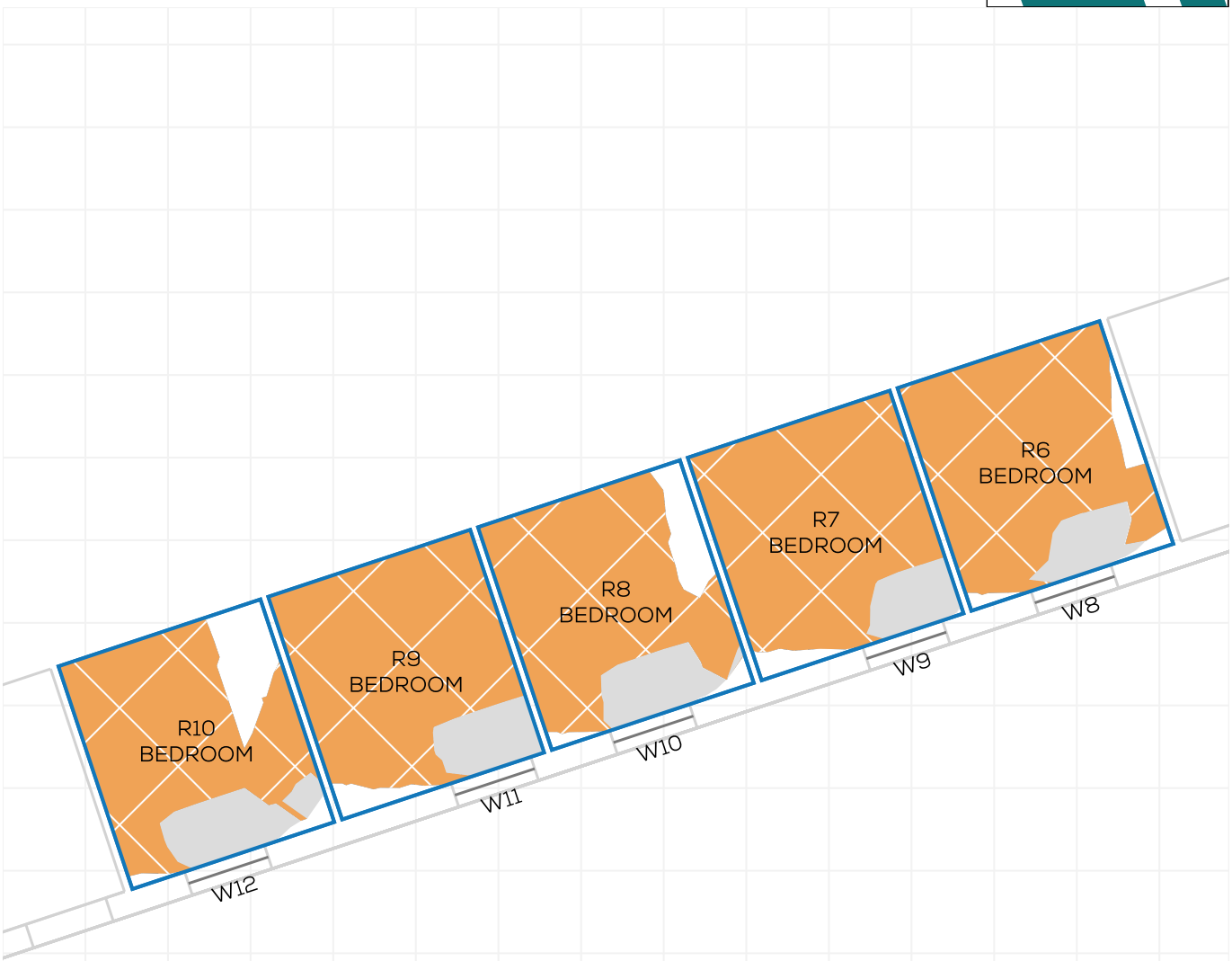
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F06	R1	RESIDENTIAL	UNKNOWN	21.7	80.3	73.8	1.4	8.1
F06	R2	RESIDENTIAL	UNKNOWN	13.1	98.7	94.8	0.5	3.9
F06	R3	RESIDENTIAL	BEDROOM	7.3	96.2	6.3	6.6	93.5
F06	R4	RESIDENTIAL	BEDROOM	7.3	96.5	7.1	6.5	92.6
F06	R5	RESIDENTIAL	BEDROOM	7.3	96.5	7.2	6.5	92.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL56

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F06

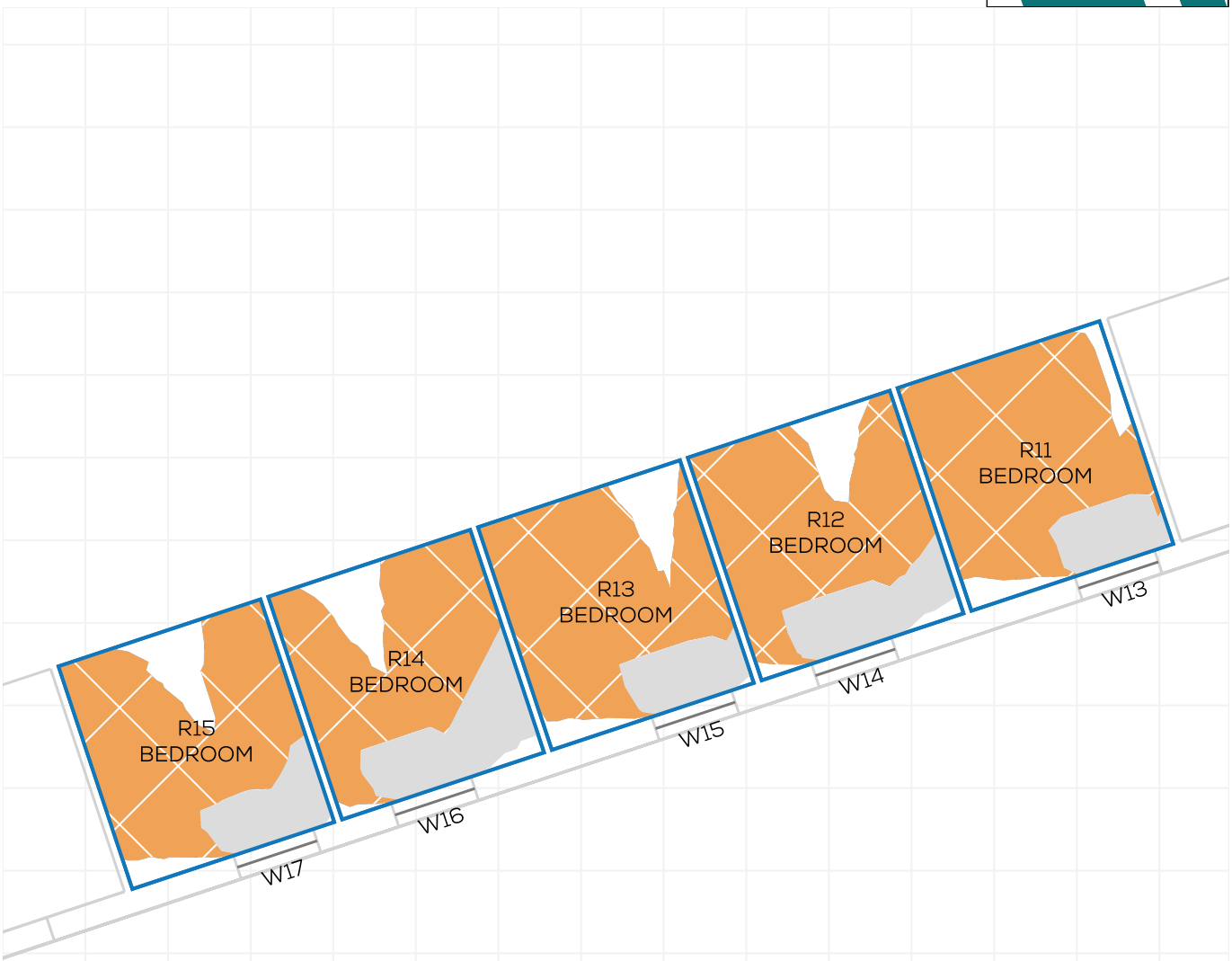
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F06	R6	RESIDENTIAL	BEDROOM	7.3	94.4	9.8	6.2	89.6
F06	R7	RESIDENTIAL	BEDROOM	7.3	96.8	10.1	6.3	89.6
F06	R8	RESIDENTIAL	BEDROOM	7.3	88.9	13	5.5	85.3
F06	R9	RESIDENTIAL	BEDROOM	7.3	96.3	11.8	6.2	87.8
F06	R10	RESIDENTIAL	BEDROOM	7.3	85.5	15.4	5.1	82

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL57

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F06

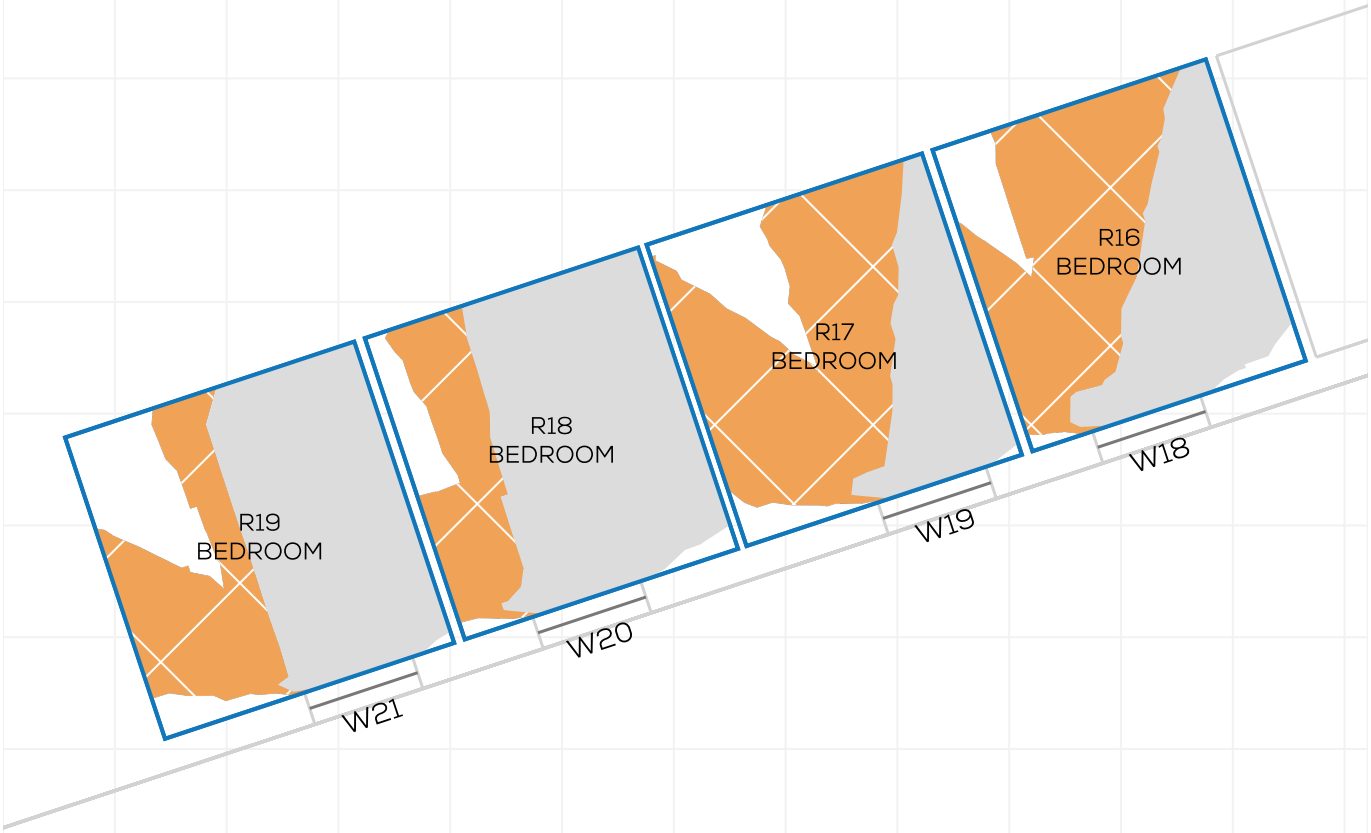
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F06	R11	RESIDENTIAL	BEDROOM	7.3	92.9	12.7	5.9	86.3
F06	R12	RESIDENTIAL	BEDROOM	7.3	89.5	19.5	5.1	78.2
F06	R13	RESIDENTIAL	BEDROOM	7.3	87.9	13.9	5.4	84.2
F06	R14	RESIDENTIAL	BEDROOM	7.3	88.4	24.7	4.7	72.1
F06	R15	RESIDENTIAL	BEDROOM	7.3	87.1	15.1	5.3	82.7

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL58

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





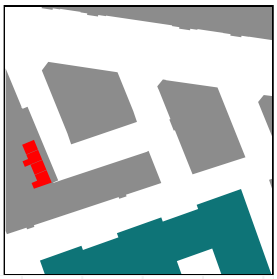
F06

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F06	R16	RESIDENTIAL	BEDROOM	7.3	90.6	42.4	3.5	53.2
F06	R17	RESIDENTIAL	BEDROOM	7.4	84.8	29	4.1	65.8
F06	R18	RESIDENTIAL	BEDROOM	7.3	91.7	68.9	1.7	24.9
F06	R19	RESIDENTIAL	BEDROOM	7.7	82.5	54.3	2.2	34.2

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: STONEBRIDGE HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL59

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F00



F01



F01



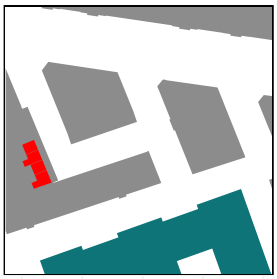
F02

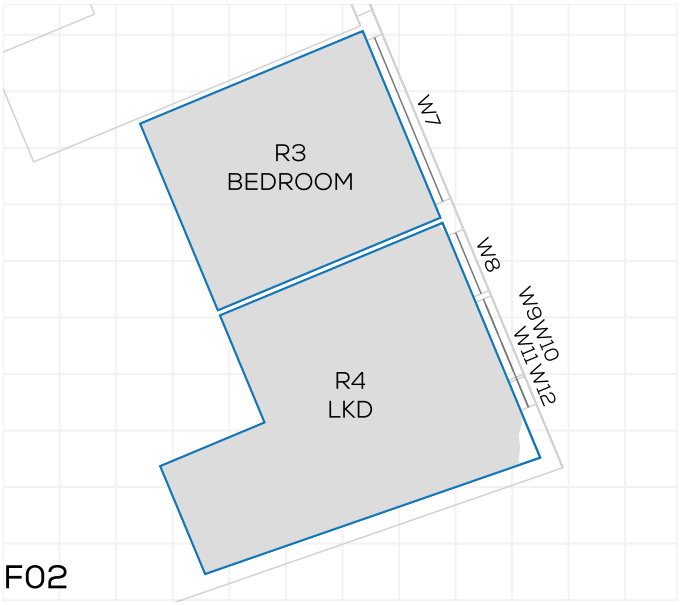
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
STONEBRIDGE HOUSE								
F00	R1	RESIDENTIAL	BEDROOM	14.8	64.4	64.4	0.0	0
F00	R2	RESIDENTIAL	LKD	19.1	60.4	60.4	0.0	0.1
F01	R1	RESIDENTIAL	BEDROOM	14.8	78.8	78.8	0.0	0
F01	R2	RESIDENTIAL	LKD	19.1	75.4	75.3	0.0	0.1
F01	R3	RESIDENTIAL	BEDROOM	15.2	100	100	0.0	0
F01	R4	RESIDENTIAL	LKD	22.9	92.3	92.3	0.0	0
F02	R1	RESIDENTIAL	BEDROOM	14.8	83.1	83.1	0.0	0
F02	R2	RESIDENTIAL	LKD	19.1	85.1	85	0.0	0.1

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: STONEBRIDGE HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL60

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F02



F03



F03



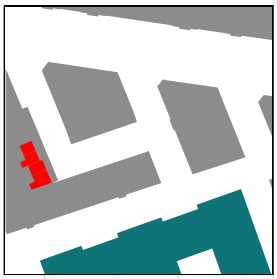
F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
STONEBRIDGE HOUSE								
F02	R3	RESIDENTIAL	BEDROOM	15.2	100	100	0.0	0
F02	R4	RESIDENTIAL	LKD	22.9	99.2	99.2	0.0	0
F03	R1	RESIDENTIAL	BEDROOM	14.8	90.7	90.7	0.0	0
F03	R2	RESIDENTIAL	LKD	19.1	94.8	94.7	0.0	0.1
F03	R3	RESIDENTIAL	BEDROOM	15.2	100	100	0.0	0
F03	R4	RESIDENTIAL	LKD	22.9	99.2	99.2	0.0	0
F04	R1	RESIDENTIAL	BEDROOM	14.8	100	100	0.0	0
F04	R2	RESIDENTIAL	LKD	19.1	100	99.9	0.0	0.1

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: STONEBRIDGE HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL61

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F04



F05



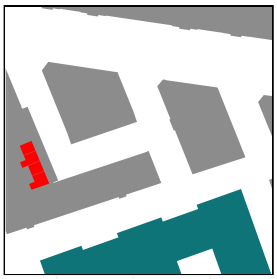
F05

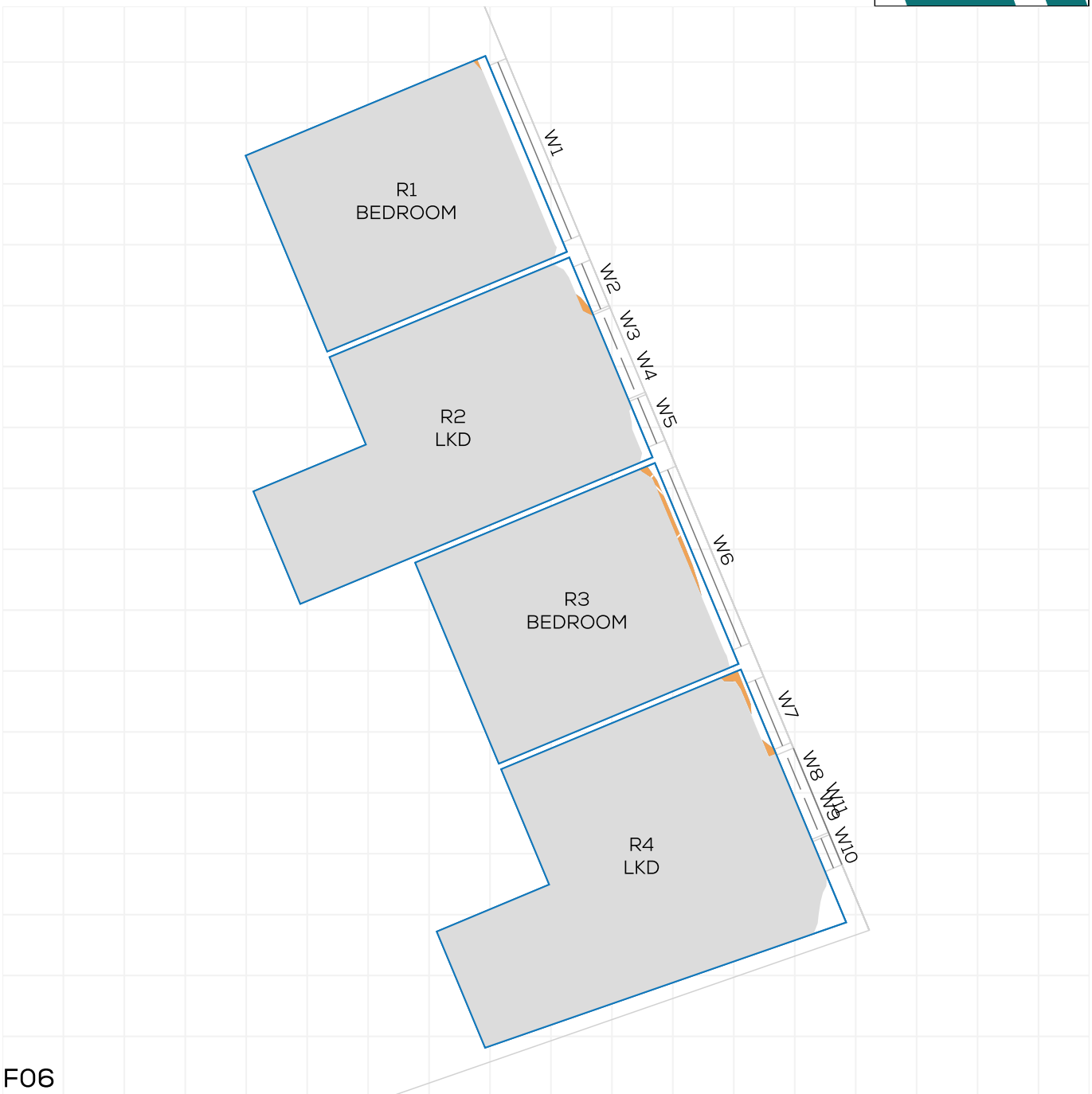
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
STONEBRIDGE HOUSE								
F04	R3	RESIDENTIAL	BEDROOM	15.2	100	100	0.0	0
F04	R4	RESIDENTIAL	LKD	22.9	99.2	99.1	0.0	0.1
F05	R1	RESIDENTIAL	BEDROOM	14.8	100	99.9	0.0	0.1
F05	R2	RESIDENTIAL	LKD	19.1	100	99.9	0.0	0.1
F05	R3	RESIDENTIAL	BEDROOM	15.2	100	100	0.0	0
F05	R4	RESIDENTIAL	LKD	22.9	99.1	98.9	0.0	0.2

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: STONEBRIDGE HOUSE
DATE: 05/04/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS02-NSL62

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F06

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
STONEBRIDGE HOUSE								
F06	R1	RESIDENTIAL	BEDROOM	14.8	96.8	96.7	0.0	0.1
F06	R2	RESIDENTIAL	LKD	19.1	98.9	98.7	0.0	0.2
F06	R3	RESIDENTIAL	BEDROOM	15.2	97.6	96.7	0.1	0.9
F06	R4	RESIDENTIAL	LKD	22.9	98.5	98	0.1	0.4

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX. ANNUAL	EX. WINTER	PR. ANNUAL	PR. WINTER	LOSS % ANNUAL	LOSS % WINTER	MEETS CRITERIA
LONDON ROAD FIRE STATION																					
F01	R11	HOTEL	BEDROOM	W24/F01	18.6	18.4	0.2	1.1%	YES	86.7	86.7	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W25/F01	18.7	18.3	0.4	2.1%	YES												
			BEDROOM	W26/F01	20.6	20.3	0.3	1.5%	YES												
	R12	HOTEL	BEDROOM	W27/F01	21.7	21.4	0.3	1.4%	YES	88.2	87.9	0.1	0.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W28/F01	22	21.6	0.4	1.8%	YES												
	R13	HOTEL	BEDROOM	W29/F01	22.4	22.1	0.3	1.3%	YES	96.1	96.1	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W30/F01	22.9	22.7	0.2	0.9%	YES												
F02	R10	HOTEL	BEDROOM	W23/F02	23.7	23.4	0.3	1.3%	YES	81.3	80.5	0.1	1.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W24/F02	23.8	23.4	0.4	1.7%	YES												
	R11	HOTEL	BEDROOM	W25/F02	23.8	23.4	0.4	1.7%	YES	82.2	82.2	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W26/F02	23.7	23.4	0.3	1.3%	YES												
	R12	HOTEL	BEDROOM	W27/F02	23.9	23.6	0.3	1.3%	YES	86.2	86.2	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W28/F02	24.2	23.9	0.3	1.2%	YES												
	R13	HOTEL	BEDROOM	W29/F02	24.6	24.3	0.3	1.2%	YES	96.8	96.8	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W30/F02	25	24.7	0.3	1.2%	YES												
F03	R10	HOTEL	BEDROOM	W33/F03	25.5	25.1	0.4	1.6%	YES	83.7	83.5	0.0	0.2%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W34/F03	25.6	25.2	0.4	1.6%	YES												
	R11	HOTEL	BEDROOM	W35/F03	25.6	25.2	0.4	1.6%	YES	92.2	90	0.4	2.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W36/F03	25.5	25.2	0.3	1.2%	YES												
	R12	HOTEL	BEDROOM	W37/F03	23.1	22.7	0.4	1.7%	YES	69.5	67.6	0.4	2.8%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	HOTEL	BEDROOM	W38/F03	23.8	23.4	0.4	1.7%	YES	68.7	66.9	0.2	2.6%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FAIRFIELD HOUSE																					
F00	R1	RESIDENTIAL	UNKNOWN	W1/F00	9.3	9	0.3	3.2%	YES	63.2	63.1	0.1	0.2%	YES	30	0	29	0	3.3%	0.0%	YES
			UNKNOWN	W2/F00	9.9	9.6	0.3	3.0%	YES												
			UNKNOWN	W3/F00	10.9	10.8	0.1	0.9%	YES												
			UNKNOWN	W4/F00	11.5	11.4	0.1	0.9%	YES												
			UNKNOWN	W16/F00	17.4	17.4	0	0.0%	YES												
			UNKNOWN	W17/F00	17.4	17.4	0	0.0%	YES												
			UNKNOWN	W18/F00	17	17	0	0.0%	YES												
	R2 (3)	RESIDENTIAL	UNKNOWN	W5/F00	7	6.9	0.1	1.4%	YES	22.7	21.7	0.3	4.6%	YES	1	0	0	0	100.0%	0.0%	YES
FAIRFIELD HOUSE (CONTINUED)																					
			UNKNOWN	W6/F00	6.5	6.3	0.2	3.1%	YES												
	R3	RESIDENTIAL	UNKNOWN	W7/F00	8	7.7	0.3	3.7%	YES	71.1	70.6	0.1	0.8%	YES	21	1	20	1	4.8%	0.0%	YES

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
			UNKNOWN	W8/F00	4.4	4.1	0.3	6.8%	YES												
			UNKNOWN	W9/F00	5.2	5	0.2	3.8%	YES												
	R4	RESIDENTIAL	UNKNOWN	W10/F00	7.5	7.3	0.2	2.7%	YES	58.5	56.8	0.3	2.9%	YES	32	4	31	3	3.1%	25.0%	YES
			UNKNOWN	W11/F00	9.6	9.4	0.2	2.1%	YES												
	R5	RESIDENTIAL	UNKNOWN	W12/F00	14	13.9	0.1	0.7%	YES	80	80	0.0	0.0%	YES	41	6	41	6	0.0%	0.0%	YES
			UNKNOWN	W13/F00	13.9	13.8	0.1	0.7%	YES												
			UNKNOWN	W14/F00	18.6	18.6	0	0.0%	YES												
			UNKNOWN	W15/F00	17.2	17.2	0	0.0%	YES												
F01	R1	RESIDENTIAL	UNKNOWN	W1/F01	10.8	10.4	0.4	3.7%	YES	62.8	62.8	0.0	0.0%	YES	25	1	24	1	4.0%	0.0%	YES
			UNKNOWN	W2/F01	11.4	11.1	0.3	2.6%	YES												
			UNKNOWN	W20/F01	20	20	0	0.0%	YES												
			UNKNOWN	W21/F01	20	20	0	0.0%	YES												
			UNKNOWN	W22/F01	19.1	19.1	0	0.0%	YES												
	R2	RESIDENTIAL	BEDROOM	W3/F01	12.5	12.4	0.1	0.8%	YES	42.5	42.1	0.0	0.8%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R3	RESIDENTIAL	BEDROOM	W4/F01	13.2	13.1	0.1	0.8%	YES	41.9	41.9	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F01	13.3	13.2	0.1	0.8%	YES	29	29	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W6/F01	13	12.9	0.1	0.8%	YES	40	40	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F01	12.5	12.4	0.1	0.8%	YES	42.1	42.1	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W8/F01	11.4	11.3	0.1	0.9%	YES	41	41	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W9/F01	9.8	9.7	0.1	1.0%	YES	35.9	35.9	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W10/F01	8.1	8	0.1	1.2%	YES	26.3	24.6	0.1	6.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W11/F01	7.5	7.2	0.3	4.0%	YES	23.7	21.3	0.2	10.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	UNKNOWN	W12/F01	8.8	8.5	0.3	3.4%	YES	68.6	68.5	0.0	0.2%	YES	24	2	24	2	0.0%	0.0%	YES
			UNKNOWN	W13/F01	4.8	4.5	0.3	6.2%	YES												
			UNKNOWN	W14/F01	5.7	5.6	0.1	1.8%	YES												
	R12	RESIDENTIAL	BEDROOM	W15/F01	8.4	8.2	0.2	2.4%	YES	24.4	23.3	0.1	4.6%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W16/F01	10.8	10.6	0.2	1.9%	YES	31.1	29.7	0.1	4.6%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	UNKNOWN	W17/F01	15.7	15.6	0.1	0.6%	YES	87.6	87.6	0.0	0.0%	YES	43	8	43	8	0.0%	0.0%	YES
			UNKNOWN	W18/F01	15.8	15.7	0.1	0.6%	YES												
FAIRFIELD HOUSE (CONTINUED)																					
			UNKNOWN	W19/F01	22.6	22.6	0	0.0%	YES												
F02	R1	RESIDENTIAL	UNKNOWN	W1/F02	12.8	12.3	0.5	3.9%	YES	71.4	71.4	0.0	0.0%	YES	26	1	25	1	3.8%	0.0%	YES
			UNKNOWN	W2/F02	13.5	13.1	0.4	3.0%	YES												
			UNKNOWN	W20/F02	22.7	22.7	0	0.0%	YES												
			UNKNOWN	W21/F02	22.7	22.7	0	0.0%	YES												

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
			UNKNOWN	W22/F02	21.7	21.7	0	0.0%	YES												
	R2	RESIDENTIAL	BEDROOM	W3/F02	14.8	14.5	0.3	2.0%	YES	57.5	57	0.0	0.9%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R3	RESIDENTIAL	BEDROOM	W4/F02	15.6	15.4	0.2	1.3%	YES	57.3	57.1	0.0	0.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F02	15.7	15.6	0.1	0.6%	YES	40.9	40.9	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W6/F02	15.3	15.2	0.1	0.7%	YES	55.7	55.7	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F02	14.6	14.5	0.1	0.7%	YES	60.3	60.3	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W8/F02	13.2	13.1	0.1	0.8%	YES	51.2	51.2	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W9/F02	11.4	11.2	0.2	1.8%	YES	47.4	47.4	0.0	0.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W10/F02	9.6	9.5	0.1	1.0%	YES	32.1	30.4	0.1	5.2%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W11/F02	8.9	8.6	0.3	3.4%	YES	33	29.9	0.2	9.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	UNKNOWN	W12/F02	10	9.7	0.3	3.0%	YES	72	71.7	0.0	0.4%	YES	25	2	24	2	4.0%	0.0%	YES
			UNKNOWN	W13/F02	5.1	4.9	0.2	3.9%	YES												
			UNKNOWN	W14/F02	6.2	6	0.2	3.2%	YES												
	R12	RESIDENTIAL	BEDROOM	W15/F02	9.3	9	0.3	3.2%	YES	24.8	23.5	0.1	5.2%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W16/F02	12	11.8	0.2	1.7%	YES	31.9	30.2	0.2	5.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	UNKNOWN	W17/F02	17.3	17.2	0.1	0.6%	YES	93.6	93.6	0.0	0.0%	YES	45	8	44	8	2.2%	0.0%	YES
			UNKNOWN	W18/F02	17.7	17.6	0.1	0.6%	YES												
			UNKNOWN	W19/F02	27.3	27.3	0	0.0%	YES												
F03	R1	RESIDENTIAL	UNKNOWN	W1/F03	15.4	14.9	0.5	3.2%	YES	82.8	82.7	0.0	0.0%	YES	29	2	28	2	3.4%	0.0%	YES
			UNKNOWN	W2/F03	16.1	15.6	0.5	3.1%	YES												
			UNKNOWN	W20/F03	25.7	25.7	0	0.0%	YES												
			UNKNOWN	W21/F03	25.7	25.7	0	0.0%	YES												
			UNKNOWN	W22/F03	24.1	24.1	0	0.0%	YES												
	R2	RESIDENTIAL	BEDROOM	W3/F03	17.4	17	0.4	2.3%	YES	70.5	68.7	0.1	2.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R3	RESIDENTIAL	BEDROOM	W4/F03	18.3	17.9	0.4	2.2%	YES	72.6	71.7	0.1	1.2%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F03	18.5	18.3	0.2	1.1%	YES	54.5	54.4	0.0	0.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FAIRFIELD HOUSE (CONTINUED)																					
	R5	RESIDENTIAL	BEDROOM	W6/F03	17.9	17.8	0.1	0.6%	YES	69.8	69.8	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F03	16.9	16.8	0.1	0.6%	YES	77.5	77.5	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W8/F03	15.2	15	0.2	1.3%	YES	60.9	60.9	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W9/F03	13.3	13.2	0.1	0.8%	YES	55.3	55.3	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W10/F03	11.5	11.4	0.1	0.9%	YES	34.2	33.5	0.0	2.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W11/F03	10.6	10.3	0.3	2.8%	YES	38.1	34.7	0.3	9.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	UNKNOWN	W12/F03	11.5	11.1	0.4	3.5%	YES	73.3	73.1	0.0	0.2%	YES	27	3	25	3	7.4%	0.0%	YES
			UNKNOWN	W13/F03	5.4	5.1	0.3	5.6%	YES												

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
			UNKNOWN	W14/F03	6.5	6.3	0.2	3.1%	YES												
	R12	RESIDENTIAL	BEDROOM	W15/F03	9.7	9.5	0.2	2.1%	YES	24.9	23.6	0.1	5.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W16/F03	12.7	12.5	0.2	1.6%	YES	32.3	30.3	0.2	6.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	UNKNOWN	W17/F03	18.6	18.5	0.1	0.5%	YES	94.2	94.2	0.0	0.0%	YES	46	9	45	9	2.2%	0.0%	YES
			UNKNOWN	W18/F03	19.4	19.3	0.1	0.5%	YES												
			UNKNOWN	W19/F03	32.1	32.1	0	0.0%	YES												
F04	R1	RESIDENTIAL	UNKNOWN	W1/F04	18.7	18.2	0.5	2.7%	YES	88.6	88.6	0.0	0.0%	YES	36	2	34	2	5.6%	0.0%	YES
			UNKNOWN	W2/F04	19.4	18.9	0.5	2.6%	YES												
			UNKNOWN	W20/F04	28.5	28.5	0	0.0%	YES												
			UNKNOWN	W21/F04	28.5	28.5	0	0.0%	YES												
			UNKNOWN	W22/F04	27	27	0	0.0%	YES												
	R2	RESIDENTIAL	BEDROOM	W3/F04	20.5	20	0.5	2.4%	YES	79.1	77.8	0.1	1.6%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R3	RESIDENTIAL	BEDROOM	W4/F04	21.3	20.8	0.5	2.3%	YES	83.3	82.1	0.1	1.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F04	21.5	21.1	0.4	1.9%	YES	67.1	66.6	0.0	0.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W6/F04	20.6	20.4	0.2	1.0%	YES	75	74.8	0.0	0.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F04	19.3	19.2	0.1	0.5%	YES	82	82	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W8/F04	17.4	17.3	0.1	0.6%	YES	63.4	63.3	0.0	0.2%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W9/F04	15.6	15.4	0.2	1.3%	YES	59.3	58.5	0.1	1.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W10/F04	13.8	13.5	0.3	2.2%	YES	38.8	36.4	0.2	6.2%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W11/F04	12.8	12.4	0.4	3.1%	YES	40	38.1	0.1	4.8%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	UNKNOWN	W12/F04	13.4	13	0.4	3.0%	YES	73.9	73.5	0.1	0.5%	YES	27	3	25	3	7.4%	0.0%	YES
			UNKNOWN	W13/F04	5.6	5.3	0.3	5.4%	YES												
			UNKNOWN	W14/F04	6.8	6.6	0.2	2.9%	YES												
FAIRFIELD HOUSE (CONTINUED)																					
	R12	RESIDENTIAL	BEDROOM	W15/F04	10	9.8	0.2	2.0%	YES	25	23.7	0.1	5.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W16/F04	13	12.8	0.2	1.5%	YES	32.4	30.4	0.2	6.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	UNKNOWN	W17/F04	19.1	19	0.1	0.5%	YES	97.4	97.4	0.0	0.0%	YES	47	10	46	10	2.1%	0.0%	YES
			UNKNOWN	W18/F04	19.9	19.9	0	0.0%	YES												
			UNKNOWN	W19/F04	35.4	35.4	0	0.0%	YES												
F05	R1	RESIDENTIAL	UNKNOWN	W1/F05	23	22.5	0.5	2.2%	YES	95.6	95.6	0.0	0.0%	YES	41	5	38	3	7.3%	40.0%	YES
			UNKNOWN	W2/F05	23.5	23	0.5	2.1%	YES												
			UNKNOWN	W20/F05	30.8	30.8	0	0.0%	YES												
			UNKNOWN	W21/F05	30.8	30.8	0	0.0%	YES												
			UNKNOWN	W22/F05	29.7	29.7	0	0.0%	YES												
	R2	RESIDENTIAL	BEDROOM	W3/F05	24.1	23.6	0.5	2.1%	YES	89.3	87.2	0.1	2.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R3	RESIDENTIAL	BEDROOM	W4/F05	24.5	23.9	0.6	2.4%	YES	93.6	91.7	0.1	2.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F05	24.3	23.7	0.6	2.5%	YES	84.1	82.9	0.1	1.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W6/F05	23.4	22.8	0.6	2.6%	YES	83.1	81.1	0.1	2.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F05	22.1	21.7	0.4	1.8%	YES	89.3	88.4	0.1	1.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W8/F05	20.2	19.8	0.4	2.0%	YES	69.5	68.2	0.1	1.9%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W9/F05	18.4	18	0.4	2.2%	YES	66.5	65	0.1	2.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W10/F05	16.7	16.2	0.5	3.0%	YES	46.5	44.6	0.1	4.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W11/F05	15.6	15.1	0.5	3.2%	YES	50.5	49.1	0.1	2.9%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	UNKNOWN	W12/F05	15.9	15.4	0.5	3.1%	YES	75	74.6	0.1	0.5%	YES	28	4	27	4	3.6%	0.0%	YES
			UNKNOWN	W13/F05	5.9	5.6	0.3	5.1%	YES												
			UNKNOWN	W14/F05	7	6.8	0.2	2.9%	YES												
	R12	RESIDENTIAL	BEDROOM	W15/F05	10.3	10	0.3	2.9%	YES	25.3	23.7	0.2	6.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W16/F05	13.3	13.1	0.2	1.5%	YES	32.4	30.5	0.2	6.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	UNKNOWN	W17/F05	19.4	19.3	0.1	0.5%	YES	97.4	97.4	0.0	0.0%	YES	48	11	47	11	2.1%	0.0%	YES
			UNKNOWN	W18/F05	20.3	20.2	0.1	0.5%	YES												
			UNKNOWN	W19/F05	36.5	36.5	0	0.0%	YES												
F06	R1	RESIDENTIAL	UNKNOWN	W1/F06	26.9	26.3	0.6	2.2%	YES	100	100	0.0	0.0%	YES	46	4	45	3	2.2%	25.0%	YES
			UNKNOWN	W2/F06	27	26.5	0.5	1.9%	YES												
			UNKNOWN	W20/F06	32.5	32.5	0	0.0%	YES												
			UNKNOWN	W21/F06	32.5	32.5	0	0.0%	YES												
FAIRFIELD HOUSE (CONTINUED)																					
			UNKNOWN	W22/F06	32.1	32.1	0	0.0%	YES												
	R2	RESIDENTIAL	BEDROOM	W3/F06	26.9	26.3	0.6	2.2%	YES	91.1	87.7	0.2	3.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R3	RESIDENTIAL	BEDROOM	W4/F06	26.7	26.1	0.6	2.2%	YES	93.8	92.4	0.1	1.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F06	26.3	25.7	0.6	2.3%	YES	88.7	88	0.1	0.8%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W6/F06	25.6	24.9	0.7	2.7%	YES	88.6	85.8	0.2	3.2%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F06	24.5	23.9	0.6	2.4%	YES	95.1	94.6	0.0	0.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W8/F06	23	22.4	0.6	2.6%	YES	84.3	81.3	0.2	3.6%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W9/F06	21.5	20.9	0.6	2.8%	YES	83.8	81.8	0.1	2.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W10/F06	19.9	19.3	0.6	3.0%	YES	70.3	68.3	0.1	2.8%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W11/F06	18.9	18.4	0.5	2.6%	YES	82.4	80.8	0.1	1.9%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	UNKNOWN	W12/F06	18.9	18.3	0.6	3.2%	YES	77.2	76.5	0.1	0.8%	YES	31	4	31	4	0.0%	0.0%	YES
			UNKNOWN	W13/F06	6.1	5.7	0.4	6.6%	YES												
			UNKNOWN	W14/F06	7.2	6.9	0.3	4.2%	YES												
	R12	RESIDENTIAL	BEDROOM	W15/F06	10.5	10.2	0.3	2.9%	YES	25.5	23.9	0.2	6.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R13	RESIDENTIAL	BEDROOM	W16/F06	13.5	13.3	0.2	1.5%	YES	32.8	30.5	0.2	6.9%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	UNKNOWN	W17/F06	19.7	19.5	0.2	1.0%	YES	97.4	97.4	0.0	0.0%	YES	50	12	49	12	2.0%	0.0%	YES
			UNKNOWN	W18/F06	20.6	20.5	0.1	0.5%	YES												
			UNKNOWN	W19/F06	37	37	0	0.0%	YES												
F07	R1	RESIDENTIAL	UNKNOWN	W1/F07	30	29.4	0.6	2.0%	YES	100	100	0.0	0.0%	YES	51	7	48	5	5.9%	28.6%	YES
			UNKNOWN	W2/F07	29.6	29	0.6	2.0%	YES												
			UNKNOWN	W20/F07	33.4	33.4	0	0.0%	YES												
			UNKNOWN	W21/F07	33.5	33.5	0	0.0%	YES												
			UNKNOWN	W22/F07	34.1	34.1	0	0.0%	YES												
	R2	RESIDENTIAL	BEDROOM	W3/F07	29.1	28.4	0.7	2.4%	YES	92	89.4	0.2	2.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R3	RESIDENTIAL	BEDROOM	W4/F07	28.6	27.9	0.7	2.4%	YES	93.8	93.1	0.1	0.8%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W5/F07	28	27.3	0.7	2.5%	YES	94.3	94.1	0.0	0.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W6/F07	27.3	26.6	0.7	2.6%	YES	90	87.2	0.2	3.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W7/F07	26.7	26	0.7	2.6%	YES	95.1	95	0.0	0.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W8/F07	25.4	24.8	0.6	2.4%	YES	90.8	88.5	0.2	2.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W9/F07	24.3	23.6	0.7	2.9%	YES	94.5	93.7	0.1	0.9%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W10/F07	23.2	22.5	0.7	3.0%	YES	89	85.8	0.2	3.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FAIRFIELD HOUSE (CONTINUED)																					
	R10	RESIDENTIAL	BEDROOM	W11/F07	22.5	21.9	0.6	2.7%	YES	93.2	91.8	0.1	1.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	UNKNOWN	W12/F07	22	21.4	0.6	2.7%	YES	85.7	85.3	0.1	0.5%	YES	36	4	36	4	0.0%	0.0%	YES
			UNKNOWN	W13/F07	6.3	5.8	0.5	7.9%	YES												
			UNKNOWN	W14/F07	7.4	7.1	0.3	4.1%	YES												
	R12	RESIDENTIAL	BEDROOM	W15/F07	10.6	10.3	0.3	2.8%	YES	25.6	24.1	0.2	6.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W16/F07	13.7	13.5	0.2	1.5%	YES	32.9	30.6	0.2	7.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	UNKNOWN	W17/F07	19.8	19.7	0.1	0.5%	YES	97.4	97.4	0.0	0.0%	YES	50	12	49	12	2.0%	0.0%	YES
			UNKNOWN	W18/F07	20.7	20.6	0.1	0.5%	YES												
			UNKNOWN	W19/F07	37.4	37.4	0	0.0%	YES												
F08	R1	RESIDENTIAL	UNKNOWN	W1/F08	31.3	30.7	0.6	1.9%	YES	100	100	0.0	0.0%	YES	52	7	49	5	5.8%	28.6%	YES
			UNKNOWN	W12/F08	34.3	34.3	0	0.0%	YES												
			UNKNOWN	W13/F08	35	35	0	0.0%	YES												
	R2	RESIDENTIAL	BEDROOM	W2/F08	30.3	29.6	0.7	2.3%	YES	97.4	96.8	0.1	0.6%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R3	RESIDENTIAL	BEDROOM	W3/F08	29.4	28.7	0.7	2.4%	YES	96.6	96.5	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W4/F08	28.4	27.7	0.7	2.5%	YES	97	95.8	0.3	1.2%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W5/F08	26.7	26	0.7	2.6%	YES	97.4	96.5	0.2	0.9%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W6/F08	24.9	24.3	0.6	2.4%	YES	96.7	95.7	0.2	1.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R7	RESIDENTIAL	UNKNOWN	W7/F08	23.3	22.7	0.6	2.6%	YES	91.8	91.2	0.1	0.6%	YES	38	4	36	4	5.3%	0.0%	YES
			UNKNOWN	W8/F08	7	6.6	0.4	5.7%	YES												
	R8 (3)	RESIDENTIAL	UNKNOWN	W9/F08	12.2	11.9	0.3	2.5%	YES	61.8	60.4	0.4	2.3%	YES	34	6	34	6	0.0%	0.0%	YES
	R9	RESIDENTIAL	UNKNOWN	W10/F08	20.5	20.3	0.2	1.0%	YES	97.8	97.8	0.0	0.0%	YES	48	12	48	12	0.0%	0.0%	YES
			UNKNOWN	W11/F08	37.6	37.6	0	0.0%	YES												
LAMBERT HALL																					
B01	R1	RESIDENTIAL	UNKNOWN	W1/B01	4.8	4.7	0.1	2.1%	YES	6.4	6.3	0.0	1.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W2/B01	4.6	4.6	0	0.0%	YES												
	R2	RESIDENTIAL	UNKNOWN	W3/B01	6.1	6.1	0	0.0%	YES	49.8	49	0.2	1.6%	YES	15	0	15	0	0.0%	0.0%	YES
			UNKNOWN	W4/B01	7.3	7.2	0.1	1.4%	YES												
			UNKNOWN	W5/B01	2.6	2.4	0.2	7.7%	YES												
	R3	RESIDENTIAL	UNKNOWN	W6/B01	2.5	2.3	0.2	8.0%	YES	0	0	0.0	-	YES	11	1	11	1	0.0%	0.0%	YES
			UNKNOWN	W7/B01	2.4	2.2	0.2	8.3%	YES												
LAMBERT HALL (CONTINUED)																					
	R4	RESIDENTIAL	UNKNOWN	W8/B01	3	2.7	0.3	10.0%	YES	2.6	2.6	0.0	0.0%	YES	16	3	16	3	0.0%	0.0%	YES
			UNKNOWN	W9/B01	3.3	3	0.3	9.1%	YES												
	R5	RESIDENTIAL	UNKNOWN	W10/B01	3.7	3.3	0.4	10.8%	YES	7.6	6.9	0.2	9.1%	YES	20	4	20	4	0.0%	0.0%	YES
			UNKNOWN	W11/B01	3.9	3.6	0.3	7.7%	YES												
	R6	RESIDENTIAL	UNKNOWN	W12/B01	4.7	4.3	0.4	8.5%	YES	16.5	15.6	0.2	5.4%	YES	24	6	24	6	0.0%	0.0%	YES
			UNKNOWN	W13/B01	5.2	4.9	0.3	5.8%	YES												
	R7	RESIDENTIAL	UNKNOWN	W14/B01	6.6	6.3	0.3	4.5%	YES	31.4	31.3	0.0	0.5%	YES	27	7	26	7	3.7%	0.0%	YES
			UNKNOWN	W15/B01	7.6	7.4	0.2	2.6%	YES												
	R8	RESIDENTIAL	UNKNOWN	W16/B01	9.9	9.7	0.2	2.0%	YES	51.9	51.9	0.0	0.0%	YES	36	13	36	13	0.0%	0.0%	YES
			UNKNOWN	W17/B01	11.7	11.5	0.2	1.7%	YES												
F00	R1	RESIDENTIAL	UNKNOWN	W1/F00	5.6	5.6	0	0.0%	YES	14	13.9	0.0	0.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W2/F00	5.4	5.4	0	0.0%	YES												
	R2	RESIDENTIAL	UNKNOWN	W3/F00	6.9	6.9	0	0.0%	YES	61	60.7	0.0	0.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W4/F00	8.4	8.3	0.1	1.2%	YES												
	R3	RESIDENTIAL	BEDROOM	W5/F00	2.7	2.5	0.2	7.4%	YES	4	2.8	0.1	30.9%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W6/F00	2.7	2.4	0.3	11.1%	YES	3.3	2.3	0.1	29.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W7/F00	2.6	2.4	0.2	7.7%	YES	3.7	2.4	0.1	36.7%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W8/F00	3.2	2.9	0.3	9.4%	YES	6.8	4.3	0.2	36.0%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W9/F00	3.5	3.1	0.4	11.4%	YES	5	3.1	0.1	37.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W10/F00	3.9	3.5	0.4	10.3%	YES	9.2	7.4	0.1	19.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX. ANNUAL	EX. WINTER	PR. ANNUAL	PR. WINTER	LOSS % ANNUAL	LOSS % WINTER	MEETS CRITERIA
	R9	RESIDENTIAL	BEDROOM	W11/F00	4.1	3.7	0.4	9.8%	YES	6.2	4.2	0.1	31.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W12/F00	4.8	4.5	0.3	6.2%	YES	13	11.2	0.1	13.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	BEDROOM	W13/F00	5.4	5.1	0.3	5.6%	YES	7.6	6.2	0.1	17.6%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	BEDROOM	W14/F00	6.7	6.4	0.3	4.5%	YES	20.6	18.1	0.2	12.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W15/F00	7.8	7.5	0.3	3.8%	YES	11	10.1	0.1	7.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	BEDROOM	W16/F00	10.1	9.9	0.2	2.0%	YES	41.5	41.1	0.0	0.9%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R15	RESIDENTIAL	BEDROOM	W17/F00	12	11.7	0.3	2.5%	YES	27.1	26.9	0.0	0.8%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F01	R1	RESIDENTIAL	UNKNOWN	W1/F01	7	6.9	0.1	1.4%	YES	17.3	17.1	0.0	0.8%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W2/F01	6.7	6.7	0	0.0%	YES												
	R2	RESIDENTIAL	UNKNOWN	W3/F01	8.2	8.1	0.1	1.2%	YES	62.9	62.5	0.0	0.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W4/F01	9.5	9.4	0.1	1.1%	YES												
LAMBERT HALL (CONTINUED)																					
	R3	RESIDENTIAL	BEDROOM	W5/F01	2.9	2.6	0.3	10.3%	YES	4.9	3.2	0.1	35.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W6/F01	2.9	2.6	0.3	10.3%	YES	4	3	0.1	23.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W7/F01	2.9	2.6	0.3	10.3%	YES	4.6	3.2	0.1	31.0%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W8/F01	3.1	2.7	0.4	12.9%	YES	4.9	3.6	0.1	26.2%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W9/F01	3.3	2.8	0.5	15.2%	YES	5.8	4.1	0.1	29.3%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W10/F01	3.6	3.1	0.5	13.9%	YES	7.9	5.4	0.2	31.1%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W11/F01	3.8	3.3	0.5	13.2%	YES	6.4	4.2	0.2	33.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W12/F01	4.2	3.7	0.5	11.9%	YES	10.2	8.1	0.2	20.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	BEDROOM	W13/F01	4.4	3.9	0.5	11.4%	YES	7.3	5.2	0.2	29.3%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	BEDROOM	W14/F01	5.1	4.6	0.5	9.8%	YES	14.1	12.2	0.1	13.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W15/F01	5.7	5.2	0.5	8.8%	YES	8.8	6.9	0.1	20.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	BEDROOM	W16/F01	6.9	6.6	0.3	4.3%	YES	21.2	18.6	0.2	12.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R15	RESIDENTIAL	BEDROOM	W17/F01	8	7.6	0.4	5.0%	YES	11.6	10.7	0.1	7.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R16	RESIDENTIAL	BEDROOM	W18/F01	10.3	10.1	0.2	1.9%	YES	41.8	41.5	0.0	0.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R17	RESIDENTIAL	BEDROOM	W19/F01	12.3	12	0.3	2.4%	YES	28.5	28.5	0.0	0.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R18	RESIDENTIAL	BEDROOM	W20/F01	16.9	16.6	0.3	1.8%	YES	68.7	68.5	0.0	0.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R19	RESIDENTIAL	BEDROOM	W21/F01	19.7	19.5	0.2	1.0%	YES	53.8	53.7	0.0	0.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1	RESIDENTIAL	UNKNOWN	W1/F02	8.8	8.8	0	0.0%	YES	21.3	21.1	0.0	0.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W2/F02	8.5	8.5	0	0.0%	YES												
	R2	RESIDENTIAL	UNKNOWN	W3/F02	9.9	9.8	0.1	1.0%	YES	65.6	65.2	0.0	0.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W4/F02	11.1	11	0.1	0.9%	YES												
	R3	RESIDENTIAL	BEDROOM	W5/F02	3	2.7	0.3	10.0%	YES	5.8	2.2	0.3	62.7%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W6/F02	3.1	2.7	0.4	12.9%	YES	4.7	2.5	0.2	46.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R5	RESIDENTIAL	BEDROOM	W7/F02	3.1	2.7	0.4	12.9%	YES	5.6	3.4	0.2	39.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W8/F02	3.3	2.9	0.4	12.1%	YES	6	4.1	0.1	30.7%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W9/F02	3.5	3	0.5	14.3%	YES	6.8	4.8	0.1	29.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W10/F02	3.9	3.3	0.6	15.4%	YES	8.9	6.4	0.2	28.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W11/F02	4.2	3.5	0.7	16.7%	YES	7.7	5.1	0.2	34.0%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W12/F02	4.5	3.9	0.6	13.3%	YES	11.4	9	0.2	21.2%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	BEDROOM	W13/F02	4.7	4.1	0.6	12.8%	YES	8.7	6.2	0.2	29.3%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	BEDROOM	W14/F02	5.4	4.8	0.6	11.1%	YES	15.4	13.1	0.2	14.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LAMBERT HALL (CONTINUED)																					
	R13	RESIDENTIAL	BEDROOM	W15/F02	6	5.4	0.6	10.0%	YES	9.9	7.8	0.2	21.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	BEDROOM	W16/F02	7.2	6.7	0.5	6.9%	YES	22.7	19.2	0.3	15.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R15	RESIDENTIAL	BEDROOM	W17/F02	8.2	7.8	0.4	4.9%	YES	11.9	10.8	0.1	9.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R16	RESIDENTIAL	BEDROOM	W18/F02	10.6	10.2	0.4	3.8%	YES	42	41.7	0.0	0.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R17	RESIDENTIAL	BEDROOM	W19/F02	12.5	12.2	0.3	2.4%	YES	28.8	28.4	0.0	1.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R18	RESIDENTIAL	BEDROOM	W20/F02	17.1	16.9	0.2	1.2%	YES	68.8	68.4	0.0	0.6%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R19	RESIDENTIAL	BEDROOM	W21/F02	20	19.8	0.2	1.0%	YES	53.9	53.7	0.0	0.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F03	R1	RESIDENTIAL	UNKNOWN	W1/F03	11.3	11.3	0	0.0%	YES	23.6	23.3	0.1	1.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W2/F03	11	10.9	0.1	0.9%	YES												
	R2	RESIDENTIAL	UNKNOWN	W3/F03	12.1	12	0.1	0.8%	YES	67.8	67.5	0.0	0.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W4/F03	13.1	13	0.1	0.8%	YES												
	R3	RESIDENTIAL	BEDROOM	W5/F03	3.2	2.9	0.3	9.4%	YES	6.1	4	0.2	34.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W6/F03	3.2	2.9	0.3	9.4%	YES	5.9	3.9	0.1	33.2%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W7/F03	3.3	2.9	0.4	12.1%	YES	6.4	4.6	0.1	28.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W8/F03	3.6	3.1	0.5	13.9%	YES	8.2	4.6	0.3	44.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W9/F03	3.8	3.2	0.6	15.8%	YES	8.3	5.8	0.2	29.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W10/F03	4.3	3.6	0.7	16.3%	YES	10.8	7.4	0.3	32.2%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W11/F03	4.6	3.8	0.8	17.4%	YES	9.2	6.4	0.2	30.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W12/F03	4.9	4.2	0.7	14.3%	YES	12.9	10.2	0.2	20.9%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	BEDROOM	W13/F03	5.1	4.4	0.7	13.7%	YES	10.2	7.2	0.2	29.2%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	BEDROOM	W14/F03	5.8	5.1	0.7	12.1%	YES	16.8	13.7	0.2	18.2%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W15/F03	6.3	5.7	0.6	9.5%	YES	11.2	8.7	0.2	22.2%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	BEDROOM	W16/F03	7.5	7	0.5	6.7%	YES	23.9	19.8	0.3	17.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R15	RESIDENTIAL	BEDROOM	W17/F03	8.5	8	0.5	5.9%	YES	13	11.8	0.1	9.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R16	RESIDENTIAL	BEDROOM	W18/F03	10.8	10.4	0.4	3.7%	YES	42.2	41.8	0.0	0.9%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R17	RESIDENTIAL	BEDROOM	W19/F03	12.8	12.4	0.4	3.1%	YES	28.9	28.5	0.0	1.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX. ANNUAL	EX. WINTER	PR. ANNUAL	PR. WINTER	LOSS % ANNUAL	LOSS % WINTER	MEETS CRITERIA
	R18	RESIDENTIAL	BEDROOM	W20/F03	17.4	17.1	0.3	1.7%	YES	68.9	68.8	0.0	0.2%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R19	RESIDENTIAL	BEDROOM	W21/F03	20.3	20	0.3	1.5%	YES	54	53.8	0.0	0.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F04	R1	RESIDENTIAL	UNKNOWN	W1/F04	14.8	14.8	0	0.0%	YES	30.6	30.3	0.1	0.9%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W2/F04	14.4	14.4	0	0.0%	YES												
	R2	RESIDENTIAL	UNKNOWN	W3/F04	15.1	15	0.1	0.7%	YES	72.9	72.4	0.1	0.6%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LAMBERT HALL (CONTINUED)																					
			UNKNOWN	W4/F04	15.9	15.7	0.2	1.3%	YES												
	R3	RESIDENTIAL	BEDROOM	W5/F04	3.5	3.1	0.4	11.4%	YES	7	4.9	0.1	29.1%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W6/F04	3.5	3	0.5	14.3%	YES	7.5	4.6	0.2	38.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W7/F04	3.5	3.1	0.4	11.4%	YES	7	5.7	0.1	19.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W8/F04	3.9	3.3	0.6	15.4%	YES	10.2	6.1	0.3	40.2%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W9/F04	4.2	3.5	0.7	16.7%	YES	9.6	7	0.2	27.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W10/F04	4.8	3.9	0.9	18.8%	YES	13.1	9.2	0.3	29.7%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W11/F04	5.1	4.2	0.9	17.6%	YES	11.4	7.9	0.3	31.3%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W12/F04	5.4	4.5	0.9	16.7%	YES	15.1	11.5	0.3	23.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	BEDROOM	W13/F04	5.6	4.7	0.9	16.1%	YES	12.6	8.8	0.3	30.6%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	BEDROOM	W14/F04	6.3	5.4	0.9	14.3%	YES	19.4	15.3	0.3	21.1%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W15/F04	6.8	6	0.8	11.8%	YES	13.3	9.9	0.3	25.7%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	BEDROOM	W16/F04	7.8	7.2	0.6	7.7%	YES	25.7	21.4	0.3	16.9%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R15	RESIDENTIAL	BEDROOM	W17/F04	8.7	8.2	0.5	5.7%	YES	14.3	12.6	0.1	11.5%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R16	RESIDENTIAL	BEDROOM	W18/F04	11	10.6	0.4	3.6%	YES	42.5	42	0.0	1.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R17	RESIDENTIAL	BEDROOM	W19/F04	13.1	12.7	0.4	3.1%	YES	29	28.7	0.0	1.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R18	RESIDENTIAL	BEDROOM	W20/F04	17.7	17.4	0.3	1.7%	YES	69	68.7	0.0	0.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R19	RESIDENTIAL	BEDROOM	W21/F04	20.6	20.3	0.3	1.5%	YES	54.3	53.9	0.0	0.6%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F05	R1	RESIDENTIAL	UNKNOWN	W1/F05	19.4	19.3	0.1	0.5%	YES	45.9	45.6	0.1	0.6%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W2/F05	18.9	18.9	0	0.0%	YES												
	R2	RESIDENTIAL	UNKNOWN	W3/F05	19	19	0	0.0%	YES	82.5	82.4	0.0	0.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W4/F05	19.3	19.2	0.1	0.5%	YES												
	R3	RESIDENTIAL	BEDROOM	W5/F05	3.7	3.3	0.4	10.8%	YES	7.4	5.3	0.2	28.1%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W6/F05	3.7	3.2	0.5	13.5%	YES	8.7	5	0.3	42.6%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W7/F05	3.8	3.3	0.5	13.2%	YES	8	6.4	0.1	20.9%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W8/F05	4.3	3.5	0.8	18.6%	YES	12.2	7.5	0.3	38.9%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W9/F05	4.6	3.8	0.8	17.4%	YES	11.6	8.1	0.3	29.8%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W10/F05	5.4	4.3	1.1	20.4%	NO	16.3	10.7	0.4	34.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W11/F05	5.8	4.6	1.2	20.7%	NO	14	9.2	0.4	34.7%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R10	RESIDENTIAL	BEDROOM	W12/F05	6.1	4.9	1.2	19.7%	YES	18.1	12.9	0.4	28.6%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	BEDROOM	W13/F05	6.3	5.2	1.1	17.5%	YES	15.4	10.2	0.4	33.9%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LAMBERT HALL (CONTINUED)																					
	R12	RESIDENTIAL	BEDROOM	W14/F05	6.9	5.8	1.1	15.9%	YES	22.4	16.7	0.4	25.3%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W15/F05	7.3	6.4	0.9	12.3%	YES	16	11.2	0.4	30.3%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	BEDROOM	W16/F05	8.2	7.5	0.7	8.5%	YES	27.9	22.6	0.4	19.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R15	RESIDENTIAL	BEDROOM	W17/F05	9	8.5	0.5	5.6%	YES	15.6	13.7	0.1	12.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R16	RESIDENTIAL	BEDROOM	W18/F05	11.3	10.8	0.5	4.4%	YES	42.9	42.2	0.1	1.8%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R17	RESIDENTIAL	BEDROOM	W19/F05	13.4	12.9	0.5	3.7%	YES	29.2	28.8	0.0	1.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R18	RESIDENTIAL	BEDROOM	W20/F05	18	17.6	0.4	2.2%	YES	69	68.8	0.0	0.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R19	RESIDENTIAL	BEDROOM	W21/F05	21	20.6	0.4	1.9%	YES	54.3	53.9	0.0	0.7%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F06	R1	RESIDENTIAL	UNKNOWN	W1/F06	24	24	0	0.0%	YES	74	73.8	0.0	0.3%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W2/F06	23.5	23.4	0.1	0.4%	YES												
	R2	RESIDENTIAL	UNKNOWN	W3/F06	23	22.9	0.1	0.4%	YES	94.8	94.8	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN	W4/F06	22.8	22.7	0.1	0.4%	YES												
	R3	RESIDENTIAL	BEDROOM	W5/F06	4	3.5	0.5	12.5%	YES	8.2	6.3	0.1	23.0%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	BEDROOM	W6/F06	4	3.4	0.6	15.0%	YES	10.4	7.1	0.2	31.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R5	RESIDENTIAL	BEDROOM	W7/F06	4.1	3.5	0.6	14.6%	YES	8.7	7.2	0.1	17.1%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R6	RESIDENTIAL	BEDROOM	W8/F06	4.6	3.8	0.8	17.4%	YES	14.7	9.8	0.4	33.2%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R7	RESIDENTIAL	BEDROOM	W9/F06	5.2	4.1	1.1	21.2%	NO	14.3	10.1	0.3	29.4%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	BEDROOM	W10/F06	6.1	4.8	1.3	21.3%	NO	20.5	13	0.5	36.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R9	RESIDENTIAL	BEDROOM	W11/F06	6.7	5.2	1.5	22.4%	NO	18.1	11.8	0.5	35.1%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R10	RESIDENTIAL	BEDROOM	W12/F06	6.9	5.5	1.4	20.3%	NO	22.8	15.4	0.5	32.6%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R11	RESIDENTIAL	BEDROOM	W13/F06	7.1	5.7	1.4	19.7%	YES	20.2	12.7	0.5	37.1%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	BEDROOM	W14/F06	7.6	6.3	1.3	17.1%	YES	27.3	19.5	0.6	28.5%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R13	RESIDENTIAL	BEDROOM	W15/F06	8	6.8	1.2	15.0%	YES	20.8	13.9	0.5	33.1%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R14	RESIDENTIAL	BEDROOM	W16/F06	8.7	7.8	0.9	10.3%	YES	31.5	24.7	0.5	21.7%	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R15	RESIDENTIAL	BEDROOM	W17/F06	9.4	8.7	0.7	7.4%	YES	17.7	15.1	0.2	14.8%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R16	RESIDENTIAL	BEDROOM	W18/F06	11.7	11.1	0.6	5.1%	YES	43.2	42.4	0.1	2.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R17	RESIDENTIAL	BEDROOM	W19/F06	13.7	13.2	0.5	3.6%	YES	29.6	29	0.0	1.9%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R18	RESIDENTIAL	BEDROOM	W20/F06	18.3	17.9	0.4	2.2%	YES	69.2	68.9	0.0	0.4%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R19	RESIDENTIAL	BEDROOM	W21/F06	21.3	20.9	0.4	1.9%	YES	54.4	54.3	0.0	0.2%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
STONEBRIDGE HOUSE																					
F00	R1	RESIDENTIAL	BEDROOM	W1/F00	9.1	9	0.1	1.1%	YES	64.4	64.4	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	LKD	W2/F00	7.7	7.7	0	0.0%	YES	60.4	60.4	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W3/F00	5.3	5.3	0	0.0%	YES												
			LKD	W4/F00	7.9	7.8	0.1	1.3%	YES												
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	11.5	11.4	0.1	0.9%	YES	78.8	78.8	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	LKD	W2/F01	9.9	9.9	0	0.0%	YES	75.3	75.3	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W3/F01	8.3	8.3	0	0.0%	YES												
			LKD	W4/F01	7.9	7.8	0.1	1.3%	YES												
			LKD	W5/F01	0.1	0.1	0	0.0%	YES												
			LKD	W6/F01	9.1	9	0.1	1.1%	YES												
	R3	RESIDENTIAL	BEDROOM	W7/F01	14.3	14.2	0.1	0.7%	YES	100	100	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	LKD	W8/F01	14.3	14.3	0	0.0%	YES	92.3	92.3	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W9/F01	13.5	13.5	0	0.0%	YES												
			LKD	W10/F01	13.1	13.1	0	0.0%	YES												
			LKD	W11/F01	14.3	14.3	0	0.0%	YES												
			LKD	W12/F01	12.7	12.7	0	0.0%	YES												
F02	R1	RESIDENTIAL	BEDROOM	W1/F02	14.8	14.6	0.2	1.4%	YES	83.1	83.1	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	LKD	W2/F02	12.6	12.6	0	0.0%	YES	85	85	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W3/F02	10.6	10.6	0	0.0%	YES												
			LKD	W4/F02	10	9.9	0.1	1.0%	YES												
			LKD	W5/F02	0	0	0	-	YES												
			LKD	W6/F02	11.1	10.9	0.2	1.8%	YES												
	R3	RESIDENTIAL	BEDROOM	W7/F02	17.3	17.2	0.1	0.6%	YES	100	100	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	LKD	W8/F02	17.5	17.4	0.1	0.6%	YES	99.2	99.2	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W9/F02	16.3	16.3	0	0.0%	YES												
			LKD	W10/F02	15.7	15.7	0	0.0%	YES												
			LKD	W11/F02	17.1	17.1	0	0.0%	YES												
			LKD	W12/F02	15	15	0	0.0%	YES												
F03	R1	RESIDENTIAL	BEDROOM	W1/F03	18.9	18.8	0.1	0.5%	YES	90.7	90.7	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	LKD	W2/F03	16.7	16.6	0.1	0.6%	YES	94.7	94.7	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W3/F03	14.8	14.8	0	0.0%	YES												
STONEBRIDGE HOUSE (CONTINUED)																					
			LKD	W4/F03	14.5	14.3	0.2	1.4%	YES												
			LKD	W5/F03	0.3	0.3	0	0.0%	YES												

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS %	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
			LKD	W6/F03	15.3	15.1	0.2	1.3%	YES												
	R3	RESIDENTIAL	BEDROOM	W7/F03	20.6	20.4	0.2	1.0%	YES	100	100	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	LKD	W8/F03	20.6	20.5	0.1	0.5%	YES	99.2	99.2	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W9/F03	19.5	19.5	0	0.0%	YES												
			LKD	W10/F03	18.7	18.7	0	0.0%	YES												
			LKD	W11/F03	20.4	20.3	0.1	0.5%	YES												
			LKD	W12/F03	17.6	17.6	0	0.0%	YES												
F04	R1	RESIDENTIAL	BEDROOM	W1/F04	22.7	22.5	0.2	0.9%	YES	100	100	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	LKD	W2/F04	20.1	20	0.1	0.5%	YES	99.9	99.9	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W3/F04	18.3	18.3	0	0.0%	YES												
			LKD	W4/F04	17.9	17.7	0.2	1.1%	YES												
			LKD	W5/F04	0.6	0.6	0	0.0%	YES												
			LKD	W6/F04	18.3	18.1	0.2	1.1%	YES												
	R3	RESIDENTIAL	BEDROOM	W7/F04	23.1	22.9	0.2	0.9%	YES	100	100	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	LKD	W8/F04	23	22.8	0.2	0.9%	YES	99.2	99.1	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W9/F04	22.4	22.2	0.2	0.9%	YES												
			LKD	W10/F04	21.9	21.7	0.2	0.9%	YES												
			LKD	W11/F04	20.7	20.7	0	0.0%	YES												
			LKD	W12/F04	22.5	22.3	0.2	0.9%	YES												
F05	R1	RESIDENTIAL	BEDROOM	W1/F05	19.7	19.7	0	0.0%	YES	99.9	99.9	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	LKD	W2/F05	14.8	14.8	0	0.0%	YES	99.9	99.9	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W3/F05	15.2	15.2	0	0.0%	YES												
			LKD	W4/F05	14.4	14.4	0	0.0%	YES												
			LKD	W5/F05	1.4	1.4	0	0.0%	YES												
			LKD	W6/F05	12.5	12.5	0	0.0%	YES												
	R3	RESIDENTIAL	BEDROOM	W7/F05	18.3	18.2	0.1	0.5%	YES	100	100	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	LKD	W8/F05	16.8	16.8	0	0.0%	YES	98.9	98.9	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W9/F05	15.3	15.2	0.1	0.7%	YES												
			LKD	W10/F05	14	14	0	0.0%	YES												
STONEBRIDGE HOUSE (CONTINUED)																					
			LKD	W11/F05	12.9	12.9	0	0.0%	YES												
			LKD	W12/F05	1.5	1.5	0	0.0%	YES												
F06	R1	RESIDENTIAL	BEDROOM	W1/F06	4.3	4.3	0	0.0%	YES	96.7	96.7	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	LKD	W2/F06	4.2	4.2	0	0.0%	YES	98.7	98.7	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W3/F06	7.1	7.1	0	0.0%	YES												

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
			LKD	W4/F06	7.1	7.1	0	0.0%	YES												
			LKD	W5/F06	4.2	4.2	0	0.0%	YES												
	R3	RESIDENTIAL	BEDROOM	W6/F06	4.2	4.2	0	0.0%	YES	96.7	96.7	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	LKD	W7/F06	4.1	4.1	0	0.0%	YES	98.1	98	0.0	0.0%	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W8/F06	6.8	6.7	0.1	1.5%	YES												
			LKD	W9/F06	6.7	6.7	0	0.0%	YES												
			LKD	W10/F06	6.4	6.4	0	0.0%	YES												
			LKD	W11/F06	0	0	0	-	YES												
WAREHOUSE ONE																					
B01	R1	RESIDENTIAL	UNKNOWN	W1/B01	5.8	5.7	0.1	1.7%	YES	15	14.8	0.0	0.8%	YES	12	0	12	0	0.0%	0.0%	YES
			UNKNOWN	W2/B01	5.9	5.8	0.1	1.7%	YES												
			UNKNOWN	W3/B01	6	5.9	0.1	1.7%	YES												
	R2	RESIDENTIAL	UNKNOWN	W4/B01	5.6	5.4	0.2	3.6%	YES	15.7	15.7	0.0	0.0%	YES	8	0	8	0	0.0%	0.0%	YES
			UNKNOWN	W5/B01	5.6	5.4	0.2	3.6%	YES												
F00	R1	RESIDENTIAL	UNKNOWN	W1/F00	10	9.9	0.1	1.0%	YES	40.6	40.5	0.0	0.1%	YES	20	0	20	0	0.0%	0.0%	YES
			UNKNOWN	W2/F00	7.1	6.9	0.2	2.8%	YES												
			UNKNOWN	W3/F00	7.3	7	0.3	4.1%	YES												
			UNKNOWN	W4/F00	7.4	7.2	0.2	2.7%	YES												
			UNKNOWN	W5/F00	7.5	7.3	0.2	2.7%	YES												
			UNKNOWN	W6/F00	7.6	7.3	0.3	3.9%	YES												
	R2	RESIDENTIAL	UNKNOWN	W7/F00	6.6	6.4	0.2	3.0%	YES	22	22	0.0	0.1%	YES	13	0	13	0	0.0%	0.0%	YES
			UNKNOWN	W8/F00	6.7	6.5	0.2	3.0%	YES												
	R3	RESIDENTIAL	UNKNOWN	W9/F00	6.5	6.4	0.1	1.5%	YES	16.4	16.3	0.0	0.6%	YES	9	0	9	0	0.0%	0.0%	YES
			UNKNOWN	W10/F00	6.3	6.1	0.2	3.2%	YES												
F01	R1	RESIDENTIAL	UNKNOWN	W1/F01	7.4	7.2	0.2	2.7%	YES	38.3	38	0.1	0.8%	YES	24	0	21	0	12.5%	0.0%	YES
WAREHOUSE ONE (CONTINUED)																					
			UNKNOWN	W10/F01	8.8	8.3	0.5	5.7%	YES												
			UNKNOWN	W11/F01	8.3	7.8	0.5	6.0%	YES												
	R2	RESIDENTIAL	UNKNOWN	W2/F01	12.5	12.4	0.1	0.8%	YES	47.6	47.3	0.1	0.7%	YES	30	1	29	1	3.3%	0.0%	YES
			UNKNOWN	W3/F01	9.5	8.9	0.6	6.3%	YES												
			UNKNOWN	W4/F01	9.7	9.1	0.6	6.2%	YES												
			UNKNOWN	W5/F01	9.9	9.3	0.6	6.1%	YES												
			UNKNOWN	W6/F01	10	9.4	0.6	6.0%	YES												
			UNKNOWN	W7/F01	10	9.4	0.6	6.0%	YES												

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)					NSL					APSH (ROOM)						
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EX. %	PR. %	LOSS	LOSS %	MEETS CRITERIA	EX. %	PR. %	LOSS SQM	LOSS %	MEETS CRITERIA	EX.		PR.		LOSS %		MEETS CRITERIA
															ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER	
	R3	RESIDENTIAL	UNKNOWN	W8/F01	9	8.5	0.5	5.6%	YES	36.3	35.9	0.1	1.0%	YES	25	0	24	0	4.0%	0.0%	YES
			UNKNOWN	W9/F01	9	8.5	0.5	5.6%	YES												
F02	R1	RESIDENTIAL	UNKNOWN	W1/F02	10.7	10.5	0.2	1.9%	YES	60.8	60.4	0.1	0.6%	YES	32	1	29	1	9.4%	0.0%	YES
			UNKNOWN	W10/F02	11.3	10.6	0.7	6.2%	YES												
			UNKNOWN	W11/F02	11.1	10.3	0.8	7.2%	YES												
	R2	RESIDENTIAL	UNKNOWN	W2/F02	16.6	16.5	0.1	0.6%	YES	71.9	70	0.6	2.6%	YES	41	3	39	3	4.9%	0.0%	YES
			UNKNOWN	W3/F02	12.1	11.2	0.9	7.4%	YES												
			UNKNOWN	W4/F02	12.4	11.4	1	8.1%	YES												
			UNKNOWN	W5/F02	12.5	11.6	0.9	7.2%	YES												
			UNKNOWN	W6/F02	12.6	11.7	0.9	7.1%	YES												
			UNKNOWN	W7/F02	12.7	11.8	0.9	7.1%	YES												
	R3	RESIDENTIAL	UNKNOWN	W8/F02	11.4	10.7	0.7	6.1%	YES	57.3	56.3	0.3	1.8%	YES	33	1	32	1	3.0%	0.0%	YES
			UNKNOWN	W9/F02	11.5	10.7	0.8	7.0%	YES												
F03	R1	RESIDENTIAL	UNKNOWN	W1/F03	15.6	15.3	0.3	1.9%	YES	98.1	94.4	1.4	3.8%	YES	43	6	40	5	7.0%	16.7%	YES
			UNKNOWN	W8/F03	14.5	13.4	1.1	7.6%	YES												
			UNKNOWN	W9/F03	14.5	13.4	1.1	7.6%	YES												
	R2	RESIDENTIAL	UNKNOWN	W2/F03	14	13	1	7.1%	YES	55	54.8	0.0	0.3%	YES	44	5	42	4	4.5%	20.0%	YES
			UNKNOWN	W3/F03	14.2	13.2	1	7.0%	YES												
			UNKNOWN	W4/F03	14.4	13.3	1.1	7.6%	YES												
			UNKNOWN	W5/F03	14.5	13.4	1.1	7.6%	YES												
			UNKNOWN	W1/F04	22.5	22.4	0.1	0.4%	YES												
	R3	RESIDENTIAL	UNKNOWN	W6/F03	14.4	13.3	1.1	7.6%	YES	91.6	88.7	0.8	3.1%	YES	40	4	39	4	2.5%	0.0%	YES
			UNKNOWN	W7/F03	14.3	13.3	1	7.0%	YES												
WAREHOUSE ONE (CONTINUED)																					
F04	R1	RESIDENTIAL	UNKNOWN	W2/F04	16.7	15.4	1.3	7.8%	YES	57.5	47.5	3.9	17.4%	YES	49	8	45	7	8.2%	12.5%	YES
			UNKNOWN	W3/F04	17	15.6	1.4	8.2%	YES												
	R2	RESIDENTIAL	UNKNOWN	W4/F04	17.5	16	1.5	8.6%	YES	54.2	41.7	3.3	22.9%	NO	48	8	43	6	10.4%	25.0%	YES

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

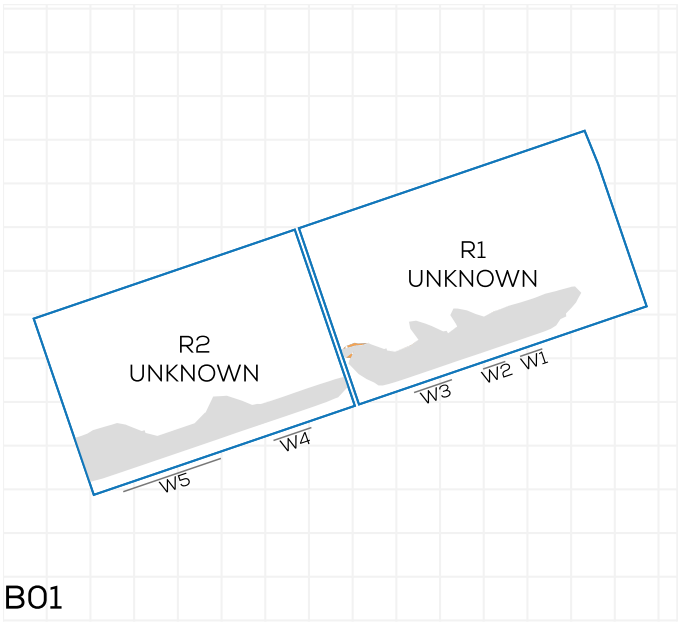
(3) SINGLE ASPECT ROOM DEEPER THAN 5m

NSL CONTOURS

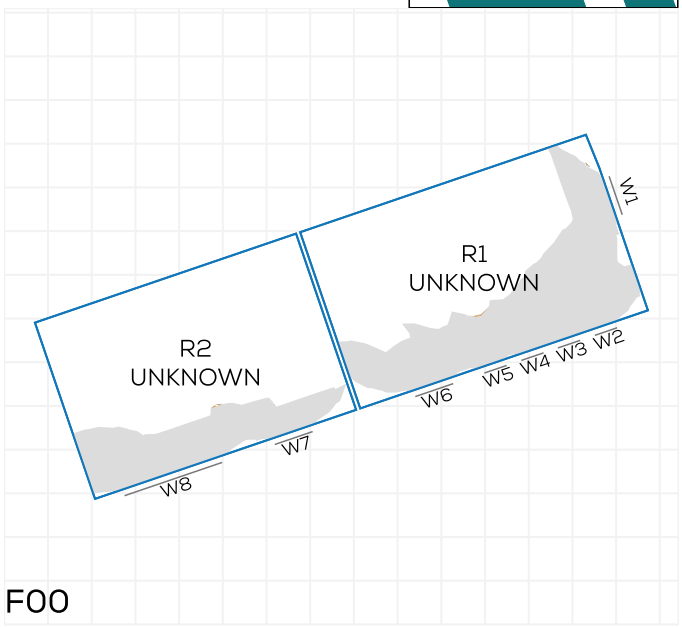
PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: WAREHOUSE ONE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL1

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





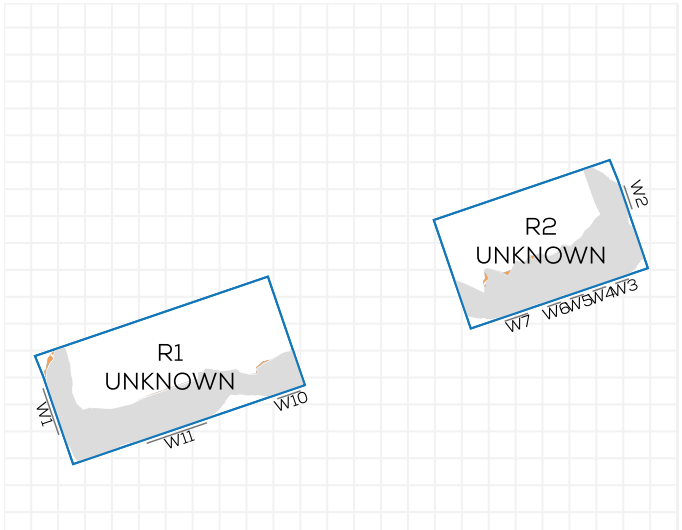
B01



F00



F00



F01

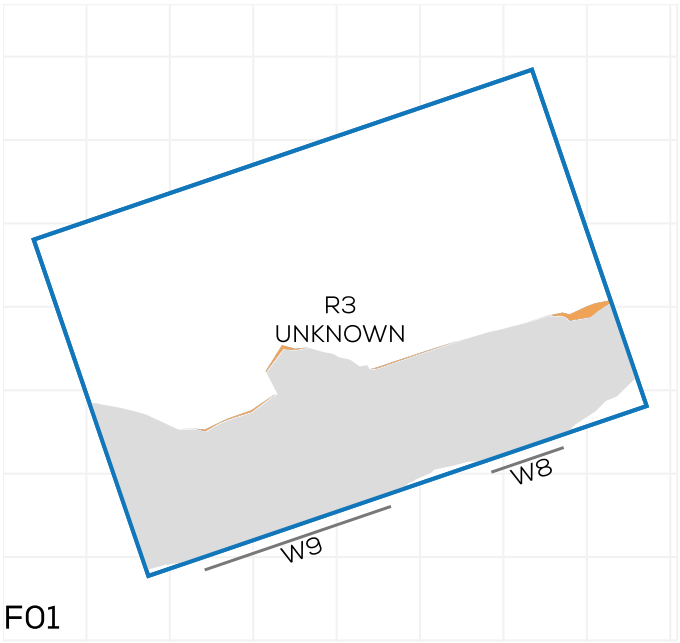
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
WAREHOUSE ONE								
B01	R1	RESIDENTIAL	UNKNOWN	29.6	15	14.8	0.0	0.8
B01	R2	RESIDENTIAL	UNKNOWN	26.9	15.7	15.7	0.0	0
F00	R1	RESIDENTIAL	UNKNOWN	29.6	40.6	40.5	0.0	0.1
F00	R2	RESIDENTIAL	UNKNOWN	26.9	22	22	0.0	0.1
F00	R3	RESIDENTIAL	UNKNOWN	38.8	16.4	16.3	0.0	0.6
F01	R1	RESIDENTIAL	UNKNOWN	38.8	38.3	38	0.1	0.8
F01	R2	RESIDENTIAL	UNKNOWN	29.6	47.6	47.3	0.1	0.7

NSL CONTOURS

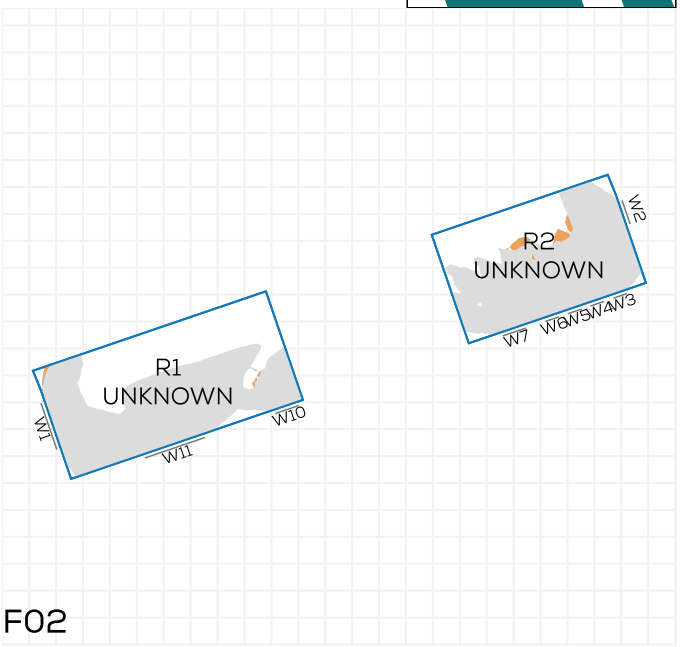
PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: WAREHOUSE ONE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL2

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

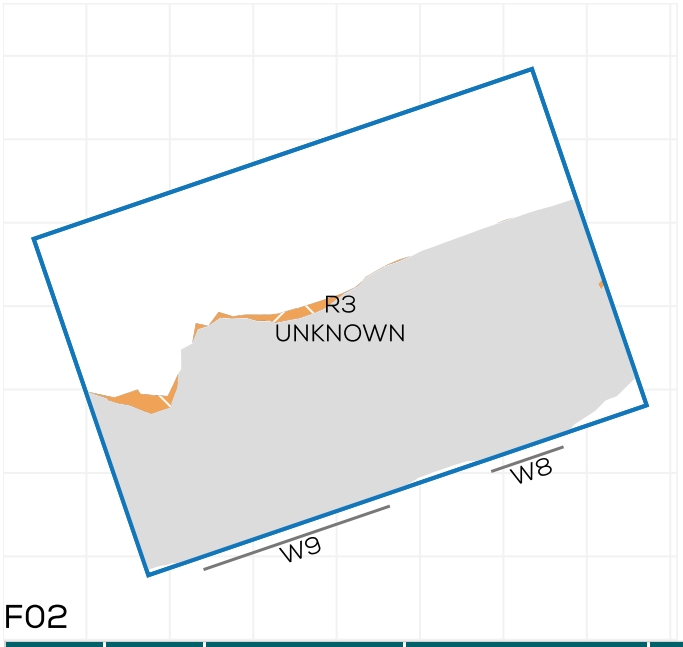




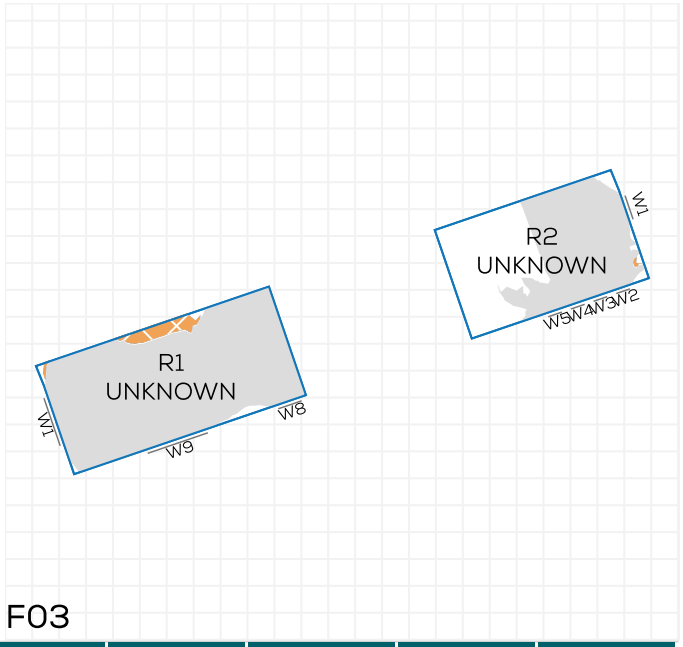
F01



F02



F02



F03

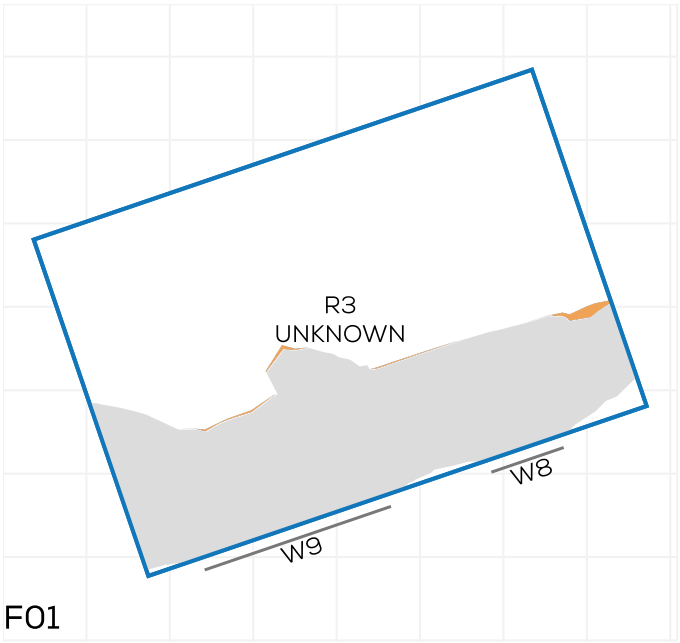
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
WAREHOUSE ONE								
F01	R3	RESIDENTIAL	UNKNOWN	26.9	36.3	35.9	0.1	1
F02	R1	RESIDENTIAL	UNKNOWN	38.8	60.8	60.4	0.1	0.6
F02	R2	RESIDENTIAL	UNKNOWN	29.6	71.9	70	0.6	2.6
F02	R3	RESIDENTIAL	UNKNOWN	26.9	57.3	56.3	0.3	1.8
F03	R1	RESIDENTIAL	UNKNOWN	38.8	98.1	94.4	1.4	3.8
F03	R2	RESIDENTIAL	UNKNOWN	29.6	55	54.8	0.0	0.3

NSL CONTOURS

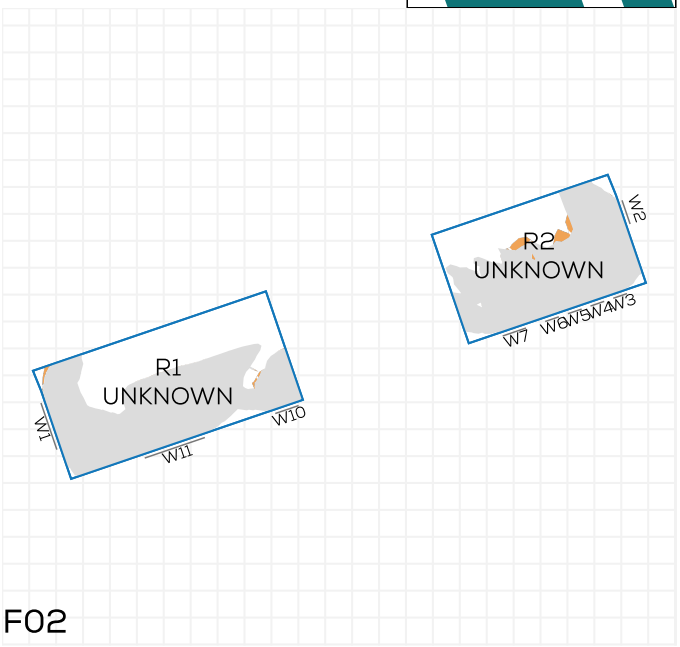
PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: WAREHOUSE ONE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL2

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

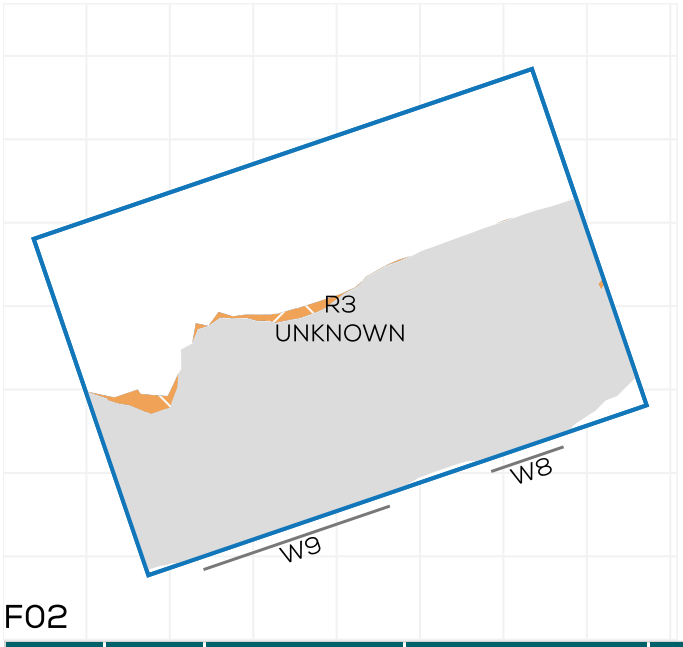




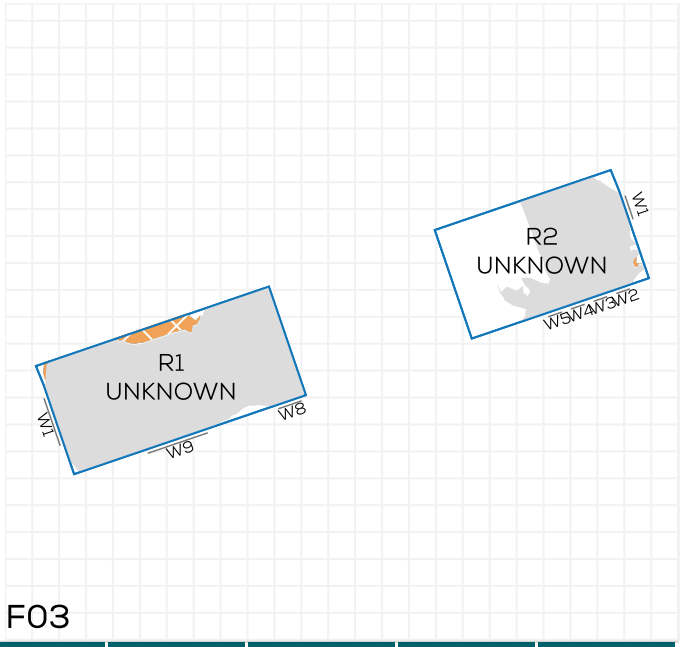
F01



F02



F02



F03

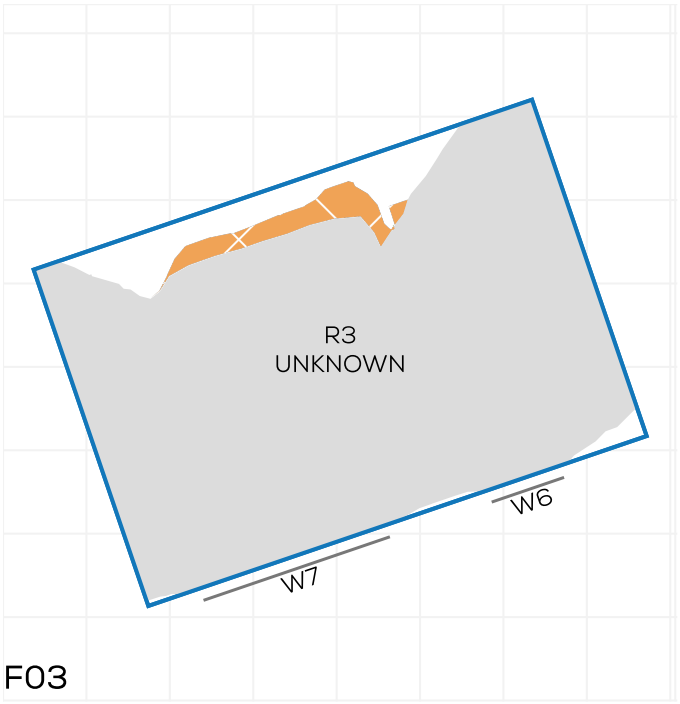
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
WAREHOUSE ONE								
F01	R3	RESIDENTIAL	UNKNOWN	26.9	36.3	35.9	0.1	1
F02	R1	RESIDENTIAL	UNKNOWN	38.8	60.8	60.4	0.1	0.6
F02	R2	RESIDENTIAL	UNKNOWN	29.6	71.9	70	0.6	2.6
F02	R3	RESIDENTIAL	UNKNOWN	26.9	57.3	56.3	0.3	1.8
F03	R1	RESIDENTIAL	UNKNOWN	38.8	98.1	94.4	1.4	3.8
F03	R2	RESIDENTIAL	UNKNOWN	29.6	55	54.8	0.0	0.3

NSL CONTOURS

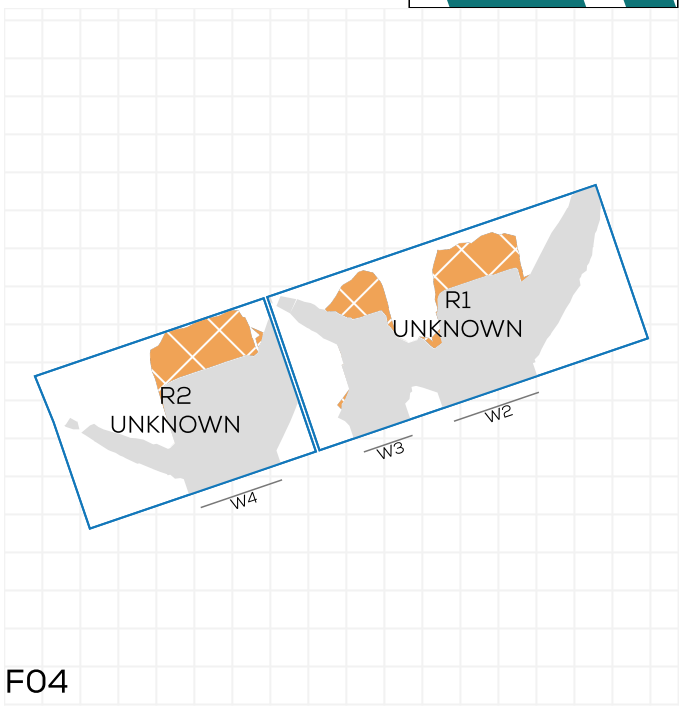
PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: WAREHOUSE ONE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL3

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F03



F04

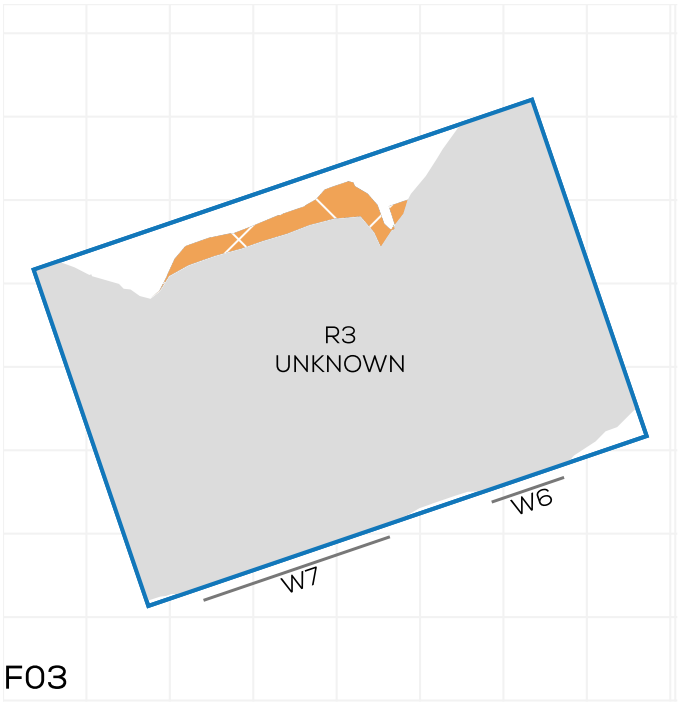
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
WAREHOUSE ONE								
F03	R3	RESIDENTIAL	UNKNOWN	26.9	91.6	88.7	0.8	3.1
F04	R1	RESIDENTIAL	UNKNOWN	38.9	57.5	47.5	3.9	17.4
F04	R2	RESIDENTIAL	UNKNOWN	26.8	54.2	41.7	3.3	22.9

NSL CONTOURS

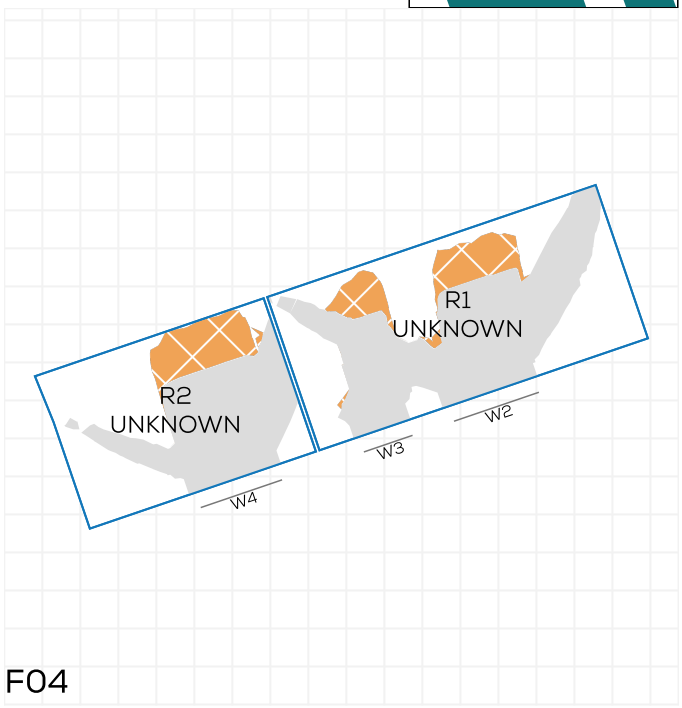
PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: WAREHOUSE ONE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL3

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F03



F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
WAREHOUSE ONE								
F03	R3	RESIDENTIAL	UNKNOWN	26.9	91.6	88.7	0.8	3.1
F04	R1	RESIDENTIAL	UNKNOWN	38.9	57.5	47.5	3.9	17.4
F04	R2	RESIDENTIAL	UNKNOWN	26.8	54.2	41.7	3.3	22.9

NSL CONTOURS

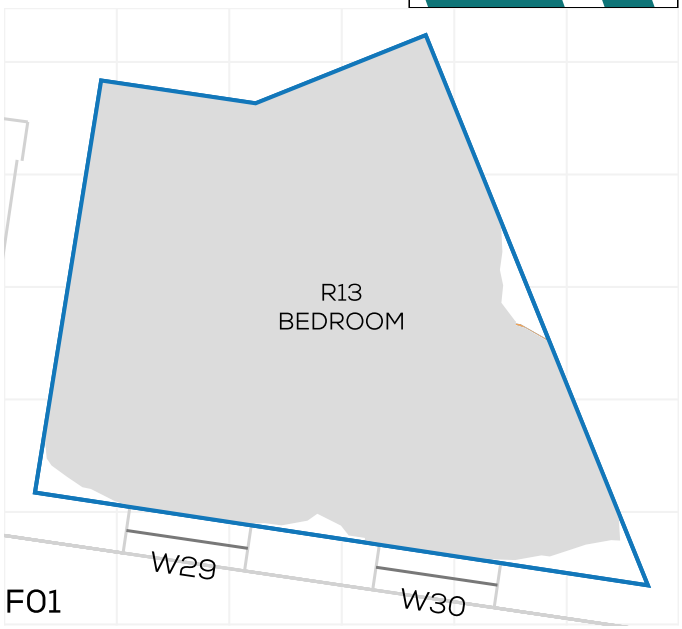
PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LONDON ROAD FIRE STATION
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL4

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

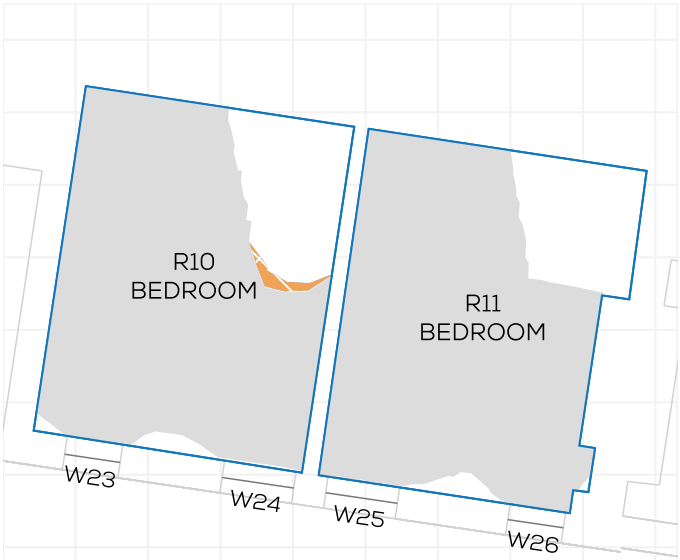




F01



F01



F02



F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LONDON ROAD FIRE STATION								
F01	R11	HOTEL	BEDROOM	23.3	86.7	86.7	0.0	0
F01	R12	HOTEL	BEDROOM	18.2	88.2	87.9	0.1	0.3
F01	R13	HOTEL	BEDROOM	17.1	96.1	96.1	0.0	0
F02	R10	HOTEL	BEDROOM	18.0	81.3	80.5	0.1	1
F02	R11	HOTEL	BEDROOM	17.7	82.2	82.2	0.0	0
F02	R12	HOTEL	BEDROOM	21.0	86.2	86.2	0.0	0
F02	R13	HOTEL	BEDROOM	13.9	96.8	96.8	0.0	0

NSL CONTOURS

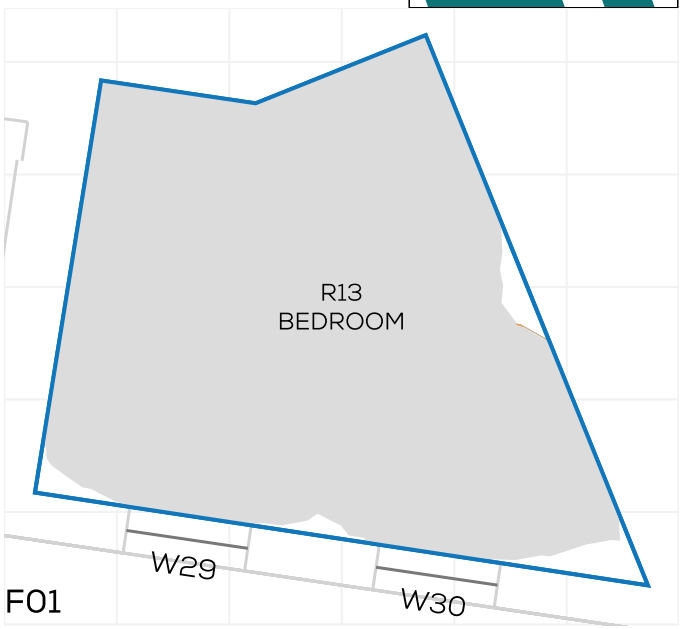
PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LONDON ROAD FIRE STATION
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL4

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

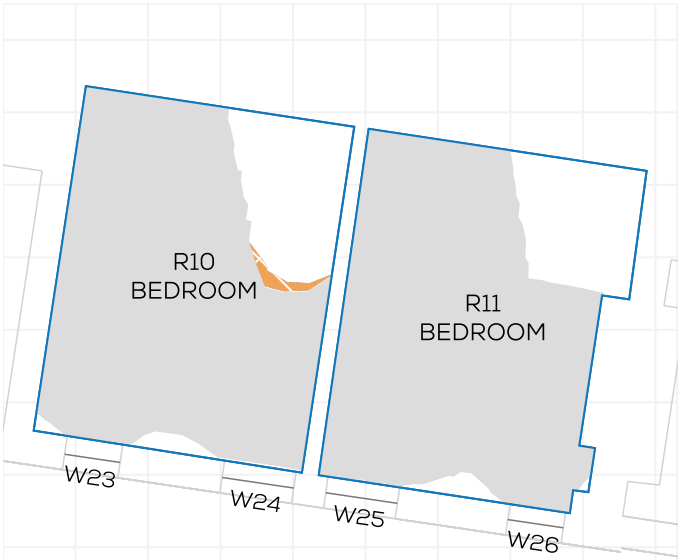




F01



F01



F02



F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LONDON ROAD FIRE STATION								
F01	R11	HOTEL	BEDROOM	23.3	86.7	86.7	0.0	0
F01	R12	HOTEL	BEDROOM	18.2	88.2	87.9	0.1	0.3
F01	R13	HOTEL	BEDROOM	17.1	96.1	96.1	0.0	0
F02	R10	HOTEL	BEDROOM	18.0	81.3	80.5	0.1	1
F02	R11	HOTEL	BEDROOM	17.7	82.2	82.2	0.0	0
F02	R12	HOTEL	BEDROOM	21.0	86.2	86.2	0.0	0
F02	R13	HOTEL	BEDROOM	13.9	96.8	96.8	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LONDON ROAD FIRE STATION
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL5

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LONDON ROAD FIRE STATION								
F03	R10	HOTEL	BEDROOM	18.0	83.7	83.5	0.0	0.2
F03	R11	HOTEL	BEDROOM	17.7	92.2	90	0.4	2.4
F03	R12	HOTEL	BEDROOM	21.0	69.5	67.6	0.4	2.8
F03	R13	HOTEL	BEDROOM	13.9	68.7	66.9	0.2	2.6

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LONDON ROAD FIRE STATION
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL5

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





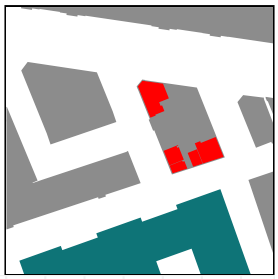
F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LONDON ROAD FIRE STATION								
F03	R10	HOTEL	BEDROOM	18.0	83.7	83.5	0.0	0.2
F03	R11	HOTEL	BEDROOM	17.7	92.2	90	0.4	2.4
F03	R12	HOTEL	BEDROOM	21.0	69.5	67.6	0.4	2.8
F03	R13	HOTEL	BEDROOM	13.9	68.7	66.9	0.2	2.6

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL6

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





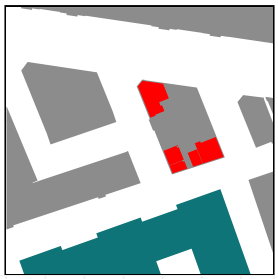
F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F00	R1	RESIDENTIAL	UNKNOWN	76.2	63.2	63.1	0.1	0.2
F00	R2	RESIDENTIAL	UNKNOWN	26.5	22.7	21.7	0.3	4.6
F00	R3	RESIDENTIAL	UNKNOWN	14.7	71.1	70.6	0.1	0.8
F00	R4	RESIDENTIAL	UNKNOWN	16.7	58.5	56.8	0.3	2.9
F00	R5	RESIDENTIAL	UNKNOWN	50.9	80	80	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL6

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





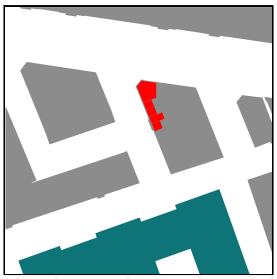
F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F00	R1	RESIDENTIAL	UNKNOWN	76.2	63.2	63.1	0.1	0.2
F00	R2	RESIDENTIAL	UNKNOWN	26.5	22.7	21.7	0.3	4.6
F00	R3	RESIDENTIAL	UNKNOWN	14.7	71.1	70.6	0.1	0.8
F00	R4	RESIDENTIAL	UNKNOWN	16.7	58.5	56.8	0.3	2.9
F00	R5	RESIDENTIAL	UNKNOWN	50.9	80	80	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL7

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





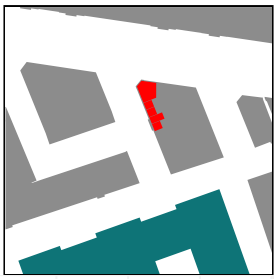
F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F01	R1	RESIDENTIAL	UNKNOWN	34.4	62.8	62.8	0.0	0
F01	R2	RESIDENTIAL	BEDROOM	6.8	42.5	42.1	0.0	0.8
F01	R3	RESIDENTIAL	BEDROOM	7.3	41.9	41.9	0.0	0
F01	R4	RESIDENTIAL	BEDROOM	10.2	29	29	0.0	0
F01	R5	RESIDENTIAL	BEDROOM	7.3	40	40	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL7

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





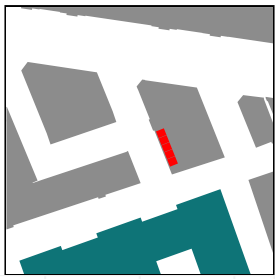
F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F01	R1	RESIDENTIAL	UNKNOWN	34.4	62.8	62.8	0.0	0
F01	R2	RESIDENTIAL	BEDROOM	6.8	42.5	42.1	0.0	0.8
F01	R3	RESIDENTIAL	BEDROOM	7.3	41.9	41.9	0.0	0
F01	R4	RESIDENTIAL	BEDROOM	10.2	29	29	0.0	0
F01	R5	RESIDENTIAL	BEDROOM	7.3	40	40	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL8

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





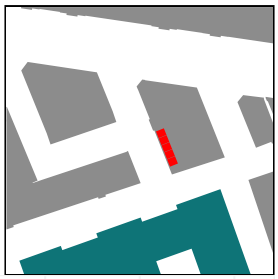
F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F01	R6	RESIDENTIAL	BEDROOM	6.8	42.1	42.1	0.0	0
F01	R7	RESIDENTIAL	BEDROOM	6.8	41	41	0.0	0
F01	R8	RESIDENTIAL	BEDROOM	6.9	35.9	35.9	0.0	0
F01	R9	RESIDENTIAL	BEDROOM	6.9	26.3	24.6	0.1	6.5
F01	R10	RESIDENTIAL	BEDROOM	7.4	23.7	21.3	0.2	10

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL8

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F01

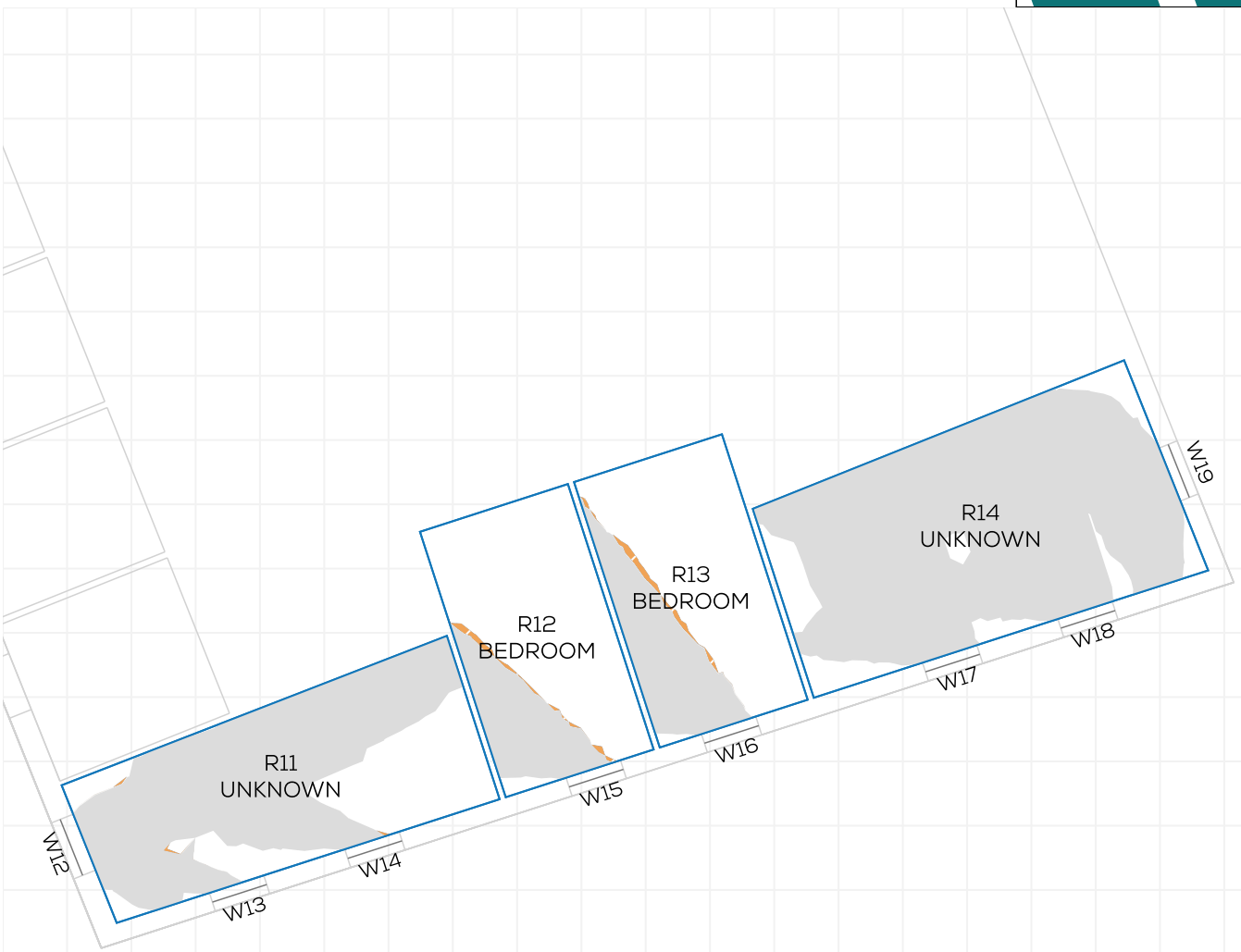
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F01	R6	RESIDENTIAL	BEDROOM	6.8	42.1	42.1	0.0	0
F01	R7	RESIDENTIAL	BEDROOM	6.8	41	41	0.0	0
F01	R8	RESIDENTIAL	BEDROOM	6.9	35.9	35.9	0.0	0
F01	R9	RESIDENTIAL	BEDROOM	6.9	26.3	24.6	0.1	6.5
F01	R10	RESIDENTIAL	BEDROOM	7.4	23.7	21.3	0.2	10

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL9

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F01

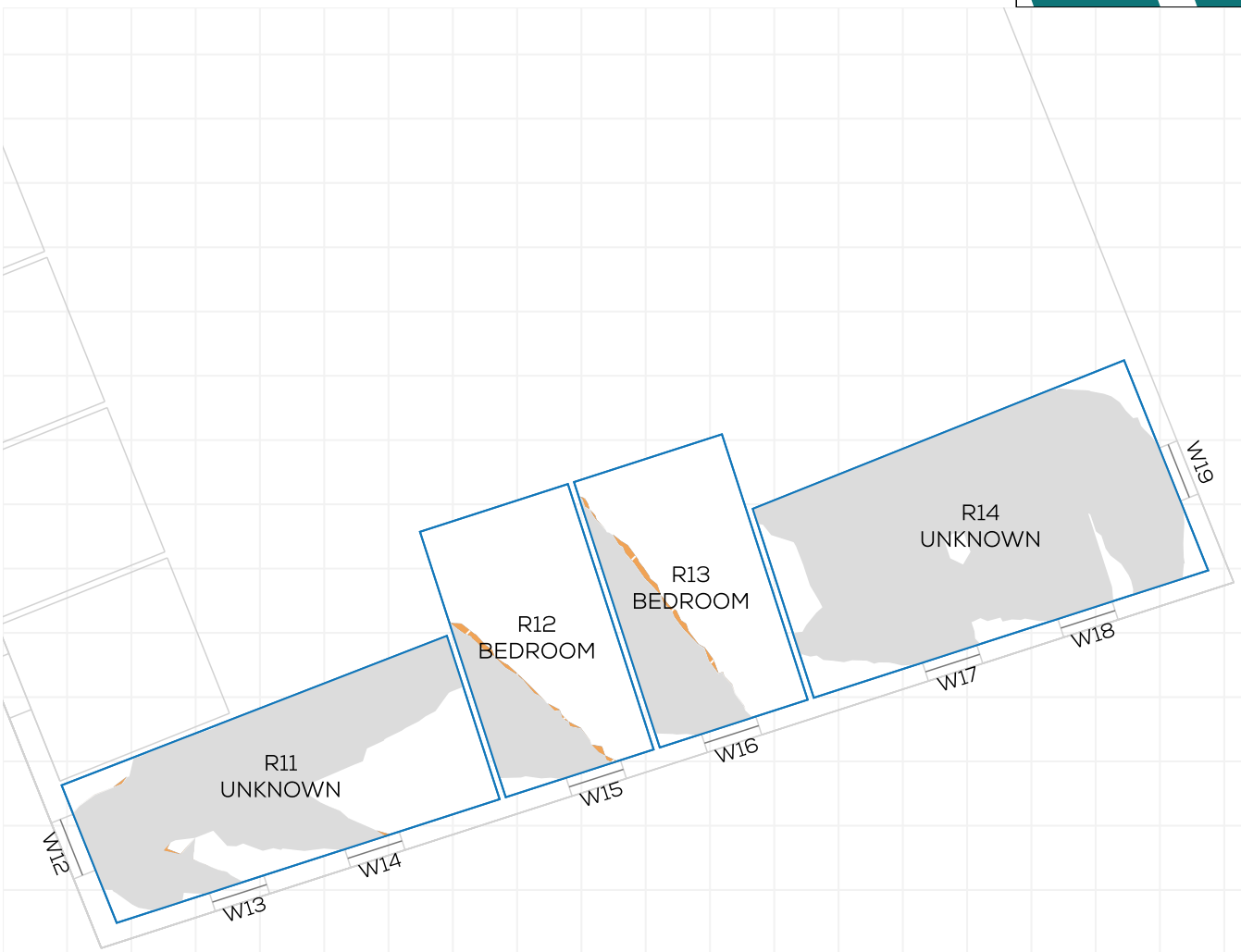
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F01	R11	RESIDENTIAL	UNKNOWN	15.8	68.6	68.5	0.0	0.2
F01	R12	RESIDENTIAL	BEDROOM	10.5	24.4	23.3	0.1	4.6
F01	R13	RESIDENTIAL	BEDROOM	10.5	31.1	29.7	0.1	4.6
F01	R14	RESIDENTIAL	UNKNOWN	20.9	87.6	87.6	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL9

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





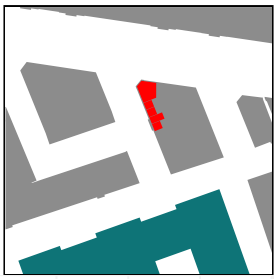
F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F01	R11	RESIDENTIAL	UNKNOWN	15.8	68.6	68.5	0.0	0.2
F01	R12	RESIDENTIAL	BEDROOM	10.5	24.4	23.3	0.1	4.6
F01	R13	RESIDENTIAL	BEDROOM	10.5	31.1	29.7	0.1	4.6
F01	R14	RESIDENTIAL	UNKNOWN	20.9	87.6	87.6	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL10

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





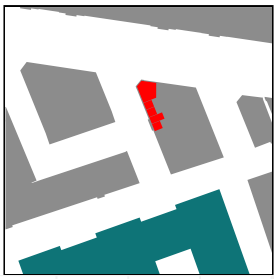
F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F02	R1	RESIDENTIAL	UNKNOWN	34.4	71.4	71.4	0.0	0
F02	R2	RESIDENTIAL	BEDROOM	6.8	57.5	57	0.0	0.9
F02	R3	RESIDENTIAL	BEDROOM	7.3	57.3	57.1	0.0	0.4
F02	R4	RESIDENTIAL	BEDROOM	10.2	40.9	40.9	0.0	0
F02	R5	RESIDENTIAL	BEDROOM	7.3	55.7	55.7	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL10

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





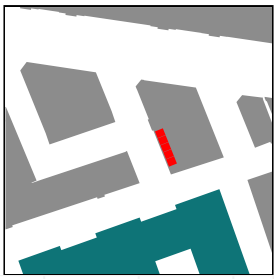
F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F02	R1	RESIDENTIAL	UNKNOWN	34.4	71.4	71.4	0.0	0
F02	R2	RESIDENTIAL	BEDROOM	6.8	57.5	57	0.0	0.9
F02	R3	RESIDENTIAL	BEDROOM	7.3	57.3	57.1	0.0	0.4
F02	R4	RESIDENTIAL	BEDROOM	10.2	40.9	40.9	0.0	0
F02	R5	RESIDENTIAL	BEDROOM	7.3	55.7	55.7	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL11

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





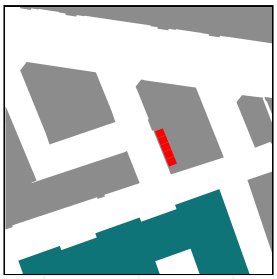
F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F02	R6	RESIDENTIAL	BEDROOM	6.8	60.3	60.3	0.0	0
F02	R7	RESIDENTIAL	BEDROOM	6.8	51.2	51.2	0.0	0
F02	R8	RESIDENTIAL	BEDROOM	6.9	47.4	47.4	0.0	0.1
F02	R9	RESIDENTIAL	BEDROOM	6.9	32.1	30.4	0.1	5.2
F02	R10	RESIDENTIAL	BEDROOM	7.4	33	29.9	0.2	9.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL11

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F02

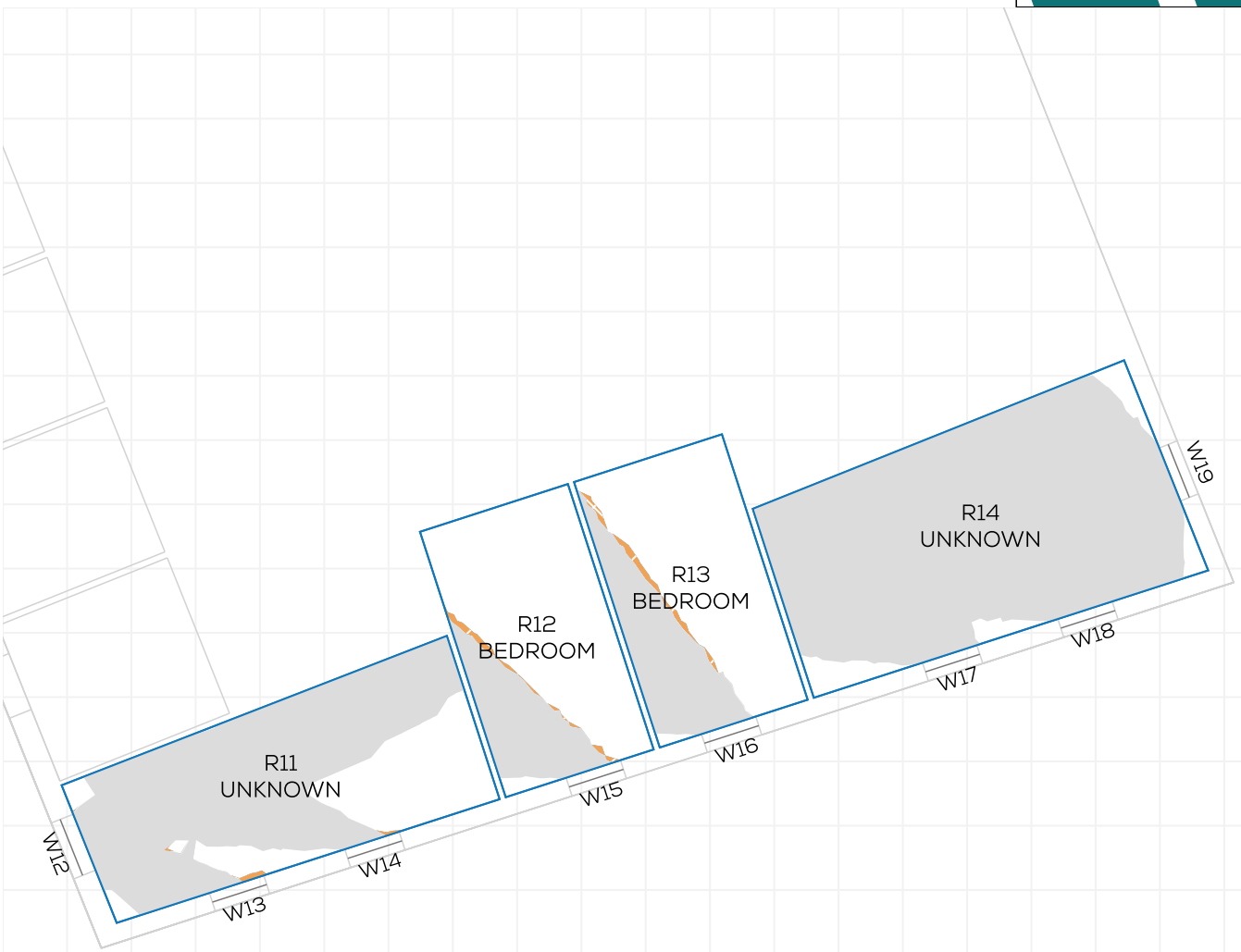
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F02	R6	RESIDENTIAL	BEDROOM	6.8	60.3	60.3	0.0	0
F02	R7	RESIDENTIAL	BEDROOM	6.8	51.2	51.2	0.0	0
F02	R8	RESIDENTIAL	BEDROOM	6.9	47.4	47.4	0.0	0.1
F02	R9	RESIDENTIAL	BEDROOM	6.9	32.1	30.4	0.1	5.2
F02	R10	RESIDENTIAL	BEDROOM	7.4	33	29.9	0.2	9.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL12

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F02

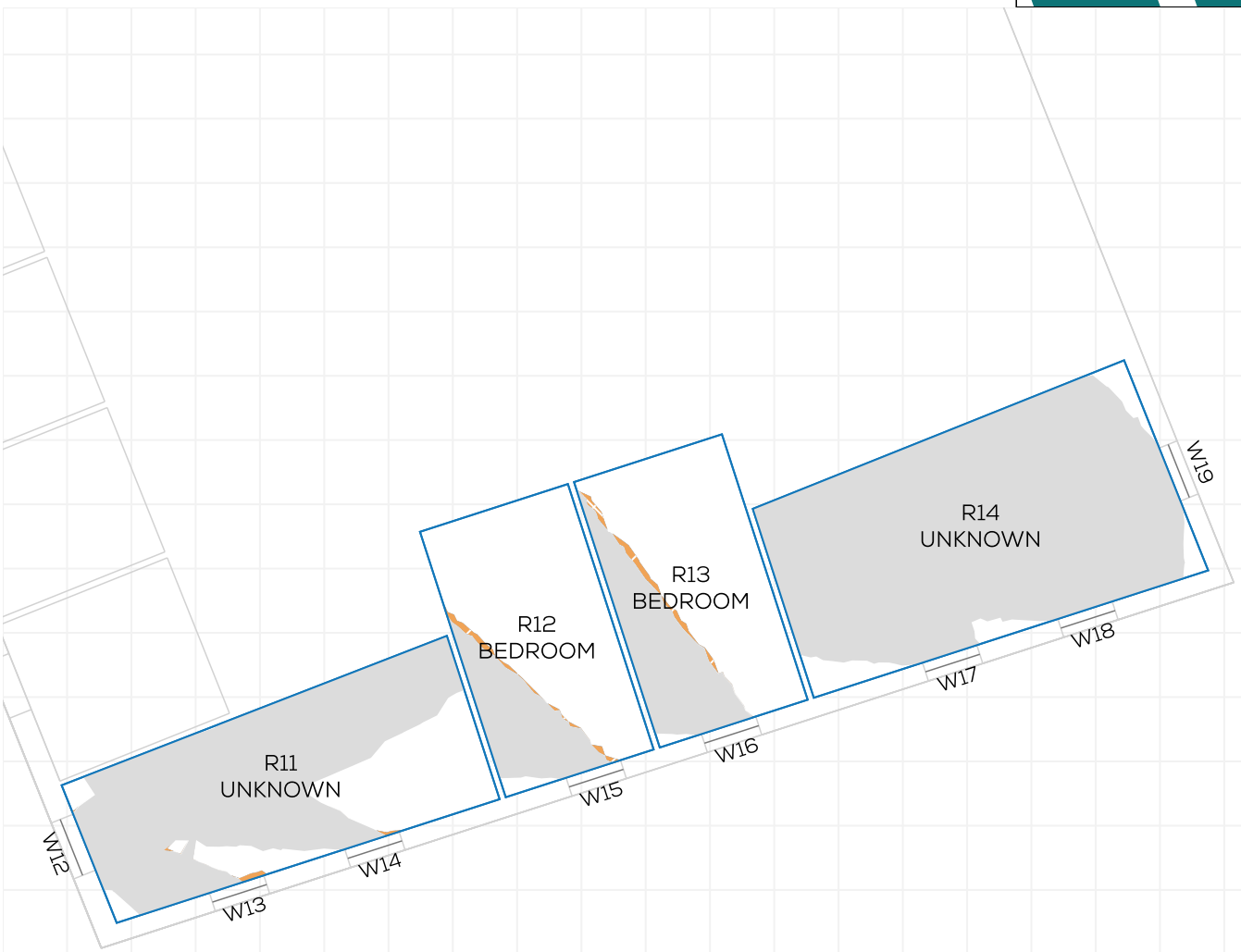
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F02	R11	RESIDENTIAL	UNKNOWN	15.8	72	71.7	0.0	0.4
F02	R12	RESIDENTIAL	BEDROOM	10.5	24.8	23.5	0.1	5.2
F02	R13	RESIDENTIAL	BEDROOM	10.5	31.9	30.2	0.2	5.5
F02	R14	RESIDENTIAL	UNKNOWN	20.9	93.6	93.6	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL12

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





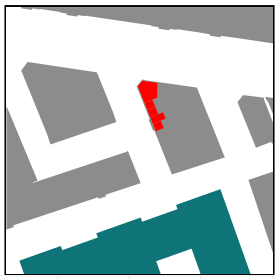
F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F02	R11	RESIDENTIAL	UNKNOWN	15.8	72	71.7	0.0	0.4
F02	R12	RESIDENTIAL	BEDROOM	10.5	24.8	23.5	0.1	5.2
F02	R13	RESIDENTIAL	BEDROOM	10.5	31.9	30.2	0.2	5.5
F02	R14	RESIDENTIAL	UNKNOWN	20.9	93.6	93.6	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL13

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





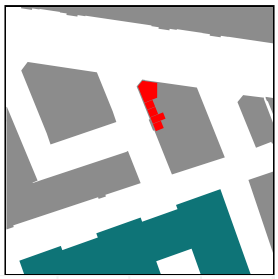
F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F03	R1	RESIDENTIAL	UNKNOWN	34.4	82.8	82.7	0.0	0
F03	R2	RESIDENTIAL	BEDROOM	6.8	70.5	68.7	0.1	2.4
F03	R3	RESIDENTIAL	BEDROOM	7.3	72.6	71.7	0.1	1.2
F03	R4	RESIDENTIAL	BEDROOM	10.2	54.5	54.4	0.0	0.1
F03	R5	RESIDENTIAL	BEDROOM	7.3	69.8	69.8	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL13

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





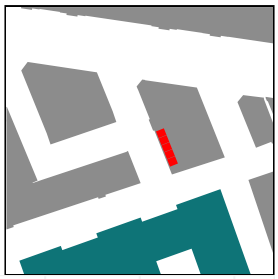
F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F03	R1	RESIDENTIAL	UNKNOWN	34.4	82.8	82.7	0.0	0
F03	R2	RESIDENTIAL	BEDROOM	6.8	70.5	68.7	0.1	2.4
F03	R3	RESIDENTIAL	BEDROOM	7.3	72.6	71.7	0.1	1.2
F03	R4	RESIDENTIAL	BEDROOM	10.2	54.5	54.4	0.0	0.1
F03	R5	RESIDENTIAL	BEDROOM	7.3	69.8	69.8	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL14

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





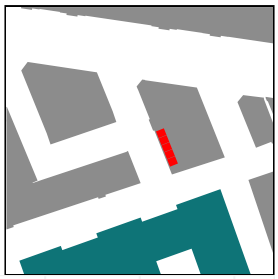
F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F03	R6	RESIDENTIAL	BEDROOM	6.8	77.5	77.5	0.0	0
F03	R7	RESIDENTIAL	BEDROOM	6.8	60.9	60.9	0.0	0
F03	R8	RESIDENTIAL	BEDROOM	6.9	55.3	55.3	0.0	0
F03	R9	RESIDENTIAL	BEDROOM	6.9	34.2	33.5	0.0	2.1
F03	R10	RESIDENTIAL	BEDROOM	7.4	38.1	34.7	0.3	9.1

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL14

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F03

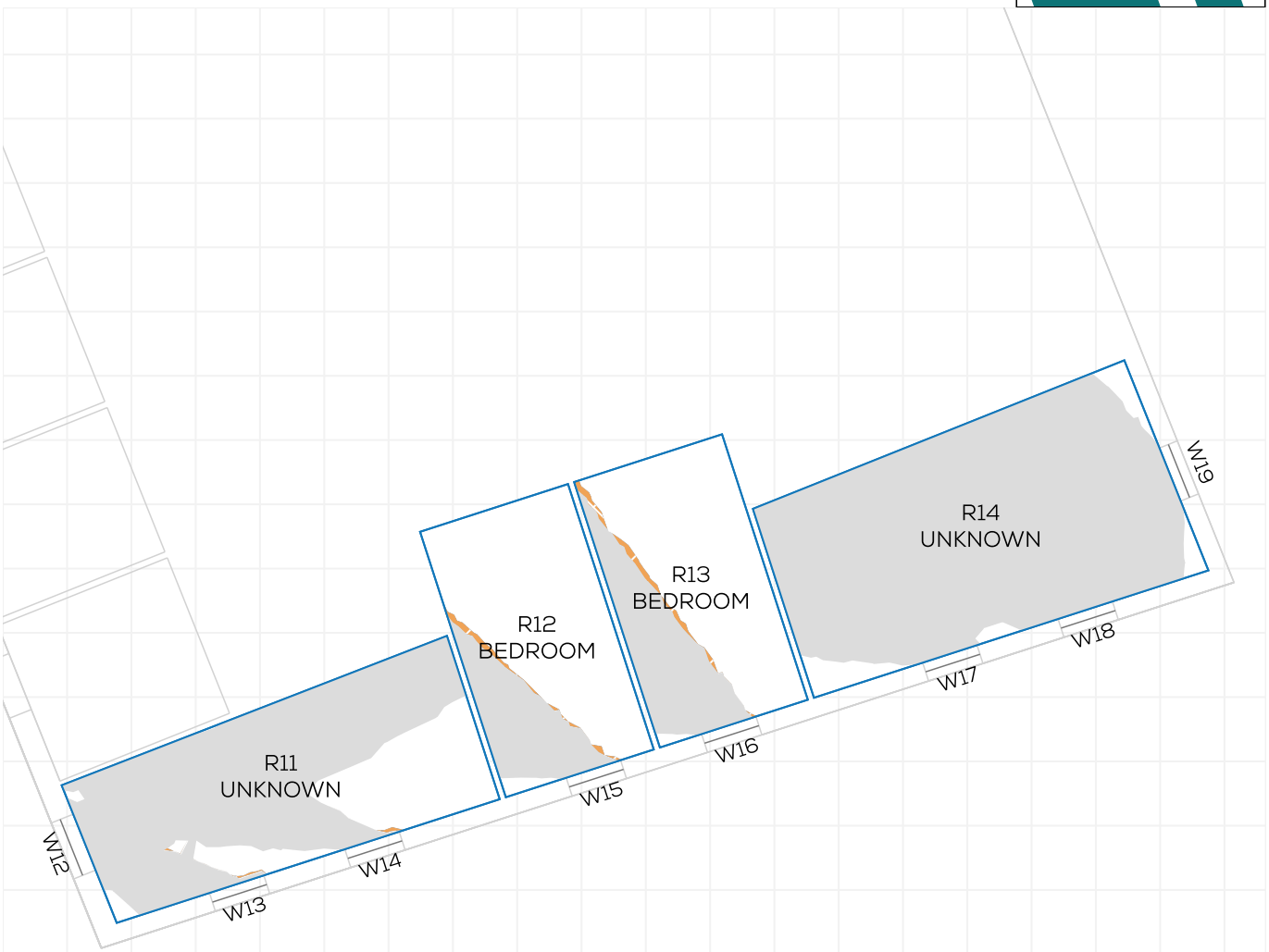
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F03	R6	RESIDENTIAL	BEDROOM	6.8	77.5	77.5	0.0	0
F03	R7	RESIDENTIAL	BEDROOM	6.8	60.9	60.9	0.0	0
F03	R8	RESIDENTIAL	BEDROOM	6.9	55.3	55.3	0.0	0
F03	R9	RESIDENTIAL	BEDROOM	6.9	34.2	33.5	0.0	2.1
F03	R10	RESIDENTIAL	BEDROOM	7.4	38.1	34.7	0.3	9.1

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL15

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F03

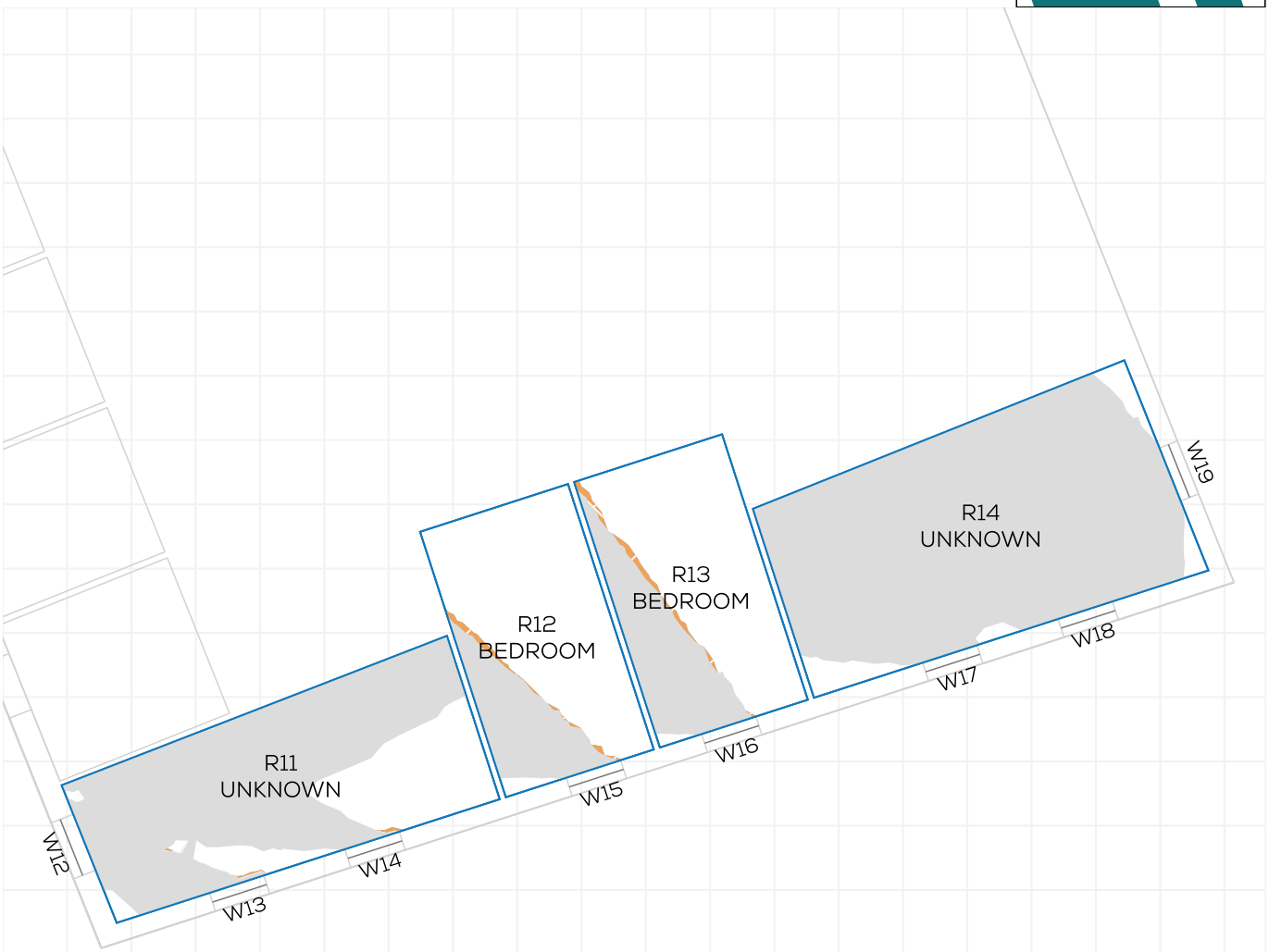
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F03	R11	RESIDENTIAL	UNKNOWN	15.8	73.3	73.1	0.0	0.2
F03	R12	RESIDENTIAL	BEDROOM	10.5	24.9	23.6	0.1	5.3
F03	R13	RESIDENTIAL	BEDROOM	10.5	32.3	30.3	0.2	6.1
F03	R14	RESIDENTIAL	UNKNOWN	20.9	94.2	94.2	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL15

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





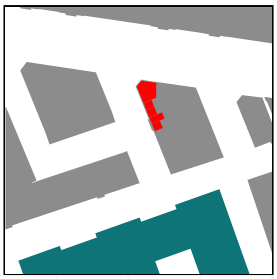
F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F03	R11	RESIDENTIAL	UNKNOWN	15.8	73.3	73.1	0.0	0.2
F03	R12	RESIDENTIAL	BEDROOM	10.5	24.9	23.6	0.1	5.3
F03	R13	RESIDENTIAL	BEDROOM	10.5	32.3	30.3	0.2	6.1
F03	R14	RESIDENTIAL	UNKNOWN	20.9	94.2	94.2	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL16

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





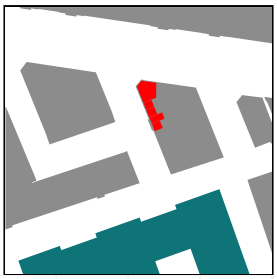
F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F04	R1	RESIDENTIAL	UNKNOWN	34.4	88.6	88.6	0.0	0
F04	R2	RESIDENTIAL	BEDROOM	6.8	79.1	77.8	0.1	1.6
F04	R3	RESIDENTIAL	BEDROOM	7.3	83.3	82.1	0.1	1.4
F04	R4	RESIDENTIAL	BEDROOM	10.2	67.1	66.6	0.0	0.7
F04	R5	RESIDENTIAL	BEDROOM	7.3	75	74.8	0.0	0.3

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL16

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





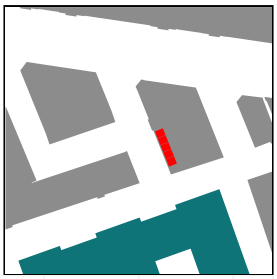
F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F04	R1	RESIDENTIAL	UNKNOWN	34.4	88.6	88.6	0.0	0
F04	R2	RESIDENTIAL	BEDROOM	6.8	79.1	77.8	0.1	1.6
F04	R3	RESIDENTIAL	BEDROOM	7.3	83.3	82.1	0.1	1.4
F04	R4	RESIDENTIAL	BEDROOM	10.2	67.1	66.6	0.0	0.7
F04	R5	RESIDENTIAL	BEDROOM	7.3	75	74.8	0.0	0.3

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





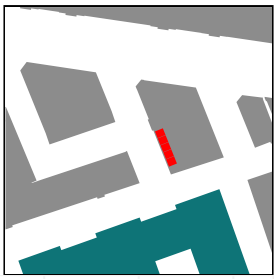
F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F04	R6	RESIDENTIAL	BEDROOM	6.8	82	82	0.0	0
F04	R7	RESIDENTIAL	BEDROOM	6.8	63.4	63.3	0.0	0.2
F04	R8	RESIDENTIAL	BEDROOM	6.9	59.3	58.5	0.1	1.3
F04	R9	RESIDENTIAL	BEDROOM	6.9	38.8	36.4	0.2	6.2
F04	R10	RESIDENTIAL	BEDROOM	7.4	40	38.1	0.1	4.8

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL17

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F04

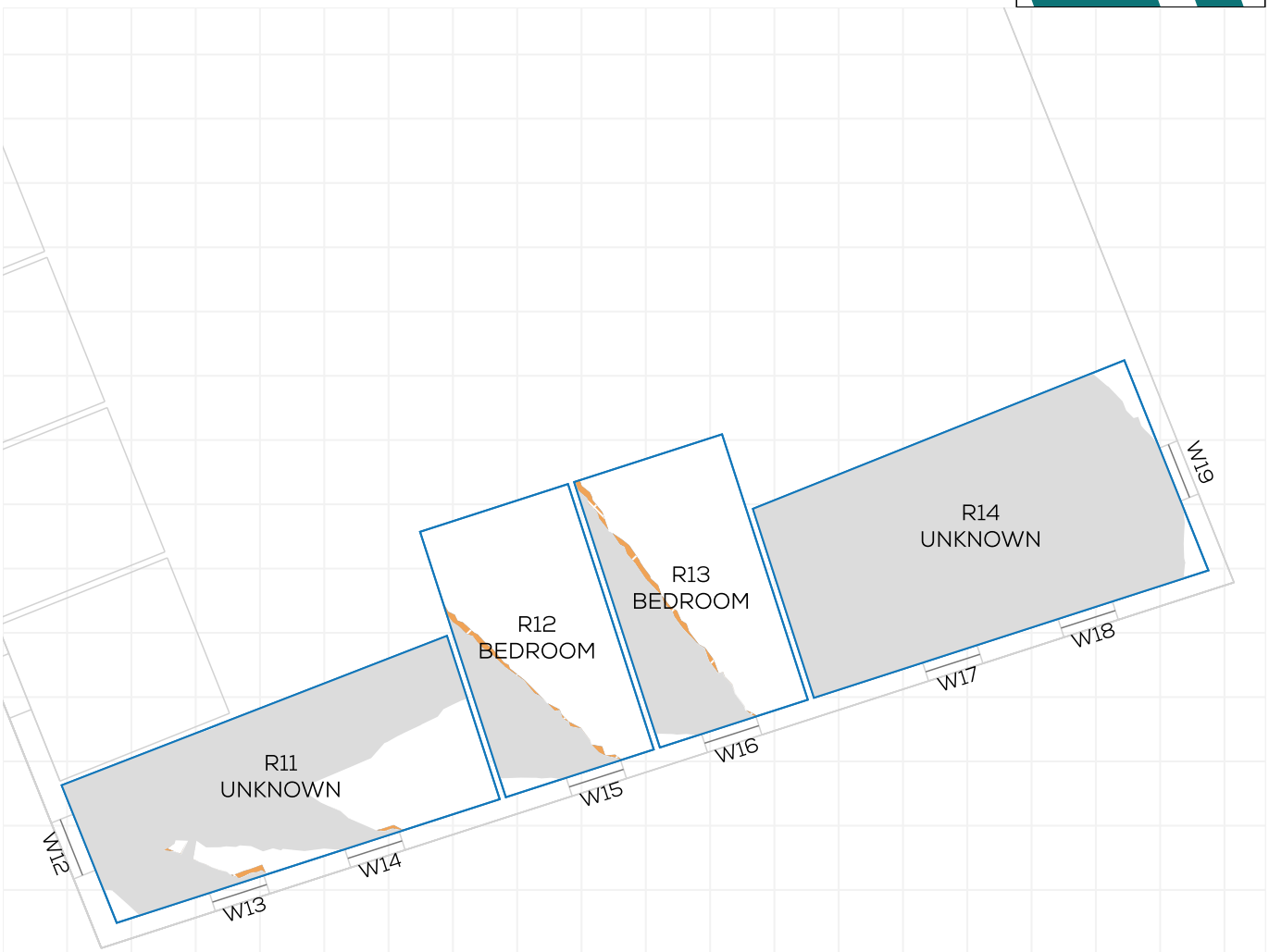
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F04	R6	RESIDENTIAL	BEDROOM	6.8	82	82	0.0	0
F04	R7	RESIDENTIAL	BEDROOM	6.8	63.4	63.3	0.0	0.2
F04	R8	RESIDENTIAL	BEDROOM	6.9	59.3	58.5	0.1	1.3
F04	R9	RESIDENTIAL	BEDROOM	6.9	38.8	36.4	0.2	6.2
F04	R10	RESIDENTIAL	BEDROOM	7.4	40	38.1	0.1	4.8

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL18

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F04

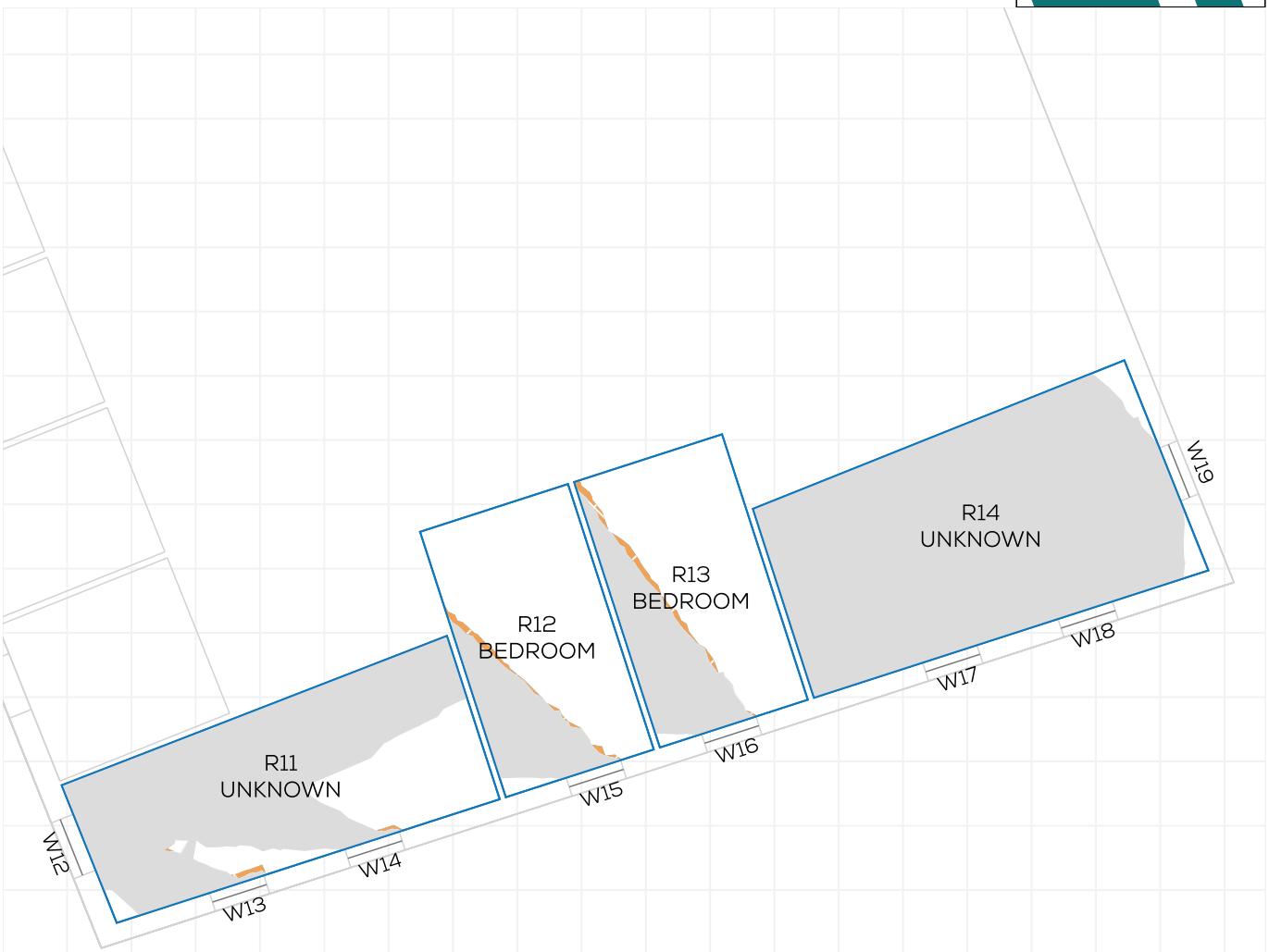
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F04	R11	RESIDENTIAL	UNKNOWN	15.8	73.9	73.5	0.1	0.5
F04	R12	RESIDENTIAL	BEDROOM	10.5	25	23.7	0.1	5.3
F04	R13	RESIDENTIAL	BEDROOM	10.5	32.4	30.4	0.2	6.1
F04	R14	RESIDENTIAL	UNKNOWN	20.9	97.4	97.4	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL18

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





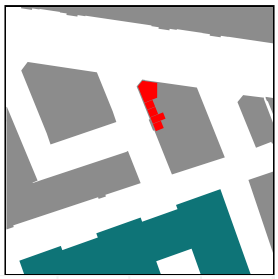
F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F04	R11	RESIDENTIAL	UNKNOWN	15.8	73.9	73.5	0.1	0.5
F04	R12	RESIDENTIAL	BEDROOM	10.5	25	23.7	0.1	5.3
F04	R13	RESIDENTIAL	BEDROOM	10.5	32.4	30.4	0.2	6.1
F04	R14	RESIDENTIAL	UNKNOWN	20.9	97.4	97.4	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL19

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





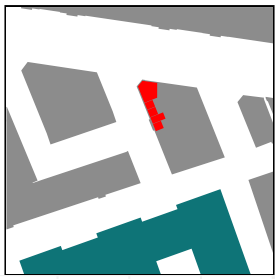
F05

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F05	R1	RESIDENTIAL	UNKNOWN	34.4	95.6	95.6	0.0	0
F05	R2	RESIDENTIAL	BEDROOM	6.8	89.3	87.2	0.1	2.3
F05	R3	RESIDENTIAL	BEDROOM	7.3	93.6	91.7	0.1	2
F05	R4	RESIDENTIAL	BEDROOM	10.2	84.1	82.9	0.1	1.5
F05	R5	RESIDENTIAL	BEDROOM	7.3	83.1	81.1	0.1	2.4

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL19

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





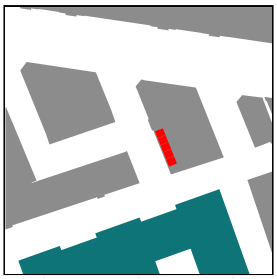
F05

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F05	R1	RESIDENTIAL	UNKNOWN	34.4	95.6	95.6	0.0	0
F05	R2	RESIDENTIAL	BEDROOM	6.8	89.3	87.2	0.1	2.3
F05	R3	RESIDENTIAL	BEDROOM	7.3	93.6	91.7	0.1	2
F05	R4	RESIDENTIAL	BEDROOM	10.2	84.1	82.9	0.1	1.5
F05	R5	RESIDENTIAL	BEDROOM	7.3	83.1	81.1	0.1	2.4

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL20

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





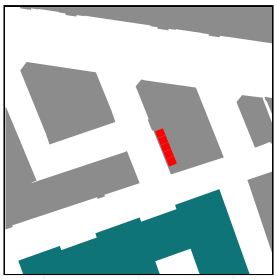
F05

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F05	R6	RESIDENTIAL	BEDROOM	6.8	89.3	88.4	0.1	1
F05	R7	RESIDENTIAL	BEDROOM	6.8	69.5	68.2	0.1	1.9
F05	R8	RESIDENTIAL	BEDROOM	6.9	66.5	65	0.1	2.3
F05	R9	RESIDENTIAL	BEDROOM	6.9	46.5	44.6	0.1	4.1
F05	R10	RESIDENTIAL	BEDROOM	7.4	50.5	49.1	0.1	2.9

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL20

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F05

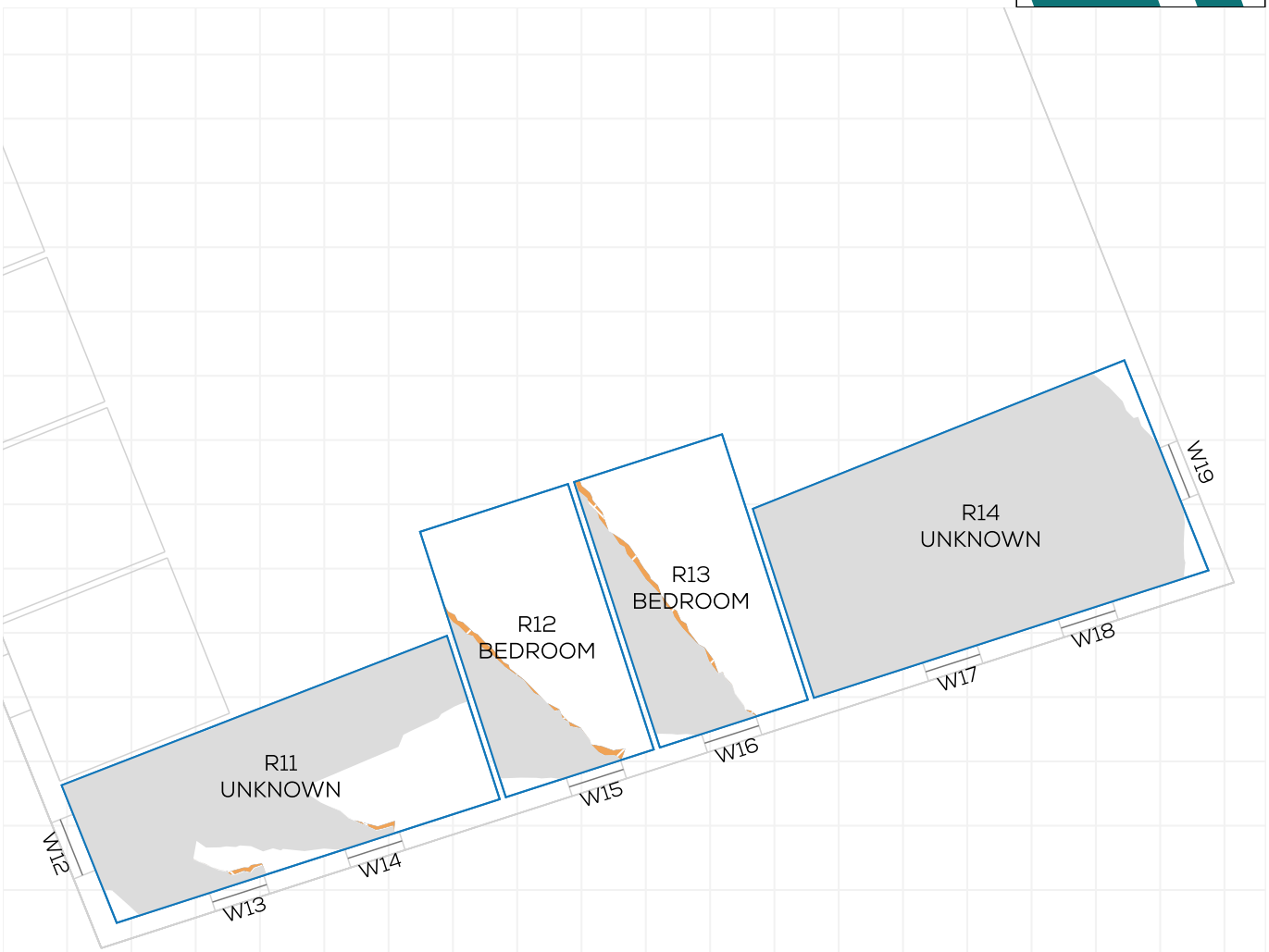
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F05	R6	RESIDENTIAL	BEDROOM	6.8	89.3	88.4	0.1	1
F05	R7	RESIDENTIAL	BEDROOM	6.8	69.5	68.2	0.1	1.9
F05	R8	RESIDENTIAL	BEDROOM	6.9	66.5	65	0.1	2.3
F05	R9	RESIDENTIAL	BEDROOM	6.9	46.5	44.6	0.1	4.1
F05	R10	RESIDENTIAL	BEDROOM	7.4	50.5	49.1	0.1	2.9

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL21

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F05

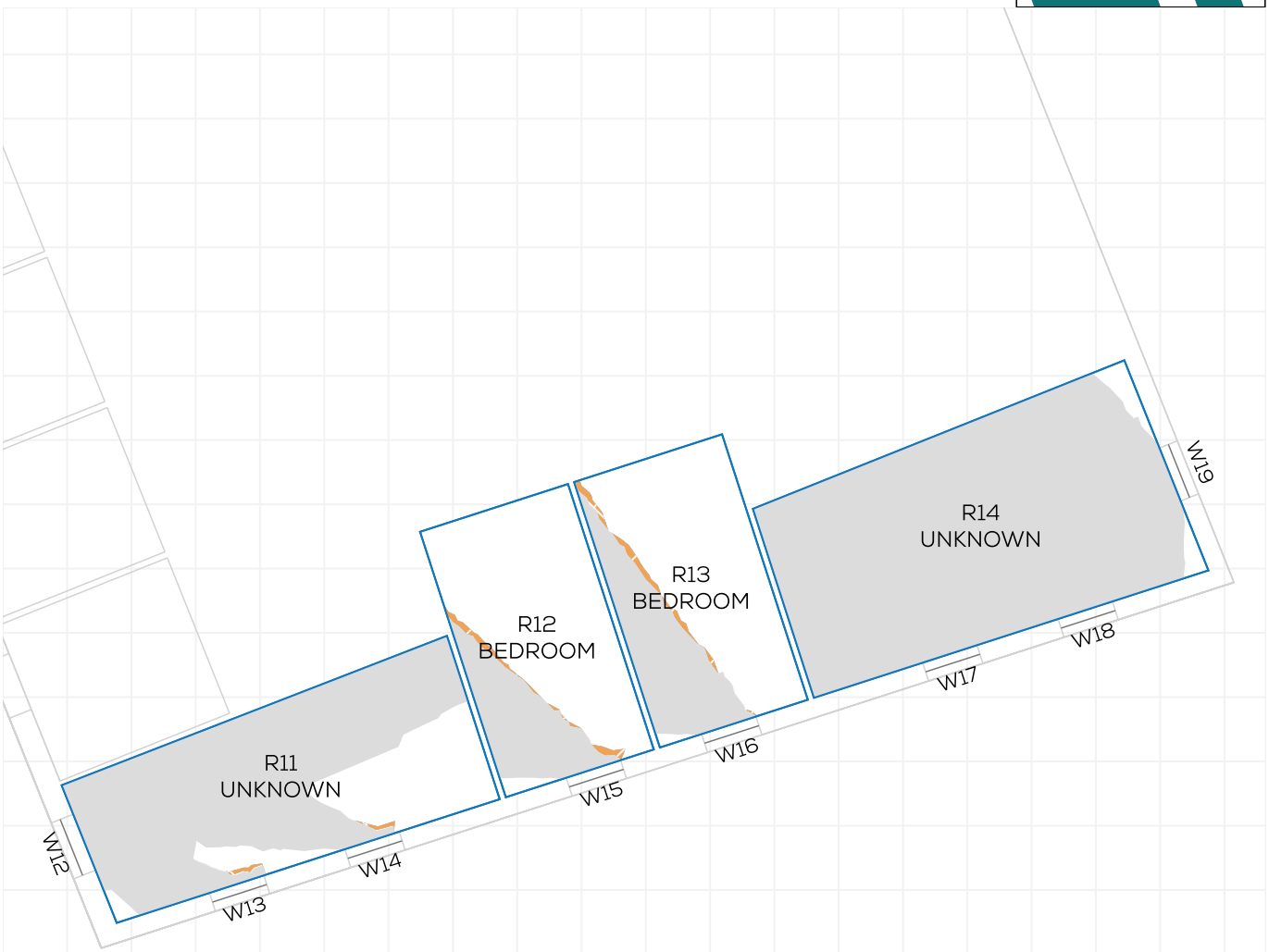
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F05	R11	RESIDENTIAL	UNKNOWN	15.8	75	74.6	0.1	0.5
F05	R12	RESIDENTIAL	BEDROOM	10.5	25.3	23.7	0.2	6.3
F05	R13	RESIDENTIAL	BEDROOM	10.5	32.4	30.5	0.2	6.1
F05	R14	RESIDENTIAL	UNKNOWN	20.9	97.4	97.4	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL21

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





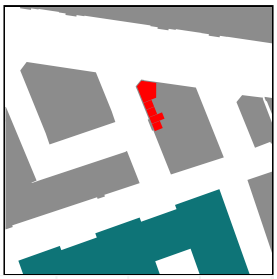
F05

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F05	R11	RESIDENTIAL	UNKNOWN	15.8	75	74.6	0.1	0.5
F05	R12	RESIDENTIAL	BEDROOM	10.5	25.3	23.7	0.2	6.3
F05	R13	RESIDENTIAL	BEDROOM	10.5	32.4	30.5	0.2	6.1
F05	R14	RESIDENTIAL	UNKNOWN	20.9	97.4	97.4	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL22

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





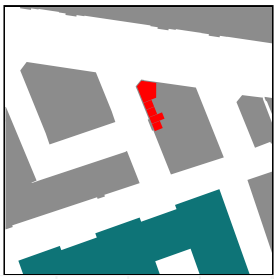
F06

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F06	R1	RESIDENTIAL	UNKNOWN	34.4	100	100	0.0	0
F06	R2	RESIDENTIAL	BEDROOM	6.8	91.1	87.7	0.2	3.7
F06	R3	RESIDENTIAL	BEDROOM	7.3	93.8	92.4	0.1	1.5
F06	R4	RESIDENTIAL	BEDROOM	10.2	88.7	88	0.1	0.8
F06	R5	RESIDENTIAL	BEDROOM	7.3	88.6	85.8	0.2	3.2

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL22

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





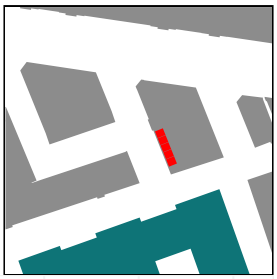
F06

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F06	R1	RESIDENTIAL	UNKNOWN	34.4	100	100	0.0	0
F06	R2	RESIDENTIAL	BEDROOM	6.8	91.1	87.7	0.2	3.7
F06	R3	RESIDENTIAL	BEDROOM	7.3	93.8	92.4	0.1	1.5
F06	R4	RESIDENTIAL	BEDROOM	10.2	88.7	88	0.1	0.8
F06	R5	RESIDENTIAL	BEDROOM	7.3	88.6	85.8	0.2	3.2

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL23

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





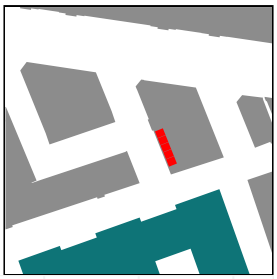
F06

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F06	R6	RESIDENTIAL	BEDROOM	6.8	95.1	94.6	0.0	0.4
F06	R7	RESIDENTIAL	BEDROOM	6.8	84.3	81.3	0.2	3.6
F06	R8	RESIDENTIAL	BEDROOM	6.9	83.8	81.8	0.1	2.3
F06	R9	RESIDENTIAL	BEDROOM	6.9	70.3	68.3	0.1	2.8
F06	R10	RESIDENTIAL	BEDROOM	7.4	82.4	80.8	0.1	1.9

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL23

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F06

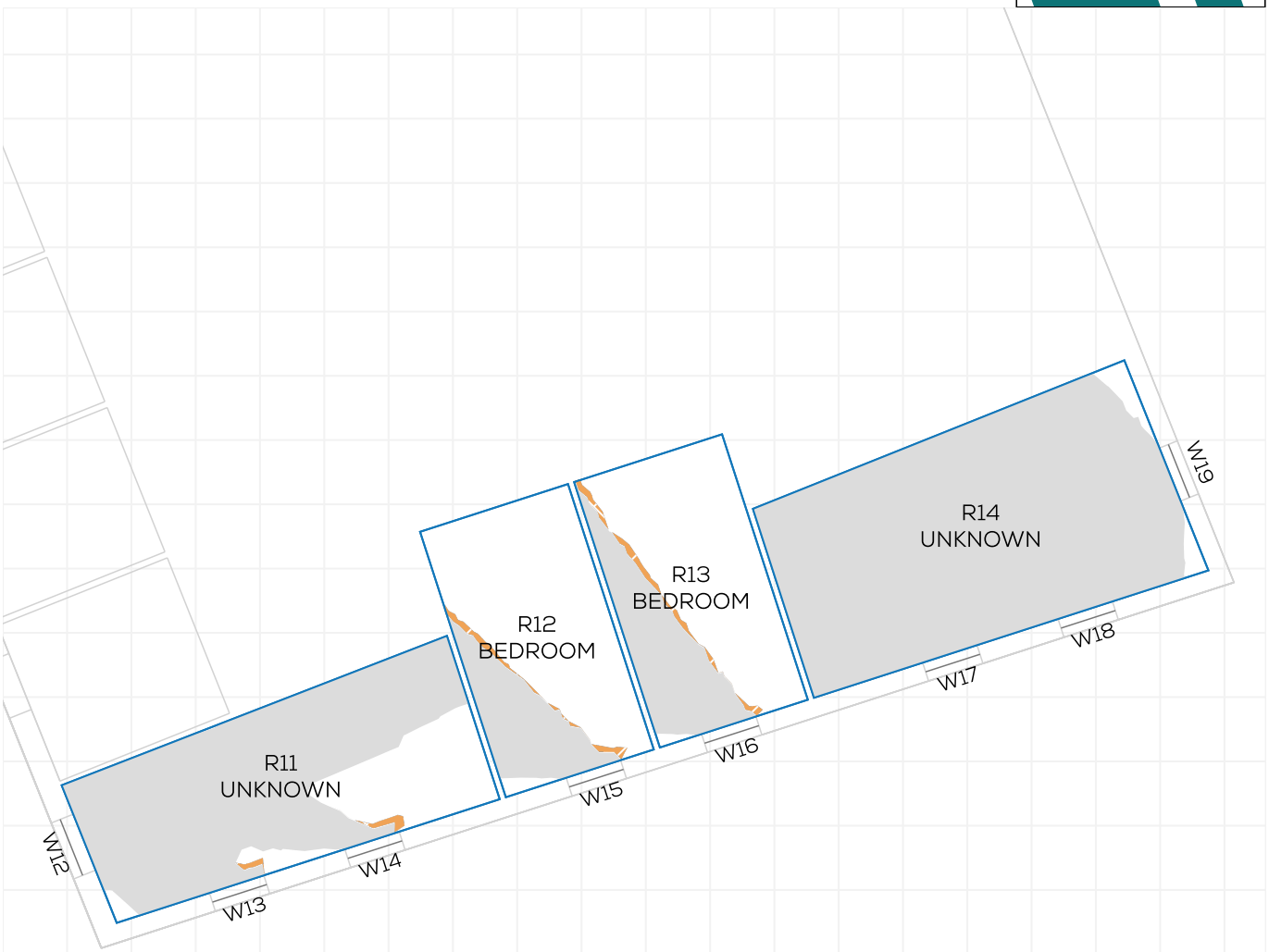
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F06	R6	RESIDENTIAL	BEDROOM	6.8	95.1	94.6	0.0	0.4
F06	R7	RESIDENTIAL	BEDROOM	6.8	84.3	81.3	0.2	3.6
F06	R8	RESIDENTIAL	BEDROOM	6.9	83.8	81.8	0.1	2.3
F06	R9	RESIDENTIAL	BEDROOM	6.9	70.3	68.3	0.1	2.8
F06	R10	RESIDENTIAL	BEDROOM	7.4	82.4	80.8	0.1	1.9

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL24

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F06

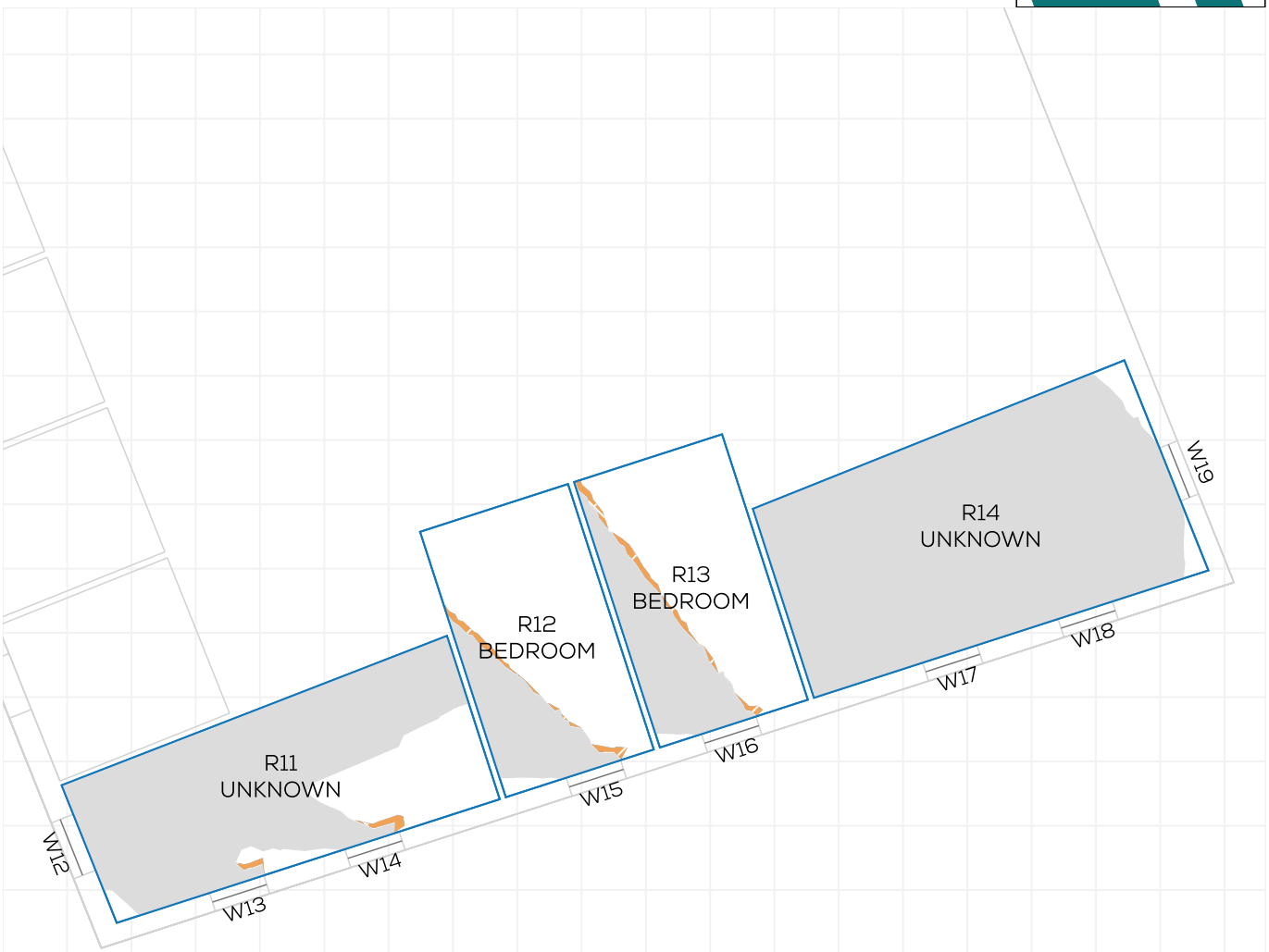
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F06	R11	RESIDENTIAL	UNKNOWN	15.8	77.2	76.5	0.1	0.8
F06	R12	RESIDENTIAL	BEDROOM	10.5	25.5	23.9	0.2	6.3
F06	R13	RESIDENTIAL	BEDROOM	10.5	32.8	30.5	0.2	6.9
F06	R14	RESIDENTIAL	UNKNOWN	20.9	97.4	97.4	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL24

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





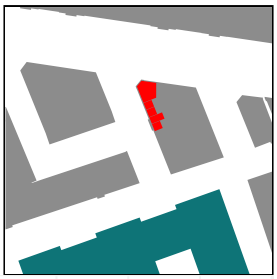
F06

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F06	R11	RESIDENTIAL	UNKNOWN	15.8	77.2	76.5	0.1	0.8
F06	R12	RESIDENTIAL	BEDROOM	10.5	25.5	23.9	0.2	6.3
F06	R13	RESIDENTIAL	BEDROOM	10.5	32.8	30.5	0.2	6.9
F06	R14	RESIDENTIAL	UNKNOWN	20.9	97.4	97.4	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL25

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





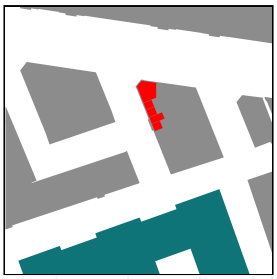
F07

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F07	R1	RESIDENTIAL	UNKNOWN	34.4	100	100	0.0	0
F07	R2	RESIDENTIAL	BEDROOM	6.8	92	89.4	0.2	2.7
F07	R3	RESIDENTIAL	BEDROOM	7.3	93.8	93.1	0.1	0.8
F07	R4	RESIDENTIAL	BEDROOM	10.2	94.3	94.1	0.0	0.3
F07	R5	RESIDENTIAL	BEDROOM	7.3	90	87.2	0.2	3.1

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL25

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





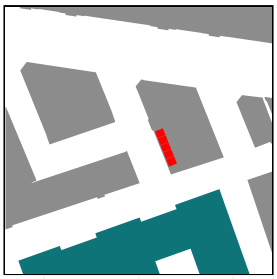
F07

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F07	R1	RESIDENTIAL	UNKNOWN	34.4	100	100	0.0	0
F07	R2	RESIDENTIAL	BEDROOM	6.8	92	89.4	0.2	2.7
F07	R3	RESIDENTIAL	BEDROOM	7.3	93.8	93.1	0.1	0.8
F07	R4	RESIDENTIAL	BEDROOM	10.2	94.3	94.1	0.0	0.3
F07	R5	RESIDENTIAL	BEDROOM	7.3	90	87.2	0.2	3.1

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL26

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





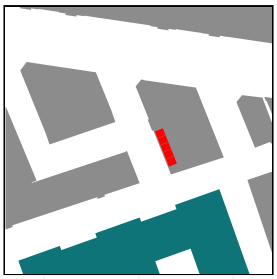
F07

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F07	R6	RESIDENTIAL	BEDROOM	6.8	95.1	95	0.0	0.1
F07	R7	RESIDENTIAL	BEDROOM	6.8	90.8	88.5	0.2	2.5
F07	R8	RESIDENTIAL	BEDROOM	6.9	94.5	93.7	0.1	0.9
F07	R9	RESIDENTIAL	BEDROOM	6.9	89	85.8	0.2	3.7
F07	R10	RESIDENTIAL	BEDROOM	7.4	93.2	91.8	0.1	1.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL26

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F07

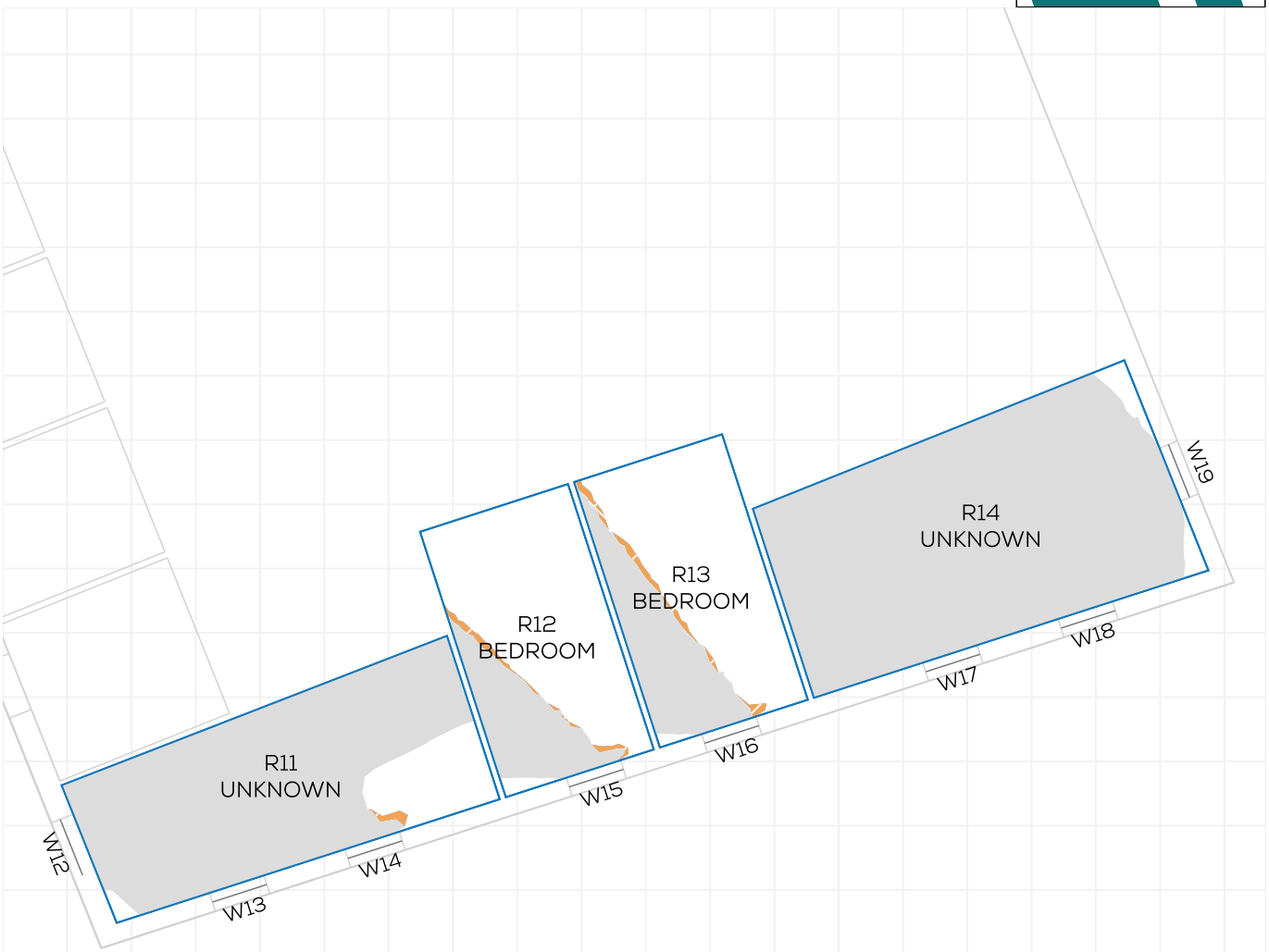
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F07	R6	RESIDENTIAL	BEDROOM	6.8	95.1	95	0.0	0.1
F07	R7	RESIDENTIAL	BEDROOM	6.8	90.8	88.5	0.2	2.5
F07	R8	RESIDENTIAL	BEDROOM	6.9	94.5	93.7	0.1	0.9
F07	R9	RESIDENTIAL	BEDROOM	6.9	89	85.8	0.2	3.7
F07	R10	RESIDENTIAL	BEDROOM	7.4	93.2	91.8	0.1	1.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL27

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F07

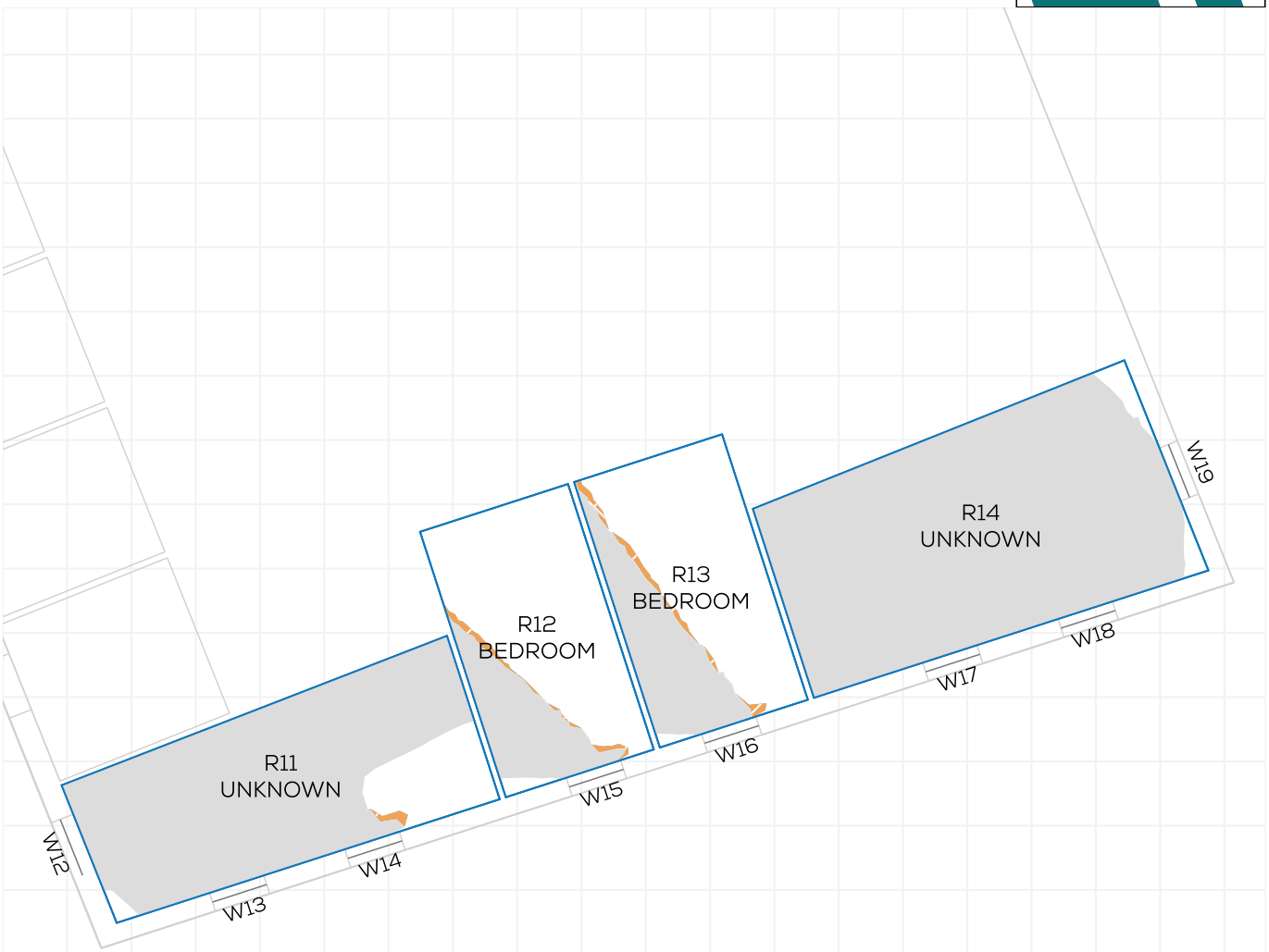
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F07	R11	RESIDENTIAL	UNKNOWN	15.8	85.7	85.3	0.1	0.5
F07	R12	RESIDENTIAL	BEDROOM	10.5	25.6	24.1	0.2	6
F07	R13	RESIDENTIAL	BEDROOM	10.5	32.9	30.6	0.2	7.1
F07	R14	RESIDENTIAL	UNKNOWN	20.9	97.4	97.4	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL27

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





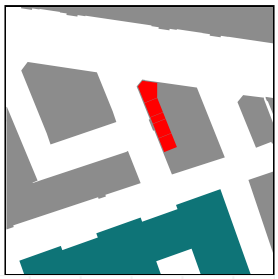
F07

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F07	R11	RESIDENTIAL	UNKNOWN	15.8	85.7	85.3	0.1	0.5
F07	R12	RESIDENTIAL	BEDROOM	10.5	25.6	24.1	0.2	6
F07	R13	RESIDENTIAL	BEDROOM	10.5	32.9	30.6	0.2	7.1
F07	R14	RESIDENTIAL	UNKNOWN	20.9	97.4	97.4	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL28

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





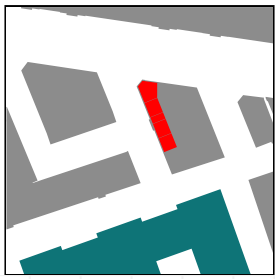
F08

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F08	R1	RESIDENTIAL	UNKNOWN	34.4	100	100	0.0	0
F08	R2	RESIDENTIAL	BEDROOM	23.1	97.4	96.8	0.1	0.6
F08	R3	RESIDENTIAL	BEDROOM	10.2	96.6	96.5	0.0	0
F08	R4	RESIDENTIAL	BEDROOM	23.1	97	95.8	0.3	1.2
F08	R5	RESIDENTIAL	BEDROOM	22.4	97.4	96.5	0.2	0.9

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL28

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





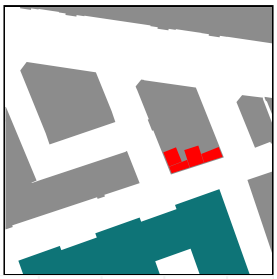
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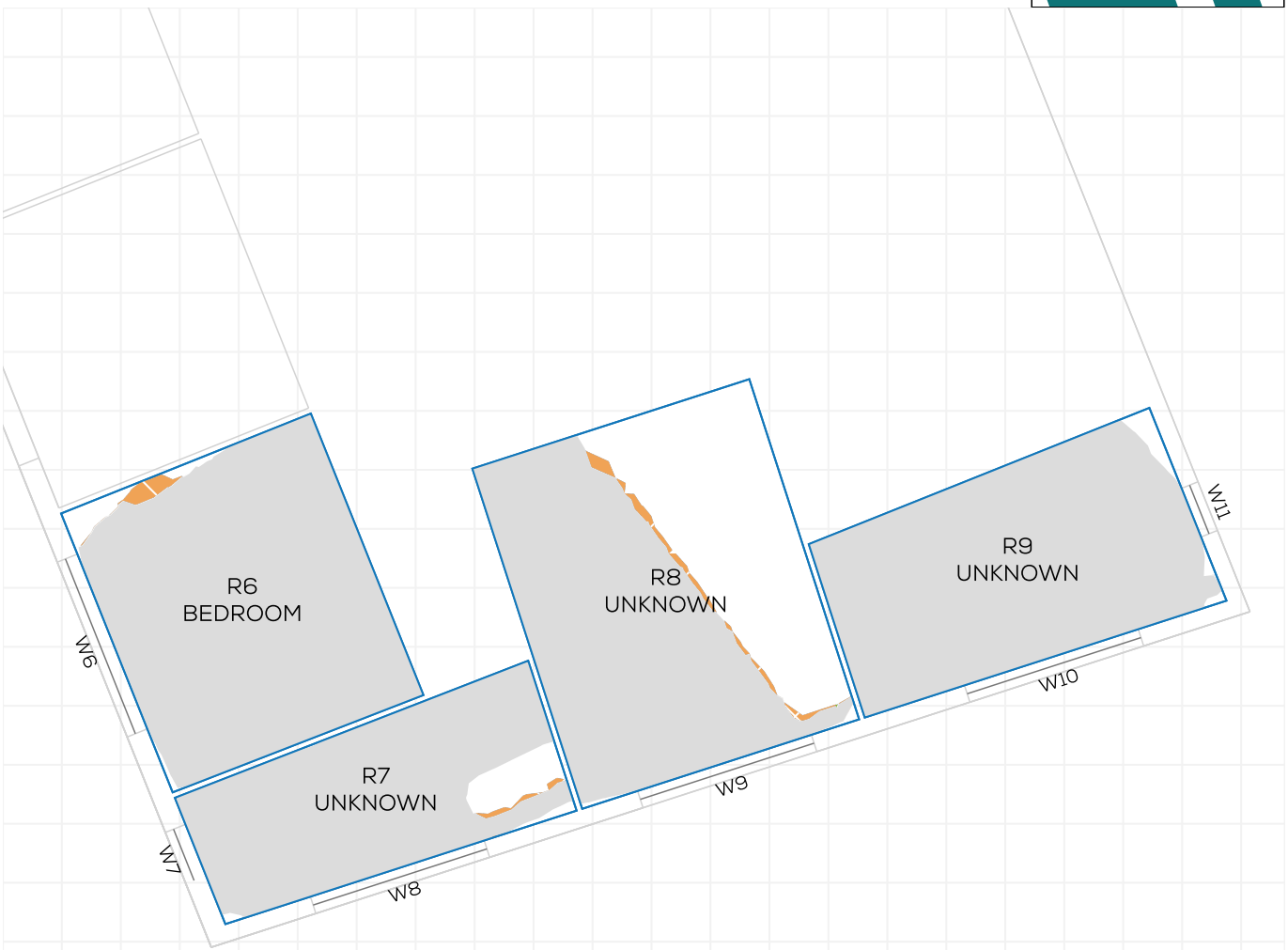
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F08	R1	RESIDENTIAL	UNKNOWN	34.4	100	100	0.0	0
F08	R2	RESIDENTIAL	BEDROOM	23.1	97.4	96.8	0.1	0.6
F08	R3	RESIDENTIAL	BEDROOM	10.2	96.6	96.5	0.0	0
F08	R4	RESIDENTIAL	BEDROOM	23.1	97	95.8	0.3	1.2
F08	R5	RESIDENTIAL	BEDROOM	22.4	97.4	96.5	0.2	0.9

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL29

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





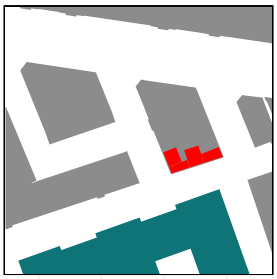
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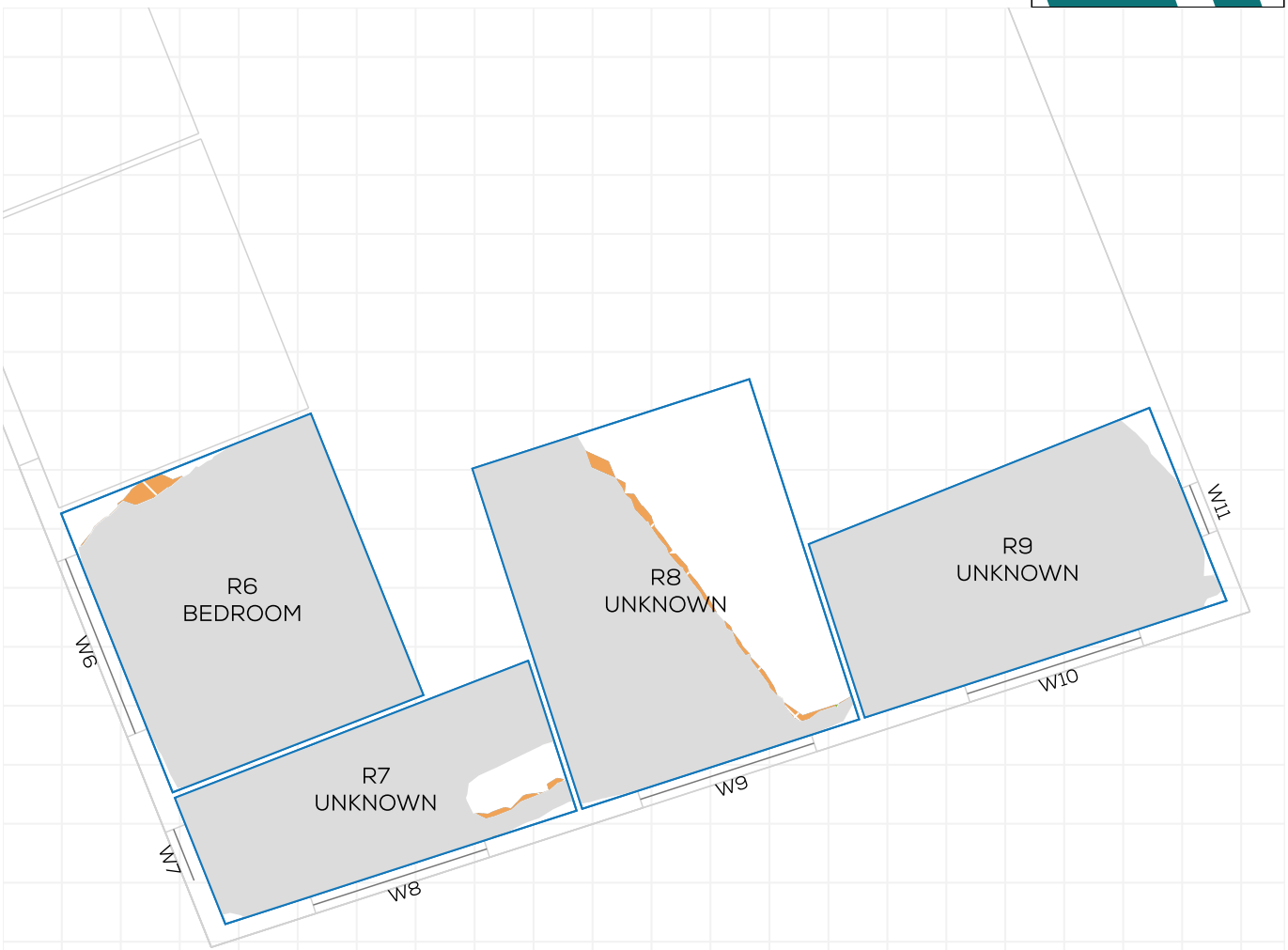
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F08	R6	RESIDENTIAL	BEDROOM	23.3	96.7	95.7	0.2	1
F08	R7	RESIDENTIAL	UNKNOWN	15.8	91.8	91.2	0.1	0.6
F08	R8	RESIDENTIAL	UNKNOWN	29.9	61.8	60.4	0.4	2.3
F08	R9	RESIDENTIAL	UNKNOWN	20.9	97.8	97.8	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: FAIRFIELD HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL29

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





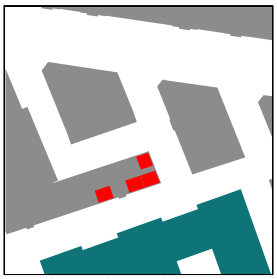
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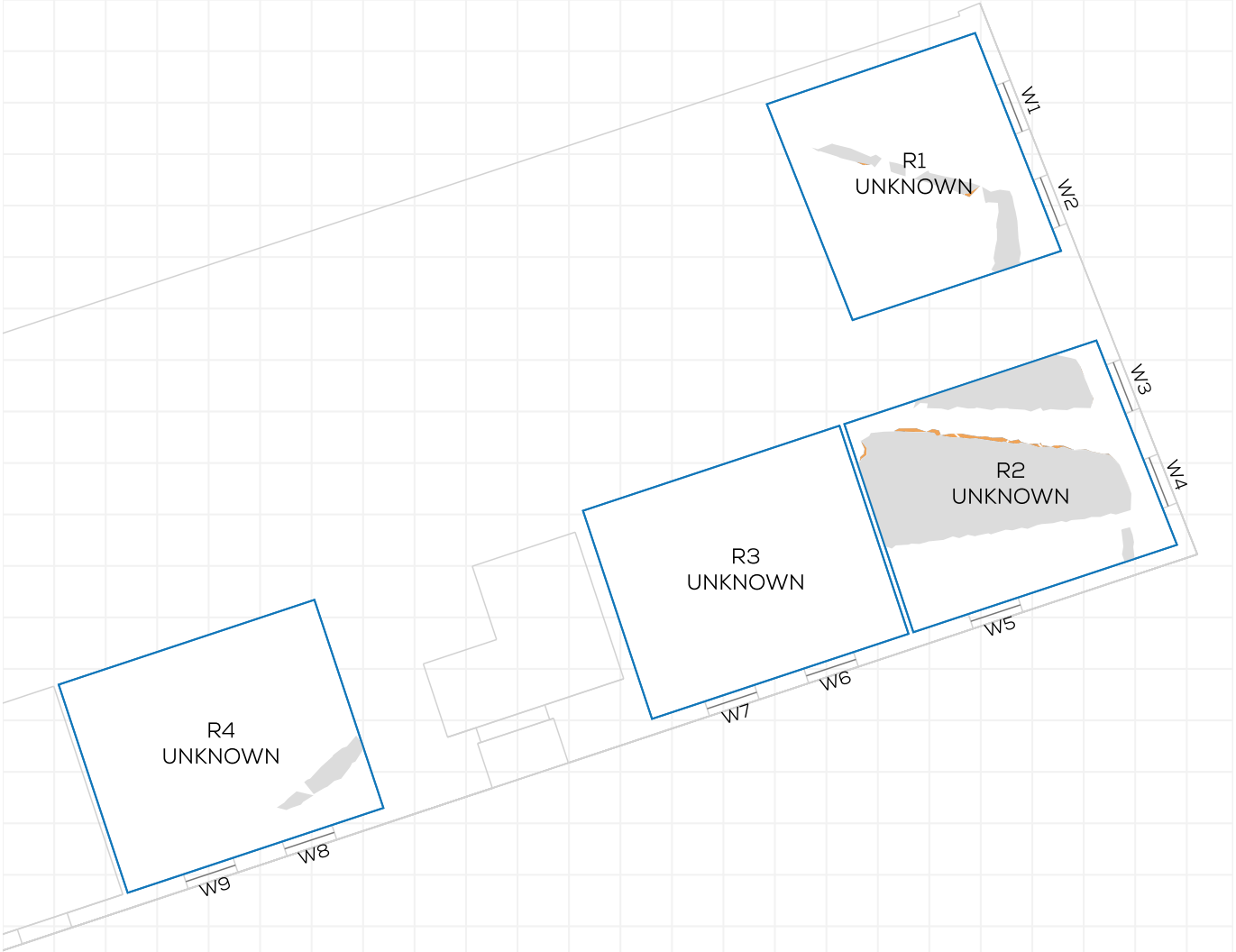
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
FAIRFIELD HOUSE								
F08	R6	RESIDENTIAL	BEDROOM	23.3	96.7	95.7	0.2	1
F08	R7	RESIDENTIAL	UNKNOWN	15.8	91.8	91.2	0.1	0.6
F08	R8	RESIDENTIAL	UNKNOWN	29.9	61.8	60.4	0.4	2.3
F08	R9	RESIDENTIAL	UNKNOWN	20.9	97.8	97.8	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL30

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





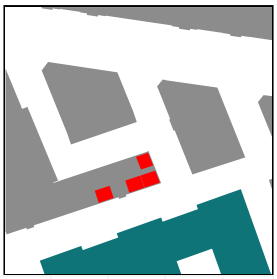
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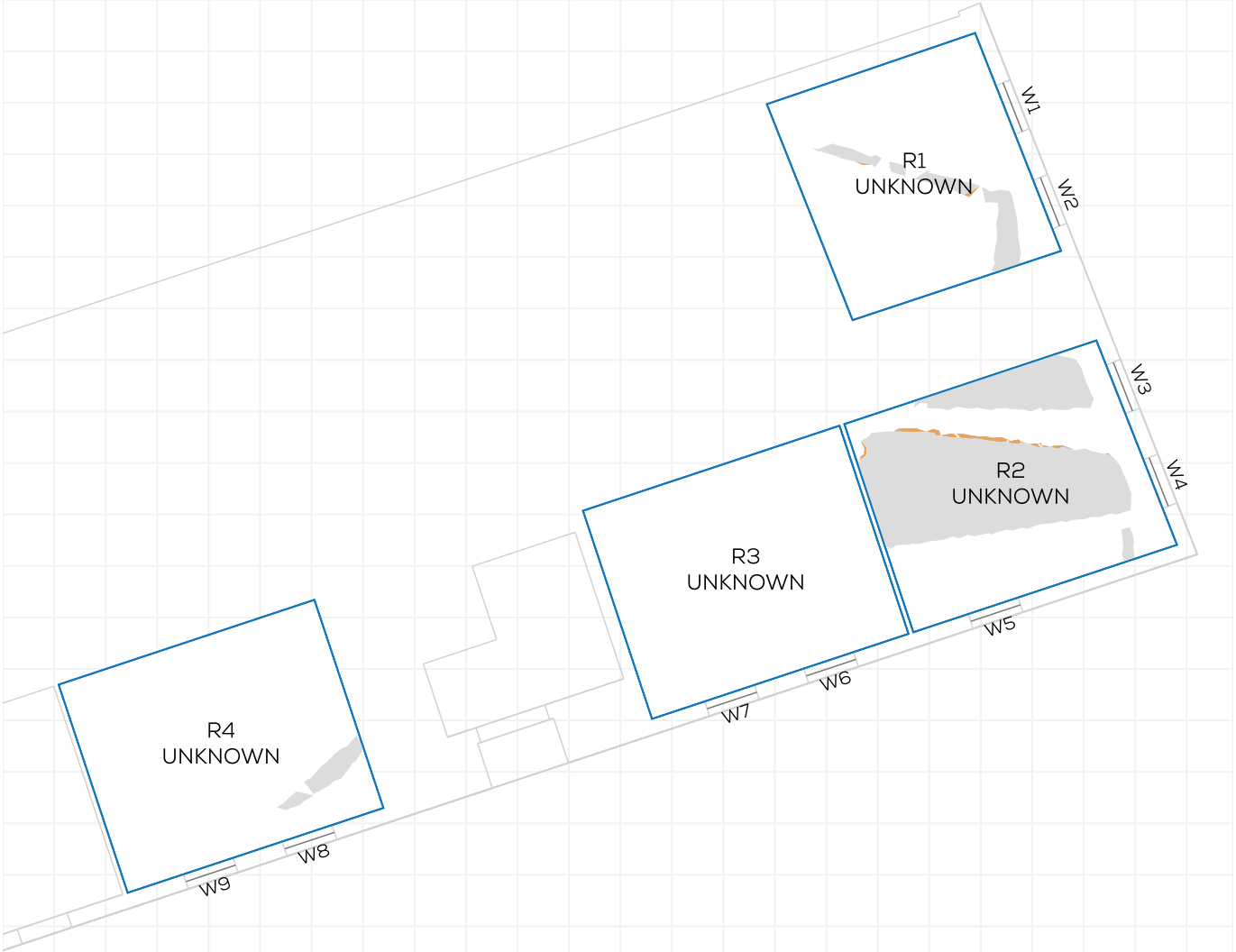
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
B01	R1	RESIDENTIAL	UNKNOWN	19.3	6.4	6.3	0.0	1.7
B01	R2	RESIDENTIAL	UNKNOWN	22.5	49.8	49	0.2	1.6
B01	R3	RESIDENTIAL	UNKNOWN	22.4	0	0	0.0	0
B01	R4	RESIDENTIAL	UNKNOWN	22.3	2.6	2.6	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL30

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





B01

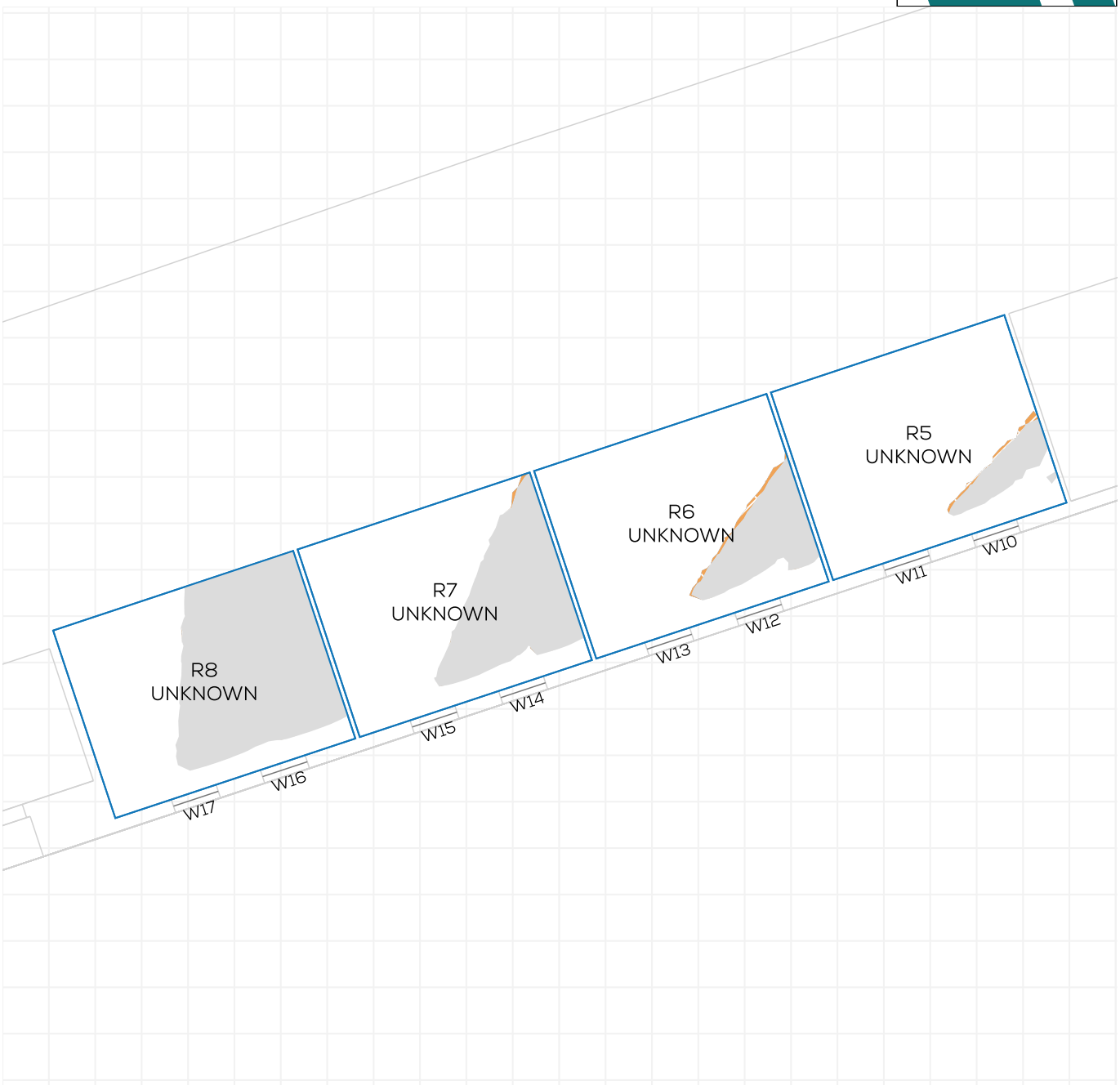
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
B01	R1	RESIDENTIAL	UNKNOWN	19.3	6.4	6.3	0.0	1.7
B01	R2	RESIDENTIAL	UNKNOWN	22.5	49.8	49	0.2	1.6
B01	R3	RESIDENTIAL	UNKNOWN	22.4	0	0	0.0	0
B01	R4	RESIDENTIAL	UNKNOWN	22.3	2.6	2.6	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL31

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





B01

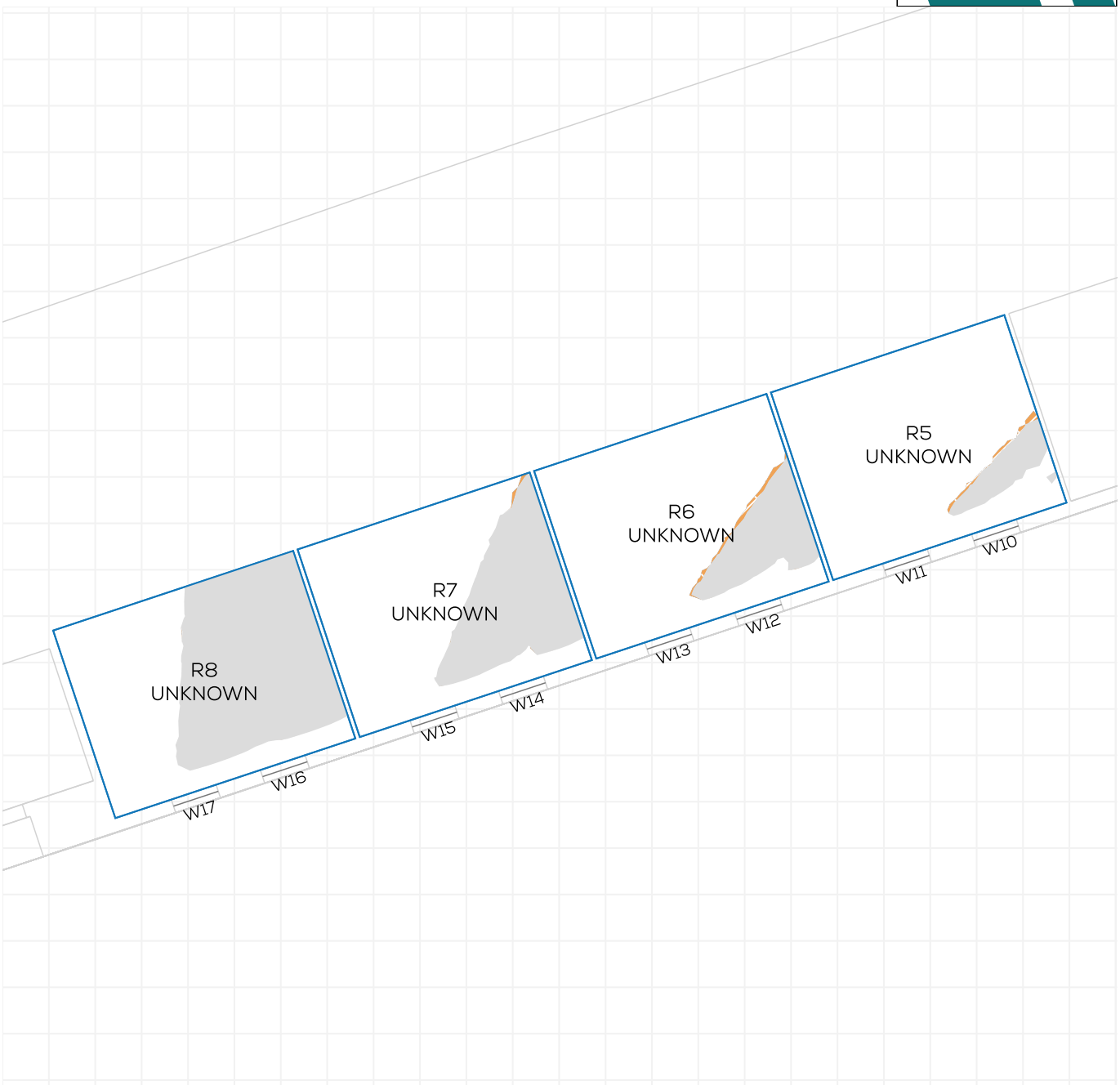
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
B01	R5	RESIDENTIAL	UNKNOWN	22.6	7.6	6.9	0.2	9.1
B01	R6	RESIDENTIAL	UNKNOWN	22.5	16.5	15.6	0.2	5.4
B01	R7	RESIDENTIAL	UNKNOWN	22.5	31.4	31.3	0.0	0.5
B01	R8	RESIDENTIAL	UNKNOWN	23.2	51.9	51.9	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL31

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





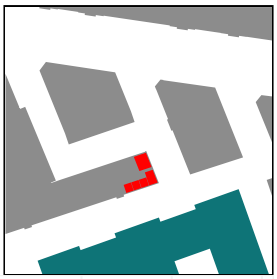
B01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
B01	R5	RESIDENTIAL	UNKNOWN	22.6	7.6	6.9	0.2	9.1
B01	R6	RESIDENTIAL	UNKNOWN	22.5	16.5	15.6	0.2	5.4
B01	R7	RESIDENTIAL	UNKNOWN	22.5	31.4	31.3	0.0	0.5
B01	R8	RESIDENTIAL	UNKNOWN	23.2	51.9	51.9	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL32

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





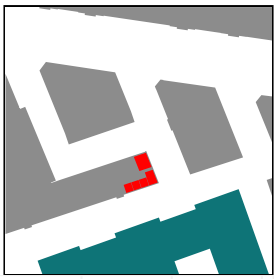
F00

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F00	R1	RESIDENTIAL	UNKNOWN	21.7	14	13.9	0.0	0.7
F00	R2	RESIDENTIAL	UNKNOWN	13.1	61	60.7	0.0	0.4
F00	R3	RESIDENTIAL	BEDROOM	7.3	4	2.8	0.1	30.9
F00	R4	RESIDENTIAL	BEDROOM	7.3	3.3	2.3	0.1	29.4
F00	R5	RESIDENTIAL	BEDROOM	7.3	3.7	2.4	0.1	36.7

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL32

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F00

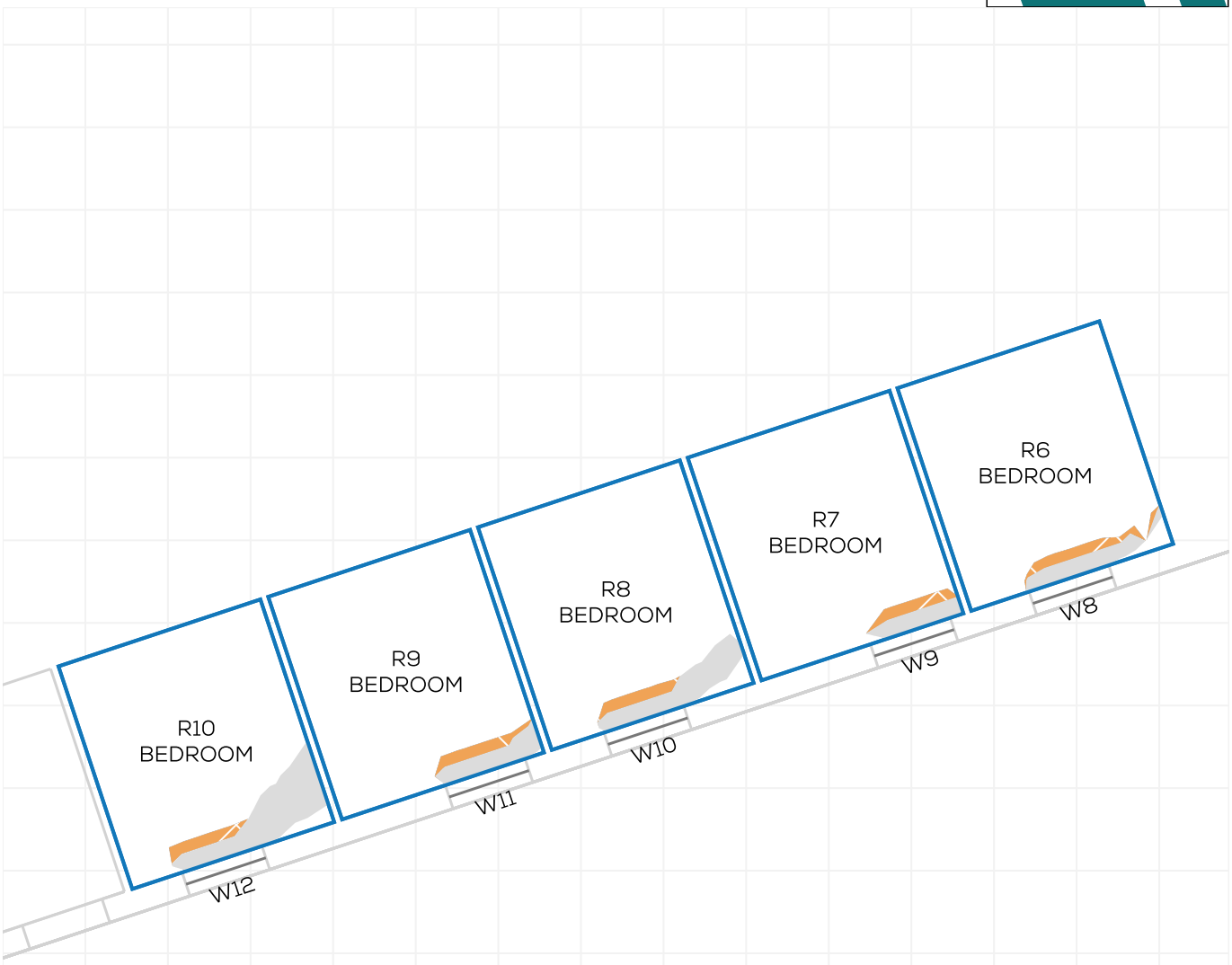
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F00	R1	RESIDENTIAL	UNKNOWN	21.7	14	13.9	0.0	0.7
F00	R2	RESIDENTIAL	UNKNOWN	13.1	61	60.7	0.0	0.4
F00	R3	RESIDENTIAL	BEDROOM	7.3	4	2.8	0.1	30.9
F00	R4	RESIDENTIAL	BEDROOM	7.3	3.3	2.3	0.1	29.4
F00	R5	RESIDENTIAL	BEDROOM	7.3	3.7	2.4	0.1	36.7

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL33

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F00

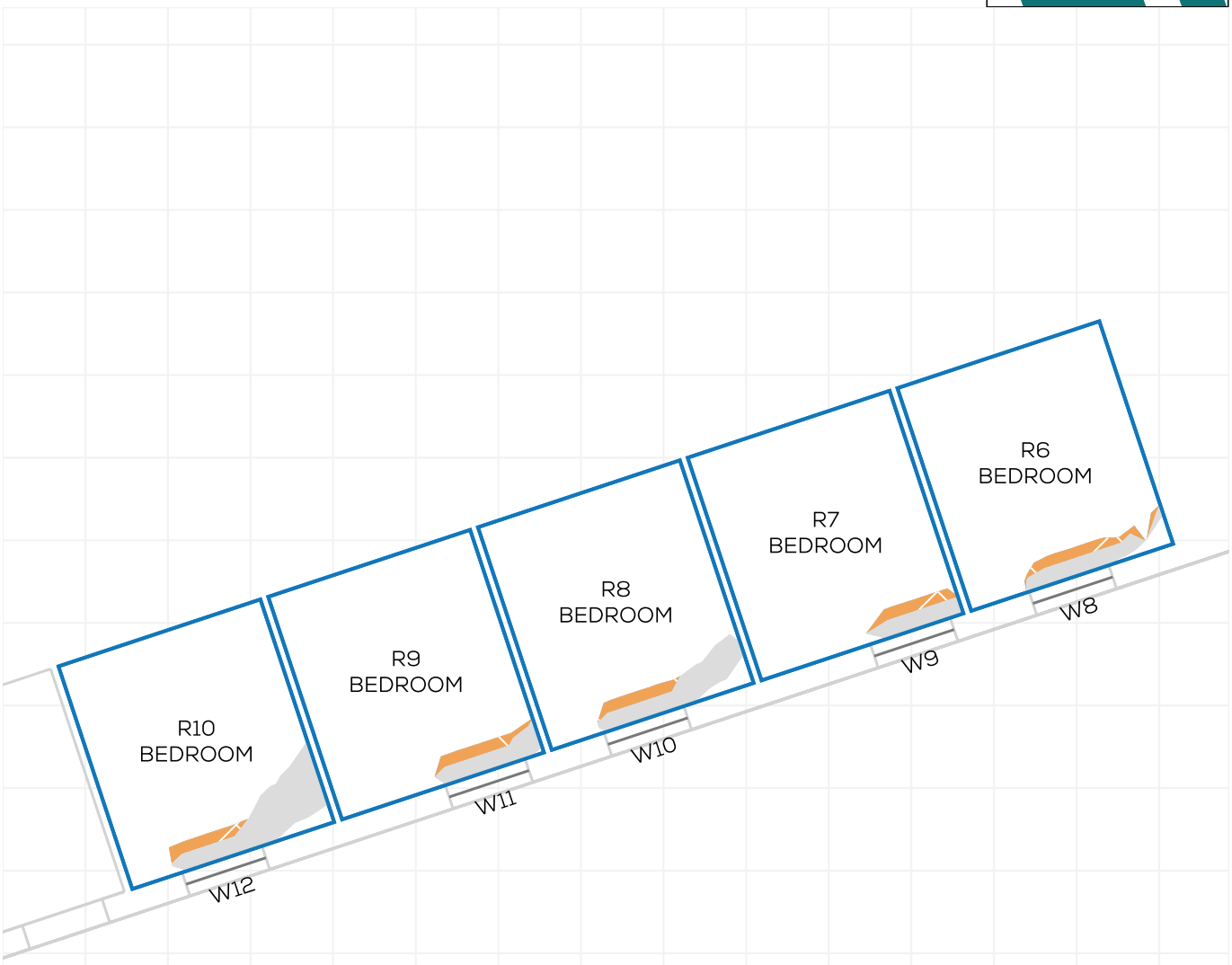
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F00	R6	RESIDENTIAL	BEDROOM	7.3	6.8	4.3	0.2	36
F00	R7	RESIDENTIAL	BEDROOM	7.3	5	3.1	0.1	37.5
F00	R8	RESIDENTIAL	BEDROOM	7.3	9.2	7.4	0.1	19.5
F00	R9	RESIDENTIAL	BEDROOM	7.3	6.2	4.2	0.1	31.8
F00	R10	RESIDENTIAL	BEDROOM	7.3	13	11.2	0.1	13.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL33

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F00

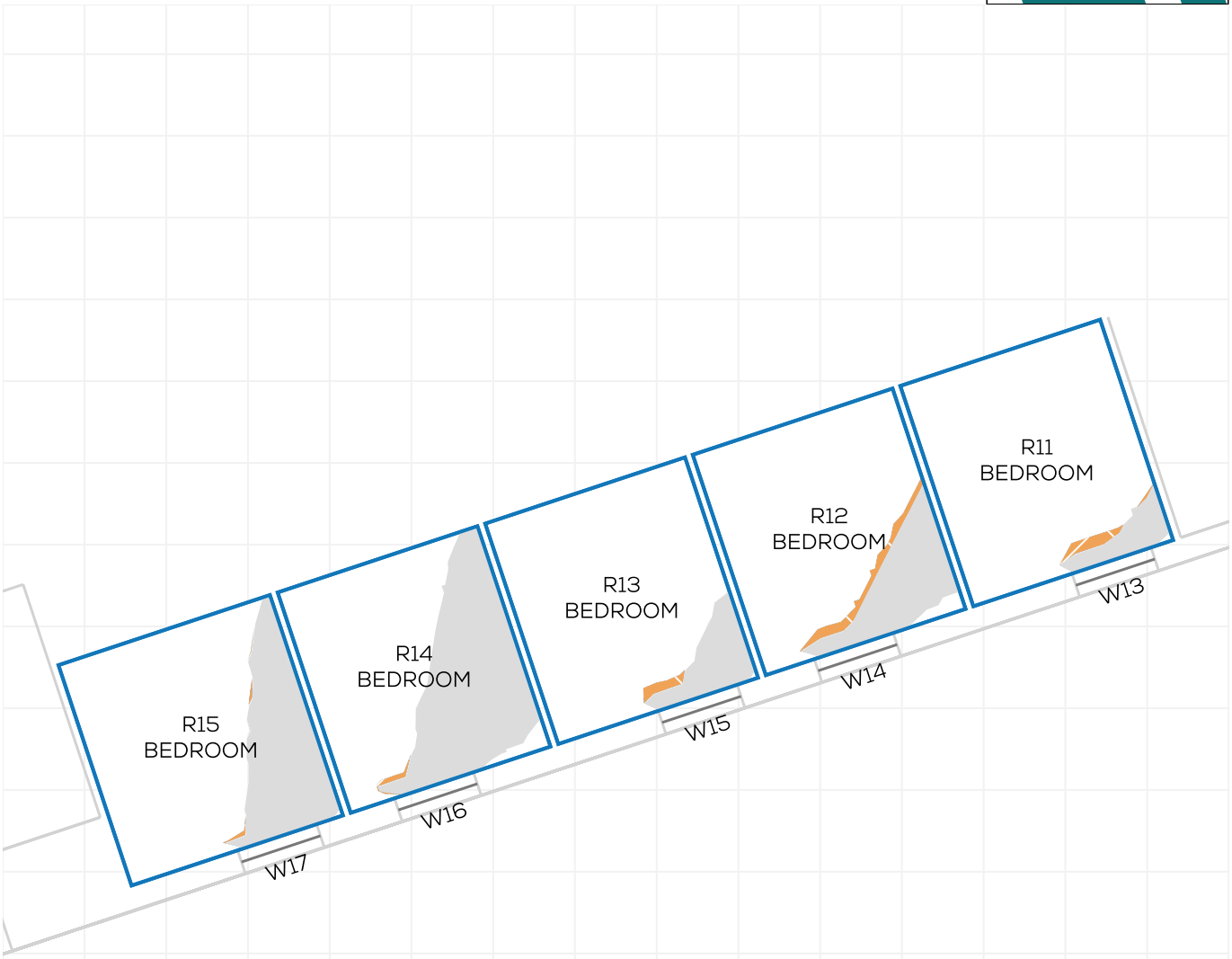
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F00	R6	RESIDENTIAL	BEDROOM	7.3	6.8	4.3	0.2	36
F00	R7	RESIDENTIAL	BEDROOM	7.3	5	3.1	0.1	37.5
F00	R8	RESIDENTIAL	BEDROOM	7.3	9.2	7.4	0.1	19.5
F00	R9	RESIDENTIAL	BEDROOM	7.3	6.2	4.2	0.1	31.8
F00	R10	RESIDENTIAL	BEDROOM	7.3	13	11.2	0.1	13.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL34

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F00

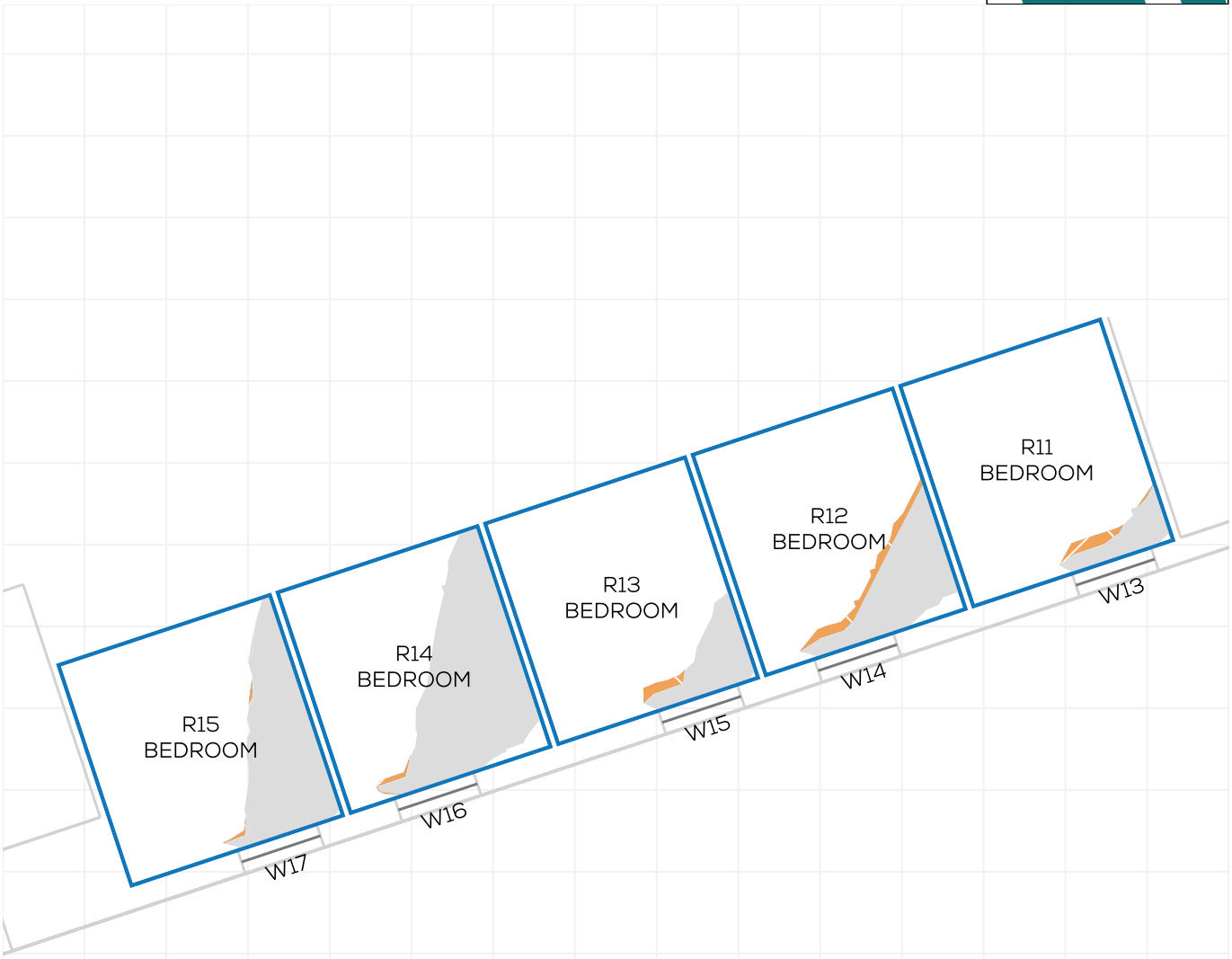
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F00	R11	RESIDENTIAL	BEDROOM	7.3	7.6	6.2	0.1	17.6
F00	R12	RESIDENTIAL	BEDROOM	7.3	20.6	18.1	0.2	12.4
F00	R13	RESIDENTIAL	BEDROOM	7.3	11	10.1	0.1	7.7
F00	R14	RESIDENTIAL	BEDROOM	7.3	41.5	41.1	0.0	0.9
F00	R15	RESIDENTIAL	BEDROOM	7.7	27.1	26.9	0.0	0.8

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL34

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





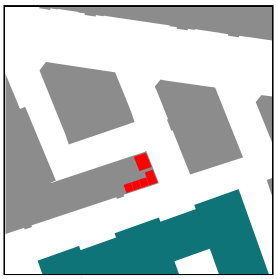
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FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F00	R11	RESIDENTIAL	BEDROOM	7.3	7.6	6.2	0.1	17.6
F00	R12	RESIDENTIAL	BEDROOM	7.3	20.6	18.1	0.2	12.4
F00	R13	RESIDENTIAL	BEDROOM	7.3	11	10.1	0.1	7.7
F00	R14	RESIDENTIAL	BEDROOM	7.3	41.5	41.1	0.0	0.9
F00	R15	RESIDENTIAL	BEDROOM	7.7	27.1	26.9	0.0	0.8

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL35

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





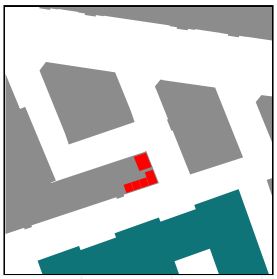
F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F01	R1	RESIDENTIAL	UNKNOWN	21.7	17.3	17.1	0.0	0.8
F01	R2	RESIDENTIAL	UNKNOWN	13.1	62.9	62.5	0.0	0.5
F01	R3	RESIDENTIAL	BEDROOM	7.3	4.9	3.2	0.1	35.8
F01	R4	RESIDENTIAL	BEDROOM	7.3	4	3	0.1	23.8
F01	R5	RESIDENTIAL	BEDROOM	7.3	4.6	3.2	0.1	31

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL35

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F01

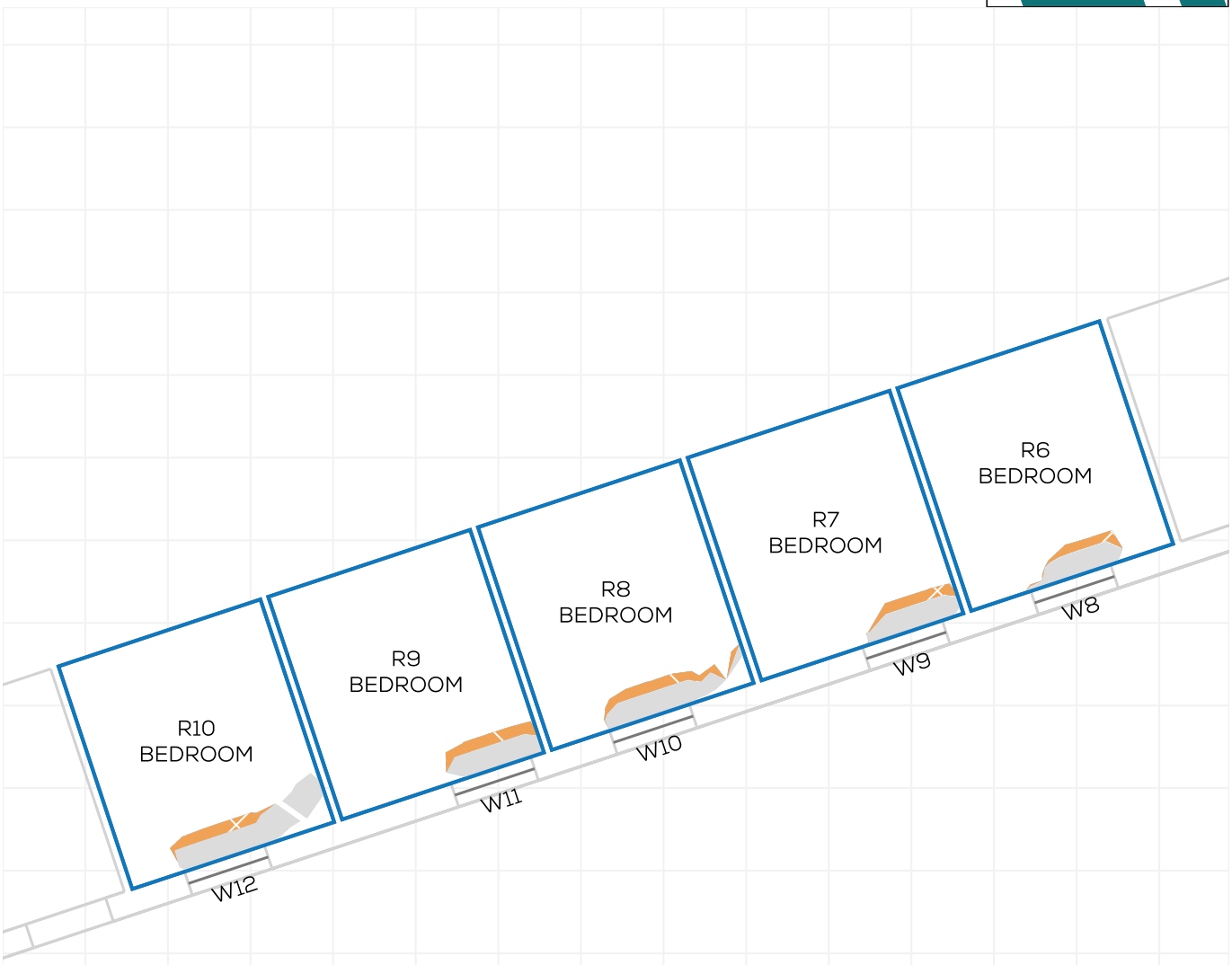
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F01	R1	RESIDENTIAL	UNKNOWN	21.7	17.3	17.1	0.0	0.8
F01	R2	RESIDENTIAL	UNKNOWN	13.1	62.9	62.5	0.0	0.5
F01	R3	RESIDENTIAL	BEDROOM	7.3	4.9	3.2	0.1	35.8
F01	R4	RESIDENTIAL	BEDROOM	7.3	4	3	0.1	23.8
F01	R5	RESIDENTIAL	BEDROOM	7.3	4.6	3.2	0.1	31

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL36

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F01

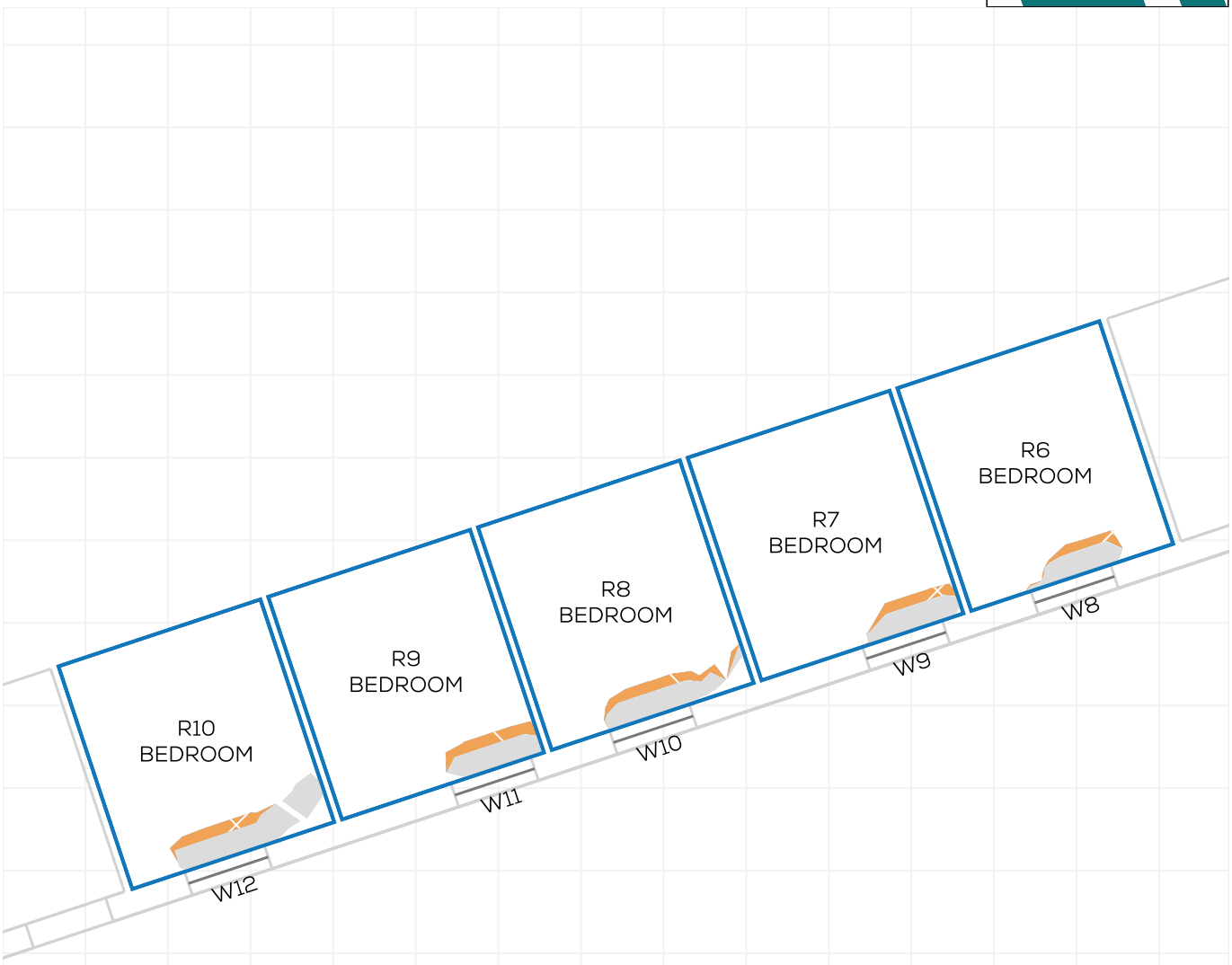
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F01	R6	RESIDENTIAL	BEDROOM	7.3	4.9	3.6	0.1	26.2
F01	R7	RESIDENTIAL	BEDROOM	7.3	5.8	4.1	0.1	29.3
F01	R8	RESIDENTIAL	BEDROOM	7.3	7.9	5.4	0.2	31.1
F01	R9	RESIDENTIAL	BEDROOM	7.3	6.4	4.2	0.2	33.5
F01	R10	RESIDENTIAL	BEDROOM	7.3	10.2	8.1	0.2	20.4

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL36

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F01

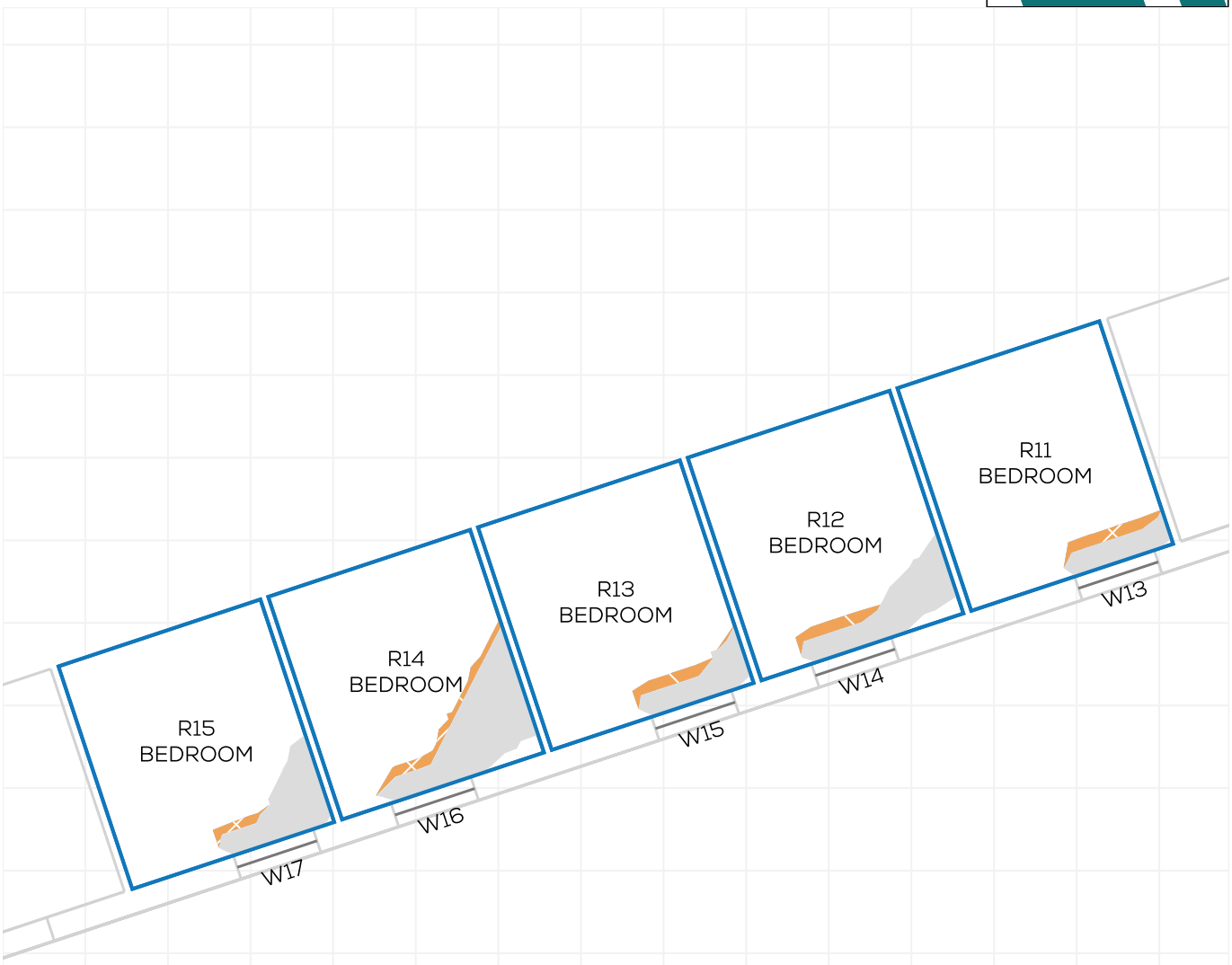
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F01	R6	RESIDENTIAL	BEDROOM	7.3	4.9	3.6	0.1	26.2
F01	R7	RESIDENTIAL	BEDROOM	7.3	5.8	4.1	0.1	29.3
F01	R8	RESIDENTIAL	BEDROOM	7.3	7.9	5.4	0.2	31.1
F01	R9	RESIDENTIAL	BEDROOM	7.3	6.4	4.2	0.2	33.5
F01	R10	RESIDENTIAL	BEDROOM	7.3	10.2	8.1	0.2	20.4

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL37

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F01

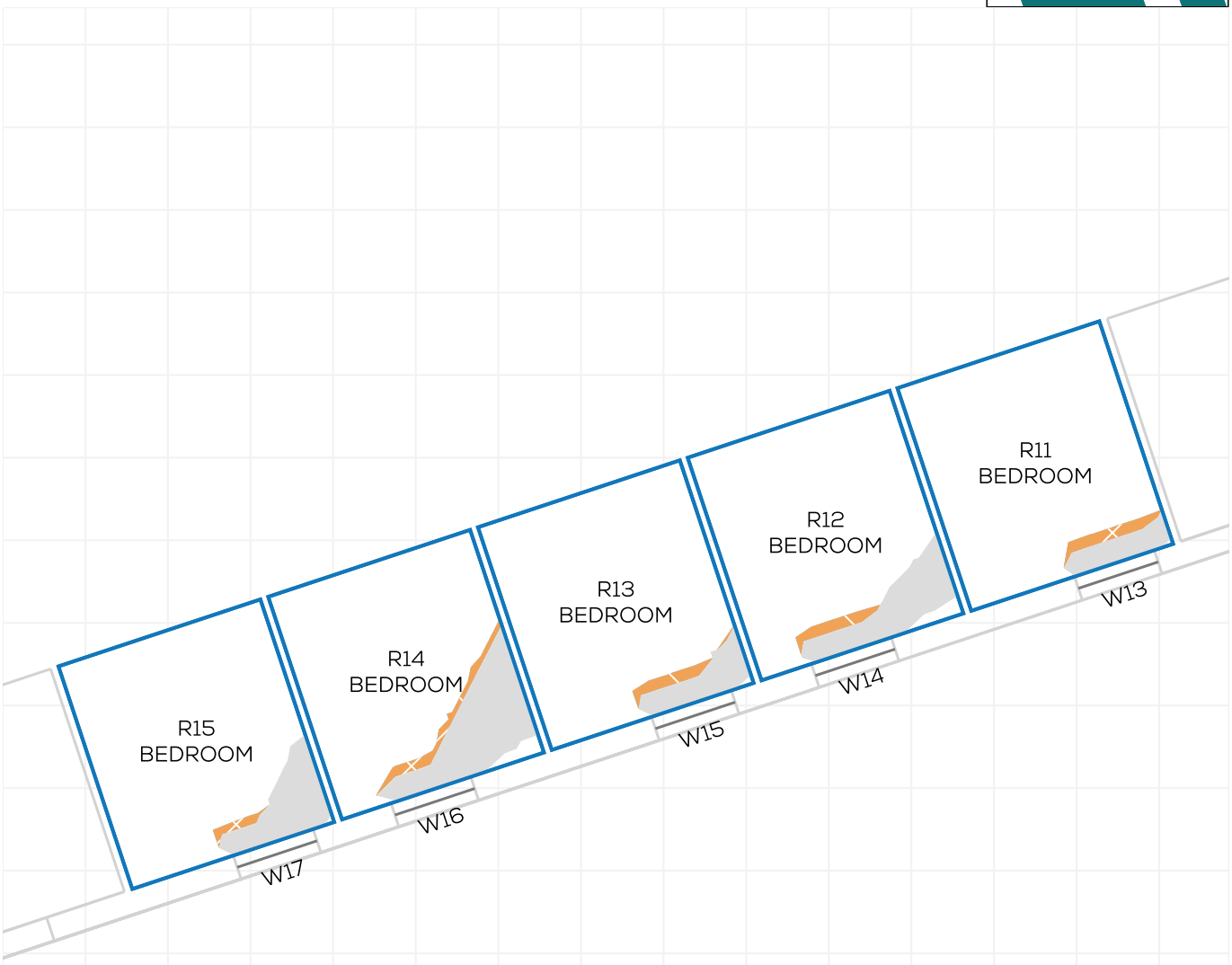
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F01	R11	RESIDENTIAL	BEDROOM	7.3	7.3	5.2	0.2	29.3
F01	R12	RESIDENTIAL	BEDROOM	7.3	14.1	12.2	0.1	13
F01	R13	RESIDENTIAL	BEDROOM	7.3	8.8	6.9	0.1	20.8
F01	R14	RESIDENTIAL	BEDROOM	7.3	21.2	18.6	0.2	12.3
F01	R15	RESIDENTIAL	BEDROOM	7.3	11.6	10.7	0.1	7.7

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL37

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F01

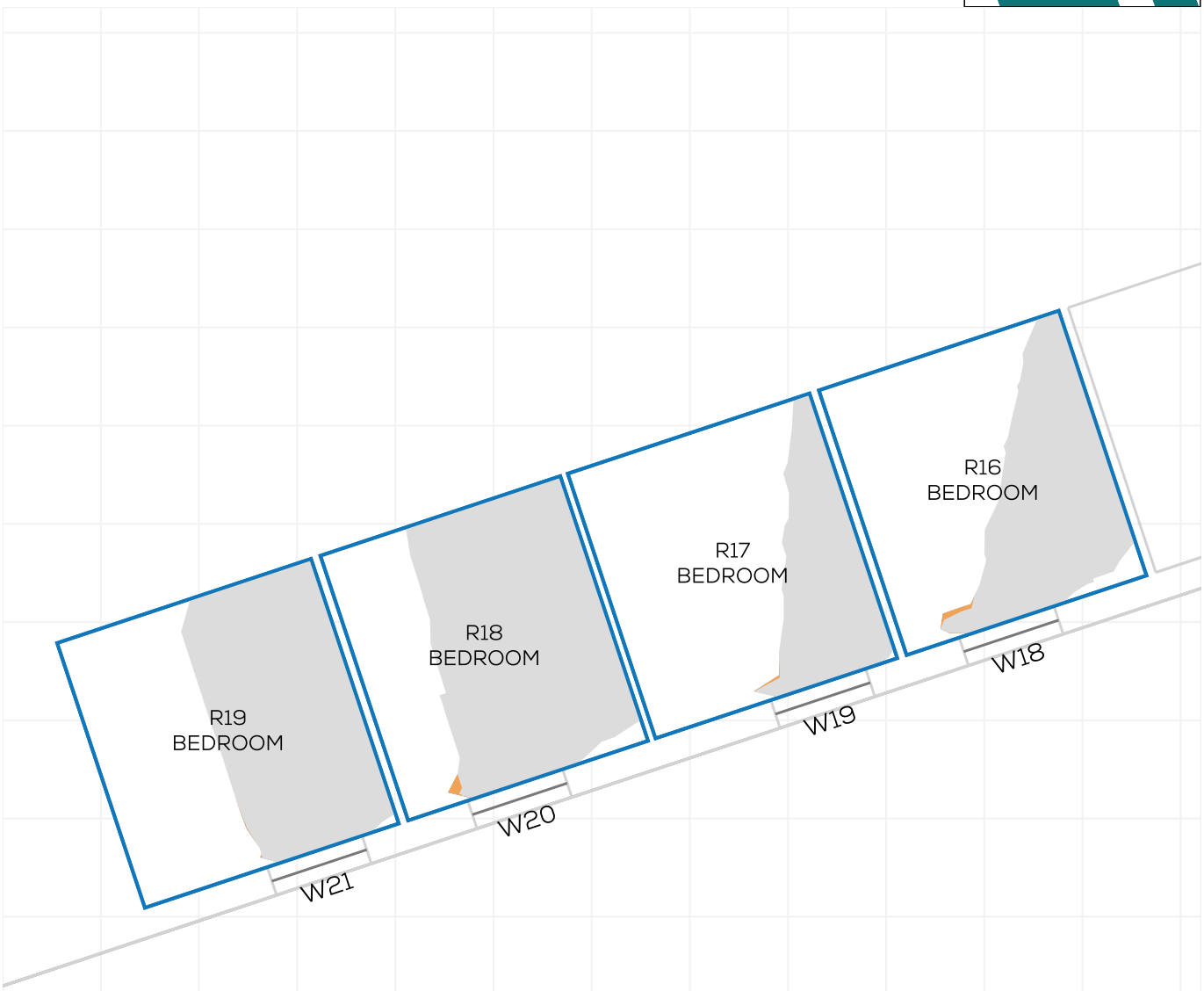
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F01	R11	RESIDENTIAL	BEDROOM	7.3	7.3	5.2	0.2	29.3
F01	R12	RESIDENTIAL	BEDROOM	7.3	14.1	12.2	0.1	13
F01	R13	RESIDENTIAL	BEDROOM	7.3	8.8	6.9	0.1	20.8
F01	R14	RESIDENTIAL	BEDROOM	7.3	21.2	18.6	0.2	12.3
F01	R15	RESIDENTIAL	BEDROOM	7.3	11.6	10.7	0.1	7.7

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL38

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F01

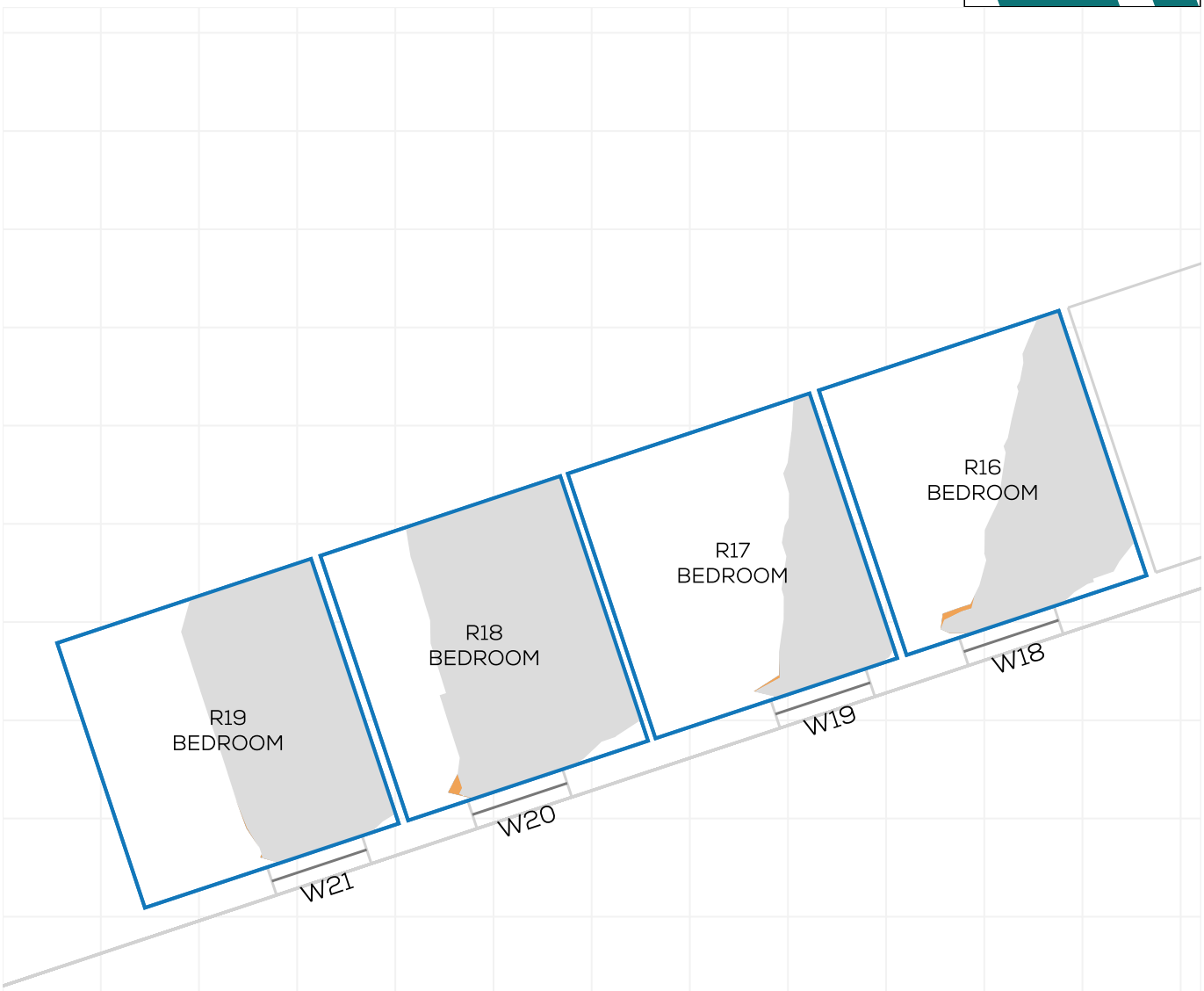
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F01	R16	RESIDENTIAL	BEDROOM	7.3	41.8	41.5	0.0	0.7
F01	R17	RESIDENTIAL	BEDROOM	7.4	28.5	28.5	0.0	0.3
F01	R18	RESIDENTIAL	BEDROOM	7.3	68.7	68.5	0.0	0.3
F01	R19	RESIDENTIAL	BEDROOM	7.7	53.8	53.7	0.0	0.1

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL38

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





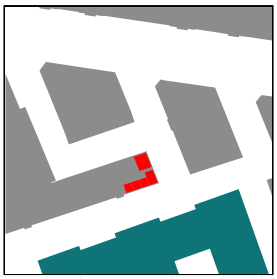
F01

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F01	R16	RESIDENTIAL	BEDROOM	7.3	41.8	41.5	0.0	0.7
F01	R17	RESIDENTIAL	BEDROOM	7.4	28.5	28.5	0.0	0.3
F01	R18	RESIDENTIAL	BEDROOM	7.3	68.7	68.5	0.0	0.3
F01	R19	RESIDENTIAL	BEDROOM	7.7	53.8	53.7	0.0	0.1

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL39

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





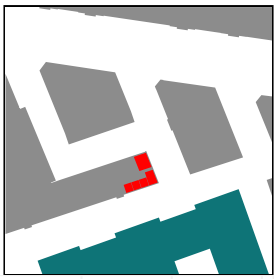
F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F02	R1	RESIDENTIAL	UNKNOWN	21.7	21.3	21.1	0.0	0.7
F02	R2	RESIDENTIAL	UNKNOWN	13.1	65.6	65.2	0.0	0.5
F02	R3	RESIDENTIAL	BEDROOM	7.3	5.8	2.2	0.3	62.7
F02	R4	RESIDENTIAL	BEDROOM	7.3	4.7	2.5	0.2	46.5
F02	R5	RESIDENTIAL	BEDROOM	7.3	5.6	3.4	0.2	39.8

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL39

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F02

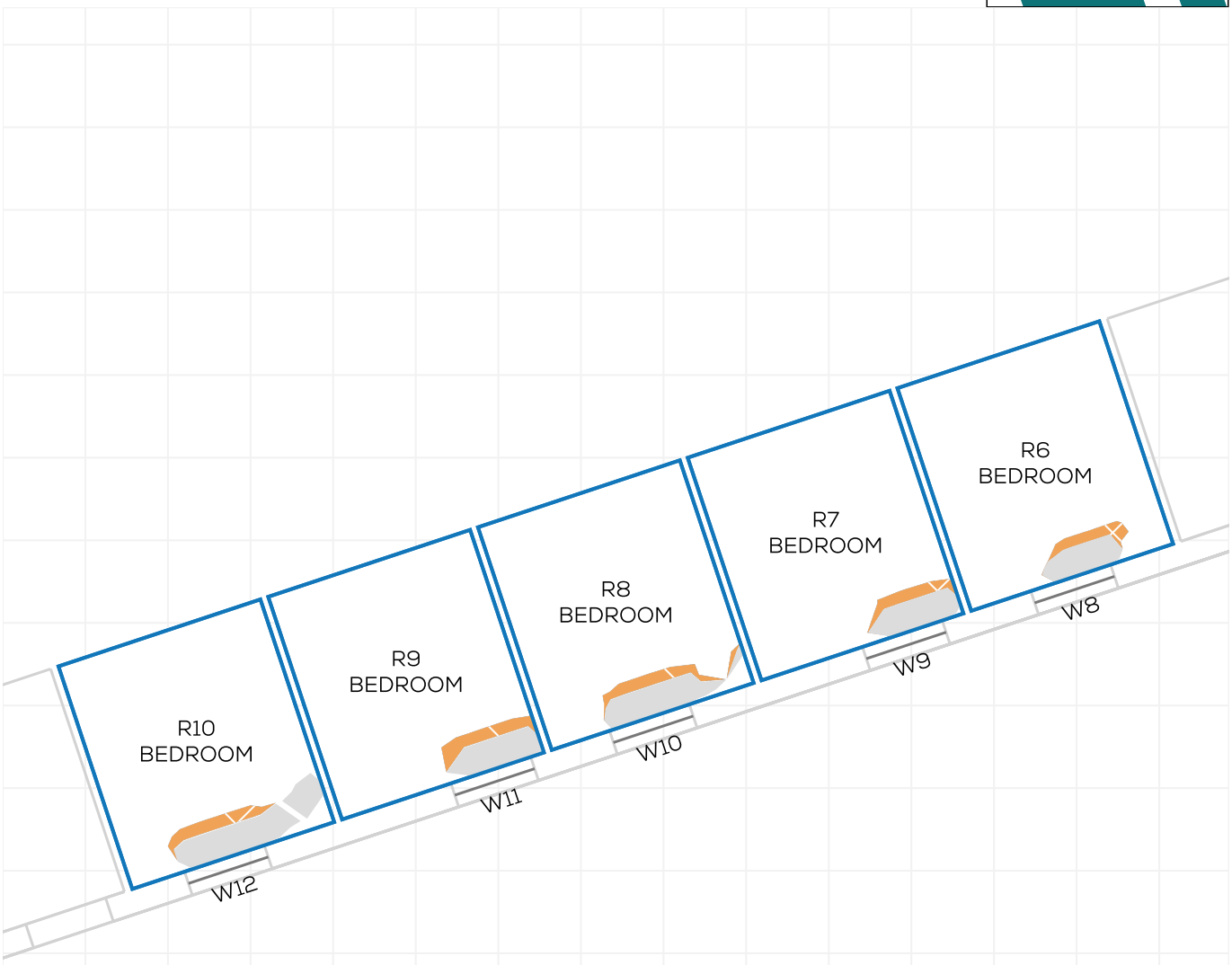
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F02	R1	RESIDENTIAL	UNKNOWN	21.7	21.3	21.1	0.0	0.7
F02	R2	RESIDENTIAL	UNKNOWN	13.1	65.6	65.2	0.0	0.5
F02	R3	RESIDENTIAL	BEDROOM	7.3	5.8	2.2	0.3	62.7
F02	R4	RESIDENTIAL	BEDROOM	7.3	4.7	2.5	0.2	46.5
F02	R5	RESIDENTIAL	BEDROOM	7.3	5.6	3.4	0.2	39.8

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL40

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F02

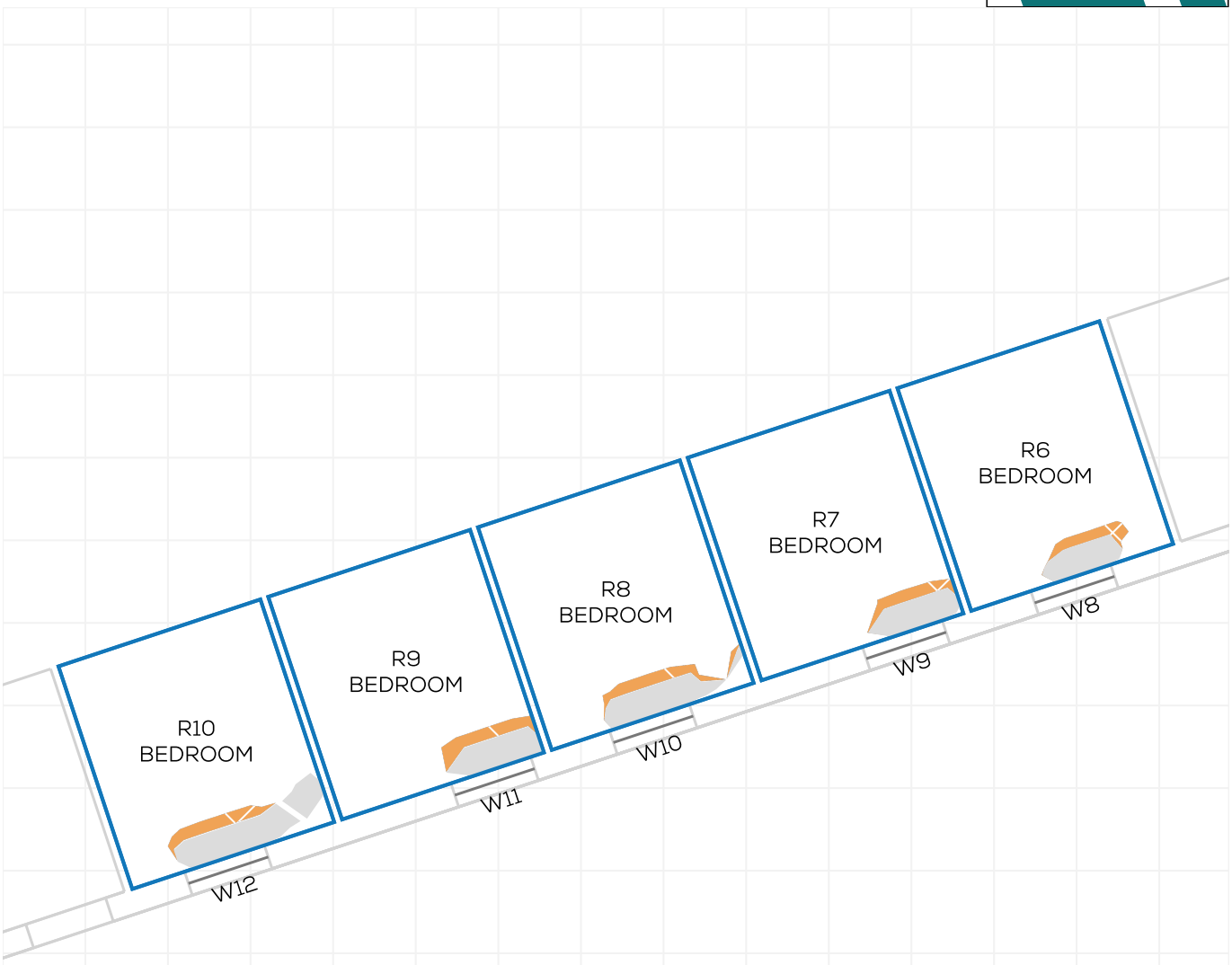
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F02	R6	RESIDENTIAL	BEDROOM	7.3	6	4.1	0.1	30.7
F02	R7	RESIDENTIAL	BEDROOM	7.3	6.8	4.8	0.1	29.4
F02	R8	RESIDENTIAL	BEDROOM	7.3	8.9	6.4	0.2	28.4
F02	R9	RESIDENTIAL	BEDROOM	7.3	7.7	5.1	0.2	34
F02	R10	RESIDENTIAL	BEDROOM	7.3	11.4	9	0.2	21.2

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL40

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F02

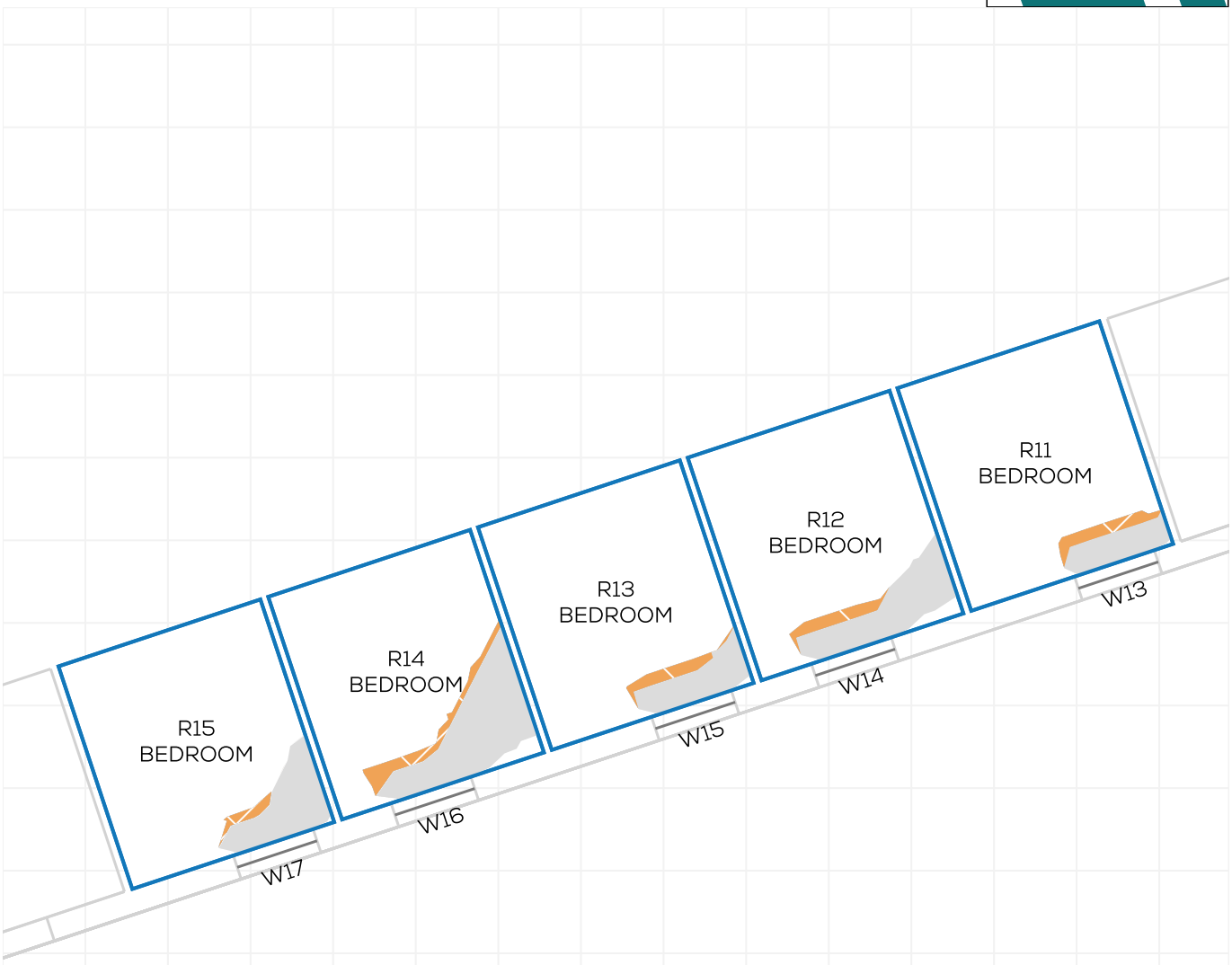
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F02	R6	RESIDENTIAL	BEDROOM	7.3	6	4.1	0.1	30.7
F02	R7	RESIDENTIAL	BEDROOM	7.3	6.8	4.8	0.1	29.4
F02	R8	RESIDENTIAL	BEDROOM	7.3	8.9	6.4	0.2	28.4
F02	R9	RESIDENTIAL	BEDROOM	7.3	7.7	5.1	0.2	34
F02	R10	RESIDENTIAL	BEDROOM	7.3	11.4	9	0.2	21.2

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL41

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F02

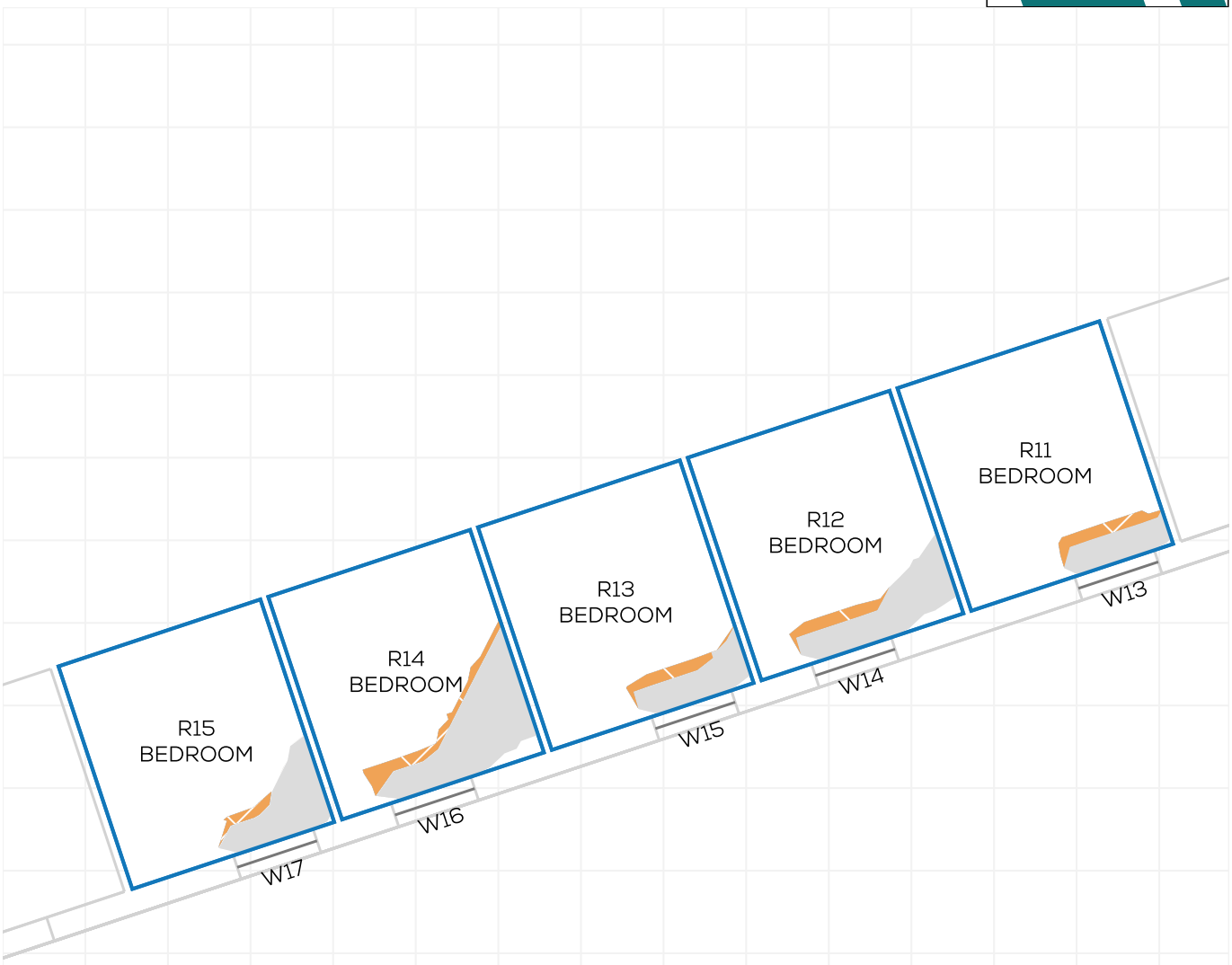
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F02	R11	RESIDENTIAL	BEDROOM	7.3	8.7	6.2	0.2	29.3
F02	R12	RESIDENTIAL	BEDROOM	7.3	15.4	13.1	0.2	14.7
F02	R13	RESIDENTIAL	BEDROOM	7.3	9.9	7.8	0.2	21.5
F02	R14	RESIDENTIAL	BEDROOM	7.3	22.7	19.2	0.3	15.5
F02	R15	RESIDENTIAL	BEDROOM	7.3	11.9	10.8	0.1	9.1

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL41

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F02

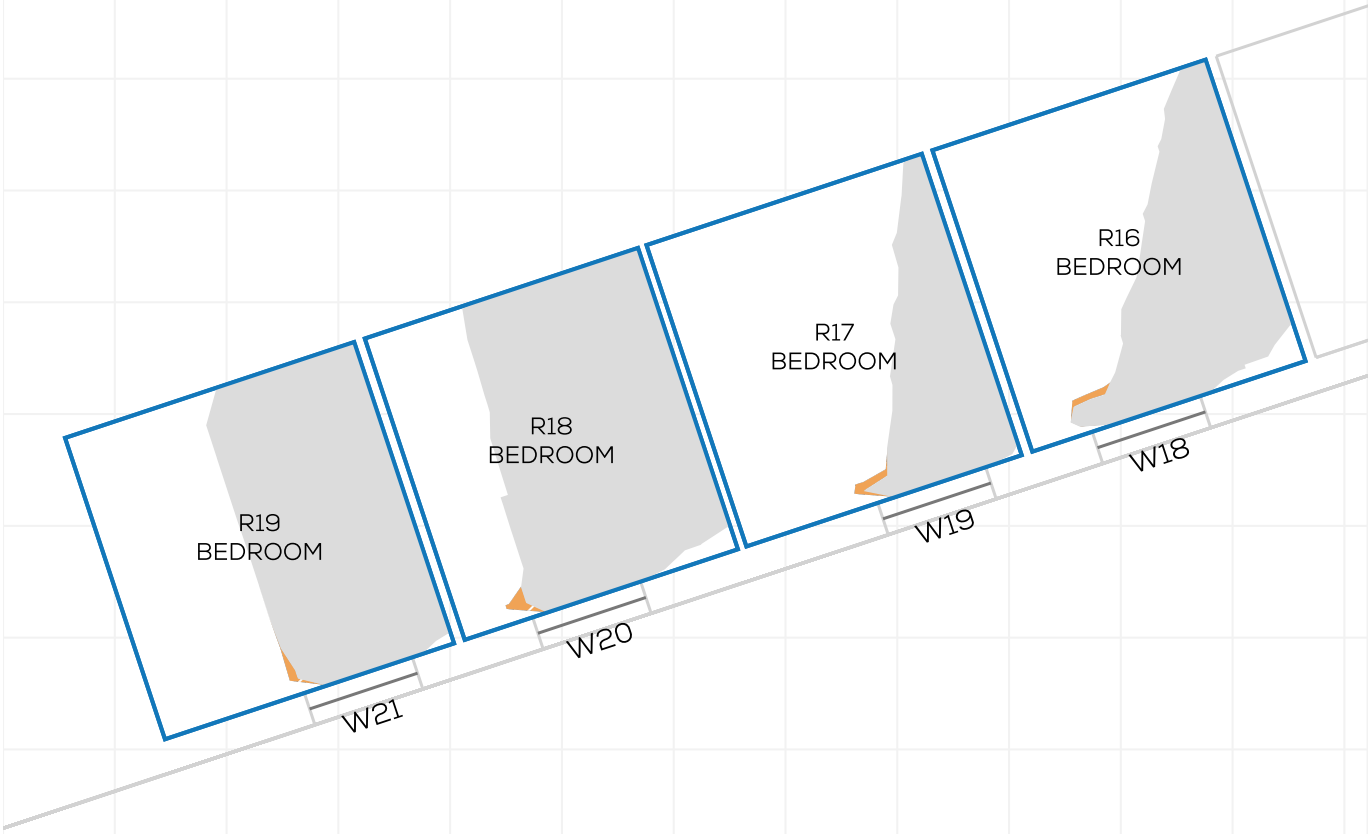
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F02	R11	RESIDENTIAL	BEDROOM	7.3	8.7	6.2	0.2	29.3
F02	R12	RESIDENTIAL	BEDROOM	7.3	15.4	13.1	0.2	14.7
F02	R13	RESIDENTIAL	BEDROOM	7.3	9.9	7.8	0.2	21.5
F02	R14	RESIDENTIAL	BEDROOM	7.3	22.7	19.2	0.3	15.5
F02	R15	RESIDENTIAL	BEDROOM	7.3	11.9	10.8	0.1	9.1

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL42

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F02

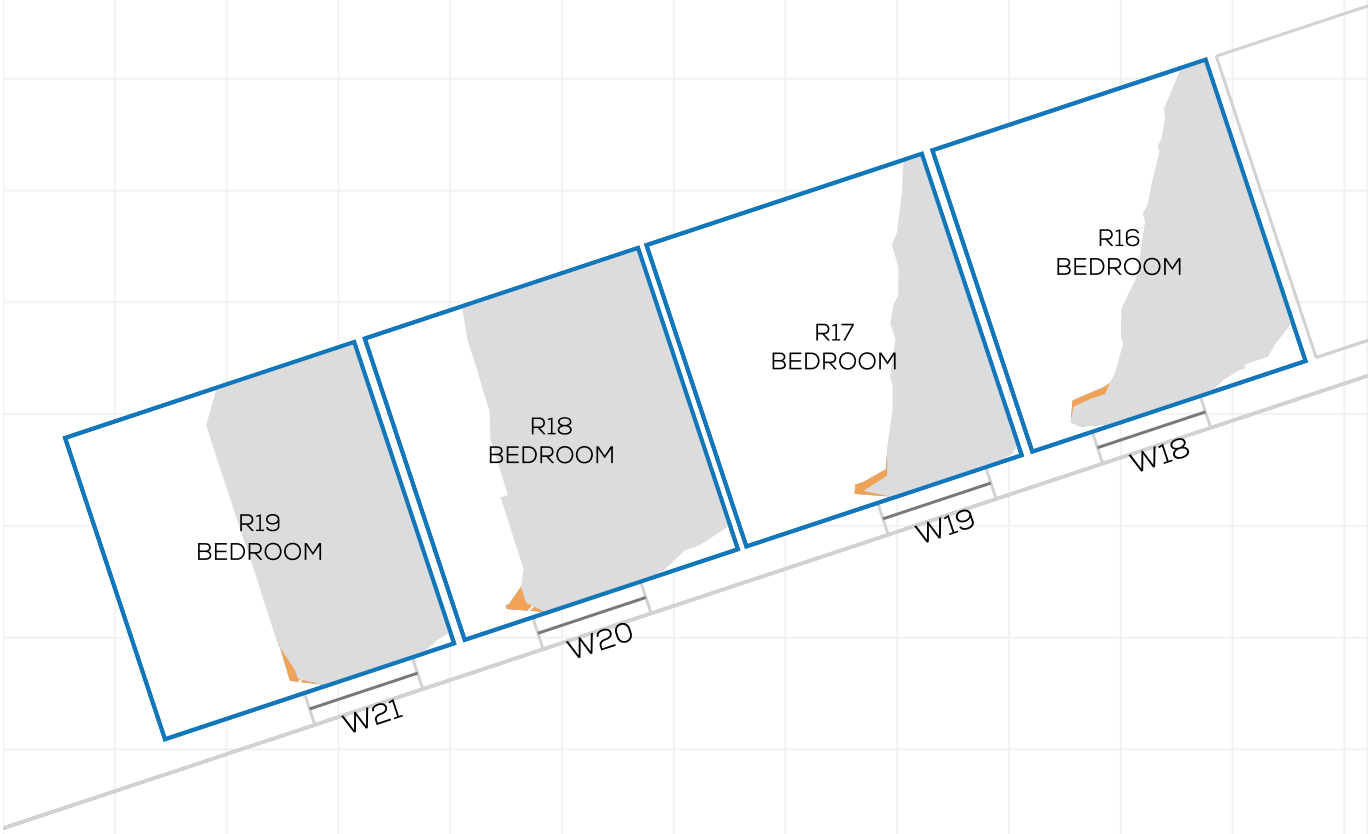
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F02	R16	RESIDENTIAL	BEDROOM	7.3	42	41.7	0.0	0.7
F02	R17	RESIDENTIAL	BEDROOM	7.4	28.8	28.4	0.0	1.4
F02	R18	RESIDENTIAL	BEDROOM	7.3	68.8	68.4	0.0	0.6
F02	R19	RESIDENTIAL	BEDROOM	7.7	53.9	53.7	0.0	0.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL42

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





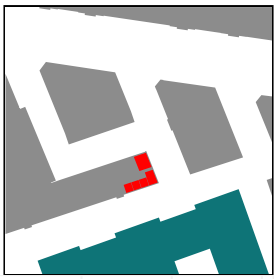
F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F02	R16	RESIDENTIAL	BEDROOM	7.3	42	41.7	0.0	0.7
F02	R17	RESIDENTIAL	BEDROOM	7.4	28.8	28.4	0.0	1.4
F02	R18	RESIDENTIAL	BEDROOM	7.3	68.8	68.4	0.0	0.6
F02	R19	RESIDENTIAL	BEDROOM	7.7	53.9	53.7	0.0	0.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL43

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





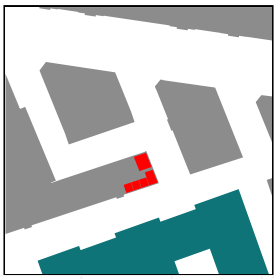
F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F03	R1	RESIDENTIAL	UNKNOWN	21.7	23.6	23.3	0.1	1
F03	R2	RESIDENTIAL	UNKNOWN	13.1	67.8	67.5	0.0	0.4
F03	R3	RESIDENTIAL	BEDROOM	7.3	6.1	4	0.2	34.8
F03	R4	RESIDENTIAL	BEDROOM	7.3	5.9	3.9	0.1	33.2
F03	R5	RESIDENTIAL	BEDROOM	7.3	6.4	4.6	0.1	28.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL43

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F03

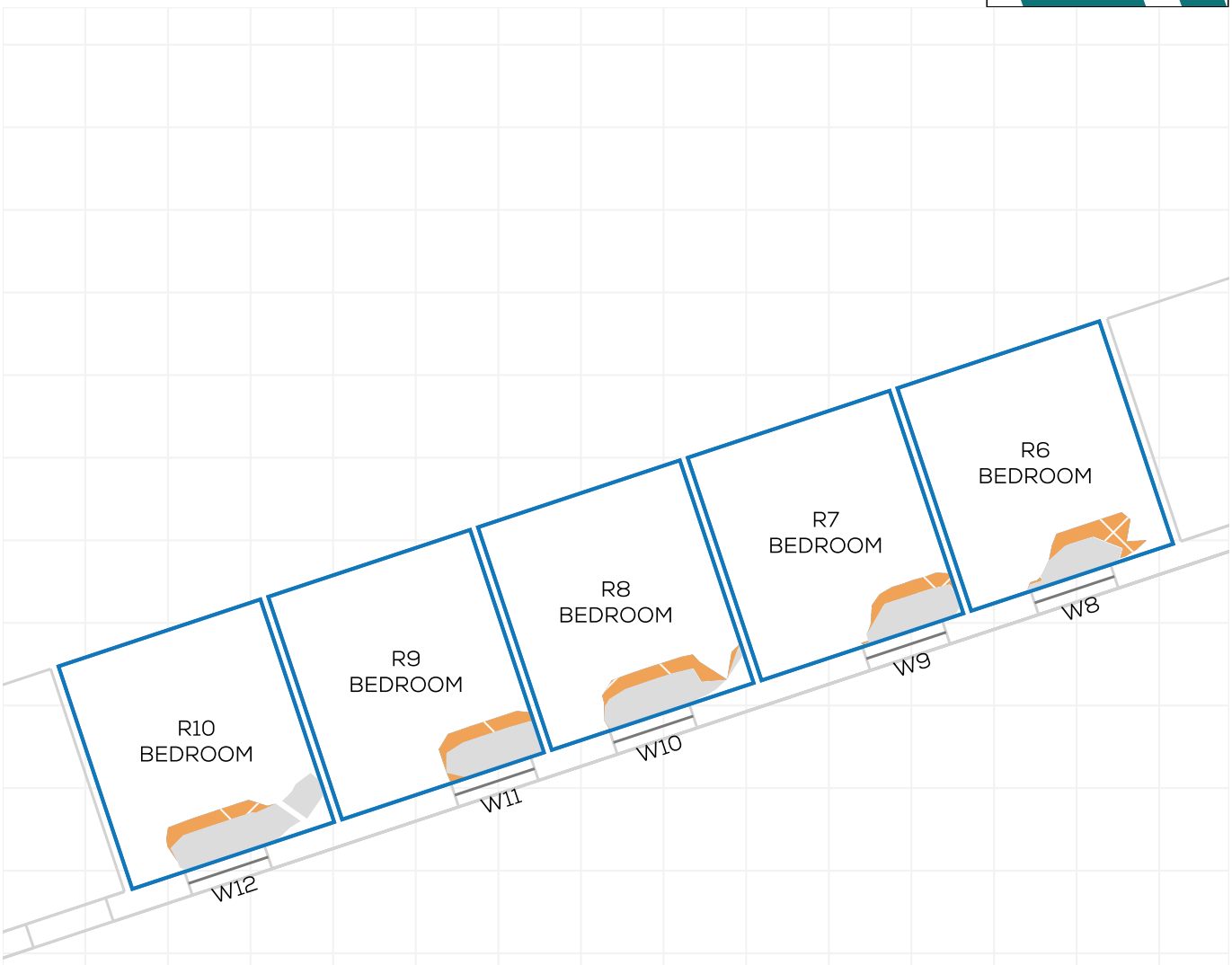
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F03	R1	RESIDENTIAL	UNKNOWN	21.7	23.6	23.3	0.1	1
F03	R2	RESIDENTIAL	UNKNOWN	13.1	67.8	67.5	0.0	0.4
F03	R3	RESIDENTIAL	BEDROOM	7.3	6.1	4	0.2	34.8
F03	R4	RESIDENTIAL	BEDROOM	7.3	5.9	3.9	0.1	33.2
F03	R5	RESIDENTIAL	BEDROOM	7.3	6.4	4.6	0.1	28.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL44

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F03

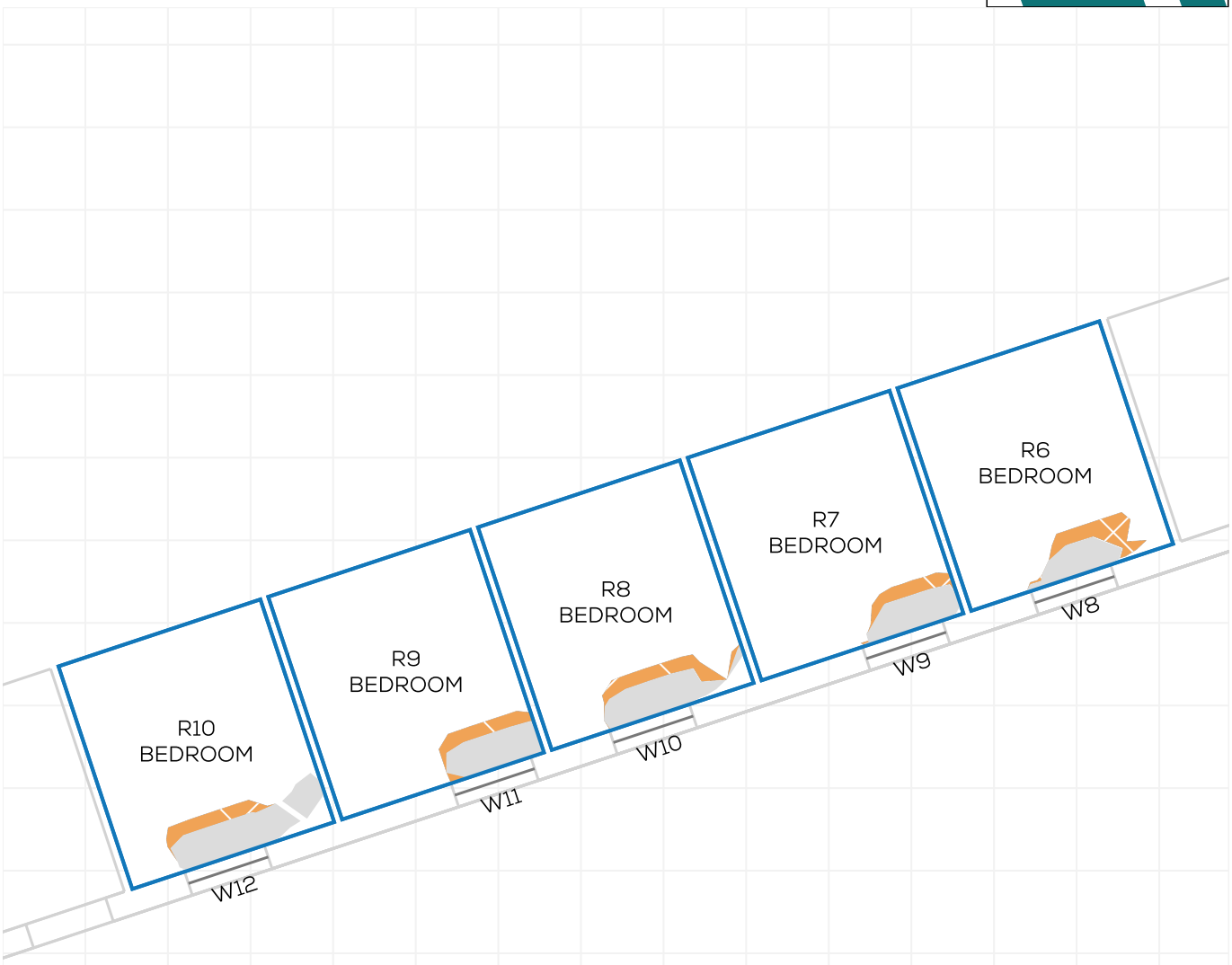
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F03	R6	RESIDENTIAL	BEDROOM	7.3	8.2	4.6	0.3	44.4
F03	R7	RESIDENTIAL	BEDROOM	7.3	8.3	5.8	0.2	29.5
F03	R8	RESIDENTIAL	BEDROOM	7.3	10.8	7.4	0.3	32.2
F03	R9	RESIDENTIAL	BEDROOM	7.3	9.2	6.4	0.2	30.8
F03	R10	RESIDENTIAL	BEDROOM	7.3	12.9	10.2	0.2	20.9

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL44

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F03

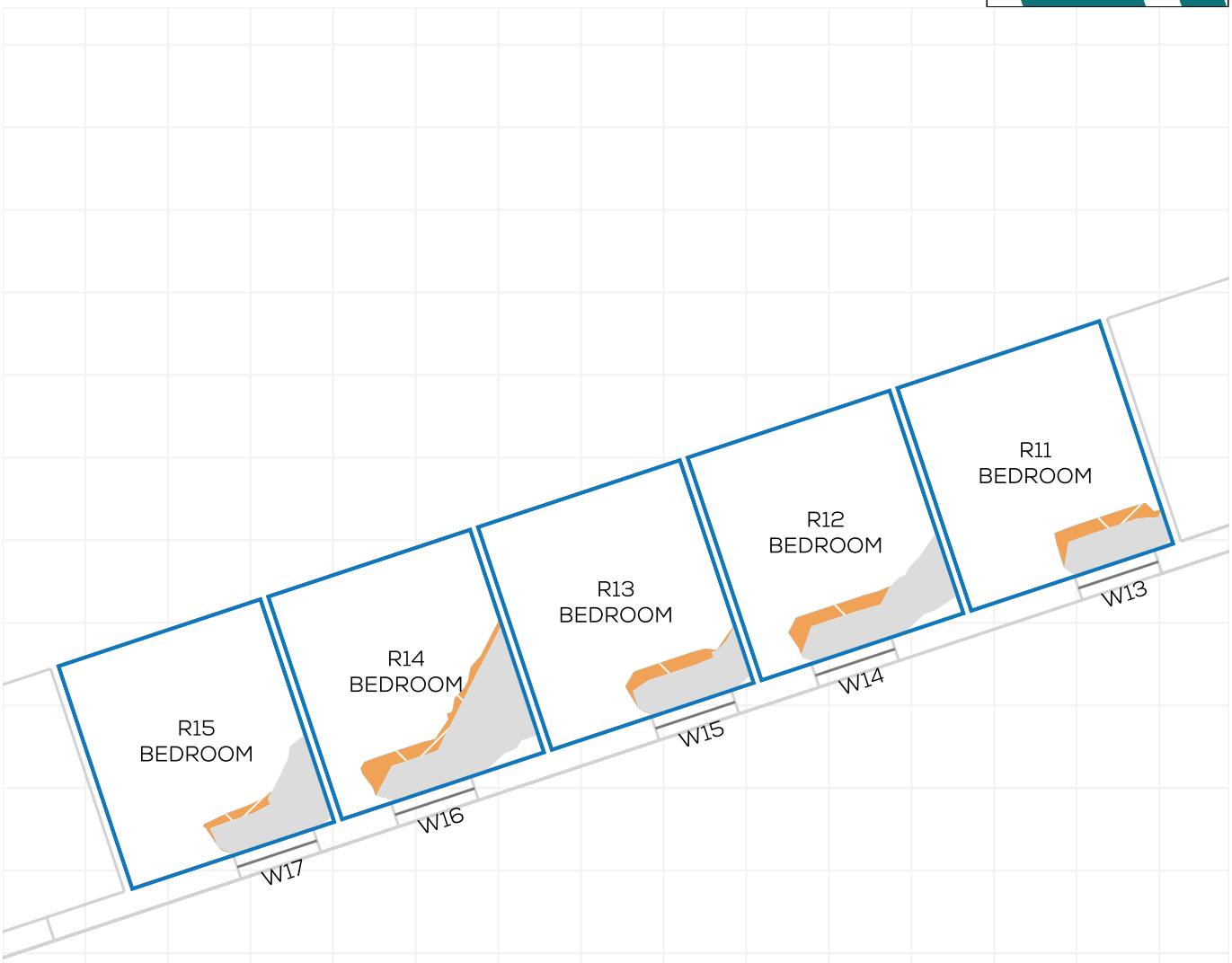
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F03	R6	RESIDENTIAL	BEDROOM	7.3	8.2	4.6	0.3	44.4
F03	R7	RESIDENTIAL	BEDROOM	7.3	8.3	5.8	0.2	29.5
F03	R8	RESIDENTIAL	BEDROOM	7.3	10.8	7.4	0.3	32.2
F03	R9	RESIDENTIAL	BEDROOM	7.3	9.2	6.4	0.2	30.8
F03	R10	RESIDENTIAL	BEDROOM	7.3	12.9	10.2	0.2	20.9

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL45

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F03

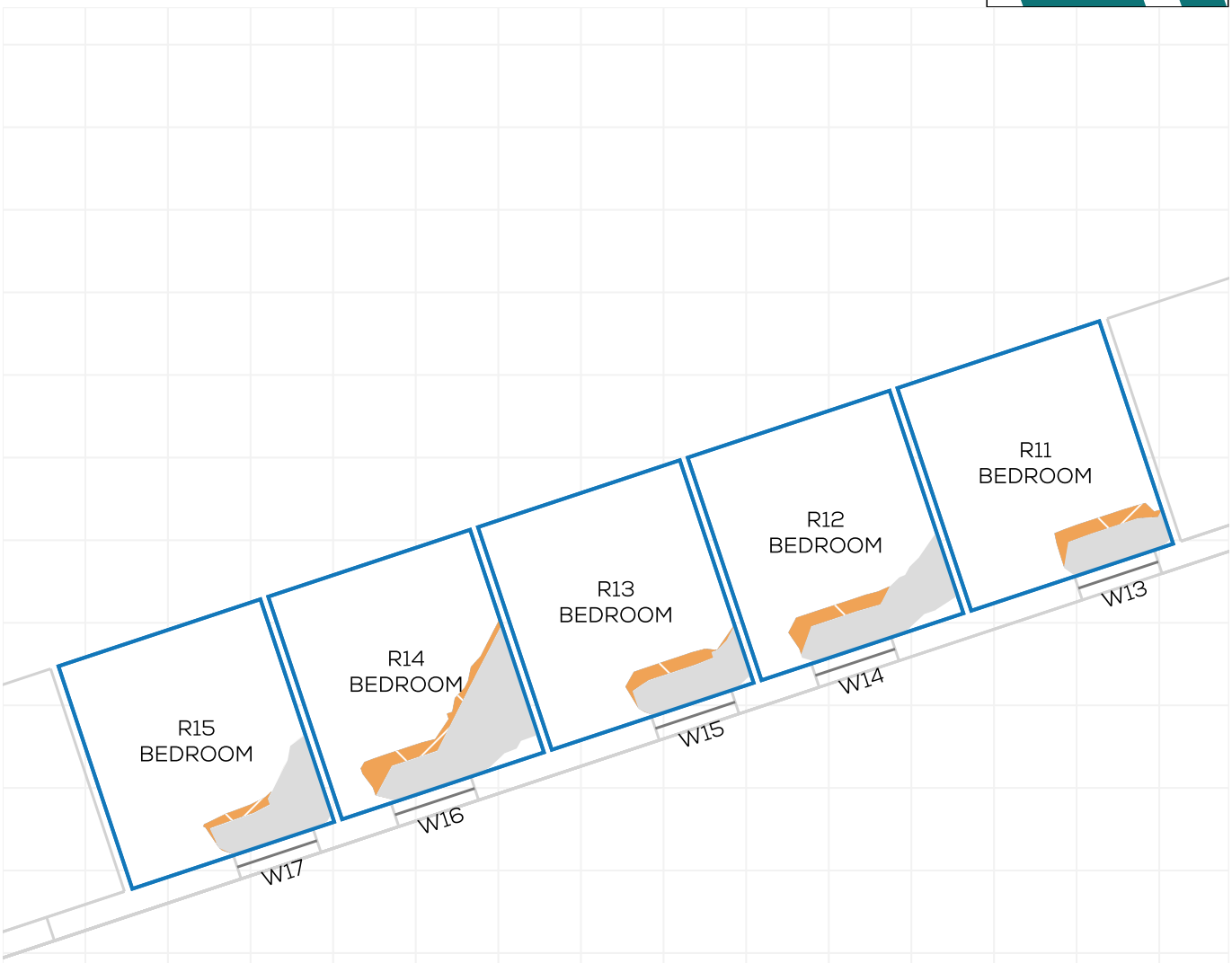
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F03	R11	RESIDENTIAL	BEDROOM	7.3	10.2	7.2	0.2	29.2
F03	R12	RESIDENTIAL	BEDROOM	7.3	16.8	13.7	0.2	18.2
F03	R13	RESIDENTIAL	BEDROOM	7.3	11.2	8.7	0.2	22.2
F03	R14	RESIDENTIAL	BEDROOM	7.3	23.9	19.8	0.3	17.3
F03	R15	RESIDENTIAL	BEDROOM	7.3	13	11.8	0.1	9.3

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL45

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F03

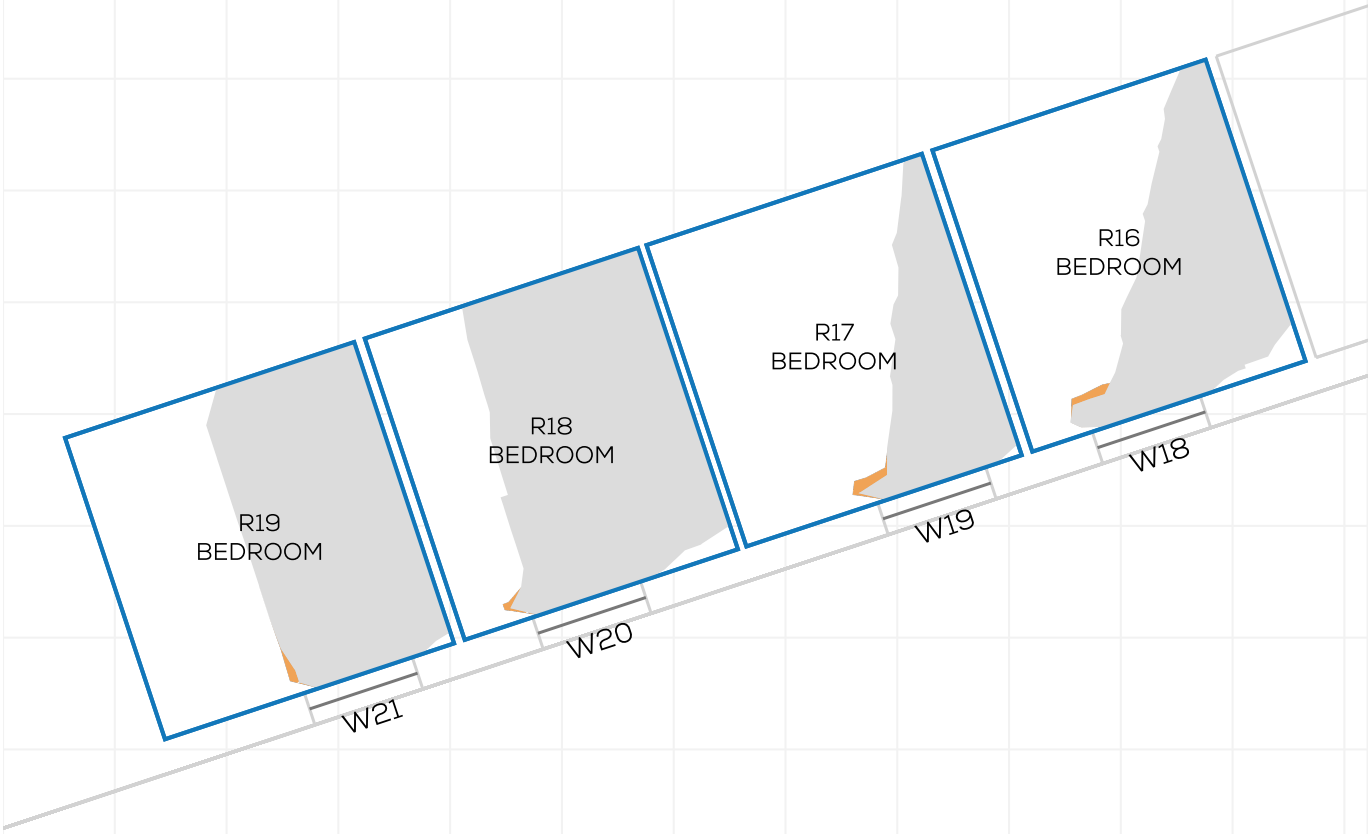
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F03	R11	RESIDENTIAL	BEDROOM	7.3	10.2	7.2	0.2	29.2
F03	R12	RESIDENTIAL	BEDROOM	7.3	16.8	13.7	0.2	18.2
F03	R13	RESIDENTIAL	BEDROOM	7.3	11.2	8.7	0.2	22.2
F03	R14	RESIDENTIAL	BEDROOM	7.3	23.9	19.8	0.3	17.3
F03	R15	RESIDENTIAL	BEDROOM	7.3	13	11.8	0.1	9.3

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL46

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F03

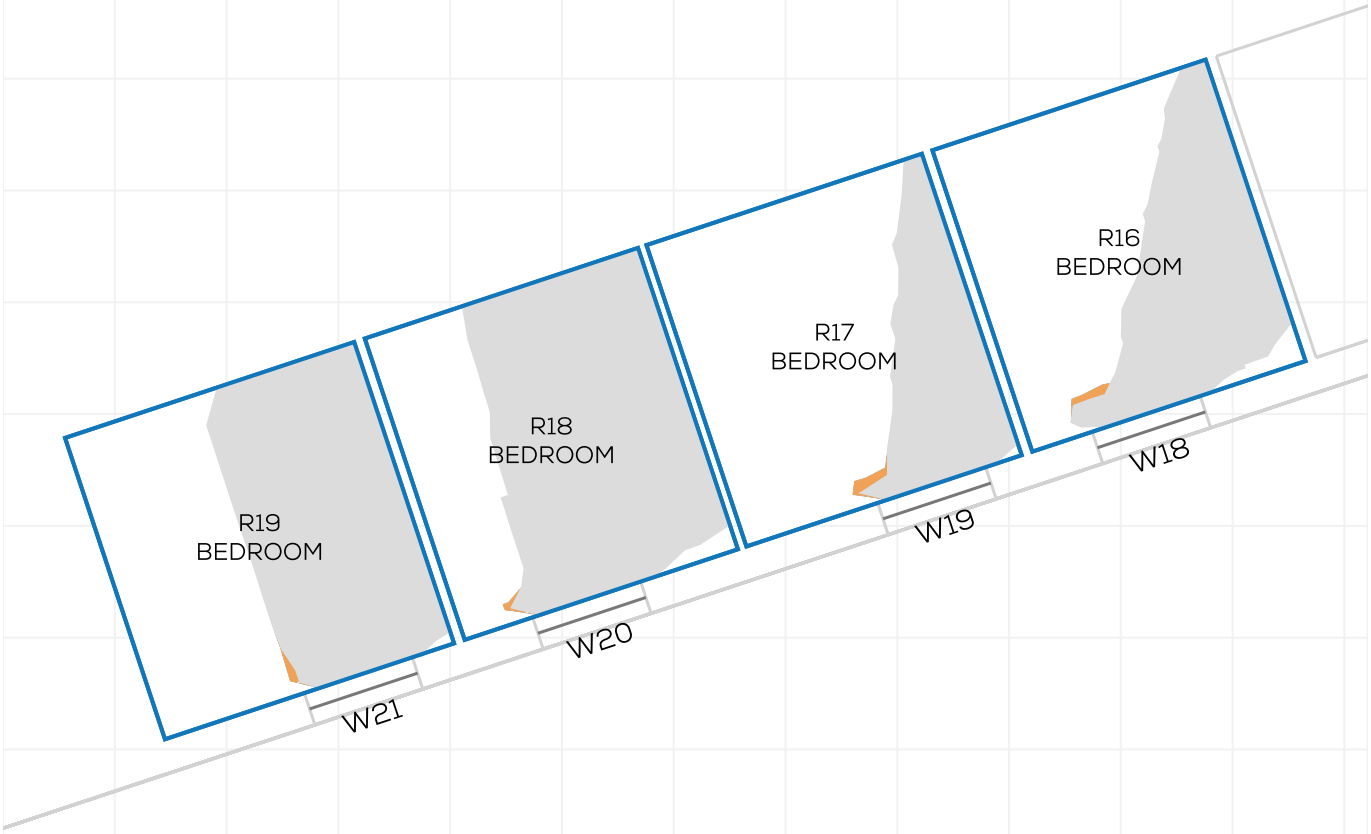
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F03	R16	RESIDENTIAL	BEDROOM	7.3	42.2	41.8	0.0	0.9
F03	R17	RESIDENTIAL	BEDROOM	7.4	28.9	28.5	0.0	1.7
F03	R18	RESIDENTIAL	BEDROOM	7.3	68.9	68.8	0.0	0.2
F03	R19	RESIDENTIAL	BEDROOM	7.7	54	53.8	0.0	0.4

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL46

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





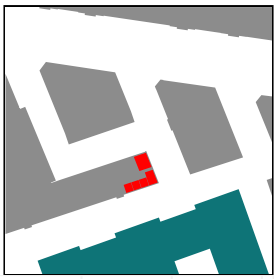
F03

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F03	R16	RESIDENTIAL	BEDROOM	7.3	42.2	41.8	0.0	0.9
F03	R17	RESIDENTIAL	BEDROOM	7.4	28.9	28.5	0.0	1.7
F03	R18	RESIDENTIAL	BEDROOM	7.3	68.9	68.8	0.0	0.2
F03	R19	RESIDENTIAL	BEDROOM	7.7	54	53.8	0.0	0.4

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL47

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





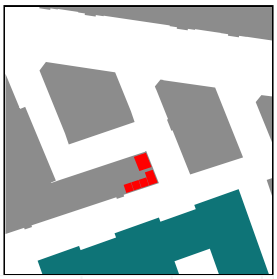
F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F04	R1	RESIDENTIAL	UNKNOWN	21.7	30.6	30.3	0.1	0.9
F04	R2	RESIDENTIAL	UNKNOWN	13.1	72.9	72.4	0.1	0.6
F04	R3	RESIDENTIAL	BEDROOM	7.3	7	4.9	0.1	29.1
F04	R4	RESIDENTIAL	BEDROOM	7.3	7.5	4.6	0.2	38.8
F04	R5	RESIDENTIAL	BEDROOM	7.3	7	5.7	0.1	19.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL47

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F04

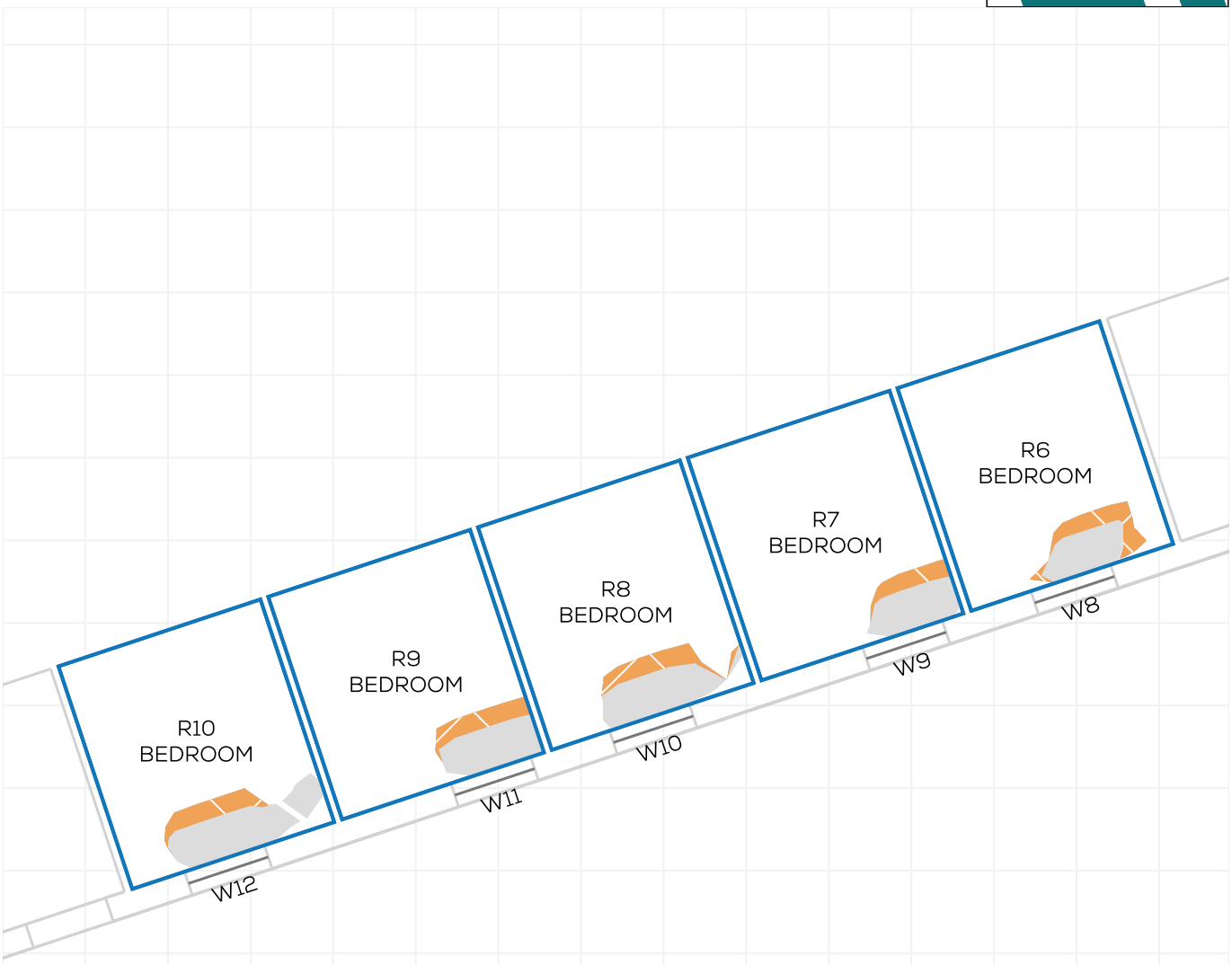
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F04	R1	RESIDENTIAL	UNKNOWN	21.7	30.6	30.3	0.1	0.9
F04	R2	RESIDENTIAL	UNKNOWN	13.1	72.9	72.4	0.1	0.6
F04	R3	RESIDENTIAL	BEDROOM	7.3	7	4.9	0.1	29.1
F04	R4	RESIDENTIAL	BEDROOM	7.3	7.5	4.6	0.2	38.8
F04	R5	RESIDENTIAL	BEDROOM	7.3	7	5.7	0.1	19.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL48

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F04

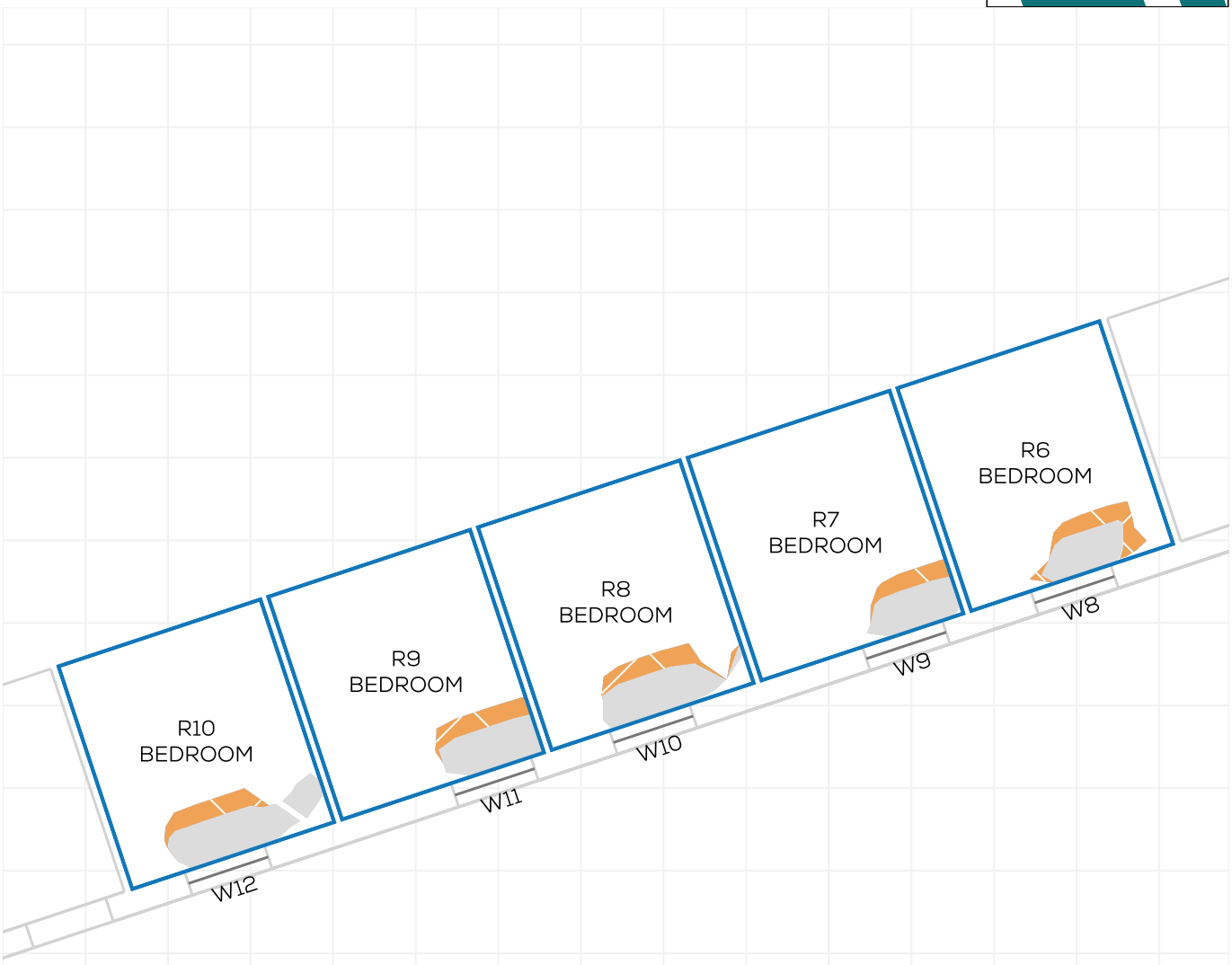
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F04	R6	RESIDENTIAL	BEDROOM	7.3	10.2	6.1	0.3	40.2
F04	R7	RESIDENTIAL	BEDROOM	7.3	9.6	7	0.2	27.4
F04	R8	RESIDENTIAL	BEDROOM	7.3	13.1	9.2	0.3	29.7
F04	R9	RESIDENTIAL	BEDROOM	7.3	11.4	7.9	0.3	31.3
F04	R10	RESIDENTIAL	BEDROOM	7.3	15.1	11.5	0.3	23.4

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL48

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F04

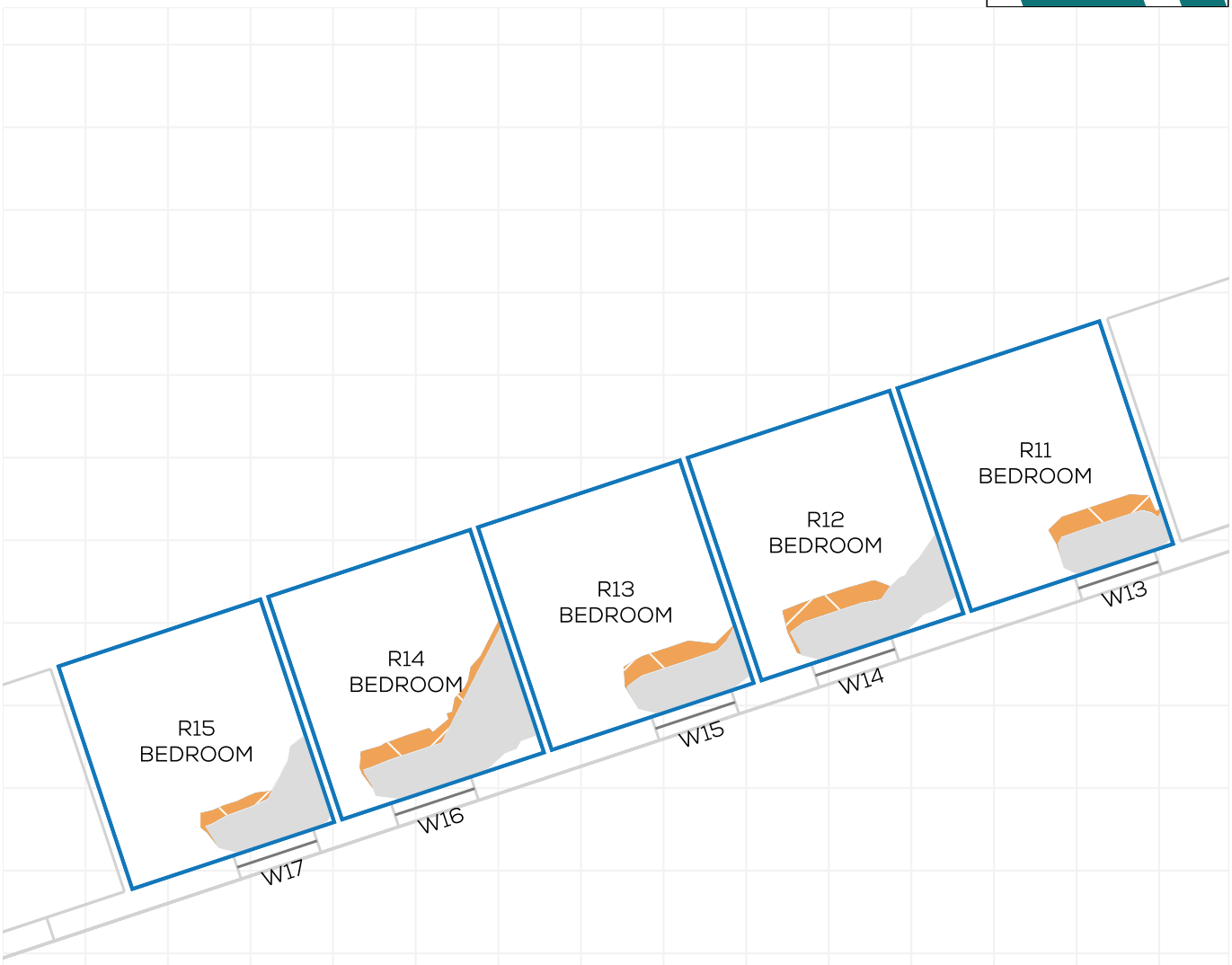
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F04	R6	RESIDENTIAL	BEDROOM	7.3	10.2	6.1	0.3	40.2
F04	R7	RESIDENTIAL	BEDROOM	7.3	9.6	7	0.2	27.4
F04	R8	RESIDENTIAL	BEDROOM	7.3	13.1	9.2	0.3	29.7
F04	R9	RESIDENTIAL	BEDROOM	7.3	11.4	7.9	0.3	31.3
F04	R10	RESIDENTIAL	BEDROOM	7.3	15.1	11.5	0.3	23.4

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL49

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F04

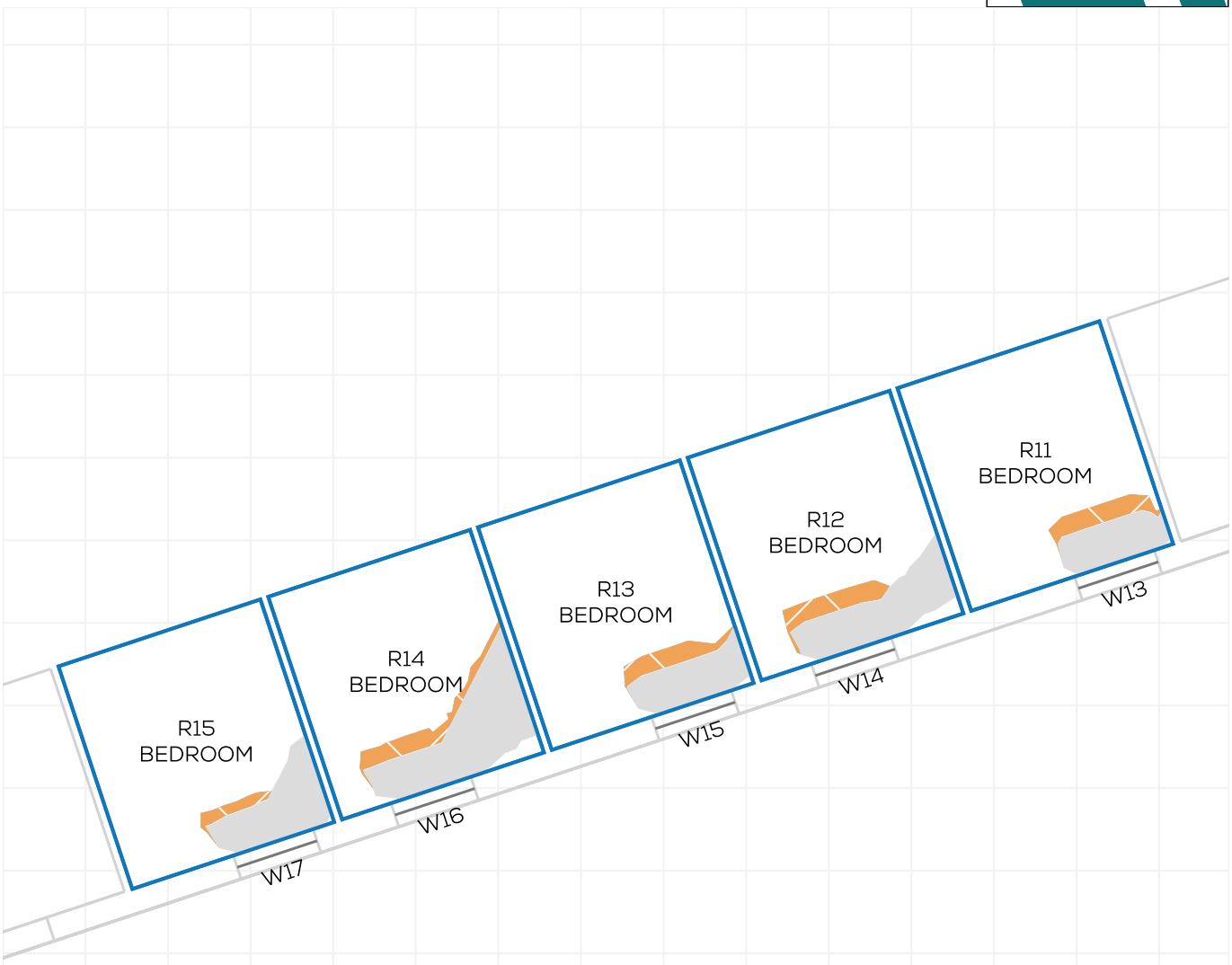
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F04	R11	RESIDENTIAL	BEDROOM	7.3	12.6	8.8	0.3	30.6
F04	R12	RESIDENTIAL	BEDROOM	7.3	19.4	15.3	0.3	21.1
F04	R13	RESIDENTIAL	BEDROOM	7.3	13.3	9.9	0.3	25.7
F04	R14	RESIDENTIAL	BEDROOM	7.3	25.7	21.4	0.3	16.9
F04	R15	RESIDENTIAL	BEDROOM	7.3	14.3	12.6	0.1	11.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL49

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F04

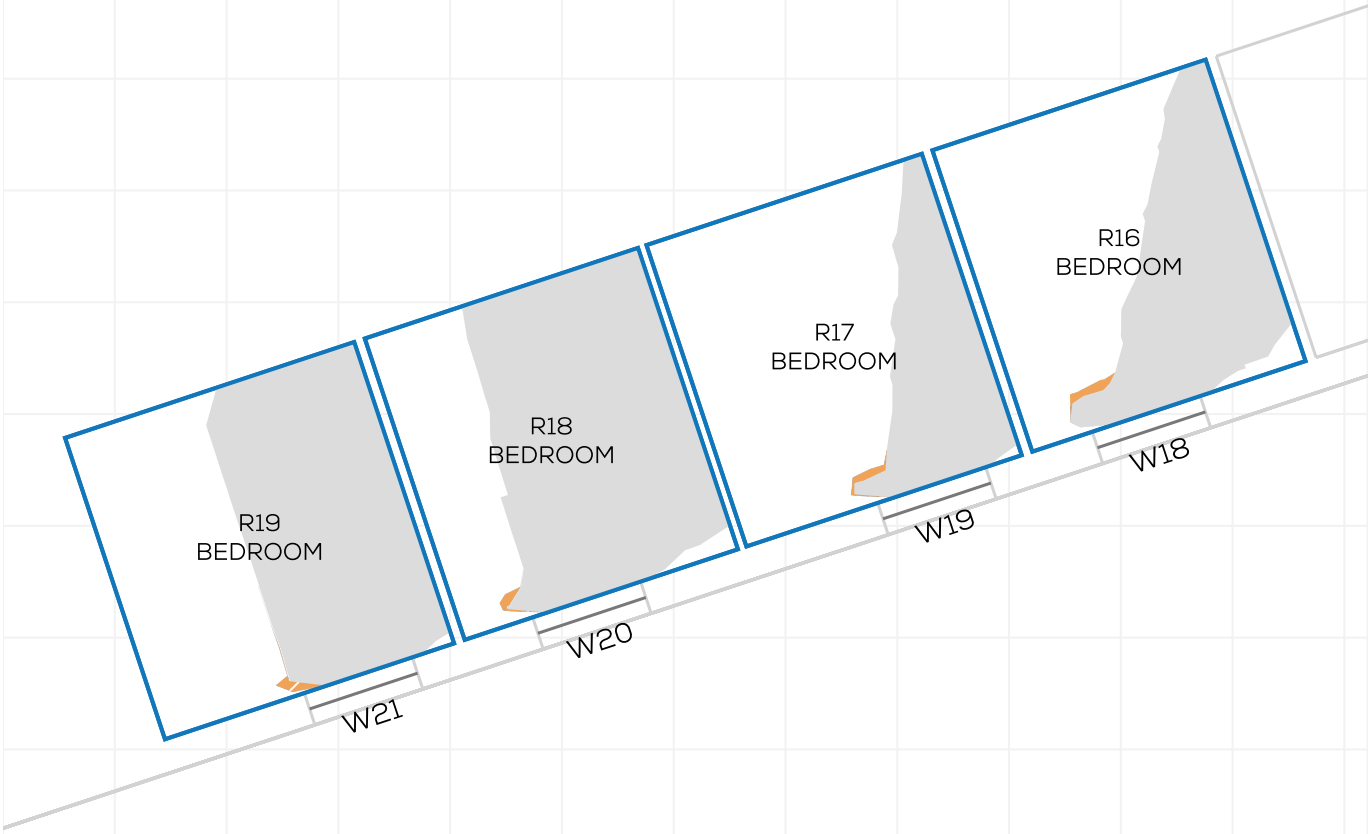
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F04	R11	RESIDENTIAL	BEDROOM	7.3	12.6	8.8	0.3	30.6
F04	R12	RESIDENTIAL	BEDROOM	7.3	19.4	15.3	0.3	21.1
F04	R13	RESIDENTIAL	BEDROOM	7.3	13.3	9.9	0.3	25.7
F04	R14	RESIDENTIAL	BEDROOM	7.3	25.7	21.4	0.3	16.9
F04	R15	RESIDENTIAL	BEDROOM	7.3	14.3	12.6	0.1	11.5

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL50

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F04

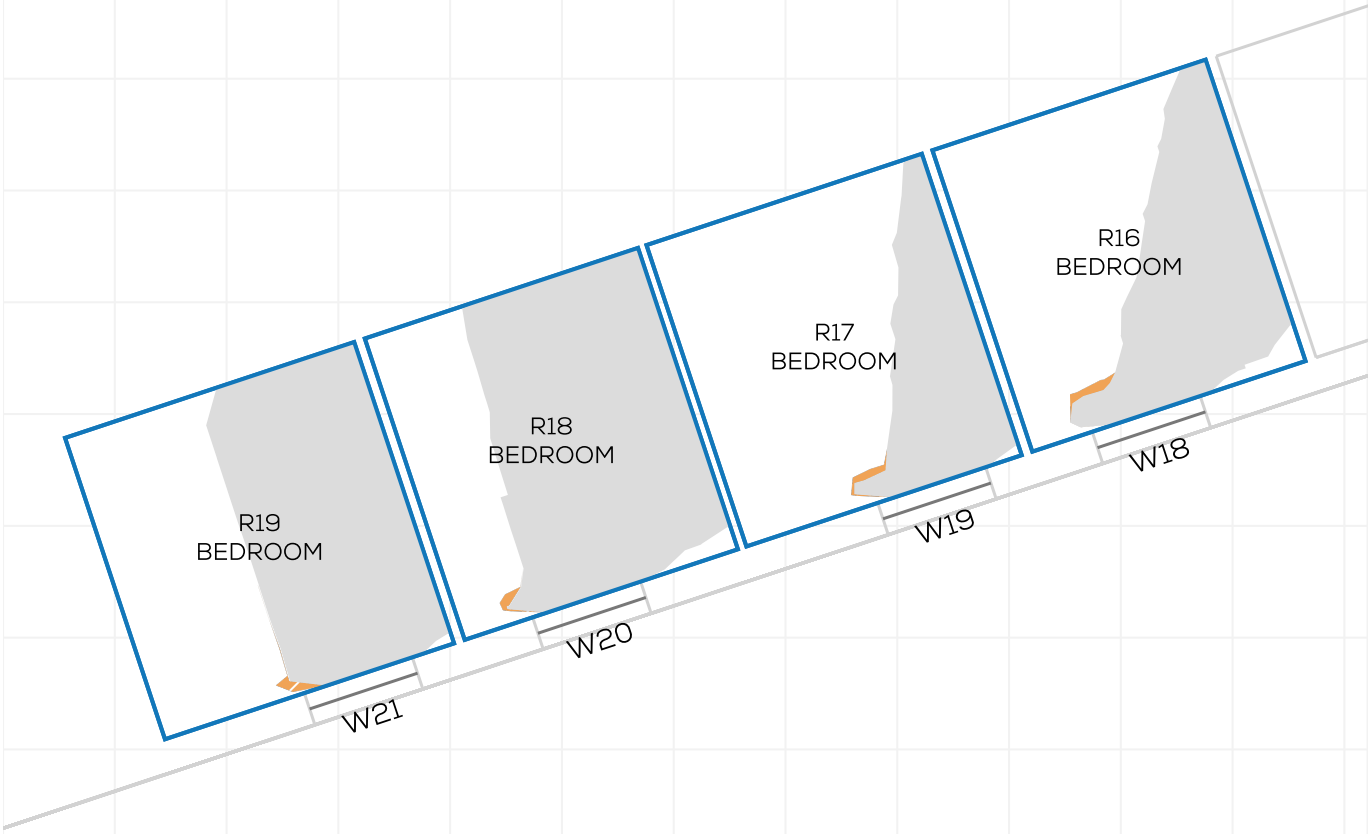
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F04	R16	RESIDENTIAL	BEDROOM	7.3	42.5	42	0.0	1.1
F04	R17	RESIDENTIAL	BEDROOM	7.4	29	28.7	0.0	1.3
F04	R18	RESIDENTIAL	BEDROOM	7.3	69	68.7	0.0	0.4
F04	R19	RESIDENTIAL	BEDROOM	7.7	54.3	53.9	0.0	0.6

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL50

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





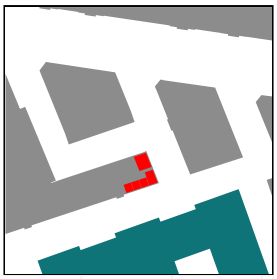
F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F04	R16	RESIDENTIAL	BEDROOM	7.3	42.5	42	0.0	1.1
F04	R17	RESIDENTIAL	BEDROOM	7.4	29	28.7	0.0	1.3
F04	R18	RESIDENTIAL	BEDROOM	7.3	69	68.7	0.0	0.4
F04	R19	RESIDENTIAL	BEDROOM	7.7	54.3	53.9	0.0	0.6

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL51

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





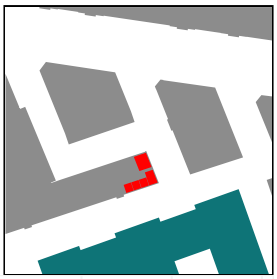
F05

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F05	R1	RESIDENTIAL	UNKNOWN	21.7	45.9	45.6	0.1	0.6
F05	R2	RESIDENTIAL	UNKNOWN	13.1	82.5	82.4	0.0	0.1
F05	R3	RESIDENTIAL	BEDROOM	7.3	7.4	5.3	0.2	28.1
F05	R4	RESIDENTIAL	BEDROOM	7.3	8.7	5	0.3	42.6
F05	R5	RESIDENTIAL	BEDROOM	7.3	8	6.4	0.1	20.9

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL51

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F05

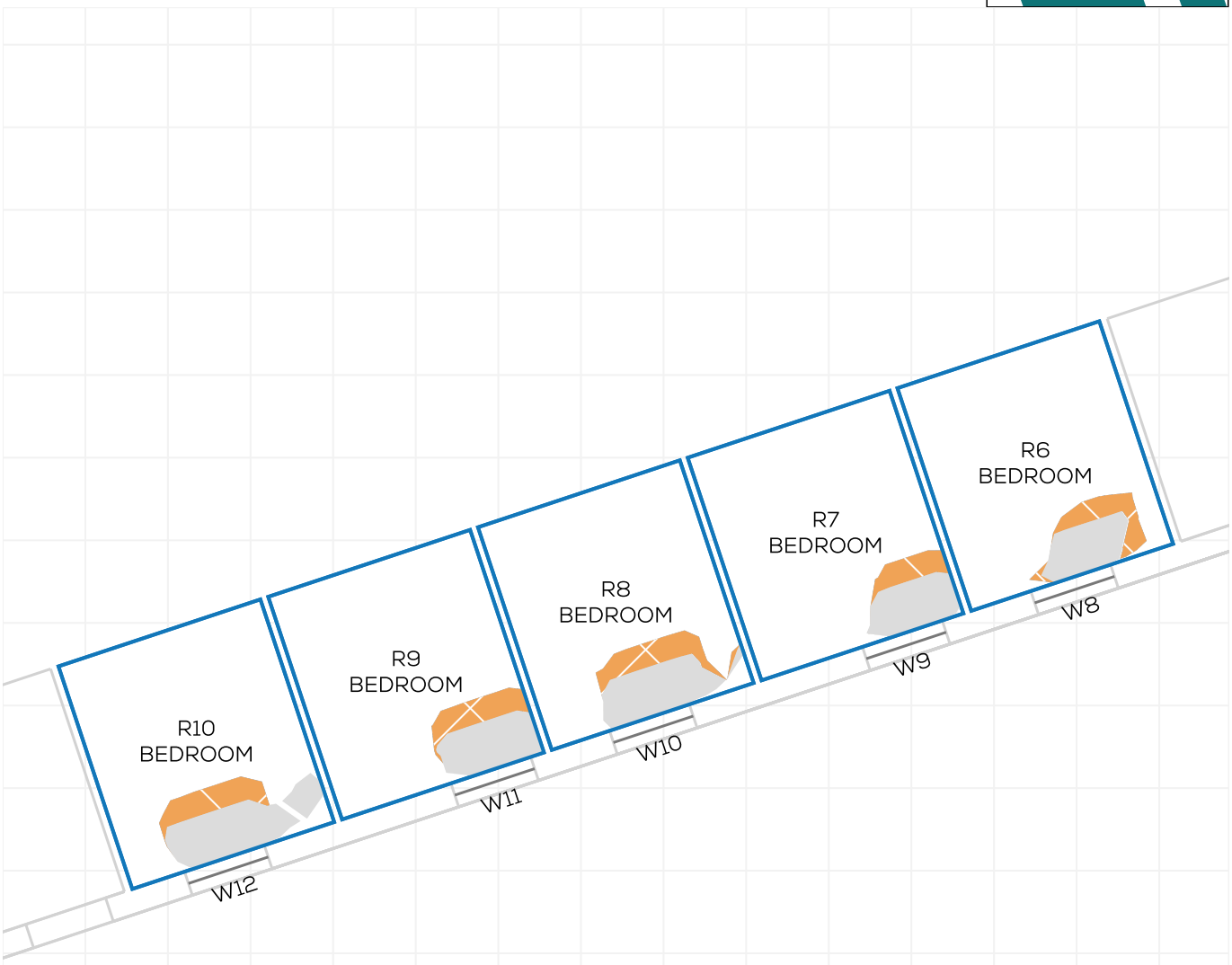
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F05	R1	RESIDENTIAL	UNKNOWN	21.7	45.9	45.6	0.1	0.6
F05	R2	RESIDENTIAL	UNKNOWN	13.1	82.5	82.4	0.0	0.1
F05	R3	RESIDENTIAL	BEDROOM	7.3	7.4	5.3	0.2	28.1
F05	R4	RESIDENTIAL	BEDROOM	7.3	8.7	5	0.3	42.6
F05	R5	RESIDENTIAL	BEDROOM	7.3	8	6.4	0.1	20.9

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL52

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F05

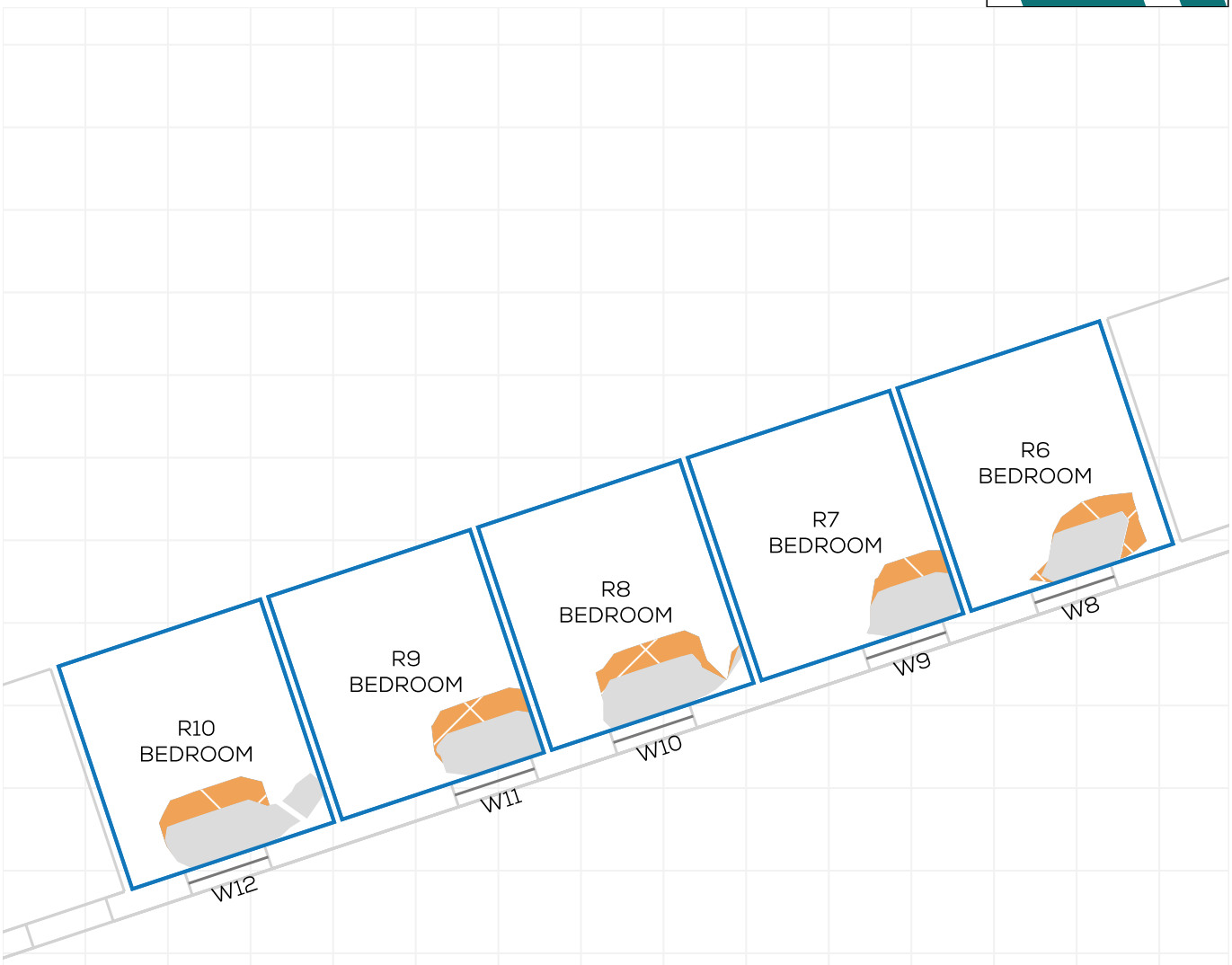
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F05	R6	RESIDENTIAL	BEDROOM	7.3	12.2	7.5	0.3	38.9
F05	R7	RESIDENTIAL	BEDROOM	7.3	11.6	8.1	0.3	29.8
F05	R8	RESIDENTIAL	BEDROOM	7.3	16.3	10.7	0.4	34.5
F05	R9	RESIDENTIAL	BEDROOM	7.3	14	9.2	0.4	34.7
F05	R10	RESIDENTIAL	BEDROOM	7.3	18.1	12.9	0.4	28.6

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL52

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F05

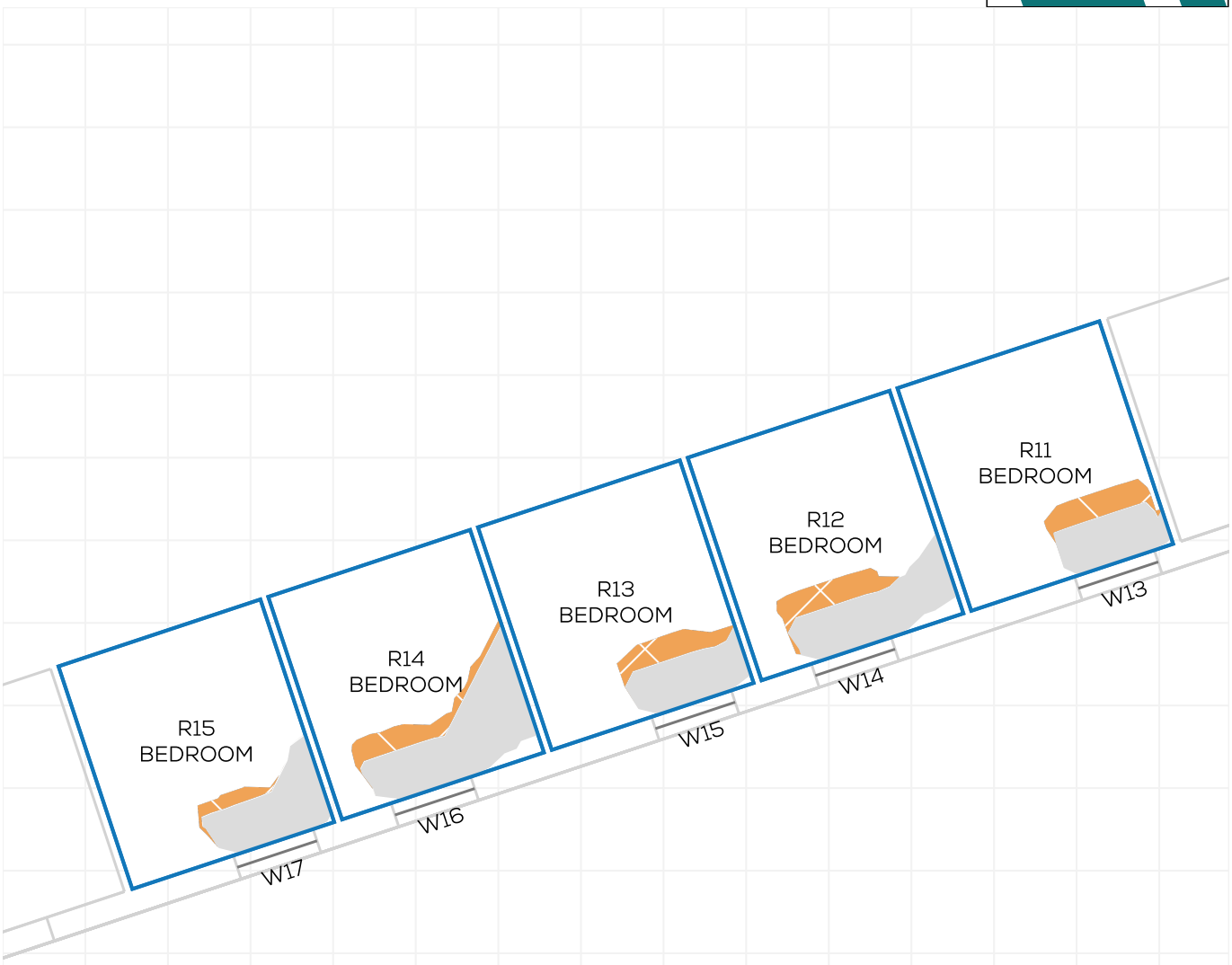
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F05	R6	RESIDENTIAL	BEDROOM	7.3	12.2	7.5	0.3	38.9
F05	R7	RESIDENTIAL	BEDROOM	7.3	11.6	8.1	0.3	29.8
F05	R8	RESIDENTIAL	BEDROOM	7.3	16.3	10.7	0.4	34.5
F05	R9	RESIDENTIAL	BEDROOM	7.3	14	9.2	0.4	34.7
F05	R10	RESIDENTIAL	BEDROOM	7.3	18.1	12.9	0.4	28.6

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL53

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F05

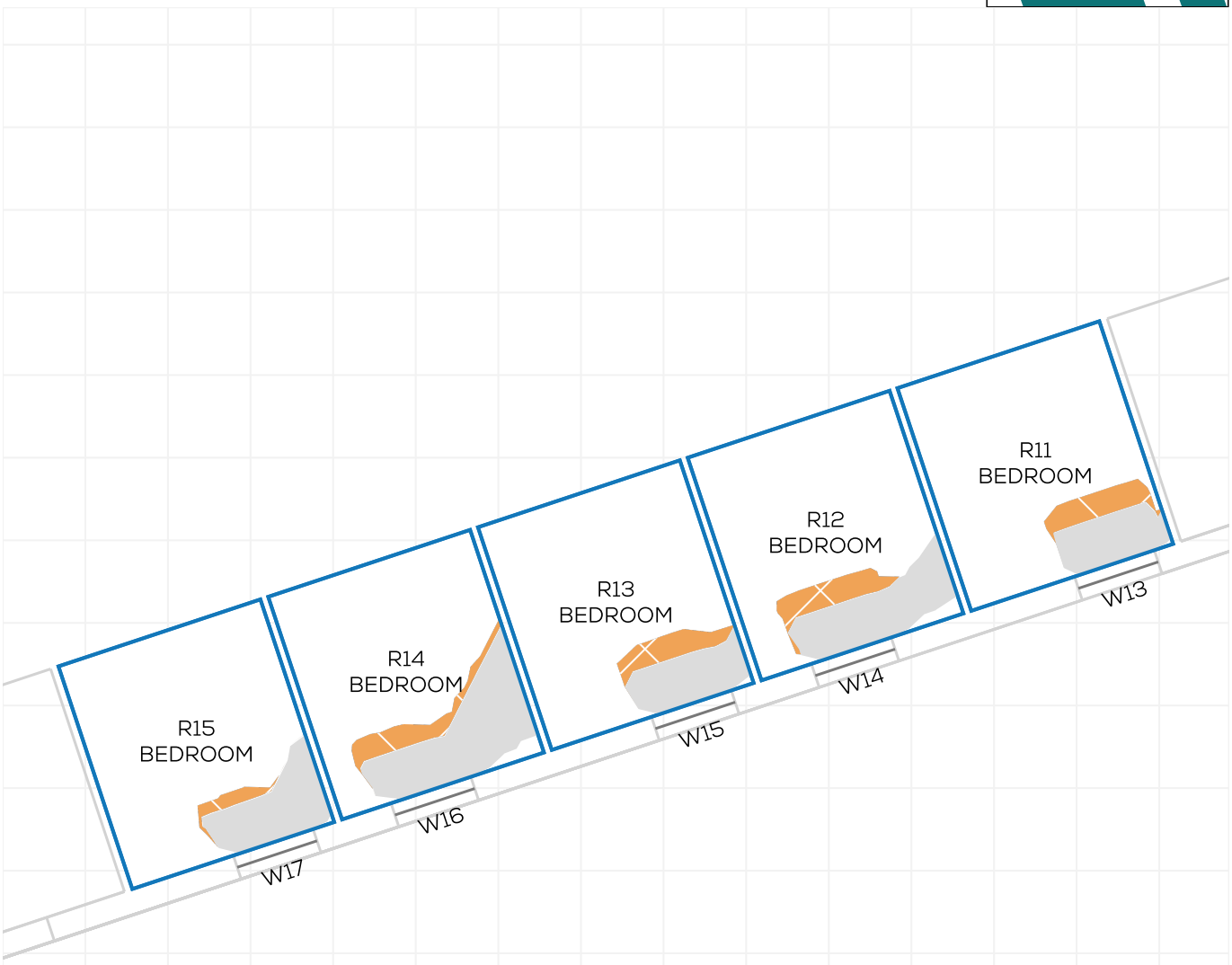
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F05	R11	RESIDENTIAL	BEDROOM	7.3	15.4	10.2	0.4	33.9
F05	R12	RESIDENTIAL	BEDROOM	7.3	22.4	16.7	0.4	25.3
F05	R13	RESIDENTIAL	BEDROOM	7.3	16	11.2	0.4	30.3
F05	R14	RESIDENTIAL	BEDROOM	7.3	27.9	22.6	0.4	19.1
F05	R15	RESIDENTIAL	BEDROOM	7.3	15.6	13.7	0.1	12.3

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL53

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F05

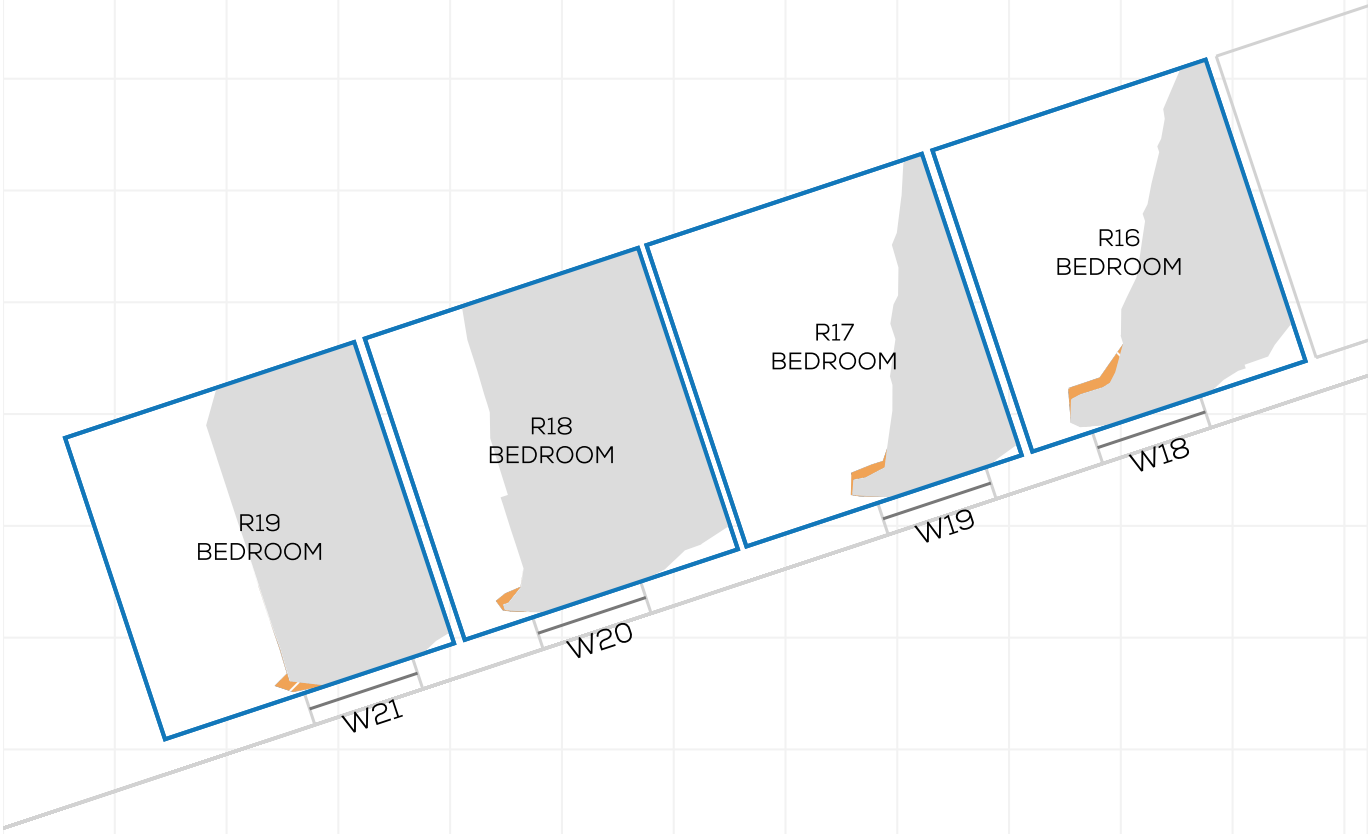
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F05	R11	RESIDENTIAL	BEDROOM	7.3	15.4	10.2	0.4	33.9
F05	R12	RESIDENTIAL	BEDROOM	7.3	22.4	16.7	0.4	25.3
F05	R13	RESIDENTIAL	BEDROOM	7.3	16	11.2	0.4	30.3
F05	R14	RESIDENTIAL	BEDROOM	7.3	27.9	22.6	0.4	19.1
F05	R15	RESIDENTIAL	BEDROOM	7.3	15.6	13.7	0.1	12.3

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL54

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F05

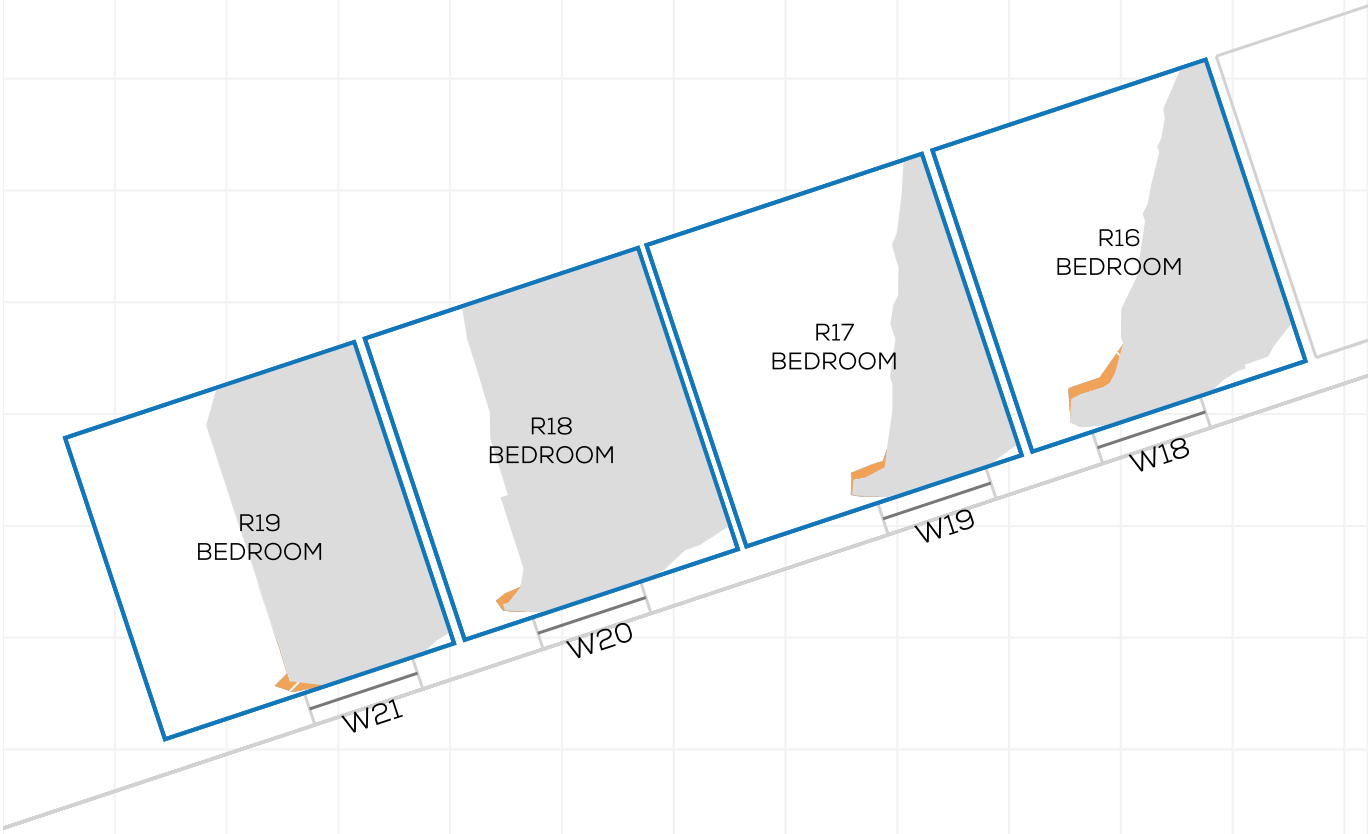
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F05	R16	RESIDENTIAL	BEDROOM	7.3	42.9	42.2	0.1	1.8
F05	R17	RESIDENTIAL	BEDROOM	7.4	29.2	28.8	0.0	1.4
F05	R18	RESIDENTIAL	BEDROOM	7.3	69	68.8	0.0	0.3
F05	R19	RESIDENTIAL	BEDROOM	7.7	54.3	53.9	0.0	0.7

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL54

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





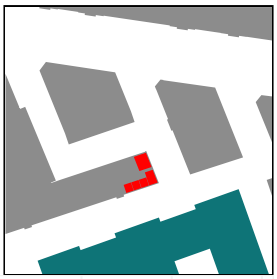
F05

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F05	R16	RESIDENTIAL	BEDROOM	7.3	42.9	42.2	0.1	1.8
F05	R17	RESIDENTIAL	BEDROOM	7.4	29.2	28.8	0.0	1.4
F05	R18	RESIDENTIAL	BEDROOM	7.3	69	68.8	0.0	0.3
F05	R19	RESIDENTIAL	BEDROOM	7.7	54.3	53.9	0.0	0.7

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL55

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





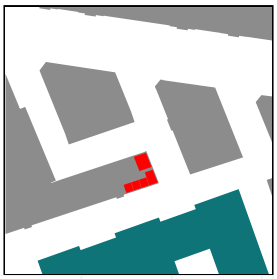
F06

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F06	R1	RESIDENTIAL	UNKNOWN	21.7	74	73.8	0.0	0.3
F06	R2	RESIDENTIAL	UNKNOWN	13.1	94.8	94.8	0.0	0
F06	R3	RESIDENTIAL	BEDROOM	7.3	8.2	6.3	0.1	23
F06	R4	RESIDENTIAL	BEDROOM	7.3	10.4	7.1	0.2	31.4
F06	R5	RESIDENTIAL	BEDROOM	7.3	8.7	7.2	0.1	17.1

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL55

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F06

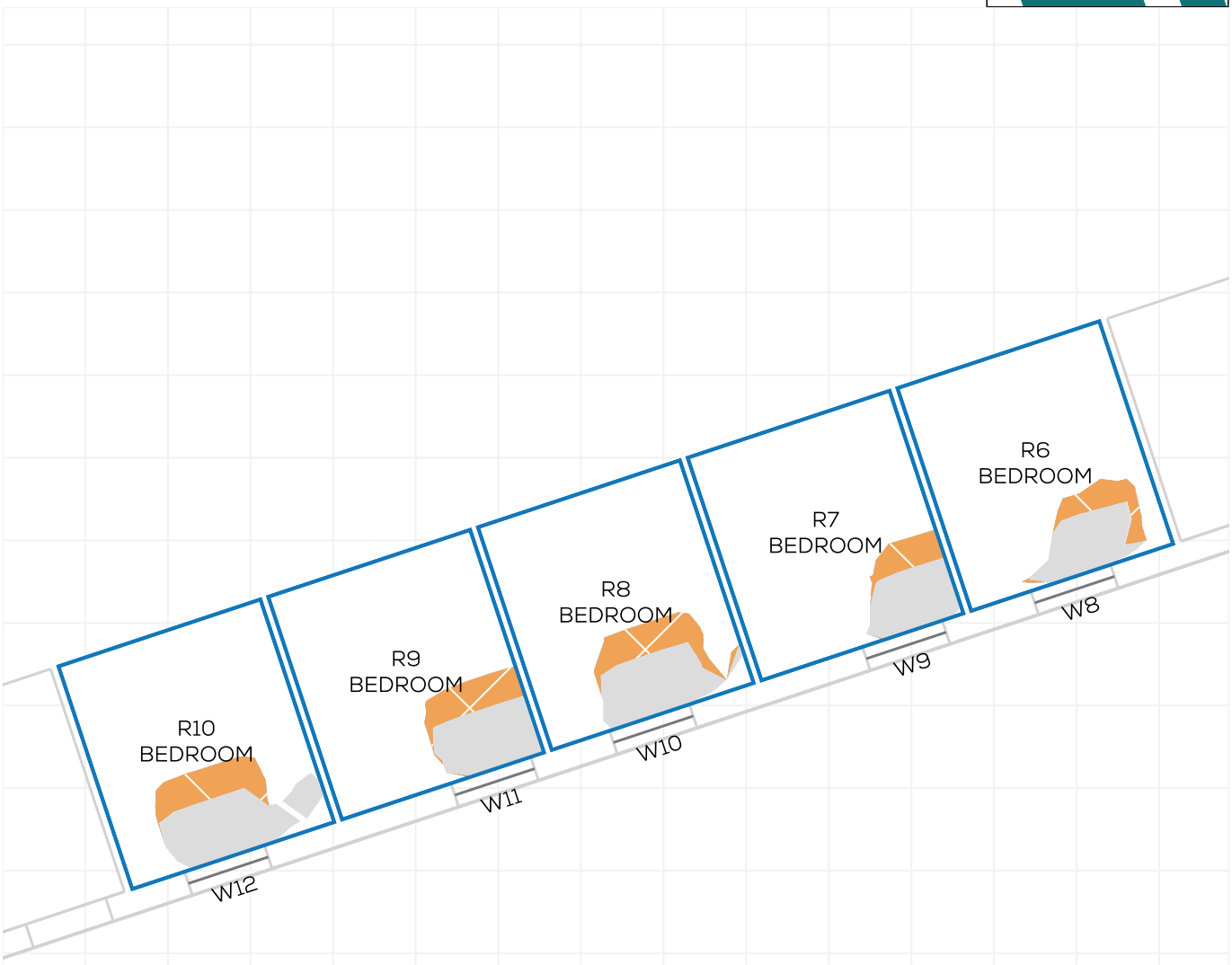
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F06	R1	RESIDENTIAL	UNKNOWN	21.7	74	73.8	0.0	0.3
F06	R2	RESIDENTIAL	UNKNOWN	13.1	94.8	94.8	0.0	0
F06	R3	RESIDENTIAL	BEDROOM	7.3	8.2	6.3	0.1	23
F06	R4	RESIDENTIAL	BEDROOM	7.3	10.4	7.1	0.2	31.4
F06	R5	RESIDENTIAL	BEDROOM	7.3	8.7	7.2	0.1	17.1

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL56

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F06

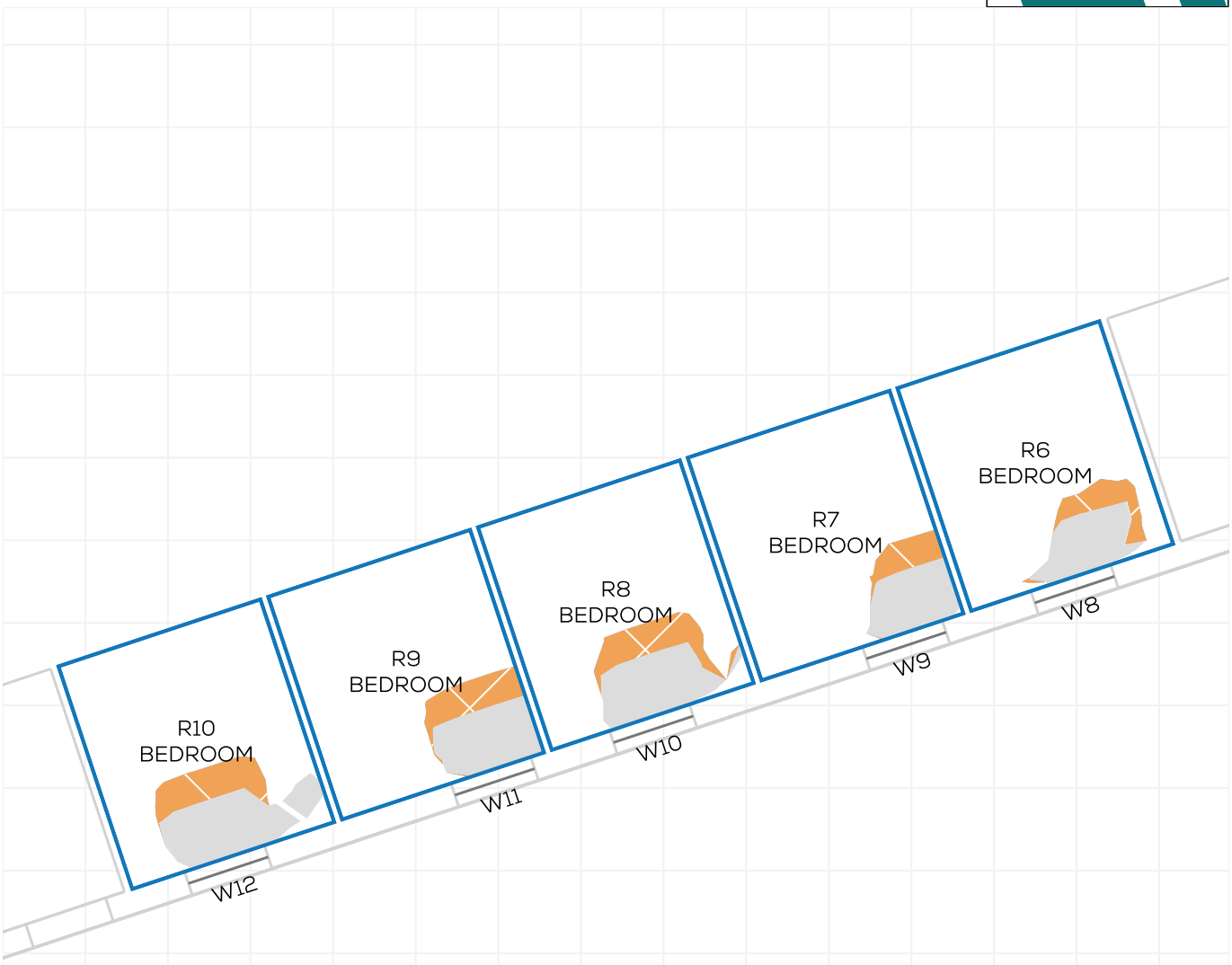
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F06	R6	RESIDENTIAL	BEDROOM	7.3	14.7	9.8	0.4	33.2
F06	R7	RESIDENTIAL	BEDROOM	7.3	14.3	10.1	0.3	29.4
F06	R8	RESIDENTIAL	BEDROOM	7.3	20.5	13	0.5	36.5
F06	R9	RESIDENTIAL	BEDROOM	7.3	18.1	11.8	0.5	35.1
F06	R10	RESIDENTIAL	BEDROOM	7.3	22.8	15.4	0.5	32.6

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL56

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F06

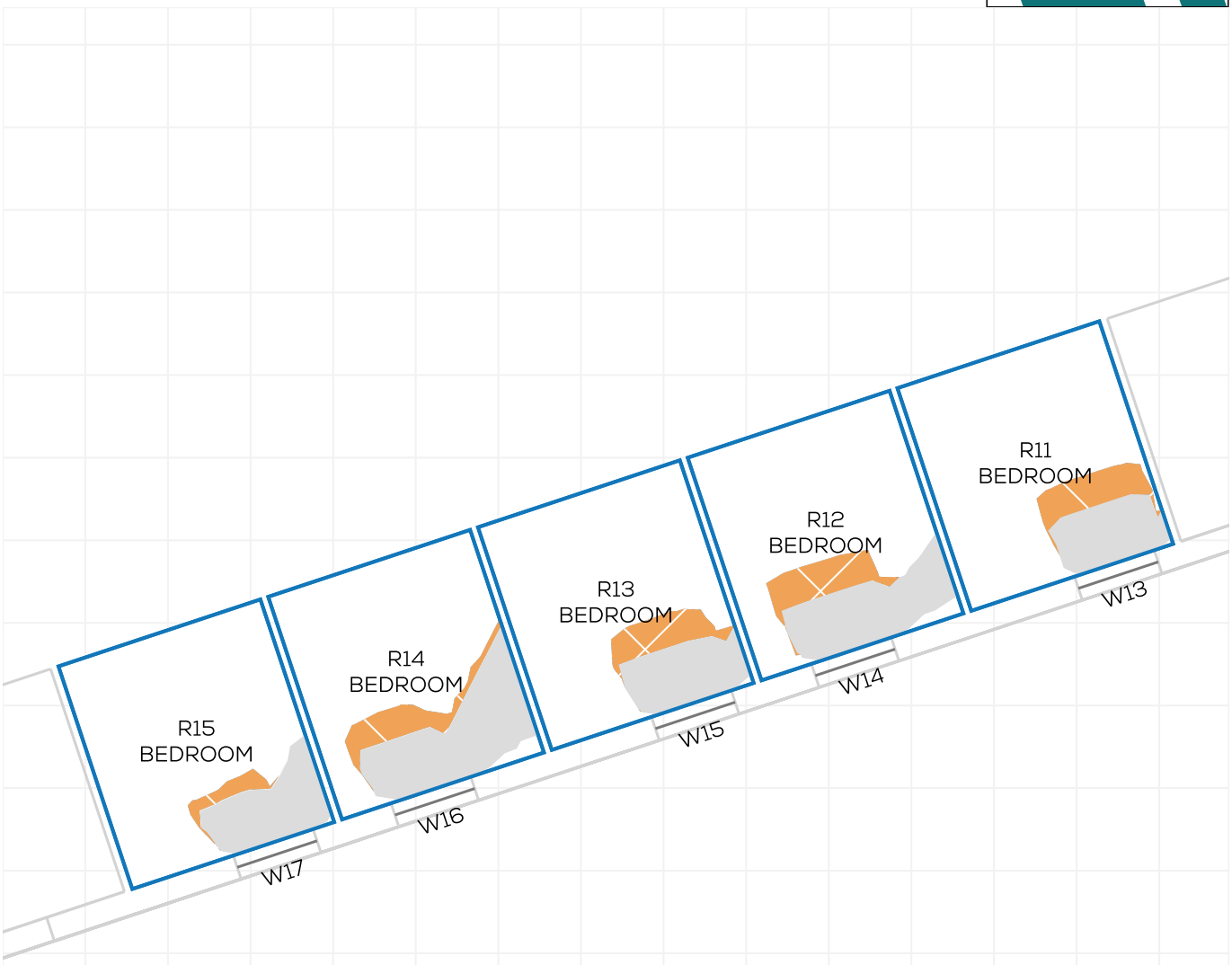
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F06	R6	RESIDENTIAL	BEDROOM	7.3	14.7	9.8	0.4	33.2
F06	R7	RESIDENTIAL	BEDROOM	7.3	14.3	10.1	0.3	29.4
F06	R8	RESIDENTIAL	BEDROOM	7.3	20.5	13	0.5	36.5
F06	R9	RESIDENTIAL	BEDROOM	7.3	18.1	11.8	0.5	35.1
F06	R10	RESIDENTIAL	BEDROOM	7.3	22.8	15.4	0.5	32.6

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL57

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F06

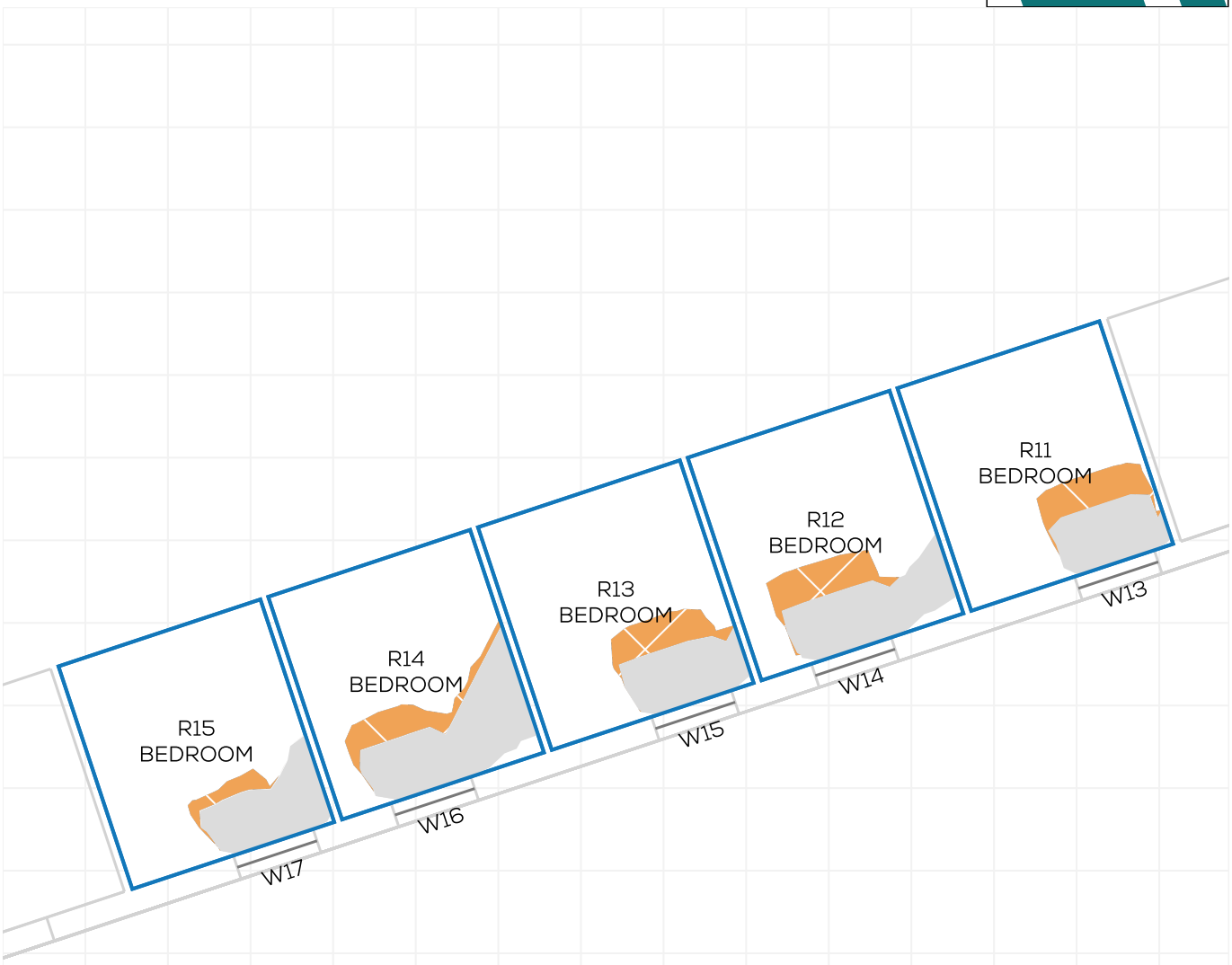
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F06	R11	RESIDENTIAL	BEDROOM	7.3	20.2	12.7	0.5	37.1
F06	R12	RESIDENTIAL	BEDROOM	7.3	27.3	19.5	0.6	28.5
F06	R13	RESIDENTIAL	BEDROOM	7.3	20.8	13.9	0.5	33.1
F06	R14	RESIDENTIAL	BEDROOM	7.3	31.5	24.7	0.5	21.7
F06	R15	RESIDENTIAL	BEDROOM	7.3	17.7	15.1	0.2	14.8

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL57

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F06

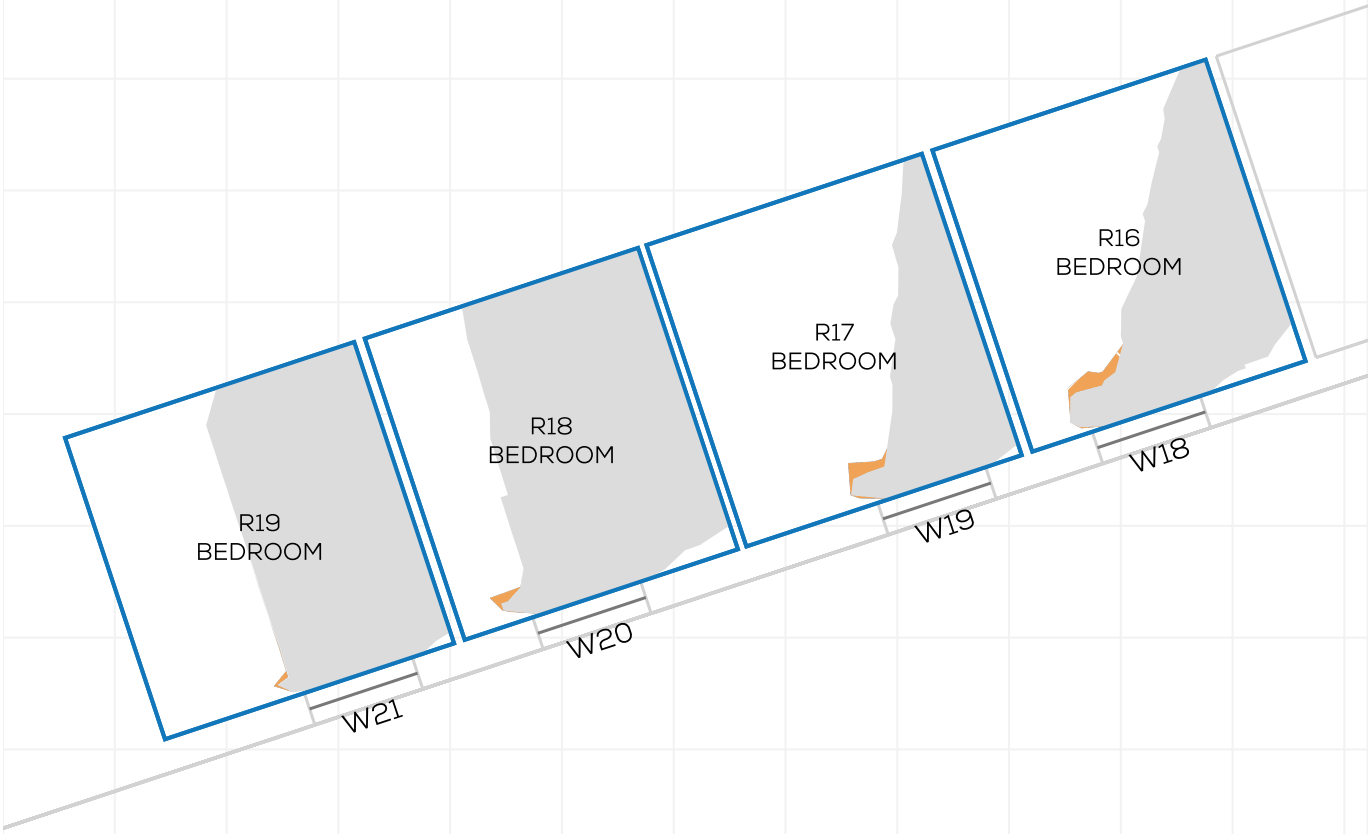
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F06	R11	RESIDENTIAL	BEDROOM	7.3	20.2	12.7	0.5	37.1
F06	R12	RESIDENTIAL	BEDROOM	7.3	27.3	19.5	0.6	28.5
F06	R13	RESIDENTIAL	BEDROOM	7.3	20.8	13.9	0.5	33.1
F06	R14	RESIDENTIAL	BEDROOM	7.3	31.5	24.7	0.5	21.7
F06	R15	RESIDENTIAL	BEDROOM	7.3	17.7	15.1	0.2	14.8

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL58

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F06

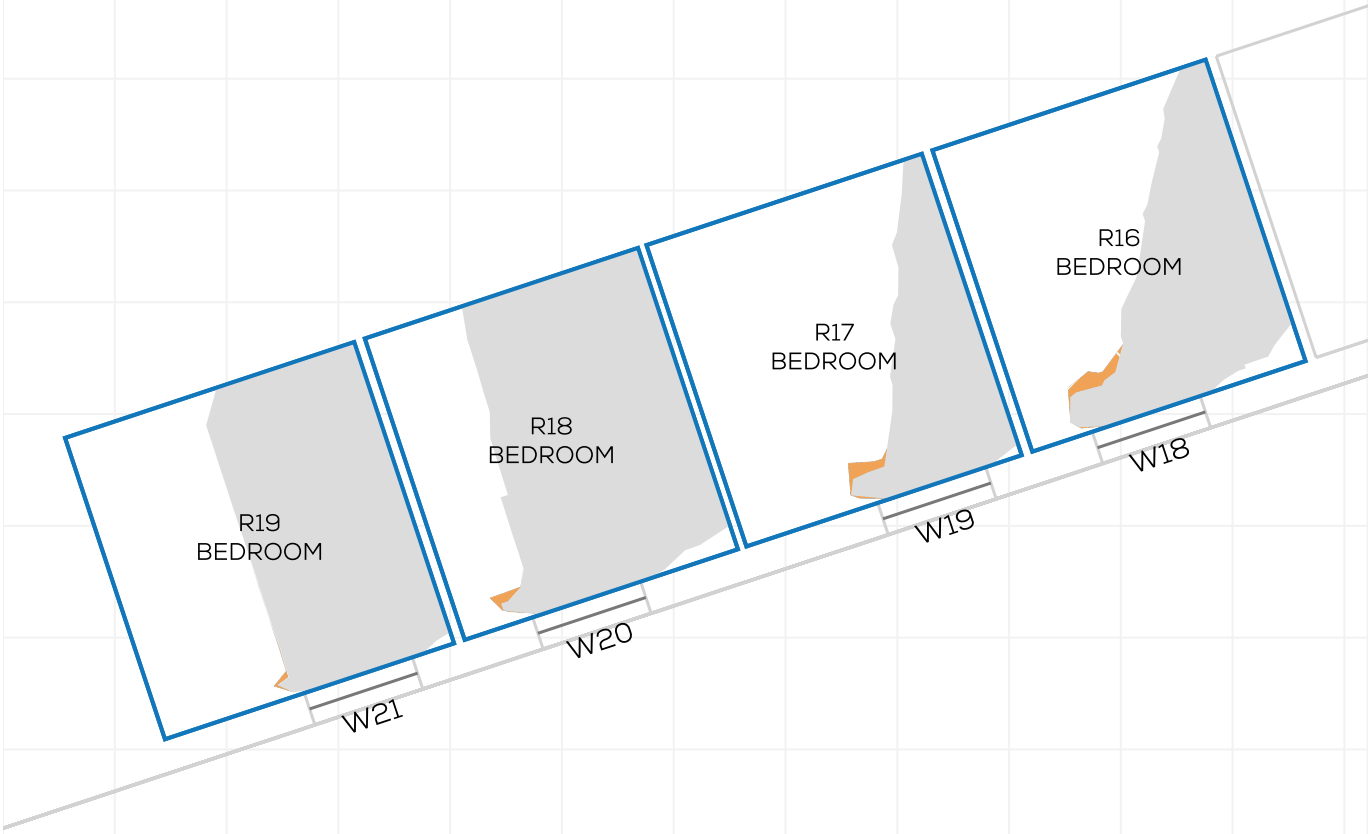
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F06	R16	RESIDENTIAL	BEDROOM	7.3	43.2	42.4	0.1	2
F06	R17	RESIDENTIAL	BEDROOM	7.4	29.6	29	0.0	1.9
F06	R18	RESIDENTIAL	BEDROOM	7.3	69.2	68.9	0.0	0.4
F06	R19	RESIDENTIAL	BEDROOM	7.7	54.4	54.3	0.0	0.2

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: LAMBERT HALL
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL58

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





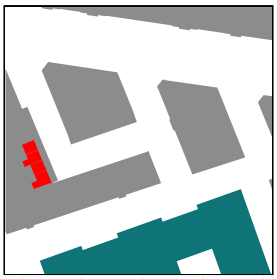
F06

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
LAMBERT HALL								
F06	R16	RESIDENTIAL	BEDROOM	7.3	43.2	42.4	0.1	2
F06	R17	RESIDENTIAL	BEDROOM	7.4	29.6	29	0.0	1.9
F06	R18	RESIDENTIAL	BEDROOM	7.3	69.2	68.9	0.0	0.4
F06	R19	RESIDENTIAL	BEDROOM	7.7	54.4	54.3	0.0	0.2

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: STONEBRIDGE HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL59

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F00



F01



F01



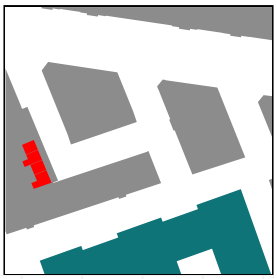
F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
STONEBRIDGE HOUSE								
F00	R1	RESIDENTIAL	BEDROOM	14.8	64.4	64.4	0.0	0
F00	R2	RESIDENTIAL	LKD	19.1	60.4	60.4	0.0	0
F01	R1	RESIDENTIAL	BEDROOM	14.8	78.8	78.8	0.0	0
F01	R2	RESIDENTIAL	LKD	19.1	75.3	75.3	0.0	0
F01	R3	RESIDENTIAL	BEDROOM	15.2	100	100	0.0	0
F01	R4	RESIDENTIAL	LKD	22.9	92.3	92.3	0.0	0
F02	R1	RESIDENTIAL	BEDROOM	14.8	83.1	83.1	0.0	0
F02	R2	RESIDENTIAL	LKD	19.1	85	85	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: STONEBRIDGE HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL59

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID





F00



F01



F01



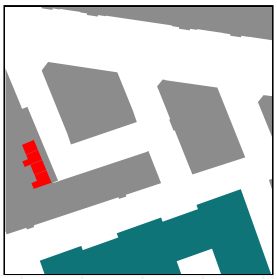
F02

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
STONEBRIDGE HOUSE								
F00	R1	RESIDENTIAL	BEDROOM	14.8	64.4	64.4	0.0	0
F00	R2	RESIDENTIAL	LKD	19.1	60.4	60.4	0.0	0
F01	R1	RESIDENTIAL	BEDROOM	14.8	78.8	78.8	0.0	0
F01	R2	RESIDENTIAL	LKD	19.1	75.3	75.3	0.0	0
F01	R3	RESIDENTIAL	BEDROOM	15.2	100	100	0.0	0
F01	R4	RESIDENTIAL	LKD	22.9	92.3	92.3	0.0	0
F02	R1	RESIDENTIAL	BEDROOM	14.8	83.1	83.1	0.0	0
F02	R2	RESIDENTIAL	LKD	19.1	85	85	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: STONEBRIDGE HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL60

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

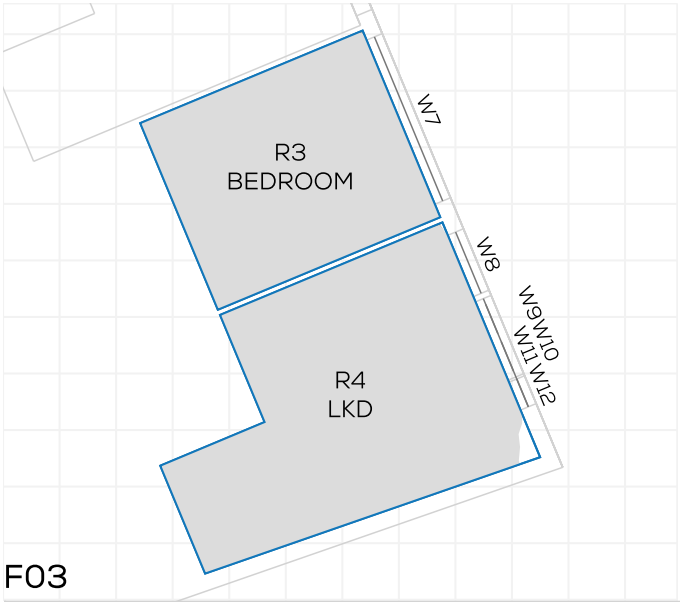




F02



F03



F03



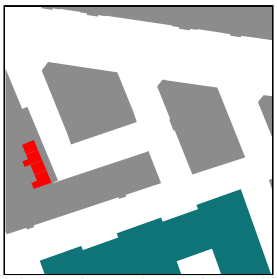
F04

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM AREA-sqm	EXISTING %	PROPOSED %	LOSS-sqm	LOSS %
STONEBRIDGE HOUSE								
F02	R3	RESIDENTIAL	BEDROOM	15.2	100	100	0.0	0
F02	R4	RESIDENTIAL	LKD	22.9	99.2	99.2	0.0	0
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NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: STONEBRIDGE HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL60

KEY:
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

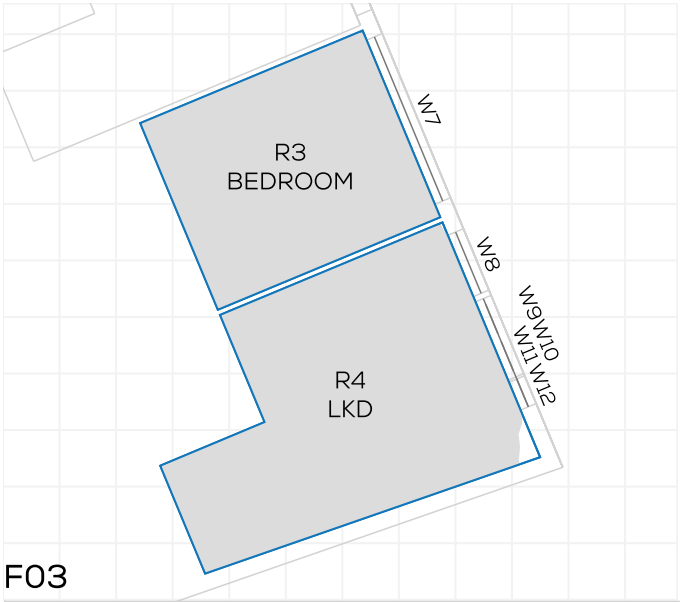




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F03



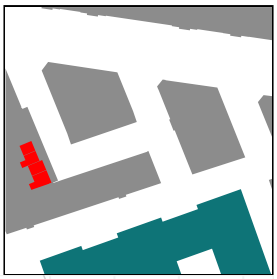
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NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: STONEBRIDGE HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL61

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





F04



F05



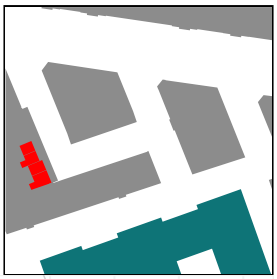
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NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: STONEBRIDGE HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL61

KEY:
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LOSS
MAINTAINED LIT AREA
1 METRE GRID





F04



F05



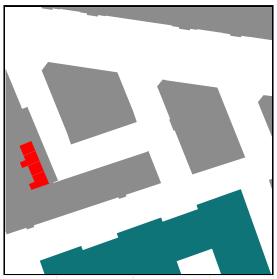
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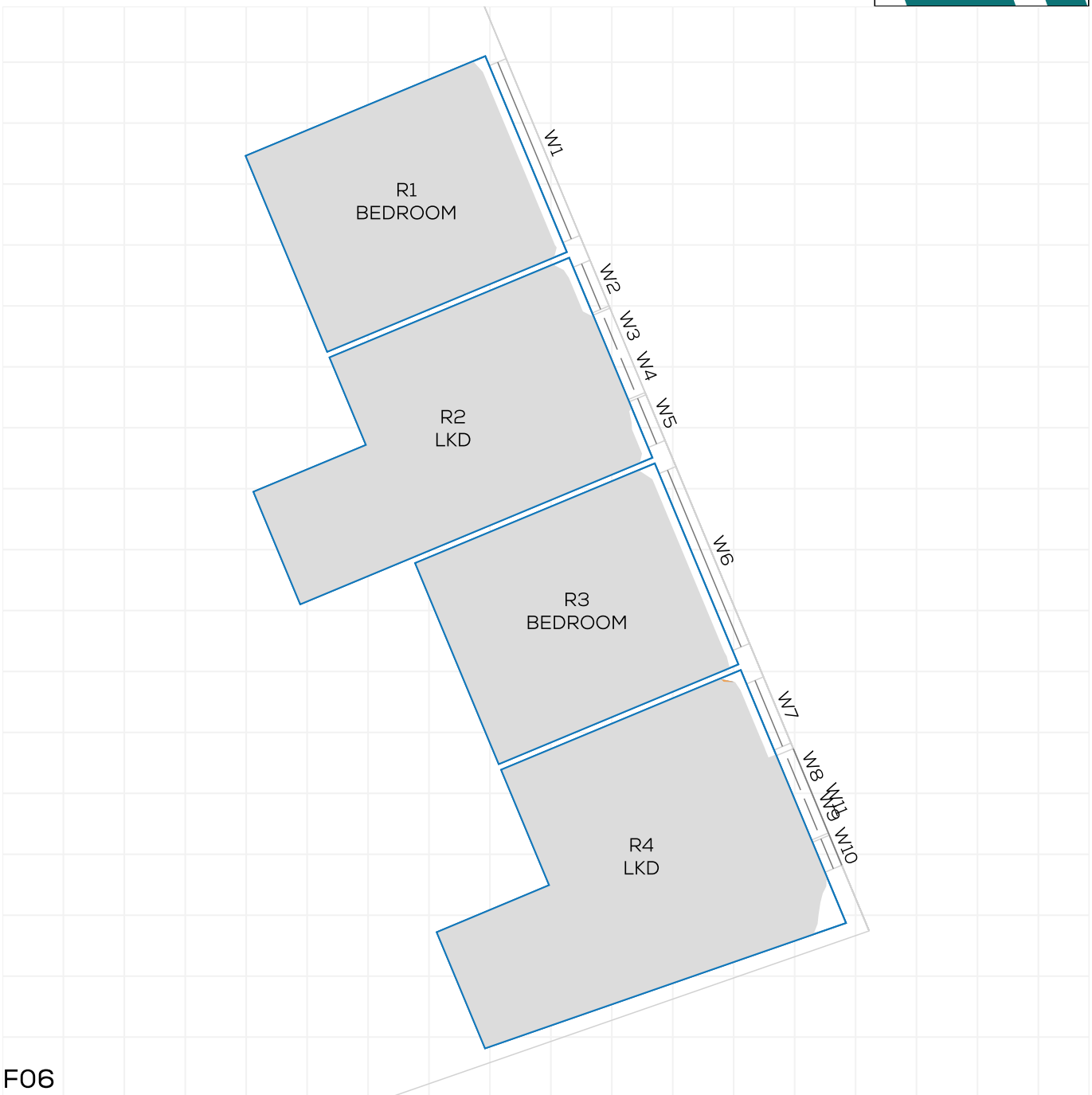
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NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: STONEBRIDGE HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL62

KEY:
GAIN
LOSS
MAINTAINED LIT AREA
1 METRE GRID





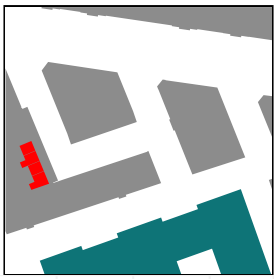
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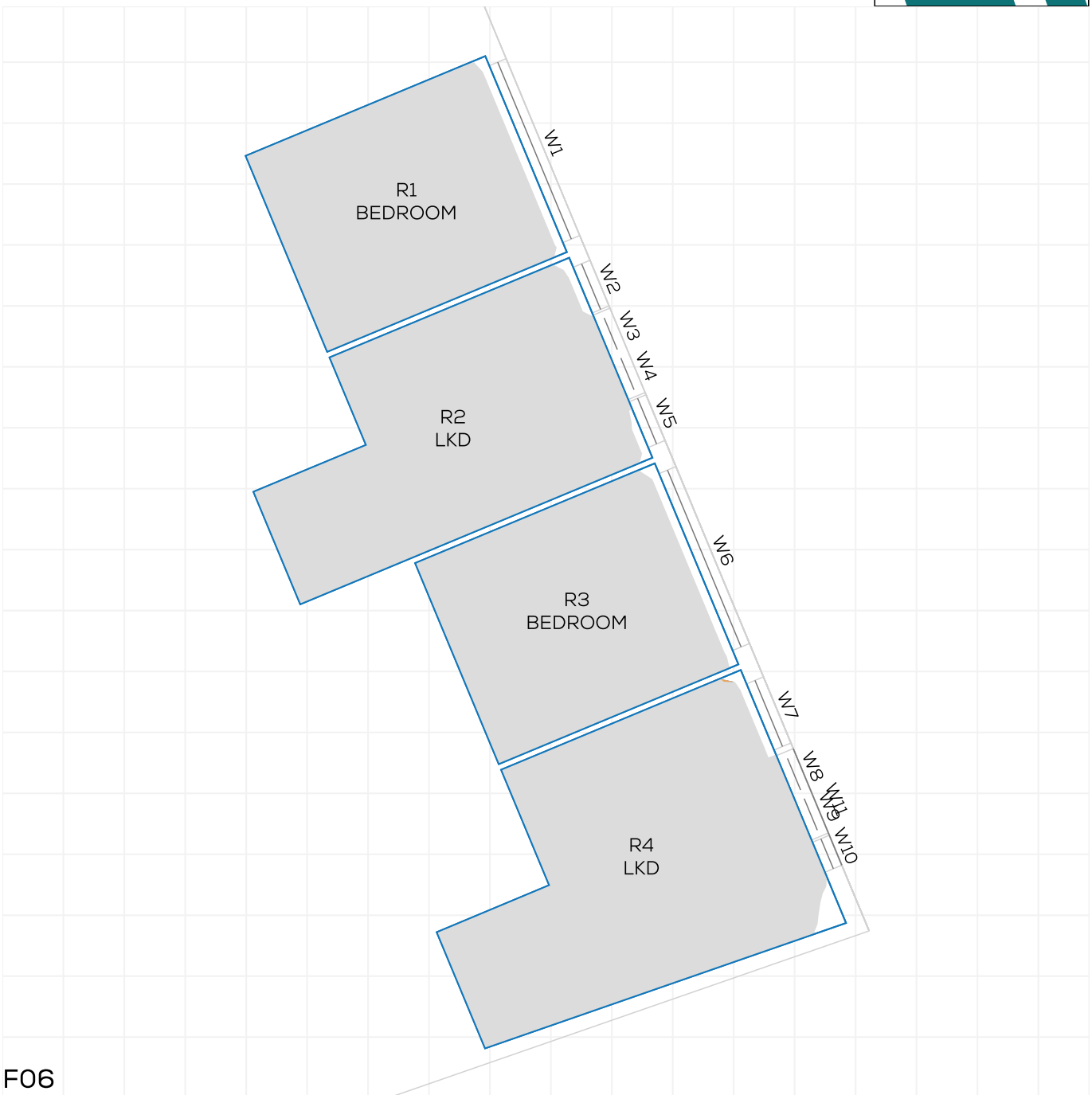
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F06	R4	RESIDENTIAL	LKD	22.9	98.1	98	0.0	0

NSL CONTOURS

PROJECT: 0298 - ECHO STREET, MANCHESTER
REPORT TITLE: CONSENTED VS. PROPOSED
ADDRESS: STONEBRIDGE HOUSE
DATE: 16/03/2023
SCHEME IR: IR016
DRAWING No.: 0298-REL06-IS03-NSL62

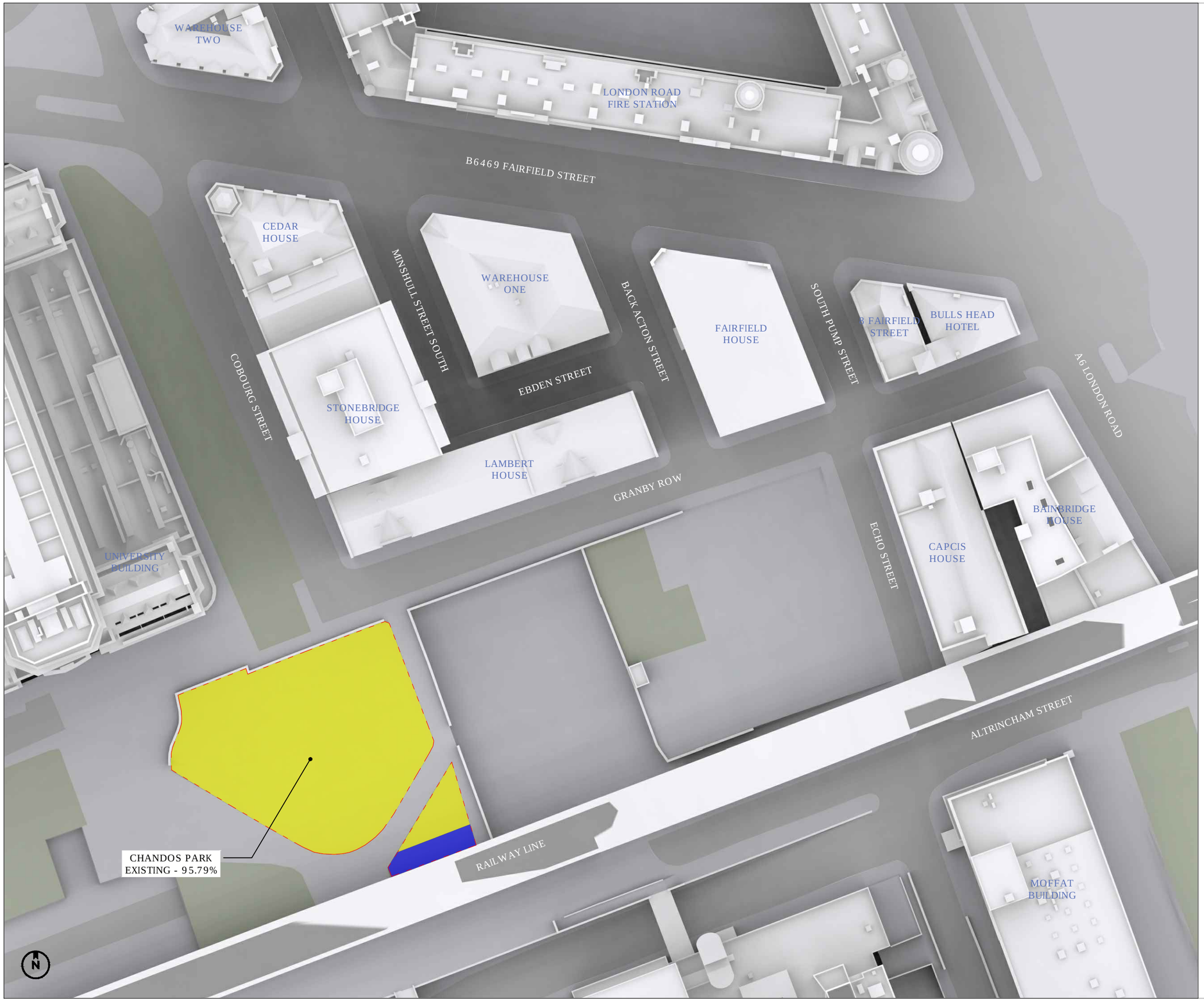
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LOSS
MAINTAINED LIT AREA
1 METRE GRID





F06

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F06	R2	RESIDENTIAL	LKD	19.1	98.7	98.7	0.0	0
F06	R3	RESIDENTIAL	BEDROOM	15.2	96.7	96.7	0.0	0
F06	R4	RESIDENTIAL	LKD	22.9	98.1	98	0.0	0



SOURCES OF INFORMATION

IR02 - 270417- VERTEX
IR03 - 040517 - VERTEX
IR04 - 170615 - TURLEY
IR06 - PLANNING PORTAL
IR15-20230306-Sheppard Robson

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— – — SHADOW AREAS

+2 HR AREA LIT

-2 HR AREA LIT

NOTES:

- EXISTING SCENARIO AS SHOWN

N.B. DO NOT SCALE OFF THIS DRAWING

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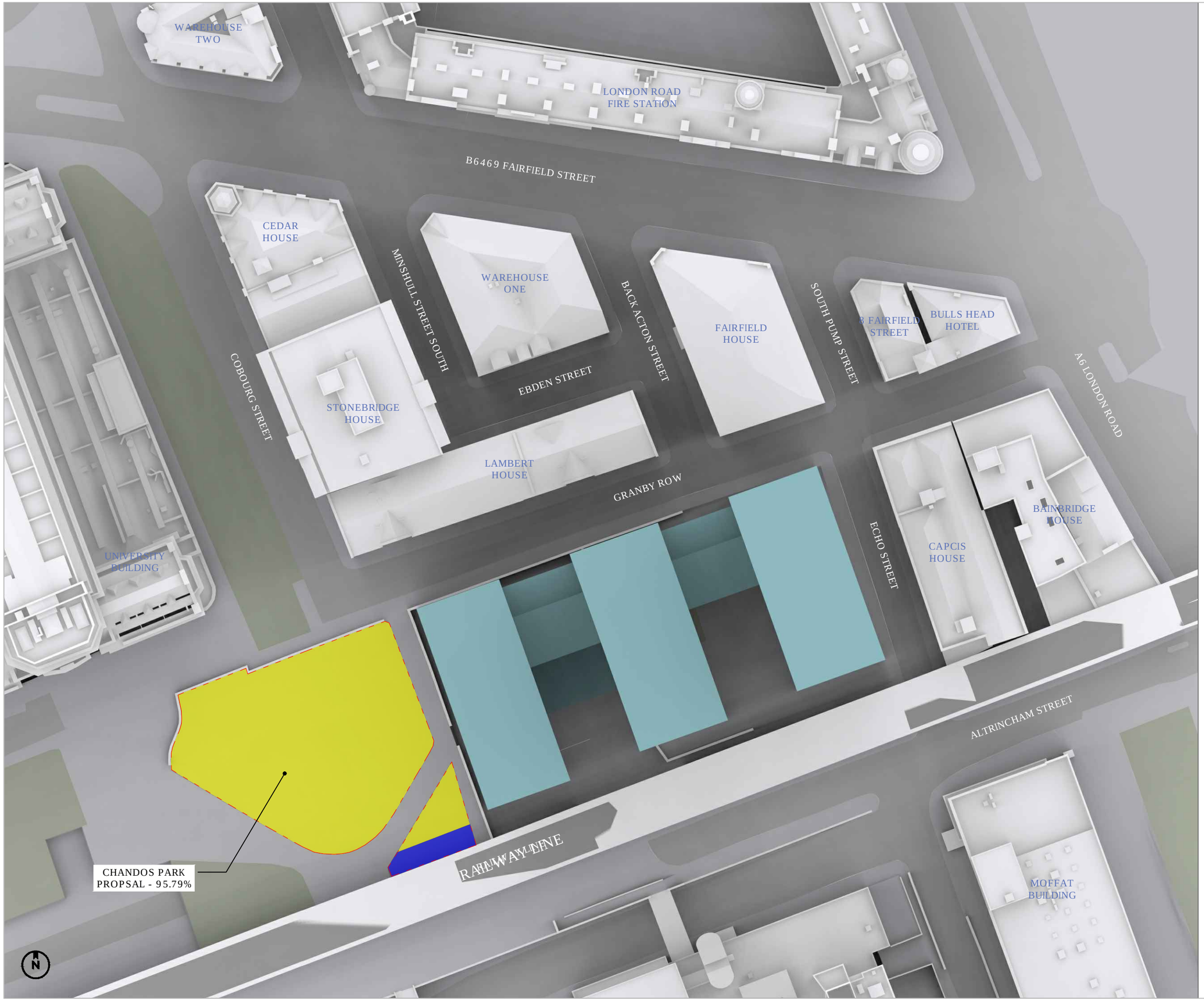
CHANDOS HALL
MANCHESTER - IR09

DRAWING NAME:

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CHANDOS HALL, MANCHESTER.

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SP	NTS	MB	A	MAR23
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IR03 - 040517 - VERTEX
IR04 - 170615 - TURLEY
IR06 - PLANNING PORTAL
IR15-20230306-Sheppard Robson

Student Accommodation

ECHO STREET

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SHADOW AREAS

+2 HR AREA LIT

-2 HR AREA LIT

NOTES:

- PROPOSAL SCENARIO SHOWN IN TEAL

N.B. DO NOT SCALE OFF THIS DRAWING

PROJECT:

CHANDOS HALL
MANCHESTER - IR09

DRAWING NAME:

PLAN VIEW - PROPOSED SCHEME
CHANDOS HALL, MANCHESTER.

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PROJ No.	REL No.	IS No.	DWG No.	REV No.
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SOLAR GLARE ASSESSMENT

Echo Street, Manchester

iQ Student Accommodation

04 April 2023

GIA No: **14584**

PROJECT DATA:

Client	**iQ Student Accommodation**
Architect	**Sheppord Robson**
Project Title	**Echo Street, Manchester**
Project Number	**14584**

REPORT DATA:

Report Title	**Solar Glare Assessment**
GIA Department	**Daylight Department**
Dated	**04 April 2023**

Prepared by	**PDA/KB**
Checked by	**KS**
Type	**ES Appendix**

Revisions	No:	Date:	Notes:	Signed:

DISCLAIMER:

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SOURCES OF INFORMATION:

Information Received	**IR-08-09-14584**
Release Number	**03_14584_DSD**
Issue Number	**02**
Site Photos	**GIA**
3D models	**VU.CITY**
OS Data	**FIND Maps**

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CONTENTS

1 INTRODUCTION 2

2 GIA'S APPROACH 4

3 METHODOLOGY 6

4 SITE OVERVIEW 10

5 VIEWPOINTS 12

6 SOLAR GLARE ASSESSMENT - TRAIN DRIVERS 14

7 SOLAR GLARE ASSESSMENT - ROAD USERS 34

1 INTRODUCTION

GIA have assessed the proposed scheme in order to ascertain whether solar reflections given off the proposed building's facade will be visible from sensitive viewpoints which may affect road users and train drivers.

1.1 GLARE

Glare is a phenomenon occurring in the eye that is caused by the presence of bright light sources within the visual field. It can lead to visual discomfort and, if the glare source is very bright compared to its surrounding, even be disabling in the sense that objects become hard or impossible to see. This is because they are cloaked by the high intensity glare source, whose light gets scattered within the eye.

The CIE 146:2002 Collection on Glare expresses the latter type of glare more formally as:

"Disability glare is glare that impairs vision (CIE, 1987). It is caused by scattering of light inside the eye [...]. The veiling luminance of scattered light will have a significant effect on visibility when intense light sources are present in the peripheral visual field and the contrast of objects to be seen is low. "

"Disability glare is most often of importance at night when contrast sensitivity is low and there may well be one or more bright light sources near to the line of sight, such as car headlights, streetlights or floodlights. But even in daylight conditions disability glare may be of practical significance: think of traffic lights when the sun is close to them, or the difficulty viewing paintings hanging next to windows."

Glare is of particular concern if it affects drivers of motor vehicles or trains, since it might impair the visibility of signals and traffic signs, potentially putting the driver, passengers or other parties at risk.

1.2 GLARE FROM REFLECTED SUNLIGHT

Whether or not a sun reflection will cause an instance of glare depends upon a number of factors, these are summarised below:

- The location of the observer and his view direction;
- The sun's position in the sky, which changes not only with the hour of the day, but with the seasons too;
- The location and orientation of the reflective surface, e.g. a glazed facade, in relation to the observer's view direction;
- The specific quality of the reflective surface, e.g. sheen, specularity, etc.;
- The observer's physiology, e.g. age and eye pigmentation; and
- The background brightness defining the state of adaptation in the observer's eye;

This final point is an important one as the same brightness which could cause glare against a dark background may be perfectly acceptable when looked against a light one. A typical example of adaptation is illustrated in Figs. 01 and 02 where the same headlights cause glare at night whereas they do not during daytime hours.

Understanding whether solar glare is likely to occur is based on the observer's position and view direction. Given the transitory nature of the phenomenon, due to the sun's constant movement, any glare assessment should be carried out for a number of representative locations and view directions.

Such studies are often carried out with the help of sun path protractors, as depicted in Fig. 03 below, or with the aid of a full 3 dimensional computer simulation.

When a large number of locations need to be looked at, studies involving solar protractors become rather impractical. Computer software allows multiple view points to be assessed with greater ease so that it has even become feasible to render video sequences showing when and where reflections may become an issue.

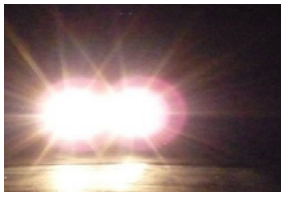


Fig. 01: Headlights at night



Fig. 02: Headlights during day

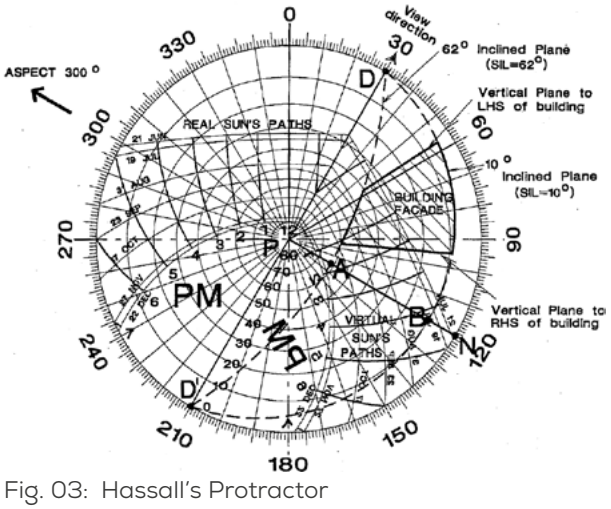


Fig. 03: Hassall's Protractor

1.3 EXISTING GUIDANCE

In the UK, guidance that is relevant to glare assessments is limited to a short section in Littlefair's Site Layout Planning for Daylight and Sunlight published by the BRE in 2011. This document is commonly referred to as BR 209. It suggests that:

"If it is likely that a building may cause solar dazzle the exact scale of the problem should be evaluated. This is done by identifying key locations such as road junctions and windows of nearby buildings, and working out the number of hours of the year that sunlight can be reflected to these points. BRE Information Paper IP 3/87 gives details."

BR IP3/87 provides more detailed instructions on why and how solar dazzle can be calculated:

"Glare or dazzle can occur when sunlight is reflected from a glazed facade. For vertical facades this problem usually occurs only when the sun is low in the sky; but some types of modern design incorporate sloping glazed facades which can, under certain circumstances, reflect unwanted high altitude sunlight into the eyes of motorists, pedestrians and people in nearby buildings."

Both BR 209 and BR IP3/87 only deal with geometrical considerations of glare by identifying when and where reflections occur. However, neither pieces of guidance suggest any threshold values above which reflected sunlight may give rise to an instance of glare. That such a threshold exists in theory becomes clear from the guidance in BR 209:

"... Substituting clear or absorbing glass for reflective glass can also help although sometimes even clear glass may cause reflected glare if, eg, a motorist has the reflected sun close to the centre of their line of sight."

Recommendations on acceptable limits for solar glare is equally sparse in other countries. The only document dealing with the subject is Hassall's Dealing with Rogue Solar Reflections from 1996. Although published in Australia, the theory, methodology and recommendations it introduced are equally applicable in other countries such as the UK.

The severity of glare can be calculated as the equivalent veiling luminance which is caused by the excess light being scattered in the eye thereby creating a 'veil' through which objects are seen. If the brightness of the veil is sufficiently high compared to that of the actual object, the latter becomes less visible. In very severe cases of disability glare, the object cannot be seen at all.

The veiling luminance can be calculated with a simple empirical formula first proposed by Holladay:

$$L_{seq}\ [cd/m^2] = K*E_{gl}/\theta^n < threshold$$

The Holladay glare formula depends on four variables, namely:

- **K**, which is a factor accounting for the observer's sensitivity to glare (eg. age);
- $\mathbf{E_{gl}}$, which is the illuminance from the glare source, measured at the eye of the observer;
- **θ**, the angle between the line of sight and the glare source;
- **n**, indicating the power with which θ affects the outcome;

An individual's sensitivity to glare is affected primarily by age. We used a K factor of 17.5 in our calculations, which represents a 65-year old driver.

According to CIE 146:2002, the n power in Holladay's equation has three angular domains:

- θ^3 for angles between 0.1° and 1°;
- θ^2 for angles between 1° and 30°; and
- θ for angles beyond 30°;

This angular dependency means that a glare source close to the object being looked at has a much more severe impact upon the visibility of that object than a glare source at the periphery of the observer's visual field.

As stated in CIE 146:2002, occurrences at angles beyond 30° would be of little significance in most situations, but may be relevant in exceptional circumstances. When seated in a driving seat of a typical car, for example, the limits of the windscreen would generally obstruct the driver's view at angles beyond 30° from the line of sight. We have therefore adopted the 1° to 30° domain as a reference for our calculations.

Hassall in his paper proposes a threshold value of 500 cd/m^2, which we have adopted as a threshold in our assessments.

2 GIA'S APPROACH

Following the guidance documents referenced above, GIA have developed specialised computer software in order to undertake reflected glare assessments.

The preparation of reflected solar glare assessments is based upon the approach described below, which entails:

- The construction of a three-dimensional computer model that includes the proposed building and its relevant setting;
- The physically accurate description of the reflective surface properties;
- Rendering of stills or video animations of the solar reflections;
- Masking the images to represent the human field of view; and
- Image analysis;

The individual steps of our work flow are further explained below.



Fig. 04: High-resolution aerial photograph

2.1 3D COMPUTER MODELLING

Detailed geometry of the proposed building, specifically of its facade and glazing configuration is provided by the project architects either in 2d format i.e. plans, sections and elevation drawings, or 3d format as a computer model. The received information is processed by GIA and prepared for assessment with our proprietary software.

A computer model of the proposed building's context is built from high resolution stereoscopic aerial photographs, examples of which are shown in Figs 04 and 05.

This includes rail tracks, sleepers, gantries and signals as well as relevant neighbouring buildings. An example is provided in Fig. 06.

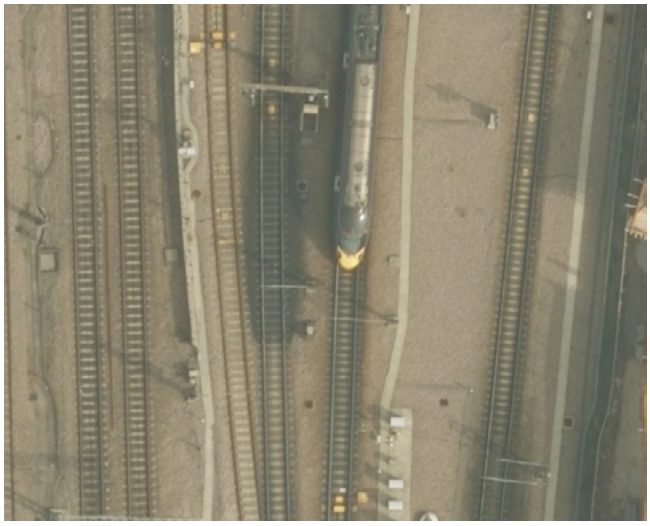


Fig. 05: High-resolution aerial photograph (close-up)

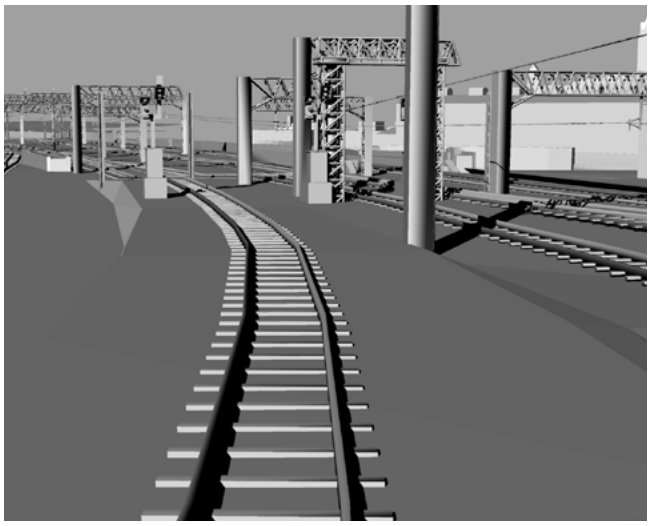


Fig. 06: Computer model of train tracks & signals from photogrammetry

2.2 REFLECTIVE SURFACE PROPERTIES

In order to undertake the glare studies it is necessary to acquire physically accurate computer representations of all materials that have the potential of specularly reflecting sunlight, thereby becoming sources of glare. Such materials would include all vertical or sloped glazing, but also certain facade materials such as metal cladding or glazed building tiles.

Diffuse surface reflectance values and object colours can be measured relatively easily however, the same cannot be said of their specular characteristics. These parameters are very hard to estimate yet critical for the study of glare. It is therefore best practice to have samples of the glazing or cladding materials studied in specialised optical laboratories. An example of such a data set is given in Fig. 07. It shows the angular dependency of the reflective properties of a glazed cladding tile.

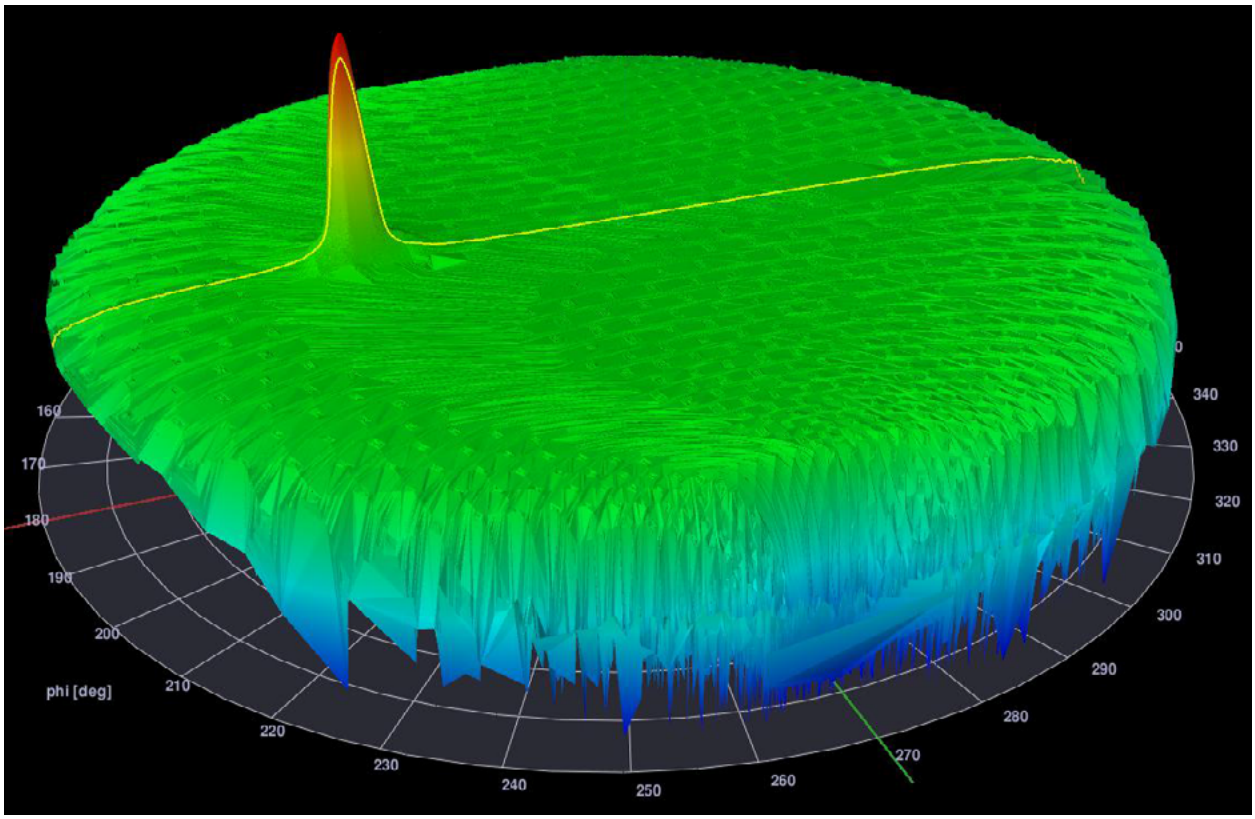


Fig. 07: Reflective properties measurement of a glazed tile

3 METHODOLOGY

The methodology described below is not aimed at addressing the intensity of an instance of reflected solar glare, but its occurrence and duration throughout the year and the location of this occurrence in respect of a driver's line of sight.

This will inform the necessity of implementing mitigations at either early or detailed design stage.

For this purpose the glazed facade of the proposed development is assumed to have the same properties of a mirror i.e. it is fully reflective and all of its reflected component is specular. This therefore portrays a worst-case scenario.

The potential for reflected solar glare or dazzle from the glazed or reflective façades of the development are assessed using specialist lighting software.

Potentially sensitive viewpoints around the site are selected. These viewpoints representing locations where reflected solar glare may cause adverse impacts to those travelling towards the development, such as road users or train drivers. The viewpoints are generally located at the minimum stopping distance and at the driver's eye height. The focal point is a relevant traffic element, such as signals or incoming traffic.

The stopping distance is calculated as the combination of thinking and breaking distances $D_{total} = D_{thinking} + D_{breaking} = V*T + V^2/(2\mu*g)$, where each component is:

V = Relevant vehicle speed, typically the road speed limit.

T = Thinking time (0.67 sec)

μ = Breaking effort (considered 0.65 for cars, 0.5 for buses and 0.031 for trains)

g = Gravity acceleration.

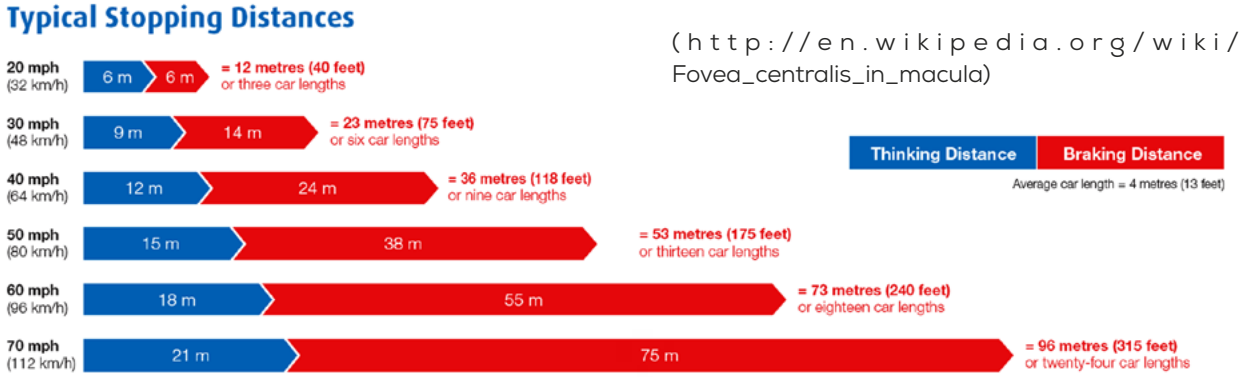


Fig. 08: Typical car stopping distances for various speed limits

The height of the viewpoint is considered to be 1.5 m for cars, 2.0 m for buses and 2.75 m for trains.

I.e. A viewpoint for car driving at 30 mph would be placed at 23 m (see Figure 4) from a traffic light and at 1.5 m above the ground.

3.1 FIELD OF VIEW

"The field of view (also field of vision) is the angular extent of the observable world that is seen at any given moment."

"Different animals have different fields of view, depending on the placement of the eyes. Humans have an almost 180-degree forward-facing field of view[...]."

(http://en.wikipedia.org/wiki/Field_of_view)

"The normal human visual field extends to approximately 60° nasally (toward the nose, or inward) in each eye, to 100° temporally (away from the nose, or outwards), and approximately 60° above and 75° below the horizontal meridian. In the United Kingdom, the minimum field requirement for driving is 60° either side of the vertical meridian, and 20° above and below horizontal. The macula corresponds to the central 13° of the visual field; the fovea to the central 3°."

(http://en.wikipedia.org/wiki/Visual_field)

"The fovea centralis, also generally known as the fovea, is a part of the eye, located in the center of the macula region of the retina. The fovea is responsible for sharp central vision (also called foveal vision), which is necessary in humans for reading, watching television or movies, driving, and any activity where visual detail is of primary importance."

(http://en.wikipedia.org/wiki/Fovea_centralis_in_macula)

3.2 RENDERING OF STILLS AND VIDEO ANIMATIONS

As mentioned above, glare is a phenomenon that depends on the observer's location, but also on his view direction. In the case of a train driver the view direction is defined by the rail tracks. UK recommendations set the eye level of the driver at 2.75 m above the rails. The view point is centred between the tracks for ease of reference. Although train drivers sit slightly to the left within the cabin, this bears no material effect on the analysis of the images as the signals are visible at a distance of hundreds of metres at which point the slight shift in the cabin equates to a very small angular change. Fig. 09 shows the typical set up of our viewpoints. Actual trains and driver's cabin are not included in our 3d computer model.

Individual virtual cameras located accordingly in our 3d computer model are spaced between 1 and 3m apart in the direction of travel. Before the stills are compiled into video clips, a human field of view mask is overlayed onto them in order to define the angular distance between the instance of reflection and the observer's line of sight.

This procedure allows for the assessment of entire stretches of railway tracks providing a complete overview of potential risks as well as information about signal sighting.

3.3 IMAGE ANALYSIS

The assessment shows the path of the sun for the entire year around the development. Two computer generated angular images are produced for each selected viewpoint, indicating the area which sees the reflection of the sunpath at any point during the year. A modified diagram portraying a standardised extent of human vision (Fig. 10) is then overlaid onto the image.

The image highlights the degrees of vision corresponding to the foveal view with a red circle of 3° of angle in order to identify the area most sensitive to reflected solar glare.

Another red circle represents the incidence of the 30° radius of our typical field of view in order to identify a secondary area of sensitivity to potential reflected glare instances.

As stated in the CIE 146:2002 occurrences at angles beyond 30° would be of little significance in most situations, but may be relevant in exceptional circumstances. When seated in a driving seat of a typical car, for example, the limits of the windscreen would generally obstruct the driver's view at angles beyond 30° from the line of sight.

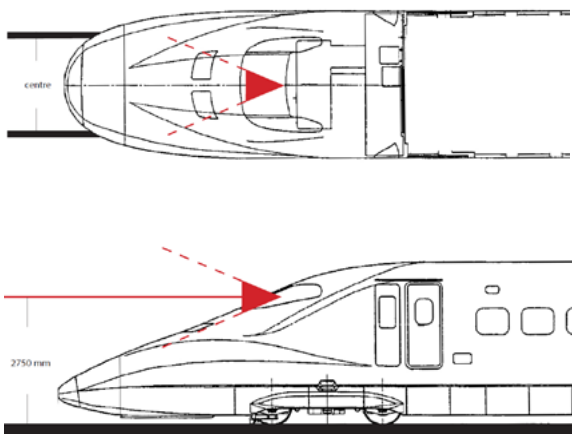


Fig. 09: Driver Viewpoint

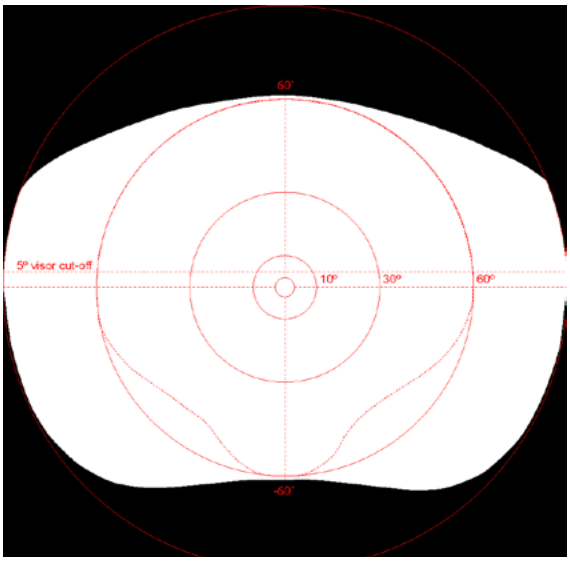


Fig. 10: Typical human field of view

3.4 LIMITATIONS

The methodology described above is not suitable to quantify the intensity of reflected solar glare. Wherever the potential for reflected solar glare is identified it should be assumed that its intensity is sufficient to cause nuisance and thus mitigating measures ought to be investigated.

Although great care is taken in identifying typical viewpoints around a new development this does not guarantee that there are no further sensitive locations where reflected solar glare could present a particular risk. This assessment is based on the assumption that in an urban environment moving traffic represents the biggest risk factor and so viewpoints and focus points are selected accordingly.

For practical reasons the area of the assessment is limited to the vicinity of a new development. The occurrence of reflected solar glare at greater distances is not subject of this assessment.

IMPORTANT: The hours shown in the diagrams and described in the text reflect solar time and therefore do not take Daylight Saving Hours into account.

4 SITE OVERVIEW

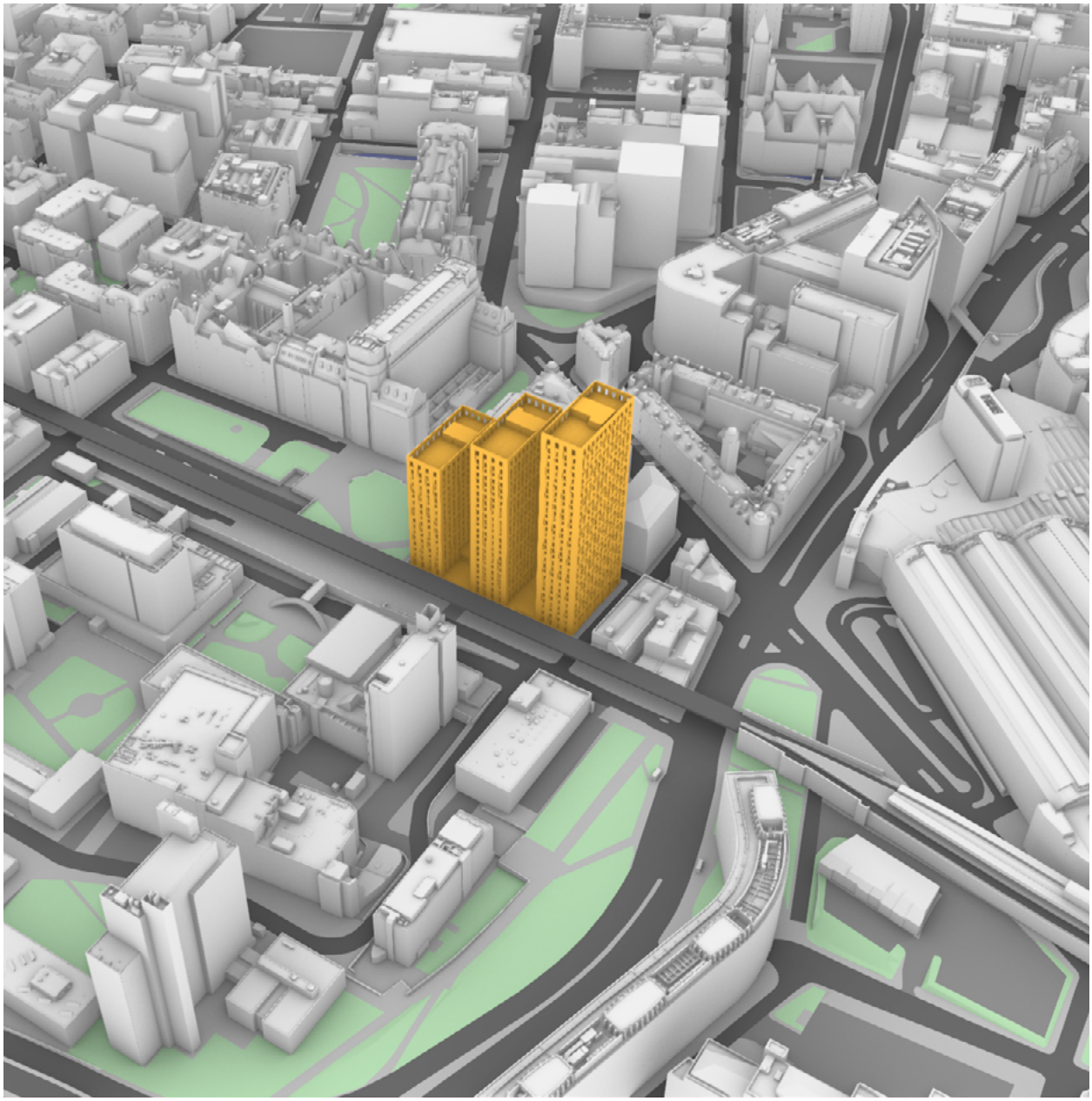


Fig. 11: Site Overview Perspective (from south east)



Fig. 12: Top view

5 VIEWPOINTS



Fig. 13: View points (roads)

→ Building visible from the viewpoint

→ Building NOT visible from the viewpoint

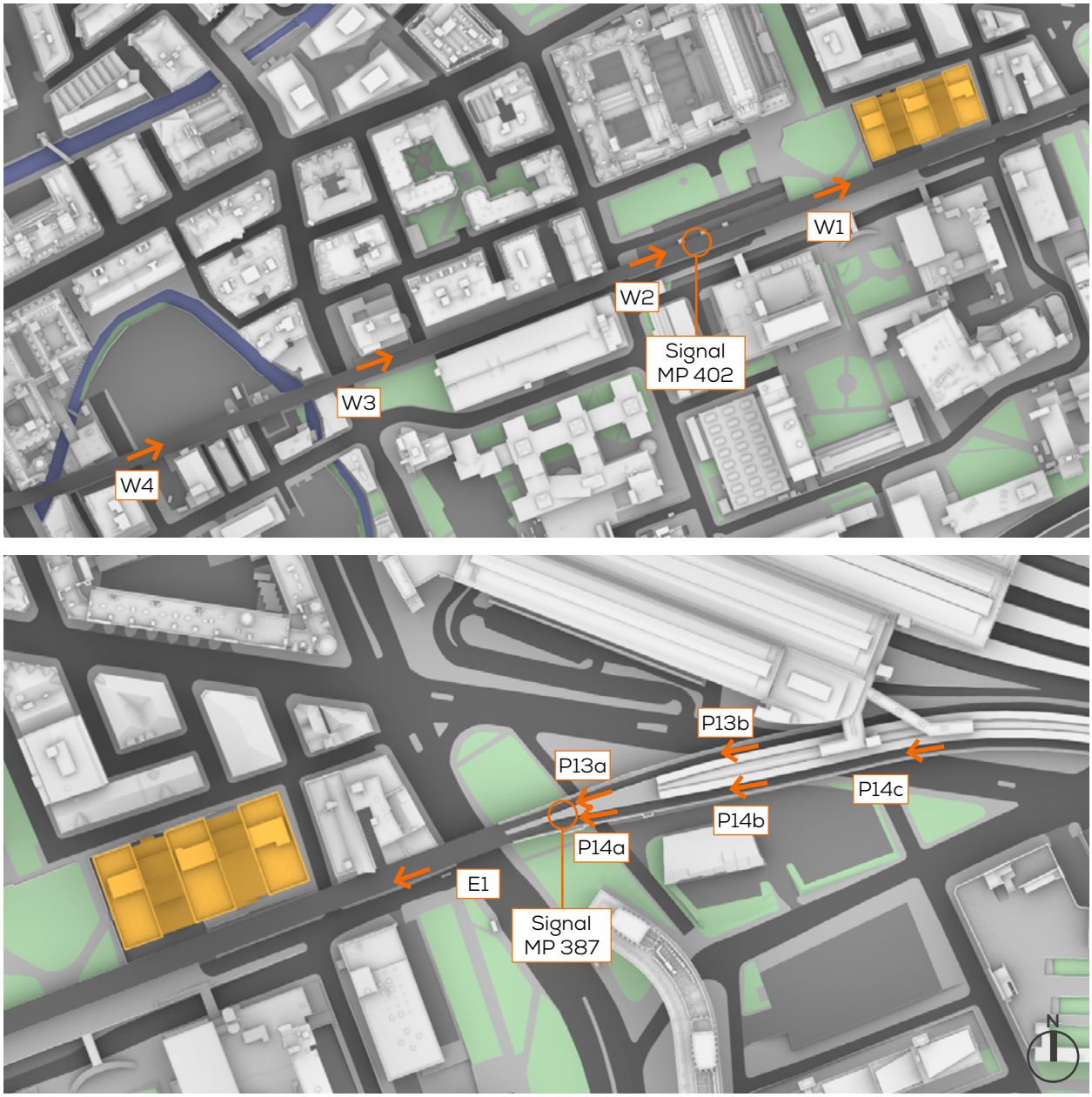


Fig. 14: View points (trains)

6 SOLAR GLARE ASSESSMENT - TRAIN DRIVERS

60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT W1 - EASTBOUND TRAINS

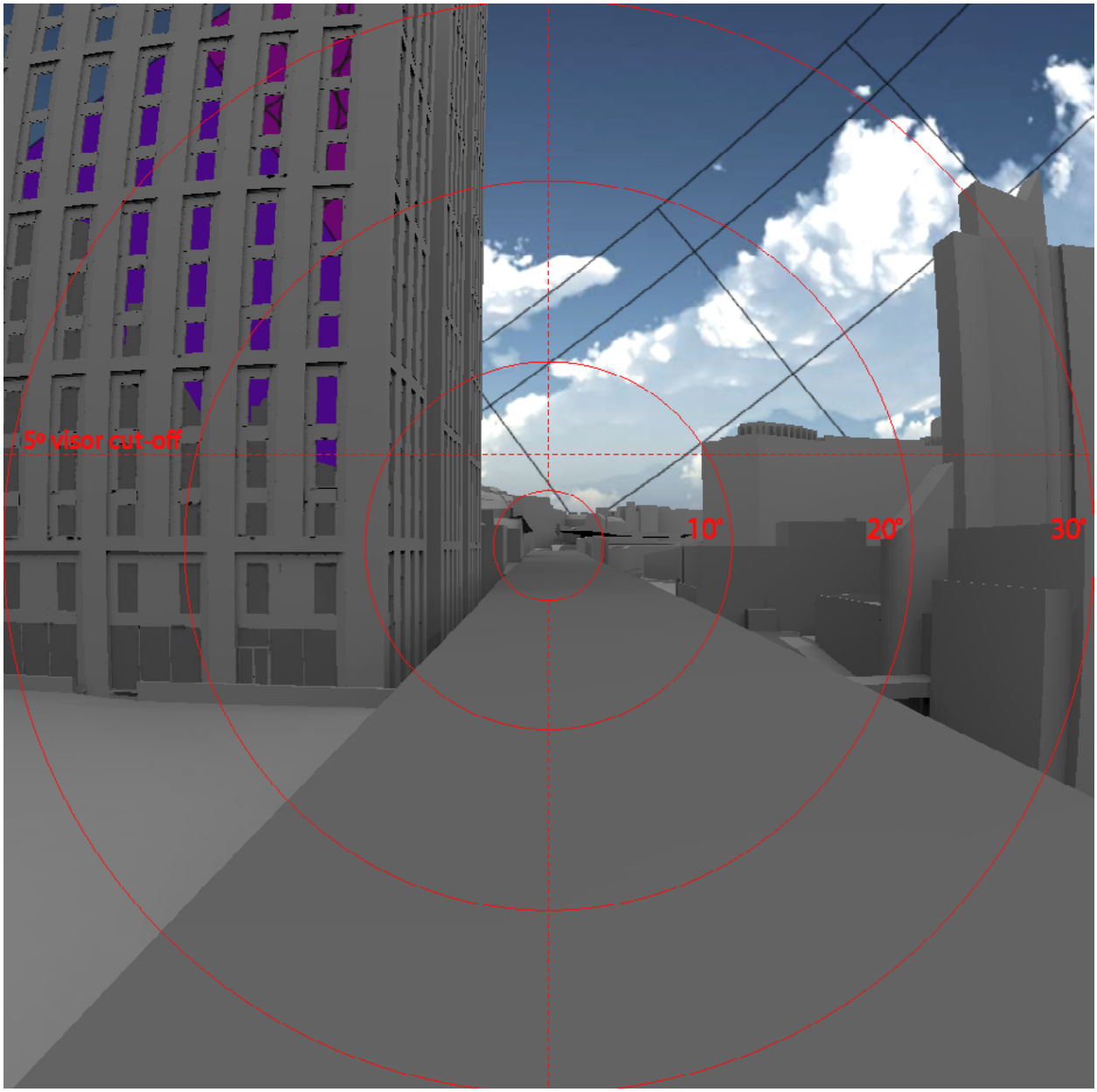
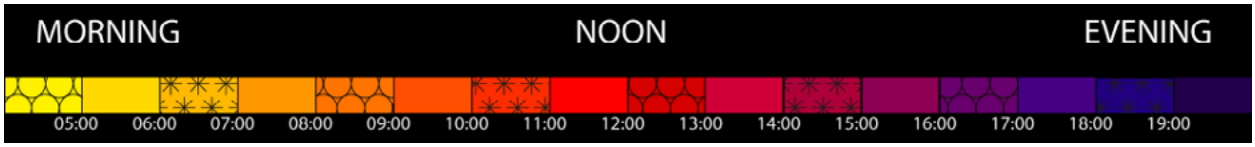


Fig. 15: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT W1 - EASTBOUND TRAINS

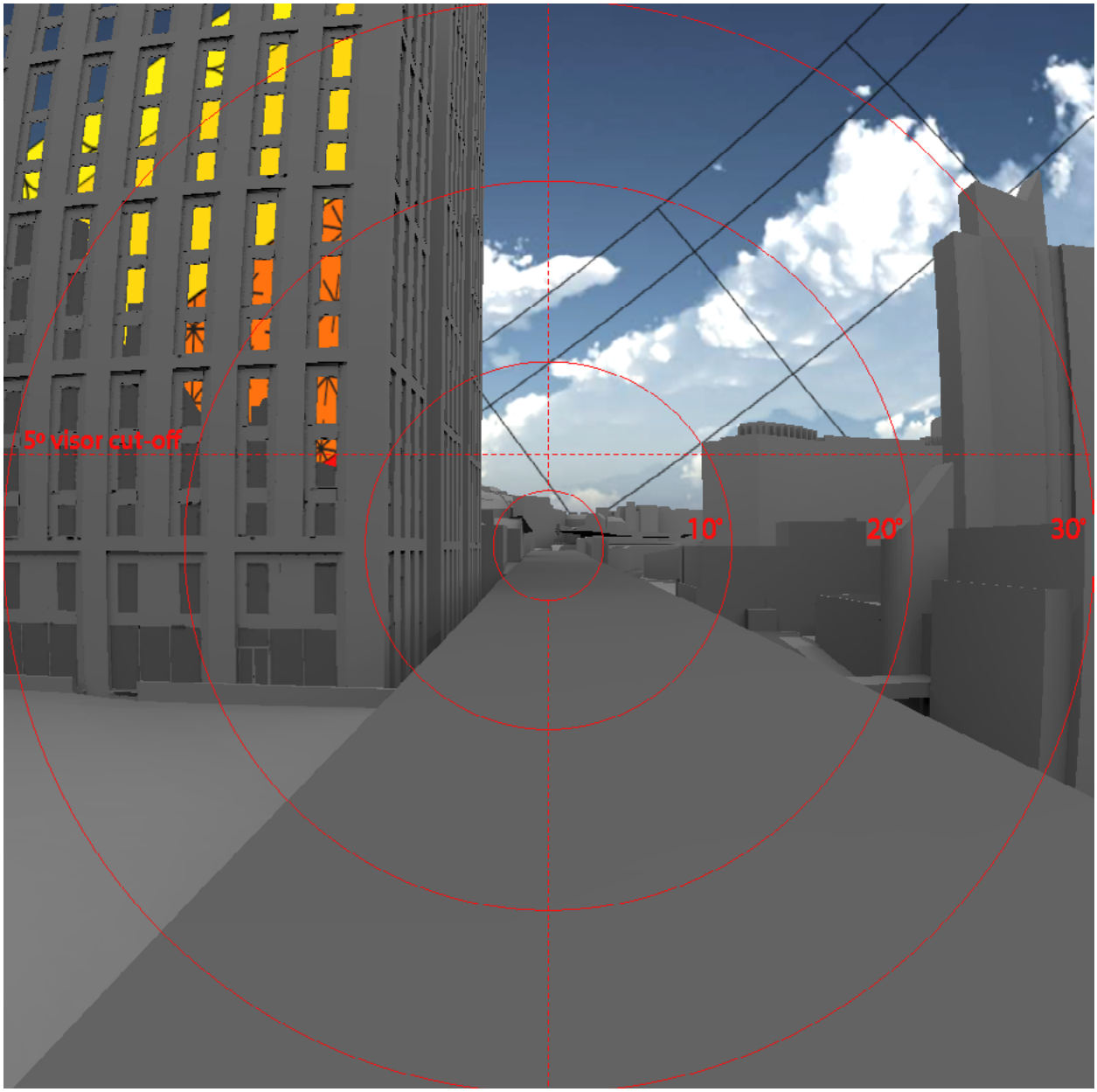


Fig. 16: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT W2 - EASTBOUND TRAINS

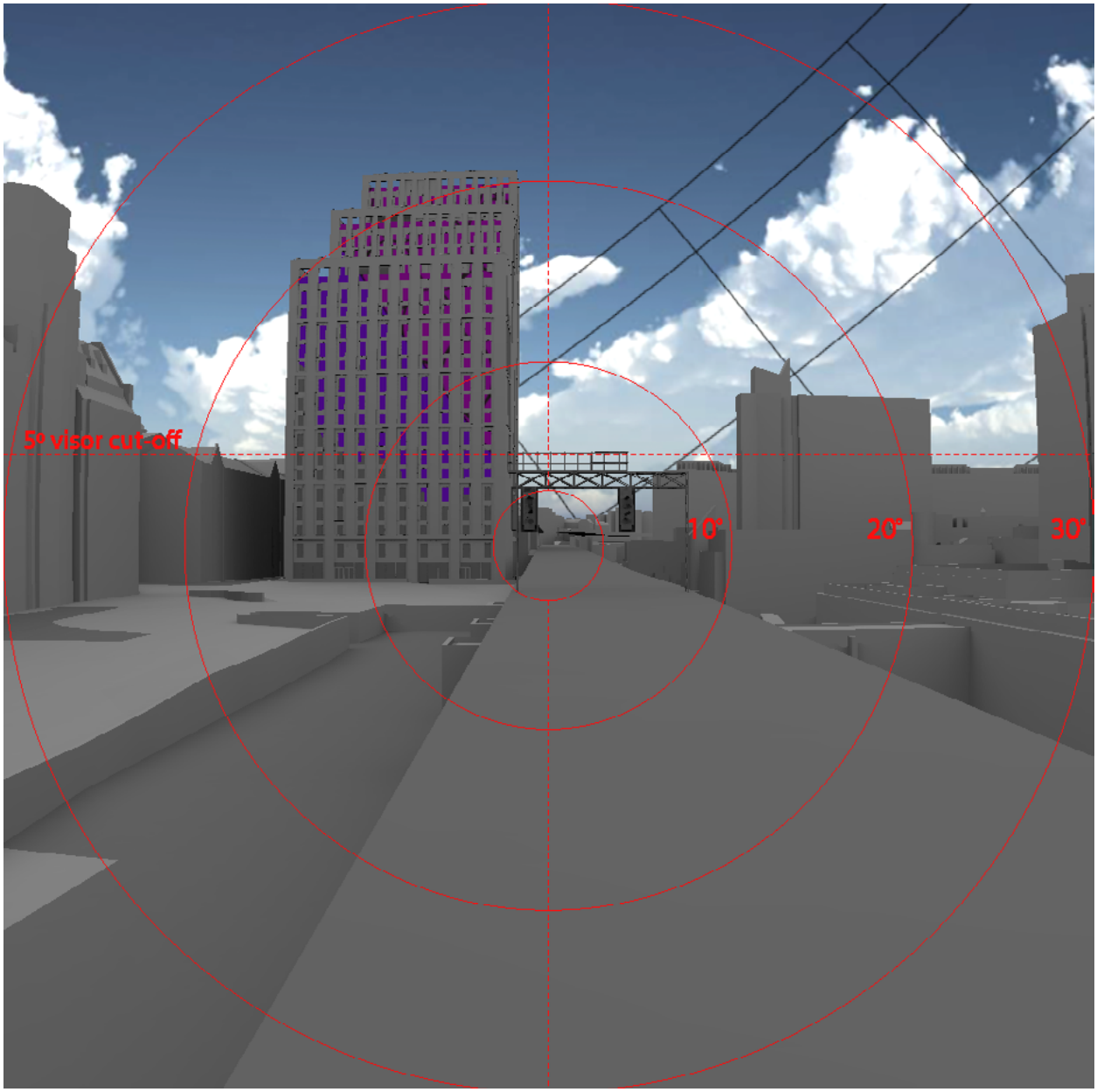
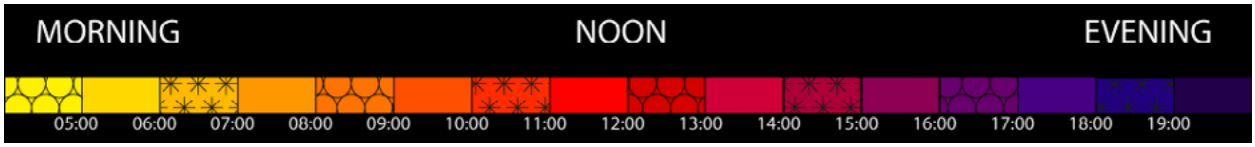


Fig. 17: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT W2 - EASTBOUND TRAINS

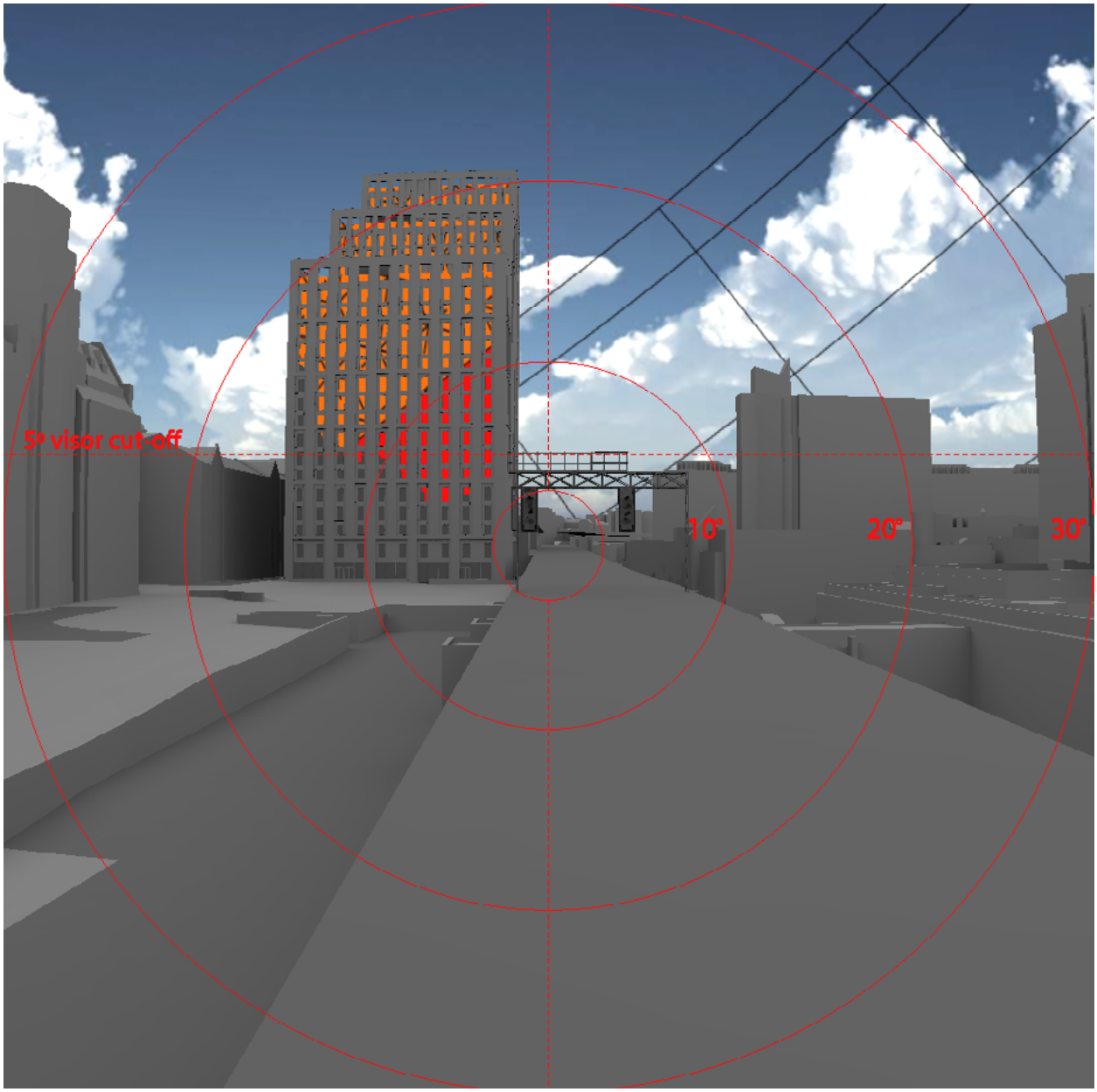


Fig. 18: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT W3 - EASTBOUND TRAINS

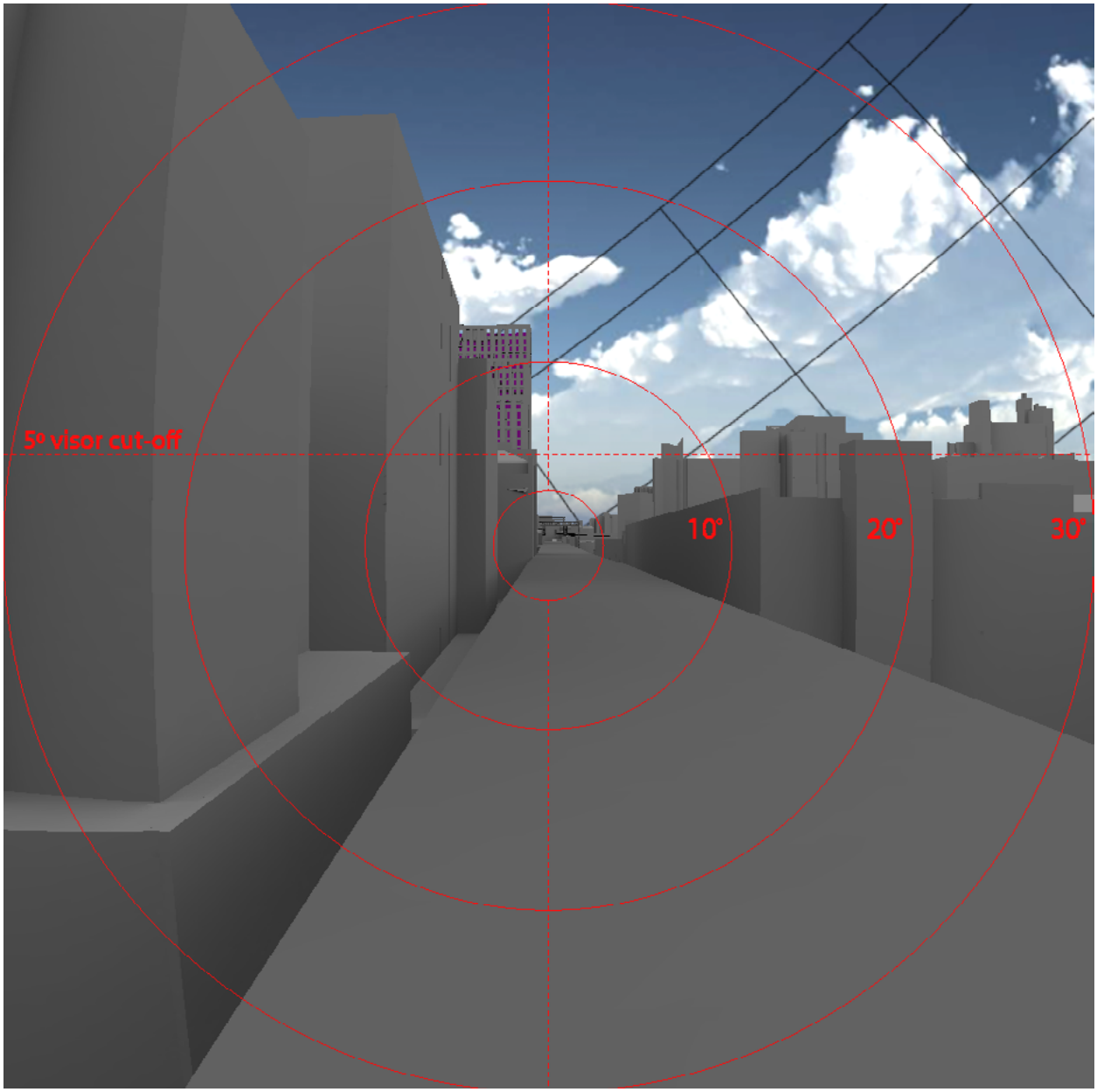
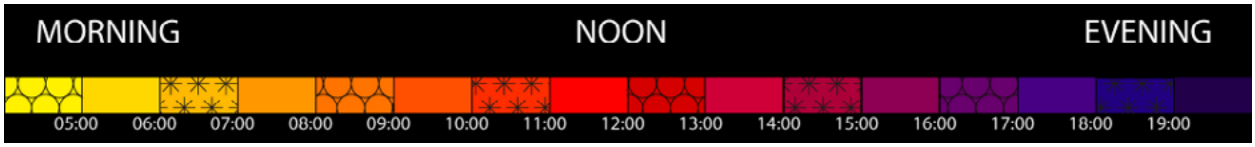


Fig. 19: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT W3 - EASTBOUND TRAINS

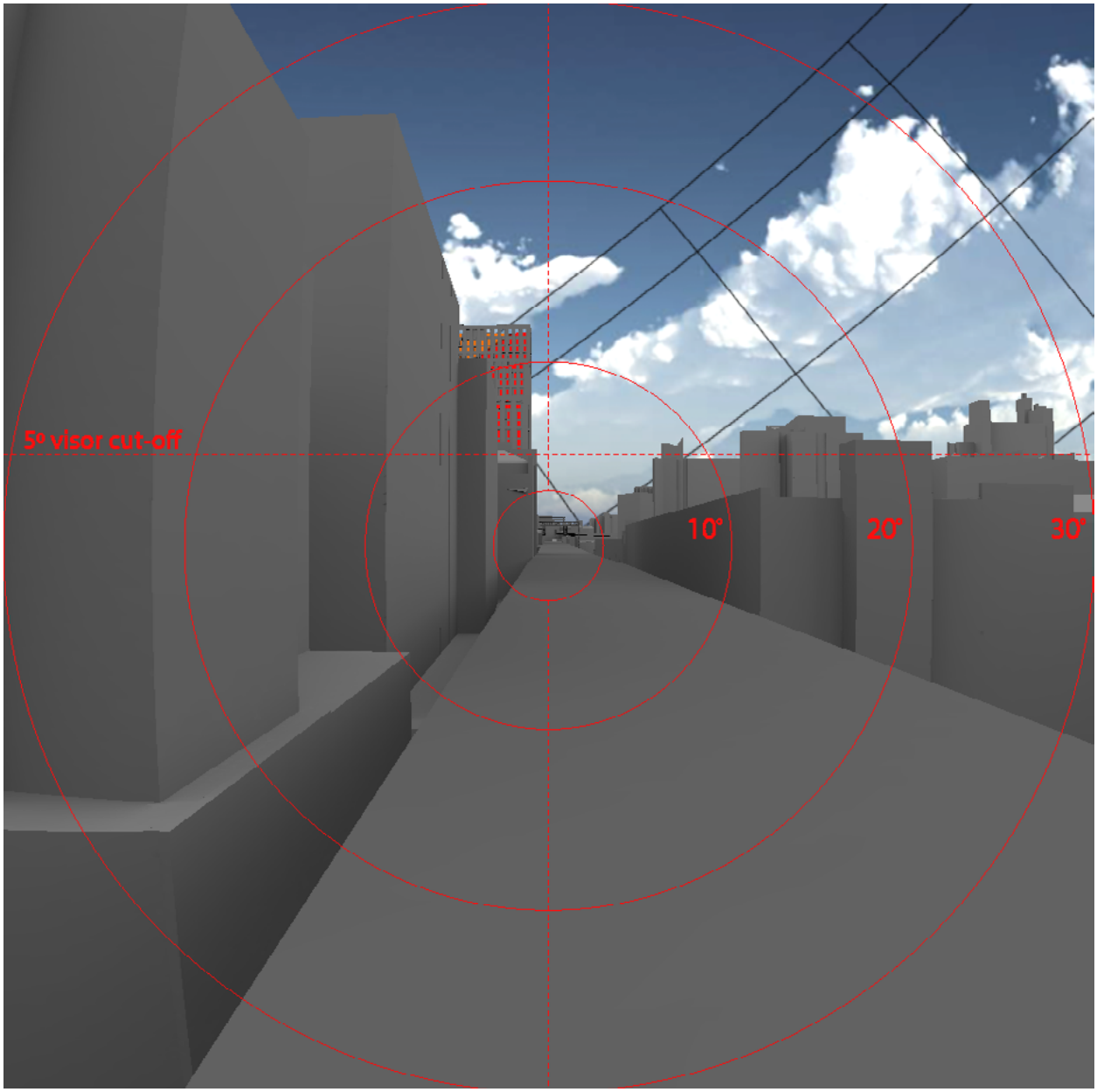


Fig. 20: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT W4 - EASTBOUND TRAINS

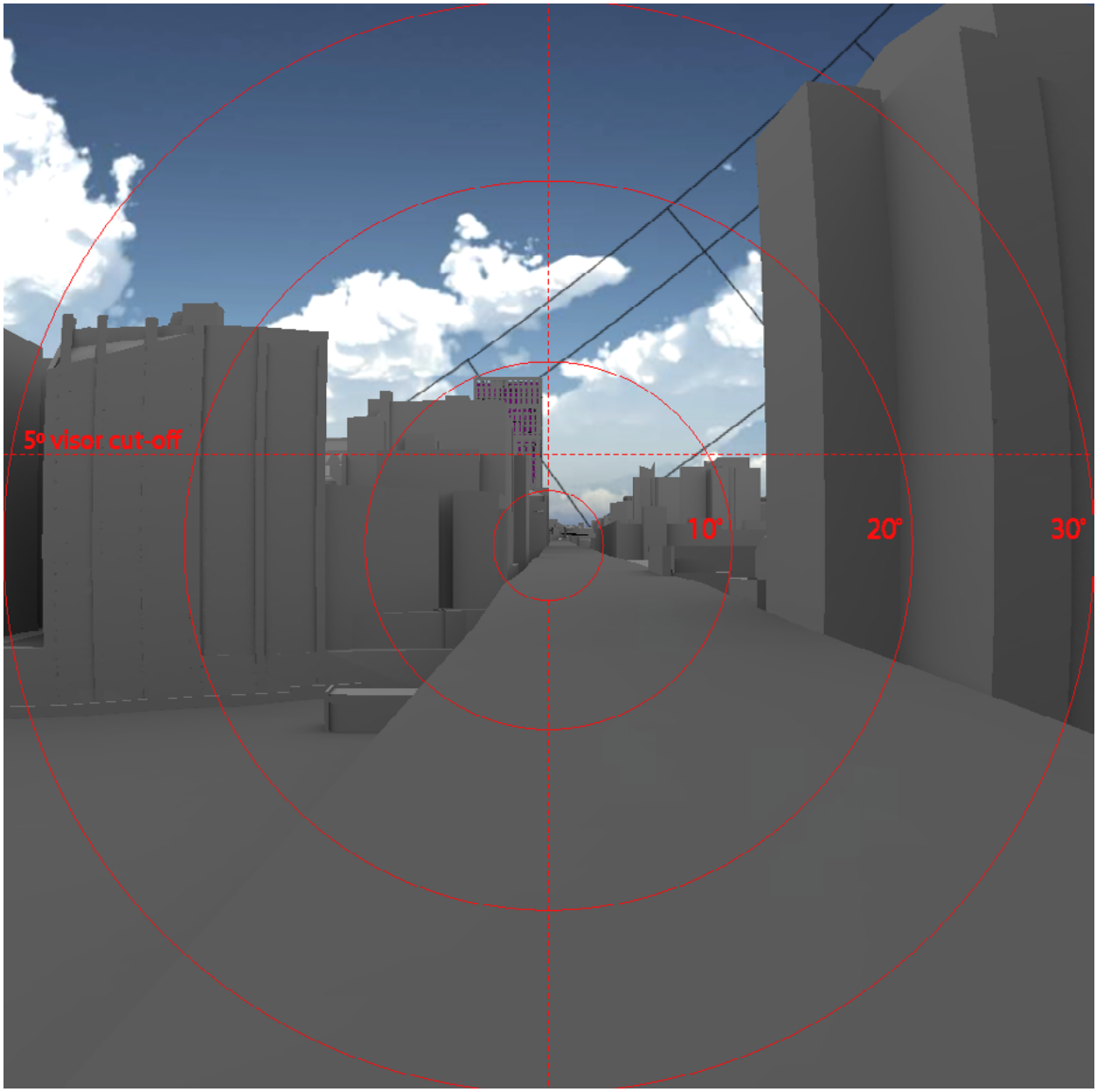
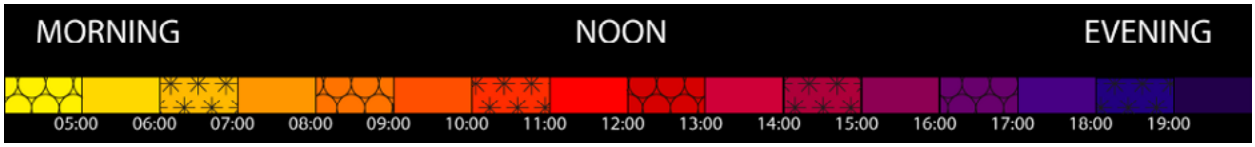


Fig. 21: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT W4 - EASTBOUND TRAINS

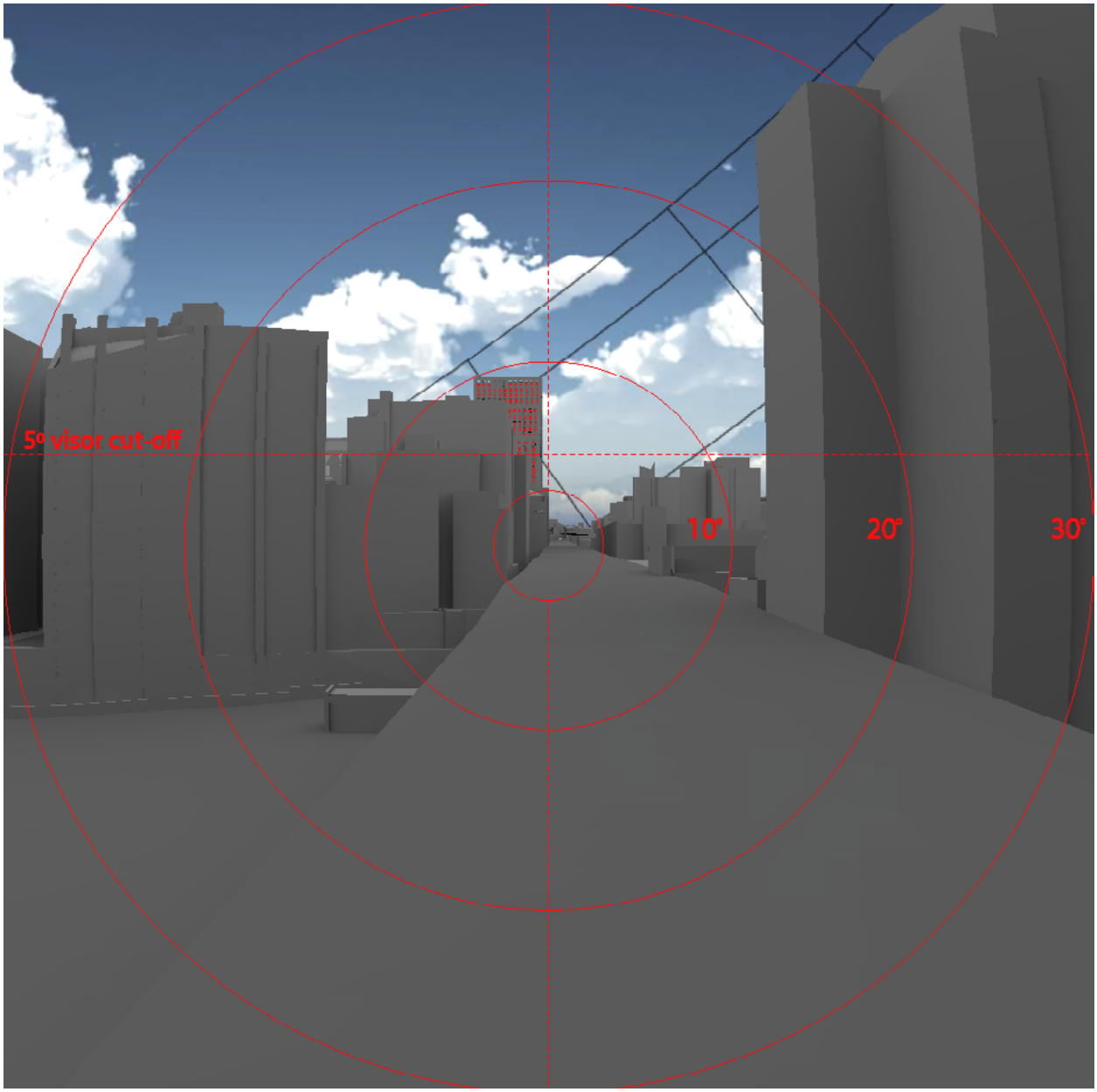


Fig. 22: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT E1 - WESTBOUND TRAINS

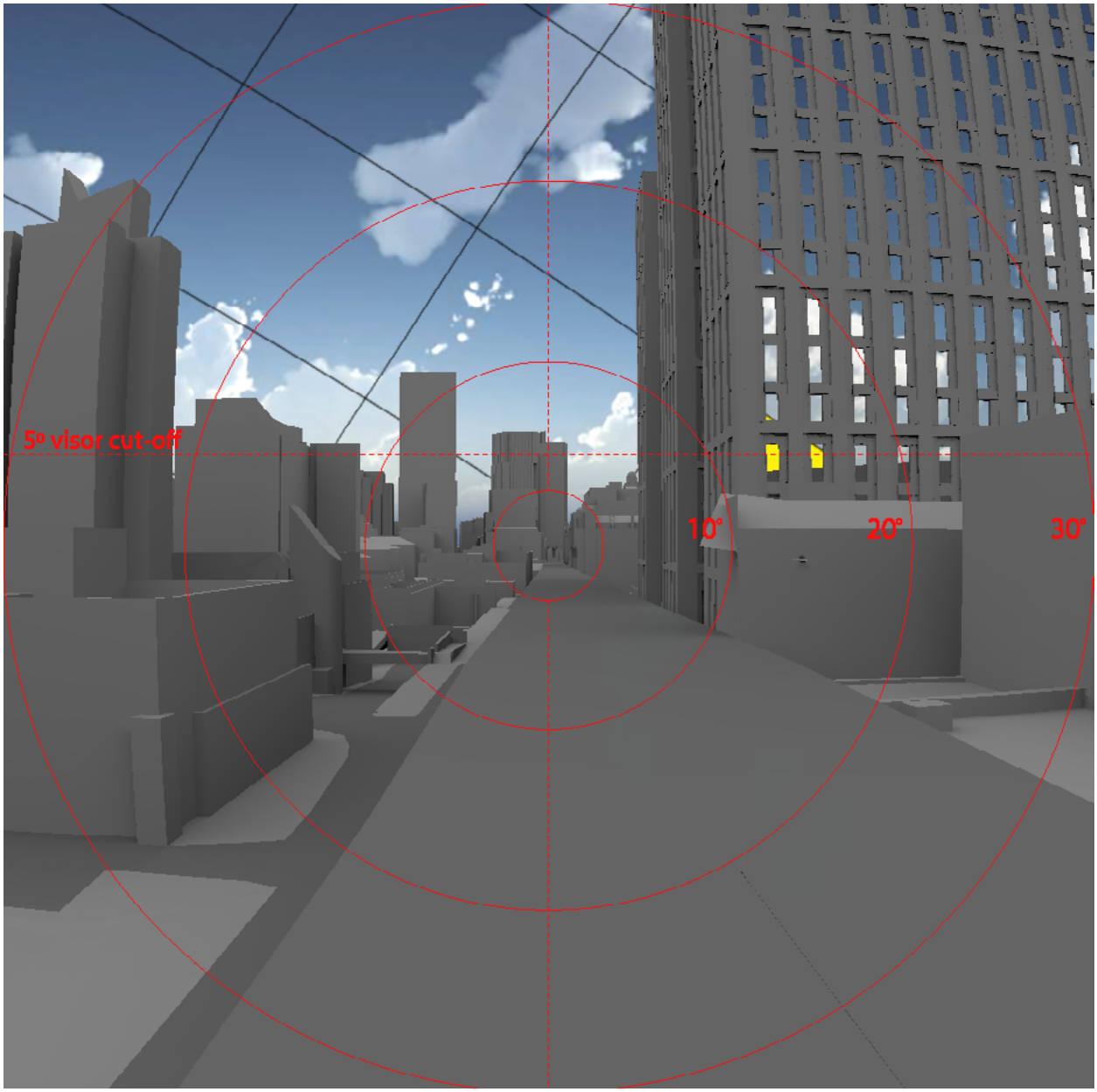
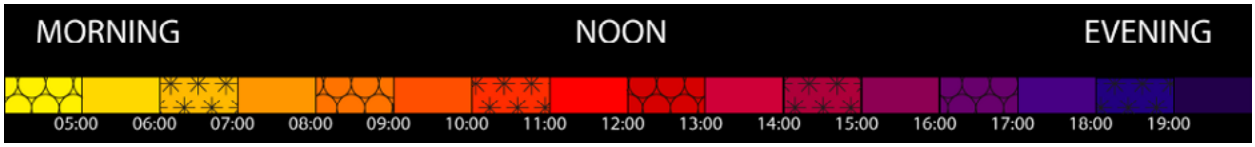


Fig. 23: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT E1 - EASTBOUND TRAINS

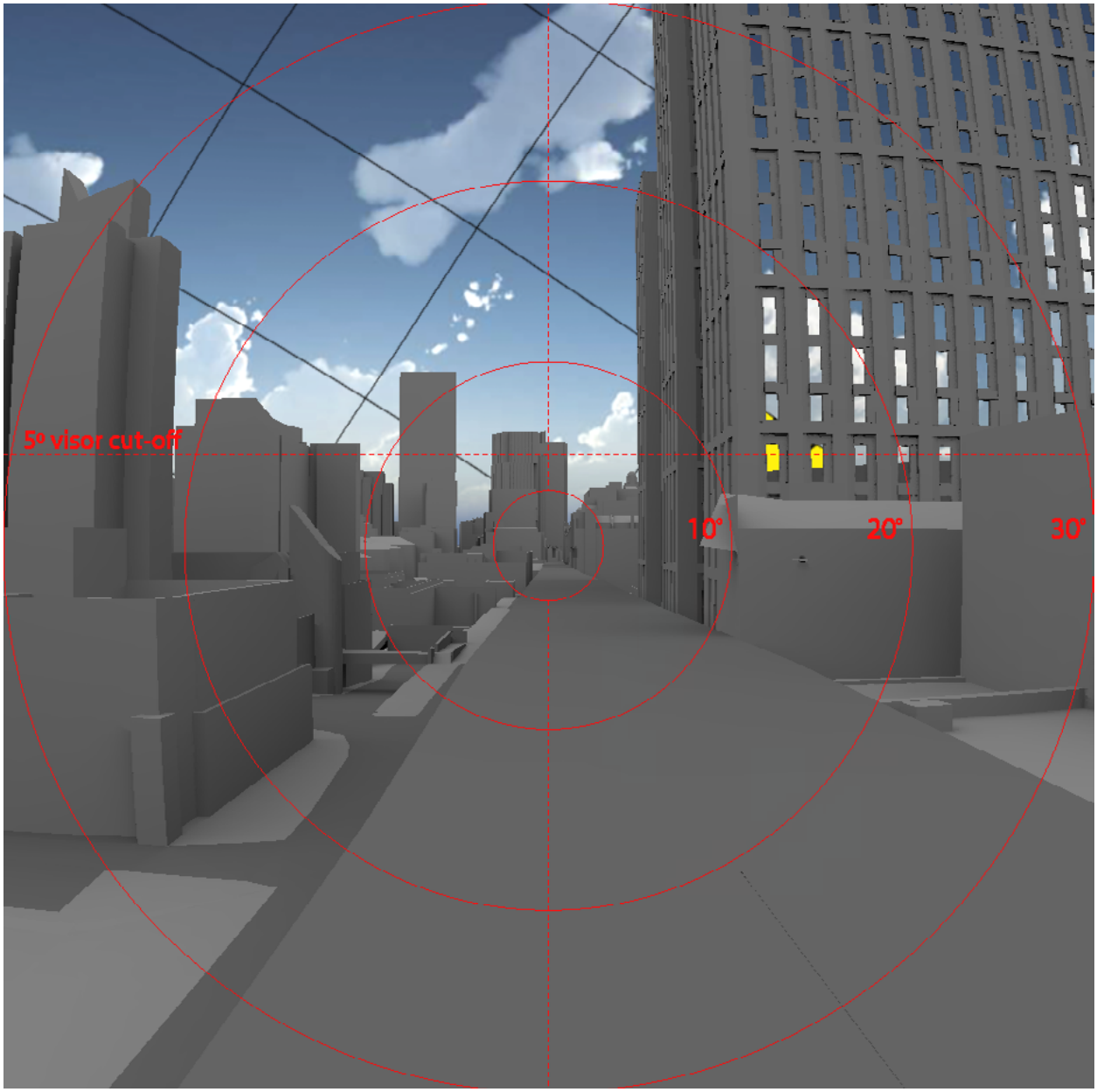


Fig. 24: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT P13A - EASTBOUND TRAINS VIA PLATFORM 13

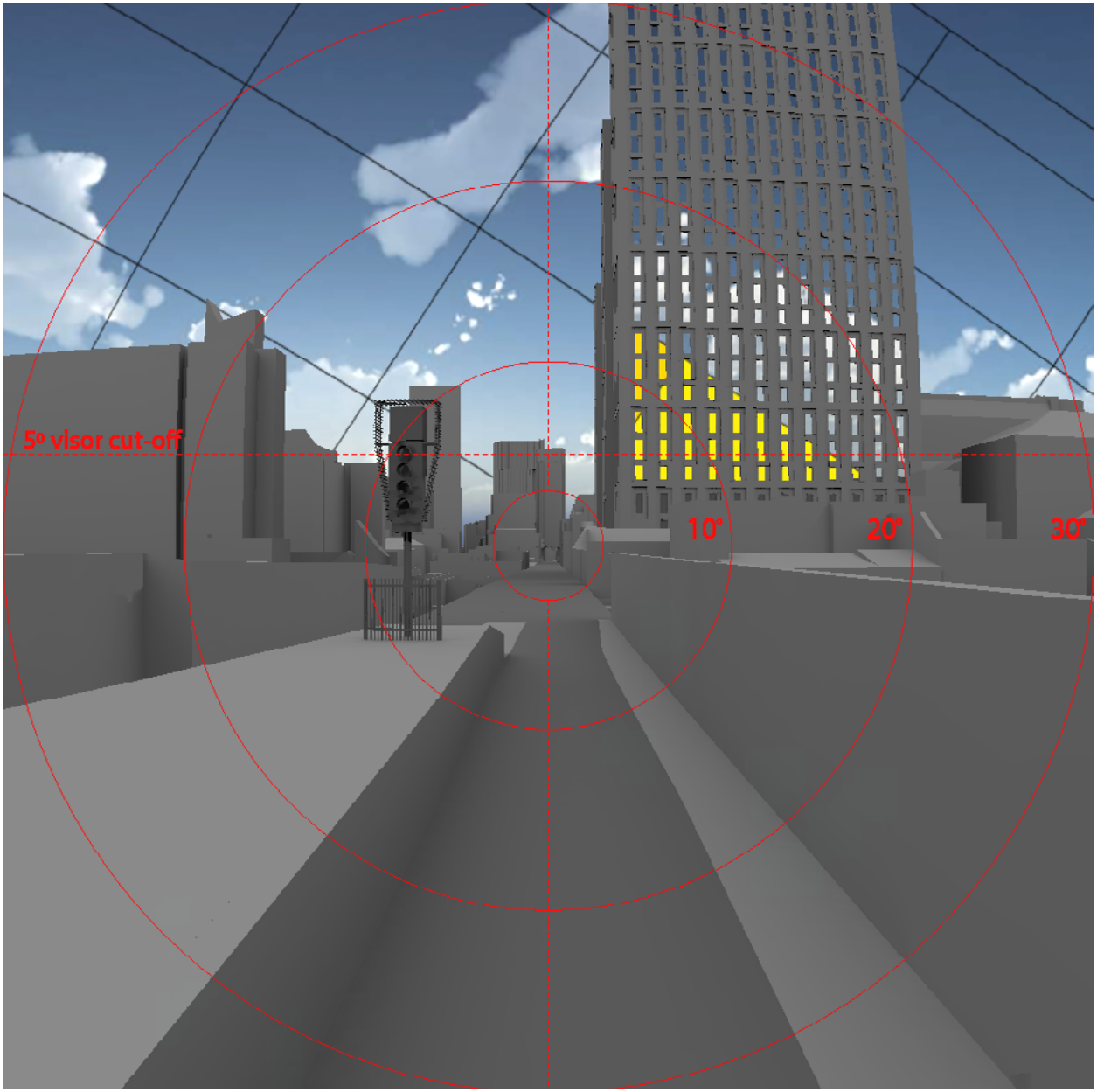
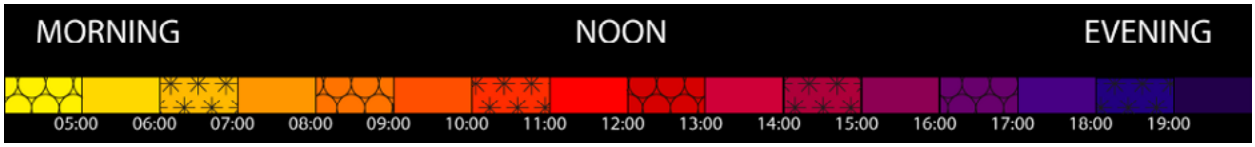


Fig. 25: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT P13A - EASTBOUND TRAINS VIA PLATFORM 13

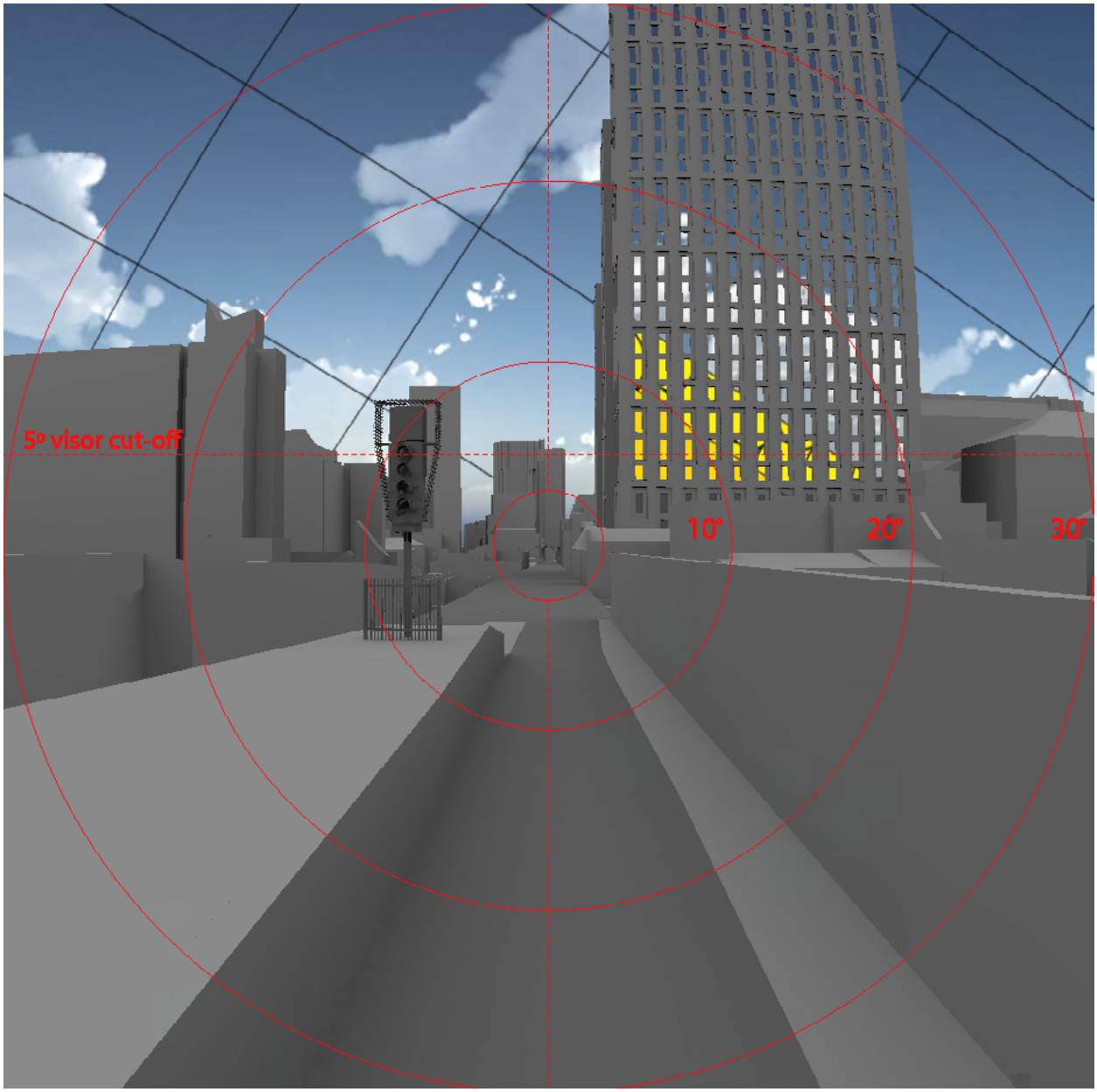


Fig. 26: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT P13B - EASTBOUND TRAINS VIA PLATFORM 13

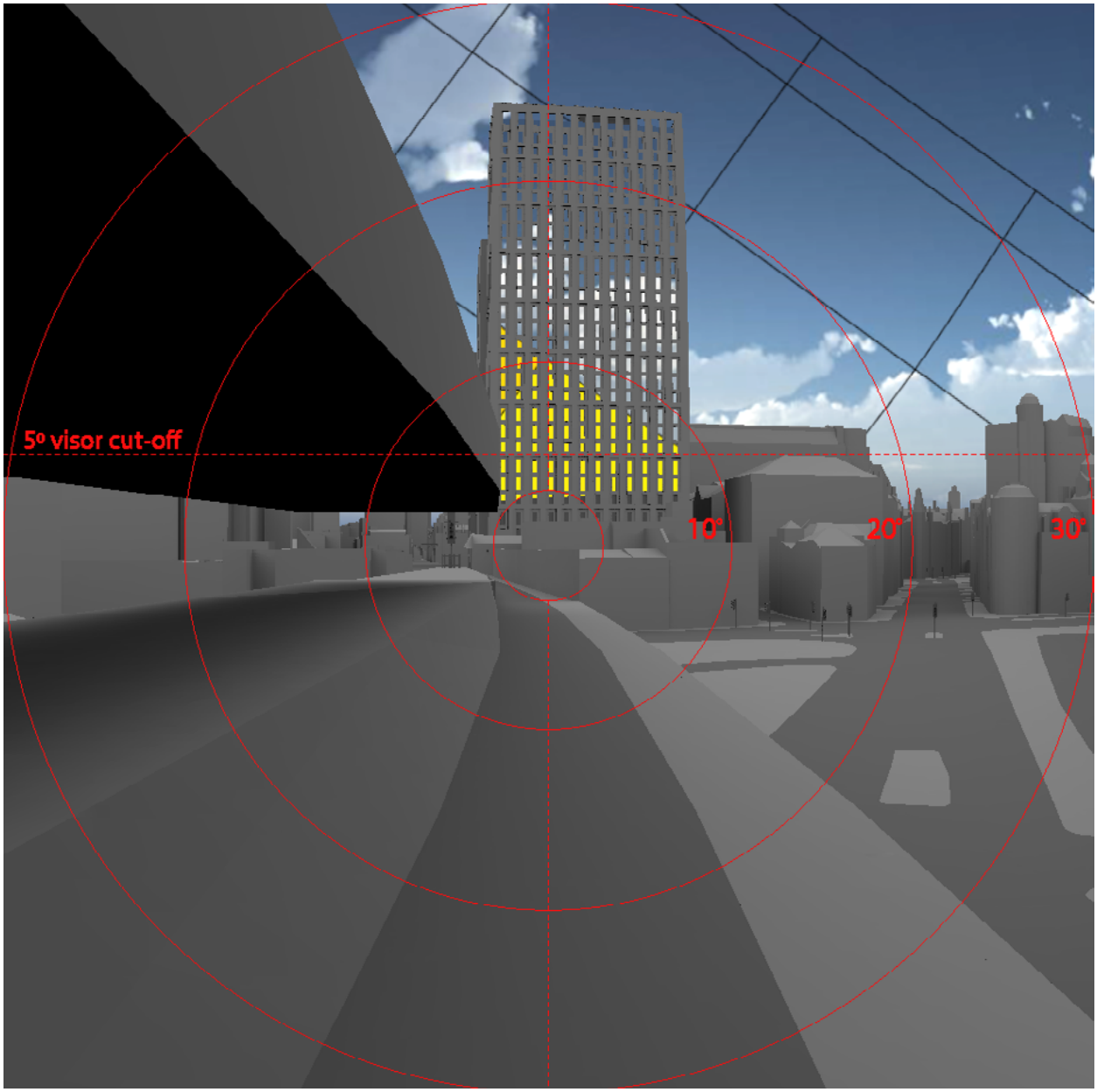
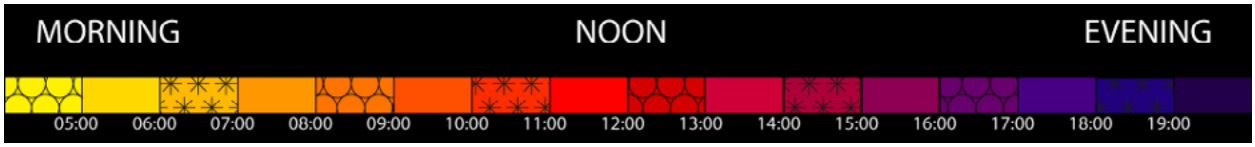


Fig. 27: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT P13B - EASTBOUND TRAINS VIA PLATFORM 13

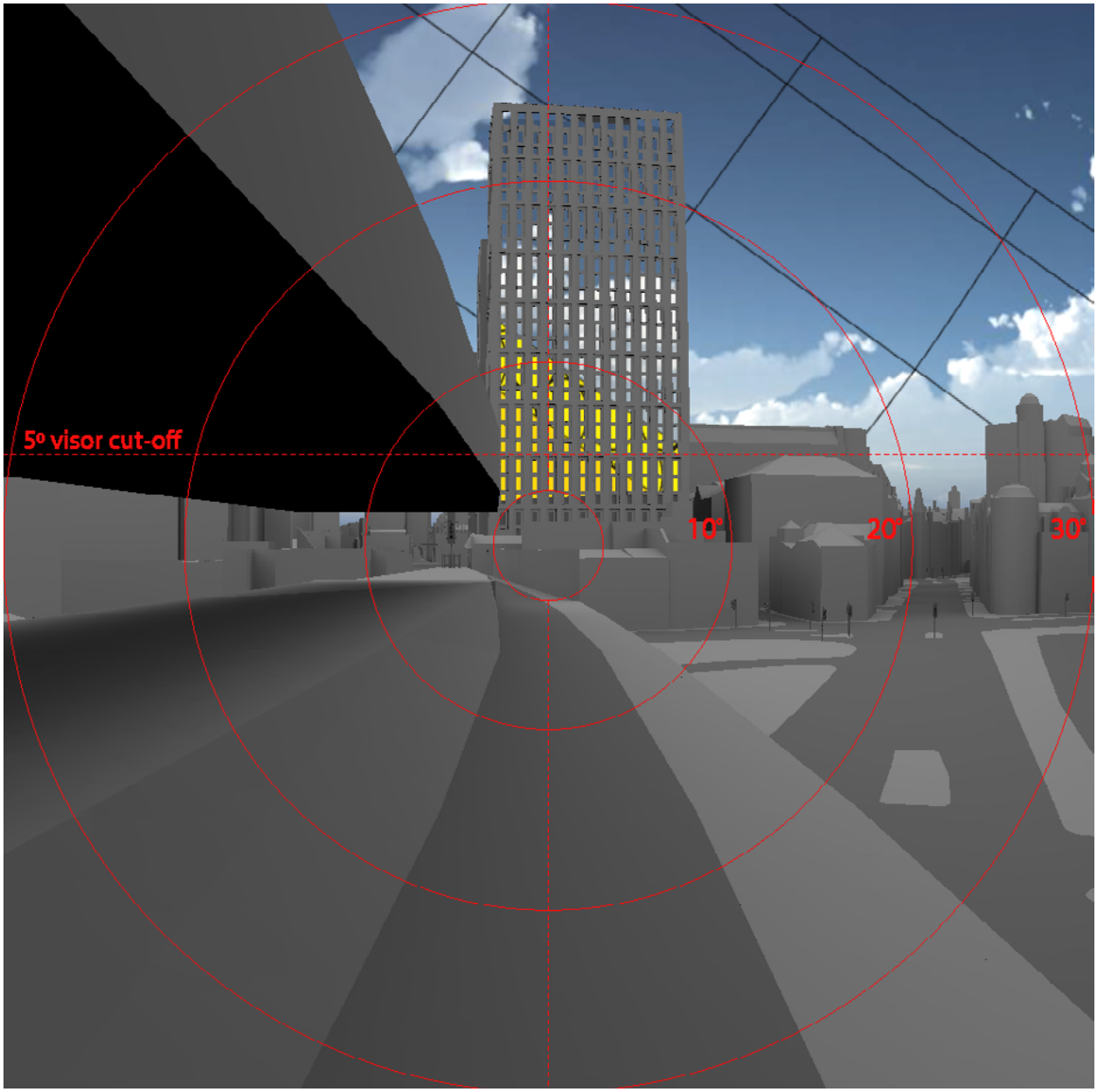


Fig. 28: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT P14A - EASTBOUND TRAINS VIA PLATFORM 14

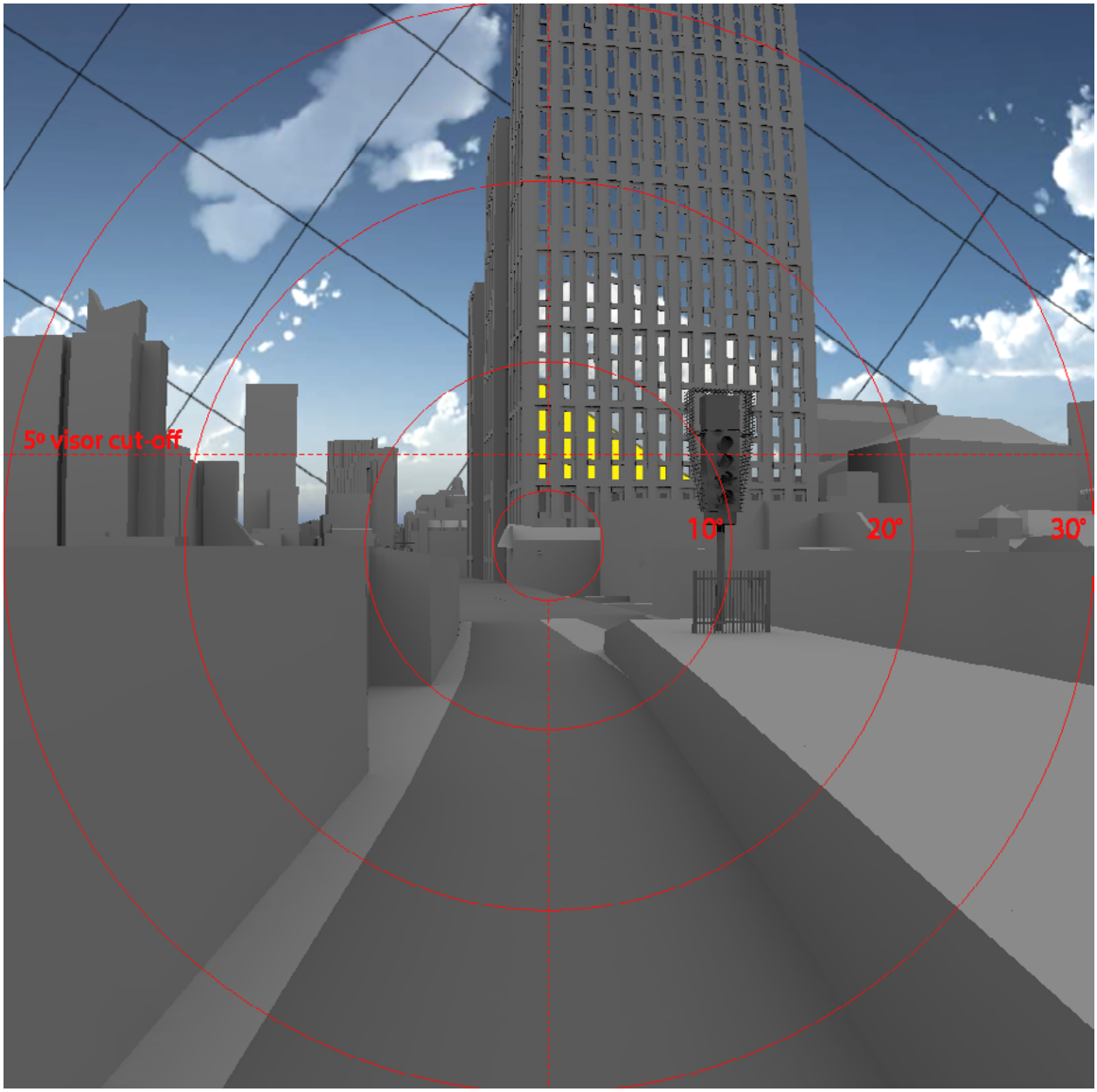
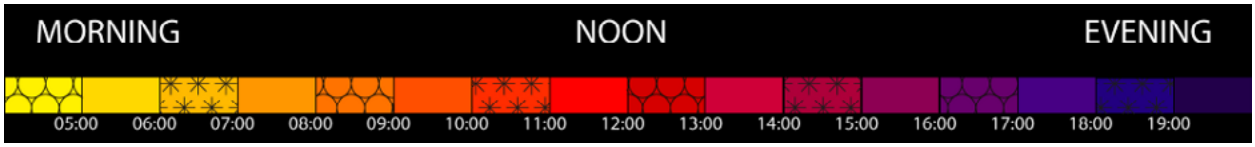


Fig. 29: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT P14A - EASTBOUND TRAINS VIA PLATFORM 14

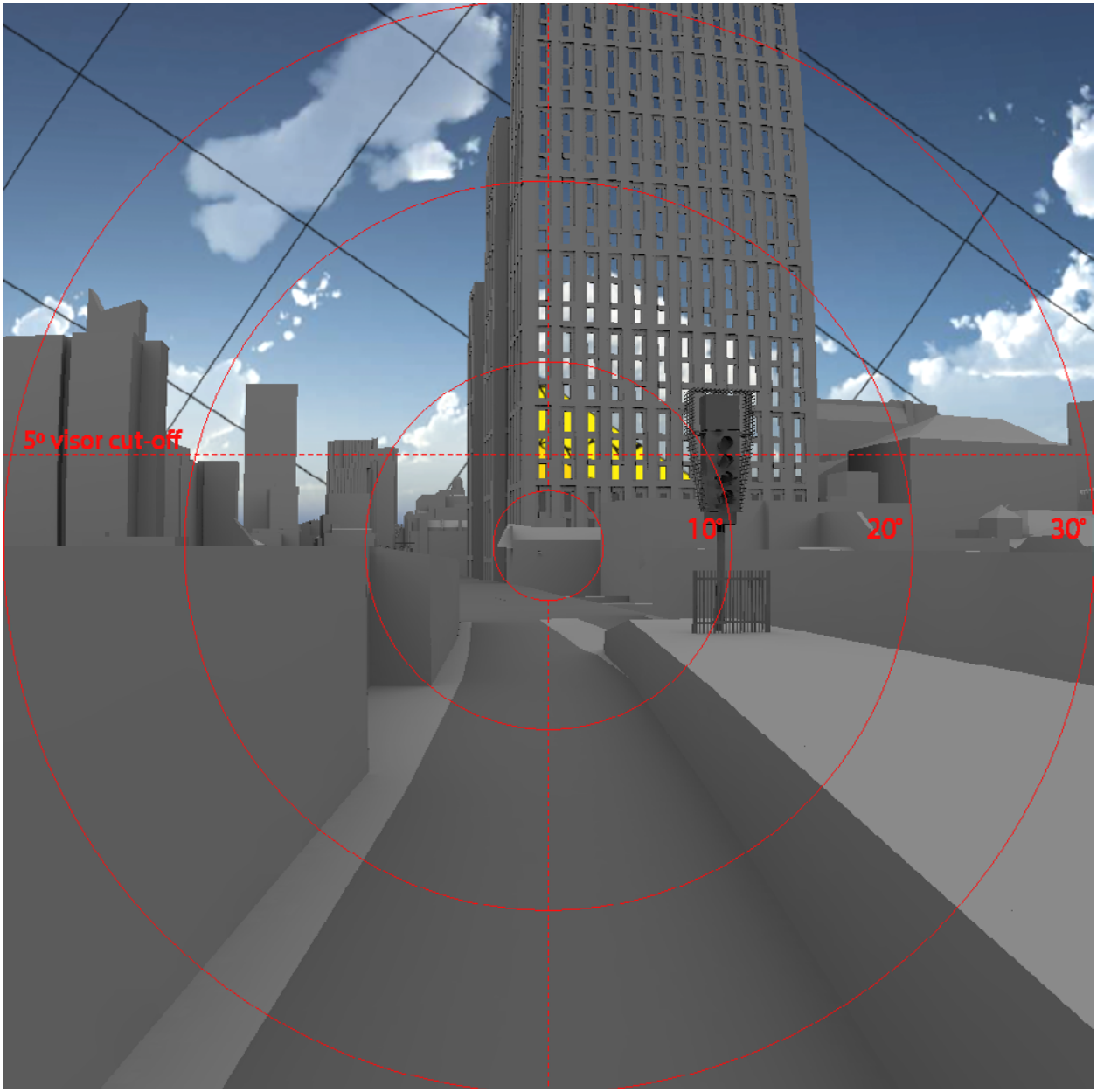


Fig. 30: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT P14B - EASTBOUND TRAINS VIA PLATFORM 14

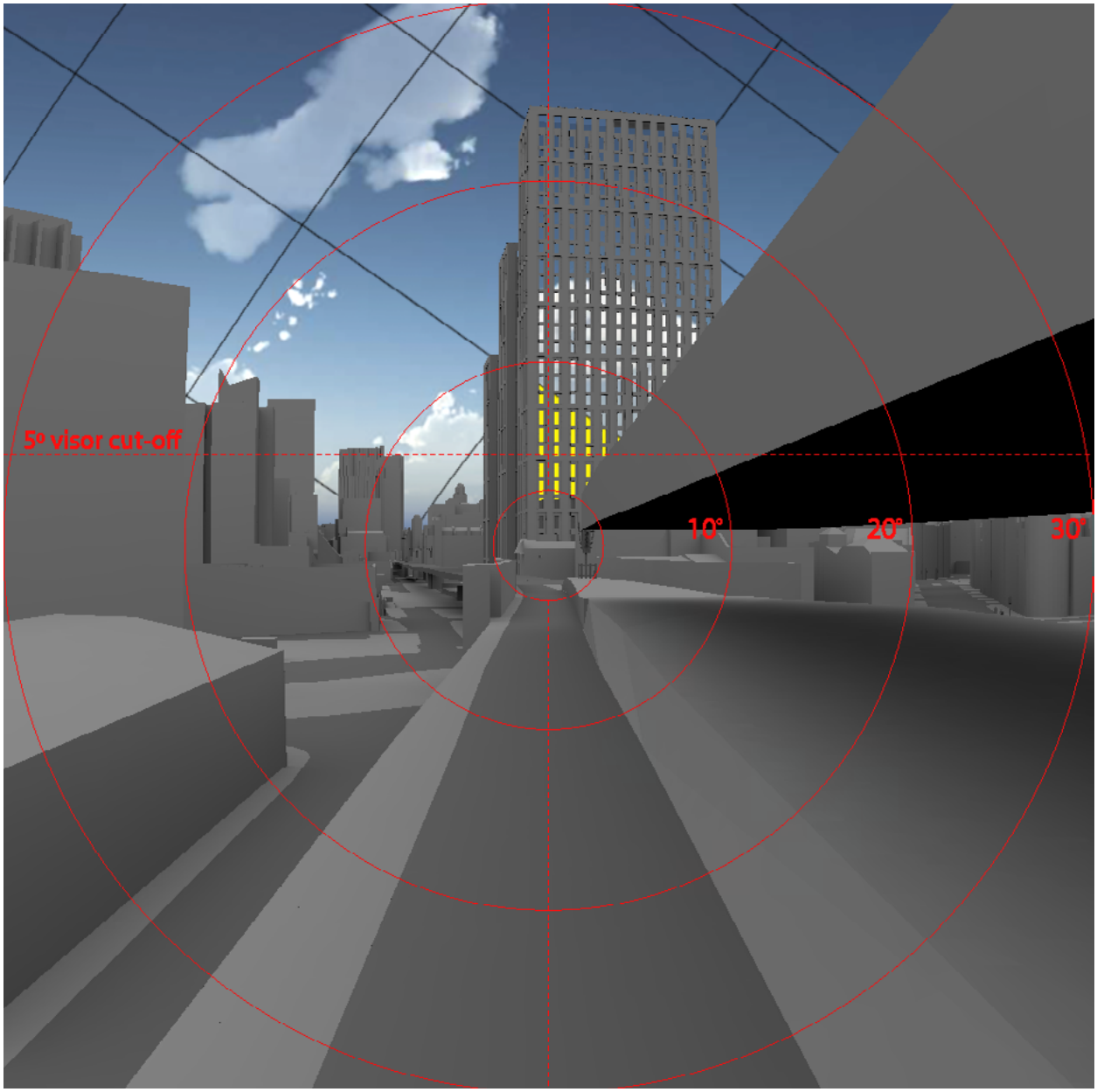
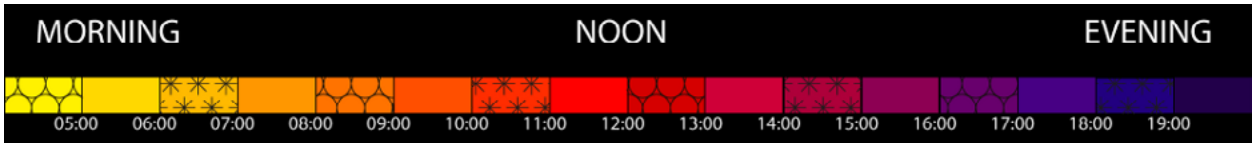


Fig. 31: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT P14B - EASTBOUND TRAINS VIA PLATFORM 14

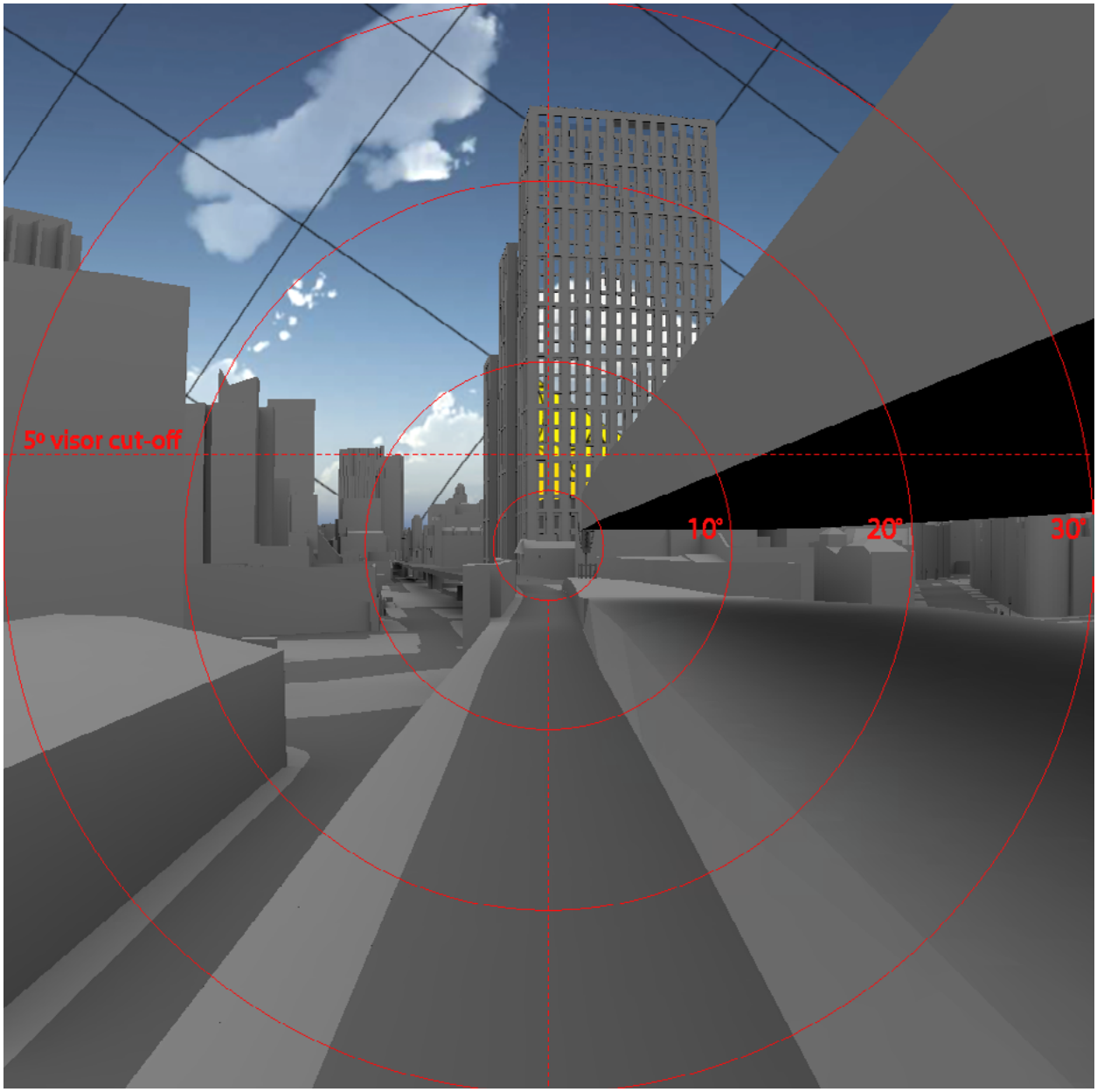


Fig. 32: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT P14C - EASTBOUND TRAINS VIA PLATFORM 14

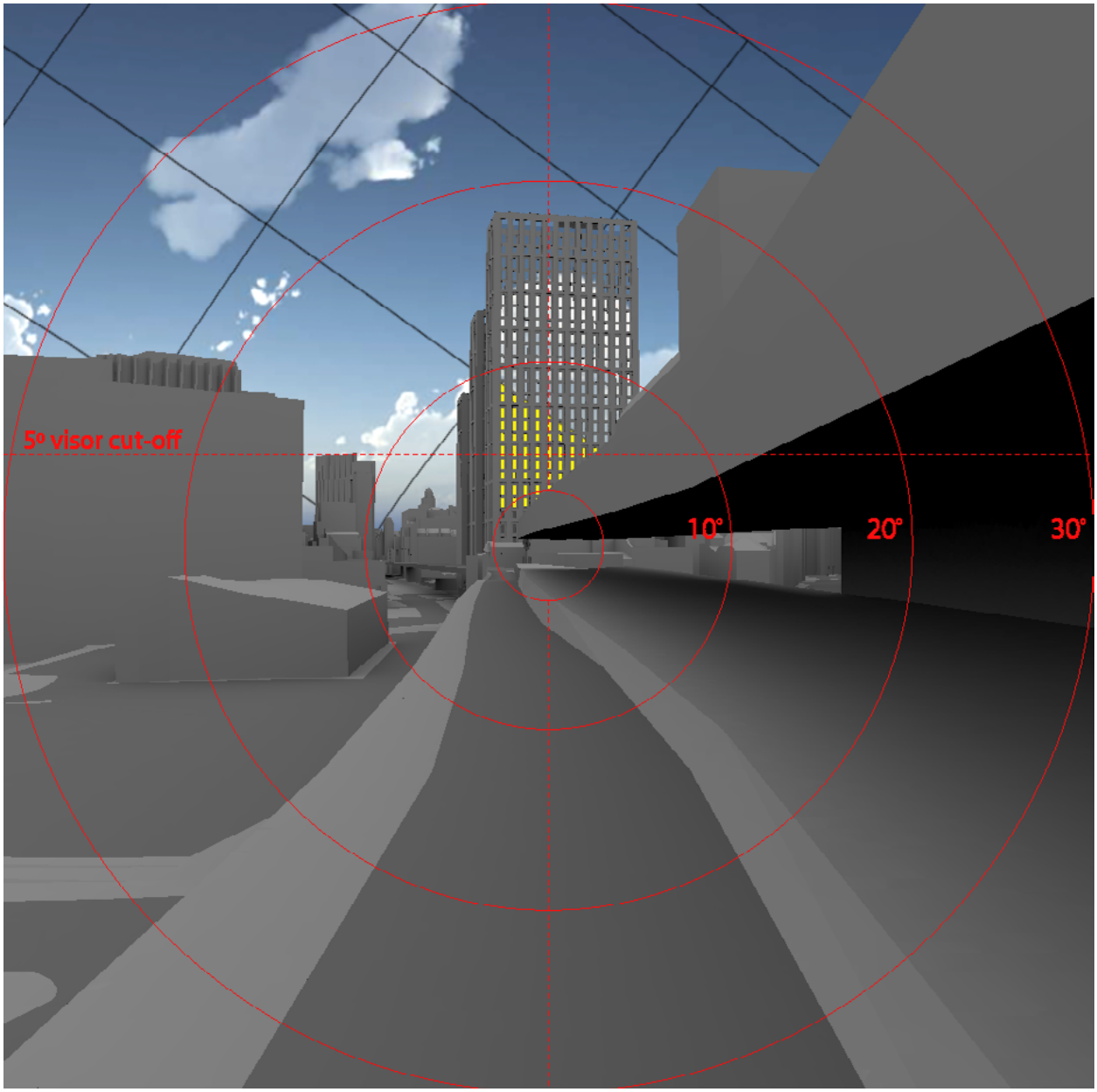
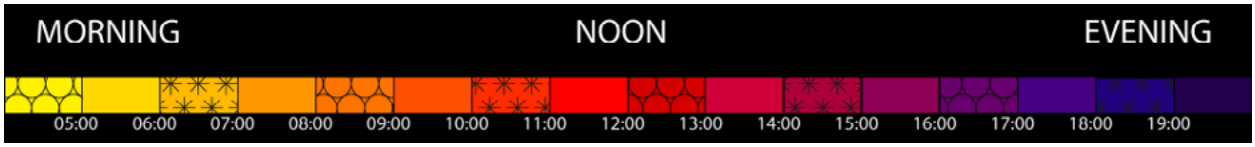


Fig. 33: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT P14C - EASTBOUND TRAINS VIA PLATFORM 14

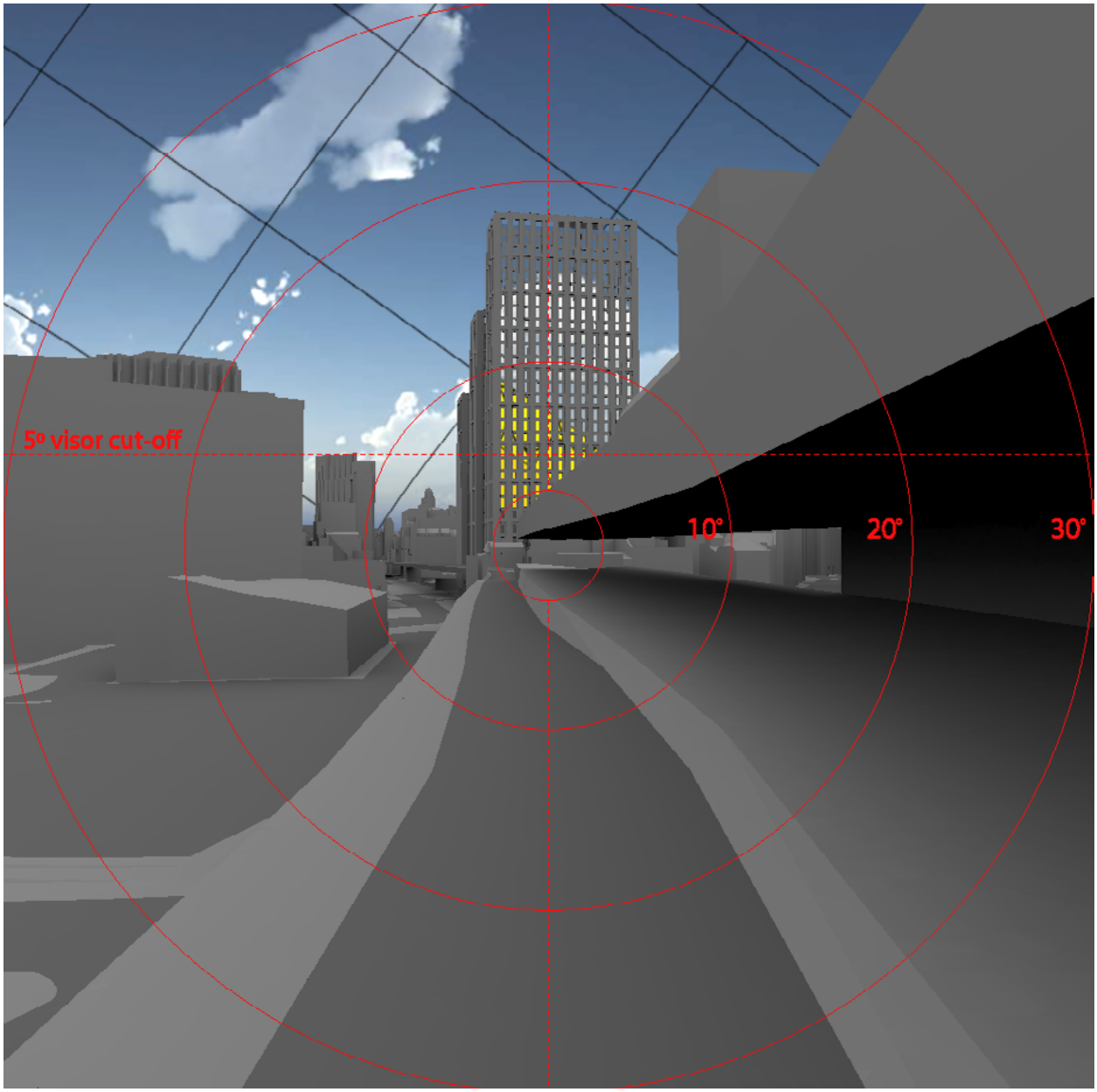


Fig. 34: Solar reflections



7 SOLAR GLARE ASSESSMENT - ROAD USERS

60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT CHARLES STREET 1

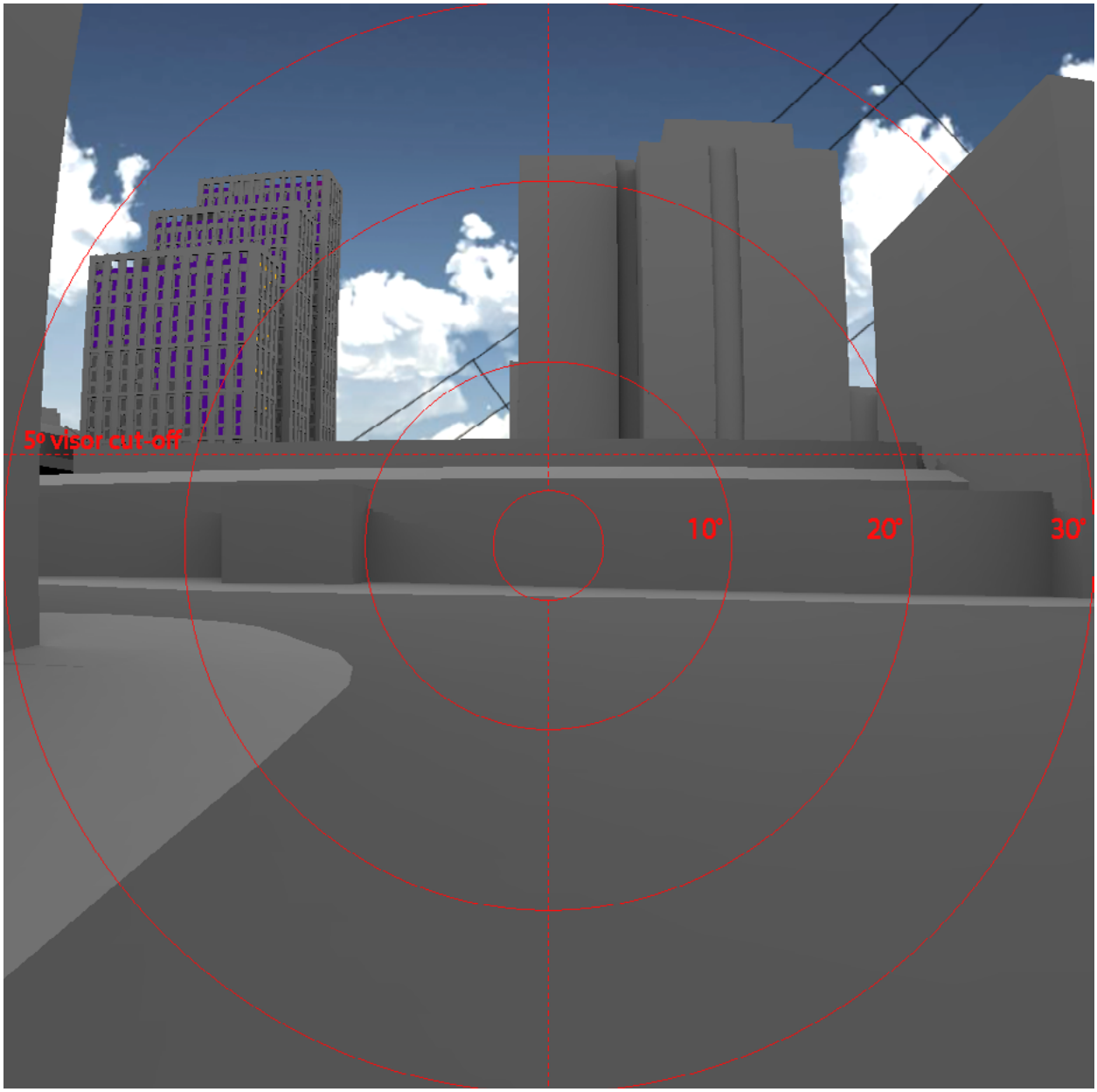
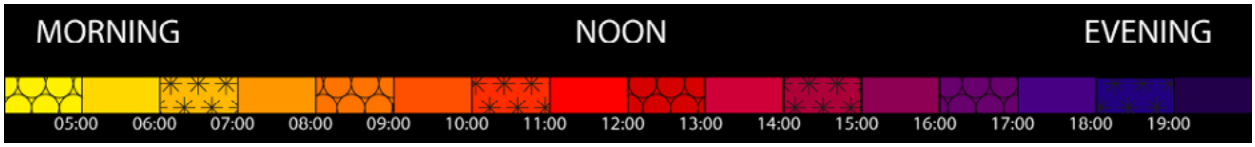


Fig. 35: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT CHARLES STREET 1

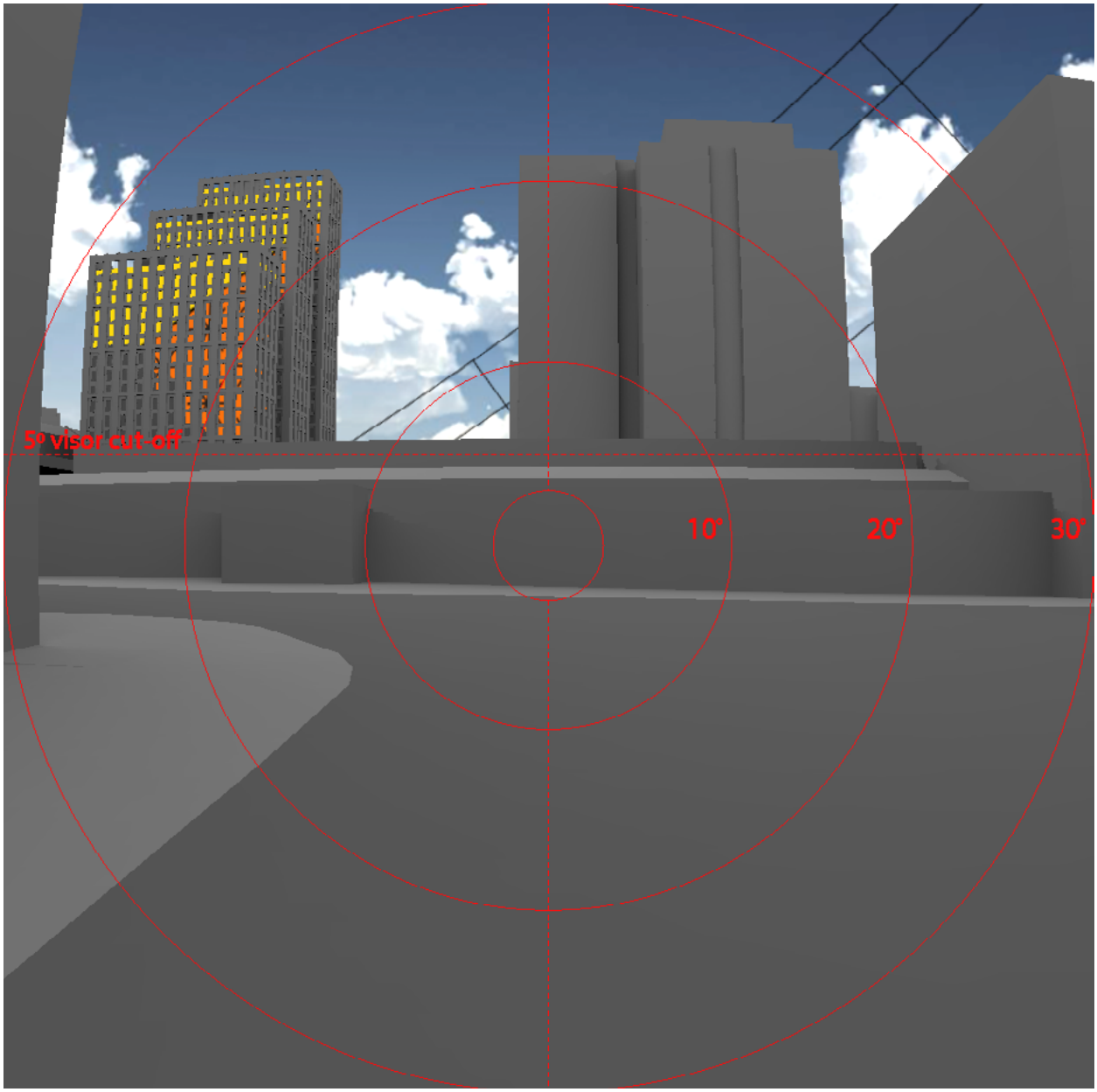


Fig. 36: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT CHARLES STREET 2

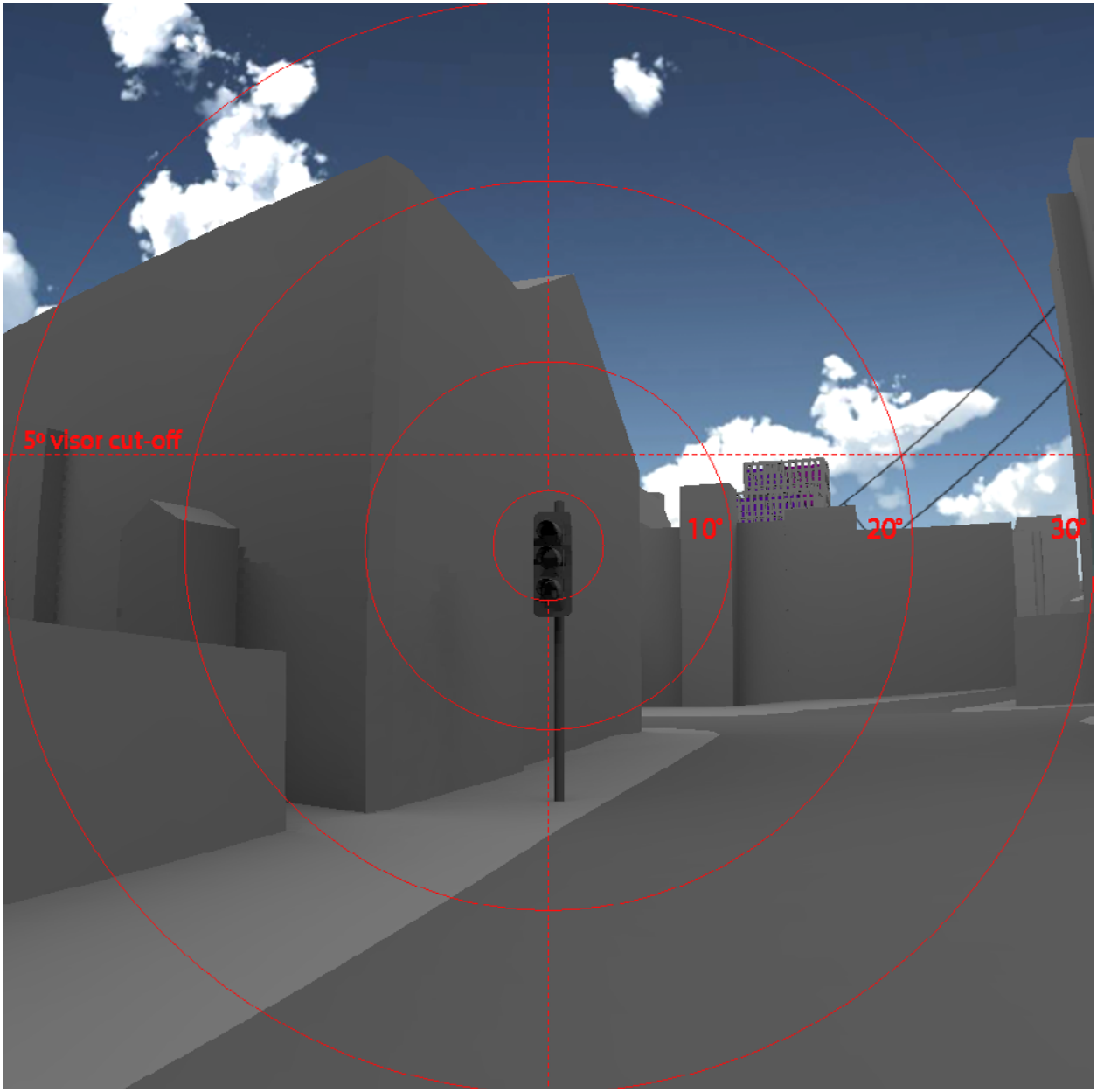
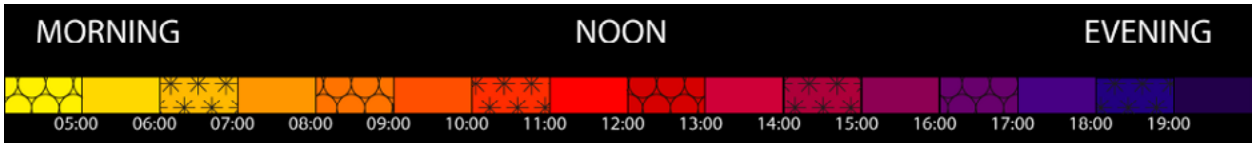


Fig. 37: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT CHARLES STREET 2

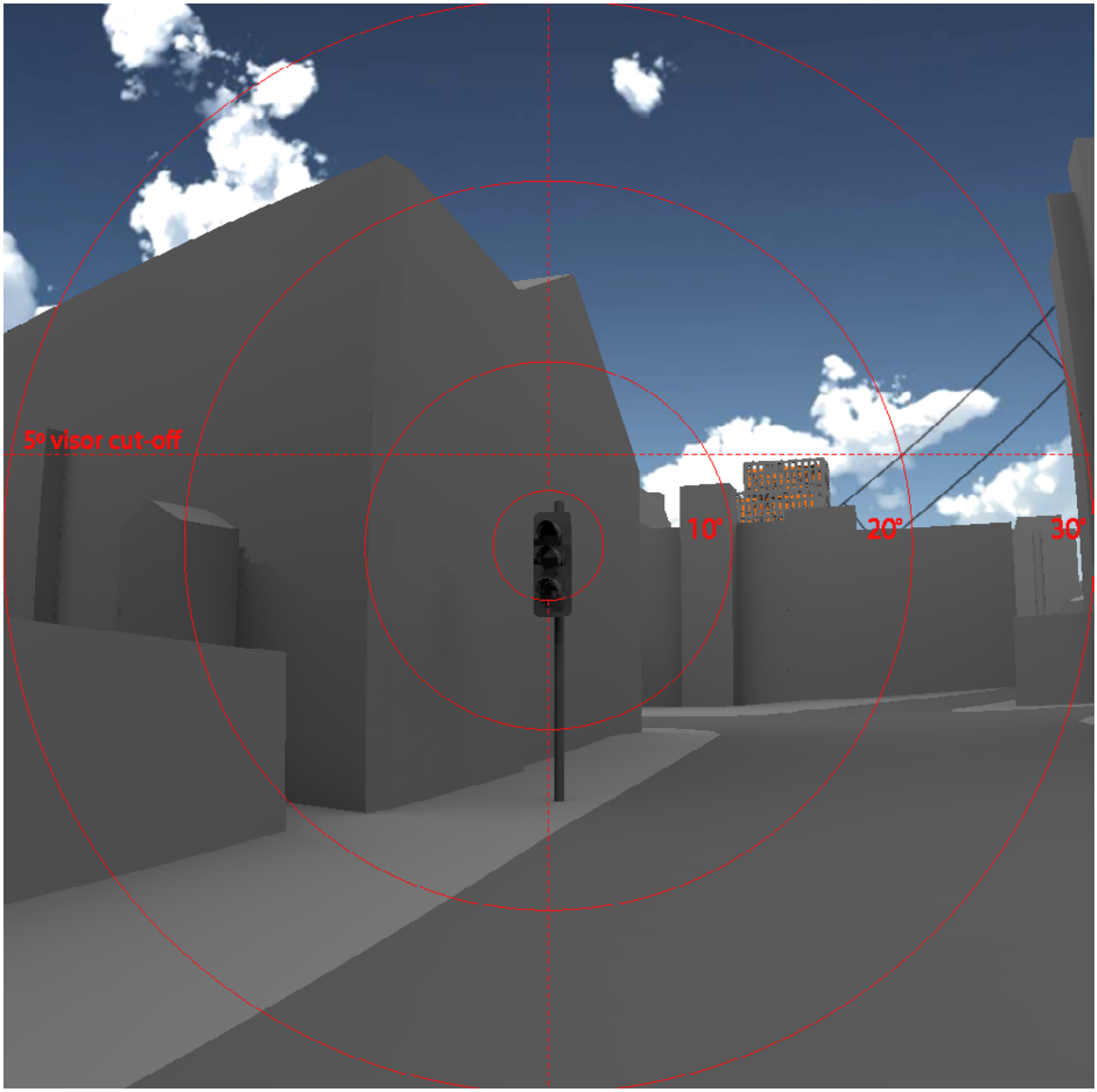


Fig. 38: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT BACK ACTON

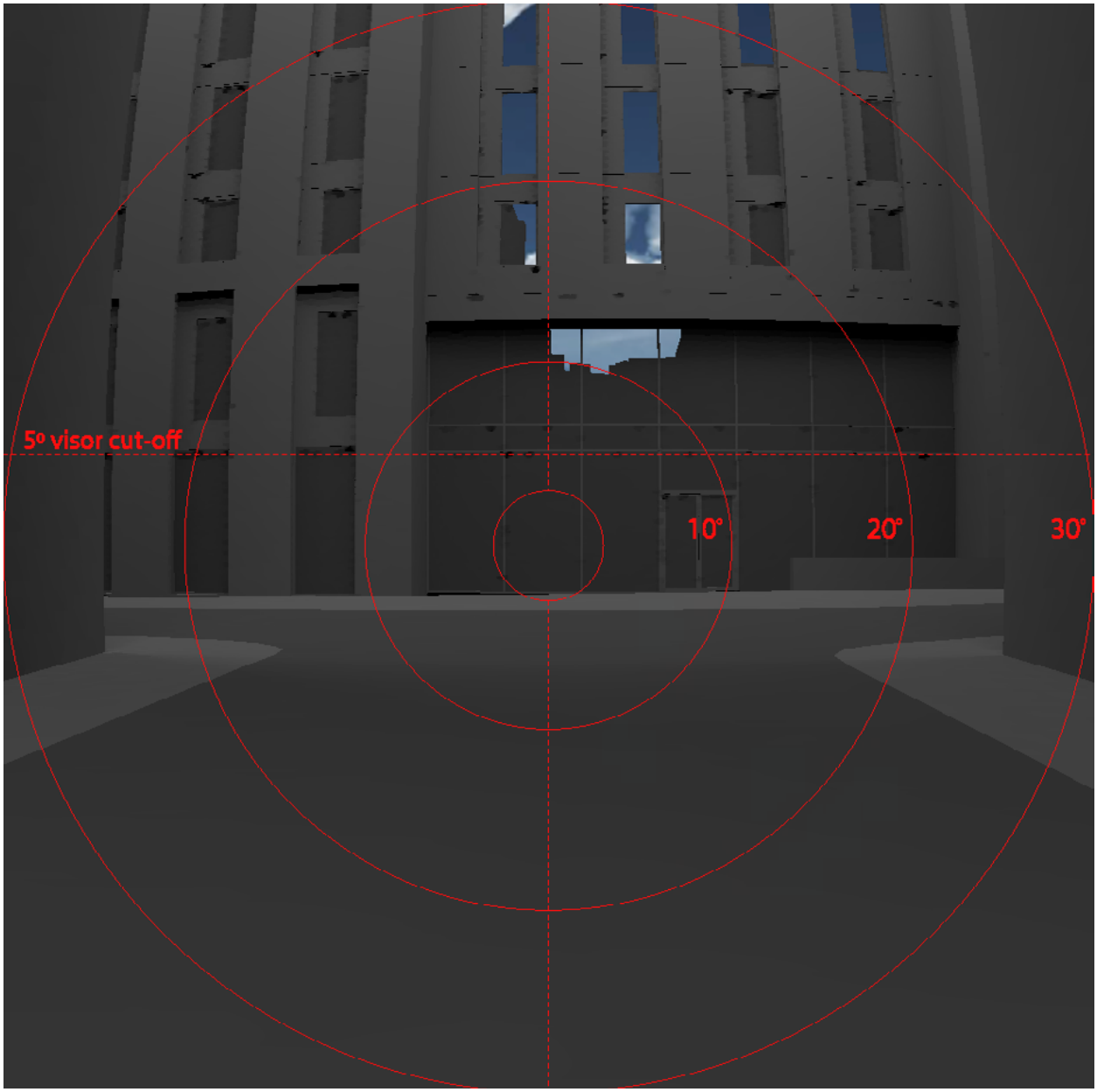
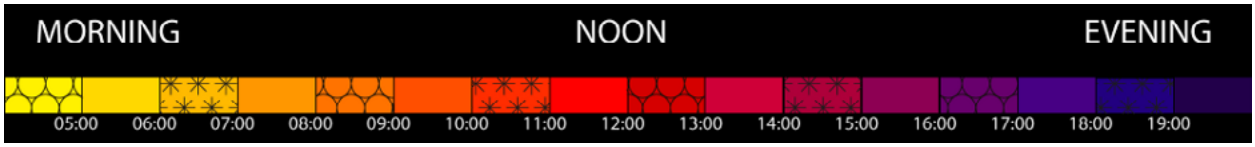


Fig. 39: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT BACK ACTON

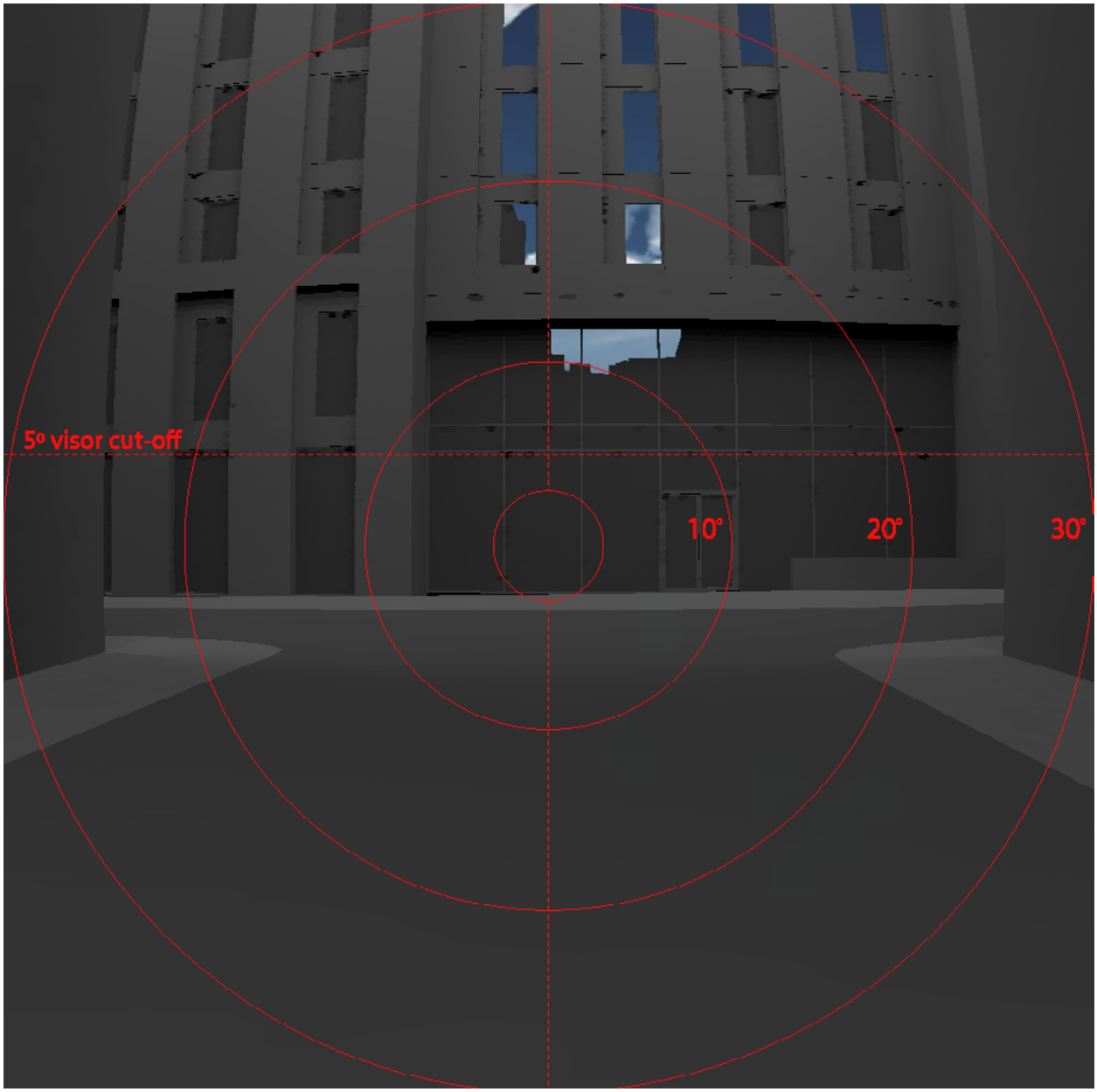


Fig. 40: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT S PUMP STREET

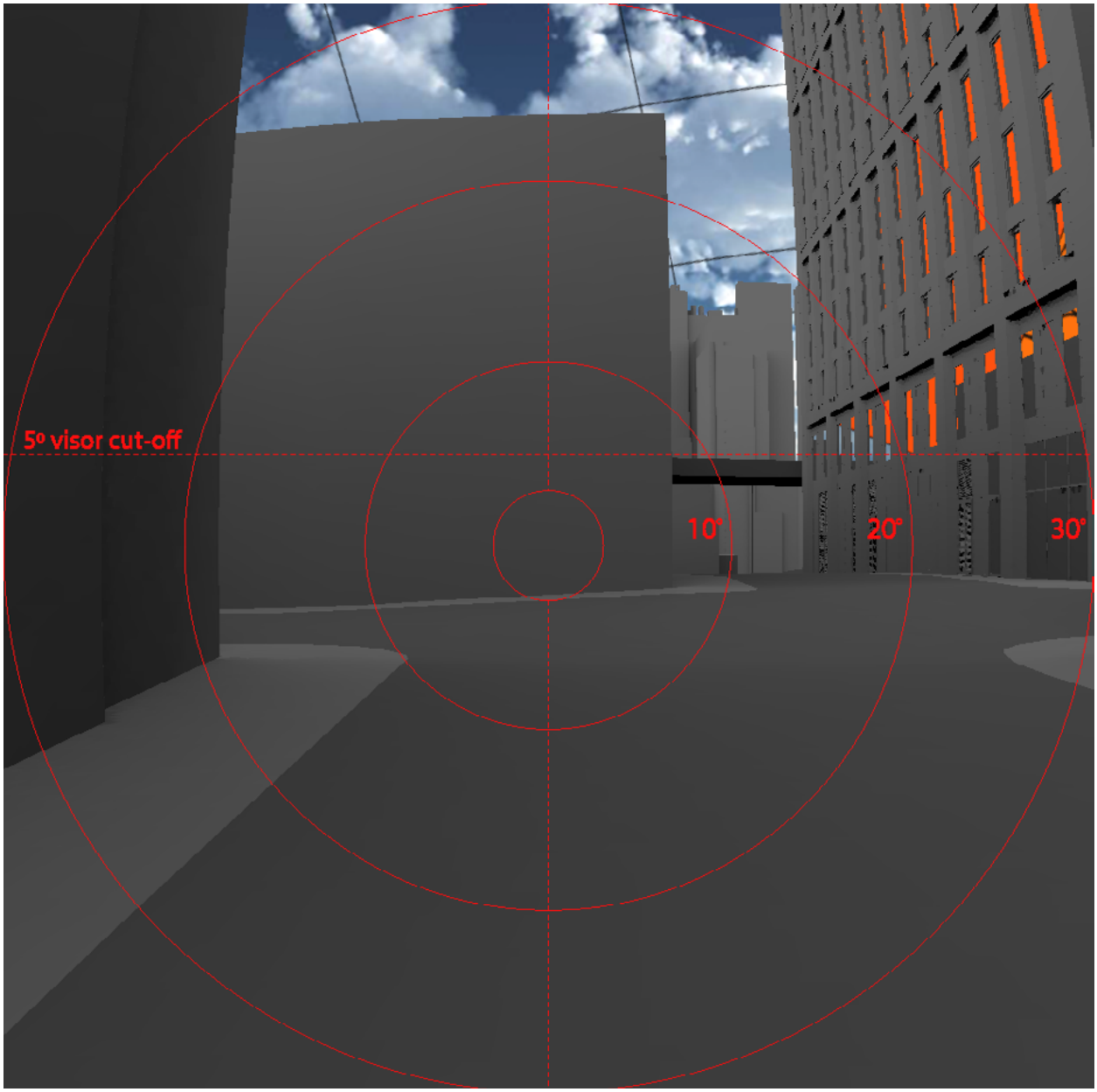
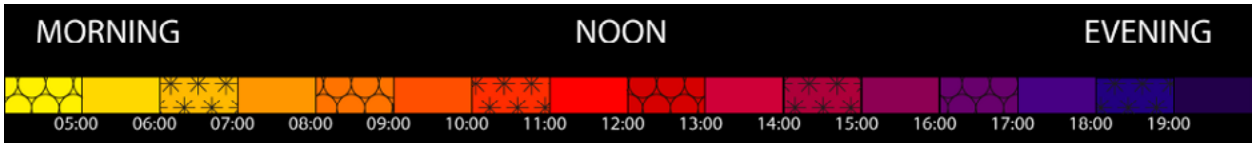


Fig. 41: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT S PUMP STREET

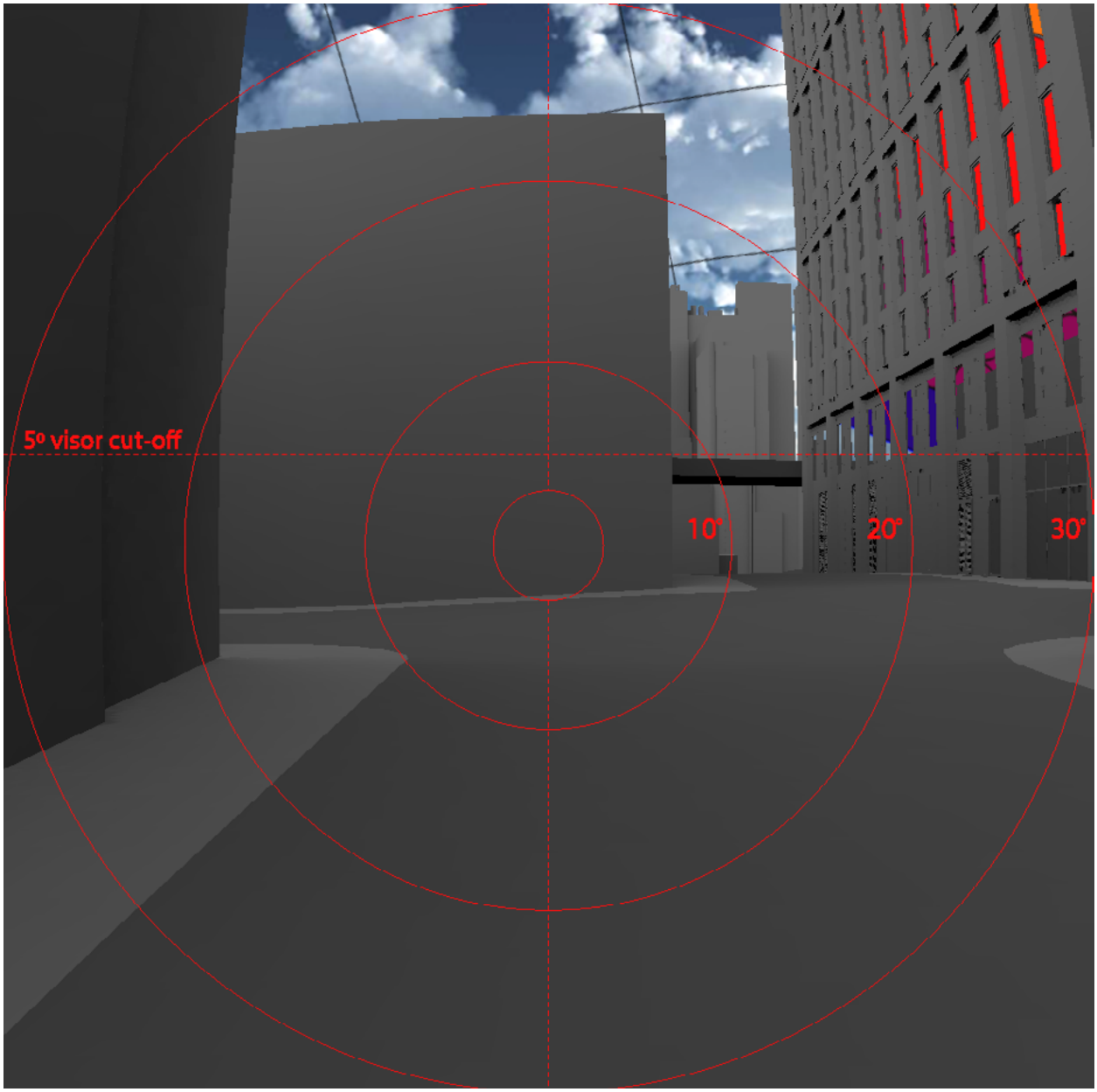


Fig. 42: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT CHORLTON STREET

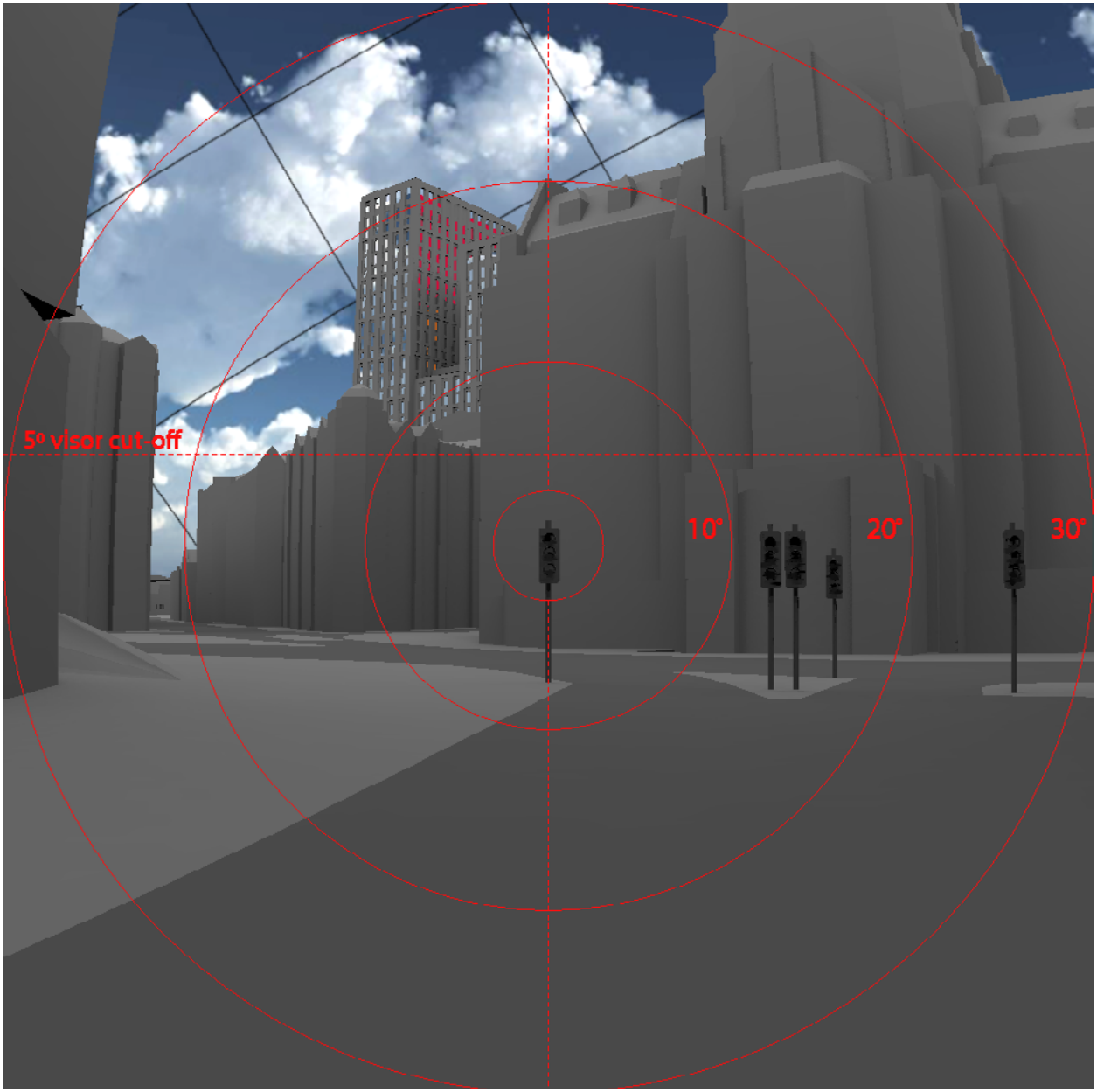
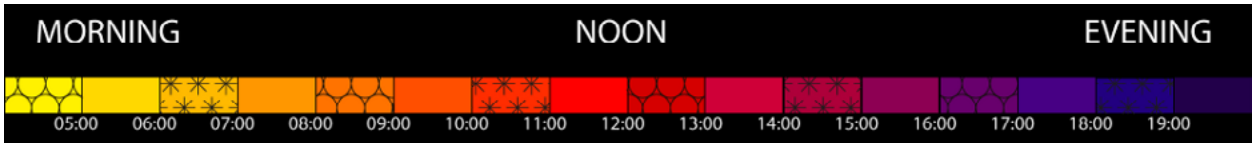


Fig. 43: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT CHORLTON STREET

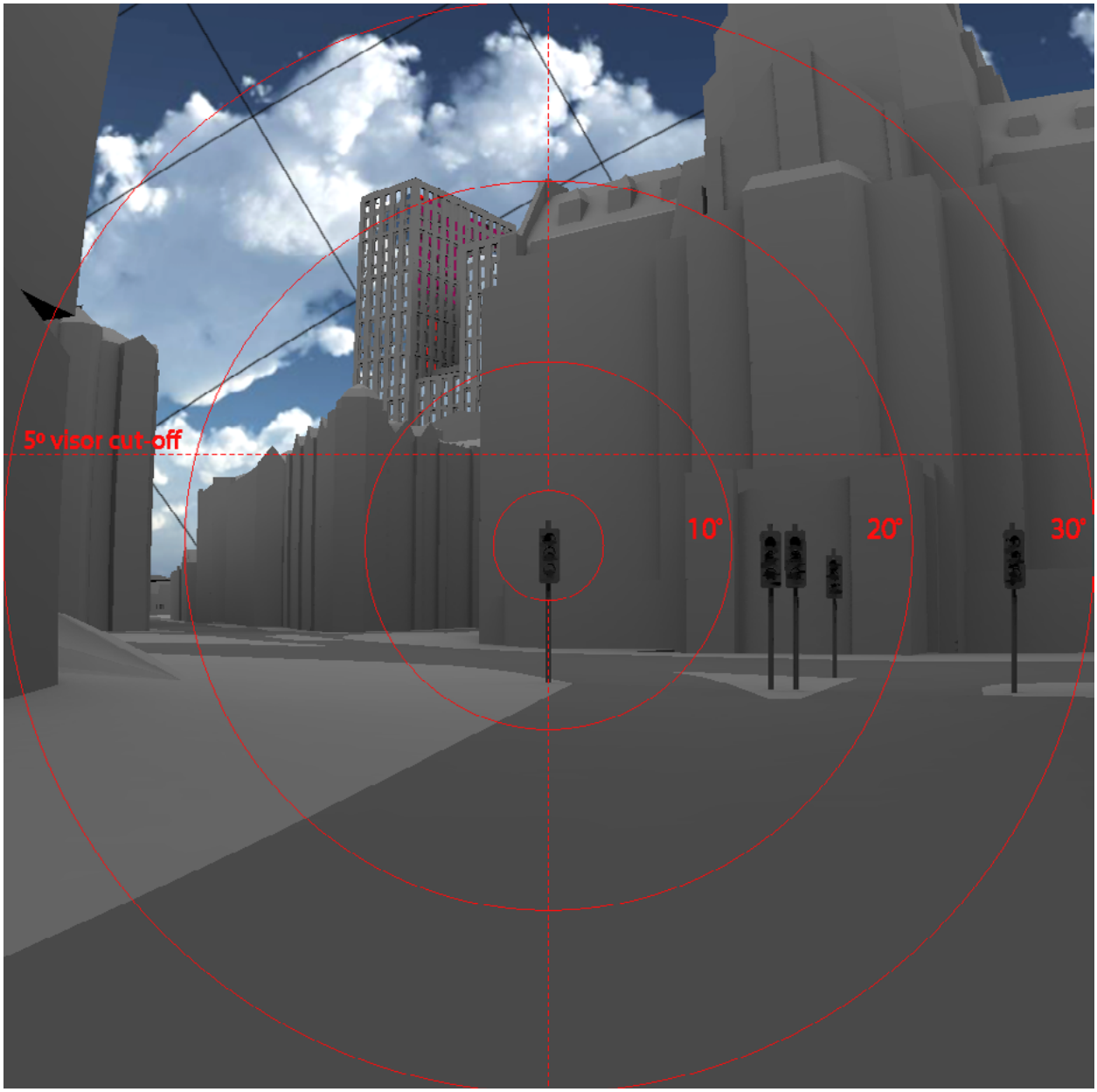


Fig. 44: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT MINSHULL STREET

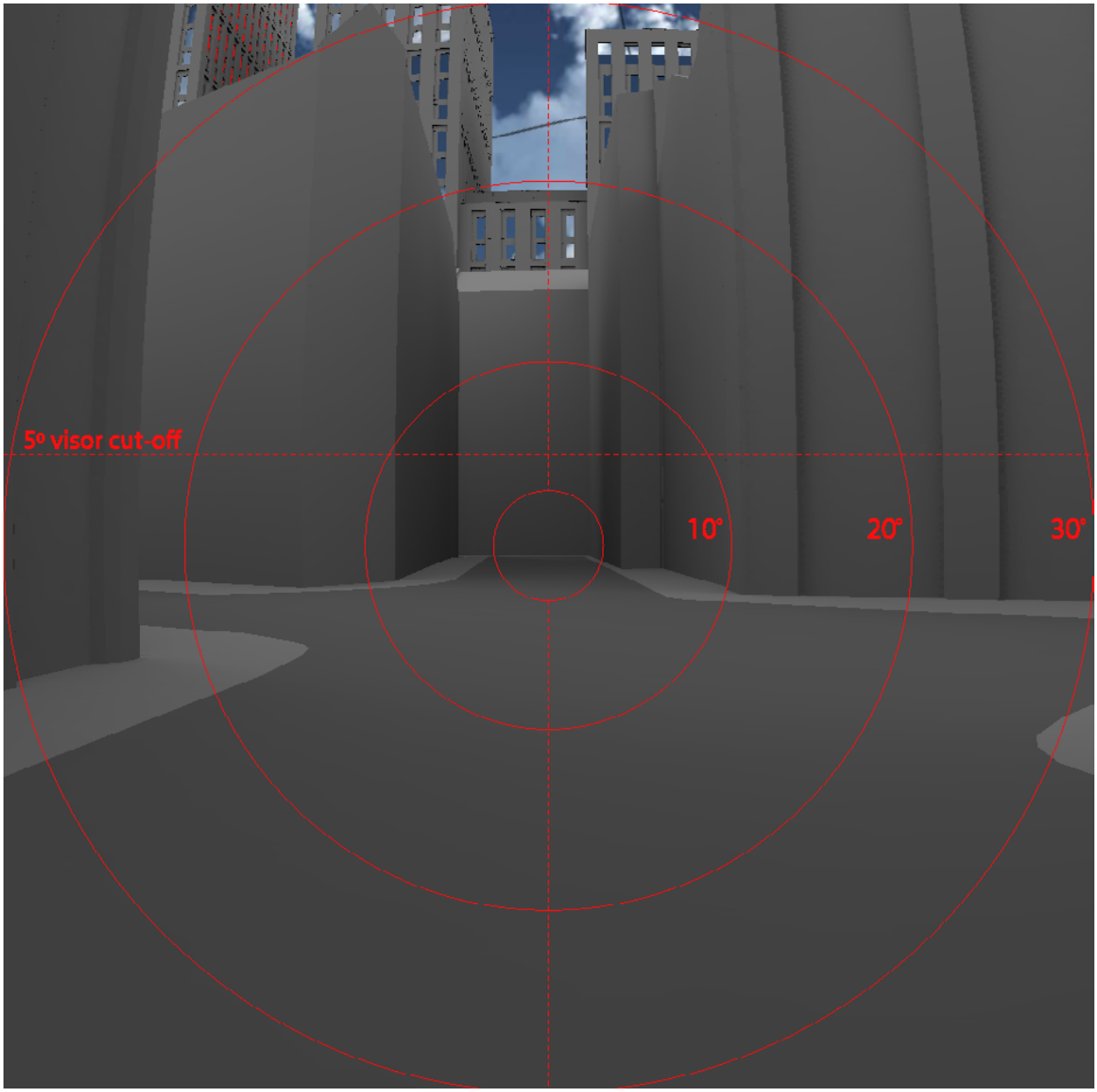
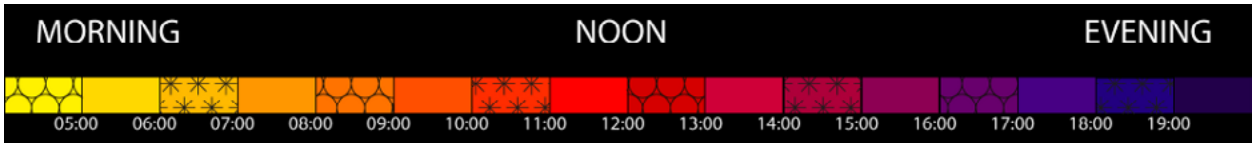


Fig. 45: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT MINSHULL STREET

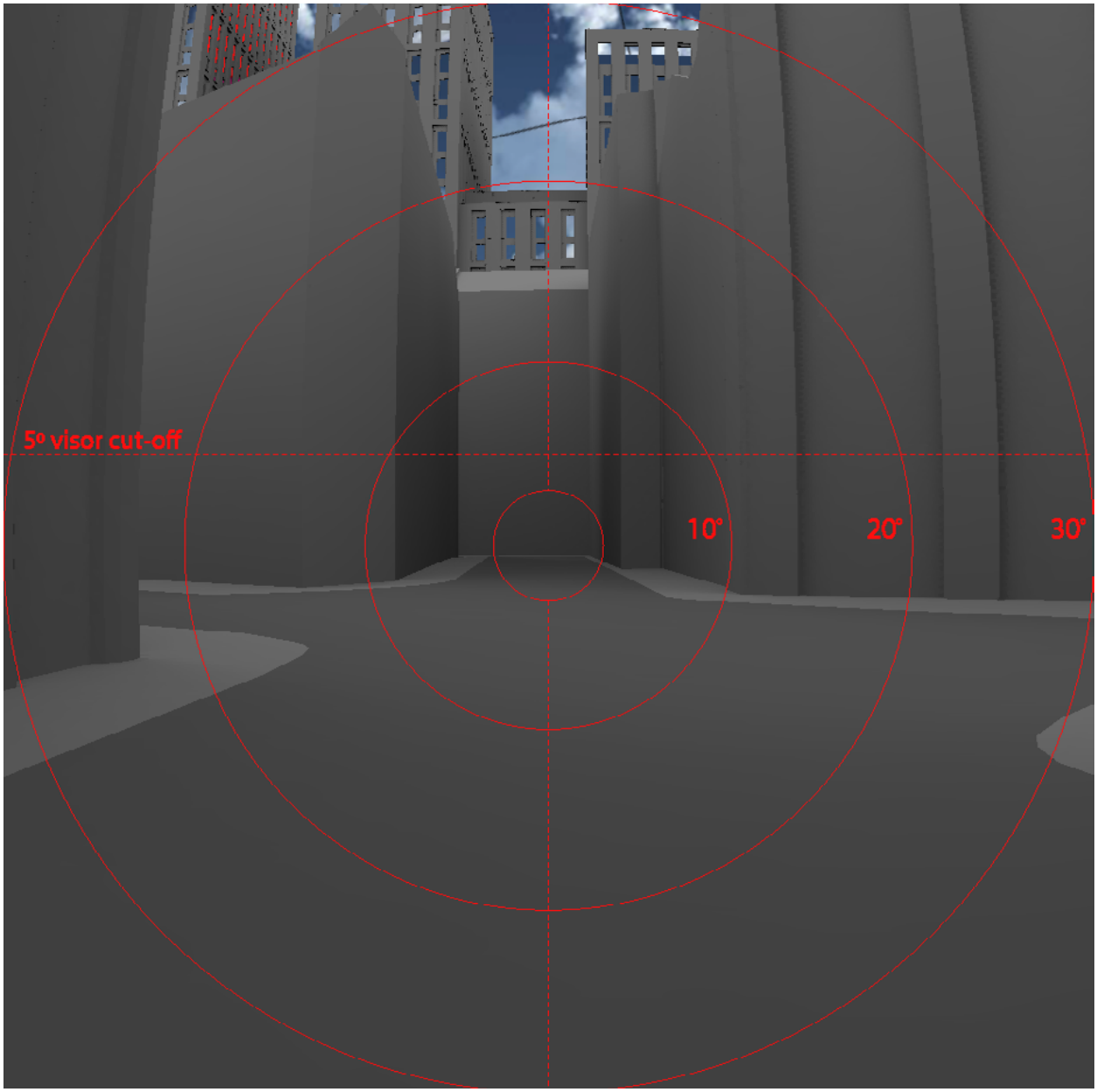


Fig. 46: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT DOWNING STREET 1

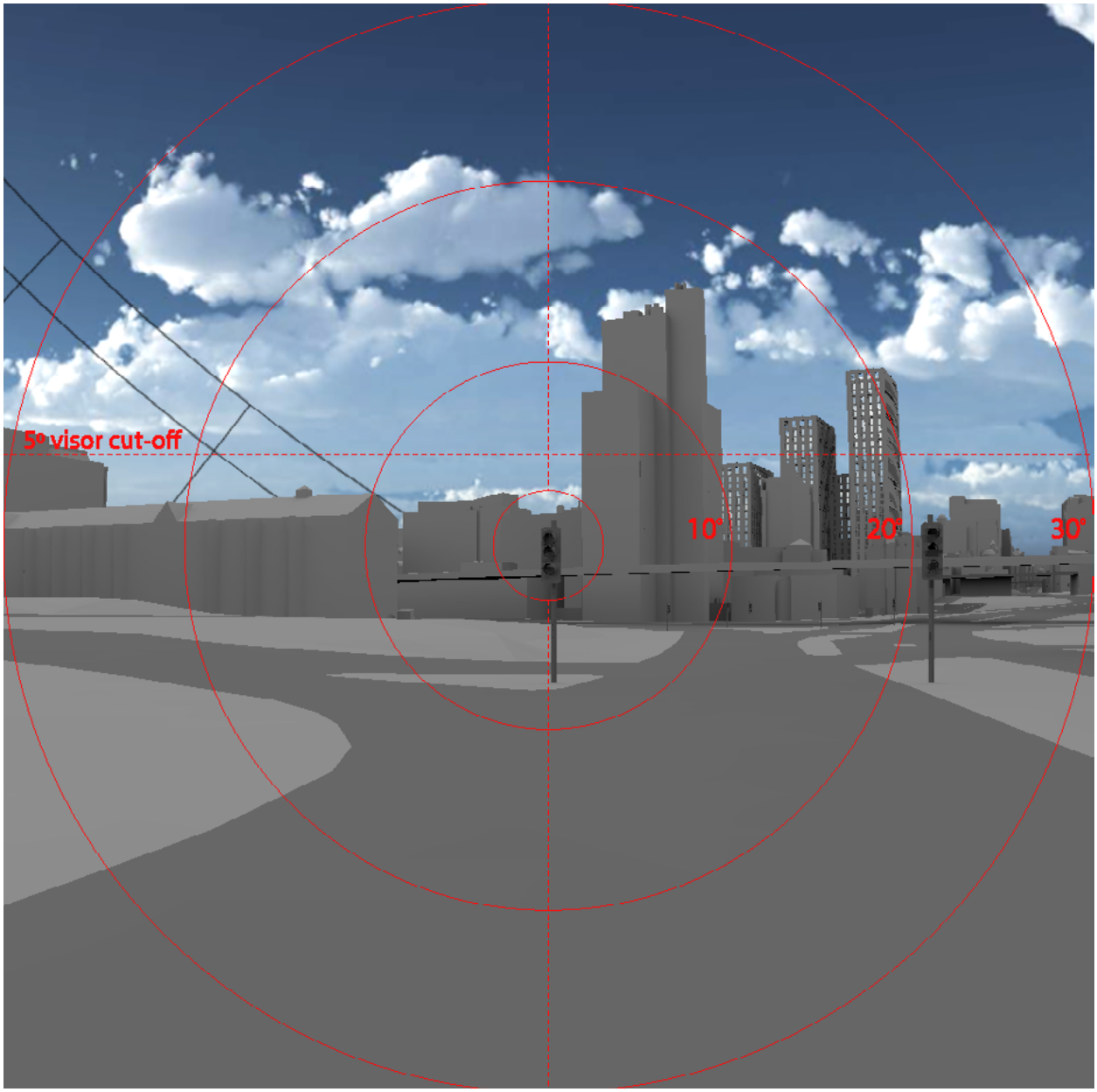
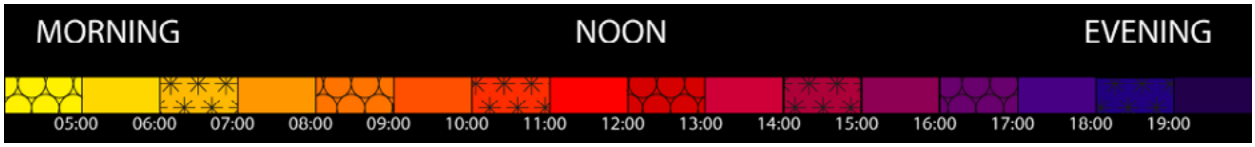


Fig. 47: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT DOWNING STREET 1

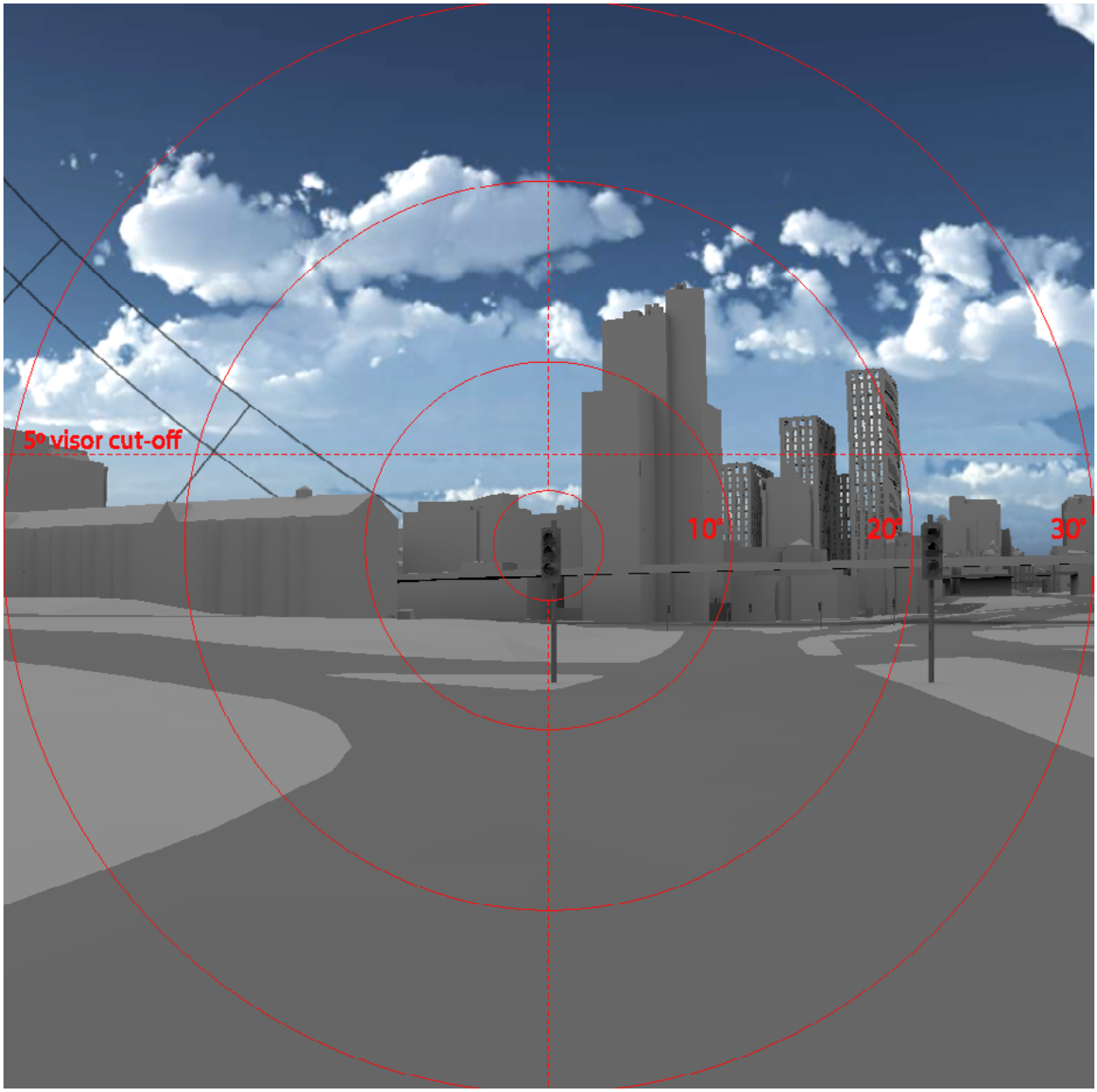


Fig. 48: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT DOWNING STREET 2

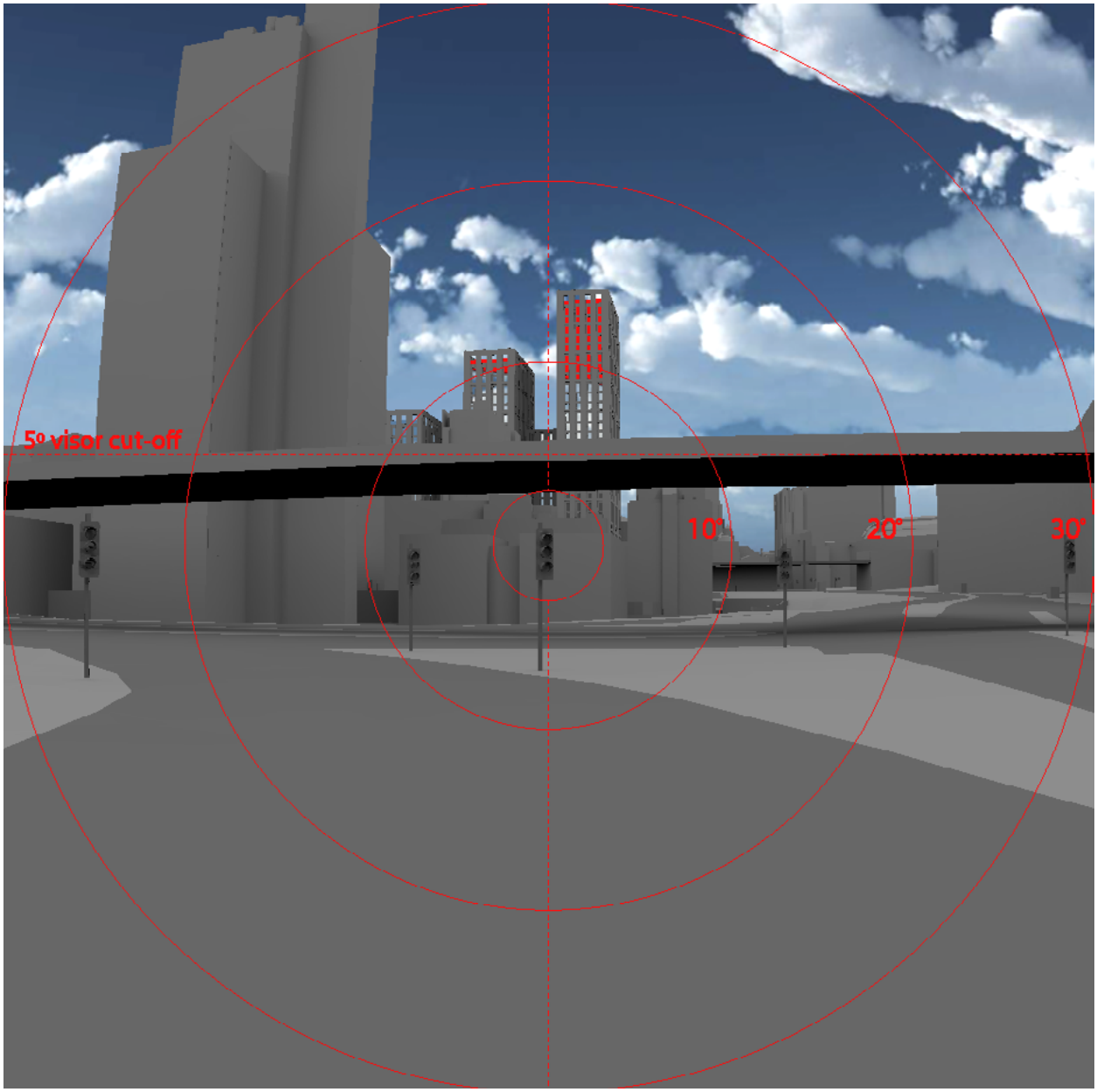
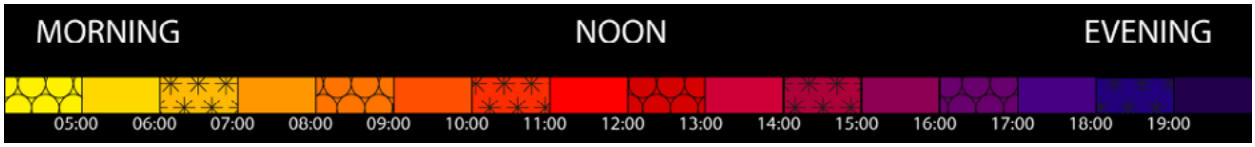


Fig. 49: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT DOWNING STREET 2

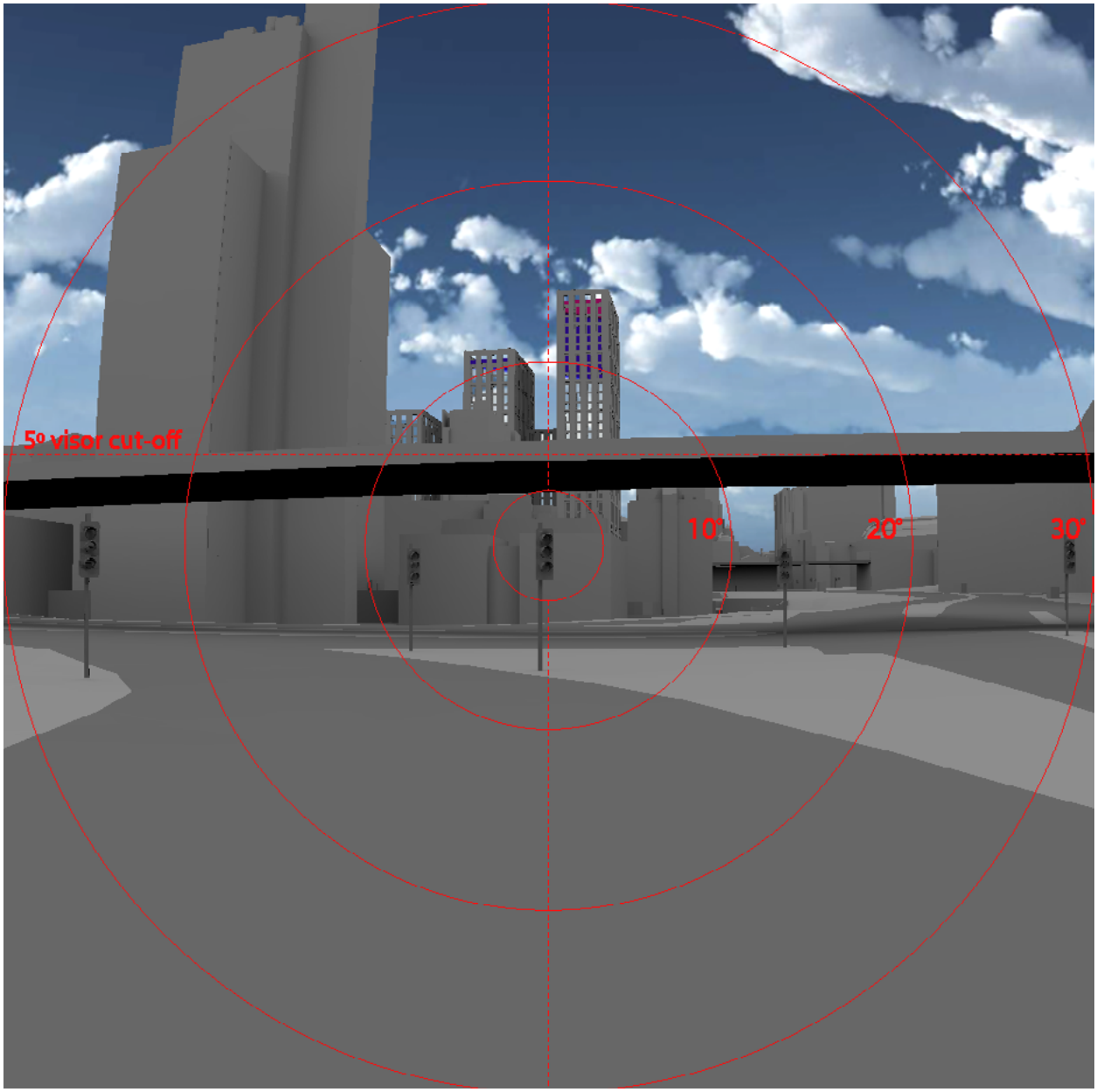


Fig. 50: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT DOWNING STREET 3

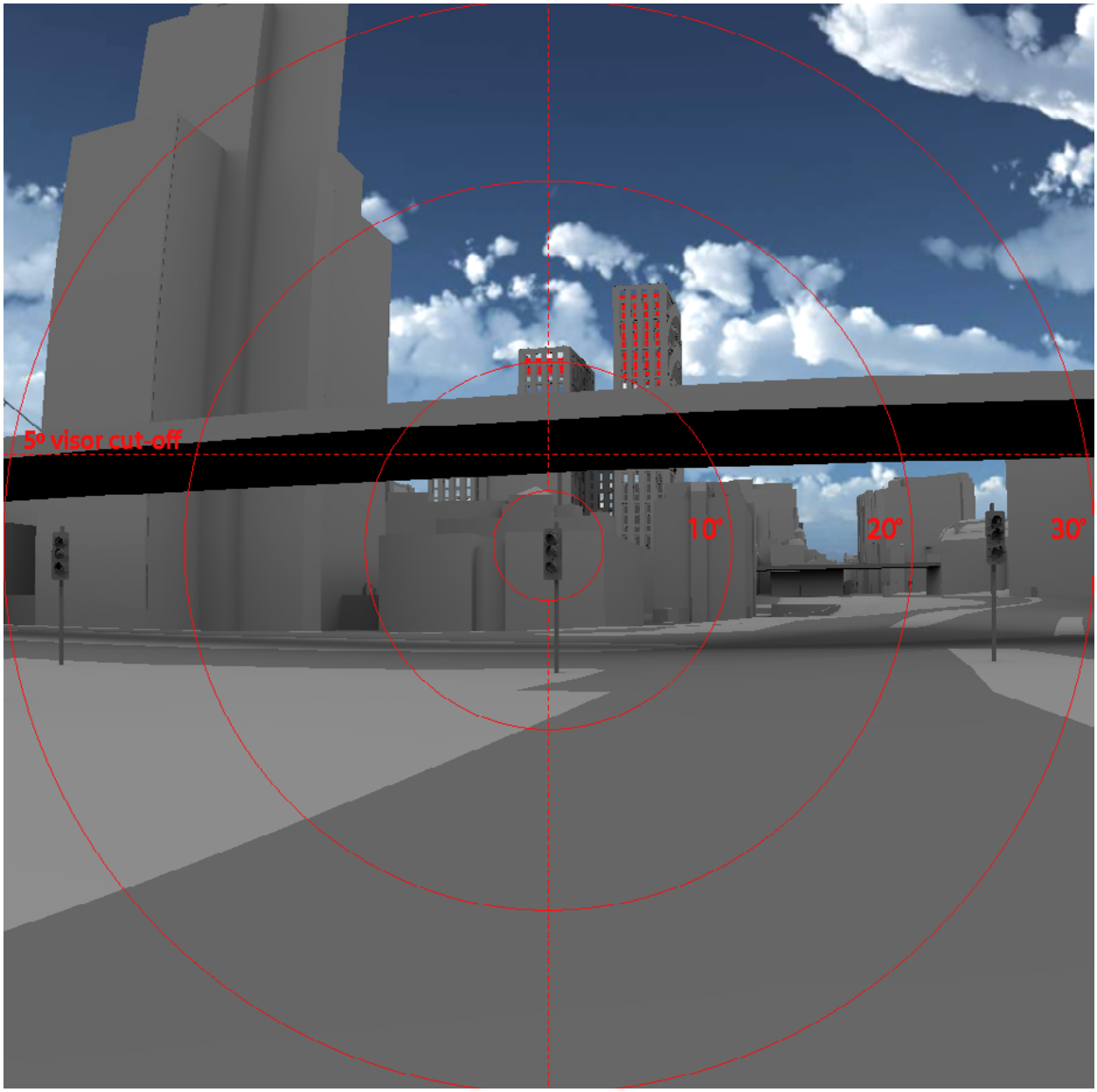
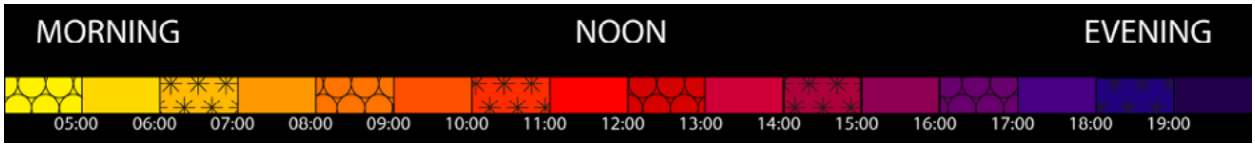


Fig. 51: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT DOWNING STREET 3

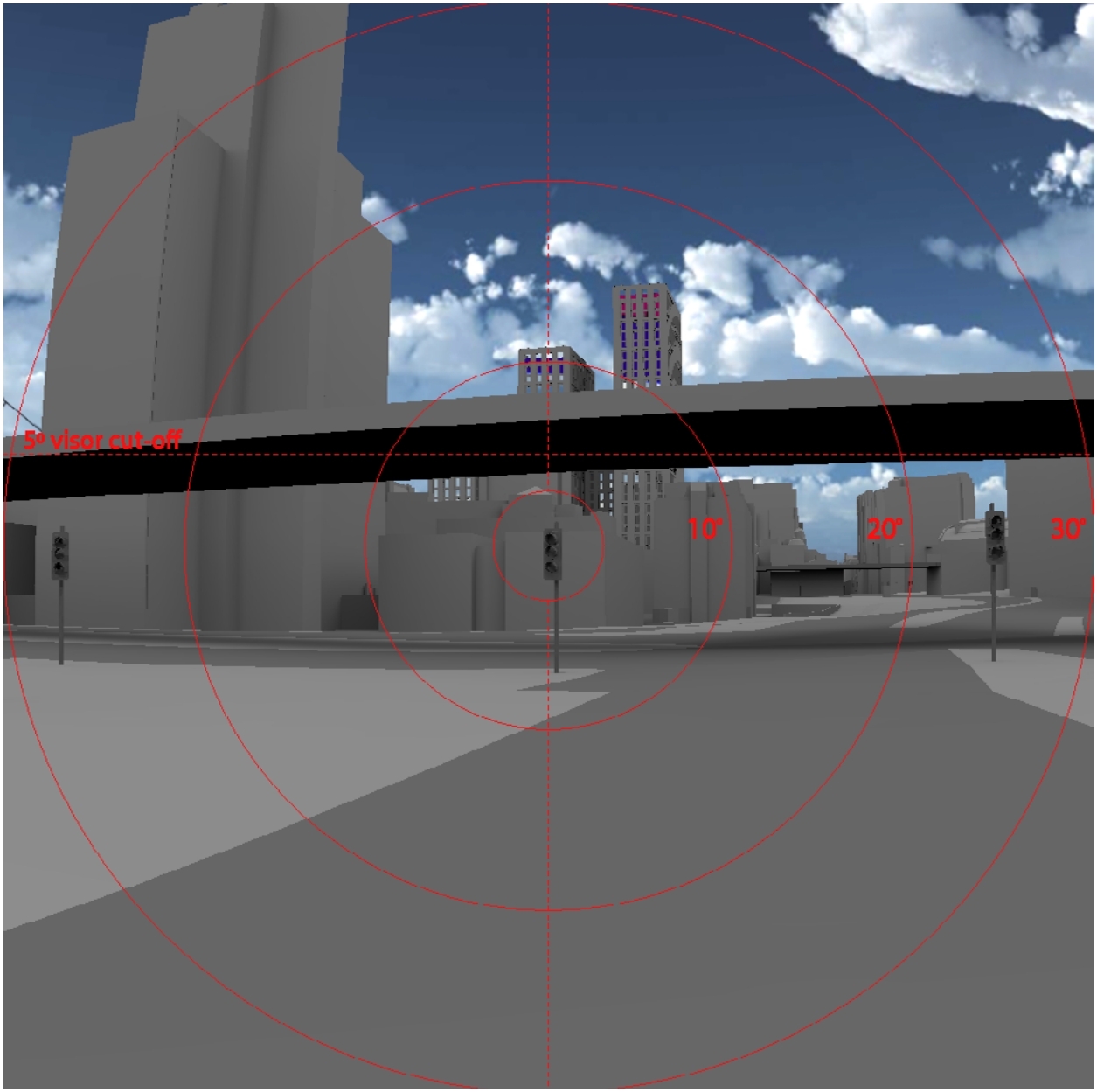


Fig. 52: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT FAIRFIELD STREET 1

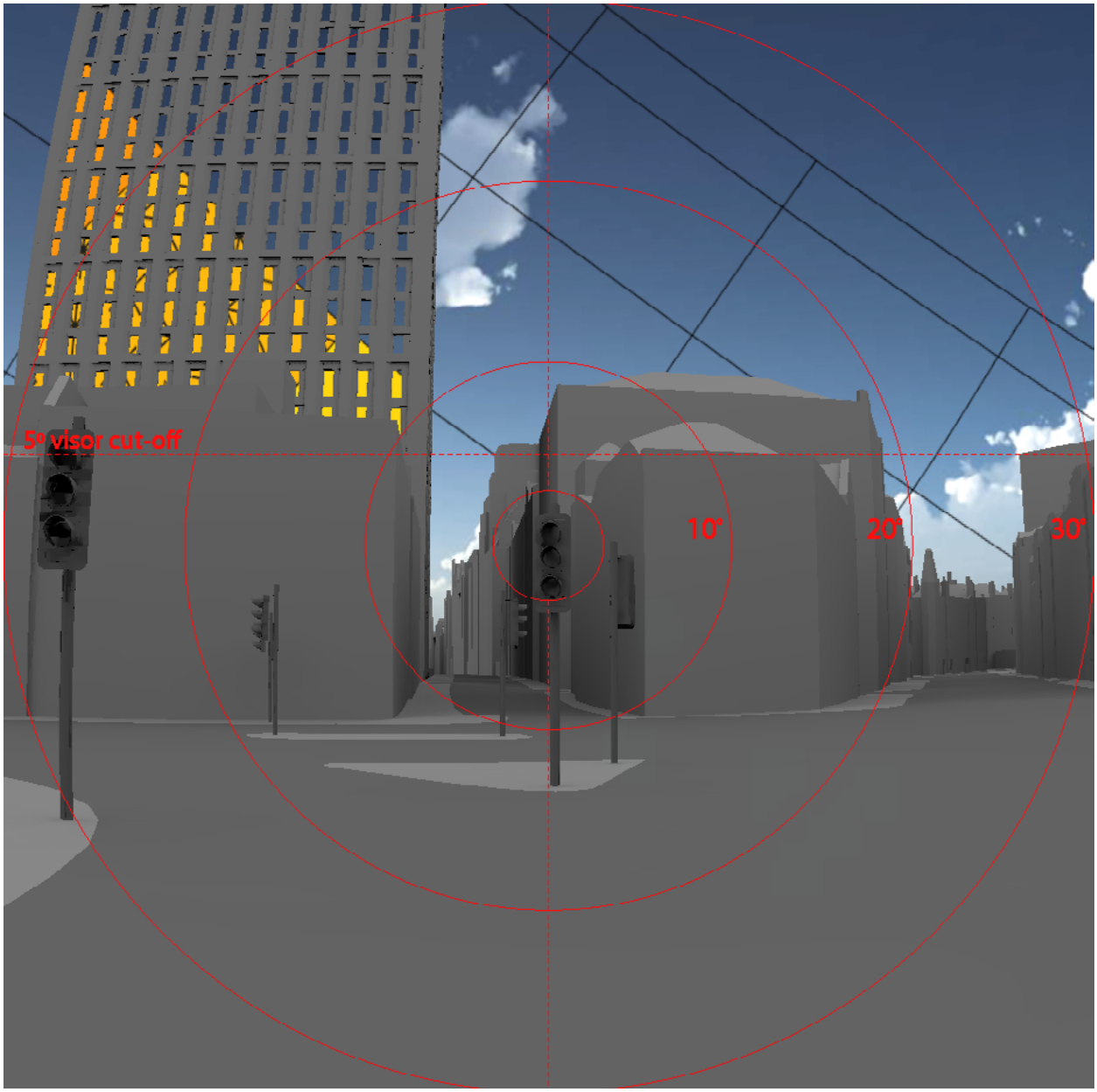
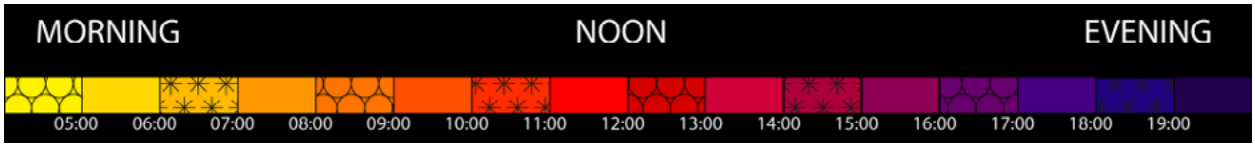


Fig. 53: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT FAIRFIELD STREET 1

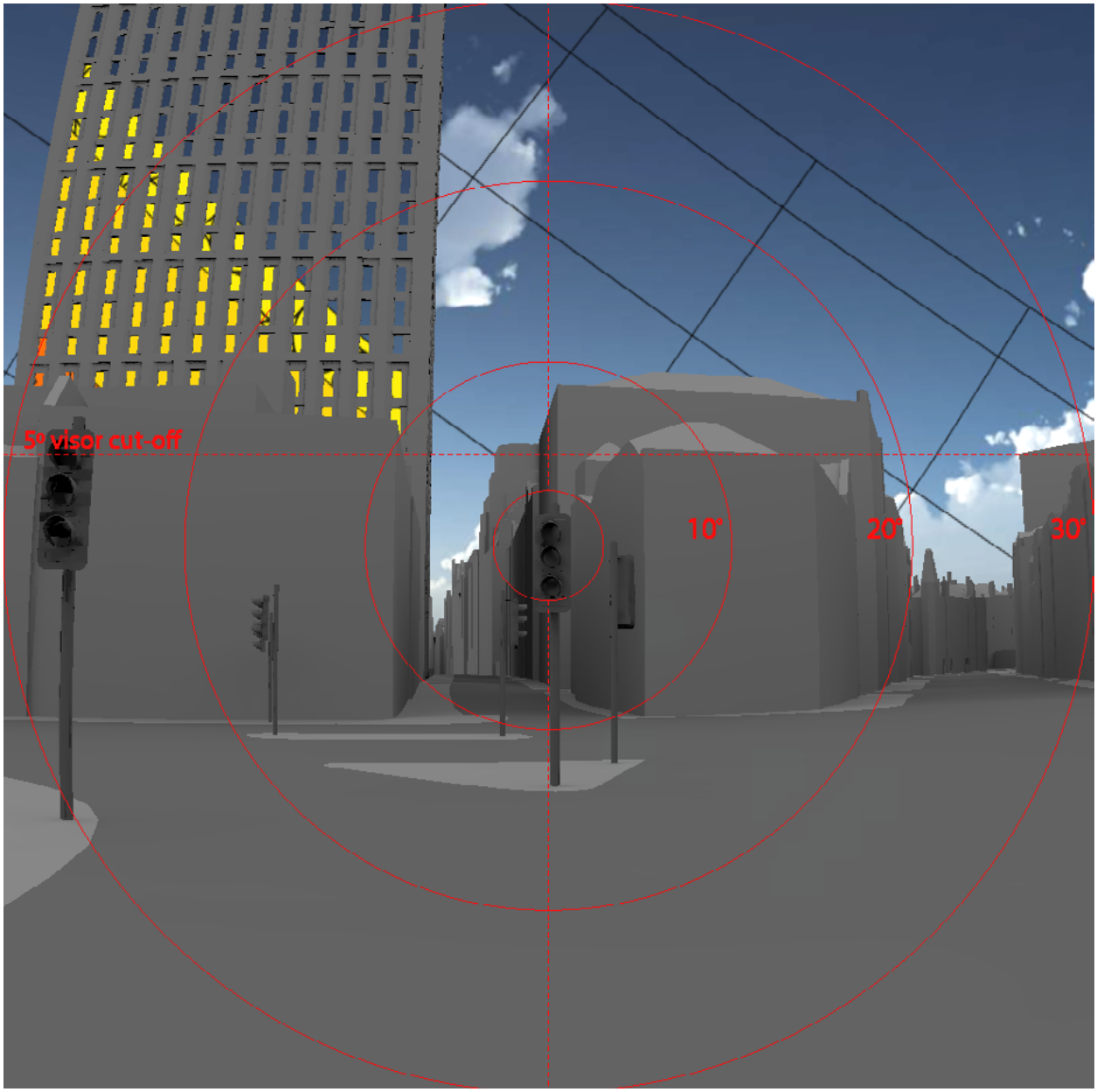


Fig. 54: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT FAIRFIELD STREET 2

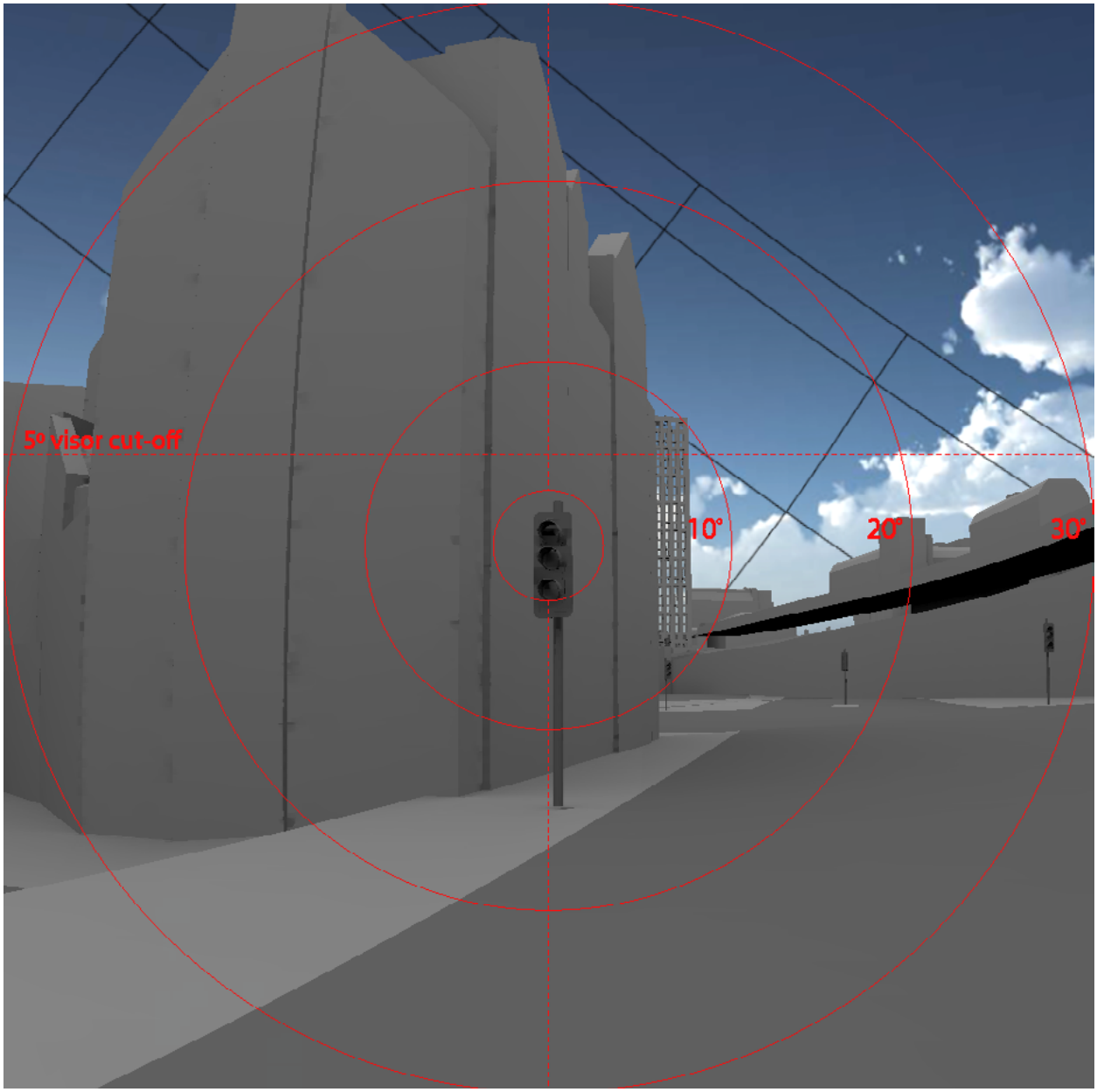
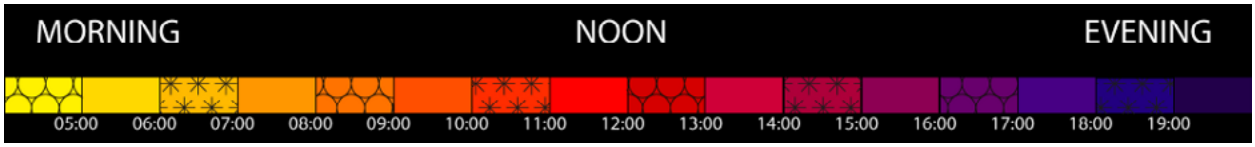


Fig. 55: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT FAIRFIELD STREET 2

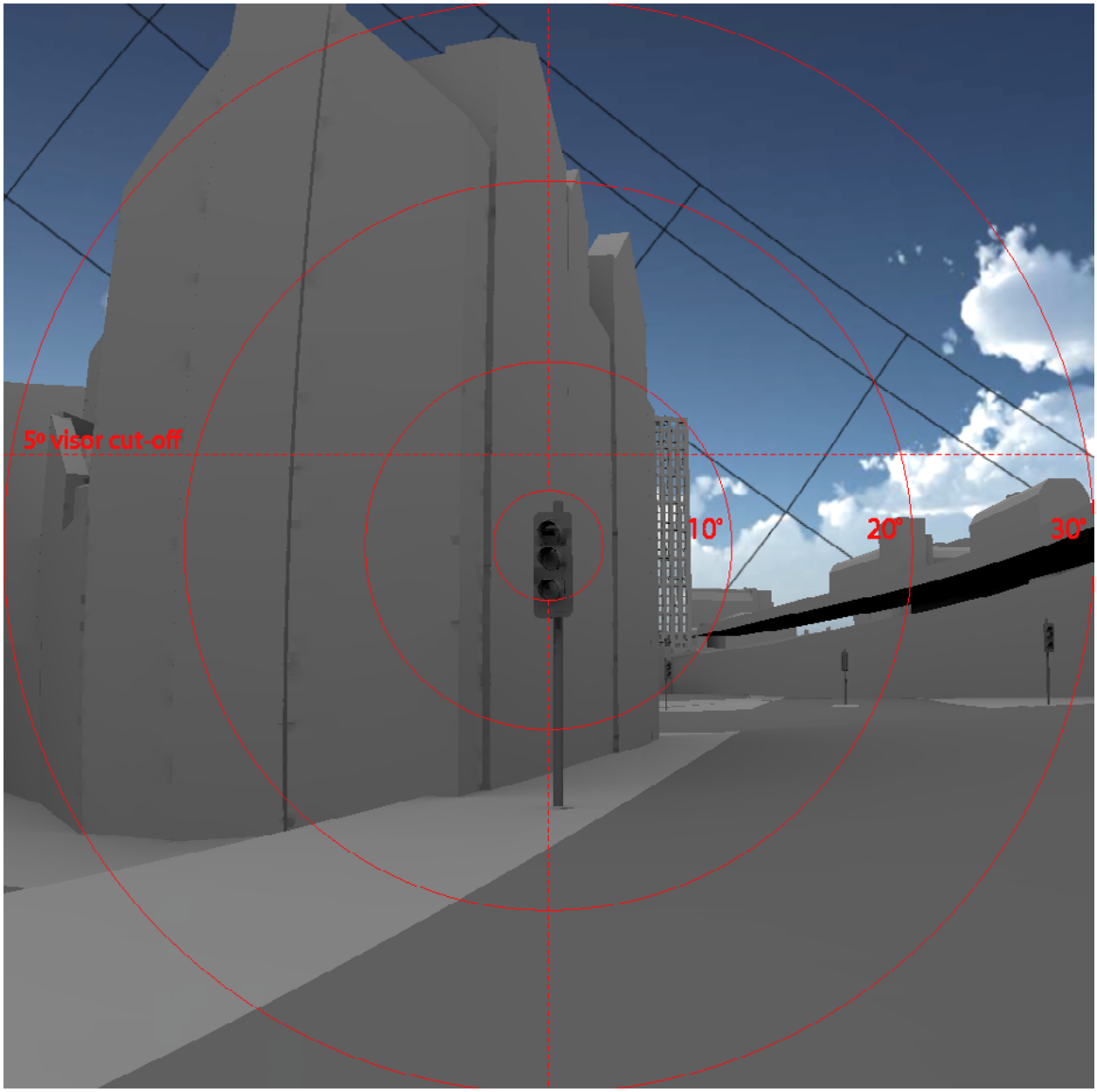


Fig. 56: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT GRANBY ROW

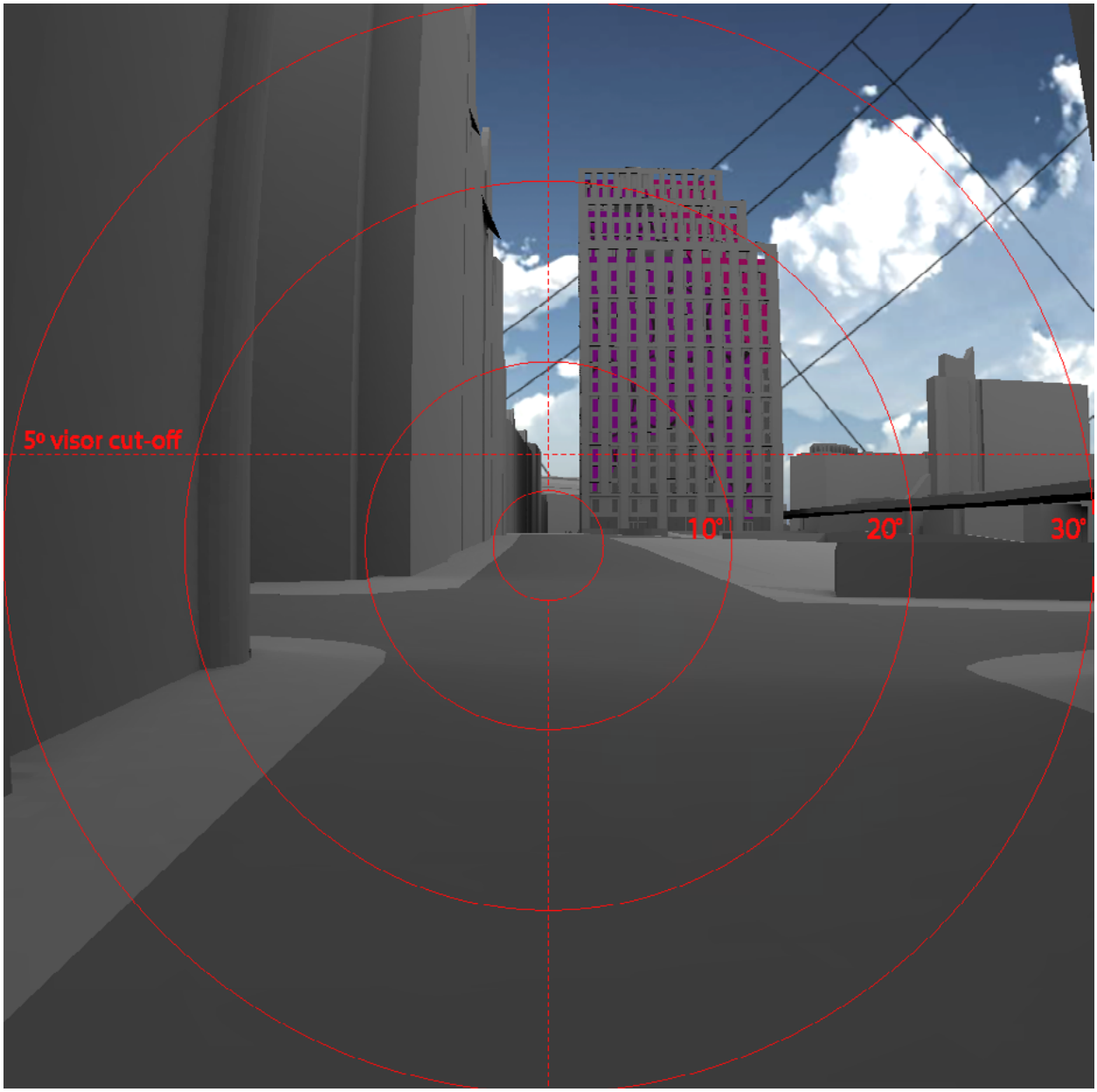
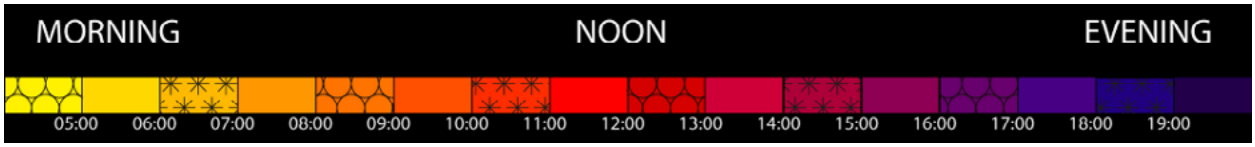


Fig. 57: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT GRANBY ROW

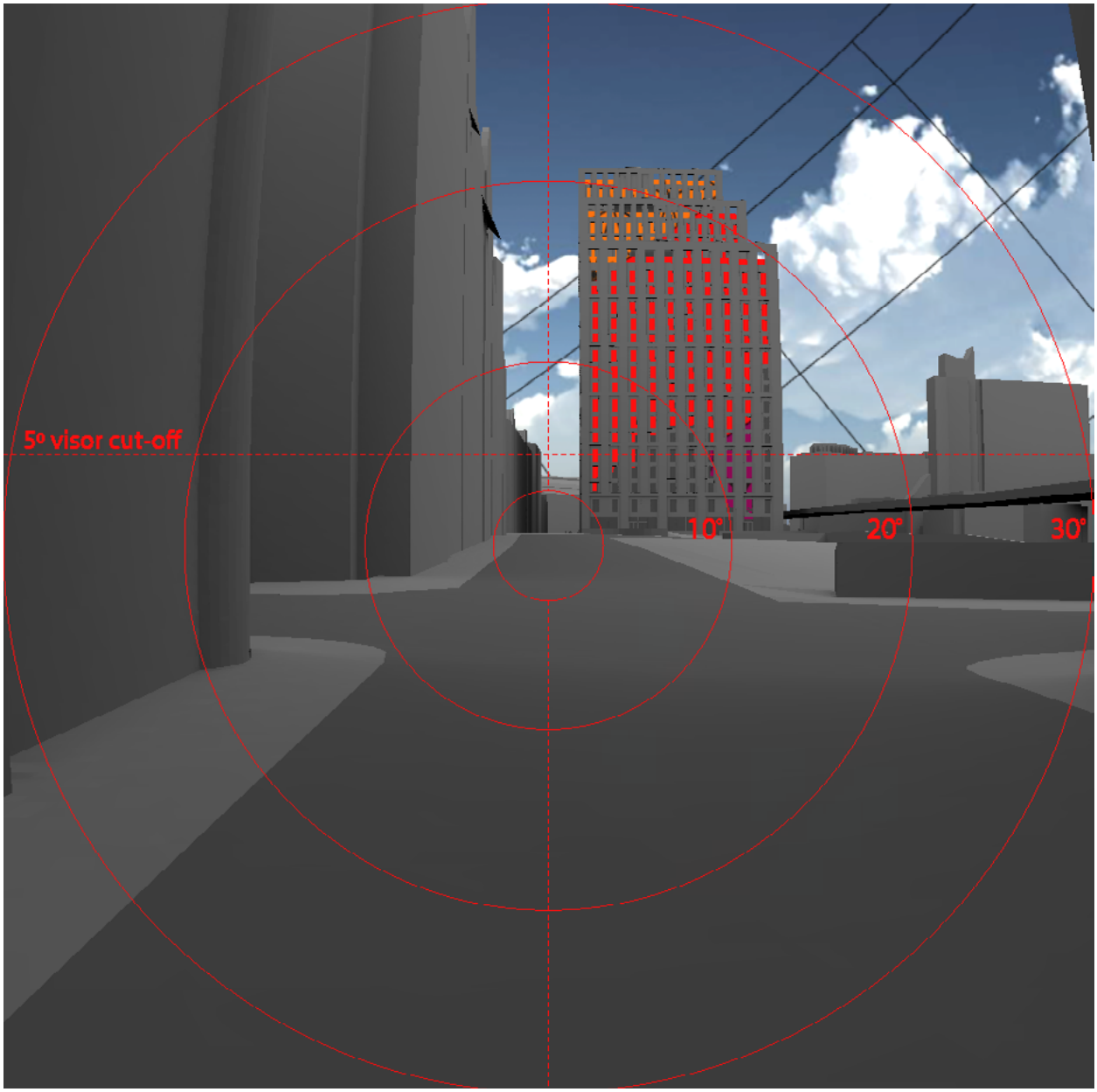


Fig. 58: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT HULME STREET

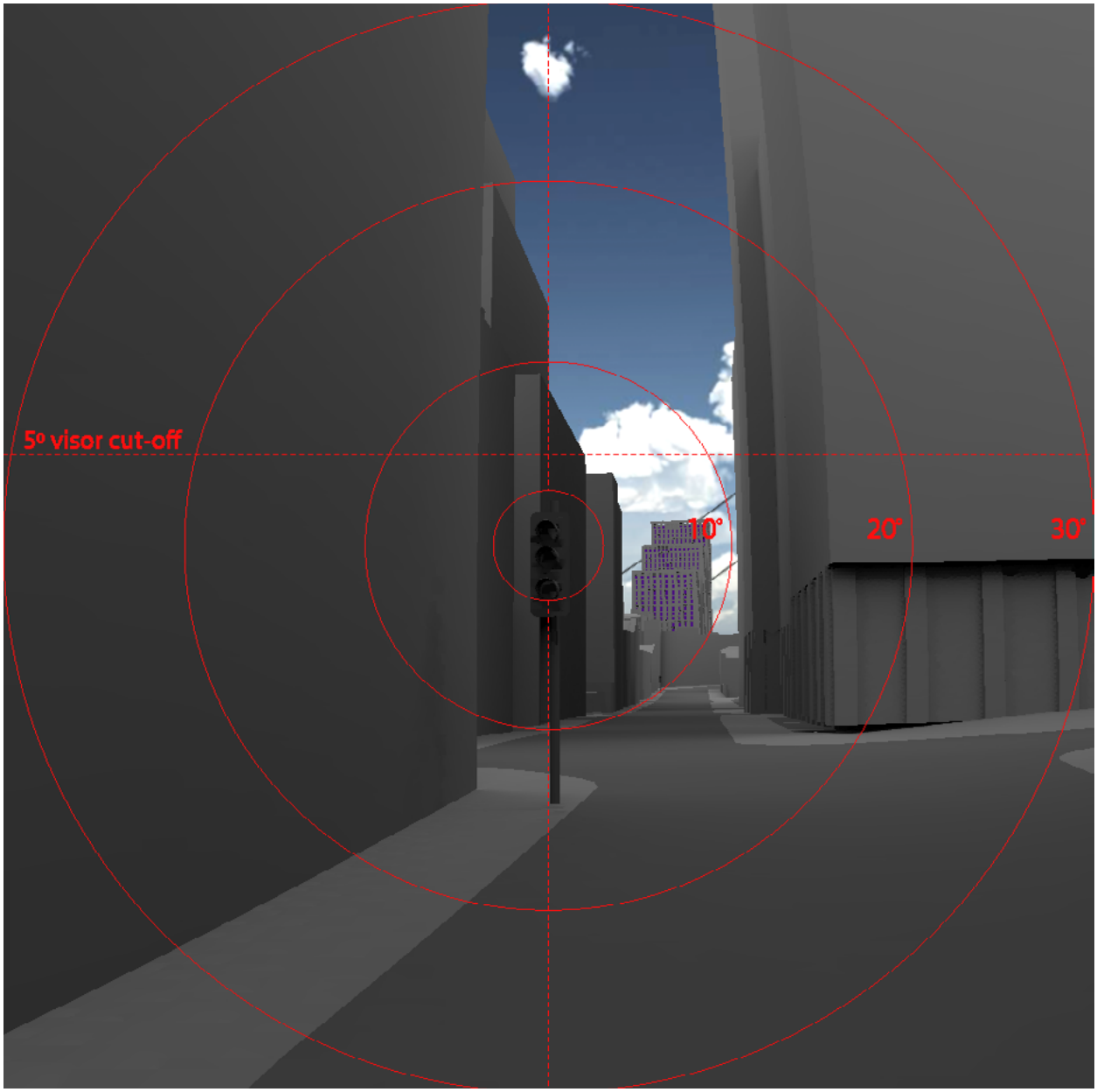
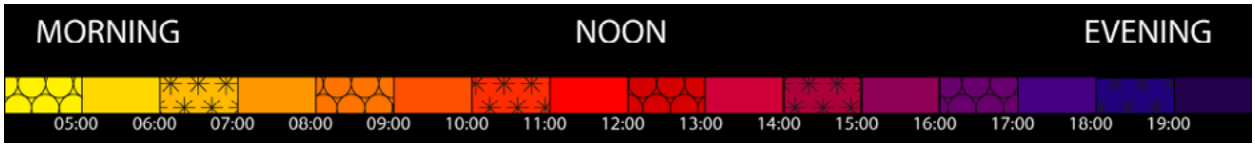


Fig. 59: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT HULME STREET

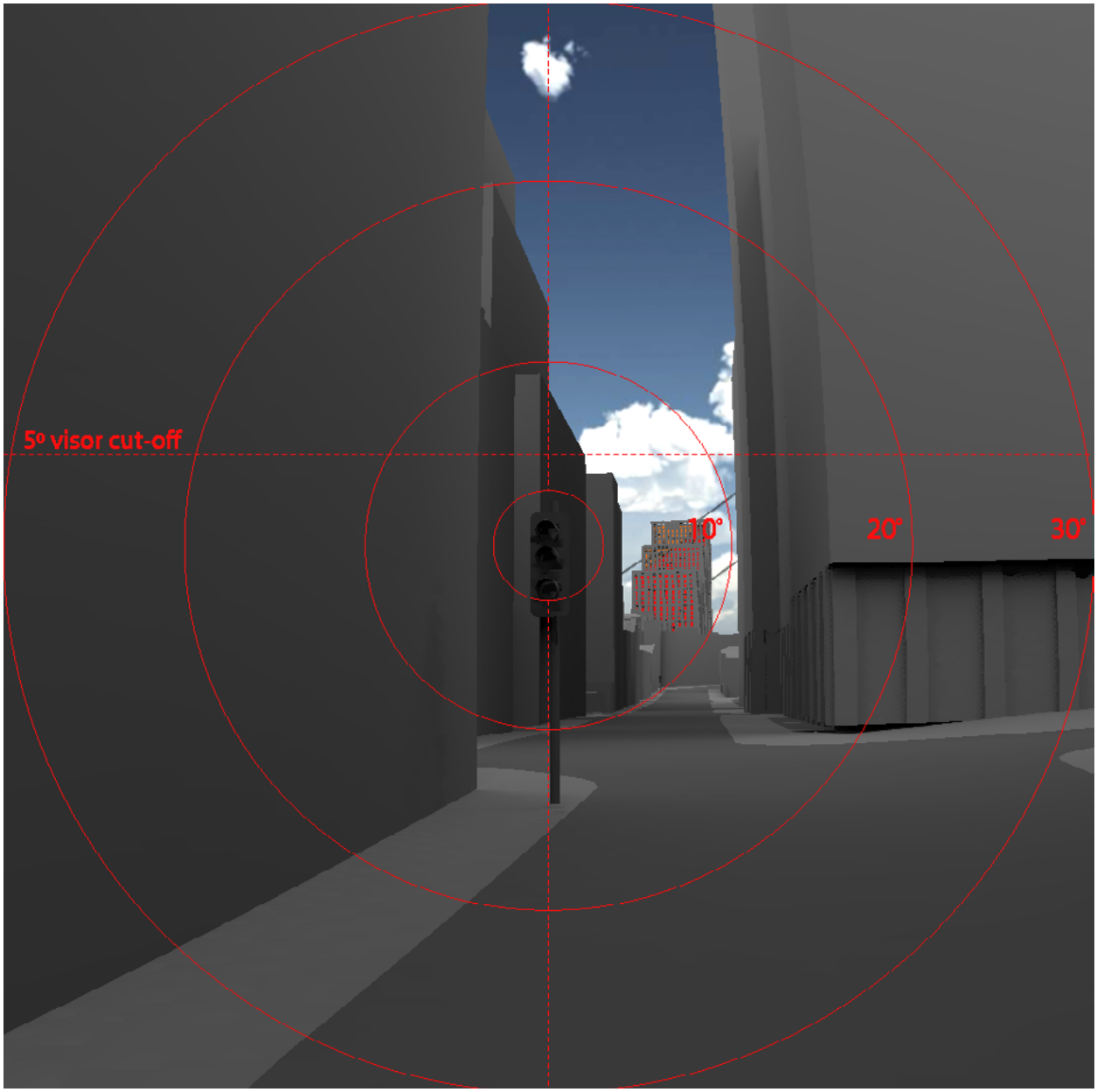


Fig. 60: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT LONDON ROAD 1

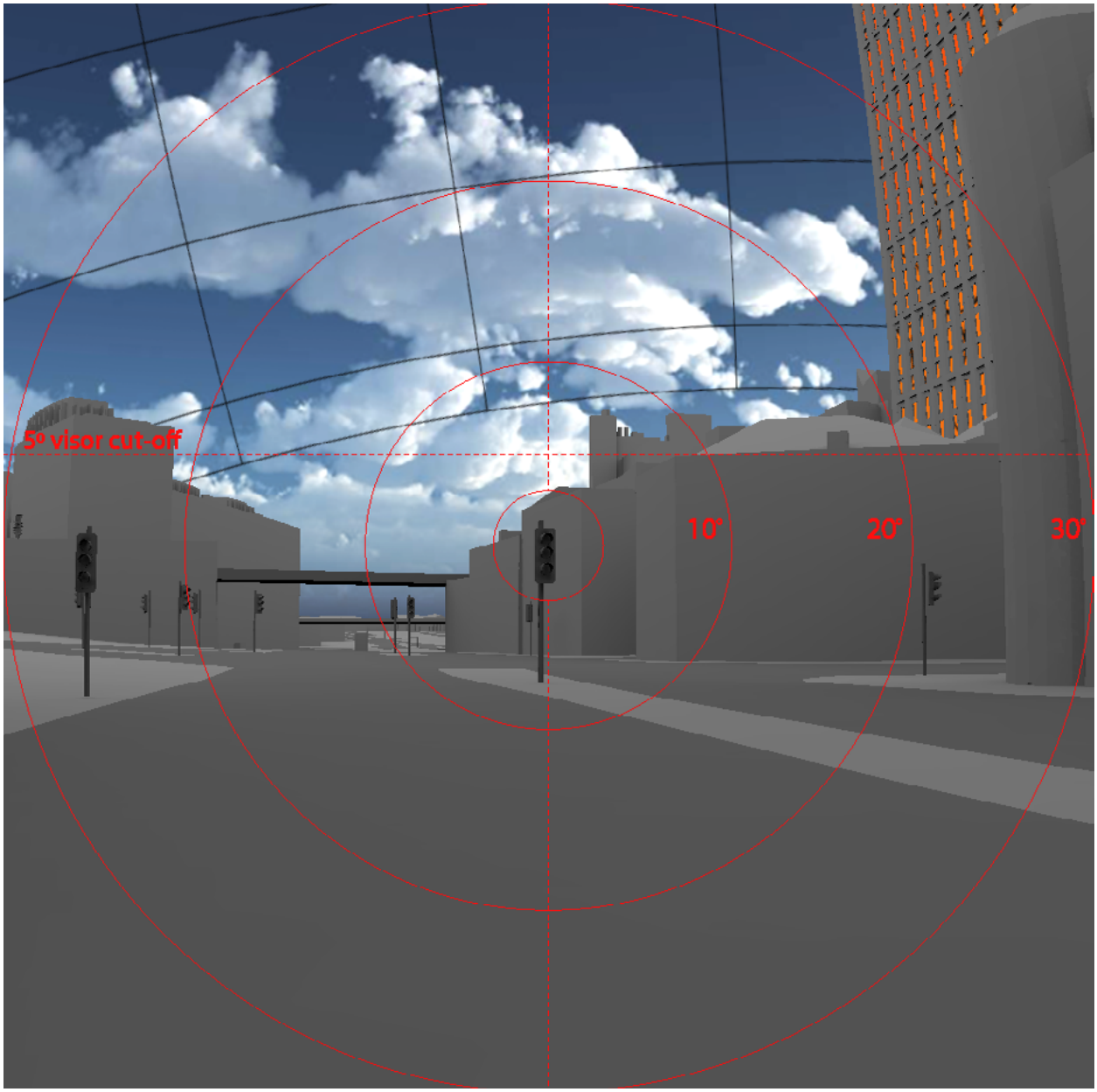
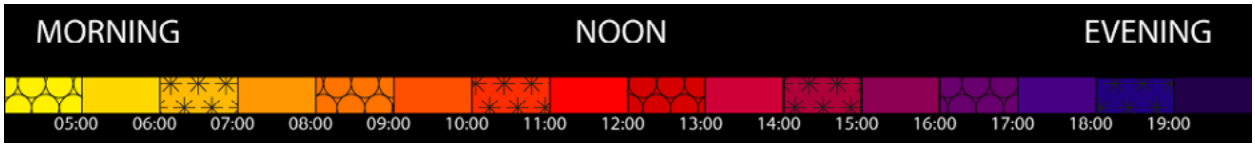


Fig. 61: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT LONDON ROAD 1

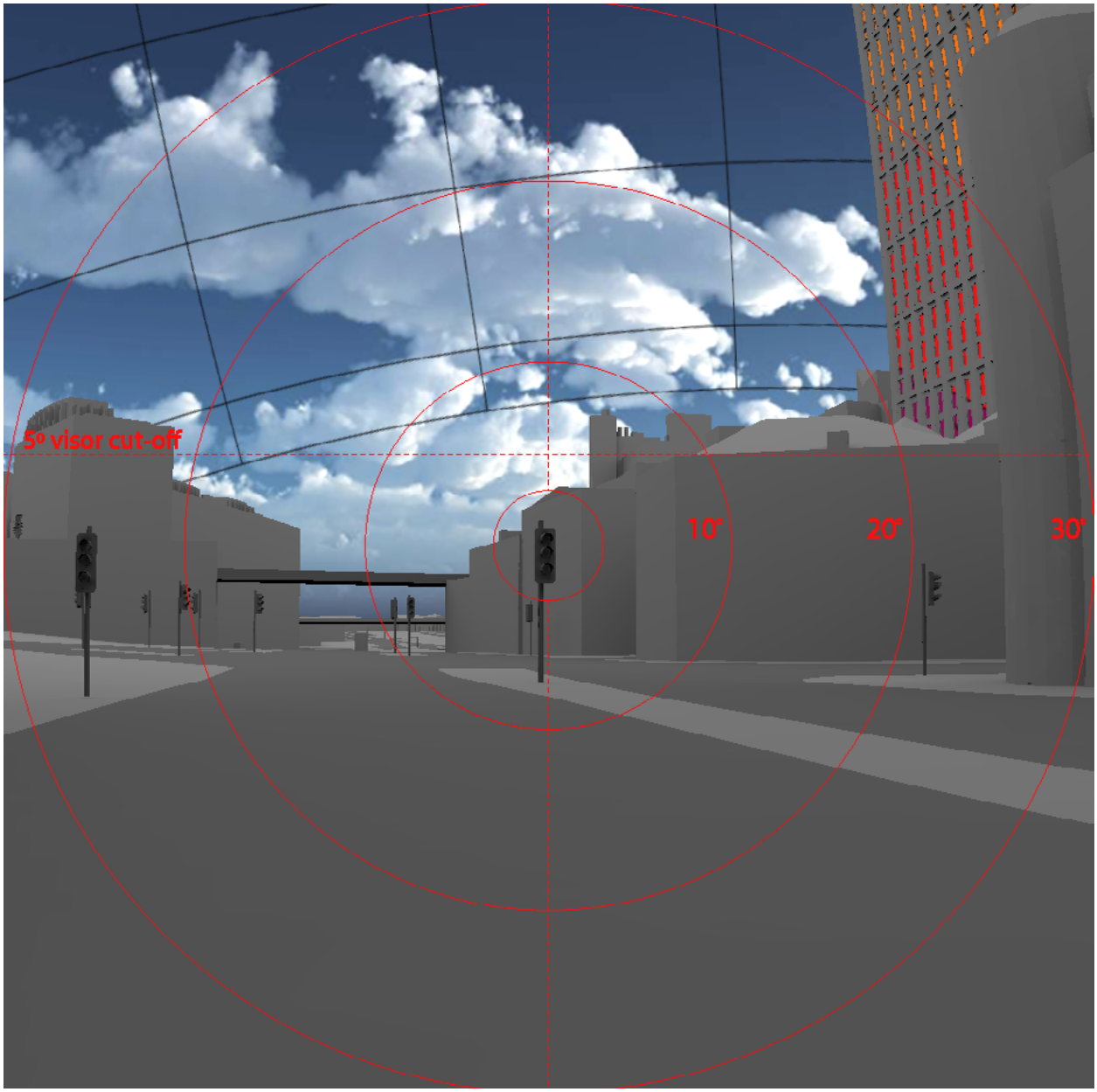


Fig. 62: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT LONDON ROAD 2

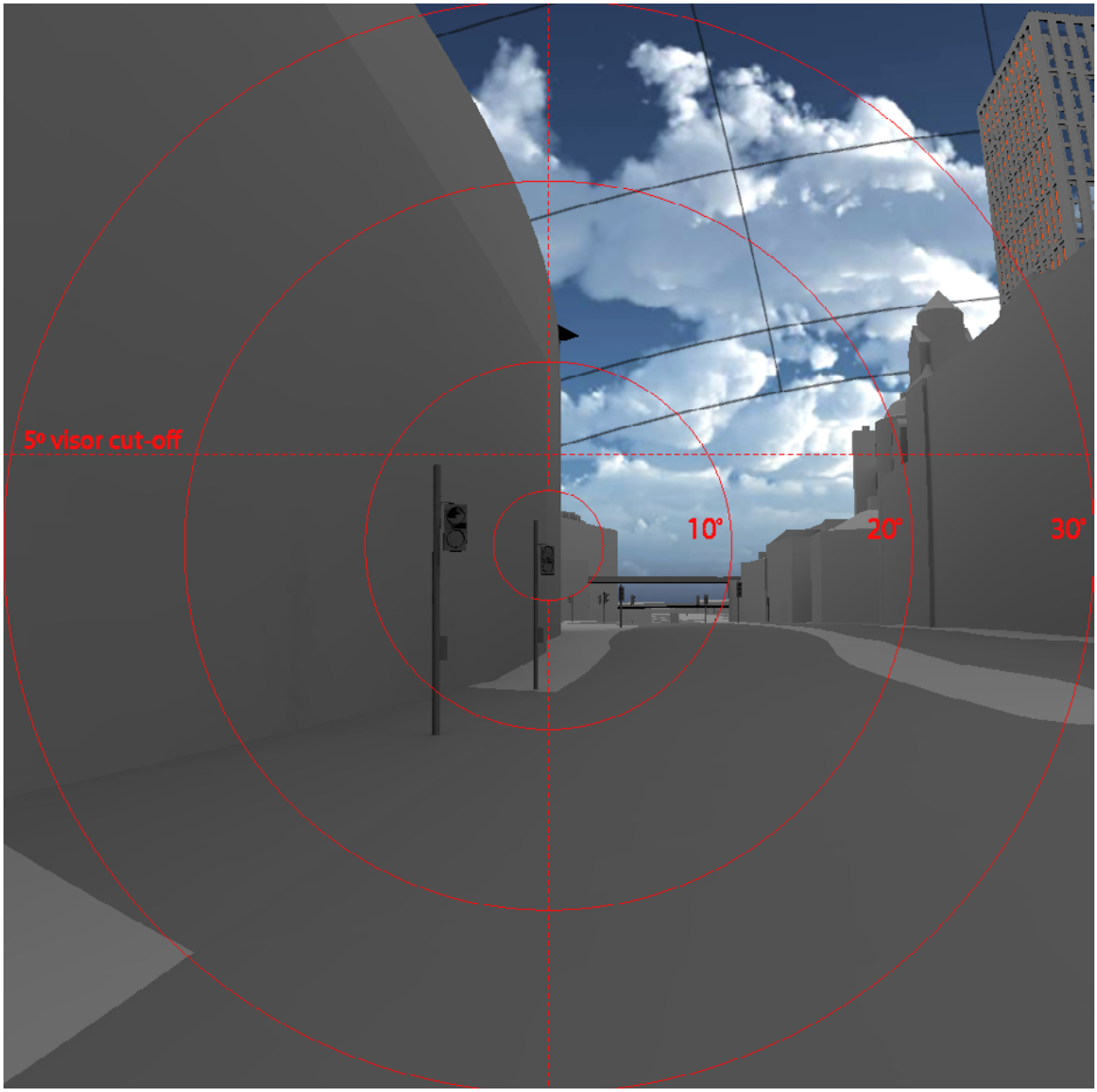
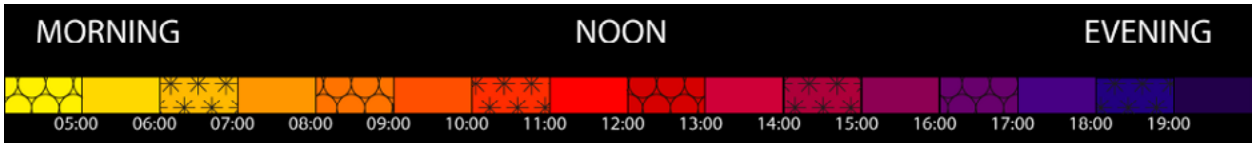


Fig. 63: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT LONDON ROAD 2

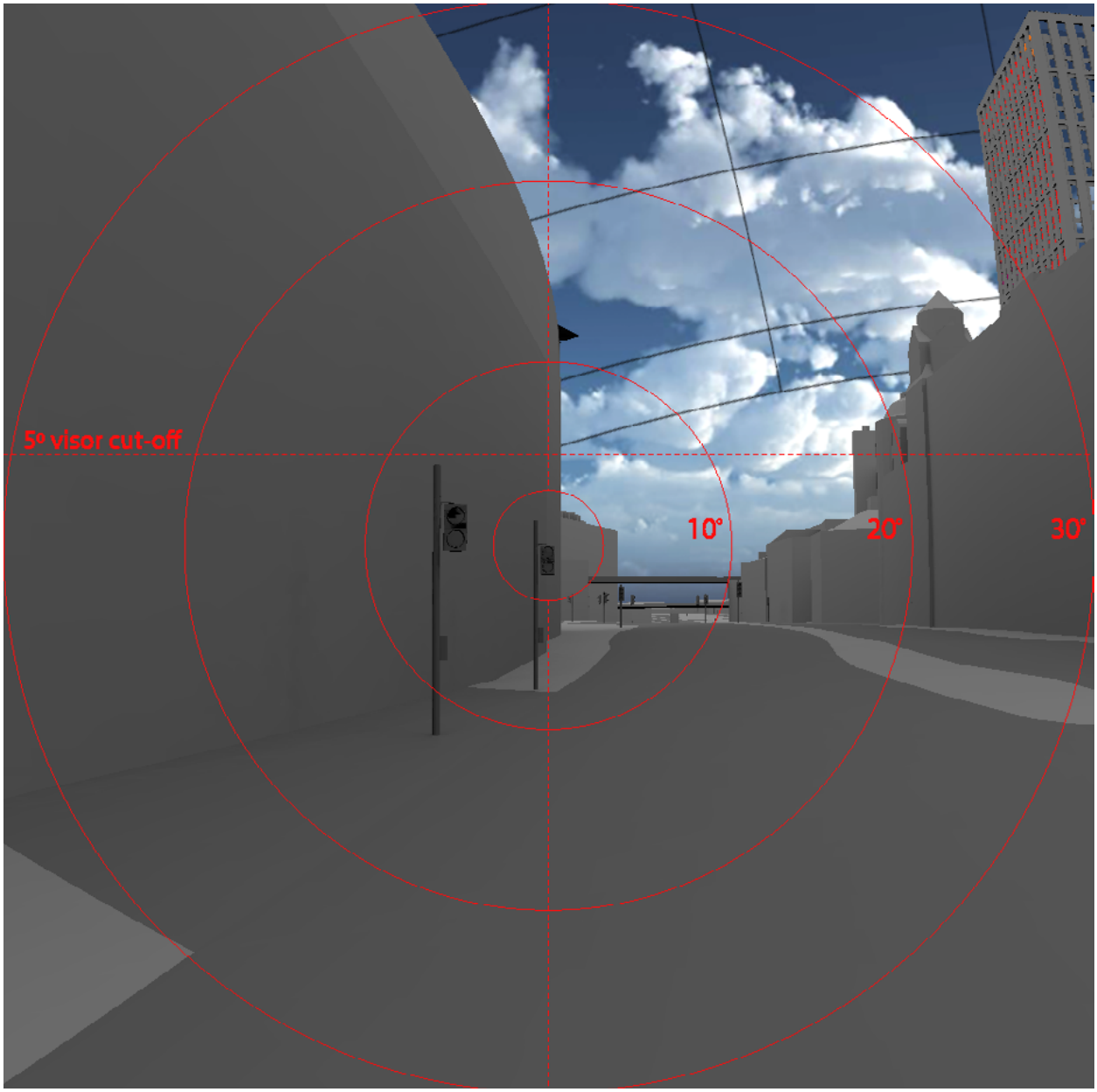


Fig. 64: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT LONDON ROAD 3

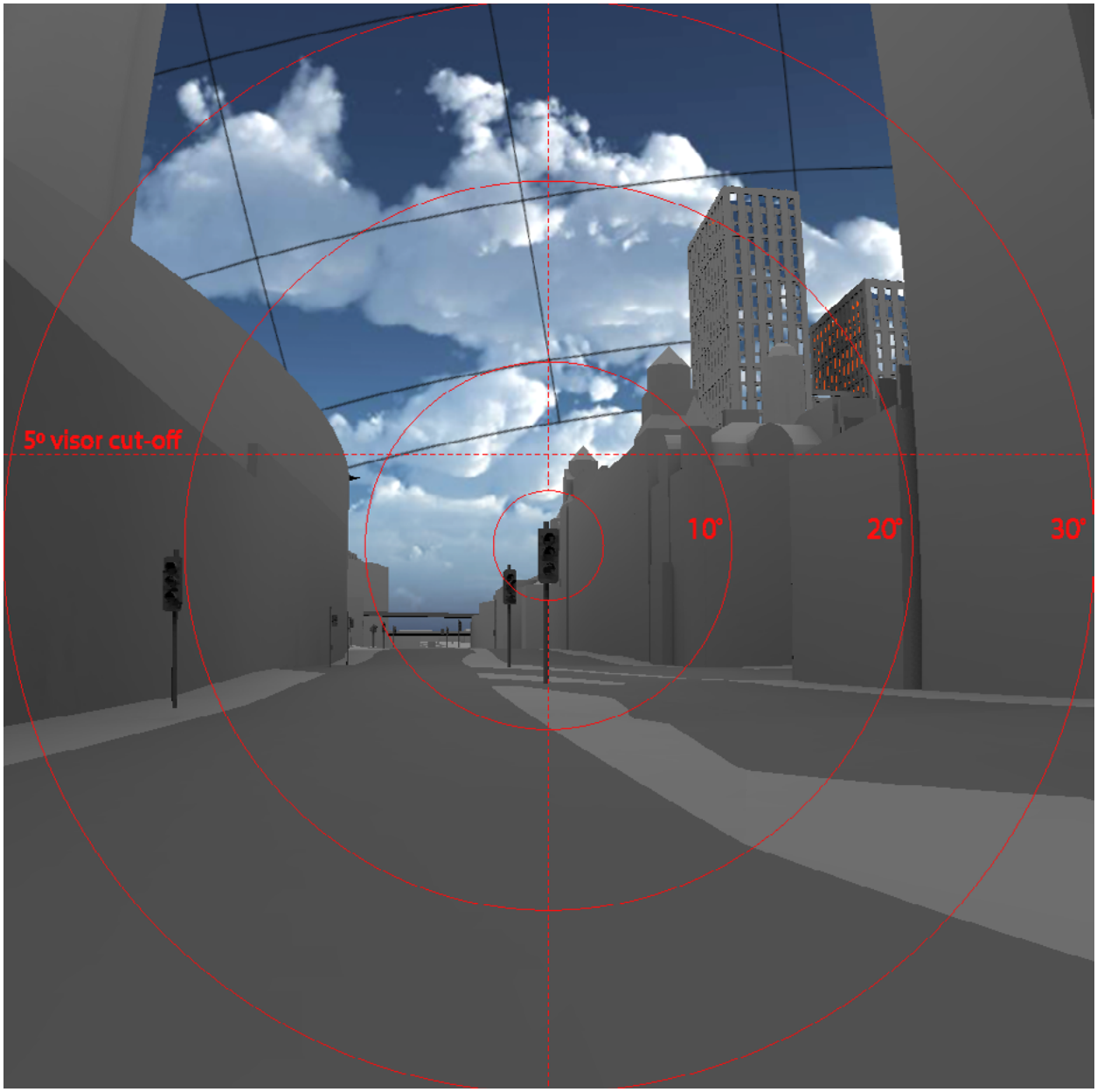
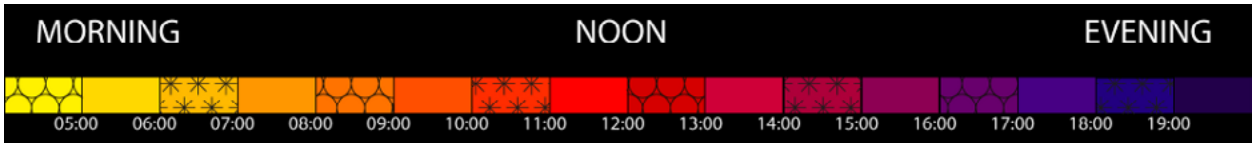


Fig. 65: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT LONDON ROAD 3

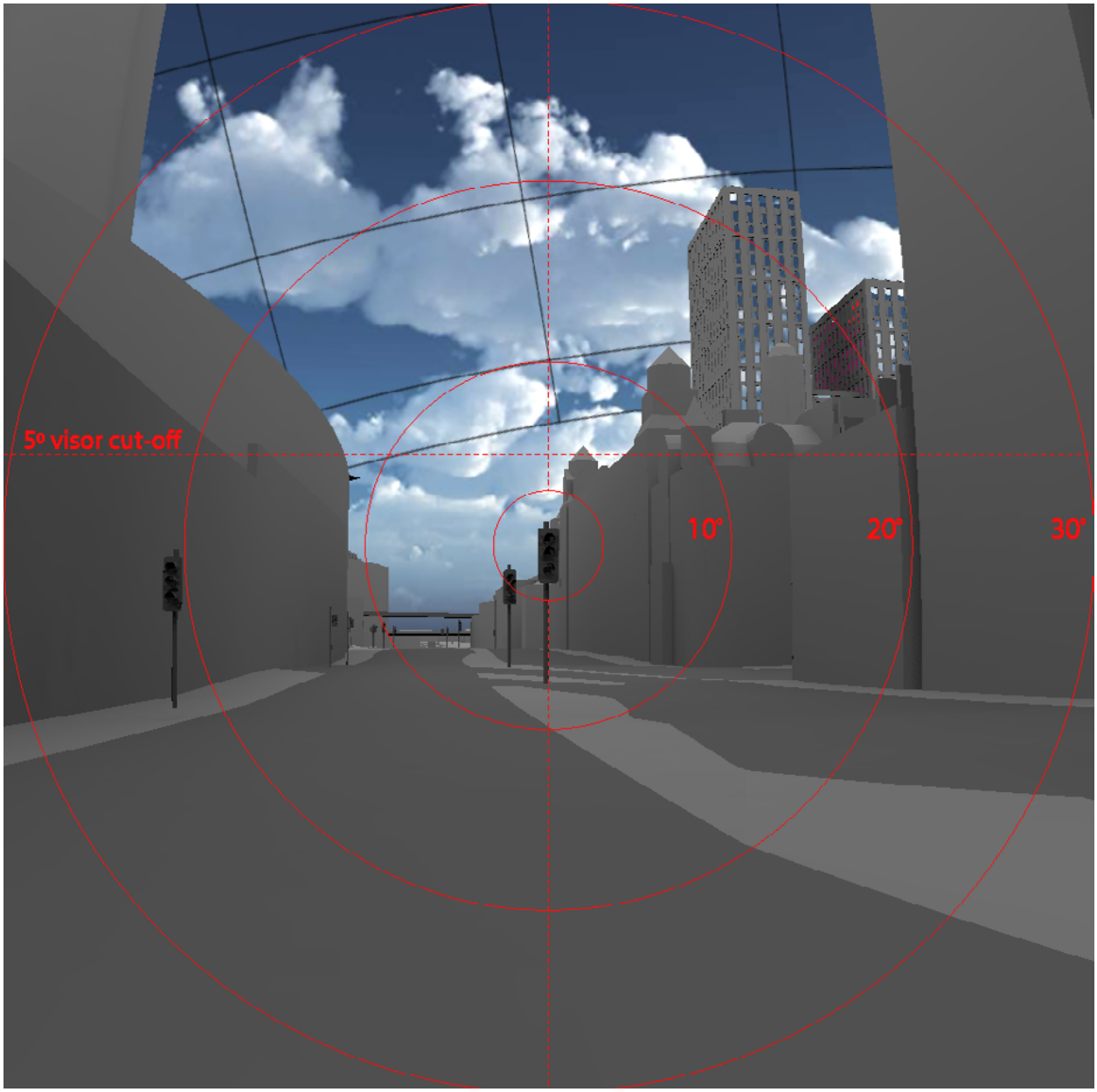


Fig. 66: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT TRAVIS STREET

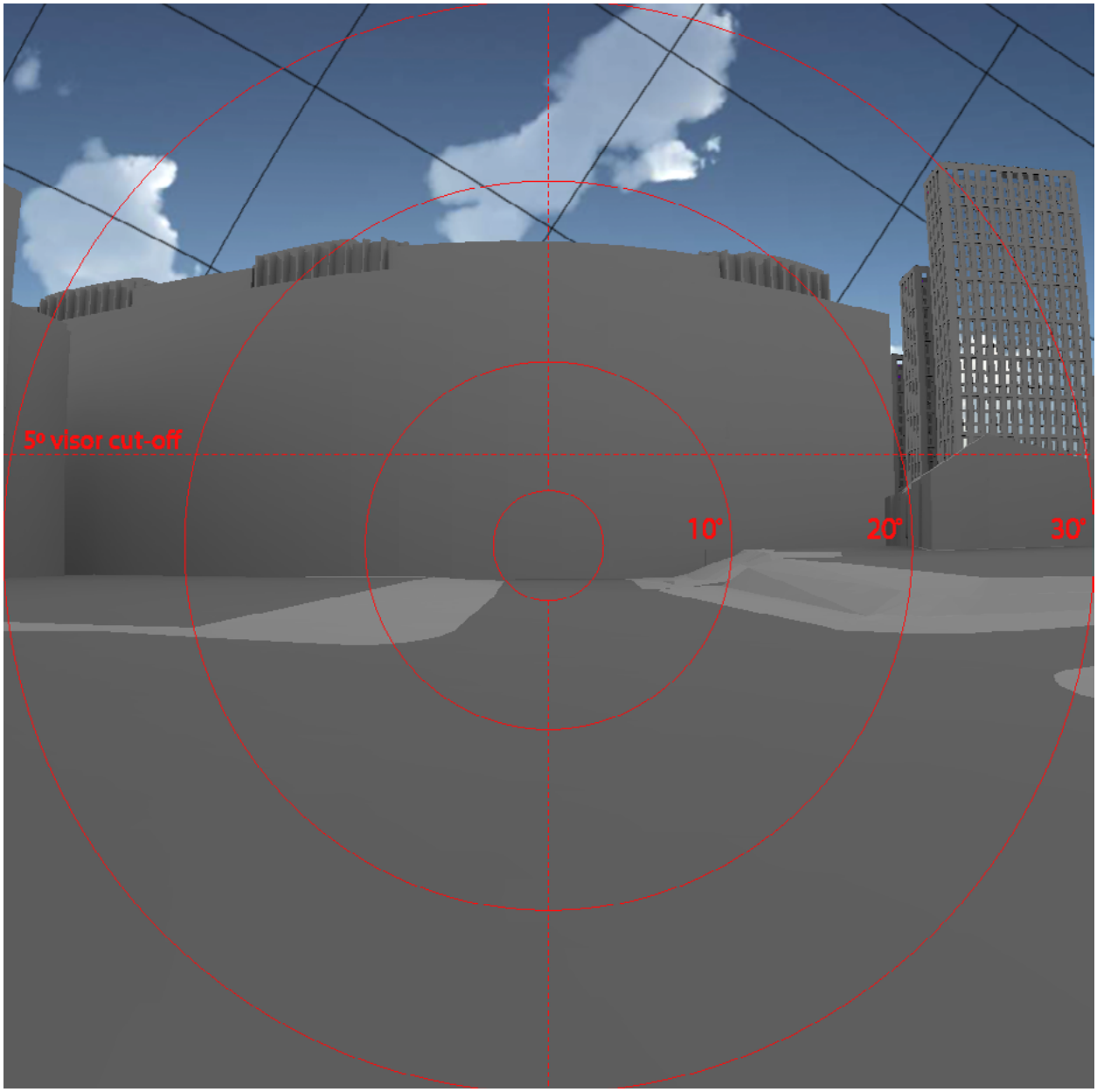
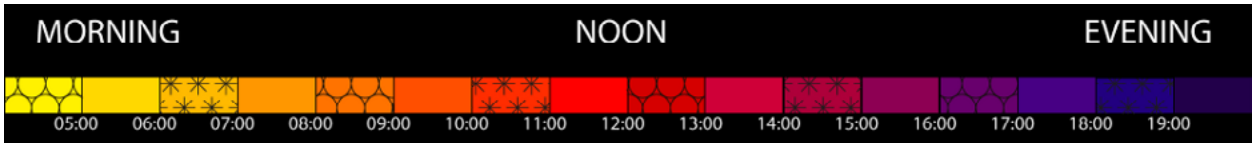


Fig. 67: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT TRAVIS STREET

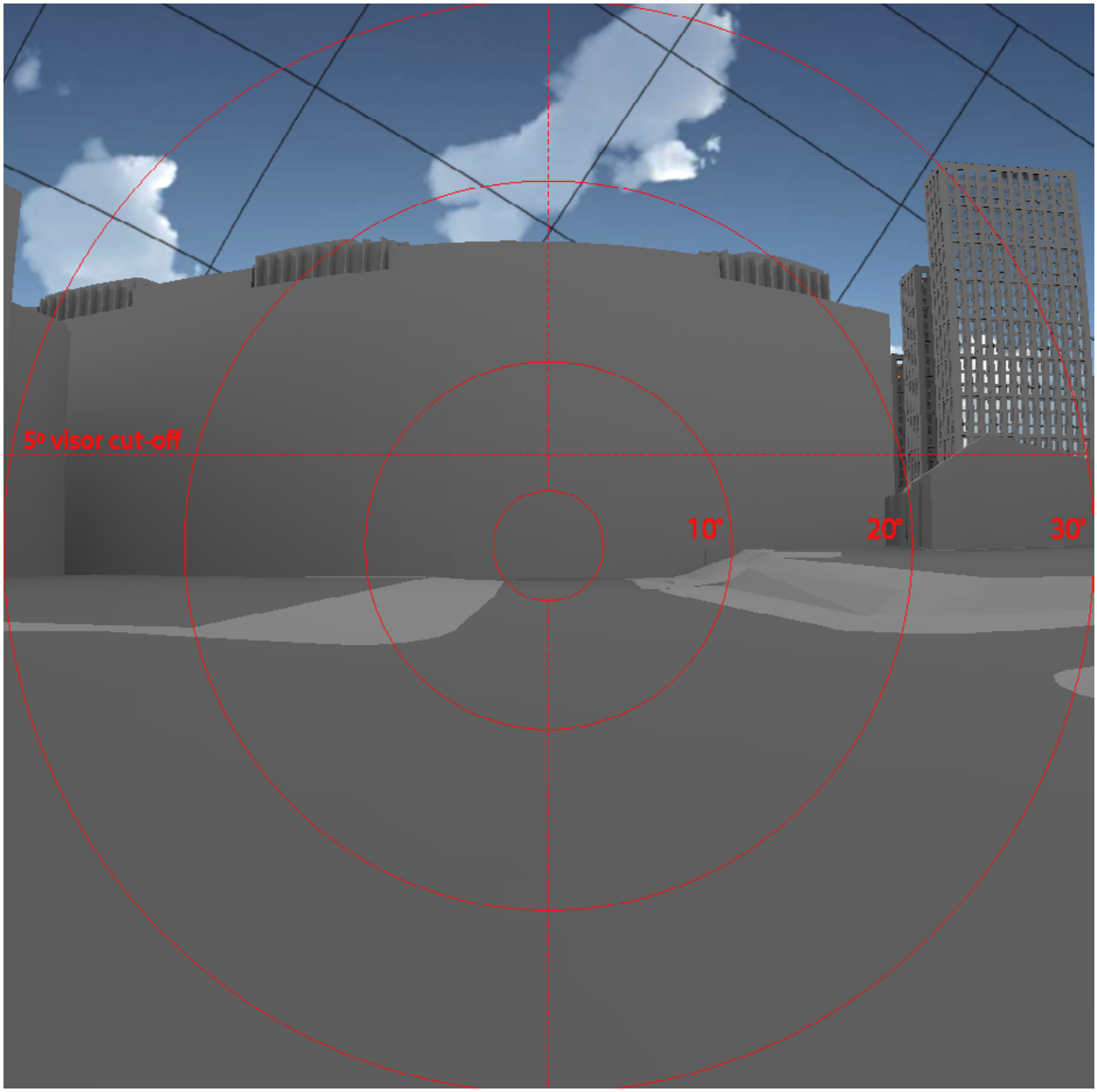


Fig. 68: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT WADESON ROAD

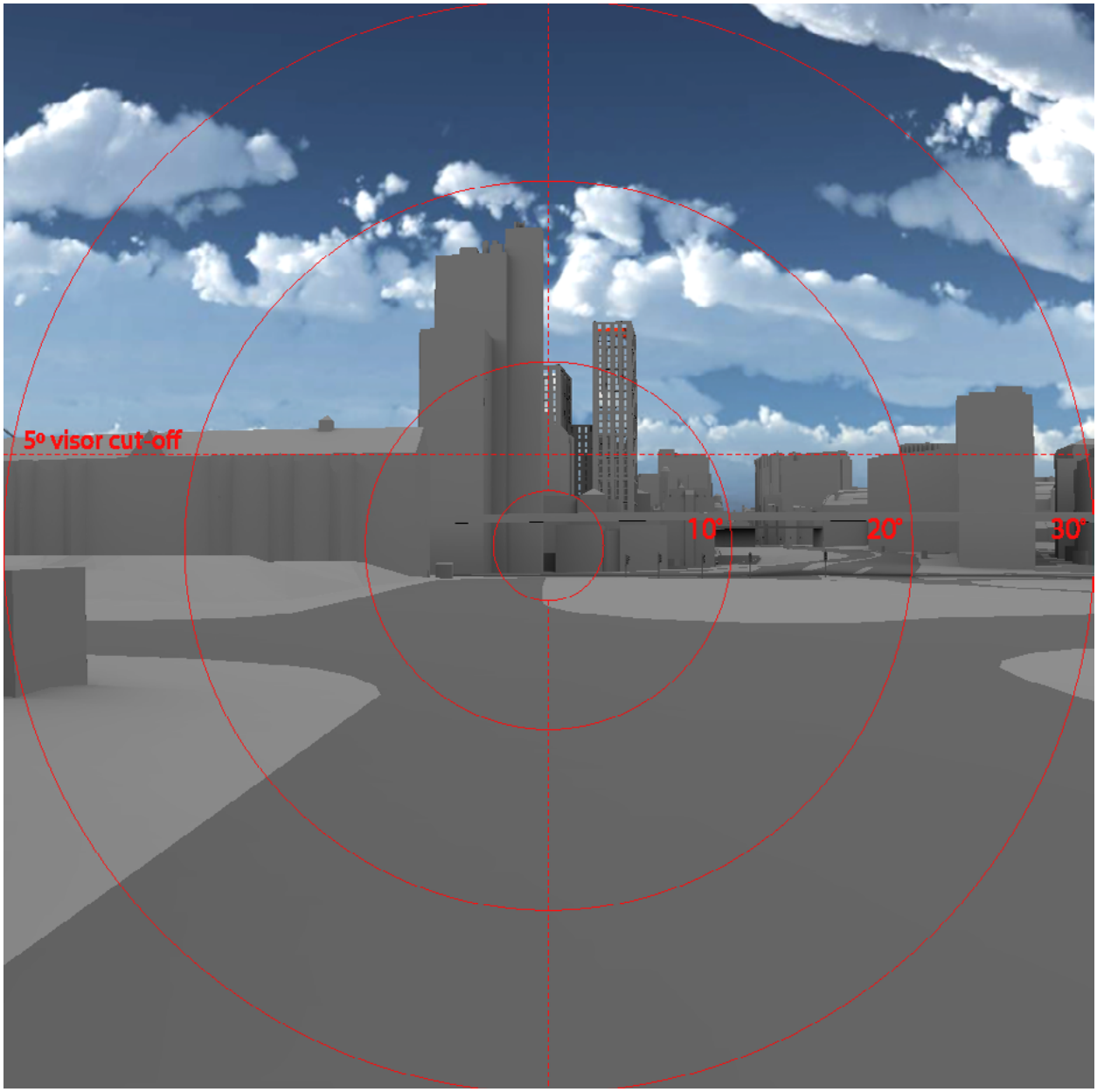
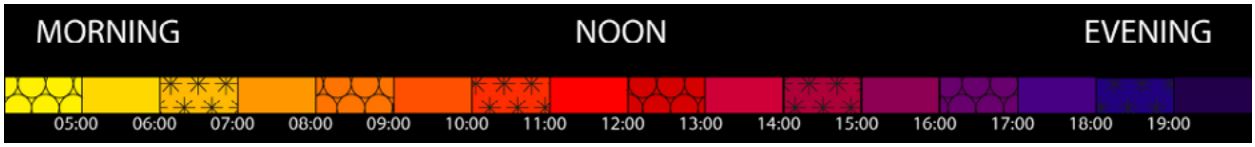


Fig. 69: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT WADESON ROAD

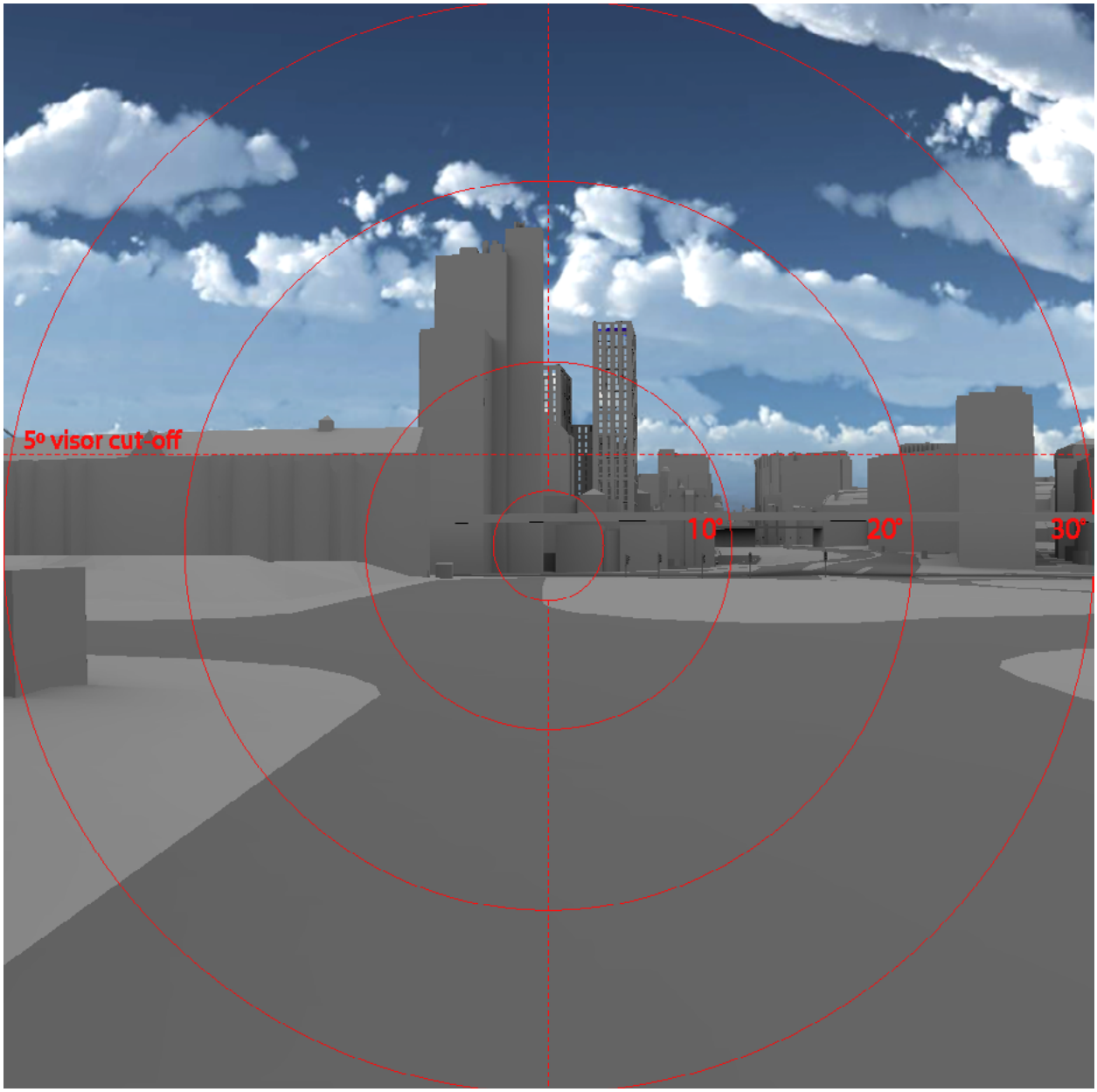


Fig. 70: Solar reflections



60° FIELD OF VIEW: TIME OF DAY
VIEWPOINT POLLARD STREET

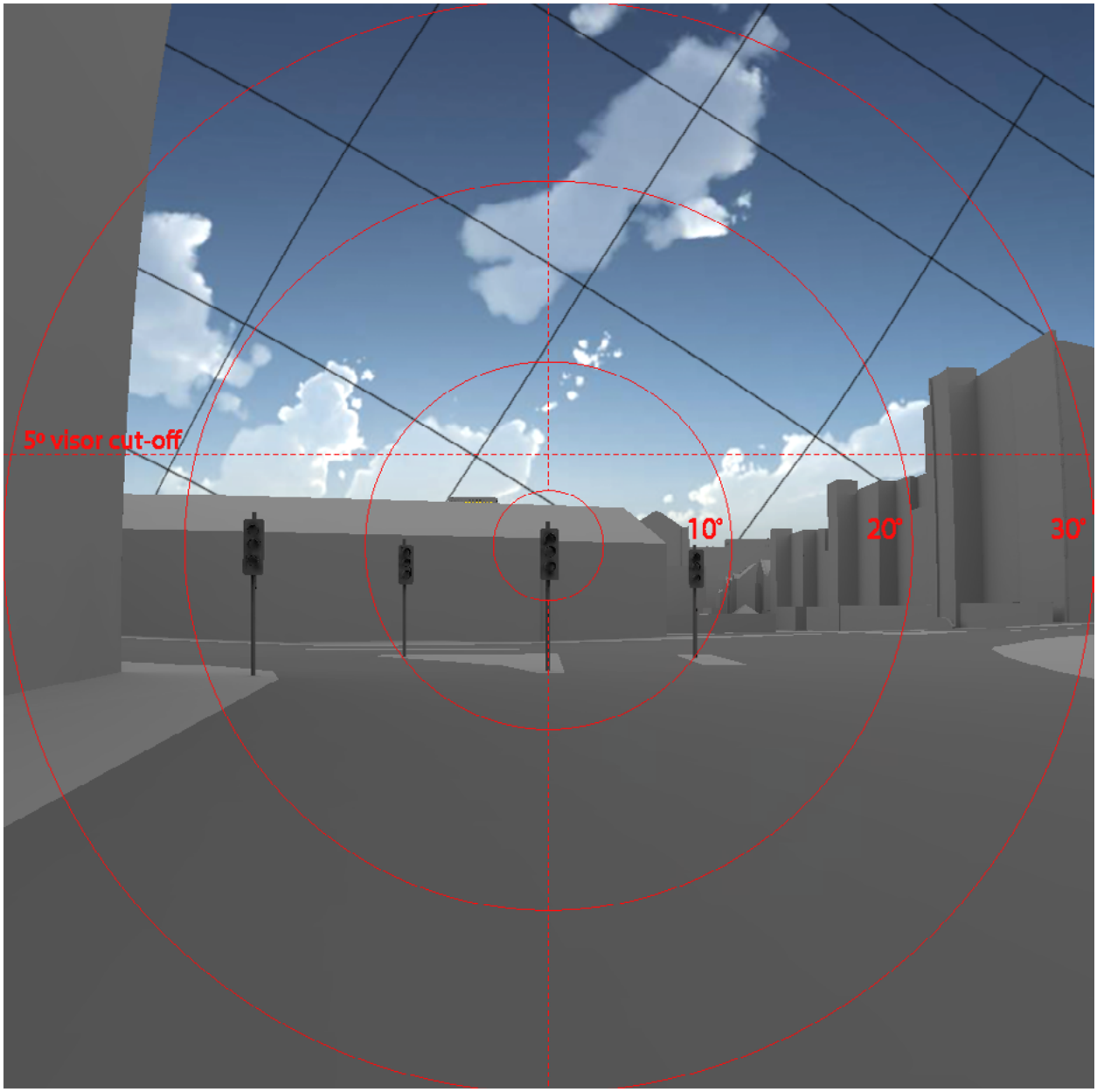
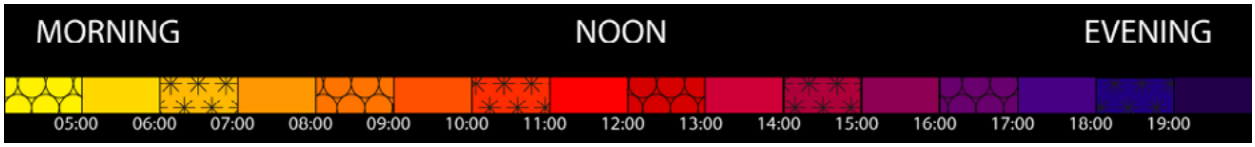


Fig. 71: Solar reflections



60° FIELD OF VIEW: SEASON
VIEWPOINT POLLARD STREET

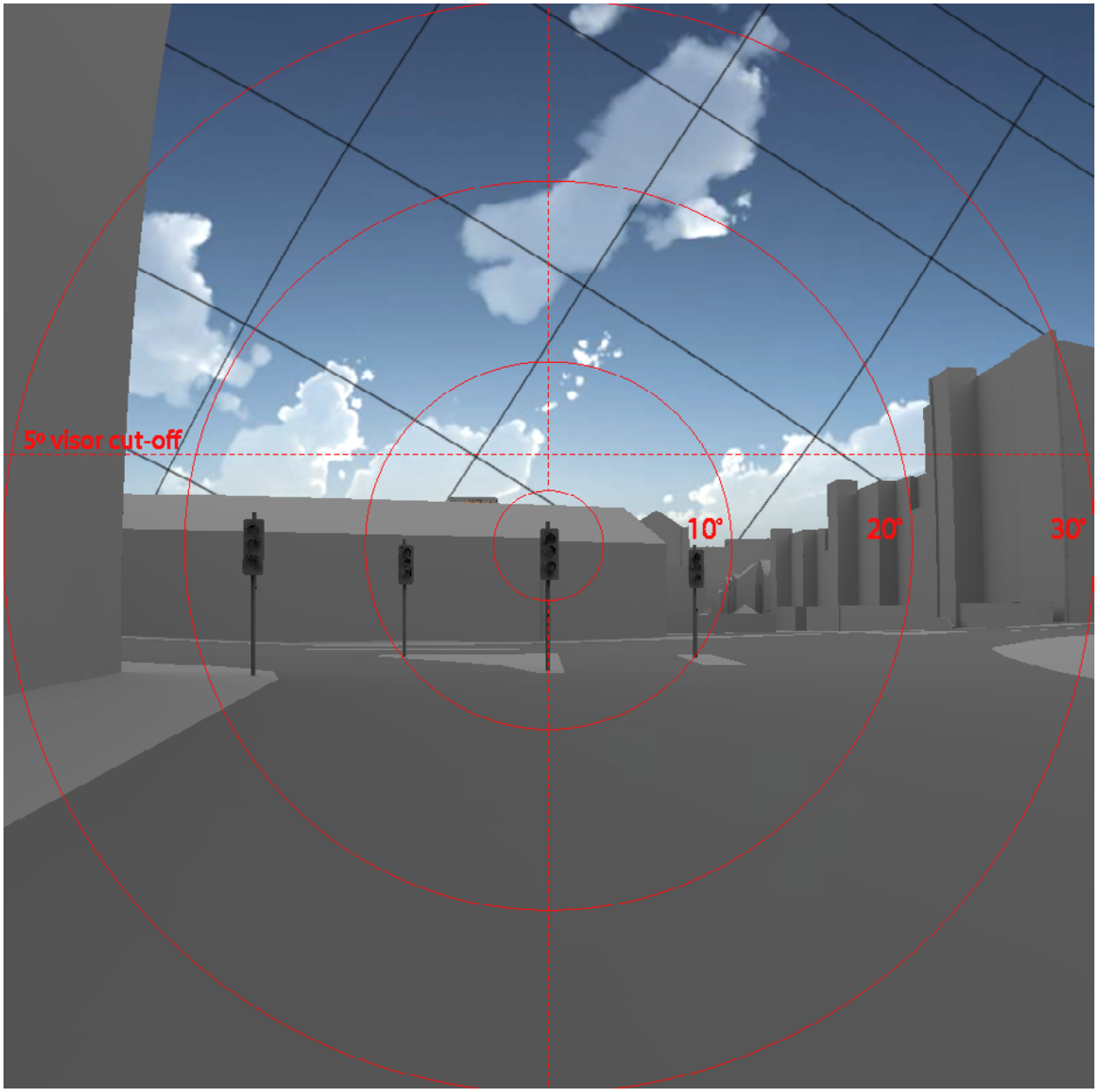


Fig. 72: Solar reflections



gia
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Appendix 1.1: Statement of Technical Competence

Technical Competence in EIA		
	Lead Author	Reviewer
Name	Chloe Patel	Andrew Malcomson
Company	Turley	Turley
Qualifications / Accreditations Relevant to Technical Area	BSc (Hons) MSc	BSc (Hons) MSc
Does the practitioner hold any IEMA qualification?	Practitioner Member (PIEMA) of IEMA Registered IEMA Environmental Impact Assessment Practitioner	Practitioner Member (PIEMA) of IEMA
Company hold IEMA QMark?	Yes	Yes
Years Technical Experience (in Technical Area)	6	14
Number of EIA's Delivered to Date	20+	75+

Technical Competence in EIA and Socio-Economics and Human Health		
	Lead Author	Reviewer
Name	Jack Sanderson	Tom Ellis
Company	Turley	Turley
Qualifications / Accreditations Relevant to Technical Area	BA	BA; MSc: MRTPI
Does the practitioner hold any IEMA qualification?	No	No
Company hold IEMA QMark?	Yes	Yes
Years Technical Experience (in Technical Area)	1.5	5.5
Number of EIA's Delivered to Date	5	30

Technical Competence in EIA and Climate Change		
	Lead Author	Reviewer
Name	Svetlana Cronin	Paul White
Company	Turley	
Qualifications / Accreditations Relevant to Technical Area	MSc	Meng
Does the practitioner hold any IEMA qualification?	PIEMA	No
Company hold IEMA QMark?	Yes	
Years Technical Experience (in Technical Area)	4	10
Number of EIA's Delivered to Date	c.10	c.25

Technical Competence in EIA and Built Heritage		
	Lead Author	Reviewer
Name	James Sugrue	Katy Lightbody
Company	Turley (Heritage and Townscape)	
Qualifications / Accreditations Relevant to Technical Area	MSc BSc	MA (Hons) PGDip Full Member MRTPI IHBC Affiliate Member
Does the practitioner hold any IEMA qualification?	No	No
Company hold IEMA QMark?	Yes	
Years Technical Experience (in Technical Area)	10+	21
Number of EIA's Delivered to Date	10+	30+

Technical Competence in EIA and Townscape and Visual		
	Lead Author	Reviewer
Name	John Willerton	Gillian Webb
Company	Plant IE Limited	
Qualifications / Accreditations Relevant to Technical Area	BA (Hons) Chartered Member of the Landscape Institute (CMLI)	BA (Hons) Chartered Member of the Landscape Institute (CMLI)
Does the practitioner hold any IEMA qualification?	No	No
Company hold IEMA QMark?	Yes	
Years Technical Experience (in Technical Area)	15+	15+
Number of EIA's Delivered to Date	30+	30+

Technical Competence in EIA and Daylight, Sunlight, Overshadowing and Solar Glare		
	Lead Author	Reviewer
Name	Michael Beatty	Sam Wallis
Company	GIA	GIA
Qualifications / Accreditations Relevant to Technical Area	BSc (Hons) MRICS	BSc (Hons) MRICS
Does the practitioner hold any IEMA qualification?	No	No
Company hold IEMA QMark?	No	
Years Technical Experience (in Technical Area)	9	17
Number of EIA's Delivered to Date	15	30

Technical Competence in EIA and Wind Microclimate		
	Lead Author	Reviewer
Name	Urszula Bajcer	Camilo Diaz
Company	WSP	
Qualifications / Accreditations Relevant to Technical Area	B.Sc. Eng. Arch. Architecture and Urban Design M.Sc. Architecture and Environmental Design	PhD Environmental Design Grad Dip (MSc Eq) Housing & Urbanism Dip Arch Diploma of Architecture (Dip Arch)
Does the practitioner hold any IEMA qualification?	No	No
Company hold IEMA QMark?	Yes	
Years Technical Experience (in Technical Area)	8	24
Number of EIA's Delivered to Date	20+	150+

Technical Competence in EIA and Noise and Vibration		
	Lead Author	Reviewer
Name	Jo Miller	Michael Rickard
Company	Miller Goodall Ltd	
Qualifications / Accreditations Relevant to Technical Area	BSc, MSc	Diploma
Does the practitioner hold any IEMA qualification?	No	No
Company hold IEMA QMark?	No	
Years Technical Experience (in Technical Area)	33	14
Number of EIA's Delivered to Date	5	3

Echo Street, Manchester

Environmental Impact Assessment (EIA)
Scoping Report

February 2023

Turley

Contents

Figures and Appendices		3
1.	Introduction	1
2.	Approach to EIA	6
3.	Site Context	17
4.	High Level Development Specification	18
5.	Environmental Topics which are Not to be Significant	21
6.	Socio-Economics and Human Health	61
7.	Climate Change	69
8.	Built Heritage	78
9.	Townscape and Visual	88
10.	Daylight, Sunlight, Overshadowing and Solar Glare	96
11.	Wind Microclimate	105
12.	Noise and Vibration	114
13.	Approach to Assessment of Cumulative Effects	127
14.	Summary	137

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iQ Student Accommodation

Our reference
IQSM3015

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Figures and Appendices

Figure 1.1: EIA Study Area Boundary

Figure 5.1: Link Network Map

Figure 5.2: Air Quality Management Area and MCC Monitoring

Figure 8.1: Heritage Asset Plan

Figure 9.1: Townscape and Visual Impact Assessment Study Area

Figure 9.2: Google Viewshed – Viewpoint Selection

Appendix 1.1: Record of Consultation

Appendix 2.1: Preliminary Environmental Management Plan

Appendix 2.2: Structure of the Environmental Statement

Appendix 5.1: Archaeological Evaluation Report

Appendix 5.2: Extended Phase 1 Habitat Survey

Appendix 5.3: Phase 1 Preliminary Risk Assessment

Appendix 9.1: Townscape and Visual Assessment Methodology

Appendix 10.1: Principles of Daylight, Sunlight and Overshadowing

1. Introduction

Request for EIA Scoping Opinion

1.1 iQ Student Accommodation (the 'Applicant') are working with a project team to deliver a purpose built student accommodation (PBSA) development (the 'Proposed Scheme') at Echo Street in Manchester.

1.2 The EIA Study Area Boundary (hereafter referred to as the 'Site') is approximately 0.5 hectares (ha) and is bound by Vimto Park to the west, the Manchester Oxford Road-Manchester Piccadilly railway line to the south, the A6 London Road to the east, and Lambert House, Fairfield Hall and the Bulls Head pub to the north. The maximum boundary for the purpose of the Environmental Impact Assessment (EIA) Scoping Report is shown in **Figure 1.1**. This is considered to be the maximum extent of all temporary and permanent works required as part of the Proposed Scheme.

1.3 A previous application[1] was submitted on the Site in 2017 (the '2017 application'), supported by an ES, seeking permission for the following:

"Full planning permission for the demolition of existing buildings on site and their replacement with a mixed use (sui generis) development comprising 3 towers ranging in height (from 14, 20 and to 25 storeys (including lower ground floor level) and intermediary link buildings and providing: 403 units of Co-Living residential accommodation with associated shared amenity spaces; 94 units of purpose built student accommodation with associated shared amenity spaces; ground floor commercial floor space and children's day nursery together with cycle parking, recycling and refuse bin storage, associated plant and public realm enhancements to Granby Row, Echo Street, Cobourg Street and Back Acton Street."

1.4 This 2017 application was granted by Manchester City Council (MCC) 2018. The 2017 application was then subject to subsequent applications[2] in 2019, comprising two Section 73 (S73) minor material amendment applications. These two applications were granted in May 2019 and March 2020 respectively. An ES Addendum[3] (ESA) (the '2019 ESA') was provided as part of the first 2019 S73 application (MCC Ref: 122732/JO/2019). No ESA was provided for the second S73 application (MCC Ref: 125537/JO/2019).

1.5 The Applicant is now working towards the submission of a new detailed planning application (the 'Application') to MCC, as the Local Planning Authority for a PBSA development.

1.6 The Applicant has instructed Turley to lead, manage and control the EIA process. The project team have developed a description of the Proposed Scheme, which is outlined in **Chapter 4**. Whilst the Proposed Scheme continues to be refined and the development principles agreed upon, the description in **Chapter 4** aims to provide

[1] MCC Ref: 18267/FO/2017. Approved in June 2018.
[2] MCC Ref: 122732/JO/2019; and MCC Ref: 125537/JO/2019.
[3] Turley (2019) Echo Street – Environmental Statement Addendum, February 2019.

factual and sufficient information to inform the EIA Scoping process and the preparation of this EIA Scoping Report.

1.7 In accordance with Regulation 15 of The Town and Country Planning (EIA) Regulations 2017[4] (as amended), (the 'EIA Regulations'), Turley request a Scoping Opinion from MCC, informed by this EIA Scoping Report.

Next Steps: Receipt of MCC Scoping Opinion

1.8 Based on your receipt of the EIA Scoping Report and in accordance with Regulation 15, we are anticipating that statutory timescales will be met and that Turley will be in receipt of a Scoping Opinion no later than five weeks from the date of receipt of this request.

Structure of the EIA Scoping Report

1.9 The structure of the EIA Scoping Report is outlined in **Table 1.1**.

Table 1.1: Structure of this EIA Scoping Report

Chapter No.	Topic	Description
1	Introduction	Outlines the context in which Turley request a Scoping Opinion; provides an overview of the structure of this report; outlines our understanding of the requirements for EIA; and stakeholder engagement.
2	Approach to EIA	Outlines the objectives and strategy for the EIA to ensure consistency and clarity across the process. Also provides an indication of the methodology and skills adopted within the EIA and the anticipated format of the Environmental Statement (ES). Outlines the interaction with other documentation outside of the ES.
3	Site Context	Provides a high level description of the Site and the surrounding environment. Further details of the topic specific baseline environment are set out in **Chapter 5** and **Chapters 6 – 12**.
4	High Level Development Specification	Outlines the Proposed Scheme as currently understood by the project team. It is this description and supporting plans upon which this EIA Scoping Report is based.
5	Environmental Topics which are Unlikely to	Outlines the environmental topics for which no likely significant effects are anticipated to arise from

[4] The Town and Country Planning (EIA) Regulations 2017 No. 571 (as amended). Available at: http://www.legislation.gov.uk/uksi/2017/571/contents/made [Accessed 13/01/2023].

Chapter No.	Topic	Description
	be Significant	the Proposed Scheme. It is these environmental topics which will not be subject to assessment as part of the EIA.
6 – 12	Likely Significant Environmental Topics	Presents a number of likely significant effects across the following environmental topics: socio-economics and human health; climate change; built heritage; townscape and visual; daylight, sunlight, overshadowing and solar glare; wind microclimate; and noise and vibration. A separate Chapter is provided for each topic. The Chapters also provide detail on particular effects within each of the environmental topics for which no likely significant effects are anticipated to arise from the Proposed Scheme, which will not be subject to assessment as part of the EIA.
13	Approach to Assessment of Cumulative Effects	Outlines the proposed methodology for the assessment of cumulative effects, comprising both effect interactions and in-combination effects.
14	Summary	Provides a tabular summary of the effects which are not significant and the likely significant environmental effects identified at this stage of the EIA process.

Definition of EIA

1.10 The term 'EIA' has the meaning given by Regulation 4 of the EIA Regulations, as '*a process consisting of -*

(a) the preparation of an environmental statement;

(b) any consultation, public and notification required by, or by virtue of, these Regulations or any other enactment in respect of EIA development; and

(c) the steps required under regulation 26' (consideration of whether planning permission or subsequent consent should be granted)'.

1.11 Under Regulation 4, Paragraph 2 an EIA must *'identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on the following factors -*

(a) population and human health

(b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC(1) and Directive 2009/147/EC(2);

(c) land, soil, water, air and climate;

(d) material assets, cultural heritage and the landscape; and

(e) the interaction between the factors referred to in sub-paragraphs (a) to (d)'.

1.12 EIA is a procedure that must be followed for certain types of projects before 'development consent' can be given. The procedure is a means of drawing together, in a systematic way, an assessment of a project's likely significant environmental effects. This helps to ensure that the importance of the predicted effects and the scope for reducing or mitigating them are properly understood by the public and the relevant local planning authority (in this case, MCC) before it makes its decision.

1.13 The aim of EIA, as defined by national Planning Practice Guidance (PPG), is to *'protect the environment by ensuring that a local planning authority when deciding to grant planning permission for a project, which is likely to have significant effects on the environment, does so in the full knowledge of the likely significant effects, and takes this into account in the decision making process…. The aim… is also to ensure that the public are given early and effective opportunities to participate in the decision making procedures'*[5].

Requirement for EIA

1.14 The need for an EIA is recognised as the Proposed Scheme exceeds the thresholds and criteria within Schedule 2, Paragraph 10(b) 'Urban development projects' of the EIA Regulations (as over 150 units are proposed).

1.15 Whilst the applicable thresholds are met, this does not automatically determine the requirement for EIA, but requires a subsequent stage to determine '*likely significant effects on the environment by virtue of factors such as its nature, size or location*'.

1.16 At this stage, a number of likely significant effects have been identified. Therefore, an EIA will be undertaken, the outputs of which will be reported in an ES. The EIA is being used as a tool to identify and manage the environmental impacts and where possible avoid, reduce or offset them as part of the design process (see further details in **Chapter 2**). This approach is common to the 2017 application, which was subject to EIA.

Stakeholder Engagement

1.17 Consultation is an important part of the EIA process. It is the responsibility of MCC to undertake the appropriate level of consultation, including the identification of relevant and applicable statutory and non-statutory consultees, required to inform their IEA Scoping Opinion.

[5] Ministry of Housing, Communities and Local Government (MHCLG) (2020). Guidance: EIA. Available at: https://www.gov.uk/guidance/environmental-impact-assessment [Accessed: 13/01/2023].

1.18 It is anticipated that MCC will consult with the following stakeholders during the preparation of their EIA Scoping Opinion:

- MCC (including relevant officers);
- Environment Agency;
- Natural England;
- National Highways;
- Historic England;
- United Utilities; and
- Greater Manchester Police.

1.19 In advance of preparing the EIA Scoping Report, consultation with a number of the above consultees has already been undertaken and continues, to inform specifics of the design of the Proposed Scheme, baseline data collection and assessment methodologies. A summary of the project consultation undertaken prior to or during the preparation of the EIA Scoping Report is provided in **Appendix 1.1**.

2. Approach to EIA

Overview

2.1 This Chapter outlines the following:

- Objectives and regulatory compliance;
- Approach to consideration of alternatives;
- Iterative approach to scoping;
- Study boundaries for data collection;
- Baseline scenario for use in the EIA;
- Identification of sensitive receptors;
- Defining mitigation and how this will be controlled;
- Information to inform the assessments within the ES;
- Assessment scenarios;
- Level of effect and consideration of significance;
- Format of the ES;
- Competent expertise; and
- Interaction of the ES with other documents and plans.

Objectives and Regulatory Compliance

2.2 This EIA Scoping Report supports a formal request for an EIA Scoping Opinion from MCC as to the scope and methodology for assessment to be adopted in the EIA and reported in the ES. It aims to ensure that there is a clear and agreed scope for the EIA.

2.3 The EIA Scoping Opinion is sought on the technical breadth of the topics considered within the EIA and the specific environmental effects within each of these environmental topics (**Chapters 6 – 12**).

2.4 The Institute of Environmental Management and Assessment (IEMA) has issued guidance on the interaction of design and EIA as part of 'Shaping Quality Development'[6] and 'Delivering Quality Development'[7]. The principles of these documents have been adopted for the EIA.

[6] IEMA (2015). Environmental Impact Assessment Guide to: Shaping Quality Development.
[7] IEMA (2016). Environmental Impact Assessment Guide to: Delivering Quality Development.

2.5 In accordance with Regulation 15(2) of the EIA Regulations, this EIA Scoping Report contains the following:

- A plan sufficient to identify the land (**Figure 1.1**);
- A brief description of the Proposed Scheme, including its nature, purpose, location and technical capacity (**Chapter 4**). This includes an overview of the site preparation / enabling works, earthworks, remediation and construction (referred to collectively as 'construction'), development principles and timescales;
- An explanation of the likely significant effects of the development on the environment (**Chapters 6 – 12**); and
- Such other information or representations as the person making the request may wish to provide or make.

Approach to Consideration of Alternatives

2.6 Schedule 4, Paragraph 2 of the EIA Regulations states that an ES should include:

'*a description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects*'.

2.7 PPG[8] states that where '*…alternative approaches to development have been considered, the Environmental Statement should include a description of the reasonable alternatives studied which are relevant to the proposed development and its specific characteristics and provide an indication of the main reasons for the choice made, including a comparison of the environmental effects'*.

2.8 The EIA Regulations and the PPG do not identify a specific methodology for the reporting of the alternatives considered nor the criteria to be used to inform the consideration of reasonable alternatives. Therefore, the methodology to be adopted for the purpose of the EIA will be based on professional experience of similar projects and an understanding of the Proposed Scheme and its characteristics, as well as focus on the delivery of a proportionate report, in line with PPG.

2.9 The consideration of alternatives within the ES will report the following:

- Consideration of 'factors'[9] that constitute alternatives; and

[8] MHCLG (2020). PPG – EIA Online Tool Paragraph: 041 Reference ID: 4-041-20170728 Available at: https://www.gov.uk/guidance/environmental-impact-assessment [Accessed 18/01/2023].

[9] These are anticipated to include alternative sites, alternative designs, alternative technology and a 'do nothing' scenario..

- Qualitative appraisal of the 'factors' for which alternatives have been considered and, where appropriate, a comparison of the environmental effects.

Iterative Approach to Scoping

2.10 Whilst this EIA Scoping Report seeks to establish the overall framework for the EIA in relation to the environmental topics and associated likely significant effects that will be subject to detailed assessment, iterative 're-scoping' will continue as the design and strategy are refined, plans and principles are developed and additional technical work is completed.

2.11 This iterative 're-scoping' process will continue up until the point when the assessments within the ES are in their first draft, in advance of submission.

2.12 Any deviation between the scope of effects considered within this EIA Scoping Report and the ES will be clearly communicated in the ES. This is in accordance with the PPG[10] which states that '*…where it becomes evident during the assessment process...that a particular environmental factor is absent or unlikely to be significantly affected by a proposed development, there should be no need for further assessment of that factor even though it was identified in the scoping process…*'.

Study Boundaries for Data Collection

2.13 The Site, upon which baseline data has been collected is defined in **Figure 1.1**. This is considered the maximum extent of all temporary and permanent works (including primary mitigation) for which planning consent is sought.

2.14 Where required, technical specific study areas (informed by relevant best practice and guidance) will be based upon the Site boundary (i.e. radius of searches will be from the Site boundary).

2.15 Off-site improvements / mitigation, if required, will be considered as secondary mitigation (refer to 'Defining Mitigation and how this will be Controlled') and appropriately considered within the assessment of residual effects. It is considered appropriate that secondary mitigation does not need to be within the Site boundary as any impact will be assessed and controlled as part of a separate approval process for such works, which will be subject to its own protocols to understand any environmental issues. However, where appropriate, such works will be considered as part of the cumulative assessment.

Baseline Scenario for Use in the EIA

2.16 Likely significant effects as a result of the Proposed Scheme will be described in the ES in relation to the deviation from the baseline environment within the Site and / or relevant technical study areas. The baseline environment will comprise the existing environmental characteristics and conditions, based upon surveys undertaken and information / data available at the time of the technical assessments.

[10] MHCLG (2020). PPG – EIA Online Tool, Paragraph: 038 Reference ID: 4-038-20170728.

2.17 The data used to inform the baseline conditions for the purpose of the ES (for those environmental topics scoped in, see **Chapters 6 – 12** for more details) will vary depending upon the timing of the survey or the date when data sources will have been accessed. The baseline conditions will be based upon surveys completed or information/data accessed in 2022/23.

2.18 Some data obtained from third parties may be older, though may still be relevant to the baseline scenario if there have been no significant changes or is the latest available information. The origin of all third-party data, the dates of surveys and the dates when data sources have been accessed will be clearly outlined within the ES alongside any limitations and assumptions.

Identification of Sensitive Receptors

2.19 Based on baseline information and data, a series of receptors or receptor groups are identified, which are subject to likely significant effects arising from a project. These receptors are then subject to detailed assessment within the EIA.

2.20 Details of the receptors which are considered likely to be affected at this stage are set out in **Chapters 6 – 12**.

Defining Mitigation and how this will be Controlled

2.21 Schedule 4, Part 7 of the EIA Regulations states that an ES should include:

'*a description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases'*.

2.22 Through the EIA process different types of mitigation have been / will be identified and developed and these are defined as:

- **Primary mitigation** – modifications to the location or design of the Proposed Scheme made during the pre-application phase that are an inherent part of the project;
- **Secondary mitigation** – actions that will require further activity in order to achieve the anticipated outcome and secured by planning condition / and or obligation; and
- **Tertiary mitigation** – actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental effects.

2.23 The design process has and will continue to be informed by baseline surveys, desktop reviews and preliminary technical analysis, so that environmental effects are well understood and primary and tertiary mitigation can be developed.

2.24 The assessment of effects of the Proposed Scheme within the ES will be based on the information contained within a 'Development Specification' which will include primary and tertiary mitigation. Examples of primary mitigation measures may include building heights and surface water drainage strategy. Examples of tertiary mitigation measures may include the adoption of best practice measures that can be controlled via a Construction Environmental Management Plan (CEMP) or other established legislative requirements (e.g. health and safety).

2.25 Primary and tertiary mitigation known at this stage have been considered within **Chapter 4**. These measures are also summarised in the Preliminary Environmental Management Plan (EMP) in **Appendix 2.1** (see further details below).

2.26 Within the ES, following the conclusion of the likely significant effects based on the Proposed Scheme (inclusive of primary and tertiary mitigation), any further mitigation (secondary mitigation) to further reduce an adverse effect or enhance a beneficial one will be identified.

2.27 Secondary or tertiary mitigation are only likely to avoid, reduce or enhance the residual effect if there is a high level of confidence in their mechanism for implementation (by the Applicant or third party).

2.28 An EMP will detail all mitigation identified within the EIA process and will form **Volume 3** of the ES (see 'Format of the ES'). This document will define all the environmental requirements of the Proposed Scheme to ensure that the impacts concluded through the EIA process can be relied upon. The view is that the EMP can be extracted by MCC to support the preparation of appropriate planning conditions / obligations attached to any planning permission, where necessary.

2.29 As noted above, a Preliminary EMP has been developed as part of this EIA Scoping Report to capture all primary and tertiary mitigation identified at this stage and is provided in **Appendix 2.1**.

Information to Inform the Assessments within the ES

2.30 The technical assessments reported in the ES will be based on a series of detailed plans and overarching description of the Proposed Scheme, captured as part of the 'Development Specification' to be provided as part of the ES. The Development Specification will provide sufficient information to meet the requirements of the EIA Regulations and to inform the technical assessments undertaken as part of the EIA and reported in the ES.

Assessment Scenarios

2.31 The EIA will assess the likely effects arising from the Proposed Scheme, taking account of the site preparation / enabling works, earthworks, remediation and construction (as noted above, collectively referred to as 'construction') and operational stages.

2.32 The following scenarios will be assessed where relevant to the environmental topic (and likely significant effects):

- **Peak construction** – this will vary across environmental topics and will not be attributed to a specific year, rather it will be determined at what point the worst-case effect could occur. Each technical assessment will clearly define this within their respective technical assessment in the ES; and

- **Operation (2026)** – this will consider environmental effects associated with the completion and full operation of the Proposed Scheme.

2.33 All scenarios will be considered against the existing baseline conditions as defined above.

2.34 It should be noted that the assessment scenarios set out above are for purposes of the EIA only. For a number of standalone technical assessments (see **Table 2.3**), alternative or additional scenarios may be considered and / or required.

Level of Effect and Consideration of Significance

2.35 A stepped approach will be adopted to define effects for the construction and / or operational stages of the Proposed Scheme, as outlined below.

2.36 The method for assessing the level of effect varies between environmental topics but in principle will be based on:

- **The environmental sensitivity (or value / importance) of a receptor** – including aspects such as adaptability, tolerance to change or recoverability from a change; and

- **The magnitude of change from the baseline conditions** – including aspects such as probability / likelihood of occurrence, geographical extent, complexity, duration, frequency and reversibility (i.e. temporary or permanent).

2.37 Sensitivity (or value / importance) will be assessed on a scale of high, medium, low and negligible and the magnitude of change will be assessed on a scale of large, medium, small and negligible.

2.38 Where relevant, other factors such as feedback from stakeholders, relevant legislation, international / national / regional / local standards and guidance and the inter-relationship between effects will also be considered.

2.39 The interpretation and use of the above criteria / factors will be set out within each Technical Chapter of the ES.

2.40 The assignment of the level of effect will be based on professional judgement with the support of the matrix below (**Table 2.2**), which is seen as a tool to assist with the process. Whilst the matrix within **Table 2.2** provides ranges, this is to guide the competent expert and a definitive level of effect will be provided, where possible, for each effect.

Table 2.1: Matrix to support determining level of effect

Magnitude of change / impact	Sensitivity (or value / importance)			
	High	Medium	Low	Negligible
Large	Major	Moderate to Major	Minor to Moderate	Negligible
Medium	Moderate to Major	Moderate	Minor	Negligible
Small	Minor to Moderate	Minor	Negligible to Minor	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

2.41 As noted in **Table 2.2**, the following terms will be used to define the level of effects identified and these can be 'beneficial' or 'adverse':

- **Major effect** – where the Proposed Scheme is likely to cause a considerable change from the baseline conditions and the receptor has limited adaptability, tolerance or recoverability or is of the highest sensitivity;
- **Moderate effect** – where the Proposed Scheme is likely to cause either a considerable change from the baseline conditions at a receptor which has a degree of adaptability, tolerance or recoverability or a less than considerable change at a receptor that has limited adaptability, tolerance or recoverability;
- **Minor effect** – where the Proposed Scheme is likely to cause a small, but noticeable change from the baseline conditions on a receptor which has limited adaptability, tolerance or recoverability or is of the highest sensitivity or a considerable change from the baseline conditions at a receptor which can adapt, is tolerant of the change and / or can recover from the change; and
- **Negligible** – where the Proposed Scheme is unlikely to cause a noticeable change at a receptor, despite its level of sensitivity or there is a considerable change at a receptor which is not considered sensitive to a change.

2.42 For some environmental topics, relevant guidance or the nature of the effect requires that differing criteria or scales for determining level of effect are to be used. For consistency within the ES, the final 'level of effect' will be reported using the terminology and conclusions set out above. This enables the conclusions of assessments across all environmental topics to be understood (for the decision-making process, along with allowing robust analysis and appraisal as part of the assessment of cumulative effects.

2.43 For each effect, a binary judgement will be made as to whether the effect is 'Significant' or 'Not Significant'. This determination will be based on professional judgement and / or relevant guidance and standards, where applicable. Significance

will only be concluded for residual effects (i.e. following the identification of secondary mitigation or enhancement).

2.44 Effects will also be described in line with the requirements of the EIA Regulations (i.e. as direct or indirect; short (up to 1 year), medium (1 to 10 years) or long-term (over 10 years); and permanent or temporary).

2.45 Summary of effect tables that outline the likely significant effects, receptors, residual level of effect and whether this is considered to be 'Significant' or 'Not Significant' will be provided at the end of each Technical Chapter within the ES.

2.46 Cumulative effects will be considered as a single co-ordinated assessment as outlined in **Chapter 13**.

Format of the ES

2.47 The ES will comprise four volumes:

- **Volume 1: Primary Report and Supporting Graphics;**
- **Volume 2: Technical Appendices; and**
- **Volume 3: Environmental Management Plan;** and
- **Volume 4: Non-Technical Summary**.

2.48 The proposed format and structures of the ES is provided in **Appendix 2.2**.

Competent Expertise

2.49 Regulation 18, Paragraph 5(a) of the EIA Regulations requires the ES to be prepared by competent experts.

2.50 The EIA will be led by Turley. IEMA has awarded Turley the EIA Quality Mark in recognition of our technical quality and commitment to improvement in practice.

2.51 All technical assessments within the EIA will be undertaken by a suitably qualified project team, inclusive of a thorough technical review to assure technical credibility, followed by a subsequent procedural review by the EIA co-ordination team and EIA Project Director.

2.52 In line with the EIA Regulations, all contributors to the EIA are competent experts in EIA and this will be demonstrated in the ES with an overview of each key expert's qualifications, professional accreditations and experience.

Interaction of the ES with Other Documents and Plans

2.53 The Application and ES will be accompanied by a number of documents, some of which will inform the ES and therefore should be read in conjunction with the ES, whilst others will form standalone 'Application Documents' which provide a greater level of

detail of how the Proposed Scheme is likely to come forward or how it complies with policy. In addition, the ES will be supported by a range of technical appendices.

2.54 **Table 2.3** outlines the list of supporting documents, and whether they will form part of the ES.

Table 2.2: List of Anticipated Supporting Application Documents

Anticipated document title*	The report is required to support the ES and will either be appended or subsumed into an ES Chapter	The report will be provided as a standalone Application Document, though further detail is provided and should be read in conjunction with the ES[11]	There are no linkages between the ES and these Application Documents
Planning and Tall Building Statement			✓
Design and Access Statement		✓	
PBSA Assessment of Need			✓
Rights of Light Assessment		✓	
Blue Green Infrastructure Strategy		✓	
Waste Management Strategy		✓	
Broadband Connectivity Assessment			✓
TV Reception Survey			✓
Crime Impact Statement		✓	
Environmental Standards Statement		✓	
BREEAM Pre-Assessment Report		✓	
Circular Economy Statement		✓	

[11] Aspects which are committed to, which are part of the Proposed Scheme, will be outlined within the 'Development Specification' as part of the Proposed Scheme.

Anticipated document title*	The report is required to support the ES and will either be appended or subsumed into an ES Chapter	The report will be provided as a standalone Application Document, though further detail is provided and should be read in conjunction with the ES[11]	There are no linkages between the ES and these Application Documents
Facility Management Strategy			✓
Building Services Strategy			✓
Statement of Community Engagement		✓	
Fire Strategy Statement		✓	
Arboricultural Note		✓	
Overheating Study / Ventilation Strategy		✓	
Interim / Outline Construction Management Plan		✓	
Heritage Statement	✓		
Archaeological Desk-Based Assessment and Written Scheme of Investigation / Technical Note		✓	
Townscape and Visual Impact Assessment	✓		
Sunlight / Daylight Assessment	✓		
Wind Micro-climate Assessment	✓		
Noise and Vibration Impact Assessment	✓		
Air Quality Impact Assessment		✓	
Transport Assessment		✓	
Framework Travel Plan		✓	

Anticipated document title*	The report is required to support the ES and will either be appended or subsumed into an ES Chapter	The report will be provided as a standalone Application Document, though further detail is provided and should be read in conjunction with the ES[11]	There are no linkages between the ES and these Application Documents
Economic Impact Statement		✓	
Ground Investigation / Contaminated Land Reports		✓	
Detailed UXO Risk Assessment		✓	
Flood Risk Assessment and Drainage Strategy		✓	
Ecological Assessment		✓	

**Document titles are subject to change*

3. Site Context

Overview

3.1 This Chapter summarises the general location and setting of the Site. Technical baseline information is provided for each environmental topic in **Chapter 5** (for those topics for which no likely significant effects are identified) or in **Chapters 6 – 12** (for those topics where likely significant effects are identified at this stage).

Location and Setting

3.2 The Site is approximately 0.5ha and is bound by Vimto Park to the west, the Manchester Oxford Road-Manchester Piccadilly railway line to the south, the A6 London Road to the east, and Lambert House, Fairfield Hall and the Bulls Head pub to the north.

3.3 The Site is cleared of all buildings and trees, which has been implemented through the previous permission. Basement and piling works have also been implemented as part of the previous permission on Site. Additionally, previous archaeological investigations and ground remediation works have been undertaken as part of site enabling works, demolition and excavation.

3.4 The Site is currently accessed via Echo Street and Granby Row.

3.5 The wider surrounding area comprises; Manchester Piccadilly railway station to the east beyond A6 London Road, residential/commercial premises to the north, and a mix of residential, commercial and educational buildings to the south and west.

3.6 Historic mapping indicates that the Site was not occupied until the late 18th century. The Site was then occupied until the 1960's by a house and garden within the area of Chandos Hall, at which point the Site was cleared and redeveloped as student accommodation.

4. High Level Development Specification

Site

4.1 All temporary and permanent works will take place within the 'EIA Study Area Boundary' as defined on **Figure 1.1** and referred to as the 'Site'. The Site is approximately 0.5 hectares.

Overview of Site Preparation and Construction

4.2 Access during the enabling and construction stage will be from Echo Street and Granby Row, where road closures will be required.

4.3 In the event that contamination is identified, a programme of mitigation or remediation work will be carried out as part of the enabling works in line with a Remediation Strategy approved by the regulators and Manchester City Council (MCC).

4.4 The Site is already cleared, though some localised demolition to the existing foundations/pile caps may be required. Any natural seeding of vegetation that is present on Site since its clearance (currently limited to the edges of the Site) will be removed. Areas where rubbish has been dropped over time will also be cleared and cleaned with care. Root protection and temporary paving will be required to adjacent land in Vimto Park.

4.5 To obtain appropriate development plateau levels, it is anticipated there will be both areas where levels will reduce (areas of cut) and areas where level will increase (area of fill). At this stage it is assumed that there will be a requirement for surplus material to be transport off Site.

4.6 Local excavation and trenching works will be required to install services, drainage runs and foundations for structures. Any diversion or reinforcement of utilities will happen as part of the enabling works and any off-site works will be the responsibility of the utility provider.

4.7 The existing ground will be to be stripped and earthworks (excavation) undertaken to create a proposed basement area adjacent to Vimto Park (which will occupy approximately 3/5 of the Site). At this stage, it is anticipated excavation will be required to approximately +36.300, for a structural slab level of approximately +37.470.

4.8 There is already piling in place on Site. As a worst case at this stage whilst the foundations solution is developed, it is assumed that construction of the Proposed Scheme will require further piled foundations and remedial works to the existing foundations.

4.9 The proposed construction works will be carried out by a competent contractor that will comply with current legislation[12]. Furthermore, the proposed works will be carried out in accordance with current good environmental practice and guidance for construction. This will be captured by the Construction Environmental Management Plan (CEMP) for the project, the Contract Documents and method statements and risk assessments issued by the Contractor ahead of the works. The site security arrangements for the Proposed Scheme during the construction stage will be in line with the requirements set out in the Construction (Design and Management) Regulations 2015 and appropriate levels of security (personnel / CCTV) will be provided.

4.10 During construction, either a central compound and/or a number of satellite compounds will be required for the contractor and appointed subcontractors, located within the Site.

4.11 Construction working hours[13] (noisy work) will be 07:30 to 18:00 Monday to Friday; 08:30 to 14:00 on Saturday; and no noisy work on Sundays and Bank Holidays. Operations outside of these hours will be agreed with MCC.

Proposed Scheme

4.12 The Proposed Scheme is for up to 1,225 purpose built student accommodation units (Use Class Sui Generis).

4.13 Built form will be across three blocks which will be stepped in height, with height increasing away from Vimto Park to the west (up to the maximum height stated below).

4.14 The maximum building height on Site will be 28 storeys (excluding basement and platforms on roof) and 89.550m above the entrance level (which is at +41.300m AOD). The maximum height of the building will be at the top of the parapet, which will be up to +130.850m AOD.

4.15 Vehicular access will be from Echo Street. Pedestrian and cyclist access will be from Echo Street/Granby Row and Vimto Gardens.

4.16 As part of improvements to public realm, eight on street parking spaces will be provided along Granby Row, two of them being wheelchair accessible (down from 13 spaces at present). 610 private cycle spaces (covered and secure) will be provided. Short-term cycle spaces will also be provided at Sheffield stands within the public realm.

[12] This includes the Health and Safety at Work etc. Act 1974; the Control of Pollution Act 1974; and Construction (Design and Management) Regulations 2015.
[13] Manchester City Council. Tackle a noise problem – Noise from building sites. Available at: Noise from building sites | Tackle a noise problem | Manchester City Council [Accessed: 14/12/2022].

4.17 The basement will contain cycle parking, bin storage, generator, combined domestic water and sprinkler, and commercial sprinkler tank. There will be an access ramp into the basement.

4.18 The Proposed Scheme will be operational 24 hours a day/7 days a week.

4.19 Landscaping / open space will be provided in the private courtyards between the main blocks and the public realm surrounding the building (Granby Row and Echo Street). The works to the public realm focus on pedestrian use, including general resurfacing, with lowered kerbs, widening of the pavement and localized tree planting along Granby Row extending to the boundary with Vimto Park. The works to the courtyards will include multi stem shade tolerant species, on raised planters, complemented with lightweight furniture and catenary lights. In addition, one of the courtyards will provide means of escape from the central block, and feature a bike shed with a ramp leading to Echo Street.

4.20 The proposed surface water drainage will not increase the runoff rate and will include an allowance for climate change in accordance with relevant guidance[14]. Sustainable Drainage Systems (SuDS) will be incorporated into the surface water drainage network, in accordance with CIRIA 753 – The SuDS Manual[15] where practical.

4.21 All lighting installations will meet Institute of Lighting Professionals (ILP) Guidance Notes for the Reduction of Obtrusive Light 2021[16].

Timescales

4.22 Site preparation and construction of the Proposed Scheme is anticipated to commence in 2024, with the construction being completed over 2 years. The Proposed Scheme is anticipated to be fully operational in 2026, opening for the 2026/27 academic year.

[14] Flood risk assessments: climate change allowances (2022). Available at: Flood risk assessments: climate change allowances - GOV.UK (www.gov.uk)
[15] CIRIA (2015). The SuDS Manual C753. Available at: SuDS Manual C753 Chapter List (ciria.org)
[16] Institute for Lighting Professionals (2021). Guidance Note 01/21 for the Reduction of Obtrusive Light.

5. Environmental Topics which are Not to be Significant

Overview

5.1 As part of the EIA process and based on the information available to date, there are a number of environmental topics for which a further detailed assessment as part of the EIA is not justified and these topics (and related effects) will not be reported within the ES, as they are not considered to be significant.

5.2 For some technical topics which are proposed to be 'scoped out', a standalone application report will be prepared and submitted with the Application, though this is not the case for all topics. The anticipated application documents are set out in **Table 2.3**.

5.3 The environmental topics for which no likely significant environmental effects have been identified are:

- Archaeology;
- Biodiversity;
- Traffic and Access;
- Air Quality;
- Ground Conditions;
- Flood Risk, Drainage and Water Environment;
- Lighting;
- Waste;
- Major Accidents and/or Disasters; and
- TV Reception.

5.4 The environmental topics listed above are considered in turn below in this Chapter, with a factual evidence base provided. Where mitigation has been used to inform this judgement, the identified mitigation has been captured within the Preliminary Environmental Management Plan (EMP) provided in **Appendix 2.1**.

5.5 The other environmental topics outlined within this EIA Scoping Report also identify effects which are unlikely to be significant. These are reported in **Chapters 6 - 12**.

Archaeology

Technical Baseline

5.6 An archaeological desk-based assessment[17] was undertaken in 2017 to support the 2017 application[18]. Data for the archaeological desk-based assessment in 2017 was gathered for all heritage assets within the Site and a within a 250m buffer, from Historic England, the Manchester Historic Environment Record (HER) maintained by the Greater Manchester Archaeological Advisory Service (GMAAS), Manchester Central Library, and Lancashire County Record Office, and a site walkover (conducted at the time of the 2017 report). Whilst this section has been informed by the 2017 desk-based assessment, due to the nature of archaeological receptors, there is unlikely to be been any change. Furthermore, whilst the surrounding Echo Street and Granby Row are now included in the Site, these areas have been roads since the earliest historic mapping so it is unlikely that any remains would be located in these areas (intrusive works beyond surface level highways works are also not proposed in these areas). A full, up to date, desk-based assessment will be submitted with the Application.

5.7 The HER recorded 20 non-designated heritage assets within the study area. No non-designated heritage assets are recorded within or immediately adjacent to the Site.

5.8 Historic mapping indicates that the Site was not occupied until the late 18th century, when a house and garden are shown to be present. During the early 19th century, the house was subdivided into tenements, and workers housing, or 'back-to-backs', developed within the adjacent land. The Site was cleared and redeveloped as a student accommodation block (Chandos Hall) and 'depot' in the 1960s, later being used as a day nursery and garages.

5.9 It is likely the construction of Chandos Hall would have truncated any archaeological evidence from that part of the Site due to the ground floor of the building being lower than the existing ground level. It is also likely that heritage assets of archaeological interest relating to the 19th century workers housing were likely to survive within the area of the day nursery and garages, which had seen less truncation.

5.10 As a condition of planning consent for the 2017 application, an archaeological trial trench evaluation was conducted (**Appendix 5.1**)[19] during site clearance. The trial trench evaluation was undertaken in accordance with a written scheme of investigation (WSI) which had been approved by the Greater Manchester Archaeological Advisory Service (GMAAS), who also monitored the works on behalf of MCC.

5.11 The programme of evaluation trenching works comprised two trenches which were targeted on the footprint of the 18th and early 19th century buildings. Fragmentary structural remains of an 18th to 19th century building were recorded during the

[17] TEP (2017). *Echo Street, Manchester: Archaeological Desk-Based Assessment*, Document Ref 6441.001_v2.

[18] The Site extent in this Application has been expanded to include the surrounding Echo Street and Granby Row from what was considered in 2017.

[19] Note that this was for the 2017 application, so contains project related information that is superseded by this Proposed Scheme.

archaeological evaluation, which are considered to be of low archaeological interest. It was considered unlikely that further archaeological investigation would enhance understanding of the building and its development, and the Site had no potential to inform any of the research objectives for the industrial period as identified in the North West Regional Research Framework[20]. The evaluation also demonstrated that those remains of the most archaeological interest, including the workers housing, had been completely removed during the modern clearance of the Site.

Proposed Scope of Assessment

5.12 The below sets out the proposed scope of assessment based on an understanding of the characteristics of the Site, surrounding area and the Proposed Scheme (**Chapter 4**). Where environmental effects are considered unlikely to be significant, an appropriate evidence base has been provided to justify the 'scoping out' of these effects ensuring the EIA and ES only assess those effects considered 'likely' to be significant.

Effects Unlikely / Not Significant

5.13 Based on the technical baseline and understanding of the Proposed Scheme (**Chapter 4**), the following effects are considered unlikely to be significant and therefore will not be considered further within the EIA or reported in the ES. A factual evidence base has been provided below to support this. Where mitigation has been used to inform this judgement, the identified mitigation has been captured within the Preliminary Environmental Management Plan (EMP) provided in **Appendix 2.1**.

Impact on archaeological remains [surviving 18th century building fragments]

5.14 Direct effects of the Proposed Scheme may arise from construction of the proposed building and associated groundworks. Construction activities are likely to result in direct impacts on archaeology where intrusive ground works interact with known or potential archaeological deposits.

5.15 The previous archaeological evaluation has shown that the archaeological resource within the Site is comprised of structural remains associated with the 18th to 20th century development of the Site. No earlier activity was recorded.

5.16 A brick wall and associated floor were recorded and represent the earliest archaeological remains at the Site. It was concluded that these remains corresponded with the footprint of the large 18th century house seen on historic mapping.

5.17 A brick-built well was also recorded, which appeared to be typical of 18th to 19th century domestic wells.

5.18 There were also fragments of a terraced house revealed in the Site, and it was assessed that these remains likely formed part of a cellar, their depth explaining the reason for their survival.

5.19 The mid-20th century redevelopment of the Site was evidenced to have destroyed most of the earlier buildings completely. The absence of evidence for the back-back housing implies that they did not have cellars.

[20] North West Regional Research Framework (2020). Available at: https://researchframeworks.org/nwrf/ [Accessed 12/01/23].

5.20 The survey confirmed that modern development within the Site resulted in considerable truncation of any earlier archaeological remains. It is considered that the Site has a low potential for archaeological remains pre-dating the 18th century and any such remains are likely to be of low heritage significance which would not require any mitigation, and piles are now in place across the Site.

5.21 Therefore, the impact on archaeological remains to the surviving 18th century building fragments is not considered to be significant and will not be considered further in the EIA or reported in the ES. These impacts (which are not considered to be significant) will be set out in a desk-based assessment to be submitted as part of the Application. No further survey work or mitigation is expected to be required.

Biodiversity

Technical Baseline

5.22 A Preliminary Ecological Appraisal (PEA) of the Site was completed by Penny Anderson Associates Ltd (PAA) on 18th January 2023. The PEA comprised a Phase 1 Habitat survey (JNCC 2010[21]) to map and describe any habitats within the Site and to compile a botanical species list using the 'DAFOR' (Dominant/ Abundant/ Frequent/ Occasional/ Rare) to describe relative abundance. The Phase 1 Habitat survey was 'extended' (IEA 1995[22]) to identify evidence of, or potential for, notable and protected species. The field survey was supplemented with a desk based study to obtain existing data for locally designated sites and protected/notable species within a 2km search area from the Site centroid. This data was requested from the Greater Manchester Ecology Unit (GMEU) in January 2023. Web based resources comprising the Defra Multi-Agency Geographic Information for the Countryside (MAGIC) database was also consulted for details of statutory designated sites, Priority Habitats within a 2km search zone and European Protected Species Licences within a 1km search zone. The desk study search distances are considered appropriate for the scale and type of development.

5.23 The results of the PEA are presented in a stand-alone report provided at **Appendix 5.2**.

5.24 In summary, the desk study confirms that there are no statutory designated sites within the desk study search zone. The Ashton Canal Site of Biological Importance (SBI) and Rochdale Canal Stott's Lane to Ducie Basin SBI are located approximately 370m – 390m, respectively, to the northeast of the Site at the nearest point and separated from the Site by existing urban development with no habitat connectivity.

5.25 Protected and notable species records within the desk study search area are summarised below:

- Badger – nearest record is 1.4km from the Site; details are confidential;
- Otter – three records dating 2013-2022, approximately 1.6km west of the Site and associated with Castlefield Canal;

[21] Joint Nature Conservation Committee (2010). Phase 1 Habitat Survey.
[22] Institute for Environmental Assessment (1995).

- Bats – a large number of roost records, with those nearest to the Site comprising mainly common pipistrelle and occasionally soprano pipistrelle, noctule and Myotis sp. (the closest known roost is for a Myotis sp. approximately 270m east). There are no bat roost records within or immediately adjacent to the Site;

- European hedgehog – 17 records dating from 2012-2020, the nearest being 420m northeast of the Site;

- Birds – a large number of records within the search area including black redstart, peregrine, kingfisher, dunnock and yellow wagtail within approximately 500m, of which dunnock was recorded on or adjacent to the Site;

- Invertebrates – cinnabar moth and white letter hairstreak dated 2012-2019 and located 500m and 1.5km northeast, respectively; and

- Notable plants – bee orchid dating from 2016-2022 170m to the east and floating water plantain dated 2001, located 1.1km north east.

5.26 There were no desk study records for water vole, white clawed crayfish, amphibians or reptiles.

5.27 The field survey identified that the Site comprises recently cleared hardstanding with small patches of species-poor ephemeral/short perennial vegetation and scattered Buddleia shrubs becoming established, mainly at the edges of the Site. Consideration has been given to the potential for the Site to support black redstart which is known to use brownfield sites in Manchester for nesting and foraging. In this instance, the Site is considered to small and lacking in suitable features such as ledges for roosting/nesting to be suitable for black redstart. There are no other features within the Site that could be used by protected or notable species (including those which are known to be present in the wider area such as hedgehog, bats, breeding birds and notable terrestrial invertebrates) and the Site is assessed as being of negligible ecological value. No further ecological surveys are required.

5.28 There are a number of urban parks located to the east and south of the Site, including Vimto Park immediately to the east, which provide green infrastructure in the wider area.

Proposed Scope of Assessment

5.29 The below sets out the proposed scope of assessment based on an understanding of the characteristics of the Site, surrounding area and the Proposed Scheme (**Chapter 4**). Where environmental effects are considered unlikely to be significant, an appropriate evidence base has been provided to justify the 'scoping out' of these effects ensuring the EIA and ES only assess those effects considered 'likely' to be significant.

Effects Unlikely / Not Significant

5.30 Based on the technical baseline and understanding of the Proposed Scheme (**Chapter 4**), the following effects are considered unlikely to be significant and therefore will not be considered further within the EIA or reported in the ES. A factual evidence base has been provided below to support this. Where mitigation has been used to inform this

judgement, the identified mitigation has been captured within the Preliminary Environmental Management Plan (EMP) provided in **Appendix 2.1**.

Harm / disturbance from Site clearance and construction activities [habitats and species]

5.31 Site clearance and construction will have no effect on biodiversity. This is due to the lack of any features of ecological value within the Site. A separate PEA has been prepared and is provided in **Appendix 5.2**, and confirms the lack of ecological features within the Site.

5.32 Therefore, site clearance and construction is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Landscape and habitat creation [habitats and species]

5.33 The inclusion of native and/or wildlife friendly planting to create new habitats as part of the Proposed Scheme has the potential to enhance biodiversity and contribute to the wider green infrastructure network. The new habitats will encourage wildlife, particularly invertebrates, birds and foraging bats, and facilitate the movement of these species between the Site and other greenspace within the wider area. The extent, type and condition of new habitats will be input to the Defra biodiversity net gain (BNG) metric Version 3.1 to calculate the net gain in habitat units, and the results will be presented in a BNG report. A copy of the metric will be included with the BNG report and submitted in support of the Application (as a stand alone application document).

5.34 Therefore, landscape and habitat creation is considered likely to have beneficial effect. Due to the relatively small scale of the Site, the magnitude of effect is anticipated to be minor beneficial and is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Traffic and Access

Technical Baseline

5.35 In line with the previous environmental reporting for transport in 2017, the study area encompasses the following highway links:

- A57(M) Mancunian Way;
- A6 London Road;
- B6460 Fairfield Street;
- Sackville Street;
- Whitworth Street; and
- Aytoun Street.

5.36 Baseline information has been collected through on-site observation and desk-based studies.

5.37 A series of on-site observations have been undertaken to establish the current characteristics of the existing highway network in the vicinity of the Site. The highway layout is fundamentally unchanged since the time of the previous environmental assessment that was undertaken in support of the 2017 application.

5.38 Traffic flows on the surrounding highway network have been reviewed making reference to Department for Transport (DfT) traffic data available from their Road Traffic Statistics website[23].

5.39 This review of traffic flows shows that annual average daily traffic flows have decreased since 2017. This reduction in traffic levels in the city centre is also evidenced through the Transport for Greater Manchester Key Centre Monitoring database, which shows that traffic levels entering the City Centre in 2021 were lower than those in 2017[24].

5.40 Some of this will be the result of the Covid-19 pandemic lockdowns that restricted movement in 2020 and 2021 however some is also likely to reflect a longer-term trend of increased home working and greater use of sustainable transport for access to the city centre.

5.41 For the assessment in 2017, traffic data was obtained from the TfGM traffic model of Greater Manchester. Using the DfT traffic data, those flows have been factored to 2022 to give the baseline flows shown in **Table 5.1**, and referenced in **Figure 5.1**:

Table 5.1: Baseline Annual Average Daily Traffic Flows

Link	AADT
A: A57(M)	49486
B: A6 London Road	14945
C: Fairfield Street	14165
D: Sackville Street	4851
E: Whitworth Street	15954
F: Aytoun Street	5178

5.42 A review of highway safety has been undertaken via reference to the TfGM accident database[25] and this shows that during the most recent 5-year period for which data is available (up to June 2022), there have been no accidents on the streets adjacent to

[23] Department for Transport. Road traffic statistics. Available at: https://roadtraffic.dft.gov.uk/#6/55.254/-6.053/basemap-regions-countpoints [Accessed: 23/01/2023].
[24] Transport for Greater Manchester/ Highways Forecasting and Analytical Services. Available at: Highways Forecasting and Analytical Services - Reports (gmtu.gov.uk) [Accessed: 23/01/2023].
[25] https://www.gmtu.gov.uk/gmaccidents/#

the Site including Granby Road and Echo Street, and no accident clusters in the wider area.

5.43 The sensitive receptors within this study area have been identified as follows:

- Drivers on the A57(M) Mancunian Way;
- Drivers on the A6 London Road;
- Drivers on Fairfield, Whitworth, Aytoun and Sackville Street;
- Bus users on A6 and B6460 corridors; and
- Pedestrians / cyclists on A6 and B6360 corridors.

5.44 The Site is currently cleared, in association with works implemented under the 2017 application, therefore the current arrangement of the Site generates no traffic.

5.45 The city centre location of the Site means that there are excellent sustainable transport links including Piccadilly Rail Station within a 5 minute walk, a range of bus services and good levels of walking and cycling infrastructure.

Proposed Scope of Assessment

5.46 The below sets out the proposed scope of assessment based on an understanding of the characteristics of the Site, surrounding area and the Proposed Scheme (**Chapter 4**). Where environmental effects are considered unlikely to be significant, an appropriate evidence base has been provided to justify the 'scoping out' of these effects ensuring the EIA and ES only assess those effects considered 'likely' to be significant.

Effects Unlikely / Not Significant

5.47 Based on the technical baseline and understanding of the Proposed Scheme (**Chapter 4**), the following effects are considered unlikely to be significant and therefore will not be considered further within the EIA or reported in the ES. A factual evidence base has been provided below to support this. Where mitigation has been used to inform this judgement, the identified mitigation has been captured within the Preliminary Environmental Management Plan (EMP) provided in **Appendix 2.1**.

5.48 To inform this scoping assessment it is noted that the Proposed Scheme will provide no new on-site car parking and is located in close proximity to a wide range of frequent public transport services. The existing public on-street parking bays on Granby Row (which forms part of the Site boundary at **Figure 1.1**) will be reduced in number from 13 to 8 as part of the Proposed Scheme public realm works and two of the spaces will become disabled persons parking spaces. The Proposed Scheme is therefore forecast to generate very limited traffic flows, with those generated being associated primarily with servicing and delivery activity, taxis etc. This traffic has been forecast using the TRICS trip rate database and it is expected that the Proposed Scheme could generate in the order of 60-70 vehicles per day as a reasonable worst-case scenario, including one Heavy Goods Vehicle (HGV).

5.49 There may be additional traffic movements on specific days of the year when students arrive / depart at the beginning and end of term. The Applicant will have a management plan in place on these days to help control the movement of vehicles around the area to minimise the potential for any disruption to the operation of the highway. Such a strategy is already in place for the student accommodation opposite the Site that is also operated by the Applicant, and is effective in managing this activity.

5.50 Equally there will be times of the year where the Proposed Scheme will not be fully occupied, as many students will return home during holiday periods outside of term time. The level of vehicle activity generated by the Proposed Scheme during these times would be less than the forecast 60-70 vehicles per day, which is based on a full-occupancy scenario.

5.51 The 60-70 vehicles per day forecast is therefore a reasonable worst case in terms of accounting for the small number of days associated with the beginning and end of terms where activity is increased and the greater number of days during holiday periods where activity will be reduced.

5.52 Construction traffic has also been forecast and this is expected to be below 100 vehicle movements per day. The daily movements of Articulated HGVs could be expected to vary between 2 and 6 articulated HGVs per day, for certain phases of construction, for limited periods. The daily movement of construction vehicles can typically occur over a 10-12 hour period but the timeframe may extend depending on the type of activity occurring on site. In general, the strategy is to avoid vehicle activity during weekday peak traffic periods (0800-0900 and 1700-1800).

5.53 This construction traffic forecast is preliminary given that the details of construction traffic requirements will only be known once a contractor is appointed to undertake construction, however a robust approach has been taken as the forecasts have been based upon those used for a residential tower development in London (One Lansdowne Road, Croydon). This is a larger scheme than that proposed, involving the demolition of circa. 12,500 sq.m of development including a 9 storey tower block, 5 storey hotel and a 6 storey office block and the construction of two residential towers of 50 and 20 storeys. The development is therefore reasonably analogous to the Proposed Scheme albeit it is considerably larger than the Proposed Scheme and therefore the use of these figures can be viewed as a robust assessment.

5.54 Taking into account the forecasts of construction and operational phase traffic, the likely effect of any additional traffic generated by the Proposed Scheme upon the operation of the surrounding highway network in capacity terms is therefore negligible.

Driver delay as a result of construction stage traffic and/or operational stage traffic [drivers on the A57(M), A6 London Road, Fairfield Street, Aytoun and Sackville Street]

5.55 The traffic generated by the Proposed Scheme has the potential to affect the operation of the surrounding highway network in terms of driver delay, both in the construction and operational stage of development. The IEMA Guidelines for the Environmental Assessment of Road Traffic[26] set out the broad principles of how to assess the

[26] Institute of Environmental Management & Assessment (IEMA) (1993). Guidelines for the Environmental Assessment of Road Traffic.

magnitude of effect for driver delay, stating that such delays "*are only likely to be significant when the traffic on the network surrounding the development is already at, or close to, the capacity of the system*".

5.56 Based upon the forecast operational stage and construction stage traffic movements generated by the Proposed Scheme, the likely effect of any additional traffic generated by the Proposed Scheme upon the operation of the surrounding highway network in capacity terms is negligible and the surrounding highway network is not at or close to being at capacity. For example, the weekday peak hour traffic movements during the operational stage are forecast at one vehicle arrival and one departure in the morning peak hour and four arrivals and four departures in the evening peak hour. Such movements would have an imperceptible effect upon highway operation and driver delay on the surrounding highway network, for example representing a less than 1% change in traffic on Fairfield Street, robustly assuming all of the vehicle trips routed along this road on their arrival and departure journey.

5.57 Therefore, driver delay to drivers on the A57(M), A6 London Road, Fairfield Street, Aytoun and Sackville Street is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Severance as a result of construction stage traffic and/or operational stage traffic [pedestrians / cyclists on A6 and B6460 corridors]

5.58 The IEMA Guidelines for the Environmental Assessment of Road Traffic sets out that changes in traffic flow of 30%, 60% and 90% are regarded as producing 'slight', 'moderate' and 'substantial' changes in severance respectively. The change in traffic as a result of the Proposed Scheme will be below 30% on any link therefore there will be no perceptible effect upon severance. For example there would be a less than 1% change in traffic on Fairfield Street in the operational stage, robustly assuming all of the vehicle trips routed along this road on their arrival and departure journey, and a less than 2% change in traffic during the construction stage, again robustly assuming that all construction traffic routed along Fairfield Street on their arrival and departure journeys.

5.59 Therefore, severance to pedestrians / cyclists on the A6 and B6460 corridors is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Pedestrian delay as a result of construction stage traffic and/or operational stage traffic [pedestrians on A6 and B6460 corridors]

5.60 The IEMA Guidelines for the Environmental Assessment of Road Traffic sets out that changes in the composition or speed of the traffic may affect the ability of people to cross the roads. The guidance suggests that assessors use their judgement to determine whether pedestrian delay is a significant impact. The change in traffic as a result of the Proposed Scheme will not significantly change the composition or speed of traffic on the surrounding highway network due to the limited number of additional vehicles. The construction traffic is expected to comprise of some HGVs for limited periods during the construction period. There will be a Construction Environmental Management Plan (CEMP) in place for the construction period and this will provide a mechanism for managing construction traffic in the area, seeking to minimise the

potential for disruption to other road users through measures such as vehicle booking systems. Therefore there will be no perceptible effect upon pedestrian delay.

5.61 Therefore, delay to pedestrians on the A6 and B6460 corridors is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Pedestrian amenity as a result of construction stage traffic and/or operational stage traffic [pedestrians on A6 and B6460 corridors]

5.62 The IEMA Guidelines for the Environmental Assessment of Road Traffic sets out that pedestrian amenity is affected by traffic flow, traffic composition and pavement width / separation from traffic. The guidance suggests a tentative threshold for judging the significance of changes in pedestrian amenity of where traffic flow (or its lorry component) is halved or doubled. The change in traffic as a result of the Proposed Scheme will not significantly change the flow or composition of traffic on the surrounding highway network due to the limited number of additional vehicles generated and the low numbers of Heavy Goods Vehicles (HGVs) comprising the forecast Development Scheme traffic. The construction traffic is expected to comprise of some HGVs for limited periods during the construction period. There will be a Construction Environmental Management Plan (CEMP) in place for the construction period and this will provide a mechanism for managing construction traffic in the area, seeking to minimise the potential for disruption to other road users through measures such as vehicle booking systems. There would also be no effect upon pedestrian separation from traffic, and therefore there will be no perceptible effect upon pedestrian amenity.

5.63 Therefore, pedestrian amenity for pedestrians on the A6 and B6460 corridors is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Fear and intimidation as a result of construction stage traffic and/or operational stage traffic [pedestrians / cyclists on A6 and B6460 corridors]

5.64 The impact of this is dependent upon the volume of traffic, its HGV composition, its proximity to people, or the lack of protection caused by such factors as narrow pavement width. The change in traffic as a result of the Proposed Scheme will not significantly change the flow or composition of traffic on the surrounding highway network in the construction or operational phase. The construction traffic is expected to comprise of some HGVs for limited periods during the construction period. There will be a Construction Environmental Management Plan (CEMP) in place for the construction period and this will provide a mechanism for managing construction traffic in the area, seeking to minimise the potential for disruption to other road users through measures such as vehicle booking systems. The change in traffic as a result of the Proposed Scheme during construction and operational phase will not affect pedestrian separation from traffic, and therefore there will be no perceptible effect upon fear and intimidation.

5.65 Therefore, fear and intimidation for pedestrians / cyclists on the A6 and B6460 corridors is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Accidents and safety as a result of construction stage traffic and/or operational stage traffic [bus users and pedestrians / cyclists on A6 and B6460 corridors, drivers on the A57(M), A6 London Road, Fairfield Street, Aytoun and Sackville Street]

5.66 The IEMA Guidance suggests that professional judgement will be needed to assess the implications of local circumstances, or factors, which may elevate or lessen risks of accidents e.g. junction conflicts.

5.67 The forecast operational and construction stage traffic flows are not significant in the context of existing traffic flows on the surrounding highway network and will not present any significant change to the safety of highway users in the area. The review of highway safety for the surrounding roads described in the Technical Baseline section of this chapter shows that there is no evidence of highway safety issues on the roads adjacent to the Site nor any accident clusters in the wider area that would cause particular concern in the context of the Proposed Scheme. The construction traffic is expected to comprise of some HGVs for limited periods during the construction period. There will be a Construction Environmental Management Plan (CEMP) in place for the construction period and this will provide a mechanism for managing construction traffic in the area, seeking to minimise the potential for disruption to other road users through measures such as vehicle booking systems.

5.68 Therefore, accidents and safety for bus users and pedestrians / cyclists on A6 and B6460 corridors, drivers on the A57(M), A6 London Road, Fairfield Street, Aytoun and Sackville Street is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Limitations and Assumptions

5.69 To ensure transparency within the EIA process, the following limitations and assumptions have been identified:

- There will be no car parking provided on-site, with the vast majority of residents assumed to live car-free, although some may choose to keep a car in an off-site car park. The existing public on-street parking bays on Granby Row will be reduced in number from 13 to 8 as part of the Proposed Scheme public realm works and two of the spaces will become disabled persons parking spaces.

- Vehicle trips generated to the Site during the operational stage will therefore be limited to the activity generated by servicing / delivery vehicles and drop-off / pick-up activity.

- Operational stage traffic forecasts have been based upon a development of 1,462 residents, which is a robust scenario assuming that 40% of the studio apartments are dual occupied. In practice, the proportion of dual occupancy units is likely to be lower than this.

- At the time of writing, there are no forecasts of daily construction traffic movements available for the Proposed Scheme, therefore construction traffic forecasts have been based on those used for a residential tower development in London (One Lansdowne Road, Croydon). This is a larger scheme than that proposed, involving the demolition of circa. 12,500 sq.m of development including a 9 storey tower block, 5 storey hotel and a 6 storey office block and

the construction of two residential towers of 50 and 20 storeys. The development is therefore reasonably analogous to the Proposed Scheme albeit it is considerably larger than the Proposed Scheme and therefore the use of these figures can be viewed as a robust assessment.

Air Quality

Technical Baseline

5.70 A review of existing air quality information relating to pollutants of interest, nitrogen dioxide (NO_2) and particulate matter (PM_{10} and $PM_{2.5}$), has been completed. Background concentrations of NO_2, PM_{10} and $PM_{2.5}$ have been obtained from the Defra background maps[27]. Data has also been gathered from the 2021 Annual Status Report for Greater Manchester[28] which includes data from Manchester City Council (MCC) automatic monitoring stations for NO_2, PM_{10} and $PM_{2.5}$. The results, collated by Clean Air Greater Manchester[29], of NO_2 monitoring carried out close to the Site using diffusion tubes have also been reviewed. The location of areas of known poor air quality, in particular Air Quality Management Areas (AQMA), close to the study area have been identified using the Department of Environment Food and Rural Affairs (Defra) interactive map[30].

Defra Background Maps

5.71 The background maps provided by Defra[1] provide predicted background concentrations for NO_2, PM_{10} and $PM_{2.5}$. Predicted concentrations for 2019 and 2023 are shown in **Table 5.2.**

Table 5.2: Defra Background Levels of Pollutants

OS grid Reference	2019			2023		
	NO_2 ($\mu g/m^3$)	PM_{10} ($\mu g/m^3$)[j]	$PM_{2.5}$ ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)	PM_{10} ($\mu g/m^3$)[j]	$PM_{2.5}$ ($\mu g/m^3$)
384500, 397500	28.25	14.38	9.13	23.95	13.67	8.64
384500, 398500	29.31	13.60	8.78	25.53	12.92	8.29

5.72 Predicted background levels for 2019 have been included in **Table 5.2** to allow comparison with MCC monitoring for that year to be completed. Comparison with

[27] Defra (2018). Background pollution concentration maps, Available at Background Mapping data for local authorities - 2018 - Defra, UK [Accessed 17/1/2023].
[28] GMCA (2022). 2021 Air Quality Annual Status Report for Greater Manchester, Available at GM_Air_Quality_Annual_Status_Report_2021pdf.pdf (ctfassets.net) accessed 17.1.2023
[29] GMCA diffusion tube monitoring results Diffusion Tubes | Clean Air Greater Manchester (cleanairgm.com) [Accessed 17/1/2023].
[30] Defra AQMA Maps Available at AQMAs interactive map (defra.gov.uk) [Accessed 17/1/2023].

2020 and 2021 would be flawed as the Covid-19 pandemic resulted in lower traffic flows than expected in these years. Hence predicted background levels for those years would be an overestimate.

Local Authority NO_2 Monitoring

5.73 The locations of automatic monitoring stations and diffusion tubes used by MCC to monitor NO_2 within 750 of the Site are shown in **Figure 5.2.** The results from these sites are shown below in **Table 5.3** and **Table 5.4**.

Table 5.3: Local Authority NO_2 Automatic Monitoring Station Results

Site ID	Type of site	OS Grid reference	Level of nitrogen dioxide (µg/m^3)				
			2017	2018	2019	2020	2021
Oxford Rd	Kerbside	384233, 397287	**65**	**62**	**59**	36	**44**
Manchester Piccadilly	Urban centre	384310, 398337	36	35	36	27	30

**the annual air quality objective for NO_2 is 40 µg/m^3*

Table 5.4: Local Authority NO_2 Diffusion Tube Results

Site ID	Type of site	OS Grid reference	Level of nitrogen dioxide (µg/m^3)				
			2017	2018	2019	2020	2021
MAN72 Lockton Close	Urban background	384761, 397384	34.6	33.4	32.8	24.5	27.5
MAN82-MAN 84 Oxford Rd co-located tubes	Roadside	384239, 397276	**56.2**	**54.0**	**52.0**	33.9	**40.7**
MAN59-61 Manchester Piccadilly co-located tubes	Urban background	384310, 398337	35.7	31.6	33.1	22.3	24.6
MAN29 A	Roadside	384119, 397503	**57.7**	**58.8**	**55.4**	39.0	**44.8**

**the annual air quality objective for NO_2 is 40 µg/m^3*

5.74 Monitoring by MCC indicates that annual average levels of NO_2 range from below the annual average air quality objective to well above it depending on proximity to road traffic emissions. 2020 results show the impact of Covid-19 and reduced traffic flows. In 2021, when lockdown restrictions began to be lifted in earnest, concentrations increased at all sites, although did not rise as high as concentrations measured in 2019.

Local Authority PM_{10} and $PM_{2.5}$ Monitoring

5.75 The locations of automatic monitoring stations used by MCC to monitor PM_{10} and $PM_{2.5}$ are also shown in **Figure 5.2.** The results from these sites are shown in **Table 5.5** and **Table 5.6.**

Table 5.5: Local Authority PM_{10} Automatic Monitoring Station Results

Site ID	Type of site	OS Grid reference	Level of PM_{10} ($\mu g/m^3$)				
			2017	2018	2019	2020	2021
Oxford Rd	Kerbside	384233, 397287	27	30	26	18	18
Manchester Piccadilly	Urban centre	384310, 398337	20	21	20	15	15

**the annual air quality objective for PM_{10} is 40 $\mu g/m^3$*

Table 5.6: Local Authority $PM_{2.5}$ Automatic Monitoring Station Results

Site ID	Type of site	OS Grid reference	Level of $PM_{2.5}$ ($\mu g/m^3$)				
			2017	2018	2019	2020	2021
Manchester Piccadilly	Urban centre	384310, 398337	8	11	12	8	9

**the annual mean target for $PM_{2.5}$ is $\mu g/m^3$*

5.76 Monitoring by MCC indicates that annual average levels of PM_{10} are well below the relevant annual air quality objective, even at the kerbside site located in Oxford Road, and that the general trend indicates decreasing concentrations since 2018.

5.77 Monitoring also indicates that annual average levels of $PM_{2.5}$ are below the Government's recently proposed annual mean target of 10 $\mu g/m^3$ to be met across England by 2040.

5.78 NO_2, PM_{10} and $PM_{2.5}$ levels measured by MCC at Manchester Piccadilly Automatic Station, shown in **Table 5.4**, **Table 5.5** and **Table 5.6,** are higher than those predicted by Defra background maps for the relevant grid square (384500, 398500). Similarly, NO_2 PM_{10} and $PM_{2.5}$ levels measured by MCC at Oxford Road Automatic Station are higher than those predicted by Defra background maps for the relevant grid square (384500, 397500). This is due to both stations being close to road traffic sources. Manchester Piccadilly co-located tubes, MAN59-61, are identified as 'urban background' in the 2021 Annual Status Report for Greater Manchester[28], but will be similarly affected by road traffic emissions and, thus, are not deemed to be representative of background concentrations at and around the Site.

Location of Air Quality Management Areas

5.79 The study area is located within the Manchester AQMA, designated due to likely exceedances of an annual mean NO_2 level of 35 micrograms per cubic metre ($\mu g/m^3$). This objective is more stringent than the annual mean objective of 40 $\mu g/m^3$ specified

in the Air Quality (England) Regulations 2000 (as amended)[31]. The location of the AQMA and its relationship to the Proposed Scheme and the study area is shown in **Figure 5.2.**

Summary of Existing Baseline Conditions

5.80 Baseline conditions in relation to NO_2 indicate that annual average levels of the pollutant are high close to busy kerbside locations but lie below the relevant air quality objectives at less trafficked locations such as the Site. Annual average levels of PM_{10} are well below the relevant annual air quality objective, even at the kerbside site located on Oxford Road. Annual average levels of $PM_{2.5}$ have been below the Government's proposed annual mean target concentration for the last two years.

Proposed Scope of Assessment

5.81 The below sets out the proposed scope of assessment based on an understanding of the characteristics of the Site, surrounding area and the Proposed Scheme (**Chapter 4**). Where environmental effects are considered unlikely to be significant, an appropriate evidence base has been provided to justify the 'scoping out' of these effects ensuring the EIA and ES only assess those effects considered 'likely' to be significant.

5.82 Consideration has been given to MCC's air quality guidance[32] in preparing this scope and will be considered within the EIA when considering air quality mitigation as part of the Environmental Management Plan.

Effects Unlikely / Not Significant

5.83 Based on the technical baseline and understanding of the Proposed Scheme (**Chapter 4**), the following effects are considered unlikely to be significant and therefore will not be considered further within the EIA or reported in the ES. A factual evidence base has been provided below to support this. Where mitigation has been used to inform this judgement, the identified mitigation has been captured within the Preliminary Environmental Management Plan (EMP) provided in **Appendix 2.1**.

Changes to local air quality as a result of emissions from construction traffic [existing human receptors adjacent to roads used by construction traffic]

5.84 Emissions from road traffic associated with the construction stage of the Proposed Scheme have been considered in relation to impacts on local air quality. It is anticipated that, as with the 2017 application, most traffic and deliveries to the Site will arrive from the A6 and Fairfield Street, with access via the main entrance at Back Acton Street and egress via the main exit at Cobourg Street ie there will be a one-way system in place close to the Site.

5.85 In terms of traffic generation during the construction stage, the transport consultant for the project, Vectos, confirm that the form/mass of the Proposed Scheme is similar to the 2017 application and thus the construction programme and associated traffic generation is likely to be similar. Construction traffic has been forecast for the

[31] HMSO (2000). Air Quality (England) Regulations 2000 (as amended) Available at The Air Quality (England) Regulations 2000 (legislation.gov.uk) [Accessed 17/1/2023].
[32] MCC (august 2022) Air Quality & Planning Technical Guidance Available at Information for developers | Manchester City Council [Accessed 03/02/2023].

Proposed Scheme using the TRICS trip rate database and this is expected to be below 100 vehicle movements per day. EPUK and IAQM guidance[33] indicates that the likely effects of traffic generated during the construction stage of the Proposed Scheme on local air quality will not, therefore, be significant.

5.86 Therefore, the changes to local air quality as a result of emissions from construction traffic to human receptors close to roads along which development construction traffic will travel are not considered to be significant and will not be considered further in the EIA or reported in the ES.

Changes to local air quality as a result of emissions from construction related non-road mobile machinery [existing human receptors adjacent to the Site]

5.87 Emissions from non-road mobile machinery (NRMM) associated with the construction stage of the Proposed Scheme have been considered in relation to impacts on local air quality. These emissions would be controlled through the implementation of a CEMP which could include measures such as the use of emission standards for NRMM based on engine size. These tertiary mitigation measures would be considered an integral part of the Proposed Scheme and considered as part of the Environmental Management Plan

5.88 Therefore, the changes to local air quality as a result of emissions from construction related non-road mobile machinery to human receptors adjacent to the Site is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Nuisance and disturbance as a result of dust from construction activities [existing human receptors located within 100m of the Proposed Scheme]

5.89 Construction activities have the potential to result in nuisance and or adverse health effects due to dust deposition arising from on-site construction activities, resulting in the soiling of surfaces; visible dust plumes and elevated PM_{10} concentrations because of dust generating activities on-site. It is anticipated that dust and particulate matter emission produced during construction activities would be controlled through the implementation of a CEMP. This CEMP will be informed by Institute of Air Quality Management (IAQM) guidance[34] and would include prevention measures, such as screening stockpiles of materials, deployment of windbreak netting and dampening exposed soils as appropriate and set out requirements for ongoing monitoring and liaison with the local community, and MCC. These tertiary mitigation measures would be considered an integral part of the Proposed Scheme and considered as part of the Environmental Management Plan. An example of a mitigation measure that would be implemented is "*Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken*".

[33] EPUK and IAQM (January 2017). Land Use Planning and Development Control: Planning for Air Quality (v1.2), Available at air-quality-planning-guidance.pdf (iaqm.co.uk) [Accessed 17/1/2023].

[34] IAQM (2014). Assessment of dust from demolition and construction v1.1 Available at construction-dust-2014.pdf (iaqm.co.uk) [Accessed 17/1/2023].

5.90 Therefore, nuisance and disturbance as a result of dust from construction activities to existing residential receptors are not considered to be significant and will not be considered further in the EIA or reported in the ES.

Changes to local air quality as a result of emissions from operational traffic [existing human receptors located adjacent to roads along which operational road traffic travels]

5.91 Emissions from road traffic associated with the operational stage of the Proposed Scheme have the potential to have a significant impact on local air quality. However, the Proposed Scheme will provide only 8 car park spaces along Granby Row. Vectos confirm that traffic generation during the operational stage of the development has been forecast using the TRICS trip rate database and it is expected that the Proposed Scheme could generate in the order of 60-70 vehicles per day comprising delivery/servicing and pick-up/drop-off activity as a reasonable worst-case scenario. Therefore, there will not be:

- A change in Light Duty Vehicle (LDV) flows of more than 100 AADT on roads with relevant receptors; or
- A change in Heavy Duty Vehicle (HDV) flows of more than 25 AADT on roads with relevant receptors.

5.92 EPUK and IAQM guidance[35] indicates that the likely effects of traffic generated during the operational stage of the Proposed Scheme on local air quality will not, therefore, be significant. Therefore, the changes to local air quality as a result of emissions from operational traffic on human receptors close to roads along which operational development traffic will travel not considered to be significant and will not be considered further in the EIA or reported in the ES.

Combustion emissions during operation [existing human receptors around the Site]

5.93 In contrast to the 2017 application, the Proposed Scheme has no significant combustion sources associated with it. There will be an emergency diesel generator which will only be used for monthly testing and emergency use, and thus it is not anticipated to present a material source of combustion emissions.

5.94 Therefore, the effect of combustion emissions associated with the operational stage of the Proposed Scheme on human receptors close to the Site is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Effect of air quality on the Proposed Scheme [future users of the Proposed Scheme]

5.95 Within the 2017 ES, the effect of emissions from diesel trains travelling along the railway line adjacent to the Proposed Scheme and the effect of emissions from nearby road traffic sources on the Proposed Scheme were considered in a standalone assessment, i.e. the suitability of the Site for its intended use was assessed.

5.96 The detailed dispersion modelling undertaken indicated that the railway could cause certain locations to be close to or to exceed the annual mean NO_2 objective at the

[35] EPUK and IAQM (January 2017). Land Use Planning and Development Control: Planning for Air Quality (v1.2), Available at air-quality-planning-guidance.pdf (iaqm.co.uk) [Accessed 17/1/2023].

façade of some of the lower residential floors of the Proposed Scheme. It was, therefore, recommended that NO_X filters be installed in some rooms on the second, third and fourth floor levels, to ensure future residents of the Proposed Scheme are not exposed to poor air quality. These primary mitigation measures would be considered an integral part of the Proposed Scheme and with this primary mitigation in place, the effect of local air quality on the development is not considered to be significant.

5.97 Defra background concentrations and MCC monitoring indicate that air quality has improved within Manchester city centre. The 2017 assessment presents the worst case. Therefore, the effect of local air quality on the Proposed Scheme is not considered to be significant and will not be considered further in the EIA or reported in the ES.

5.98 An updated standalone assessment of site suitability will be undertaken which also considers the MCC guidance. This will be submitted as a standalone document outside of the ES.

Ground Conditions

Technical Baseline

Previous Intrusive Ground Investigation Surveys

5.99 Intrusive ground investigation surveys have previously been carried out on the Site for the previous scheme (as presented in Curtins historical Phase 2 Ground Investigation report[36]). A full review and re-appraisal of this report is programmed post EIA Scoping submission with respect to the new Application, however pertinent previous findings are summarised within this section for consideration within the subsequent assessment sections.

Site History

5.100 A review of the available historical mapping information for the Site (as presented within Curtins Phase 1 report[37] at **Appendix 5.3**) has been undertaken with specific reference to potential sources of contamination.

5.101 The earliest available historical mapping, in the late 19th Century, shows most of the Site is occupied by industrial/commercial buildings, including Printing Works, Battery Repairs and Window Cleaner. Surrounding the Site is London Road Railway Station (100m northeast) and a Fire Engine Station (90m north). By mid to late 20th Century major demolition has occurred on the Site and a depot/ garage (with a sunk petrol tank) noted is constructed in the northeast, hostel (later named Chandos Hall) in the west and garages in the southeast. During the 1990s to circa 2019 the depot/garage was converted to a nursery. The Site is shown to be clear of structures in 2022 mapping. Demolition, enabling and construction works (piling) are known to have been undertaken on the Site in 2019-2020.

[36] Curtins (2019). Phase 2 Ground Investigation Report Echo Street, Manchester. Report no. B065374-CUR-00-XX-RP-GE-002-V04.

[37] Curtins (2023). Preliminary Risk Assessment, Echo Street, Manchester. Report no. B065374-CUR-00-XX-RP-GE-80001-P01.

Geology

5.102 A study of the Envirocheck records and British Geological Survey (BGS) 1:50,000 mapping records (Bedrock and Superficial Editions) for Manchester (Sheet 85) indicates the following geological succession underlying the Site:

- Made Ground (Undivided) (Holocene);
- Till (Devensian); and
- Chester Pebble Beds Formation (Early Triassic).

5.103 Artificial Made Ground deposits are indicated to be present onsite; a thickness of approximately 3.00-5.00m bgl may be expected considering local BGS borehole records.

5.104 Superficial deposits are recorded as Till, comprising clay and boulders, suspended in a matrix of mud or sand, however soft Alluvial Deposits are expected to be present underlying the site, associated with the adjacent River Medlock. According to local BGS borehole records, the superficial deposits are expected to depths of 5.00-6.50m bgl.

5.105 Bedrock deposits are present as Chester Pebble Beds Formation, comprising mainly sandstone; fine to coarse grained, commonly pebbly, with conglomerates and sporadic siltstones and cross-stratified. The bedrock is expected to be initially highly weathered. There are no known faults within 100m of the Site boundary.

5.106 Previous Ground Investigation survey information[1] for the Site recorded ground conditions in line with those anticipated. Made ground was encountered at all exploratory hole locations from ground level to depths of 0.30-3.80m bgl. The Made Ground was underlain by Glacial Till deposits comprising Clay with interbedded sands and gravels. Clay was firm to very stiff, dark greyish-brown, sandy with frequent fine to coarse sub-angular gravel of mixed lithologies. Underlying this, from depths of between 2.90m – 6.50m bgl, was medium-dense to very dense, reddish-brown, slightly cobbly, gravelly, fine to coarse Sand, considered to be indicative of weathered bedrock deposits. Competent bedrock, associated with the Chester Formation, was encountered at 7.50-13.50m bgl, recorded as extremely weak to weak, reddish-brown, medium grained, arenaceous Sandstone, identified to a maximum depth of 25.50m bgl through coring. The sandstone is of very poor to poor rock quality.

Hydrogeology

5.107 Environment Agency data indicates that the Site, corresponding with the underlying bedrock geology, overlies a Principal Aquifer. This is overlain by a superficial Secondary A Aquifer. The Site is not situated within a designated groundwater Source Protection Zone (SPZ).

5.108 The closest groundwater abstraction recorded is 236m west of the Site for industrial/commercial/public service: non-evaporative cooling from a borehole origin. There are no potable groundwater abstractions within 500m of the Site.

Land Gas

5.109 UK Radon Mapping confirms the Site is situated in an area where <1% of homes are above the radon action level. As the development incorporates a basement, advice of a specialist Radon assessor must be obtained.

5.110 A programme of ground gas monitoring was undertaken during previous Ground Investigation survey[1]. A maximum carbon dioxide concentration was identified at 2.4% v /v with a maximum flow of 6.4l/hr recorded. Concentrations of methane (CH4) was recorded below the instruments limit of detection in all monitoring wells. The adopted Gas Screening Values (GSV) for the Site are 0.011l/hr for carbon dioxide. A Gas Characterisation Situation 1 (CS1) gas regime was concluded, not requiring gas protection measures for the previously proposed development. The risk to site end users from ground gases was considered to be Low.

Hydrology

5.111 The nearest surface water receptor is the Rochdale Canal 175m northwest of the Site; it was classed as General Quality Assessment (GQA) Grade B in 2000. The culverted River Medlock is around 200m south of the Site, flowing east to west; it was classed as General Quality Assessment (GQA) Grade E in 2000.

5.112 There are no surface water abstraction points within 250m of the Site. The closest discharge consent is 143m northwest comprising public sewage: storm sewage overflow into a freshwater stream/river to Dukes Tunnel.

5.113 There have been no pollution incidents within 250m of the Site within the last 10 years.

Potential Contamination Sources

5.114 The following potential contamination sources have been identified within Curtins Phase 1 Report[2] **(Appendix 5.3):**

- Uncontrolled deposition of Made Ground associated with the construction/demolition onsite;
- Potential contamination associated with battery, cleaner and printing works, with the above sources include a range of metals, organic petrol and diesel range hydrocarbons, and Poly-cyclic aromatic hydrocarbons (PAHs), and asbestos; and
- Potential contamination associated with fuel/oil spillages from depot/garage and sunk petrol tanks, with the above sources include a range of metals, organic petrol and diesel range hydrocarbons, and Poly-cyclic aromatic hydrocarbons (PAHs).

5.115 Any contamination present within the soils has the potential to leach into the ground and surface waters. Notwithstanding, superficial deposits of Glacial Till are encountered which may limit migration of contamination where predominantly cohesive soils.

5.116 Potential production of ground gas generating sources are likely from organic material within Made Ground. These could include, but are not limited to, carbon dioxide, methane, carbon monoxide and hydrogen sulphide.

5.117 Previous Ground Investigation survey information[1] recorded minor exceedances with respect to nominated screening criteria for soils and groundwater. The following risk ratings were identified:

5.118 A Moderate/Low risk rating was identified to end-users from direct contact, inhalation and ingestion of contaminants within Made Ground soils due to concentrations of PAHs and lead recorded above nominated GACs. A Low risk rating was identified to construction workers and adjacent residents from direct contact, inhalation and ingestion of contaminants associated with Made Ground soils. A Moderate/Low risk rating was determined to groundwater and a Piling Risk Assessment was recommended to determine suitable piling methods to mitigate the risk presented to the underlying Principal Aquifer.

Unexploded Ordnance

5.119 A review of available Manchester Bomb Damage mapping was undertaken; it indicated bombing ruins, as well as several fire bombs, high explosives ruins and damaged buildings surroundings the Site in 1940-1941.

5.120 A Detailed Unexploded Ordnance (UXO) Threat and Risk Assessment report is included in Curtins Phase 1 report (**Appendix 5.3)**. It was carried out for Curtins in 2017 to assess the risk during ground investigation works. The report recommended that there is a Medium risk from UXOs on the Site for ground investigation works.

5.121 Across most the Site, it is considered that ground cover should have been such that evidence of UXOs should have been noted and reported. However, an area of clearance is noted in the north-eastern corner of the Site. It is thought possible that this clearance was because of a bomb strike/fire damage. If rubble and debris was present in this area, there is a risk that evidence of UXO could easily have been overlooked.

5.122 Given that most the Site appears to have survived the war, shows no signs of damage and likely accessed frequently, this part of the Site has been given a Low Risk. The area within the northeast of the Site is shown as cleared on post-war aerial photography. Given the poor quality of the record set for Manchester, it has not proved possible to prove that this clearance was not due to bombing. Thus, this area, with a small buffer to account for the 'J-curve' effect, has been given a Medium Risk. A map showing details of the low and medium risk areas within the Site is included within the Detailed Unexploded Ordnance (UXO) Threat and Risk Assessment report in Curtins Phase 1 report (**Appendix 5.3**).

5.123 Given groundworks including piling works have also recently been undertaken across the Site as part of a previous consent with no evidence of buried UXO encountered, this reduces the likelihood of UXO remaining beneath the site further.

Proposed Scope of Assessment

5.124 The below sets out the proposed scope of assessment based on an understanding of the characteristics of the Site, surrounding area and the Proposed Scheme (**Chapter 4**). Where environmental effects are considered unlikely to be significant, an appropriate

evidence base has been provided to justify the 'scoping out' of these effects ensuring the EIA and ES only assess those effects considered 'likely' to be significant.

Effects Unlikely / Not Significant

5.125 Based on the technical baseline and understanding of the Proposed Scheme (**Chapter 4**), the following effects are considered unlikely to be significant and therefore will not be considered further within the EIA or reported in the ES. A factual evidence base has been provided below to support this. Where mitigation has been used to inform this judgement, the identified mitigation has been captured within the Preliminary Environmental Management Plan (EMP) provided in **Appendix 2.1**.

Potential release of existing ground contamination and accidental release of new contamination during construction [construction workers and neighbours]

5.126 There is the potential that materials within the Made Ground may pose a risk to construction workers (through direct contact/ingestion and inhalation) and neighbours (through dust emissions), over a temporary short-term basis during the construction stage. Contamination sources potentially affecting existing soils have been identified, listed below.

- The uncontrolled deposition of Made Ground soils following historical construction and demolition works; and
- Potential contamination associated with historical industries both on Site and within the surrounding area.

5.127 There is also potential that construction activities cause accidental release of contaminating substances into the ground such as fuels and oils and chemicals.

5.128 During the redevelopment of the Site it will be necessary to implement measures to protect construction workers, neighbours and general public passing by from exposure to any contaminated material which is encountered. Measures may include but not be limited to; dust suppression methods, ensuring covered wagons transport material and ensuring suitable PPE is provided and worn on site. Fuels, oils and hazardous substances used in construction will need to be suitably stored and bunded containers with spill kits easily accessible.

5.129 These tertiary migration measures will be required of the Contractor under the Construction Design Management Regulations (CDM 2015) and will be incorporated into the Construction Phase Plan, Method Statements and Health and Safety Plans and the Construction Environmental Management Plan (CEMP).

5.130 Therefore, impact from ground contamination to construction workers and neighbours is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Potential release of existing contamination and accidental release of new contamination during construction [controlled waters]

5.131 There is the potential that materials within the Made Ground may pose a risk to controlled waters over a temporary short-term basis during the construction stage, during the disturbance and driving through Made Ground materials and through

spillages and leakages of fuels/oils/chemicals associated with construction plant and activities.

5.132 During the redevelopment of the Site it will be necessary to implement measures to protect controlled waters. Tertiary measures may include but not be limited to; ensuring fuels and chemicals are suitably stored on site and bunded, ensuring spill kits are easily accessible and ensuring any contaminated material excavated is suitably managed stored on and covered by impermeable membranes.

5.133 These measures will be required of the Contractor under the Construction Design Management Regulations (CDM 2015) and will be incorporated into the Construction Phase Plan, Method Statements and Health and Safety Plans and the Construction Environmental Management Plan (CEMP).

5.134 A Piling Risk Assessment is anticipated to be a required to discharge pre-commencement and pre-occupation planning conditions relating to preventing ground contamination being entrained to the Principal aquifer during any further piling works that are required. This was also recommended as part of Curtins previous ground investigation report[1]. This is therefore also considered a tertiary mitigation measure.

5.135 Therefore, impact of ground contamination to controlled waters during the construction stage is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Potential release of ground contamination during operation [Site end users, Site maintenance workers, neighbours]

5.136 There is the potential that materials within the Made Ground may pose a risk to Site end users, maintenance workers (through direct contact/ingestion and inhalation) and neighbours (horizontal migration followed by direct contact/ingestion and inhalation), over a permanent long-term basis. Potential contaminants of concern identified in the Curtins Phase 1 Report (**Appendix 5.3)** include a range of metals, organic petrol and diesel range hydrocarbons and poly-cyclic aromatic hydrocarbons (PAHs) and asbestos.

5.137 Quantitative risk assessments were undertaken as part of Curtins previous Phase 2 Ground Investigation report[1] which involved comparing soil contaminant concentrations against Generic Assessment Criteria and assessing Source-Pathway-Receptor Linkages. A Moderate/Low risk was identified to end users and remediation was recommended to comprise inclusion of an engineered capping layer of clean soils in soft landscaped areas to ensure the end users do not come into contact with contaminated soils.

5.138 Quantitative risk assessments will be reviewed and revised with respect to the new scheme accounting for the change in use, however broadly comparable outcomes and remedial measures are anticipated. Where revised quantitative risk assessments identify an elevated risk, design and implementation of any remedial measures will be required to discharge pre-commencement and pre-occupation planning conditions relating to ground contamination. Requirements would be detailed in a Phase 3 Remediation report Strategy and records of completion included in a Phase 4 verification report, also tertiary mitigation measures.

5.139 These tertiary mitigation measures will be a planning requirement to discharge pre-commencement planning conditions relating to ground contamination.

5.140 Therefore, the impact of ground contamination (construction stage) to Site end users, Site maintenance workers and neighbours is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Potential release of contamination affecting water supply pipes during operation [water supply pipes – United Utilities customers]

5.141 There is potential that potential contaminants in Made Ground soils may present a risk to water supply pipes (and the water within) over a permanent long-term basis through degradation of pipework and migration of contamination, this may lead to human health impacts through drinking contaminated water.

5.142 A United Utilities water supply pipe risk assessment will be undertaken to further assess the risk of contaminants entering the water supply prior to installation of water supply pipes. This needs to be carried out by a competent contaminated land risk assessor. Remediation measures where required would entail ensuring contaminant resistant water supply pipes are used (known as barrier pipe) to prevent migration of contamination into water supply pipes. This is expected to be a requirement of United Utilities and therefore considered a tertiary mitigation measure.

5.143 Therefore, the potential risk associated with the contamination of water supply pipes to United Utilities customers is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Potential release of contamination during operation [controlled waters]

5.144 There is the potential that contaminants within the Made Ground and potential spills/leaks of oil and fuel from any plant rooms, may pose a risk to controlled waters over a permanent long-term basis.

5.145 Quantitative risk assessments were undertaken as part of Curtins previous Phase 2 Ground Investigation report[1] which involved comparing soil contaminant concentrations against Generic Assessment Criteria and assessing Source-Pathway-Receptor Linkages. Exceedances were recorded in the groundwater for sulphate and Polycyclic Aromatic Hydrocarbons. The assessment stated that the presence of cohesive Glacial Till is likely to limit the migration of contamination into the Principal aquifer and it is likely that the contaminants are also indicative of the wider historic, industrial land use of the city centre. No groundwater remediation was considered to be required. Changes to groundwater recharge are not anticipated due to the Site being previously developed and water running offsite at present.

5.146 Quantitative risk assessments will be reviewed and revised with respect to the new scheme, however broadly comparable outcomes are anticipated, and any form of groundwater remediation is highly unlikely to be required. Where updated quantitative risk assessments do identify an elevated risk, design and implementation of any remedial measures will be required to discharge pre-commencement and pre-occupation planning conditions relating to ground contamination will be identified. Requirements would be detailed in a Phase 3 Remediation report and records of completion included in a Phase 4 verification report, also tertiary mitigation measures.

5.147 Plant rooms and equipment will be designed to contain any spills through bunds and prevent infiltration into ground. It is currently proposed that plant will be housed in the basement which will have a concrete floor.

5.148 Therefore, potential migration of contaminants to controlled waters is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Potential release of hazardous ground gases during operation [Site end users, Site maintenance workers, neighbours]

5.149 There is the potential that any organic materials within the Made Ground or natural soils may pose a risk to site end users, maintenance workers and neighbours though horizontal migration followed by direct inhalation, over a permanent long-term basis. Potential ground gases may be generated from the decomposition of organic / putrescible content present within the Made Ground.

5.150 Quantitative risk assessments were undertaken as part of Curtins previous Phase 2 Ground Investigation report[1] which involved undertaking a ground gas monitoring programme and comparing results with relevant guidance documents and assessment criteria to assess Source-Pathway-Receptor Linkages. Low concentrations of hazardous gases were recorded and the site was determined as Characteristic Situation 1 (CS1) not requiring gas protection measures.

5.151 Quantitative risk assessments will be reviewed and revised with respect to the new scheme, however comparable outcomes are anticipated and ground gas remediation/protection is highly unlikely to be required. Where updated quantitative risk assessments do identify an elevated risk, design and implementation of any gas protection measures (e.g gas resistant membrane) will be required to discharge pre-commencement and pre-occupation planning conditions relating to ground contamination will be identified. Requirements would be detailed in a Phase 3 Remediation report and records of completion included in a Phase 4 verification report, also tertiary mitigation measures.

5.152 Therefore, the impact of hazardous ground gases to Site end users, Site maintenance workers and neighbours (operational stage) is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Risk of unexploded ordnance (UXO) during construction [construction workers, Site users, neighbours]

5.153 There is a potential for buried UXO within Site soils to pose a risk to end users or neighbours where construction activities disturb UXO.

5.154 A detailed risk assessment report, enclosed within Curtins Phase 1 report (**Appendix 5.3)** recommended for inclusion of following mitigation measures for ground investigation works:

> ***"All Works*** *– Site Specific Unexploded Ordnance Awareness Briefings to all personnel conducting intrusive works.*
>
> ***Medium Risk Areas****:*

Open Intrusive Works (trial pits, service pits, open excavations, shallow foundations etc.) – UXO Specialist On-site Support and Site Specific Unexploded Ordnance Awareness Briefings to all personnel conducting intrusive works.

Boreholes– Intrusive Magnetometer Survey of all borehole and pile locations/clusters down to maximum bomb penetration depth."

5.155 The likelihood of encountering UXO is further reduced given much of the Site has been previously disturbed by recent piling activities.

5.156 Any risk mitigation required as part of any future developments will, such as the tertiary mitigation measures outlined above, be assessed as part of the Construction Design and Management Regulations 2015 and will be incorporated into the Construction Phase Plan, Method Statements and Health and Safety Plans and the Construction Environmental Management Plan (CEMP).

5.157 Therefore, the impact of Unexploded Ordnance (UXO) to site end users or neighbours during construction is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Limitations and Assumptions

5.158 To ensure transparency within the EIA process, the following limitations and assumptions have been identified:

- This assessment uses desk-based research along with findings of previous ground investigation information for the site. Full reappraisal of existing ground investigation information is recommended with respect to the revised scheme, which may find varying conditions to those outlined herein.

- The assessment assumes that the historical maps reviewed provide a reasonable indication of the potential for ground contamination beneath the Site. However, it is possible that ground contamination may exist beneath the Site, arising from land uses or events not revealed on or adjacent to the Site by the available mapping.

Flood Risk, Drainage and Water Environment

Technical Baseline

5.159 The Site has been identified as within Flood Zone 1 from Environment Agency mapping[38], indicating that the risk of flooding from rivers and sea is low risk (less than 0.1% each year).

5.160 The Site is considered to be at low risk of groundwater flooding as defined in the Manchester, Salford and Trafford Strategic Flood Risk Assessment groundwater

[38] Flood Map for Planning - https://flood-map-for-planning.service.gov.uk/

flooding map [39]. This illustrates that the Site lies outside of areas considered to be at risk of groundwater flooding.

5.161 The Site is considered to be at low risk of reservoir flooding as defined by the Environment Agency long term flood risk maps[40].

5.162 The Site is considered to be at low risk of canal flooding as defined in the Manchester, Salford and Trafford Strategic Flood Risk Assessment canal hazard map [41]. This illustrates that the Site lies outside of areas considered to be at risk of canal breach or overtopping.

5.163 The Site is located within the Conurbation Core Critical Drainage Area (CDA), as defined in the Manchester, Salford and Trafford Strategic Flood Risk Assessment, Critical Drainage Areas map [42].

5.164 The Site is considered to be at low risk of surface water flooding as defined by the Environment Agency long term flood risk maps[43].

5.165 There is a surface water public sewer located to the north of the Site flowing west along Granby Row.

5.166 Manchester City Council records also suggest that there is a 'hidden watercourse' called Shooters Brook which flows in a westerly direction as a public surface water sewer via a 1560 x 1400mm brick culvert underneath Store Street to London Road which is approximately 170m north of the Site.

5.167 The River Medlock (which is a 'main river') is the nearest main river located approximately 200m south of the Site, where it is culverted until it re-emerges above ground approximately 360m south-west of the Site.

5.168 The Rochdale Canal is located approximately 250m north-west of the Site.

5.169 The United Utilities records suggest that the surface water sewer in Granby Row discharges into the Shooters Brook at Sackville Street which then in turn discharges into the River Medlock at the culverted section under Charles Street approximately 350m south-west of the Site.

Proposed Scope of Assessment

5.170 The below sets out the proposed scope of assessment based on an understanding of the characteristics of the Site, surrounding area and the Proposed Scheme (**Chapter 4**). Where environmental effects are considered unlikely to be significant, an appropriate

[39] Manchester, Salford and Trafford Strategic Flood Risk Assessment Mapping – Groundwater Flooding Map GW 2.1.
[40] Long Term Flood Risk - https://www.gov.uk/check-long-term-flood-risk
[41] Manchester, Salford and Trafford Strategic Flood Risk Assessment Mapping – Canal Hazard Zones Map MM 3.2B.
[42] Manchester, Salford and Trafford Strategic Flood Risk Assessment Mapping – Critical Drainage Areas Map SS 4.5.
[43] Long Term Flood Risk - https://www.gov.uk/check-long-term-flood-risk

evidence base has been provided to justify the 'scoping out' of these effects ensuring the EIA and ES only assess those effects considered 'likely' to be significant.

Effects Unlikely / Not Significant

5.171 Based on the technical baseline and understanding of the Proposed Scheme (**Chapter 4**), the following effects are considered unlikely to be significant and therefore will not be considered further within the EIA or reported in the ES. A factual evidence base has been provided below to support this. Where mitigation has been used to inform this judgement, the identified mitigation has been captured within the Preliminary Environmental Management Plan (EMP) provided in **Appendix 2.1**.

Increased risk of flooding during construction [construction workers and neighbours]

5.172 The Site has been identified as within Flood Zone 1 and is considered to be at low risk of fluvial and tidal flooding. Generally, all sources of flooding to the Site are considered to be low risk.

5.173 During construction, flood risk can be increased due to temporary changes in ground levels and removal of the existing drainage system. As the Site is encompassed completely by Flood Zone 1, the risk of flooding to the Site will generally be limited to surface water flooding.

5.174 The Site will be subject to surface water collection during construction, and it is anticipated that any existing drainage networks on Site will be removed as part of the construction works; potentially temporarily increasing the risk of surface water flooding.

5.175 A Surface Water Management Plan (in accordance with best practice guidance such as The SuDS Manual (C753)[44] and BS8582:2013 Code of practice for surface water management for development sites[45]) will be required to be established on Site by the contractor to control and manage surface water run-off. This will include the installation of a temporary drainage system to collect and contain run-off including any discharge agreements with the local sewer authority. It may also be necessary to introduce perimeter cut off drains to prevent overland run-off and additional interceptors for pollution and debris collection.

5.176 The existing site appeared to discharge uncontrolled run off into the combined public sewer network and therefore it is not anticipated that a significant increase in volumes will accumulate on site during construction, which should be managed by the contractor's surface water management system.

5.177 The risk of flooding during to construction workers and neighbours is not considered to be significant and will not be considered further in the EIA or reported in the ES.

[44] CIRIA (2015). The SuDS Manual (C753).

[45] BSI (2013). BS8582:2013 Code of practice for surface water management for development sites. Available at: BS 8582:2013 | 30 Nov 2013 | BSI Knowledge (bsigroup.com)

Increased risk of flooding during operation [Site end users, Site maintenance workers, neighbours]

5.178 The Site has been identified as within Flood Zone 1 and less than 0.5 hectares in size. Based on consultations under the previous planning consultations MCC confirmed that a Flood Risk Assessment is not necessary based on the low-risk zoning. A Flood Risk Assessment will however be prepared for the Site to support the BREEAM assessment and the Flood Risk Assessment will assess all sources of potential flooding and provide mitigation where necessary.

5.179 A Drainage Strategy will also be prepared given the Site is considered as 'major' development and is located within the Conurbation Core CDA. The Drainage Strategy will demonstrate that the Proposed Scheme will not increase surface water flooding and will include proposals for a robust foul and surface water drainage system including assessment against the Sustainable Drainage hierarchy and necessary capacity to accommodate volumes generated including anticipated increases in rainfall due to climate change for the lifetime of the development.

5.180 In line with MCC guidance, The Proposed Scheme will seek to achieve a minimum reduction in surface water runoff rates of 50% for Brownfield sites, with an aim of reducing runoff to Greenfield rates up to a 1 in 100-year storm event, considering climate change.

5.181 The proposed surface water drainage system will be designed to comply with the minimum reduction of flows set by the Lead Local Flood Authority (MCC) and provide capacity to accommodate the volumes generated for up to the 100-year storm event with an allowance for 45% increase rainfall. Climate change allowances are in accordance with current requirements for the Irwell Management Catchment.

5.182 The strategy will also include any necessary mitigation for surface water flood risk to the Site, such as maintaining perimeter ground levels and ensuring the ground levels fall away from buildings to not encourage overland flows to be directed towards the buildings.

5.183 Therefore, the risk of flooding to Site end users, Site maintenance workers and neighbours is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Increase in potable water demand during construction and operation [United Utilities Infrastructure]

5.184 The construction site welfare facilities will require potable water, which are expected to be higher than the existing demand based on the Site currently being unoccupied. Demand will also be lower than the Proposed Scheme requirements. The operational Proposed Scheme will increase the potable water demand compared to the existing situation.

5.185 During construction, it is assumed that bowsers will be in place on Site until such a time that a permanent solution is in place. During the construction period when a connection to the permanent solution is made, water use will be less than for operation.

5.186 Regarding operational demand, the United Utilities Water Resources Management Plan[46] states that there is forecasted to be a surplus of water available from 2020 – 2040, which a very small deficit occurring from 2041 – 2045. This accounts for future economic and population growth and climate change. A resilience risk is identified for Manchester, associated with numerous single points of failure on the regional aqueduct system which supplies Manchester. Following identification of this risk, United Utilities have identified five solutions to remove this risk, with the option of rebuilding all tunnel sections, the preference which is included in their plan.

5.187 A new supply enquiry will be required with United Utilities to determine whether the existing infrastructure has sufficient capacity or whether reinforcements are required. United Utilities will adequately assess the needs of the network to ensure their infrastructure is sufficient to accommodate the needs of the existing supply chain and future demand.

5.188 On this basis the increase in potable water demand is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Increased foul water flows/flood risk during construction [construction workers and neighbours]

5.189 The construction site welfare facilities will generate foul water flows which are expected to be discharged in the local foul water sewerage network. The flow rates are expected to be higher than the existing discharge rates based on the Site currently being unoccupied. The proposed welfare facilities are anticipated to generate relatively low discharge rates which will be significantly lower than the proposed scheme design rates.

5.190 Therefore, the risk of flooding from increased foul flows during construction to construction workers and neighbours is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Increased foul water flows/flood risk during operation [Site end users, Site maintenance workers, neighbours]

5.191 The Proposed Scheme will increase the amount of foul water discharging to the sewerage system compared to the existing situation. This will result in an increase of foul water flow rates to the existing sewer Infrastructure.

5.192 The proposed drainage solution will remove 100% of the existing surface water flows discharging to the existing combined sewer network and discharge proposed surface water flows to the existing surface water sewer network at a maximum of 50% of existing flows. Proposed foul flows are anticipated to be significantly less than existing unrestricted surface water flows, which will reduce the overall flood risk on the wider network catchment.

5.193 Therefore, the risk of flooding from increased foul flows during operation to Site end users, Site maintenance workers and neighbours is not considered to be significant and will not be considered further in the EIA or reported in the ES.

[46] United Utilities (2019). Water Resources Management Plan. Available at: Water Resources Management Plan (unitedutilities.com)

Increased risk of pollution to the existing sewerage infrastructure during construction [United Utilities infrastructure, Shooters Brook, River Medlock and neighbours]

5.194 The existing site drainage connects to the existing combined public sewer network in Granby Row and Echo Street. The Proposed Scheme drainage is likely to discharge into the surface water sewer in Granby Row, which discharges into the Shooters Brook, which then discharges into the River Medlock. Therefore, the risk is dependent on the stage of construction.

5.195 The primary impact on off-site sewers and watercourses during construction is silt and other debris being washed into the pipework on site. Debris may accumulate over time and progressively reduce flow capacity within the pipeline which could lead to surcharging and possible flooding from the upstream system.

5.196 During construction, measures will be necessary to limit the amount of silt and other pollutants that are able to reach the existing sewer infrastructure. Silt will be controlled using traps and measures implemented to reduce the amount of material that could be washed into the Watercourse via overland flows. The use of cut off trenches to intercept the overland flow routes will also prevent pollution.

5.197 The risk of fuel and other oils entering the existing sewer infrastructure can be controlled by designating specific areas where refuelling and maintenance occurs. There should be spill kits located around the Site in easy reach and appropriate training included in the Site induction/toolbox talk on how to effectively use the kits.

5.198 Storage of materials will be located an appropriate distance away from the watercourse to ensure there is limited flow routes for contamination to use to get the existing sewer infrastructure.

5.199 All the proposed mitigation measures will be incorporated into the CEMP and recorded as part of the Construction Design and Management requirements.

5.200 Therefore, the risk of pollution during construction to United Utilities infrastructure, Shooters Brook, River Medlock and neighbours is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Increased risk of pollution to the existing sewerage infrastructure during operation [United Utilities infrastructure, Shooters Brook, River Medlock and neighbours]

5.201 The Proposed Scheme drainage is likely to discharge into the surface water sewer in Granby Row, which discharges into the Shooters Brook, which then discharges into the River Medlock.

5.202 Development has the potential to pollute the existing sewer infrastructure and river network, particularly where there are areas with regular vehicle movement located within the site.

5.203 The Proposed Scheme includes limited access for vehicle use and access is generally limited to the southern boundary along the servicing access ramp.

5.204 Servicing extents, frequency of servicing will need to be reviewed as part of the detailed design for the development. However, based on the current strategy, a petrol

interceptor or filter chamber will be required within the drainage system to serve the external access ramp prior to discharge off site.

5.205 Therefore, the risk of pollution during operation to United Utilities infrastructure, Shooters Brook, River Medlock and neighbours is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Limitations and Assumptions

5.206 To ensure transparency within the EIA process, the following limitations and assumptions have been identified:

- The findings are limited to desk-based information only.

Lighting

Technical Baseline

5.207 There are not currently any lighting installations on Site. In the surrounding area, there is street lighting on Granby Row and Echo Street, where there will also be lighting associated with vehicles using these roads. The surrounding developments will also produce some lighting from external lighting and rooms being lit.

5.208 Given the city centre location of the Site, it is likely the Site would be classified as an E4 Environmental Zones (high ambient brightness) lighting environmental zone[47].

Effects Unlikely to be Significant

5.209 Based on the technical baseline and understanding of the Proposed Scheme (**Chapter 4**), the following effects are considered unlikely to be significant and therefore will not be considered further within the EIA or reported in the ES. A factual evidence base has been provided below to support this. Where mitigation has been used to inform this judgement, the identified mitigation has been captured within the Preliminary Environmental Management Plan (PEMP) provided in **Appendix 2.1**.

Disturbance due to obtrusive light during construction [nearby residents]

5.210 Light pollution (or obtrusive light) comprises any adverse effects of artificial lighting including glare[48], light trespass[49]/spill[50] and sky glow[51], occurring as a result of temporary construction activities associated with the Proposed Scheme. The nature of the effect and its significance is relative to the existing baseline conditions (i.e. lighting environment experienced by existing receptor) and general proximity to potential light

[47] NLIPI (2007). What are lighting environmental zones? Available at: https://www.lrc.rpi.edu/programs/NLPIP/lightingAnswers/lightPollution/environmentalZones.asp [Accessed 18/01/2023].

[48] The uncomfortable brightness of the light source against a dark background which results in dazzling the observer, which may cause nuisance to a specific receptor.

[49] The spilling of light beyond the boundary of a property, which may cause nuisance to others.

[50] The unwanted spillage of light onto adjacent areas which may affect sensitive receptors (particularly residential properties and ecological sites).

[51] The direct upward spill of light into the sky, which can cause a glowing effect and is often seen above cities when viewed from a dark area.

sources, where the greatest effect is felt by receptors adjacent to, or in close proximity to a light source (i.e. within 50m).

5.211 Lighting will be required during construction activities in order to provide a safe working environment, however this will be within the context of a high brightness city centre area. Nonetheless, potential adverse effects arising from temporary construction lighting will be controlled through a series of best practice measures, in line with lighting industry standards and guidance including the CIE publication 'Technical Report Document 129[52] and BS EN 12464-2:2014[53], incorporated as part of a CEMP. The following measures are proposed in order to control Light Spill, Glare and Sky Glow effects and thus manage light pollution:

- Where practicable, construction lighting in the Site would be designed to comply with Environmental Zone E4 in accordance with the ILP Guidance Note GN01[54];
- Illuminance levels arising from temporary lighting to be designed in accordance with BS EN 12464-2: 2014 and CIE 129;
- Placement of temporary lighting required to ensure safe working conditions and to maintain security, to have due regard of sensitive receptors (i.e. occupied residential premises);
- Lighting to be directed so as avoid unnecessary Light Spill outside of construction areas and to ensure that the light distribution is toward the task area;
- Lighting to be switched off when not required for safe working conditions and Site security;
- Use of light shields/baffles to control upward light to within the maximum 15% set out in the ILP Guidance Note GN01, where possible;
- Lighting to be kept at 0° tilt to avoid Sky Glow, where practicable; and
- Light dimming and automatic switch off would be used (where appropriate).

5.212 Therefore, disturbance to nearby residents due to obtrusive light during construction is considered unlikely to be significant and will not be considered further in the EIA or reported in the ES.

Disturbance due to obtrusive light during operation [nearby residents]

5.213 Operational lighting will be required for the Proposed Scheme to ensure a safe environment.

5.214 Obtrusive light can be avoided through appropriate lighting design in line with best practice, guidance and standards, including but not limited to: ILP's PLG04[55]; ILP

[52] CIE - Technical Report Document 129 (1998) Guide for Lighting Exterior Work Areas.
[53] British Standards (2014) BS EN 12464-2 – Lighting of Work Places – Part 2: Outdoor Work Places.
[54] Institute of Lighting Professionals (ILP) (2021) Guidance Notes for the Reduction of Obtrusive Light (GN01).

Guidance Note GN01[56]; British Standard 5489-1:2020[57]; BS EN 13201-2 – Road lighting[58],.and BS EN 12464-2 – Lighting of Work Places[59]. Measures to mitigate effects from obtrusive light, as set out in the identified guidance, include the selection of the correct type of luminaire, the use of shields, hoods (as required), as well as the design and positioning of lights (e.g. power, orientation, and height of the luminaire).

5.215 Overall, when considering the city centre location and baseline lighting, disturbance to residents due to obtrusive light during operation are considered unlikely to be significant and will not be considered further in the EIA or reported in the ES.

Waste

Technical Baseline

5.216 The Site is currently vacant, and so there is no existing waste generating uses on Site.

Effects Unlikely to be Significant

5.217 Based on the technical baseline and understanding of the Proposed Scheme (**Chapter 4**), the following effects are considered unlikely to be significant and therefore will not be considered further within the EIA or reported in the ES. A factual evidence base has been provided below to support this. Where mitigation has been used to inform this judgement, the identified mitigation has been captured within the Preliminary Environmental Management Plan (EMP) provided in **Appendix 2.1**.

Waste generation during construction [waste facilities]

5.218 Sources of waste during the construction stage are assumed to relate to construction materials (including packaging) and surplus cut to create finished floor levels. The remedial solution may include the removal of soil (which may be contaminated). Such waste will be handled, processed and removed from Site by suitability qualified contractors, all being undertaken in line with The Hazardous Waste (England and Wales) Regulations 2005.

5.219 Using the anticipated total floorspace (41,794m^2 Gross External Area) multiplied by industry benchmarks[60] for construction waste arisings (10 tonnes per 100m^2 gross area[61]), it is anticipated that 4,179.4 tonnes of waste will be generated.

5.220 It is anticipated that generic waste produced during construction would be controlled through the implementation of a CEMP, secured by planning condition. The CEMP will

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[55] Institute of Lighting Professionals (ILP) PLG04 Guidance on Undertaking Environmental Lighting Impact Assessment (2013)
[56] ILP Guidance Note 01/21 The Reduction of Obtrusive Light (2021)
[57] British Standard (2020). 5489-1:2020 Design of road lighting. Lighting of roads and public amenity areas. Code of practice.
[58] BS EN 13201-2:2015 Road Lighting Performance Requirements (2016)
[59] BS EN 12464-2:2014 Light and Lighting – lighting of work places. Outdoor work Places (2014)
[60] BRE (2018). Home Quality Mark ONE, Technical Manual England. Available at: Home Quality Mark ONE
[61] This has been established using professional judgement and is based on good practice principles developed within the Home Quality Mark.

be informed by the waste provisions of the Environmental Protection Act 1990[62] and the Environmental Protection (Duty of Care) Regulations 1991[63] and will set out the principles and legal requirements relating to waste, including any hazardous waste that is encountered and required to be exported off-site for disposal.

5.221 The CEMP will also describe how materials will be managed efficiently and disposed of legally during construction. It will also outline the aims, objectives and on-going management responsibilities, including management practices, to be implemented during the construction stage, and will set targets for the reduction, diversion from landfill and reuse of waste.

5.222 Therefore, waste generated during construction is considered unlikely to be significant and will not be considered further in the EIA or reported in the ES.

Waste generated during operation [waste facilities]

5.223 Waste generated during the operational stage is anticipated to include generic waste streams arising from the residents.

5.224 British Standard (BS) 5906:2005 Waste Management in Building – Code of Practice suggests that the weekly waste arisings from an 'domestic' use is equal to the number of dwellings x [(70 litres x average number of bedrooms) +30]. At this stage it is assumed that there will be a mix of one beds and studios (some of which will be occupied on a dual occupancy basis). Whilst the studios may be occupied on a dual basis, they are assumed to be one beds for the purpose of this calculation (i.e. there will be 1225 dwellings each with one bedroom). On this basis the Proposed Scheme would be considered to generate approximately 122,500 litres (l) (circa 122.5.5m^3) a week, approximately 6,370,000l (circa 6,370m^3) per annum (assuming 52 weeks per year). It should be noted that this does not take account of any waste arising reused, recycled or diverted from landfill by another means.

5.225 The Proposed Scheme will be designed in order to take account of appropriate provision for waste storage and handling facilities/areas, inclusive of areas for segregation of waste and recycling. In addition, it is assumed that all waste storage/handling facilities will be designed in accordance with British Standard (BS) 5906:2005 Waste Management in Building – Code of Practice. The Application will include a Waste Management Strategy which will set out the principles, strategy and targets for the management and storage of waste and maximise recycling, in accordance with MCC established policy.

5.226 Therefore, effects related to operational waste are considered unlikely to be significant and will not be considered further in the EIA or reported in the ES.

[62] Environmental Protection Act 1990 No. 43 Available at: https://www.legislation.gov.uk/ukpga/1990/43/contents [Accessed: 18/01/2023].
[63] Environmental Protection (Duty of Care) Regulations 1991 No. 2839. Available at: https://www.legislation.gov.uk/uksi/1991/2839/made#:~:text=The%20duty%20requires%20such%20persons,person%20or%20to%20a%20person [Accessed: 18/01/2023].

Major Accidents and/or Disasters

Technical Baseline

5.227 The Site does not fall within any consultation distances for which the Health and Safety Executive needs to be consulted for.

Effects Unlikely to be Significant

5.228 Based on the technical baseline and understanding of the Proposed Scheme (**Chapter 4**), the following effects are considered unlikely to be significant and therefore will not be considered further within the EIA or reported in the ES. A factual evidence base has been provided below to support this. Where mitigation has been used to inform this judgement, the identified mitigation has been captured within the Preliminary Environmental Management Plan (EMP) provided in **Appendix 2.1**.

5.229 As detailed within Schedule 4, Paragraphs 5 and 8 of the EIA Regulations, there is the requirement to consider the risk of major accidents and/or disasters relevant to the Proposed Scheme.

5.230 Although there is the potential for a wide range of major accidents and disasters that could occur, the probability, likelihood and frequency is very low, often due to the management of a risk under established legislative requirements.

5.231 The EIA Regulations do not specify the need for the consideration of natural disasters. However, for completeness, this has been considered.

5.232 The probability, frequency and likelihood of natural disasters arising from climatic occurrences (i.e. hurricanes) are considered to be very low due to the natural climatic condition of the UK within the global climate system. Specific geological events (i.e. earthquakes, tsunami, volcanic incidents etc.) are also considered to be very low due to the general absence of required geological conditions (i.e. area of tectonic plate interaction) within or in proximity to the UK. Although earthquakes have occurred within the UK, the magnitude of such events has generally been low.

5.233 Following a qualitative appraisal of major accidents and/or disasters that were relevant to the Proposed Scheme, the following have been considered further and are presented in **Table 5.1**. Based on the evidence provided within **Table 5.1**, the likelihood of events with a significant consequence is considered to be low/unlikely and will not be considered further in the EIA or reported in the ES.

Table 5.7: Appraisal of the Risk of Major Accidents and/or Disasters

Effect	Appraisal
A major accident caused by ground subsidence and associated structural/building collapse	All earthworks and foundation design will be in accordance with relevant industry guidance, including but not limited to CIRIA Report C572: Treated ground engineering properties and performance[64], British

[64] CIRIA (2002). Report C572: Treated ground engineering properties and performance.

Effect	Appraisal
	Research Establishment document FB75: Building on Fill - Geotechnical Aspects[65] and British Standard 6031:2009: Code of Practice for Earthworks[66], thereby negating the probability and likelihood of any significant effect.
Major flood event caused by an extreme weather event	As described under the 'Flood Risk and Drainage' above, the risk of flooding is not considered to be significant due to the drainage strategy to be implemented as part of the Proposed Scheme and the Site being in a Flood Zone 1 (so is at low risk of flooding). The Proposed Scheme has been designed and will be constructed in line with relevant industry standards and guidance. Adherence to such guidance, which accounts for possible extreme events, is considered sufficient to negate the probability and likelihood of any significant effect.
Major accidents on the local road network	The management of the road network and the enforcement of stringent safety standards reduce the risk, both in terms of the frequency and likelihood to a low level. The risk of accidents has also been scoped out under 'Transport and Access' above. This is not considered to be significant due to the limited traffic flows from the Proposed Scheme.
Accidents arising from vandalism, arson or terrorism	The risks associated with technological failures and accidents will be reduced through appropriate design of the Proposed Scheme, including the use of fire alarms. Target acts of vandalism, arson or terrorism cannot be fully mitigated, but the adoption of appropriate security measures at the construction and operational stages, such as security lighting, will help to minimise the likelihood of such events occurring. The final building management company will have in place the required emergency producers/practices (i.e. Fire Emergency Evacuation Plan (FEEP)) or apparatus/instruments (i.e. smoke detectors/sprinklers) required by law for these uses. In addition, the buildings will be designed, in line with Building Regulations Approved Document D: Fire Safety, with appropriate fire preventative measures

[65] British Research Establishment (2015). FB75: Building on Fill - Geotechnical Aspects. 3rd Edition.
[66] British Standard (2009). 6031:2009: Code of Practice for Earthworks.

Effect	Appraisal
	(i.e. fire doors, extinguishers etc.) and all external façades and materials will meet the necessary fire resistance standards set out within Building Regulations and by law. Given this, the potential risks will be very low.

TV Reception

5.234 TV reception is not an environmental topic that would usually be considered in an EIA. However, given the 2017 application considered this topic (it was scoped out of the 2017 ES), a high level appraisal has been included below.

Effects Unlikely to be Significant

5.235 The following effects are considered unlikely to be significant and therefore will not be considered further within the EIA or reported in the ES. A factual evidence base has been provided below to support this. Where mitigation has been used to inform this judgement, the identified mitigation has been captured within the Preliminary Environmental Management Plan (EMP) provided in **Appendix 2.1**.

Interference with TV reception [surrounding residents]

5.236 The 2017 application was supported by television baseline reception survey undertaken on 25/04/2017. This reported that:

- The television transmitter serving the area surrounding the Site is Winter Hill. This is a UK main transmitter, broadcasting local and national television channels;
- Interference would be most likely to occur within 1km of the Site. Within this distance, the recorded television signal strength and quality was defined as 'Low';
- In the majority of the area within 1km of the Site, main roads (A6, A57), industrial buildings and car-parks existed where television signals are not utilised;
- Where residential areas existed which had a terrestrial aerial of similar height or less than the Proposed Scheme, television interference could occur. This was because the recorded television signal strength and quality at the two survey locations within 1km was defined as, at best, 'Low';
- Television interference beyond 1km of the shadow of the Proposed Scheme was unlikely;
- In the event that television interference was reported following the commencement of construction of the Proposed Scheme, this would be investigated to establish whether the interference is attributable to the Proposed Scheme and to what extent. Should adverse effects attributable to the

Proposed Scheme be identified then mitigation would be implemented (the requirement for such being a cable, controlled through a conditional planning approval). Mitigation would include one or a combination of the following measures:

- Replacement of receiving aerial with a more directional or higher gain, aerial;
- Repositioning the receiving aerial so that the received signal is stronger; and
- Replacing terrestrial reception equipment with satellite or cable reception equipment.

5.237 This is considered to remain valid for the Proposed Scheme now, and therefore, interference with TV reception is not considered to be significant and will not be considered further in the EIA or reported in the ES. An updated TV reception survey report will be submitted with the Application.

6. Socio-Economics and Human Health

Technical Baseline

6.1 As of 2021, Manchester accommodated a total of 422,290 workforce jobs, which is approximately 30% of the 1.4 million jobs recorded in the Greater Manchester Combined Authority (GMCA) area as a whole[67]. Some 11,000 people were employed in the construction sector in Manchester; this equates to 3% of total employment, which is slightly lower than the sector's proportionate contribution to the total workforce in the wider GMCA region (5%). The key employment sectors in Manchester include professional, scientific & technical services (accommodating 59,000 jobs, 14% of employment); health (52,000, 12%); business administration & support services (47,000, 11%); and education (40,000, 10%).

6.2 Over the year to June 2022, the average economic activity rate amongst the working-age (aged 16-64) resident population of Manchester (at 75%) was slightly lower than estimated in the GMCA (at 76%); the rates in both areas were lower in turn than in England as a whole (79%)[68]. Working-age employment rates were also lower locally (69%) than GMCA (72%) and nationally (76%). However, it is noted that Manchester also accommodates a larger student population (34,100 students, accounting for 9% of the population) than GMCA (7%) and England (6%)[69].

6.3 As of November 2022, there were circa 22,325 people claiming out-of-work benefits in Manchester principally for the reason of being unemployed[70], accounting for 7.4% of economically active residents. Despite being lower at latest count than the peak recorded during the COVID-19 pandemic, claimant numbers remain 36% higher in the local area than recorded in January 2020. The number of claimants across both the GMCA and England also remain higher (though, to lesser extents – 29% and 30% respectively) than recorded pre-pandemic.

6.4 Analysis of ONS data regarding Jobseeker's Allowance (JSA) claimants[71] – a subset of the above – indicates that just over 300 people were specifically seeking employment in construction-related trades in Manchester in November 2022, rising to c. 1,700 at the scale of GMCA.

6.5 The NHS 'Find a GP' online search tool[72] identifies numerous GP surgeries which are accessible from the Site, the closest being The Docs, located on Bloom Street. A further 6 GP surgeries are identified within one mile of the Site, with additional provision existing slightly further afield. Ancoats Urban Village Medical Practice, a 0.6 mile walk from the Site, has capacity for approximately 7,600 extra patients[73].

[67] ONS via Nomis (2022). Business Register and Employment Survey: 2021.
[68] ONS via Nomis (2022). Annual Population Survey.
[69] Ibid.
[70] ONS via Nomis (2022). Claimant Count: November 2022.
[71] ONS via Nomis (2022). Jobseeker's allowance: November 2022.
[72] NHS (2022). 'Find a GP' [Online]. Available at: https://www.nhs.uk/service-search/find-a-gp
[73] NHS Digital (2022). General Practice Workforce, 30 November 2022.

6.6 Public Health England[74] report on various indicators regarding health outcomes in Manchester in comparison with the wider region and nationally. Life expectancies for both men (75.5 years) and women (79.9 years) in Manchester are lower than those recorded in the GMCA (respectively 77.5 and 81.3 years) and in England as a whole (79.4 and 83.1). A lower proportion of adults are classified as overweight or obese in Manchester (62%) than in the GMCA area (66%) and in England as a whole (64%). Childhood obesity is, however, more prevalent in Manchester (where 28% of Year 6 children are obese) than in the GMCA (25%) and England as a whole (23%). Whilst a higher percentage of adults are physically active[75] (63%) in Manchester in comparison with the GMCA (62%), the rate in both areas is lower than in England as a whole (66%). The rate of people being killed or seriously injured on roads is marginally higher in Manchester than in England[76]; and the rate of hospital admissions for alcohol-related conditions is higher in Manchester and the GMCA than nationally.

Proposed Scope of Assessment

6.7 The below sets out the proposed scope of assessment based on an understanding of the characteristics of the Site, surrounding area and the Proposed Scheme (**Chapter 4**). Where environmental effects are considered unlikely to be significant, an appropriate evidence base has been provided to justify the 'scoping out' of these effects ensuring the EIA and ES only assess those effects considered 'likely' to be significant.

Effects Unlikely / Not Significant

6.8 Based on the technical baseline and understanding of the Proposed Scheme (**Chapter 4**), the following effects are considered unlikely to be significant and therefore will not be considered further within the EIA or reported in the ES. A factual evidence base has been provided below to support this. Where mitigation has been used to inform this judgement, the identified mitigation has been captured within the Preliminary Environmental Management Plan (EMP) provided in **Appendix 2.1**.

Access to primary healthcare facilities [Residents of the Proposed Scheme and patients at existing facilities]

6.9 Strong, vibrant, sustainable and cohesive communities require good quality, accessible public services and infrastructure. Access to primary healthcare facilities (e.g. GP services) has a direct beneficial effect on human health and is vital towards ensuring that health outcomes and priorities are achieved.

6.10 It is estimated that 1,225 new PBSA apartments will likely accommodate a maximum of 1,830 residents. As outlined within HUDU guidance[77], the Royal College of GPs recommend a ratio of one GP per 1,800 registered patients; this therefore suggests that the Proposed Scheme could generate demand for approximately one GP. As outlined in the Technical Baseline section, there are a number of primary healthcare

[74] Public Health England (2022). Local Authority Health Profiles: Manchester.
[75] Defined as undertaking a minimum of 150 minutes of moderate physical activity (e.g. brisk walking; cycling for travel or leisure; playing individual or team sports; gym exercises; gardening) per week.
[76] Data not available at Combined Authority level.
[77] Healthy Urban Development Unit (2009). HUDU Planning Contribution Model: Guidance Notes.

facilities accessible from the Site and it is anticipated that these will be able to meet the demand generated by the residential population of the Proposed Scheme. Ancoats Urban Village Medical Practice, for example, is a 0.6 mile walk from the Site and has capacity for approximately 7,600 extra patients when applying the Royal College of GPs recommended ratio.

6.11 Therefore, access to primary healthcare facilities for residents of the Proposed Scheme and patients at existing facilities is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Social cohesion and inclusive design [Residents of the Proposed Scheme and existing local communities]

6.12 Developments should connect with existing communities (e.g. through layouts and access points which avoid physical barriers and severance) and land-uses and spaces should encourage social interaction, taking into account principles of inclusive and age-friendly design.

6.13 The Site is already cleared. The Proposed Scheme will therefore result in no displacement of any existing residential communities. The Site's location within Manchester city centre will enable coherent integration with existing residential and commercial areas and transport links (including Manchester Piccadilly station in the immediate vicinity). The local provision of commercial, leisure and other amenity spaces will therefore be accessible for future Site users (i.e. residents, workers and visitors).

6.14 Landscaping / open space will be provided in the private courtyards between the main blocks and the public realm surrounding the building. This will involve general resurfacing, lowered kerbs, widening the pavement and tree planting. Lightweight furniture and catenary lights will also be introduced to the courtyard space. Overall, these features will contribute to the amenity of residents as place to socialise.

6.15 Therefore, social cohesion and inclusive design for residents of the Proposed Scheme and existing local communities is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Crime reduction and community safety [Residents of the Proposed Scheme and existing local communities]

6.16 Sites should be kept secure during demolition and construction to ensure that potential for crime and anti-social behaviour is minimised. Once operational, developments should incorporate design elements and site management measures to help 'design out' crime, to help people feel secure, again minimising the potential for crime and anti-social behaviour.

6.17 Site security arrangements during the construction stage will be in line with the requirements set out in the Construction (Design and Management) Regulations 2015[78]. The design of the Proposed Scheme will be informed by 'Secure by Design' principles and appropriate design and site management measures (including appropriate lighting and digital entry systems at each building) will be implemented to

[78] Secretary of State (2015). Construction (Design and Management) Regulations 2015.

ensure that the potential for crime and anti-social behaviour is minimised. Once operational, the Proposed Scheme will have on-site security staff, with staff present 24 hours a day.

6.18 Therefore, crime reduction and community safety for future residents is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Access to healthy food [Residents of the Proposed Scheme]

6.19 Access to healthy and nutritious food can improve diet and prevent chronic diseases related to obesity. Healthy food options should be available and easily accessible to those using and working at new developments to enable and promote healthy lifestyles.

6.20 Numerous existing healthy food options will also be accessible from the Site; a wide range of options in terms of supermarkets and foodstores are located in Manchester city centre and surrounds, including a small Sainsbury's Local at Manchester Piccadilly Station within 5 minutes' walk from the Site, and a larger Aldi supermarket on Great Ancoats Street, a 10-minute walk from the Site.

6.21 Therefore, access to healthy food for residents of the Proposed Scheme is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Access to active and sustainable travel options [Residents of the Proposed Scheme]

6.22 Active travel and sustainable travel options should be accessible to those living and working at and otherwise using new developments to enable and promote healthy and sustainable lifestyles, through facilitating physical activity and zero / low emissions transport, such as walking, cycling and public transport options.

6.23 The Proposed Scheme is within a very short walking distance to Manchester Piccadilly Station enabling travel to a wide range of local and national destinations. The station also has a Metrolink tram stop, which provides links across the GMCA area and numerous local bus routes are also accessible from the station. The Proposed Scheme will encourage travel by foot and bike by widening paths and through the provision of 610 private, covered and secure cycle spaces. The Site's accessible location and additional measures to maximise the residential population's access to active travel and sustainable travel options will be beneficial and enhance the health and wellbeing of future Site users (residents, workers and visitors).

6.24 Therefore, access to active and sustainable travel options for residents of the Proposed Scheme is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Access to open space and sports & recreation facilities [Residents of the Proposed Scheme]

6.25 Providing secure, convenient and attractive open / green space, public amenity space and facilities for sports and leisure activities can lead to increased levels of physical activity and reduce levels of heart disease, strokes and other ill-health problems that are associated with both sedentary occupations and stressful lifestyles. There is also a

growing body of evidence that access to open spaces and facilities for exercise is important in helping to maintain and/or improve mental health[79].

6.26 There are no existing open spaces which will be lost due to the Proposed Scheme. Whilst the specifics in terms of type and quantum of provision to be delivered on-Site are yet to be confirmed, the Proposed Scheme will include a mixture of new high quality public realm and open space. Public spaces will also incorporate much-needed green infrastructure to enhance 'biophillic city'[80] elements of the design.

6.27 A range of existing sports and recreation facilities and open spaces are located within the immediate locality of the Site – including gyms (e.g. the Gym Group and PureGym), small-sided football pitches (e.g. Ardwick Powerleague) and public green space such as Vimto Park, Sackville Gardens and the recently-opened Mayfield Park – which will be available for fitness, leisure and relaxation purposes by future Site users (including residents, visitors and workers).

6.28 Therefore, access to open space and sports & recreation for future residents is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Access to training opportunities [Local labour force]

6.29 Employment and income are key determinants of personal and societal socio-economic and physical and mental health and wellbeing, whilst unemployment is known to be a significant contributor to poverty, illness and a reduction in personal and social esteem. New development can improve people's access to training opportunities; for example, through delivering apprenticeships and other employment and training programmes during the construction phase and on-Site once operational.

6.30 Whilst the Proposed Scheme could deliver opportunities for people to access training (such as apprenticeships and/or placements during construction and at on-Site employment uses, which will be dependent on construction contractors and the Proposed Scheme's future occupiers) it is considered that these are likely to comprise only a limited proportion of the total jobs supported during the construction and operational stages. Whilst a beneficial effect which could help meet local needs for apprenticeship opportunities, their delivery is anticipated to be of a scale which would be unlikely to be significant.

6.31 Therefore, access to training opportunities for the local labour force is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Employment generated during the operational stage [Local labour force]

6.32 Sustained employment, such as that provided by the operation of businesses, is a key determinant of societal socio-economic health and provides wider physical and mental health benefits for the worker. Unemployment is known to be a significant contributor to poverty, illness and a reduction in personal and social esteem, and therefore the

[79] NHS Healthy Urban Development Unit (2019). Rapid Health Impact Assessment Tool (4th Edition).

[80] 'Biophilic' design refers to the practice of connecting people and nature within built environments and communities.

reduction in unemployment is often held as a key economic objective. New development can improve people's access to employment opportunities; for example, through the opening of new work opportunities at on-site occupiers once operational.

6.33 Whilst the operations of the Proposed Scheme could deliver new employment opportunities (for example, concierge, maintenance and security, which will be dependent on the Proposed Scheme's future occupiers), it is understood that the number of jobs created will be small in scale relative to recent employment trends locally. Whilst a beneficial effect which could contribute towards creating employment opportunities, their delivery is anticipated to be of a scale which would be unlikely to be significant.

6.34 Therefore, employment generated during the operational stage for the local labour force is not considered to be significant and will not be considered further in the EIA or reported in the ES.

New Homes Bonus and Council Tax revenue [Local authority revenue]

6.35 In the 2017 ES assessment, effects relating to the New Homes Bonus and Council Tax were considered. However, the former is in the process of being phased out and the latter not relevant as full-time students living in PBSA are Council Tax exempt.

6.36 Therefore, the New Homes Bonus and Council Tax and impact on local authority revenue is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Effects Likely / Significant

6.37 **Table 6.1** outlines the effects (and associated receptor[s]) that are considered to be likely and significant and therefore will be assessed within the EIA and reported in the ES.

Table 6.1: Potential Likely Significant Effects and Sensitive Receptors

Effect	Receptor(s)	Applicable Stage(s)
Employment generated during the construction stage	Local labour force	Construction
Provision of PBSA	Students requiring accommodation	Operation

Assessment Methodology of Effects Likely / Significant

6.38 The following background surveys/studies have/will be undertaken.

Table 6.2: Background Studies and Baseline Information

Study / Survey / Analysis / Evaluation	Overview	Date of Completion
Completed		

Study / Survey / Analysis / Evaluation	Overview	Date of Completion
Desk-based study of publicly accessible socio-economic and human health data	Data obtained to understand prevailing socio-economic and human health conditions	January 2023
Pending		
Further desk-based study of publicly accessible socio-economic and human health data related to effects scoped into the assessment	Data will be obtained to understand prevailing socio-economic and human health conditions	April 2023
Economic impact modelling	Exercise to determine net additional economic impact, thereby informing the magnitude of relevant effects	April 2023

6.39 In the absence of formal guidance, appropriate study areas will be defined, which will be based on an understanding of relevant local and wider economic geographies and a consideration of the extent to which socio-economic and human health effects are likely to be contained therein. A local impact area will be defined to cover the administrative area of Manchester, with a wider impact area then defined to draw in the surrounding GMCA area. These are established geographical areas that also reflect existing patterns of labour force containment[81].

6.40 Best practice and methodological guidance will be drawn upon as appropriate to inform key elements of the assessment, including the Homes and Communities Agency's (HCA, now known as Homes England) Additionality Guide[82] and Employment Density Guide[83]. Net additional economic impacts of employment will be presented, accounting for a range of economic additionality factors such as leakage[84], displacement[85] and multiplier effects[86]. Provision of PBSA will be considered in the context of current supply and demand for bedspaces in Manchester.

[81] ONS via Nomis (2022). Census 2021.
[82] Homes & Communities Agency (2014). Additionality Guide (4th Edition).
[83] Homes & Communities Agency (2015). Employment Densities Guide (3rd Edition).
[84] The measure of the extent to which impacts (such as employment) will occur outside of the defined local and wider impact areas.
[85] The measure of the extent to which the Proposed Scheme will lead to existing businesses or employees within the defined local and wider impact areas relocating activities to the Proposed Scheme, as opposed to the attraction of new investment and employment arising from the Proposed Scheme.
[86] The measure of further economic activity (such as employment, expenditure or income) associated with supply chain expenditure, additional local income (from employment) and longer-term expenditure effects.

6.41 The sensitivity of receptors will be determined by way of observed change in receptors locally compared to local, regional and national trends. Through observation of a receptor's capacity for change relative to wider comparator areas and/or national standards, the sensitivity of receptors locally will be observed. Consideration will also be given to the priority attributed to specific receptors in strategy and policy terms, particularly in the case of qualitative receptors and those where quantitative evidence is not available. The assignment of sensitivity will be based on professional judgement.

6.42 Once the sensitivity of the receptor has been identified, the change attributable to the Proposed Scheme will be benchmarked against the observed rate of change in the corresponding social, economic or health-related baseline. This will allow a relative assessment of the magnitude of change that is attributable to the Proposed Scheme to be conducted.

6.43 The assessment of likely significant effects to sensitive receptors will consider the sensitivity of the receptor (on a scale of high, medium, low and negligible) and the magnitude of change (on a scale of large, medium, small and negligible) to determine the level of effect on a scale of major, moderate, minor and negligible. Significant effects will be determined following this through professional judgment.

Limitations and Assumptions

6.44 To ensure transparency within the EIA process, the following limitations and assumptions have been identified:

- The assessment is desk-based and therefore reliant on data and information obtained from a variety of official published sources (such as the ONS's 2011 and 2021 Censuses and Business Register and Employment Survey[87]). No further verification of these sources will be undertaken (unless otherwise stated in the ES). Each data source has methodological limitations related to data collection and surveys only represent the socio-economic context at a specific point in time.

- The future baseline will draw upon employment forecasts produced by Experian[88]. There are known uncertainties to using such trend-based forecasts (especially in the current context of economic uncertainty caused by factors such as the COVID-19 pandemic, Brexit and the war in Ukraine); however, the use of such forecasts is considered appropriate for drawing conclusions about how the economy and labour market might change in the future.

- Where necessary, professional and realistic assumptions will be made and applied, such as those relating to the economic additionality factors of leakage, displacement and multiplier effects.

[87] ONS via Nomis (2022). Business Register and Employment Survey: 2021.
[88] Experian (2023). Local Market Forecasts Quarterly: December 2022.

7. Climate Change

7.1 The UK Climate Change Projections (UKCP18)[89] set out that climate change is projected to lead to increasing annual temperatures, decreasing summer rainfall and increasing winter rainfall as a result of increasing global Greenhouse Gas (GHG) emissions. This applies to the UK, including the Site.

7.2 In this context the EIA regulations require the consideration of Climate Change, including how resilient development is to the effects of climate change, and how development mitigates its impact on climate change through GHG emissions.

7.3 IEMA has prepared guidance for EIA practitioners for both Climate Change Adaptation[90] and Mitigation[91] which will be used in the Climate Change assessment for the Proposed Scheme.

Technical Baseline

Climate Change Mitigation

7.4 The existing Site has been cleared in preparation for development. In this context current GHG emissions from the Site are considered to be zero.

7.5 Current local baseline conditions regarding greenhouse gas (GHG) emissions will be reported in the ES Chapter and established at the local authority (Manchester City Council) and national level from the latest (2020) UK Government local authority and regional carbon dioxide emissions national statistics: 2005 to 2020[92].

7.6 The future baseline conditions regarding GHG emissions will be established in the form of carbon budgets proposed for Manchester via the Tyndall Centre[93] and the UK[94]. These will be used to contextualise GHG emissions from the Development in order to establish the magnitude if its net GHG effect.

Climate Change Resilience

7.7 Current baseline climate conditions for the Site have been established from the Met Office's closest automatic weather station at Rochdale[95], approximately 16km to the north. The data provides average monthly conditions for the 1991-2020 period summarised in **Table 7.1** below to show summer maximum temperature and summer and winter rainfall.

Table 7.1: Current Climate Baseline

Description	Temperature / Rainfall

[89] https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/index
[90] IEMA (2020). Environmental Impact Assessment Guide to Climate Change Resilience and Adaptation.
[91] IEMA (2022). EIA Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance.
[92]: https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2019
[93] Local and Regional Implications of the United Nations Paris Agreement on Climate Change (manchester.ac.uk)
[94] Carbon Budgets - GOV.UK (www.gov.uk)
[95] Greenwich Park (Greater London) UK climate averages - Met Office

Description	Temperature / Rainfall
Summer maximum temperature (°C)	19.3
Summer rainfall (mm per month)	93.3
Winter rainfall (mm per month)	118.4

7.8 Future baseline climate conditions for the Site have been established from the Met Office's latest climate projections UKCP18[96] for the 25km OS grid square within which the Site is located (384707, 397734).

7.9 The projections comprise forecast changes relative to 1991 to 2020 baseline conditions for annual and seasonal temperatures and rainfall as well as sea level rise and wind speed. In accordance with IEMA guidance, projections are taken from the "high" emissions scenario (known as "RCP8.5"), 50th percentile (i.e. median) scenario for the 2050s (the Works) and 2080s (Completed Development).

7.10 Projected changes to seasonal and annual temperature and rainfall relative to 1991-2020 conditions which could result in severe weather effects such as droughts, floods and heat waves are provided in **Table 7.2.**

Table 7.2: Future climate baseline

		2050s		2080s	
Description	Temperature / Rainfall baseline	Change to baseline	Future baseline temperature / rainfall	Change to baseline	Future baseline temperature / rainfall
Summer maximum temperature (°C)	19.3	2.4	21.7	4.8	26.5
Summer rainfall (mm per month)	93.3	-20%	74.7	32%	123.2
Winter rainfall (mm per month)	118.4	7%	126.7	14%	135.0

Effects of Climate Change

7.11 The UK Climate Projections provide guidance on the anticipated effects of climate change. Using these projections the UK Climate Change Risk Assessment (UKCCRA)[97], updated in 2021, identifies potential risks and impacts of climate change across a

[96] https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/about/what-is-ukcp

[97] https://www.theccc.org.uk/publication/independent-assessment-of-uk-climate-risk/

number of areas including Infrastructure, Health, communities and the Built Environment. Key risks from the UKCCRA which related to the Development are summarised below.

- N1 – Risks to species and habitats from climate change;
- I2 – Risks for infrastructure from flooding;
- I7 – Risks to infrastructure from subsidence;
- H1 – Risks to health and wellbeing form high temperatures;
- H3 – Risks to people, communities and buildings from flooding;
- H5 – Risks to building fabric;
- H10 – Risks to water quality and household water supplies;
- B1 – Risks to businesses from flooding;
- B3 – Risks to business from water scarcity; and
- B5 – Risks to business operations due to high temperatures.

7.12 Based on the Climate Projections and risks from the UKCCRA key likely receptors to be impacted by climate change include:

- The **Global Climatic System** from additional GHG emissions;
- **Construction Employees** and **Site Users** may be impacted due to overheating from increasing temperatures;
- **Site Infrastructure** may be impacted due to changing ground conditions and as a result of increased rainfall and flood risk;
- **Construction Operations** may be impacted by changing weather patterns leading to risks of flooding, pollution and impacts on **Air Quality;**
- **Site Habitats and Species** impacted by changing climate space; and
- **Site Operations, Infrastructure** and **Site Users** may be impacted by decreasing summer rainfall and water availability, as well as increased risks of flooding due to increasing winter rainfall.

Proposed Scope of Assessment

7.13 The below sets out the proposed scope of assessment based on an understanding of the characteristics of the Site, surrounding area and the Proposed Scheme (**Chapter 4**). Where environmental effects are considered unlikely to be significant, an appropriate evidence base has been provided to justify the 'scoping out' of these effects ensuring the EIA and ES only assess those effects considered 'likely' to be significant.

Effects Unlikely / Not Significant

7.14 Based on the technical baseline and understanding of the Proposed Scheme (**Chapter 4**), the following effects are considered unlikely to be significant and therefore will not be considered further within the EIA or reported in the ES. A factual evidence base has been provided below to support this. Where mitigation has been used to inform this judgement, the identified mitigation has been captured within the Preliminary Environmental Management Plan (EMP) provided in **Appendix 2.1**.

Increasing summer mean and daily maximum temperatures during construction [construction employees]

7.15 Increasing summer temperatures may lead to health and safety risks for construction employees. A Construction Environmental Management Plan (CEMP) will be prepared to support the construction of the Proposed Scheme and will set out climate change adaptation and measures to reduce risks to human health from overheating such as provision of shaded refuges to reduce overheating risks, and potable water supplies to avoid dehydration during construction.

7.16 Therefore, increasing summer mean and daily maximum temperatures affecting construction employees is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Changing annual temperatures and rainfall patterns during construction [construction operations, site habitats and biodiversity, air quality]

7.17 Changing annual temperatures and rainfall patterns may lead to a reduction of water supply and increasing risk of flooding which may impact on site construction activities, increase the potential for construction site flooding and damage, and potential harm to nearby water courses and impact on air quality.

7.18 The CEMP will set out climate change adaptation and measures including:

- The monitoring and setting of targets to reduce water use during construction.
- Measures to protect the Site from increased risk of flooding during construction, for example compounds storage compounds with raised levels and temporary drainage; and drainage and pollution prevention systems.
- Enhanced dust suppression measures to reduce the risk of dust from increasing summer temperatures.

7.19 Therefore, changing annual temperatures and rainfall patterns affecting construction operations, site habitats and biodiversity, and air quality is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Changes to future climate including temperature and rainfall during operation [site infrastructure]

7.20 Changes to future climate including temperature and rainfall may cause ground conditions to change impacting on building foundations and structures. The Building

Regulations[98] require new development to consider the impact of ground movement in foundation design. Therefore the Proposed Scheme will be designed to consider changing climate on stability of the ground conditions, influencing foundation design as necessary.

7.21 Therefore, changes to future climate including temperature and rainfall to site infrastructure is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Changes to future climate including higher winter and summer temperatures and a decrease in summer rainfall during operation [site habitats and biodiversity]

7.22 Changes to future climate including higher winter and summer temperatures and a decrease in summer rainfall will affect climate space and could impact site habitats and species.

7.23 The landscaping proposals will seek to maximise the ecological value of the Site through the provision of native and/or wildlife friendly landscape planting. This will provide a green space within the site and will subsequently provide new and enhanced opportunities for faunal species. Overall, the green infrastructure strategy for the Site will seek to deliver net gains of at least 10% in biodiversity. This will help mitigate the anticipated impacts of climate change in accordance with the England Biodiversity Strategy[99] and Natural England Climate Change Adaptation Manual[100]. This will include the selection of climate change tolerant species as part of the projects' biodiversity strategy.

7.24 Therefore, changes to future climate including higher winter and summer temperatures and a decrease in summer rainfall to site habitats and biodiversity is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Increasing rainfall during operation [site operations, infrastructure and end users]

7.25 Increasing winter rainfall could increase the risk of surface water flooding impacting on site operations, site infrastructure and end users.

7.26 In accordance with national guidance the mitigation proposed in the Flood Risk Assessment will take into account the potential effects of climate change to minimise risk of flooding. This will include consideration of climate change effects on river levels and the design of the surface water drainage system which will take into account the 1 in 100 year storm event and required climate change allowances.

7.27 Therefore, increasing rainfall to site operations, infrastructure and end users is not considered to be significant and will not be considered further in the EIA or reported in the ES.

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[98] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/540328/BR_PDF_AD_L2A_2013_with_2016_amendments.pdf
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69446/pb13583-biodiversity-strategy-2020-111111.pdf

[100] http://publications.naturalengland.org.uk/publication/5679197848862720

Higher average summer mean and daily maximum temperatures during operation causing building overheating [end users]

7.28 Higher average summer mean and daily maximum temperatures may lead to building overheating, adversely affecting the health and well-being of occupants and end users.

7.29 As part of the detailed design a sample of units in buildings will undergo overheating assessment in line with the requirements of Part O of the Buildings Regulations[101] to assess and reduce the risk of summer overheating taking into account future climate scenarios. Where measures are provided to reduce the risk of overheating this will be done in accordance with the cooling hierarchy.

7.30 Therefore, higher average summer mean and daily maximum temperatures to end users is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Decreasing summer rainfall during operation [end users]

7.31 To reduce water use and provide resilience to reducing summer rainfall, the Proposed Scheme will incorporate measures to reduce water consumption, including the provision of water efficient fixtures and fittings, i.e. low flow taps and low water use WCs.

7.32 Therefore, decreasing summer rainfall to end users is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Effects Likely / Significant

7.33 **Table 7.3** outlines the effects (and associated receptor[s]) that are considered to be likely and significant and therefore will be assessed within the EIA and reported in the ES.

Table 7.3: Potential Likely Significant Effects and Sensitive Receptors

Effect	Receptor(s)	Applicable Stage(s)
GHG Emissions	Global climatic system	Construction and Operation

Assessment Methodology of Effects Likely / Significant

7.34 The following background surveys/studies have/will be undertaken.

Table 7.4: Background Surveys / Studies

Survey / Study / Analysis / Evaluation	Overview	Date of Completion
Completed		
Climate Change Analysis to inform EIA Scoping	A review of UKCP18 climate change projections and potential climate change risks	January 2022

[101] https://www.gov.uk/government/publications/overheating-approved-document-o

Survey / Study / Analysis / Evaluation	Overview	Date of Completion
Pending		
Review of potential GHG emissions	Estimate of the Proposed Scheme GHG emissions and contextualisation against local and national emissions and carbon budgets.	March 2022

Climate Change Mitigation

7.35 The assessment of climate change mitigation will be undertaken in accordance with IEMAs EIA Guide to Climate Change. The GHG emissions of the Proposed Scheme will consider both the construction and operational stage. As part of the assessment a Whole Life Carbon (WLC) assessment will be prepared, considering the construction and embodied carbon of the Proposed Scheme. In addition, an Energy Strategy is being prepared to consider the operational energy demand and emissions of the completed Proposed Scheme.

7.36 The GHG assessment will consider the net GHG emissions of the Proposed Scheme, including any emissions that may be associated with any existing site operation.

7.37 The Site will form the principal study area for the assessment, however the assessment will include off-site GHG emissions / savings such as those associated with the manufacture and transportation of construction materials, and those associated with the off-site generation (e.g. at a power station) of grid electricity consumed by the completed Proposed Scheme.

7.38 The significance of the Proposed Scheme's net GHG effect will then be determined by considering the magnitude of its net GHG emissions effect in conjunction with consideration of whether it makes an appropriate contribution to Manchester and the UK's net zero trajectory.

7.39 The assessment of likely significant effects to sensitive receptors will consider the sensitivity of the receptor (on a scale of high, medium, low and negligible), the magnitude of change (on a scale of large, medium, small and negligible), and the level of effect on a scale of major, moderate, minor and negligible. Significant effects will be determined from this evaluation and including professional judgment.

7.40 The global climate system is the receptor for GHG emissions and is considered highly sensitive in accordance with IEMA guidance.

Climate Change Adaptation

7.41 While potential effects to climate change adaptation have been scoped out at this stage, the Climate Change assessment will continue to review the UKCCRA for additional potential receptors and climate effects. Should further details and/or consideration necessitate its inclusion, this will be undertaken in the following manner.

7.42 As above, if required the assessment will be undertaken in accordance IEMAs EIA Guide to Climate Change Resilience and Adaptation. This will include establishing the baseline climate conditions and review of the UKCP18 projections as noted in this document to determine the extent of potential impacts, identifying any further effects not noted here.

7.43 As part of the ongoing design work the climate change projections and potential impacts will be considered as part of ongoing technical work, in particular to ensure the Proposed Scheme is resilient to the long-term effects of climate change given the likely lifespan of the proposals.

7.44 The assessment of likely significant effects to sensitive receptors will consider the sensitivity of the receptor (on a scale of high, medium, low and negligible), the magnitude of change (on a scale of large, medium, small and negligible), and the level of effect on a scale of major, moderate, minor and negligible. Significant effects will be determined from this evaluation and including professional judgment.

7.45 In accordance with the IEMA guidance the 2080s cRCP8.5 climate scenarios will be used as a worst case scenario.

Limitations and Assumptions

7.46 To ensure transparency within the EIA process, the following limitations and assumptions have been identified:

Climate Change Mitigation

7.47 ***Activity Data –*** In estimating construction and operational stage GHG emissions, third party emissions factors and benchmarks may be applied to estimated parameters including energy demand. These factors and benchmarks may potentially not fully reflect the actual construction and operational performance of the Proposed Scheme however the proposed approach is nevertheless considered to represent the best available option at this pre-planning stage.

7.48 ***Emission Factors –*** The primary source of emission factors applied is UK Government conversion factors for company reporting. These factors are published annually by the Department for Business, Energy and Industrial Strategy (BEIS). The current factors (published July 2022) relate to the 2020 calendar year and may therefore not accurately reflect development construction and operational activities undertaken in future years.

7.49 BEIS also publishes annual projections of the future carbon intensity of electricity supplied by the national grid. These projections can used to estimate operational GHG over a 30 year period. The BEIS projections are based on various assumption including the continued uptake of renewable energy technologies and closure of fossil fuel power stations which may not fully reflect actual future conditions.

7.50 ***Transport Emissions –*** At this stage transport emissions have not been considered as there is no data available on the potential trips generated by the Proposed Scheme. Given the nature of the development the use of private cars is likely to be limited with the majority of trips utilising local public transport services. In this context it is likely

transport emissions are limited and likely to reduce in time in line with Government transport decarbonisation plans.

Climate Change Adaptation

7.51 The UK climate projections (UKCP18) are dependent on future GHG emission assumptions. UKCP18 uses scenarios for future GHGs that are based on assumptions on future population, economic development and the mitigation of GHG emissions towards international targets. The real world may follow a different pathway altogether and the scientific community cannot reliably place probabilities on which scenario of GHG emissions is most likely. For the purposes of scoping the 2080s RCP8.5 scenario has been considered as a worst case.

8. Built Heritage

Technical Baseline

8.1 An initial desk-based assessment has been made of designated heritage assets and non-designated heritage assets within a 250m radius around the Site (the Study Area). Heritage assets may include designated assets such as listed buildings, Registered Parks and Gardens, Scheduled Monuments and Conservation Areas and non-designated heritage assets such as those identified as part of a 'local list' maintained by a local authority (see **Figure 8.1** for Heritage Asset Plan).

8.2 The Site is located within the Whitworth Street Conservation Area. Within the wider area there are a number of heritage assets which are listed below.

Designated Heritage Assets within the Study Area

8.3 There are no Scheduled Ancient Monuments, World Heritage Sites, Registered Parks and Gardens or Registered Battlefields within the Study Area. There is one Conservation Area and seventeen Listed Buildings, these are as follows:

Table 8.1: Designated Heritage Assets within the Study Area

Asset Type	Designated Heritage Asset	Date of Original Designation:	Grade:
Conservation Area	Whitworth Street Conservation Area	01/09/1974 and later amended on 01/06/1985	N/A
Listed Building	London Road Police and Fire Station, London Road	03 October 1974	II*
Listed Building	The Shena Simon 6th Form College, Whitworth Street	06 June 1994	II
Listed Building	Institute of Science and Technology (University of Manchester), Sackville Street / Whitworth Street	03 October 1974	II
Listed Building	Manchester South Junction and Altrincham Railway Viaduct	06 June 1994	II
Listed Building	Granby House, 61-63 Granby Row	03 October 1974	II
Listed Building	Orient House, 65-67 Granby Row	20 June 1988	II
Listed Building	Sculptural Wall, London Road	10 June 2011	II
Listed Building	Former Goods Yard Offices to Piccadilly Station, London Road	06 June 1994	II
Listed Building	Train Shed and Undercroft at	06 June 1994	II

Asset Type	Designated Heritage Asset	Date of Original Designation:	Grade:
	Manchester Piccadilly Station, London Road		
Listed Building	Mintierna House	06 June 1994	II
Listed Building	46 Sackville Street	06 June 1994	II
Listed Building	42 and 44 Sackville Street	06 June 1974	II
Listed Building	Regency House with Barclays Bank	6 June 1994	II
Listed Building	Minshull House	8 May 1990	II
Listed building	Rochdale Canal Lock Number 86, to east of Chorlton Street	06-Jun-1994	II
Listed building	Rochdale Canal Boundary Wall to Canal Between Sackville Street and Chorlton Street	06-Jun-1994	II
Listed building	Rochdale Canal Boundary Wall to Canal Between Chorlton Street and Minshull Street	06-Jun-1994	II

8.4 These designated heritage assets were identified and confirmed through a search of the Historic England National Heritage List for England and information provided by Manchester City Council on their website.

Non-Designated Heritage Assets

8.5 Manchester City Council does not maintain a published list of 'locally interesting' buildings. However, in accordance with Historic England Good Practice Advice Note 2[102], a HER search was conducted on 27th January 2023 for an area extending 250 metres from the boundary of the Site.

8.6 The following non-designated heritage assets have been identified:

Table 8.2: Non-designated Heritage Assets located within the Study Area

Property Details:	HER Record Number:
The Monroe Public House, 36 London Road	12347.1.0
Jackson Street Mills (UMIST Campus) (now university of Manchester)	2078.1.0
Rochdale Canal	1386.2.0

[102] Historic England (2015). Good Practice Advice Note 2: Managing Significance in Decision Taking in the Historic Environment.

Proposed Scope of Assessment

8.7 The below sets out the proposed scope of assessment based on an understanding of the characteristics of the Site, surrounding area and the Proposed Scheme (**Chapter 4**). Where environmental effects are considered unlikely to be significant, an appropriate evidence base has been provided to justify the 'scoping out' of these effects ensuring the EIA and ES only assess those effects considered 'likely' to be significant.

8.8 Assigning value (sensitivity), magnitude of impact and significance of effect and reporting the significant effects of the Proposed Scheme on heritage assets will follow best practice guidance set out below and the application of professional judgement.

8.9 In line with best practice guidance set out in the Design Manual for Roads and Bridges, the effect on the cultural heritage resource is not significant when the impact does not substantially diminish the heritage interest of the heritage resource.[103]

Effects Unlikely / Not Significant

8.10 Based on the technical baseline and understanding of the Proposed Scheme (**Chapter 4**), the following effects are considered unlikely to be significant and therefore will not be considered further within the EIA or reported in the ES. A factual evidence base has been provided below to support this. Where mitigation has been used to inform this judgement, the identified mitigation has been captured within the Preliminary Environmental Management Plan (EMP) provided in **Appendix 2.1**.

Change to the setting of identified listed buildings resulting in an impact to their heritage interests or significance [listed buildings identified below]

8.11 Construction and operation activities have the potential to impact the setting and significance of nearby listed buildings as a result of a change to the baseline situation and introduction of new built form. This has the potential to change local views and may affect appreciation of the building where the existing setting makes a contribution to the heritage interests or significance of the heritage asset.

8.12 A Built Heritage ES Chapter and Heritage Assessment was prepared for the 2017 application. As part of the EIA in 2017 a Built Heritage ES Chapter assessed the likely significant effects on identified receptors within an 250m Study Area[104]. This assessment concluded that a comparable development would not alter the appreciation or experience of the following listed buildings and their significance would be sustained.

8.13 Having considered and reviewed the variations to the Proposed Scheme when compared with the 2017 application and having also considered any changes to the baseline, it is concluded that the listed buildings set out in **Table 8.3** would not experience a significant environmental effect and will not be considered further in the EIA or reported in the ES.

[103] Design Manual for Roads and Bridges (DMRB), LA 106: Cultural heritage assessment (2019), Note 1

[104] Turley (2017). Heritage Statement, Echo Street, Manchester.

Table 8.3: Overview of Listed Buildings with Effects Unlikely / Not Significant

Listed Building	Overview	Potential Effect
The Shena Simon 6th Form College, Whitworth Street (Grade II)	The visibility of the Proposed Scheme would be largely screened by exiting built form. Where visible it will be legible as a modern addition to the streetscape in which the asset is already experienced. There will be no change to the appreciation of the architectural and historic special interest of the building and its significance would be sustained.	Neutral effect / Not Significant
Institute of Science and Technology (University of Manchester), Sackville Street / Whitworth Street (Grade II)	The Proposed Scheme may be partially visible in some views of the building. Where visible it would be legible as a modern addition to the urban streetscape in which the asset is already experienced. There will be no change to the appreciation of the architectural and historic special interest and its significance would be sustained.	Neutral effect / Not Significant
Manchester South Junction and Altrincham Railway Viaduct (Grade II)	The viaduct is experienced in the mixed and complex environment of Manchester City Centre; it is a large asset and has an extensive and varied setting. Where visible, the Proposed Scheme would not change the nature of this experience or impact the architectural and historic special interest and its significance would be sustained.	Neutral effect / Not Significant
Granby House, 61-63 Granby Row (Grade II) and Orient House, 65-67 Granby Row (Grade II)	Granby House and Orient House are experienced in a mixed context; whilst the south side of Granby Row is characterised by enclosure resulting from the row of warehouses, to the north side it has a more fragmentary character and modern developments have contributed to a mixed urban grain. Where visible, partial views of the Proposed Scheme would be consistent with the mixed urban surroundings of the buildings. There will be no change to the appreciation of the architectural and historic special interest and its significance of these listed buildings would be sustained.	Neutral effect / Not Significant
Sculptural Wall, London Road (Grade II)	The wall is positioned adjacent to London Road and is experienced in the context of the busy road frontage and large scale buildings associated with UMIST to the	Neutral effect / Not Significant

Listed Building	Overview	Potential Effect
	west, and Manchester Piccadilly and the Macdonald Manchester Hotel to the east. There will be no change to the appreciation of the architectural and historic special interest of the building as a result of the Proposed Scheme.	
Former Goods Yard Offices to Piccadilly Station, London Road (Grade II)	The Site is screened from the listed building by existing built form on the southern side of Fairhurst Street. The Proposed Scheme may be partially visible in some views of the building. Where visible it will be legible as a modern addition to the urban streetscape in which the asset is already experienced. There will be no change to the appreciation of the architectural and historic special interest and its significance would be sustained.	Neutral effect / Not Significant
Train Shed and Undercroft at Manchester Piccadilly Station, London Road (Grade II)	The building is a functional infrastructure asset and its setting makes a limited overall contribution to significance. It is experienced as part of a complex, high density cityscape of many periods and forms of building. The Proposed Scheme will be visible in this context from a number of positions in and around the station building. Whilst this will result in a change in the setting of the train shed, it will have no impact upon the legibility of the architectural and historic interest of the structure or the appreciation of its functional nature.	Neutral effect / Not Significant
46 Sackville Street (Grade II) and 42 and 44 Sackville Street (Grade II)	The Proposed Scheme may be partially visible when looking south-east, potentially rising above the roofline of existing built form. Where visible, due to the distances involved and scale and mass of intervening development it would be legible as a modern addition to the urban streetscape in which the asset is already experienced. There will be no change to the appreciation of the architectural and historic special interest and the significance of these listed buildings would be sustained.	Neutral effect / Not Significant
Regency House with Barclays Bank (Grade II)	The Proposed Scheme would be partially visible when looking south, rising above the	Neutral effect / Not Significant

Listed Building	Overview	Potential Effect
	roofline of the Institute of Science and Technology. Where visible it would be legible as a modern addition to the urban streetscape in which the asset is already experienced. There will be no change to the appreciation of the architectural and historic special interest and its significance would be sustained.	
Minshull House (Grade II) and Mintierna House (Grade II)	The Proposed Scheme would be partially visible when looking south, rising above the roofline of the Institute of Science and Technology. Where visible it would be legible as a modern addition to the urban streetscape in which the asset is already experienced. There will be no change to the appreciation of the architectural and historic special interest and its significance of these listed buildings would be sustained.	Neutral effect / Not Significant
Rochdale Canal Lock Number 86, to east of Chorlton Street (Grade II); Rochdale Canal Boundary Wall to Canal Between Sackville Street and Chorlton Street (Grade II); and Rochdale Canal Boundary Wall to Canal Between Chorlton Street and Minshull Street (Grade II)	The Proposed Scheme is unlikely to be visible from these listed buildings due to the distances involved and scale and mass of intervening built form and topography. If partially visible, it will be legible as a modern addition to the urban townscape in which the asset and canal is already experienced. There will be no change to the appreciation of the architectural and historic special interest and the significance of these listed buildings would be sustained.	Neutral effect / Not Significant

Change to the setting of the identified non-designated heritage assets, resulting in an impact to its heritage interests or significance [The Monroe Public House, 36 London Road and Rochdale Canal]

8.14 Construction and operation activities have the potential to impact the setting of nearby non-designated heritage assets as a result of a change to the baseline situation and introduction of new built form. This has the potential to change local views and may affect our appreciation of the building where the existing setting makes a contribution to the heritage interests or significance of the heritage asset.

8.15 Having considered and reviewed the Proposed Scheme, it is concluded that the non-designated heritage assets set out in **Table 8.4** would not experience a significant environmental effect and will not be considered further in the EIA or reported in the ES.

Table 8.4: Overview of Non-Designated Heritage Assets with Effects Unlikely / Not Significant

Listed Building	Overview	Potential Effect
Monroe Public House, 36 London Road (HER Ref: 12347.1.0)	The non-designated Monroe Public House, 36 London Road is located on the corner of Whitworth Street and London Road. Due to the building's location, it is screened from the Site by the mass of the London Road Police and Fire Station and also the properties that enclose the southern side of Fairfield Street. If partially visible, it would be legible as a modern addition to the urban townscape in which the asset and canal is already experienced. There will be no change to the appreciation of the architectural and historic special interest and its significance would be sustained.	Neutral effect / Not Significant
Rochdale Canal (HER Ref: 1386.2.0)	The Proposed Scheme is unlikely to be visible from the Rochdale Canal due to the distances involved and scale and mass of intervening built form and topography. If partially visible, it would be legible as a modern addition to the urban townscape in which the asset and canal is already experienced. There will be no change to the appreciation of the architectural and historic special interest and its significance would be sustained.	Neutral effect / Not Significant

Effects Likely / Significant

8.16 The assets identified at **Table 8.5** have potential to experience a significant environmental effect and therefore will be assessed within the EIA and reported in the ES.

Table 8.5: Potential Likely Significant Effects and Sensitive Receptors

Effect	Receptor(s)	Applicable Stage(s)
Change to the character and appearance of the conservation area	Whitworth Street Conservation Area	Construction / Operation
Change to the setting of a listed building	London Road Police and Fire Station (Grade II*)	Construction / Operation
Change to the setting of a	Jackson Street Mills (UMIST	Construction / Operation

Effect	Receptor(s)	Applicable Stage(s)
non-designated heritage asset	Campus, now university of Manchester) (HER Ref: 2078.1.0)	

Assessment Methodology of Effects Likely / Significant

8.17 The following background surveys/studies have been/will be undertaken.

Table 8.6: Background Surveys / Studies

Survey / Study / Analysis / Evaluation	Overview	Date of Completion
Completed		
Desk-Based Heritage Assessment	Identification of assets with potential to be affected (significant and not significant) confirmed through a search of the Greater Manchester Historic Environment Record.	January 2023
500m Search of the Historic Environment Record	To undertake an updated search of the local Historic Environment Record in order to identify any Heritage Assets additional to those identified within the 2017 ES baseline.	January 2023
Current or Pending		
Heritage Assessment	An NPPF compliant Heritage Assessment will be prepared in support of the Application. This will be carried out in light of the statutory duty of The Planning (Listed Buildings and Conservation Areas) Act 1990, relevant policies of the National Planning Policy Framework (NPPF) and national Planning Practice Guidance for the historic environment. The Heritage Assessment will identify heritage assets with potential to be affected, describe their significance and setting and	January to March 2023

Survey / Study / Analysis / Evaluation	Overview	Date of Completion
	assess the impact of the Proposed Scheme upon that significance. It will also consider other heritage assets unlikely to experience a significant effect. It will be appended to and inform the EIA as a Technical Appendix.	
Views Assessment	Contribution to identification of viewpoints (from a heritage perspective).	February 2023

8.18 The Built Heritage ES chapter will assess the potential for significant effects to heritage assets resulting from the Proposed Scheme following primary and tertiary mitigation, in accordance with IEMA guidance[105]. The Built Heritage ES Chapter will undertake the following:

- Assess the significance of the identified heritage assets and the contribution of setting to that significance;
- Identify those heritage assets with a potential to experience a significant effect at the construction and operational stages;
- Identify and define the magnitude of change arising from the Proposed Scheme and the severity of the effects on those identified assets;
- Identify mitigation to avoid or minimise adverse impact where possible in a way that meets the requirement of the NPPF;
- Assess the Proposed Scheme impact and its effect of the significance of heritage assets taking into consideration any mitigation proposed; and
- Assess the cumulative impacts of the Proposed Scheme in conjunction with other development.

8.19 The assessment will be guided by various published documents including:

- National Planning Practice Guidance (2014, updated 2019);
- Historic England Good Practice Advice in Planning (GPA) Note 2 ‘Managing Significance in Decision Taking in the Historic Environment’ (2015);

[105] IEMA (2015). Environmental Impact Assessment Guide to: Shaping Quality Development and IEMA (2016). Environmental Impact Assessment Guide to: Delivering Quality Development.

- Historic England GPA3 ‘The Setting of Heritage Assets’ 2dn Edition (2017);
- Historic England Advice Note 12: Statements of Heritage Significance (2019);
- Historic England: Advice Note 1: Conservation Area Designation, Appraisal and Management 2019 (2nd Edition);
- Historic England Advice Note 7: ‘Local Heritage Listing’ 2nd Edition (2021)
- Institute of Environmental Management & Assessment (IEMA): Principles for Cultural Heritage Impact Assessment (2021); and
- Design Manual for Roads and Bridges (DMRB), LA 106: Cultural heritage assessment (2019)
- Guidance issued by the Local Authority will also be consulted together with relevant legislation.

8.20 The assessment will utilise a matrix that measures both receptor sensitivity (value/ importance), this accounts for significance in the context of NPPF terminology, and magnitude of change/ impact to produce an assessment of the significance of the effect of the Proposed Scheme on cultural heritage receptors. The matrix follows the standard matrix included within the **Chapter 2** of the EIA Scoping Report.

8.21 Mitigation by design measures are likely to be integrated into the design of the Proposed Scheme, including associated landscaping.

8.22 The assessment of likely significant effects to sensitive receptors will consider the sensitivity of the receptor (on a scale of high, medium, low and negligible) and the magnitude of change (on a scale of large, medium, small and negligible) to determine the level of effect on a scale of major, moderate, minor and negligible. Significant effects will be determined following this through professional judgment.

8.23 The assessment of cultural heritage is a qualitative one, and the evaluation of importance and effect is ultimately a matter of professional judgement.

Limitations and Assumptions

8.24 To ensure transparency within the EIA process, the following limitations and assumptions have been identified:

- The baseline assessment has been based on information readily available at the time of undertaking the assessment;
- The baseline assessment relies on the accuracy of secondary source data. There is always some degree of uncertainty in relation to these sources; and
- Inspection of the interior of historic buildings is not required as part of the baseline assessment.

9. Townscape and Visual

Technical Baseline

9.1 Due to the location of the Site within Whitworth Street Conservation Area, there are over 30 listed buildings within the study area (extent as shown in **Figure 10.1**), including the Grade II* Police and Fire Station. The Site lies within the North Campus Character Area within Manchester City Centre, as set out within Manchester City Centre Strategic Plan[106]. The area is currently characterised by a mix of building typologies and public spaces of varying quality.

9.2 There is a clear grain throughout the conservation area, created by the large goods warehouse buildings, which the Site does not conform to. The existing cleared Site has a poor relationship to the surrounding streets and urban pattern. A number of residential / student residential and university blocks are located in the immediately vicinity. Within the university campus are a number of open green spaces, including Vimto Park immediately to the west of the Site. To the north east is Piccadilly Station (a major rail hub) and city centre commercial / retail, entertainment and hotel uses in the wider area.

9.3 There is an established general height of approximately 6 storeys throughout the historic parts of the study area (extent of study area as shown in **Figure 9.1**), reflecting the prevalence of large warehouse buildings. Taller blocks of contemporary city centre development are located close to Piccadilly station. The underlying topography of the study area is generally flat with small level changes.

9.4 There are no formal designations affecting the Site. Adjacent is Vimto Gardens, primarily serving university students, along with a number of other open spaces within the campus. Sackville Gardens is located approximately 150m to the north west of the Site and is an important strategic green space in the city centre.

9.5 The Site is currently a construction site with hoarding to its edges. It is cleared of previous structures, planting and site features. It is set back from the main movement routes and is characterised by influences from the university campus and railway viaduct adjacent to it.

9.6 Visually, the Site is relatively well contained, with built form of the City Centre and its taller buildings restricting longer range views into the Site. Within the surrounding streets there are framed and glimpse views towards the site looking along the streets.

9.7 The adjacent Vimto Garden is an important City Centre green space has a more open aspect towards the Site, which provides a backdrop to the mature trees along its eastern edge. Views here are contained by the buildings around them, so new development becomes an important visual consideration.

[106] Manchester City Centre Strategic Plan 2015-2018. [Online] accessed via https://secure.manchester.gov.uk/downloads/file/24745/city_centre_strategic_plan

9.8 Piccadilly station is located to the east of the Site, with raised platform areas that have a clear, elevated view over the Site and surrounding townscape. These have the potential to be experienced by a large number of people whose attention is likely to be focused along the rail line towards the Site.

Proposed Scope of Assessment

9.9 The below sets out the proposed scope of assessment based on an understanding of the characteristics of the Site, surrounding area and the Proposed Scheme (**Chapter 4**). Where environmental effects are considered unlikely to be significant, an appropriate evidence base has been provided to justify the 'scoping out' of these effects ensuring the EIA and ES only assess those effects considered 'likely' to be significant.

Effects Unlikely / Not Significant

9.10 Based on the technical baseline and understanding of the Proposed Scheme (**Chapter 4**), the following effects are considered unlikely to be significant and therefore will not be considered further within the EIA or reported in the ES. A factual evidence base has been provided below to support this. Where mitigation has been used to inform this judgement, the identified mitigation has been captured within the Preliminary Environmental Management Plan (EMP) provided in **Appendix 2.1**.

9.11 To establish likely non-significant effects, reference to the previous TVIA assessment produced in 2017 has been made. The 2017 assessment identified that only three Townscape receptors (Townscape Character, Topography & Site Levels and Site Character) and five Visual Receptors (Views 1,2,3,5&6 as shown in F**igure 9.2**) experienced effects during either construction, operation phases of the development that were considered to be significant.

9.12 Whilst the baseline condition of the Site and Study Area has continued to evolve since 2017, with the completion of developments such as Kampus, the overall baseline assessment is considered to still be valid, as these changes have minimal impact in the context of the wider study area and City Centre.

9.13 The Site itself has now been cleared of all features and structures, and as such is now considered to have the potential to have a lower baseline sensitivity than previously assessed in 2017.

9.14 As the Proposed Scheme is slightly taller, but similar in overall massing, and layout, is it considered appropriate that the following receptors identified as being 'Not Significant' in the 2017 report could be scoped out as part of this Application. These are set out below.

Changes to all townscape and visual receptors during construction [Heritage, Townscape character, Urban Grain, Land Use, Building Height, Topography, Movement & Access, Open Space and Site Character – Views 1, 2, 3, 5, 6, 7, 8 & 10]

9.15 There is the potential for direct impacts on all townscape and visual receptors within the study area (as shown in **Figure 9.1**). With reference to the 2017 TVIA assessment, no townscape or visual receptors were identified as having significant effects during construction.

9.16 The proposed Construction Environment Management Plan (CEMP) identified a number of mitigation measures to counter construction stage impacts including: restricted hours of operation, traffic management with off peak deliveries, 3m high Site hoarding lines, safe pedestrian routes maintained along Granby Row, Site exit managed to keep clear of debris, mud and materials, phased construction programme and reuse of materials on site to avoid traffic movements. These would be included in the CEMP for the Proposed Scheme.

9.17 In addition, the relatively minor change to the overall wider Townscape area, screening of lower areas of the site from the surrounding area and the temporary nature of the effects all combined to reduce the potential effects that would be experienced. As the baseline conditions of the Site are unchanged, other than a lowering of the sensitivity of the 'Site' townscape receptor, and the overall extent of construction works and building massing broadly the same as previously assessment, it is not anticipated that any additional construction effects would be experienced.

9.18 Therefore, construction stage impacts to townscape and visual receptors are not considered to be significant and will not be considered further in the EIA or reported in the ES.

Change to visual amenity in construction [View 4,9,11,12&13]

9.19 The Proposed Scheme may potentially be viewed from public open space where views contribute to the townscape setting enjoyed by residents, users of public footpaths, users of the strategic movement network, and employees at their place of work. Whilst photomontages for these views within the 2017 assessment demonstrate that the Proposed Scheme will be visible, the change of effect was assessed as minor as the addition of built form would not materially alter the composition or appreciation of the overall view. View 11 from Sackville Gardens was demonstrated to be completely screened by existing built form and assessed as having 'no change'.

9.20 Therefore, visual effects to views 4,9,11,12 & 13 are not considered to be significant and will not be considered further in the EIA or reported in the ES.

Changes to townscape Heritage receptors during operation [Heritage townscape receptors]

9.21 Potential direct and indirect impacts on Heritage assets within the study area (as shown in **Figure 9.1**). With reference to the 2017 TVIA assessment, Heritage townscape receptors were identified as having minor beneficial effects that were not significant. The previous scheme was assessed as potentially improving the quality of the townscape environment, which would cause a perceptible change to the setting of local heritage designations. As the Proposed Scheme design and layout is broadly unchanged from this, it is not anticipated that this assessment would change.

9.22 Therefore, operation stage impacts to Heritage townscape receptors are not considered to be significant and will not be considered further in the EIA or reported in the ES.

Changes to Townscape Urban Grain receptor during operation [urban grain]

9.23 Potential direct impacts on the Urban Grain within the study area (as shown in **Figure 9.1**). With reference to the 2017 TVIA assessment, the townscape Urban Grain receptor were identified as having minor beneficial effects that were not significant. The

previous scheme was assessed as filling voids in the historic street pattern and relating well to the proposed emerging North Campus development. As the Proposed Scheme design and layout is broadly unchanged from this, it is not anticipated that this assessment would change.

9.24 Therefore, operation stage impacts to Townscape Urban Grain receptor are not considered to be significant and will not be considered further in the EIA or reported in the ES.

Changes to Townscape Land Use receptor during operation [land use]

9.25 Potential direct impacts on the land uses within the study area (as shown in **Figure 9.1**). With reference to the 2017 TVIA assessment, the townscape land Use receptor were identified as having minor beneficial effects that were not significant. The previous scheme land uses was assessed as providing a good degree of fit within an emerging mixed use redevelopment of the area. As the Proposed Scheme Land Use is broadly unchanged from this, it is not anticipated that this assessment would change.

9.26 Therefore, operation stage impacts to Townscape Land Use receptor are not considered to be significant and will not be considered further in the EIA or reported in the ES.

Changes to Townscape Building Height receptor during operation [townscape building height]

9.27 Potential direct impacts on the existing building height datum within the study area (as shown in **Figure 9.1**). With reference to the 2017 TVIA assessment, the townscape Building Height receptor was identified as having minor beneficial effects that were not significant. The previous scheme building heights introduced a new height datum to the area, but its stepping design related to different part of its context. As the Proposed Scheme building Height is broadly unchanged from this, it is not anticipated that this assessment would change.

9.28 Therefore, operation stage impacts to Townscape Building Height receptor are not considered to be significant and will not be considered further in the EIA or reported in the ES.

Changes to Townscape Movement and Linkages receptor during operation [movement and linkages]

9.29 Potential direct impacts on the existing vehicular and pedestrian movement network within the study area (as shown in **Figure 9.1**). With reference to the 2017 TVIA assessment, the townscape Movement and Linkages receptor was identified as having minor beneficial effects that were not significant. The previous scheme was assessed a providing a good fit within its context and whilst not creating new routes, did improve pedestrian movement around it and into the adjacent park. As the Proposed Scheme design and layout is broadly unchanged from this, it is not anticipated that this assessment would change.

9.30 Therefore, operation stage impacts to Townscape Building Height receptor are not considered to be significant and will not be considered further in the EIA or reported in the ES.

Changes to Townscape Environmental Designations & Public Open Space receptor during operation [townscape environmental designations and public open space]

9.31 Potential direct impacts on surrounding public open spaces within the study area (as shown in **Figure 9.1**). With reference to the 2017 TVIA assessment, the townscape Environmental Designations & Public Open Space receptor was identified as having minor beneficial effects that were not significant. The previous scheme was assessed as improving the setting, enclosure and connectivity to the adjacent Vimto Park. As the Proposed Scheme design and layout is broadly unchanged from this, it is not anticipated that this assessment would change.

9.32 Therefore, operation stage impacts to Townscape Environmental Designations & Public Open Space receptor are not considered to be significant and will not be considered further in the EIA or reported in the ES.

Effects Likely / Significant

9.33 **Table 9.1** outlines the effects (and associated receptor[s]) that are considered to be likely and significant and therefore will be assessed within the EIA and reported in the ES. The representative view locations referred to the in the receptors column for visual effects are shown in **Figure 9.2**.

Table 9.1: Potential Likely Significant Effects and Sensitive Receptors

Effect	Receptor(s)	Applicable Stage(s)
Changes to townscape character within the site context	The Site and wider townscape character area of North Campus Townscape Character Area	Operation
Changes to Topography & Site Levels	Topography & Site Levels	Operation
Changes to the character, composition and amenity of views	Viewpoint 1: Piccadilly Station main entrance Viewpoint 2: Piccadilly Station taxi rank, Fairfield Street Viewpoint 3: Piccadilly Station platform 13 and 14 Viewpoint 5: Sculptural wall, London Road Viewpoint 6: View west along Granby Row Viewpoint 7: Vimto Park Viewpoint 8: University of Manchester, Altrincham Street Viewpoint 10: Granby Row,	Operation

Effect	Receptor(s)	Applicable Stage(s)
	Samuel Ogden Street	

Assessment Methodology of Effects Likely / Significant

Assessment Approach

9.34 The Townscape and Visual Impact Assessment will be carried out with reference to the Guidelines for Landscape & Visual Impact Assessment, 3rd Edition, 2013 (referred to hereafter as "the Guidelines") by Planit-IE Ltd, a registered practice of the Landscape Institute with considerable experience in landscape and visual assessment.

9.35 A detailed description of the assessment methodology is provided in **Appendix 9.1**.

9.36 A three-stage assessment process has been adopted. Firstly, the nature of receptors (sensitivity) will be assessed, and secondly, the nature of effects (magnitude) likely to result from the Proposed Scheme will be assessed. From this, the overall significance of the identified effects on receptors will be assessed.

9.37 Desk-based studies will be carried out to collate and map baseline townscape information, and a review of relevant policy and guidance will be used to inform the assessment.

9.38 A Principal Viewpoints plan has been produced as part of this scoping report (**Figure 9.2**). The viewpoints were selected through a process of desktop survey and site knowledge. A basic 3D block model reflecting the proposed height of the development was put into Google Earth and a basic Zone of Visual Influence was created using Google viewshed. The viewshed highlights areas in green that have the potential for a visual relationship with the site, taking into consideration factors such as surrounding building heights and topography. The viewshed has been used to inform viewpoint selection, in addition to detailed study of urban form, topography, site knowledge and professional experience. A total of 8 viewpoint have been selected, and are considered representative viewpoints from key visual receptors. Viewpoints were excluded where there is likely to be no significant impact beyond that which was already identified within the selected views.

9.39 For the purposes of the assessment, photographs of each of the principal viewpoints will be taken by a professional photographer in accordance with Landscape Institute's Advice Note 01/11, "Photography and Photomontage in Landscape and Visual Impact Assessment" (Ref. 1.7), which is in the process of being updated. The Guidance recommends a fixed 50 mm Focal Length (FL). This is considered the benchmark for landscape photography and should normally be used. The Guidance Note was produced in March 2011 and is currently in the process of being updated by the Landscape Institute.

9.40 Visually verified photomontages will be produced by Virtual Planit, a professional visualization studio with extensive experience in the production of photomontages, in accordance with the Landscape Institute's Technical Guidance Note 02/17 "Visual Representation of Development Proposals".

9.41 The proposed detailed design of the Proposed Scheme will be assessed, in order to assess 'worst case scenario', in accordance with the Guidelines.

9.42 In order to provide the most comprehensive, rounded and objective view of the Townscape and Visual Impacts of the proposed development, assessed effects will be agreed following round-table review by a team of individual assessors.

Significance of Effect

9.43 The objective of the assessment process would be to identify and evaluate the likely significant effects arising from the Proposed Scheme. Significance indicates the importance or gravity of the effect.

9.44 Whilst there would be a degree of professional judgement involved in determining the significance of townscape and visual effects, they can broadly be determined by the interaction of the sensitivity of the receptor and the magnitude of change. The resulting significance of effect matrix is set out in **Chapter 2**.

9.45 The likely significance of effects reflects judgements as to the importance or sensitivity of the affected receptor(s) and the nature and magnitude of the predicted changes. For example, a moderate negative effect on a feature or site of low importance will be of lesser significance than the same effect on a feature or site of high importance. Where a range of significance is given (e.g. Moderate to major), this allows for a degree of objectivity to be exercised within judgments, especially if ranges are recorded for either sensitivity or magnitude within the assessment.

9.46 The following terms have been used to define the significance of the effects identified:

- **Major effect:** where the Proposed Scheme could be expected to have a considerable effect (either positive or negative) on viewers or landscape receptors;
- **Moderate effect:** where the Proposed Scheme could be expected to have a noticeable effect (either positive or negative) on viewers or landscape receptors;
- **Minor effect:** where the Proposed Scheme could be expected to result in a small, noticeable effect (either positive or negative) on viewers or landscape receptors; and
- **Negligible:** where no discernible effect is expected as a result of the Proposed Scheme on viewers or landscape receptors (i.e. the effect is not significant).

9.47 Effects that are deemed to be significant for the purposes of this assessment are those that are described as being moderate to major beneficial / adverse. This approach is consistent with the 2017 TVIA assessment and takes into account the evolving City Edge context of this Site, and the significant city aspirations for change within the adjacent ID Manchester area.

9.48 The nature of effects may be positive or negative (beneficial or adverse) or neutral. Neutral effects recognise that there will be a change to the receptors, however this change is in keeping with the existing characteristics of the receptor. The table has

regard to guidance in the Guidelines for Landscape and Visual Impact Assessment, Third Edition, 2013, at paragraph 5.56, page 92 (significance of landscape effects) and paragraph 6.44, page 116 (significance of visual effects). This matrix will be used as a guide to determine significance, along with professional judgement.

Limitations and Assumptions

9.49 To ensure transparency within the EIA process, the following limitations and assumptions have been identified:

- The assessment will rely on available data, and best endeavours will be made to ensure that the data are accurate and up to date. It is assumed that OS mapping information, topographic and 3D data and Historic England heritage mapping information are all up to date.

- The GLVIA methodology provides a robust and transparent process for assessment of townscape and visual effects and is used alongside visually verified photomontages which provide a high level of detail and technical accuracy. Significant effects will be determined through professional judgment, carried out by a team of assessors to provide scrutiny where this is relied upon.

10. Daylight, Sunlight, Overshadowing and Solar Glare

Technical Baseline

10.1 The BRE Guidelines suggest that residential properties have the highest requirement for daylight and sunlight and states that:

"the guidelines are intended for use for rooms in adjoining dwellings where light is required, including living rooms, kitchens and bedrooms."

10.2 There is no specific guidance relating to the extent of a study area. The scope of residential properties that have been assessed has been determined through professional judgement, considering their orientation and proximity to the Site.

10.3 Baseline studies are currently being undertaken by GIA. The baseline assessment will review the daylight and sunlight conditions within each of the surrounding residential properties in the Site area's present form, in accordance with BRE guidance.

10.4 The following sensitive receptors will be considered due to their residential use and proximity to the Site:

- Lambert House;
- Fairfield House;
- Warehouse One; and
- Stonebridge House.

10.5 Vimto Park will also be considered to understand whether there are any changes in sunlight amenity.

10.6 No buildings currently occupy the Site. As such, the Site is underdeveloped given the dense, urban location, and the surrounding receptors are therefore receiving higher levels of daylight and sunlight than would typically be expected in a city centre location.

10.7 For solar glare, the assessment is undertaken on the worst-case scenario. Solar Glare is not a comparative assessment; the fact it may occur in the baseline does not necessarily justify its occurrence as a result of the Proposed Development. Therefore, the assessment considers the effect of the Proposed Development in absolute terms.

10.8 However, it should be noted that the Proposed Development will be located on a cleared Site, thus there is no opportunity for instances of solar glare from the Site to be experienced. Solar glare from surrounding buildings is not assessed.

Proposed Scope of Assessment

10.9 The below sets out the proposed scope of assessment based on an understanding of the characteristics of the Site, surrounding area and the Proposed Scheme (**Chapter 4**). Where environmental effects are considered unlikely to be significant, an appropriate evidence base has been provided to justify the 'scoping out' of these effects ensuring the EIA and ES only assess those effects considered 'likely' to be significant.

Effects Unlikely / Not Significant

10.10 Based on the technical baseline and understanding of the Proposed Scheme (**Chapter 4**), the following effects are considered unlikely to be significant and therefore will not be considered further within the EIA or reported in the ES. A factual evidence base has been provided below to support this. Where mitigation has been used to inform this judgement, the identified mitigation has been captured within the Preliminary Environmental Management Plan (EMP) provided in **Appendix 2.1**.

10.11 The scope of works will focus on the nearest sensitive receptors which are the residential receptors and public amenity space in the immediate vicinity of the Site. These have been determined in line with the reasonable expectation of daylight and sunlight as per the BRE guidelines. The BRE guidelines consider that residential properties have the highest requirement for daylight and sunlight. As such, daylight and sunlight effects to commercial buildings surrounding the Site, or residential buildings which are not in sufficient proximity to the Site, are not considered to be significant and will not be considered further in the EIA or reported in the ES.

Reduced daylight and sunlight amenity during construction [surrounding residential receptors]

10.12 Owing to the evolving and changing nature of construction activities, the assessment of potential effects during construction of the Proposed Scheme on daylight and sunlight to surrounding properties will not be modelled.

10.13 Since the potential daylight and sunlight effects relating to construction works will vary throughout the construction programme and gradually increase to the potential effects identified for the completed Proposed Scheme, the interim construction effects will not be assessed quantitatively as it is considered that the completed Proposed Scheme represents the worst case assessment in terms of likely daylight and sunlight.

10.14 Therefore, reduced daylight and sunlight amenity during construction will not be reported separately on this basis that it will not be significant (or if it is, only on a parity with the completed Proposed Scheme).

Solar glare affecting residential amenity [surrounding residential receptors]

10.15 Regarding solar glare, BRE states that reflected sunlight can affect occupants of adjoining buildings. There are two types of glare: disability glare, which is a safety issue; and discomfort glare, which includes solar reflections impacting adjacent buildings. Discomfort glare does not impair the ability to see. Whilst it can be important where work involves continuous viewing of the outdoor space from a fixed vantage point, it can generally be managed where glare is an issue by using blinds of curtains for the periods of time where such glare occurs. For these reasons, residential

uses are classified as low-sensitivity receptors and do not require assessment as no significant adverse effects could occur.

10.16 Where analysis is undertaken, it would consider the total duration of time for which the sun can be reflected to the affected location per year. Durations of less than 50 hours per year are classified as being unlikely to lead to significant impacts. Some reflections from glazed buildings into surrounding buildings will inevitably occur in an urban context; however, it is highly unlikely that the Proposed Scheme would generate reflections that could impact any individual occupant in neighbouring buildings for 50 hours or more per year. Any discomfort glare that would occur would be entirely transient and short-lived as the sunpath moves past the Site and could be managed by residents using blinds or curtains for those short periods where necessary. This is considered to be typical of the Sites urban location and would potentially occur with any redevelopment proposal of the Site that includes areas of glazing.

10.17 It is therefore considered that any impact on residential amenity is not expected to be significant and an assessment of discomfort glare is not considered necessary. Therefore, solar glare effects to occupants of neighbouring buildings is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Effects Likely / Significant

10.18 **Table 10.1** outlines the effects (and associated receptor[s]) that are considered to be likely and significant and therefore will be assessed within the EIA and reported in the ES.

Table 10.1: Potential Likely Significant Effects and Sensitive Receptors

Effect	Receptor(s)	Applicable Stage(s)
Reduced daylight and sunlight amenity	Lambert House Fairfield House Warehouse One Stonebridge House	Operation
Reduced sunlight amenity	Vimto Park	Operation
Solar glare impacting visibility of road users at sensitive locations such as intersections and junctions	Selected viewpoints within 500m of the Site where the Proposed Scheme is visible, including: Hulme Street Charles Street Chorlton Street Minshull Street London Road Fairfield Street Travis Street Downing Street	Operation

Effect	Receptor(s)	Applicable Stage(s)
	Wadeson Road	
Solar glare impacting visibility of train drivers	Selected viewpoints within 500m of the Site where the Proposed Scheme is visible, including: Eastbound trains towards Piccadilly Westbound trains towards Oxford Road	Operation

Assessment Methodology of Effects Likely / Significant

10.19 The following background surveys/studies will be undertaken.

Table 10.2: Background Surveys / Studies

Survey / Study / Analysis / Evaluation	Overview	Date of Completion
Pending		
Daylight and sunlight assessment	An assessment of the potential impacts to daylight and sunlight on the surrounding sensitive receptors	April 2023

Legislative and Policy Context

10.20 There is no legislation, National or Local Planning Policy relevant to Solar Glare.

Legislation

10.21 There is no legislation that governs daylight and sunlight, with the criteria for assessment relating to daylight and sunlight covered by national and local policy in addition to BRE guidance as set out below.

National Planning Policy and Guidance

National Planning Policy

10.22 The following national planning policy is relevant to daylight and sunlight and will be referred to in the ES Chapter:

- Revised National Planning Policy Framework 2021[107]; and
- National Planning Policy Guidance 2021[108].

[107] Ministry of Housing, Communities & Local Government (2021). National Planning Policy Framework. 2021.

Local Planning Policy and Guidance

10.23 The following local planning policy is relevant to daylight and sunlight and will be referred to in the ES Chapter:

- Manchester Core Strategy (2012 – 2027)109; and
- Guide to Development in Manchester Supplementary Planning Document and Planning Guidance (Adopted April 2007)110.

Other Relevant Policy, Standards and Guidance

10.24 BRE 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice' (2022)[111i]; and

10.25 CIE 146:2002 & CIE 147:2002 Collection on glare[112ii].

Methodology for Determining Operational Effects

10.26 The following approaches are undertaken to assess the effect on the sensitive receptors of surrounding properties when the Proposed Scheme is completed and operational:

- Daylight
  - Vertical Sky Component (VSC); and
  - No Sky Line (NSL) Method.
- Sunlight
  - Annual Probable Sunlight Hours (APSH).
- Overshadowing
  - Sun Hours on Ground (SHOG).

Outline Approach for Daylight, Sunlight and Overshadowing Assessments

10.27 The technical analysis carried out to inform the daylight and sunlight assessment will be undertaken by creating a digital three-dimensional (3D) model of the existing Site and Proposed Scheme, based on measured survey data.

10.28 The 3D model uses Waldram Diagrams to establish the VSC and 3D geometric calculations for daylight distribution. This model (which is orientated to north by the

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[108] Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government (2021). National Planning Policy Guidance. 2021.
[109] Manchester City Council (2012). Manchester Core Strategy (2012 – 2027).
[110] Manchester City Council (2007). Guide to Development in Manchester Supplementary Planning Document and Planning Guidance Adopted April 2007.
[111] Building Research Establishment (BRE) (2022). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice, Third Edition.
[112] Commission Internationale de L'Eclairage (CIE) (2002). 146:2002 & CIE 147:2002 Collection on glare

use of Ordnance Survey (OS) information) enables the path of the sun to be tracked throughout the year to establish the shadow cast by the existing and proposed buildings and thus calculate the sun hours on ground in each scenario.

10.29 In accordance with the BRE Guidance, only those surrounding properties which have windows facing towards the Site will be included in the assessment. If a nearby property has no windows facing the Site, these properties would not be affected by the Proposed Development in terms of light.

10.30 The following table provides a summary of the criteria set out within the BRE Guidelines for daylight and sunlight.

Table 10.3: Summary of Daylight and Sunlight Assessment Criteria

Method	BRE Criteria
VSC	A window may be adversely affected if its VSC measured at the centre of the window is less than 27% and less than 0.8 times is former value.
NSL	A room may be adversely affected if the daylight distribution (NSL) is reduced beyond 0.8 times its existing area.
APSH	A window may be adversely affected if a point at the centre of the window received for the whole year, less than 25% of the APSH including at least 5% of the APSH during the winter months (21 September to 21 March) and less than 0.8 times its former sunlight hours during either period, and for existing neighbouring buildings, if there is a reduction in total APSH which is greater than 4%.
SHOG	An amenity area may be adversely affected if less than 50% of its area receives less than 2 hours of direct sunlight on 21 March and less than 0.8 times its former value.

10.31 **Appendix 10.1** elaborates on each of the above assessment criteria and explains the appropriateness of their use.

10.32 When assigning significance criteria for daylight and sunlight effects, professional judgement will be used. Consideration will be given to the proportion of rooms/windows affected, as well as the percentage alterations, absolute changes, sensitivity of the receptor, and any other relevant factors. There may be mitigating factors such as location and nature of development, balconies, overhangs or design features which may also affect the determination of assigning the criteria.

10.33 When assigning significance criteria for sun hours on ground effects, consideration will be given to the nature of the adjoining amenity space, as well as the percentage alterations, absolute changes, sensitivity of the receptor, and any other relevant factors.

Approach for Solar Glare Assessments

10.34 For solar glare, the worst-case scenario is portrayed by the complete and operational Proposed Scheme, where all reflective facade materials have been installed and any covers, films or hoarding used during the construction period have been removed.

10.35 The assessment will consider potentially sensitive viewpoints for road and rail drivers surrounding the site. The viewpoints will generally be located at the minimum stopping distance for road users and at the driver's eye level with the focal point being a relevant traffic element, such as signals or incoming traffic. For rail drivers, viewpoints will be assessed where signals are visible or at representative intervals where the Proposed Scheme would be visible close to the direct line of sight for a substantial stretch of track.

10.36 Viewpoints within 500m of the Site, where the Proposed Scheme is visible within the driver's field of view will be assessed. At distances greater than 500m from the Proposed Scheme, instances of solar glare would be unlikely to occur. A review of the surrounding area has identified the following road junction and rail tracks as receptors sensitive to solar glare.

10.37 Drivers at each of the relevant road or rail viewpoints are considered the sensitive receptors, where there are multiple directions of travel potentially affected, each direction of travel at the junction is considered a separate receptor as their effect significance may differ. For train tracks, the train drivers on the stretch of track are considered to be the sensitive receptor. The effect significance will be determined using professional judgement taking into consideration the duration of solar reflections, location of these in relation to a driver's line of sight, type of junction control and the probability of reflections occurring. The effect significance is given on a per junction basis considering all viewpoints assessed for that junction as well as any viewpoints that would not be affected by the Proposed Scheme.

10.38 There are no quantitative criteria within the BRE Guidelines or elsewhere regarding acceptable levels of solar glare. When assessing the overall significance of effect, the following factors could influence the nature, scale and resultant significance of effect:

- Sunlight availability probability;
- Area of façade off which reflections are visible;
- Period of time when reflections are visible;
- Angle at which reflections are visible from line of sight;
- Views of the Proposed Scheme being obscured for example by trees; and/or
- The time of day at which the solar reflection will occur for example during peak traffic times.

10.39 The factors in **Table 10.4** will be used to ascertain the possible significance for each view and the factors listed above will then be taken into consideration to determine the overall significance for the designated viewpoint.

Table 10.4: Summary of Solar Glare Assessment Criteria

Scale of Effect	Possible Factors
Negligible	No reflections are visible or if visible all occur at angles greater than 30° from the driver's line of sight and so, as stated by the CIE, will be of "little significance".
Minor	Solar reflections are visible within 30° to 10° or between 10° to 5° of the driver's line of sight for a short period of time.
Moderate	Solar reflections are visible within 10° and 5° of the driver's line of sight occurring for a long period of time.
Major	Solar reflections are visible within 5° of a driver's line of sight.

10.40 All viewpoints assessed for solar glare are considered to be of high sensitivity.

10.41 The assessment of likely significant effects to sensitive receptors will consider the sensitivity of the receptor (on a scale of high, medium, low and negligible), the magnitude of change (on a scale of large, medium, small and negligible), and the level of effect on a scale of major, moderate, minor and negligible. Significant effects will be determined from this evaluation and including professional judgment.

Limitations and Assumptions

10.42 To ensure transparency within the EIA process, the following limitations and assumptions have been identified:

- Where actual room layouts are available on the planning portal, these will be considered in regard to the modelling of the internal layouts within the existing surrounding properties. Where layout information is not available, assumptions will be made as to the use and internal configuration of the rooms (from external observations during a site inspection) behind the fenestration observed.

- Floor levels will be assumed for adjoining properties assessed, where access has not been obtained. This dictates the level of the working plane which is relevant for the NSL assessments.

- Façade details are not yet known however the façade design of the Proposed Development is anticipated to comprise large areas of glazing which have the potential for solar glare effects.

- Although great care has been taken in identifying typical viewpoints for solar glare, this does not guarantee that there are no additional sensitive locations where reflected solar glare could present a particular risk. For practical reasons, the area of the assessment has been limited to the area surrounding the Proposed Development. This area extends to a distance of approximately 500m around the site in all directions. At greater distances, the likelihood of solar reflections causing significant glare is reduced as the time that buildings will

reflect is reduced and the area of façade visible constitutes a reduced angle and so reduces the possibility of the whole sun disk being reflected.

11. Wind Microclimate

Technical Baseline

11.1 At this stage no assessment of the baseline has been conducted with respect to wind. The Site is currently cleared of structures.

11.2 The Baseline assessment will be carried out as a representation of the existing condition, i.e., existing condition of the Site within the existing surroundings. Any buildings under construction within a 500m distance from the Site will be considered as completed.

11.3 The Baseline assessment will be used as a reference from which the magnitude of change will be measured once the Proposed Scheme is assessed under equal conditions.

11.4 The information that will potentially be used to define the baseline conditions would be collected from available sources including drawings of the Proposed Scheme, information from the Manchester Planning Portal supported by mapping data and photographic data for the area

Proposed Scope of Assessment

11.5 The below sets out the proposed scope of assessment based on an understanding of the characteristics of the Site, surrounding area and the Proposed Scheme (**Chapter 4**). Where environmental effects are considered unlikely to be significant, an appropriate evidence base has been provided to justify the 'scoping out' of these effects ensuring the EIA and ES only assess those effects considered 'likely' to be significant.

Effects Unlikely / Not Significant

11.6 Based on the technical baseline and understanding of the Proposed Scheme (**Chapter 4**), the following effects are considered unlikely to be significant and therefore will not be considered further within the EIA or reported in the ES. A factual evidence base has been provided below to support this. Where mitigation has been used to inform this judgement, the identified mitigation has been captured within the Preliminary Environmental Management Plan (EMP) provided in **Appendix 2.1**.

Potential effects on wind microclimate during the construction of the Proposed Scheme [sensitive receptors within 500m from the Site]

11.7 The effects on the wind microclimate of the Site and its surroundings are a function of the massing of the Proposed Scheme which would progressively vary during the construction stage. Wind speeds are likely to increase during periods of demolition as a site will become relatively free of obstructions and winds are likely to gather speed in open areas, though demolition has already taken place on Site. As construction develops, the potential effects during various stages of construction will vary and may be of lesser magnitude than those that will be experienced once the Proposed Scheme has been completed. Any undesirable wind conditions during construction are temporary and the areas within the immediate vicinity of the Site will not be open to the public. As construction of the Proposed Scheme proceeds, the wind conditions of

the Site and its surroundings would gradually vary, approaching those of the completed development. Therefore, the completed development represents the worst-case scenario.

11.8 Therefore, potential effects on wind microclimate during the construction of the Proposed Scheme to sensitive receptors within 500m from the Site will not be reported separately on this basis that they will not be significant (or if they are, only on a parity with the completed Proposed Scheme)

Potential effects on wind microclimate from the Proposed Scheme beyond 500m from the Site [areas beyond 500m from the Site]

11.9 Due to the distance from the Site, the wind effects on areas beyond 500m from the Site are considered to not be significant in line with best practice guidelines.

11.10 Therefore, the potential effects on wind microclimate from the Proposed Scheme beyond 500m from the Site are not considered to be significant and will not be considered further in the EIA or reported in the ES.

Effects Likely / Significant

11.11 **Table 11.1** outlines the effects (and associated receptor[s]) that are considered to be likely and significant and therefore will be assessed within the EIA and reported in the ES.

Table 11.1: Potential Likely Significant Effects and Sensitive Receptors

Effect	Receptor(s)	Applicable Stage(s)
Potential changes to the wind microclimate from the Proposed Scheme outside of the Site	Existing pedestrian street-level and open amenity spaces receptors within 500m from the Site	Operation
Potential changes to the wind microclimate from the Proposed Scheme within the Site	Accessible balconies, roof terraces and new amenity spaces within the Proposed Scheme	Operation

Assessment Methodology of Effects Likely / Significant

11.12 The following background surveys/studies will be undertaken.

Table 11.2: Background Surveys / Studies

Survey / Study / Analysis / Evaluation	Overview	Date of Completion
Pending		
Baseline Wind Assessment	Assessment of the existing buildings on the Site with the existing surrounding context.	Pending - April 2023

Survey / Study / Analysis / Evaluation	Overview	Date of Completion
Proposed Scenario Wind Assessment	Assessment of the Proposed Scheme on the Site with the existing surrounding context.	Pending - April 2023
Cumulative Scenario Wind Assessment	Assessment of the Proposed Scheme on the Site with the existing surrounding context in combination with other future (consented) schemes.	Pending - April 2023

Relevant Guidance and Best Practice

11.13 There is no legislation relevant to this assessment although guidance exists, as shown in below.

- National:
  - National Planning Policy Framework, 2021[113];
- Local:
  - Core Strategy 2012-2027, 2012[114];
- Guidance:
  - The Lawson Criteria, 2001[115];
  - Best Practice Guidelines for Computational Fluid Dynamics Simulation of Flows in the Urban Environment, 2007[116]; and
  - Historic England Advice Note 4, Tall Buildings, 2015[117];

Proposed Assessment Methodology

11.14 The purpose of this study is to determine the likely significant effects of the Proposed Scheme on the local pedestrian wind environment within the Site and its surrounding areas as compared to the baseline conditions. The assessment will follow the guidance given in the Lawson Criteria[118] which is discussed below.

[113] Ministry of Housing, Communities and Local Government (2021). National Planning Policy Framework. Available at: National Planning Policy Framework - GOV.UK (www.gov.uk)
[114] Manchester City Council (2012). Core Strategy 2012 – 2027. Available at: Core Strategy 2012-2027 | Core Strategy 2012-2027 | Manchester City Council
[115] The Lawson Criteria, 2001
[116] Meteorological Inst. (2007). Best Practice Guidelines for Computational Fluid Dynamics Simulation of Flows in the Urban Environment.
[117] Historic England (2015). Tall Buildings Historic England Advice Note 4. Available at: Tall Buildings: Historic England Advice Note 4
[118] The Lawson Criteria, 2001

11.15 A three- dimensional computer model of the Proposed Scheme and adjacent areas will be constructed for the assessment and will comprise the following scenarios:

- Baseline Scenario: Assessment of the existing Site with the existing surrounding context;
- Proposed Scenario: Assessment of the Proposed Scheme on the Site with the existing surrounding context;
- Cumulative Effects (to be reported within the Cumulative Effects Assessment ES Chapter): This scenario will include the effects of the Proposed Scheme in combination with other future (consented) schemes.

11.16 The method for the study will combine the use of CFD to predict wind velocities and air flow patterns, the use of wind data from the nearest suitable meteorological station and the recommended comfort and safety standards set out in the Lawson Criteria. A full 3D model of the Site and its surrounding areas will be constructed for the assessment. The study will take the following factors into account:

- The effect of the geometry, height and massing of the development and existing surroundings on local wind speed and direction;
- The wind speed as a function of the local environment as topography, ground roughness and nearby obstructions (buildings, bridges, etc.);
- The effects of the built up urban around the site on the wind flow patterns;
- Orientation of the buildings relative to the prevailing wind direction; and
- The pedestrian activity to be expected (sitting, standing, or walking). It should be noted that effects on pedestrian comfort and safety are only considered externally to the building. No assessment will be made of the potential effects of the wind environment inside buildings, as microclimate studies are only intended to assess external conditions.

11.17 The results of the assessment will be presented in the form of wind velocity contours at a plane 1.5m above the ground level. This reference height is industry standard to assess comfort and safety at pedestrian level.

The Study Area

11.18 The study area modelled for this analysis will include the Site and the surrounding existing and permitted development likely to be affected by the Proposed Scheme (500m).

11.19 The extent of the 3D model for the wind assessment will include the built area within a radius of approximately 500m around the Site. Beyond this area, buildings and structures will be represented in the computational domain if their distance from the region of interest is less than six times their height, in line with the Best Practice Guidelines for CFD Simulation of Flows in the Urban Environment.

The Lawson Criteria[119]

11.20 The Lawson Comfort Criteria will be applied, and a comparison will be made between the modelled results of the CFD assessment in terms of the suitability for various pedestrian activities against the desired pedestrian activity in that location. The Lawson Comfort Criteria define a scale for assessing the suitability of wind conditions in the urban environment based upon threshold values of wind speed and frequency of occurrence.

11.21 The Lawson criteria are specifically designed for pedestrian activities and are related to pedestrian comfort and safety. Therefore, the assessment focuses on assessing the areas with pedestrians use only, including cyclists.

11.22 The frequency of occurrence is used as an indicator of the likely duration of wind speeds. The criteria provide ranges of acceptability to maintain pedestrian comfort for different activities and relate frequency of occurrence to the hourly average wind speed ranges. The criteria ranges are set out in **Table 11.3** below.

Table 11.3: Lawson's Comfort Assessment Criteria

Comfort Category	Threshold mean wind speed (5% exceedance)	Comfort Category
Sitting	4 m/s	Acceptable for outdoor seating and areas one can occupy comfortably for long periods.
Standing	6 m/s	Acceptable for entrances, bus stops, covered walkways or passageways beneath buildings.
Walking	8 m/s	Acceptable for external pavements, walkways.
Uncomfortable	>8 m/s	Not comfortable for regular pedestrian access.

11.23 The Lawson Criteria also identifies a safety criterion to identify those areas where someone could find walking difficult, or even stumble and fall. The Lawson Comfort Criteria define threshold wind speeds not to be exceeded for more than 0.025% of the year. These are particularly strong winds that could cause people to have difficulties while walking and also stumble or fall. The safety criterion is set out in **Table 11.4** below.

Table 11.4: Lawson's Safety Assessment Criteria (LDDC)

Safety Category	Threshold mean wind speed (0.025% exceedance)	Safety Category
Pedestrian Safety Limit	15 m/s	Presents a safety risk for pedestrians, especially to more vulnerable members of the public.

[119] The Lawson Criteria, 2001

General Target Wind Conditions

11.24 The wind assessment for each of these criteria will be tested taking into account the season and will inform the suitability for different activities on the Site based on the following general target wind conditions:

- Outdoor amenity and seating areas: 'Sitting' during the Summer season;
- Building entrances, bus stops, drop off areas: 'Standing' during all seasons;
- Pedestrian circulation routes: 'Walking' during all seasons; and
- Pedestrian thoroughfares (minor pedestrian routes): 'Walking' during all seasons.

Identification of Sensitive Receptors

11.25 Sensitive receptors for the wind assessment will be all pedestrian circulation routes, building entrances and leisure open areas within the Site and in neighbouring adjacent areas. Balconies and roof terraces within the Proposed Scheme where occupants are expected to use as outdoor spaces are also considered sensitive receptors.

Determining the Significance of Effect

11.26 EIA requires a description of the significance of wind effects at a particular location. This section is intended to provide consistency in these significance descriptors. Whether a condition is significant or not depends on whether the condition requires mitigation. The tables in the following sections also include a column that defines if mitigation measures are necessary.

11.27 To determine the significance of the effect of the Proposed Scheme on the wind environment, a comparison can be made with the existing conditions on the Site where applicable. However, because the pedestrian use of a Site can change between the existing and proposed uses, the assessment should also be based upon the suitability of the Site for the desired pedestrian use, where known. The likely significance of effects is therefore based on the following parameters:

- The magnitude of change of the wind environment in the Proposed Scenario from the Baseline; and
- Adherence to the Lawson Criteria[120].

On-site receptors

11.28 The significance of on-site measurement locations is defined by comparing the wind comfort/safety levels with the intended pedestrian activity at each location, using **Table 11.5** below.

[120] The Lawson Criteria, 2001

Table 11.5: Determining the Significance of effect - On-Site Receptors

Significance	Trigger	Mitigation required?
Major Adverse	Conditions are 'unsafe'	Yes
Moderate Adverse	Conditions are 'unsuitable' (in terms of comfort) for the intended pedestrian use.	Yes
Minor Adverse	Conditions are only locally 'unsuitable' (in terms of comfort) but most suitable for the intended pedestrian use.	No
Negligible	Conditions are 'suitable' for the intended pedestrian use.	No

Off-site receptors

11.29 The significance of off-site measurement locations is defined not only by comparing the wind comfort levels with the intended pedestrian activity, but also by comparing the conditions to those experienced prior to the introduction of the Proposed Scheme (baseline), using **Table 1.6** below.

Table 11.6: Determining the Significance of effect - Off-Site Receptors

Significance	Trigger	Mitigation required?
Major Adverse	Conditions that were 'safe' in the baseline scenario become 'unsafe' as a result of the Proposed Scheme. OR Conditions that were 'suitable' in terms of comfort in the baseline scenario become 'unsuitable' as a result of the Proposed Scheme. OR Conditions that were 'unsafe' in the baseline scenario are made worse as a result of the Proposed Scheme.	Yes
Moderate Adverse	Conditions that were 'suitable' in terms of comfort in the baseline scenario are made windier (by at least one comfort category) as a result of the Proposed Scheme but remain 'suitable' for the intended pedestrian activity.	No
Minor Adverse	Conditions that were 'suitable' in terms of comfort in the baseline scenario are made only locally windier as a result of the Proposed Scheme but remain mostly 'suitable' for the intended pedestrian activity.	No

Significance	Trigger	Mitigation required?
Negligible	Conditions remain the same as in the baseline scenario.	No
Major Beneficial	Conditions that were 'unsafe' in the baseline scenario become 'safe' as a result of the Proposed Scheme.	No
Moderate Beneficial	Conditions that were 'unsuitable' in terms of comfort in the baseline scenario become 'suitable' as a result of the Proposed Scheme. OR Conditions that were 'unsafe' in the baseline scenario are made better as a result of the Proposed Scheme (but not so as to make them 'safe').	No

11.30 Where the results of the assessments identify areas where the guidelines are not met or where the suitability exceeds that of the intended use, the need for mitigation measures to achieve the required wind condition for the designated uses and/or limit the adverse effect of the Proposed Scheme will be identified and an assessment of residual effects will be made.

11.31 A separate statement will be made as to whether the residual effect is 'Significant' or 'Not Significant', which will be based on the outcomes of the assessment in line with the approach above and professional judgement.

Limitations and Assumptions

11.32 To ensure transparency within the EIA process, the following limitations and assumptions have been identified:

- The assessment will take into consideration all external wind effects at pedestrian level. Other potential wind effects including wind loads, structural response, natural ventilation and internal flows of buildings are not within the scope of this assessment.
- The assessment also excludes impacts on vehicles or waterways since the Lawson Criteria[121] focuses on impacts to pedestrians.
- The model for the base wind assessment will include all relevant buildings and structures in the surrounding area but as a worst-case scenario will exclude trees and landscape features. Where required, these could be added to test mitigation options.

[121] The Lawson Criteria, 2001

- It is not clear at this stage if the quantitative assessment of the mitigation measures will form a part of this EIA assessment or will be carried out in a later stage.

12. Noise and Vibration

Technical Baseline

12.1 A review of the existing noise environment has been undertaken based on survey data obtained for the 2017 application. Background noise surveys were completed in May and July 2017. Attended and unattended measurements of the existing background and ambient noise levels were taken externally, at 1m from the façade of the previously existing Chandos Hall building, which did occupy the Site but is now demolished, by projecting microphones out of appropriate windows. The surveys were undertaken on the southern elevation on the 2nd, 5th and 13th floor of the building and the 6th floor of the eastern elevation. The noise measurements highlighted noise levels on the south-facing elevation overlooking the railway were dominated by the railway line with a mixture of diesel and electric trains. There was a distant general road traffic hum dominant in between train movements. At upper levels the rail noise reduces a little and traffic hum becomes more noticeable. There is some noise at higher floors from fixed M&E plant on rooftops of University buildings.

12.2 The eastern elevation identified ambient noise levels increased with height, where there was a direct line of site to Piccadilly station. The western elevation had distant general road traffic noise which was dominant and louder at higher floors of the existing building. The noise levels on the western elevation were subjectively lower than those on the east facing elevation. Rail noise was audible and becoming more significant closer to the railway line.

12.3 **Table 12.1** provides a summary of the measured baseline noise levels.

Table 12.1: Summary of Noise Measurements

Location	Descriptor	Sound Pressure Level, dB at Octave-Band Centre Frequency (Hz)								dBA
		63	125	250	500	1k	2k	4k	8k	
Southern elevation 2nd Floor	Day L_{eq}	73.4	64.5	64.2	62.1	61.8	58.3	58.7	53.7	**66.8**
	Night L_{eq}	68.3	61.1	61.6	59.1	58.3	54.5	58.5	52.9	**64.4**
	*Typical Night L_{Max}	91.6	79.7	81.7	78.4	77.5	74.3	75.6	73.4	**83.3**
Southern elevation 5th Floor	Day L_{eq}	72.4	63.5	63.2	61.1	60.8	57.3	57.7	52.7	**65.8**
	Night L_{eq}	67.3	60.1	60.6	58.1	57.3	53.5	57.5	51.9	**63.4**
	*Typical Night L_{Max}	90.6	78.7	80.7	77.4	76.5	73.3	74.6	72.4	**82.3**

Location	Descriptor	Sound Pressure Level, dB at Octave-Band Centre Frequency (Hz)								dBA
		63	125	250	500	1k	2k	4k	8k	
Southern elevation 13th Floor	Day L_{eq}	71.5	64.7	62.3	60.9	62.1	56.3	51.2	45.3	**65.2**
	Night L_{eq}	67.0	60.8	59.2	57.9	59.1	53.7	51.4	44.8	**62.5**
	*Typical Night L_{Max}	88.6	78.5	74.6	74.8	72.5	70.1	68.0	62.8	**77.9**
Eastern elevation 6th Floor	Day L_{eq}	68.8	61.4	59.0	58.1	58.4	54.0	51.0	46.2	**62.3**
	Night L_{eq}	63.8	57.9	56.1	55.6	55.3	49.8	47.1	42.4	**59.0**
	*Typical Night L_{Max}	84.6	75.3	72.9	74.1	71.9	68.6	66.7	60.1	**76.8**
Western elevation 6th Floor	Day L_{eq}	67.6	61.9	56.8	56.1	55.9	51.6	48.0	44.6	**60.0**
	Night L_{eq}	61.8	57.7	52.9	52.6	51.6	46.3	41.2	36.3	**55.5**
	*Typical Night L_{Max}	81.9	74.5	70.3	71.5	69.6	66.4	62.2	57.3	**74.3**

*Typical Night L_{Max} is the 98th percentile of the $L_{Max,1min}$ measurements for the whole night time period (23:00 – 07:00)

Background Sound Levels

12.4 The results obtained during the noise survey were further analysed in order to determine the typical background sound levels at surrounding noise-sensitive receptors.

12.5 Representative Background Sound Levels were derived for two time periods of interest, as follows.

- Day time 07:00hrs to 23:00hrs; and
- Night time 23:00hrs to 07:00hrs.

12.6 The free-field representative background sound levels for the nearest residences, which are currently those student dwellings located on Granby Row are as follows:

- Day time 54 dB $L_{A90,1hour}$
- Night time 47 dB $L_{A90,15\ minute}$

Existing Vibration Levels

12.7 Vibration measurements were undertaken in August 2018. The surveys were undertaken within the basement of the existing Chandos Hall building over a 72-hour period. The results of the measurements are provided in **Table 12.2** below.

Table 12.2: Summary of Vibration Measurements

Date	Day (0700 – 2300) VDV ($m.s^{-1.75}$)	Night (2300 – 0700) VDV ($m.s^{-1.75}$)
17th August 2018	0.010*	0.010
18th August 2018	0.007	0.004
19th August 2018	0.007	0.016
20th August 2018	0.012*	N/A

** Data for daytime calculated for 16-hour assessment period from partial measurement.*

12.8 The measured vibration levels within the Chandos Hall building show that vibration levels are below the threshold for 'low probability of adverse comment' according to criteria set down in BS6472-1[122].

12.9 Updated noise and vibration surveys will be undertaken in February 2023. It is not expected that the levels will have changed significantly from those measured in the 2017 survey, since the main vibration source is from freight trains which are still operational on the line.

Proposed Scope of Assessment

12.10 The below sets out the proposed scope of assessment based on an understanding of the characteristics of the Site, surrounding area, and the Proposed Scheme (**Chapter 4**). Where environmental effects are considered unlikely to be significant, an appropriate evidence base has been provided to justify the 'scoping out' of these effects, ensuring the EIA and ES only assess those effects considered 'likely' to be significant.

Effects Unlikely / Not Significant

12.11 Based on the technical baseline and understanding of the Proposed Scheme (**Chapter 4**), the following effects are considered unlikely to be significant and therefore will not be considered further within the EIA or reported in the ES. A factual evidence base has been provided below to support this. Where mitigation has been used to inform this judgement, the identified mitigation has been captured within the preliminary Environmental Management Plan (EMP) provided in **Appendix 2.1**.

[122] BSI Standards Publications (2008). BS6472: 2008. Available at https://vdocument.in/bs-6472-1-2008-vibration-sources.html?page=1 [Accessed:25/1/2023].

Nuisance and disturbance as a result of noise from construction activities [existing residential receptors located close to the Site]

12.12 Construction activities have the potential to result in nuisance and or adverse health effects due to noise emissions arising from on-site construction activities. It is anticipated that noise emissions produced during construction activities would be controlled through the implementation of a Construction Environmental Management Plan (CEMP). The CEMP will have controls implemented in accordance with BS5288-1:2014[123], such controls would include site hoardings, hours of operation, and the use of practicable measures to control noise at source. These tertiary mitigation measures would be considered an integral part of the Proposed Scheme and considered part of the EMP.

12.13 The effects of construction noise were fully assessed as part of the ES Chapter 13 (Noise and Vibration)[124] for planning application 118267/FO/2017. It can be seen from the results tabulated in **Table 12.3**, that some of the closest noise-sensitive receptors included in this assessment would be exposed to construction and demolition noise levels which are above the relevant threshold criteria. These receptors are located in Lambert and Fairfield halls which are owned and operated by IQ. The phase of construction which leads to the excess of the criteria includes; piled foundations, frame construction activities.

[123] BSI Standards Publications (2014). BS5228-1:A1:2014: available at https://knowledge.bsigroup.com/products/code-of-practice-for-noise-and-vibration-control-on-construction-and-open-sites-vibration/standard [Accessed 13/1/2023].

[124] Turley (2017). Environmental Statement, Echo Street, Manchester: Chapter 13: available at https://pa.manchester.gov.uk/online-applications/applicationDetails.do?activeTab=documents&keyVal=OZRWJ8BCHYJ00 [Accessed 13/1/2023].

Table 12.3: Construction Noise Significance Assessment (ABC Method).

D	Receptor	Measured Existing Ambient Noise Level (L_{Aeq})	Rounded to nearest 5 dB	Activity 1 Demolition	Activity 2 Piled Foundations	Activity 3 Non-Piled Foundations	Activity 4 Building Construction	Worst Case Predicted Noise Level	Category	Threshold	Magnitude of Impact	Sensitivity of Receptor	Significance of effect
1	Barnes Wallis Building North	66	65	42	48	42	47	48	B	70	Negligible	Medium	None
2	Barns Wallis Building East (Ground Floor)	66	65	47	55	49	53	55	B	70	Negligible	Medium	None
3	Barns Wallis Building East (Middle Floor)	66	65	48	55	50	54	55	B	70	Negligible	Medium	None
4	Barns Wallis Building East (Top Floor)	66	65	51	57	54	55	57	B	70	Negligible	Medium	None
5	Barns Wallis Building West (Ground Floor)	66	65	51	60	50	58	60	B	70	Negligible	Medium	None
6	Barns Wallis Building West (Middle Floor)	65	65	52	58	54	55	58	B	70	Negligible	Medium	None
7	Barns Wallis Building West (Top Floor)	65	65	51	58	50	58	58	B	70	Negligible	Medium	None
8	**Echo Street Office**	**62**	**60**	**65**	**72**	**66**	**72**	**72**	**A**	**65**	**Moderate**	**Low**	**Minor**

D	Receptor	Measured Existing Ambient Nosie Level (L_{Aeq})	Rounded to nearest 5 dB	Activity 1 Demolition	Activity 2 Piled Foundations	Activity 3 Non-Piled Foundations	Activity 4 Building Construction	Worst Case Predicted Noise Level	Category	Threshold	Magnitude of Impact	Sensitivity of Receptor	Significance of effect
9	**Fairfield Hall (Ground Floor)**	**62**	**60**	**65**	**72**	**66**	**72**	**72**	**A**	**65**	**Moderate**	**High**	**Major**
10	**Fairfield Hall (Middle Floor)**	**62**	**60**	**64**	**73**	**66**	**72**	**73**	**A**	**65**	**Moderate**	**High**	**Major**
11	**Fairfield Hall (Top Floor)**	**62**	**60**	**63**	**71**	**65**	**70**	**71**	**A**	**65**	**Moderate**	**High**	**Major**
12	Joule Library (East)	60	60	58	63	60	63	63	A	65	Negligible	High	None
13	Joule Library (South)	60	60	55	62	58	61	62	A	65	Negligible	High	None
14	**Lambert Hall East (Ground Floor)**	**62**	**60**	**62**	**69**	**65**	**68**	**69**	**A**	**65**	**Low**	**High**	**Moderate**
15	**Lambert Hall East (Middle Floor)**	**62**	**60**	**65**	**74**	**67**	**71**	**74**	**A**	**65**	**Moderate**	**High**	**Major**
16	**Lambert Hall East (Top Floor)**	**62**	**60**	**64**	**71**	**67**	**70**	**71**	**A**	**65**	**Moderate**	**High**	**Major**
17	**Lambert Hall West (Ground Floor)**	**62**	**60**	**66**	**74**	**69**	**72**	**74**	**A**	**65**	**Moderate**	**High**	**Major**

D	Receptor	Measured Existing Ambient Nosie Level (L_{Aeq})	Rounded to nearest 5 dB	Activity 1 Demolition	Activity 2 Piled Foundations	Activity 3 Non-Piled Foundations	Activity 4 Building Construction	Worst Case Predicted Noise Level	Category	Threshold	Magnitude of Impact	Sensitivity of Receptor	Significance of effect
18	**Lambert Hall West (Middle Floor)**	**62**	**60**	**65**	**74**	**68**	**72**	**74**	**A**	**65**	**Moderate**	**High**	**Major**
19	**Lambert Hall West (Top Floor)**	**62**	**60**	**63**	**70**	**67**	**69**	**70**	**A**	**65**	**Moderate**	**High**	**Major**
20	London Road Fire Station	66	65	50	56	56	53	56	B	70	Negligible	High	None
21	Macdonald Hotel (Top Floor)	68	70	49	54	52	53	54	B	70	Negligible	High	None
22	Maths & Science Building East (Ground Floor)	65	65	27	34	30	32	34	B	70	Negligible	Medium	None
23	Maths & Science Building East (Middle Floor)	65	65	30	37	31	37	37	B	70	Negligible	Medium	None
24	Maths & Science Building East (Top Floor)	68	70	36	42	40	40	42	B	70	Negligible	Medium	None
25	Maths & Science Building West (Ground Floor)	68	70	42	49	44	49	49	B	70	Negligible	Medium	None

D	Receptor	Measured Existing Ambient Nosie Level (L_{Aeq})	Rounded to nearest 5 dB	Activity 1 Demolition	Activity 2 Piled Foundations	Activity 3 Non-Piled Foundations	Activity 4 Building Construction	Worst Case Predicted Noise Level	Category	Threshold	Magnitude of Impact	Sensitivity of Receptor	Significance of effect
26	Maths & Science Building West (Middle Floor)	68	70	46	51	50	50	51	B	70	Negligible	Medium	None
27	Maths & Science Building West (Top Floor)	68	70	45	53	46	52	53	B	70	Negligible	Medium	None
28	Pendulum Hotel	65	65	44	51	47	50	51	B	70	Negligible	High	None
29	Renold Building	62	60	53	61	57	60	61	A	65	Negligible	Medium	None
30	Staff House	60	60	37	42	37	42	42	A	65	Negligible	Medium	None
31	The Bulls Head Pub	65	65	56	66	60	64	66	B	70	Negligible	High	None
32	Velvet House	62	60	44	51	48	51	51	A	65	Negligible	High	None
33	Vimto Park	60	60	53	59	56	58	59	A	65	Negligible	Low	None

12.14 It should however be noted that the impact is for a relatively short duration, with the groundworks and foundations likely to take approximately 20 weeks and the frame construction likely to take approximately 55 weeks. Façade cladding is expected to take 60 weeks, however this activity is not considered likely to be a significant impact.

12.15 The assessment concluded (when considering the results of the ABC method, the conservative nature of the assessment, the magnitude of the effects, and the particularly when considering the temporary nature and short duration of the effects), that the overall magnitude of effect of the Proposed Scheme would be Low adverse.

12.16 Chandos Hall has already been demolished and the majority of the piling foundations have been installed. The construction activities as part of the Proposed Scheme are therefore considered to be reduced in comparison to what was assessed in 2017, and the baseline noise levels are not likely to have changed since the previous assessment. It is therefore considered that the likely magnitude of effect will be the same as the previous assessment.

12.17 Therefore, noise impacts on existing residential receptors are not considered to be significant and will not be considered further in the EIA or reported in the ES.

Nuisance and disturbance as a result of vibration from construction activities [existing residential receptors located close to the Site]

12.18 Construction activities have the potential to result in nuisance and or adverse health effects due to vibration arising from on-site construction activities, mainly piling. The majority of the piling has been completed on Site, though there is potential for further piled foundations and works to the existing pile caps to be required. It is anticipated that vibration emissions produced during construction activities would be controlled through the implementation of a CEMP. The CEMP will have controls implemented in accordance with BS5288-2:2014[125], such controls would include the use of low-vibration working methods, such as continuous flight auger (CFA) and reasonable hours of working. These tertiary mitigation measures would be considered an integral part of the Proposed Scheme and considered part of the EMP.

12.19 The effects of construction vibration were fully assessed as part of the ES Chapter 13 (Noise and Vibration)[126] for planning application 118267/FO/2017. **Table 12.4** provides the results of the vibration assessment from the previous ES chapter.

[125] BSI Standards Publications (2014) BS5228-2:A1:2014: available at https://knowledge.bsigroup.com/product./code-of-practice-for-noise-and-vibration-control-on-construction-and-open-sites-vibration/standard [Accessed on 13/1/2023].

[126] Turley (2017). Environmental Statement, Echo Street, Manchester: Chapter 13: available at https://pa.manchester.gov.uk/online-applications/applicationDetails.do?activeTab=documents&keyVal=OZRWJ8BCHYJ00 [Accessed 13/1/2023].

Table 12.4: Vibration Significance Assessment

ID	Receptor	Likely Levels of Vibration PPV (mms^{-1})	Magnitude of effect	Sensitivity of receptor	Significance of effect
8	Echo Street Office	0.4	Low	Low	None
9	**Fairfield Hall (Ground Floor)**	**0.4**	**Low**	**High**	**Moderate**

12.20 The assessment has indicated that the likely levels of vibration will have a **Low** magnitude of effect for all selected receptors. The sensitivity of receptors is high for the residential receptors and low for the office receptors which leads to impacts which are moderate adverse or no impact. These impacts are limited to periods of time when the piling plant is located close to residential receptors, as they move further away the impacts reduced. The duration of the proposed works is reduced from the previous assessment since the majority of the piling has been completed and period of 25 weeks for the groundworks and foundations, not all of this time will involve the CFA activities.

12.21 The assessment concluded that the overall magnitude of effect of the Proposed Scheme would be Low adverse for all selected receptors and not significant.

12.22 The majority of the piling has been undertaken and the building has been demolished. It is not considered that the baseline vibration environment will have changed. Therefore, vibration impacts on existing residential receptors are not considered to be significant and will not be considered further in the EIA or reported in the ES.

Nuisance and disturbance as a result of increased noise from construction traffic [existing residential receptors located close to the Site]

12.23 Road traffic associated with the construction activities has the potential to result in nuisance and or adverse health effects due to noise and vibration arising from increased vehicular activities at the Site. Construction traffic has been forecast and this is expected to be below 100 vehicle movements per day. The likely effect of any additional traffic generated by the Proposed Scheme upon the operation of the surrounding highway network in capacity terms is therefore negligible.

12.24 As determined by the traffic assessment, the number of vehicles accessing and egressing the Site has been assessed to be low in number and consequently not likely to have a significant impact. The CEMP will have controls implemented, such controls would include maintaining suitable access arrangements, maintaining good road surfaces, and operating reasonable hours of working. These tertiary mitigation measures would be considered an integral part of the Proposed Scheme and considered part of the EMP.

12.25 Therefore, noise and vibration impacts from construction stage road traffic on existing residential receptors are not considered to be significant and will not be considered further in the EIA or reported in the ES.

Nuisance and disturbance as a result of increased noise from operational traffic [existing residential receptors located close to the Site]

12.26 Road traffic associated with the operation of the Proposed Scheme has the potential to result in nuisance and or adverse health effects due to noise arising from increased vehicular activities to and from the Site. The traffic generation at the Site has been forecast using the TRICS trip rate database and it is expected that the Proposed Scheme could generate in the order of 60-70 vehicles per day as a reasonable worst-case scenario. The number of parking spaces is eight on street parking, therefore the number of vehicles accessing and egressing the Site has been assessed to be low in number and consequently not likely to have a significant impact.

12.27 Therefore, noise impacts from operational road traffic on existing residential receptors are not considered to be significant and will not be considered further in the EIA or reported in the ES.

Nuisance and disturbance resulting from the impact of vibration from railway traffic [new receptors on the Site]

12.28 The levels vibration levels shown in **Table 1.2** are sufficiently low that the structural design of the proposed development does not need to include any vibration isolation or mitigation measures in order to mitigate the risk of the vibration levels exceeding the criteria set down in BS6472-1.

12.29 Therefore, vibration impacts from the railway line for the proposed site is not considered to be significant and will not be considered further in the EIA or reported in the ES.

Effects Likely / Significant

12.30 **Table 12.5** outlines the effects (and associated receptor[s]) that are considered to be likely and significant and therefore will be assessed within the EIA and reported in the ES.

Table 12.5: Potential Likely Significant Effects and Sensitive Receptors

Effect	Receptor(s)	Applicable Stage(s)
Plant noise	Barnes Walls Building	Operation
	Fairfield Hall	
	Joule Library	
	Lambert Hall	
	MacDonald Hotel	
	Maths @ Science West Building	
	Pendulum Hotel	
	Renold Building	
	Vimto Park	

Effect	Receptor(s)	Applicable Stage(s)
	Receptors on the Site	

Assessment Methodology of Effects Likely / Significant

12.31 The following background surveys/studies have/will be undertaken.

Table 12.6: Background Surveys / Studies

Survey / Study / Analysis / Evaluation	Overview	Date of Completion
Completed		
Background noise assessment	Measurement of background and ambient noise levels at and around the Site.	May and July 2017
Pending		
Background noise assessment	Measurement of background and ambient noise levels at and around the Site.	February 2023

12.32 Where possible, prediction of the external noise levels from any plant, and equipment with the Proposed Scheme at existing noise sensitive-receptors will be completed in accordance with BS4142:2014[127]. The assessment will include use of CadnaA noise modelling software and measurement data collected during Site surveys.

12.33 The prediction methodology will be presented within the noise chapter of the ES, together with technical appendices, detailing:

- Noise measurements undertaken and the analysis of the results;
- Graphics from the noise model illustrating the noise contours across the Site;

12.34 Where data is not yet available (due to the timing of the assessment) to allow prediction of noise levels from plant, equipment and other noise sources associated with the Proposed Scheme, measurement data collected during Site surveys will be used for the setting of noise emissions limits.

12.35 The assessment of likely significant effects to sensitive receptors will consider the sensitivity of the receptor (on a scale of high, medium, low and negligible) and the magnitude of change (on a scale of large, medium, small and negligible) to determine the level of effect on a scale of major, moderate, minor and negligible. Significant effects will be determined following this through professional judgment.

[127] BSI Standards Publications (2014) BS4142:2014+A1:2019: available at https://knowledge.bsigroup.com/products/code-of-practice-for-noise-and-vibration-control-on-construction-and-open-sites-vibration/standard [Accessed on 13/1/2023].

Limitations and Assumptions

12.36 To ensure transparency within the EIA process, the following limitations and assumptions have been identified:

12.37 The noise measurements cannot now be taken within the existing Chandos Hall due to the building being demolished. Access to the adjacent building, Bainbridge House, Granby Row is not likely to be available due to security issues. Measurements will therefore be undertaken at the ground level and compared with the previous assessment and validated noise model.

13. Approach to Assessment of Cumulative Effects

Overview

13.1 Cumulative effects comprise the combined effects of reasonably foreseeable human induced changes within a specific geographical area and over a certain period of time, and can be both direct and indirect. An assessment of the significance of cumulative effects needs to be undertaken in the context of the characteristics of the existing environment.

13.2 To accord with the EIA Regulations and best practice guidance, the following types of cumulative effects will be considered within the EIA:

- **Effect interactions**: Different effects within the project itself affecting the same receptor, either within the Site or in the local area; and
- **In-combination effects**: Effects with other projects planned in the wider area.

Assessment Methodology

13.3 At present, there is no widely accepted methodology or best practice for the assessment of cumulative effects, although there are a number of guidance documents available. The following approach that will be adopted is based on previous experience at Turley, the types of receptors being assessed and the nature of the Proposed Scheme being considered.

13.4 The assessment of cumulative effects, for both effect interactions and in-combination effects, will be largely qualitative in nature. For some environmental topics, quantitative data may be available (i.e. where modelling work is undertaken) facilitating a quantitative analysis of cumulative effects, which will be fully set out within the assessment within the ES. Where information is not available, assumptions will be made based on professional judgement and clearly stated alongside any uncertainty as part of the assessment.

Effect Interactions

13.5 The approach to the assessment of effect interactions considers the changes in baseline conditions at common sensitive receptors due to overlapping effects arising from the Proposed Scheme. The assessment is based upon residual effects only. The common sensitive receptors considered within this assessment are those which are assessed within two or more of the technical assessments within the ES.

13.6 A matrix of residual effect interactions will be formulated in the ES corresponding to the construction and operational stages of the Proposed Scheme.

13.7 An overall qualitative assessment of the cumulative effect on the common sensitive receptors identified will be made using professional judgement and informed by the technical information provided in the ES and supporting appendices.

13.8 A qualitative evaluation at the receptor level will be undertaken and will consider the following: combined magnitude of change; sensitivity/value/importance of the receptor/receiving environment to change; or/and duration and reversibility of effect.

In-Combination Effects

13.9 Assessment of in-combination effects within the EIA will be undertaken using the methodology outlined below.

Step 1: Identification of Projects for Consideration

13.10 In order to identify relevant projects (referred to as 'Approved Projects') that could give rise to in-combination effects within the Proposed Scheme, a review of the following databases was undertaken:

- MCC online planning portal;
- Planning Inspectorate online register of projects[128];
- Transport and Works Order Act online register of projects[129]; and
- Parliament Hybrid Bills online register[130].

13.11 In line with the EIA Regulations, this search was focused on projects and therefore is not inclusive of sites allocated within local plans, core strategy documents or supplementary planning documents.

13.12 To reach a proportionate list of relevant Approved Projects, the following criteria was used to identify projects for consideration:

- Applications dating from January 2018 onwards. It is anticipated that applications prior to this date will already have been built out (and therefore form part of the baseline) and / or where subsequent applications have been submitted these would be captured within the search dates;
- Applications with resolution to grant planning permission;
- Applications with planning permission, either under construction or not yet implemented (unless already considered as part of the baseline scenario);
- Applications submitted, which have the potential to be determined prior to the determination of the Proposed Scheme;
- Applications which have been refused but subject to an appeal not yet determined;
- The project being of a relevant scale: the threshold for consideration has been set as the Schedule 2 criteria in the EIA Regulations, at which there is a potential for 'likely significant effects' (however, it is recognised that this needs to be

[128] https://infrastructure.planninginspectorate.gov.uk/projects/register-of-applications/.
[129] https://www.gov.uk/government/collections/twa-inspector-reports-and-decision-letters.
[130] https://www.parliament.uk/business/bills-and-legislation/current-bills/hybrid-bills/.

applied with caution); Schedule 1 projects; and nationally significant infrastructure projects; and

- Projects within 1km of the Site boundary[131].

13.13 Other projects which have not been submitted at the point at which the search is undertaken have been excluded as there is insufficient information available to enable a robust appraisal.

13.14 A further search will be undertaken prior to the finalisation of the assessment of cumulative assessment as part of the ES.

13.15 The resulting Approved Project that will be considered in the assessment of cumulative effects using the methodology and criteria set out above is provided within **Table 13.1**.

[131] This is considered to be an appropriate study area to identify Approved Projects where there is a potential for in-combination effects.

Table 13.1: Approved Projects for Assessment of In-Combination Effects

ID	Planning Ref	Name	Description	Distance From Site	Status	EIA
1	124972/FO/ 2019	Mayfield	Phased creation of circa 2.4 ha (6 acres) of public park, including hard and soft landscaping and new bridges across the River Medlock; erection of 9 storey office development above basement with mezzanine and plant level (Class B1) with ground floor Class A1 (Shop), A2 (Financial and Professional Services), A3 (Café and Restaurant), A4 (Drinking Establishment) B1 (Office) uses, rooftop amenity spaces and terrace levels, associated public realm and riverside walkway; erection of 11 storey Multi-Storey Car Park to provide 581 car parking spaces with associated landscaping; highways and infrastructure works including the creation of new junction from London Road to provide access to the multi-storey car park (MSCP) (Use Class Sui Generis); works to Baring Street, stopping up of Bond Street and Nether Street (alongside associated Traffic Regulation Orders to manage unrestricted parking to Buxton Street, Berry Street and Travis Street (to be delivered and implemented prior to the MSCP becoming operational)) alongside enabling works comprising phased demolition and site clearance, earthworks including re-profiling and construction of retaining walls for the land bounded by the Mancunian Way to the south, Mayfield Depot to the north, Baring Street to the west and Hoyle Street to the east.	300m south east	Part completed / Under construction	Yes
2	125248/FO/ 2019	Baring Street Office 2	Erection of 13 storey building (including ground and mezzanine) comprising office space (Use Class B1) above flexible uses at ground and mezzanine levels (Class A1 (Shop), A2 (Financial and Professional Services), A3 (Café and Restaurant), A4 (Drinking Establishment)/D1 (Art Gallery, Museum and Conference & Training Centre)/D2 (Cinema)/ Theatre (Sui Generis)) with rooftop amenity spaces and external terrace levels, internal ancillary storage spaces for waste, cycles, rooftop plant,	340m south east	Under construction	Yes

ID	Planning Ref	Name	Description	Distance From Site	Status	EIA
			back of house functions and associated landscaping works.			
3	132626/FO/2022	M1 Piccadilly, Store Street	Erection of 15 storey building comprising 54 apartments (Use Class C3) with associated residential facilities (residents lounge and terrace and office space), 2 car parking spaces and 57 cycle parking spaces, landscaping, access and associated development.	430m north east	Approved	No
4	126608/FO/2020	Store Street	Erection of part 4, part 11 storey residential (Class C3) development (with roof top plant room) comprising 66 (Class C3) residential units (3 x 2 bed town houses, 46 x two bed apartments and 17 x one bed apartments) together with associated car parking (10 spaces including 5 EVC spaces), cycle parking (66 spaces) communal roof terrace (level 6), landscaping and ancillary infrastructure including rooftop PV panels, alterations to access onto Store Street.	520m north east	Under construction	No
5	125573/FO/2019	First St South	Construction of four buildings of heights varying from 10 storeys to 45 storeys together comprising Co-living bedspaces (use class sui generis) and associated amenity facilities, with ground floor commercial units (Use classes A3 (Café / Restaurant and D2 (Gym)), private amenity space and public realm comprising hard and soft landscaping, car parking and cycle facilities and other associated works.	920m south west	Under construction	Yes
6	121252/FO/2018	Student Castle, Hulme Street	Partial reconfiguration of existing Multi-Storey Car Park (MSCP), including temporary access off Great Marlborough Street, construction of 5 storey external ramps, closure of vehicular access to top level; and construction of new facade; and partial demolition of the surplus part of existing MSCP and erection of a part 55, part 11 storey, part 4 storey mixed-use building comprising 853 Purpose Built Student Accommodation units (sui generis), ancillary amenity space and support facilities, and 786sqm (GIA) SME incubator workspace (Use Class B1),	590m south west	Approved	No

ID	Planning Ref	Name	Description	Distance From Site	Status	EIA
			including public realm improvements and other associated work			
7	120635/FO/2018	Hotspur House	Part demolition and redevelopment and part retention and refurbishment of the former Hotspur Press Complex (Medlock Mill) to deliver 171 residential units (10 no. 1 bed, 1 person apartments, 49 no. 1 bed, 2 person apartments, 2no. 2 bed, 3 person apartments and 110 no. 2 bed 4 person apartments) - Use Class C3, within refurbished mill space and 28 storey building (including two levels of basement), commercial floorspace (Use Classes A1 (shop), A2 (financial and professional services), A3 (restaurants and cafes), B1 (office), D1 (medical clinic, health centre, art gallery and museum only) and / or D2 (gymnasium or bowling alley only) together with servicing, access, landscaping including a new public space and pedestrian route between Gloucester Street and First Street, and other associated works	800m west	Approved	Yes
8	125712/FO/2019	London Road Fire Station	Refurbishment, restoration, reconfiguration and extension of former London Road Fire Station site to create a mixed use development comprising of hotel (Use Class C1), workspace/office (Use Class B1, D1), commercial floorspace for shop and food and drink uses (Use Classes A1, A3 and A4), residential apartments (Use Class C3) and leisure (Use Class D2), together with access and highways works, servicing, rooftop plant and associated works	65m north	Under construction	No
9	121099/FO/2018	The Fairfax	Construction of two residential buildings (Use Class C3) comprising Block 1 (29 storeys) (224 apartments (4 x 1 bed 1 person, 52 x 1 bed 2 person, 64 x 2 bed 3 person and 104 x 2 bed 4 person) 25% 1 bed and 75 % 2 bed) Block 2 (23 storeys) (264 apartments 44 x1 bed 1 person, 44 x 1 bed 2 person, 92 x 2 bed 3 person and 84 x 2 bed 4 person) (33% 1 bed and 67%% 2 bed) with a linked central podium, to deliver 488 units, shared amenity space, 27 car parking spaces, 492 cycle spaces,	490m north east	Under construction	Yes

ID	Planning Ref	Name	Description	Distance From Site	Status	EIA
			landscaping (including new public park) , lighting, highways and associated works following demolition of existing buildings and structures.			
10	127317/FO/2020	The Castings	Erection of a part 25 part 21, part 14, part 7 storey building for 352 apartments comprising 39 Studios, 77x 1 bed, 227 x 2 bed and 9 x 3 bed (Use Class C3) with ground floor commercial space within 4 units (494m2) for Class A1 (Shop), A2 (Financial and Professional Services) A3 (Café and Restaurant), A4 (Drinking Establishment), A5 (Hot Food Take Away), B1 (Office) and D1-D2 uses, ancillary indoor and outdoor amenity space (including 1st and 21st floor external areas) car parking for 20 vehicles, cycle parking and associated hard and soft landscaping works, following demolition of existing buildings.	590m north east	Under construction	Yes
11	122000/FO/2018	Victoria House	Erection of a part 25 part 3 storey residential tower (Use Class C3) for 177 apartments comprising 59 x 1 bed (34 x 1 bed 1 person and 25 1 bed 2 person), 113 x 2 bed (44 x 2 bed 3 person and 69 x 2 bed 4 person) and 5 x 3 bed (3 bed 5 person) with ground floor commercial space (Use Class A1, A2, A3, A4 and D1) above partial basement level associated shared amenity spaces at 3rd floor level, realm enhancements following demolition of existing buildings.	660m north east	Under construction	Yes
12	132214/FO/2021	Ferrous	Erection of a 15 storey building to form 107 apartments (Use Class C3) at floors 1 to 15, residential amenity facilities including a roof terrace (level 14), associated ground floor cycle storage (68 spaces), two ground floor commercial units (Use Class E/ Sui Generis (Drinking Establishment), multipurpose events Pavilion (Use Class E/ Sui Generis (Drinking Establishment), associated landscaping to site perimeter and rooftop PV panels.	590m north east	Under construction	No

ID	Planning Ref	Name	Description	Distance From Site	Status	EIA
13	132489/FO/2021	Affinity Living Port Street	Erection of a part-33, part-11, part 9 part 7 storey residential building above semi-basement level, with associated residents' amenity space including gym (Use Class C3) (comprising 481 dwellings), commercial space (Use Class E), basement car parking (47 spaces), cycle parking (481 spaces) landscaping, and other associated works	700m north	Under construction	Yes
14	121375/FO/2018	20-36 High Street	Construction of a 22 storey building comprising 361 residential apartments (122 x 1 bed 2 person, 119 x 2 bed 3 person, 94 x 2 bed 4 person, 21 x 3 bed 5 person and 5 x 3 bed 6 person (34% 1 bed, 59% 2 bed and 7% 3 bed) ground floor commercial floorspace (Use Classes A1 (Shop), A3 (Restaurant and Cafe), A4 (Drinking Establishment) and A5 (Hot Food Take-away) associated landscaping, including new public realm and pedestrian route, together with servicing, cycle parking, access and other associated works following demolition of buildings at 20-22 and 24-26 High Street and 5 market stalls to Church Street.	850m north west	Approved	Yes
15	114664/FO/2016	St Michael's	Partial demolition of existing buildings. Development up to 171.6m AOD comprising residential (Use Class C3), offices (Use Class B1), hotels (Use Class C1), place of worship (Use Class D1) and leisure/food and drink uses (Classes A1, A3, A4, A5 and D2). Creation of public spaces and new public realm, provision of basement car parking, highway alterations, landscaping and associated works.	950m west	Under construction	Yes
16	134288/FO/2022	Number 3 Circle Square	Erection of 15 storey building comprising office space (Use Class E(g)(i)) and ancillary flexible commercial uses (Use Class E), rooftop terrace, highway works, landscaping, and other associated works.	370m south west	Under construction	Yes
17	125799/FO/2019	John Dalton West/John Dalton Tower,	Demolition of existing John Dalton West Building and associated structures, and erection of a new 7 storey education building (Use Class D1) for the Faculty of Science and Engineering (comprising teaching and	720m south west	Under construction	No

ID	Planning Ref	Name	Description	Distance From Site	Status	EIA
		Chester Street	research spaces, academic offices, social learning areas, catering/kitchen facilities and an energy centre), physical connections to and external refurbishment of the John Dalton Tower, hard and soft landscaping works, car and cycle parking and associated works.			
18	131859/FO/2021	50 Fountain Street	Full Planning Permission for the demolition of modern extension to Grade II Listed building, retention and refurbishment original Victorian facade, erection of commercial building (Use Class E) with landscaping, and other associated works.	760m north west	Approved	No
19	124495/FO/2019	Land at Great Ancoats Street, Manchester	Erection of a 12 storey building to create a 212-bedroom hotel (Use Class C1) with ancillary facilities at ground and first floor level and associated servicing, disabled car parking, drop-off area, public realm and hard landscaping works, with access from Pollard Street	770m north east	Approved	No
20	115178/FO/2017	Part Site Of Existing Car Park Bounded By Ducie Street, The Rochdale Canal, Peak Street, Tariff Street (Multi-Storey Car Park) And Remainder Of Surface Car Park	Erection of 2 linked buildings ranging in height from 8 to 10 storeys (plus roof top plant room) to provide residential accommodation (Use Class C3) comprising 18 x 1 bed, 84 x 2 bed, 15 x 3 bed, 2 x duplex (4 bed) and 9 townhouses (7 x 3 bed, 1 x 2 bed and 1 x 4 bed) (128 units in total) works to create provision for access and servicing, hard and soft landscaping (to include a secure external area and public realm linking Ducie Street to the Rochdale Canal) and associated works following the demolition of existing buildings. Development to include 128 cycle parking spaces.	500m north east	Approved	No

Step 2: Assessment of In-Combination Effects

13.16 The assessment of in-combination effects will take into consideration available documentation submitted in support of the application for the above Approved Projects, in order to conclude if common receptors are present between the Proposed Scheme and the Approved Projects and the extent of any in-combination effect. Where suitable information is not available, either professional judgement will be used to determine the cumulative effects or limitations will be set out.

13.17 The qualitative evaluation at the receptor level will consider the following:

- Combined magnitude of change;
- Sensitivity / value / importance of the receptor / receiving environment to change; and / or
- Duration and reversibility of effect.

13.18 Through a combination of the qualitative evaluation and mitigation identified in the EIA and presented in the ES, conclusions will be drawn as to the likelihood for in-combination environmental effects, whether these are significant or not and how such effects differ from those reported for the Proposed Scheme.

14. Summary

14.1 **Chapter 5** identified ten environmental topics for which no likely or significant effects have been identified and are proposed to be 'scoped out' of the EIA and not reported in the ES, based on the technical evidence base provided. These are as follows:

- Archaeology;
- Biodiversity;
- Traffic and Access;
- Air Quality;
- Ground Conditions;
- Flood Risk, Drainage and Water Environment;
- Lighting;
- Waste;
- Major Accidents and/or Disasters; and
- TV Reception.

14.2 The environmental topics proposed to be 'scoped in' are as follows:

- Socio-Economics and Human Health;
- Climate Change;
- Built Heritage;
- Townscape and Visual;
- Daylight, Sunlight, Overshadowing and Solar Glare;
- Wind Microclimate; and
- Noise and Vibration.

14.3 **Table 14.1** provides a summary of all the environmental topics and effects considered unlikely to be significant and therefore 'scoped out' as well as the topics and likely significant environmental effects 'scoped in' that will be considered further within the EIA and reported in the ES.

Table 14.1: Summary of Topics and Effects to be Considered in the Environmental Statement

Topic	Effects which are Not Significant and are Proposed to be Scoped out of the EIA	Likely Significant Environmental Effects to be Considered in the ES
Archaeology	Impact on archaeological remains [surviving 18th century building fragments]	
Biodiversity	Harm / disturbance from Site clearance and construction activities [habitats and species]	
	Landscape and habitat creation [habitats and species]	
Traffic and Access	Driver delay as a result of construction stage traffic and/or operational stage traffic [drivers on the A57(M), A6 London Road, Fairfield Street, Aytoun and Sackville Street]	
	Severance as a result of construction stage traffic and/or operational stage traffic [pedestrians / cyclists on A6 and B6460 corridors]	
	Pedestrian delay as a result of construction stage traffic and/or operational stage traffic [pedestrians on A6 and B6460 corridors]	
	Pedestrian amenity as a result of construction stage traffic and/or operational stage traffic [pedestrians on A6 and B6460 corridors]	
	Fear and intimidation as a result of construction stage traffic and/or operational stage traffic [pedestrians / cyclists on A6 and B6460 corridors]	
	Accidents and safety as a result of construction stage traffic and/or operational stage traffic [bus users and pedestrians /	

Topic	Effects which are Not Significant and are Proposed to be Scoped out of the EIA	Likely Significant Environmental Effects to be Considered in the ES
	cyclists on A6 and B6460 corridors, drivers on the A57(M), A6 London Road, Fairfield Street, Aytoun and Sackville Street]	
Air Quality	Changes to local air quality as a result of emissions from construction traffic [existing human receptors adjacent to roads used by construction traffic]	
	Changes to local air quality as a result of emissions from construction related non-road mobile machinery [existing human receptors adjacent to the Site]	
	Nuisance and disturbance as a result of dust from construction activities [existing human receptors located within 100m of the Proposed Scheme]	
	Changes to local air quality as a result of emissions from operational traffic [existing human receptors located adjacent to roads along which operational road traffic travels]	
	Combustion emissions during operation [existing human receptors around the Site]	
	Effect of Air Quality on the Proposed Scheme [future users of the Proposed Scheme]	
Ground Conditions	Potential release of existing ground contamination and accidental release of new contamination during construction [construction workers and neighbours]	
	Potential release of existing contamination and accidental	

Topic	Effects which are Not Significant and are Proposed to be Scoped out of the EIA	Likely Significant Environmental Effects to be Considered in the ES
	release of new contamination during construction [controlled waters]	
	Potential release of ground contamination during operation [Site end users, Site maintenance workers, neighbours]	
	Potential release of contamination affecting water supply pipes during operation [water supply pipes – United Utilities customers]	
	Potential release of contamination during operation [controlled waters]	
	Potential release of hazardous ground gases during operation [Site end users, Site maintenance workers, neighbours]	
	Risk of unexploded ordnance (UXO) during construction [construction workers, Site users, neighbours]	
Flood Risk, Drainage and Water Environment	Increased risk of flooding during construction [construction workers and neighbours]	
	Increased risk of flooding during operation [Site end users, Site maintenance workers, neighbours]	
	Increase in potable water demand during construction and operation [United Utilities Infrastructure]	
	Increased foul water flows/flood risk during construction [construction workers and neighbours]	
	Increased foul water flows/flood risk during operation [Site end users, Site maintenance workers,	

Topic	Effects which are Not Significant and are Proposed to be Scoped out of the EIA	Likely Significant Environmental Effects to be Considered in the ES
	neighbours]	
	Increased risk of pollution to the existing sewerage infrastructure during construction [United Utilities infrastructure, Shooters Brook, River Medlock and neighbours]	
	Increased risk of pollution to the existing sewerage infrastructure during operation [United Utilities infrastructure, Shooters Brook, River Medlock and neighbours]	
Lighting	Disturbance due to obtrusive light during construction [nearby residents]	
	Disturbance due to obtrusive light during operation [nearby residents]	
Waste	Waste generation during construction [waste facilities]	
	Waste generated during operation [waste facilities]	
Major Accidents and/or Disasters	A major accident caused by ground subsidence and associated structural/building collapse	
	Major flood event caused by an extreme weather event	
	Major accidents on the local road network	
	Accidents arising from vandalism, arson or terrorism	
TV Reception	Interference with TV reception [surrounding residents]	
Socio-Economics and Human Health	Access to primary healthcare facilities [Residents of the Proposed Scheme and patients at existing facilities]	Employment generated during the construction stage [local labour force]
	Social cohesion and inclusive	Provision of PBSA [students

Topic	Effects which are Not Significant and are Proposed to be Scoped out of the EIA	Likely Significant Environmental Effects to be Considered in the ES
	design [Residents of the Proposed Scheme and existing local communities]	requiring accommodation]
	Crime reduction and community safety [Residents of the Proposed Scheme and existing local communities]	
	Access to healthy food [Residents of the Proposed Scheme]	
	Access to active and sustainable travel options [Residents of the Proposed Scheme]	
	Access to open space and sports & recreation facilities [Residents of the Proposed Scheme]	
	Access to training opportunities [Local labour force]	
	Employment generated during the operational stage [Local labour force]	
	New Homes Bonus and Council Tax revenue [Local authority revenue]	
Climate Change	Increasing summer mean and daily maximum temperatures during construction [construction employees]	GHG emissions[132] [global climatic system]
	Changing annual temperatures and rainfall patterns during construction [construction operations, site habitats and biodiversity, air quality]	
	Changes to future climate including temperature and rainfall during operation [site infrastructure]	
	Changes to future climate including higher winter and	

[132] During construction and operation.

Topic	Effects which are Not Significant and are Proposed to be Scoped out of the EIA	Likely Significant Environmental Effects to be Considered in the ES
	summer temperatures and a decrease in summer rainfall during operation [site habitats and biodiversity]	
	Increasing rainfall during operation [site operations, infrastructure and end users]	
	Higher average summer mean and daily maximum temperatures during operation causing building overheating [end users]	
	Decreasing summer rainfall during operation [end users]	
Built Heritage	Change to the setting of identified listed buildings resulting in an impact to their heritage interests or significance [listed buildings identified below]	Change to the character and appearance of the conservation area [Whitworth Street Conservation Area]
	Change to the setting of the identified non-designated heritage assets, resulting in an impact to its heritage interests or significance [The Monroe Public House, 36 London Road and Rochdale Canal]	Change to the setting of a listed building [London Road Policy and Fire Station (Grade II*)]
		Change to the setting of a non-designated heritage asset [Jackson Street Mills (UMIST Campus, now university of Manchester) (HER Ref: 2078.1.0)]
Townscape and Visual	Changes to all townscape and visual receptors during construction [Heritage, Townscape character, Urban Grain, Land Use, Building Height, Topography, Movement & Access, Open Space and Site Character – Views 1, 2, 3, 5, 6, 7, 8 & 10]	Changes to townscape character within the site context [the Site and townscape character area of North Campus Townscape Character Area]
	Change to visual amenity in construction [View 4,9,11,12&13]	Changes to Topography & Site Levels [Topography & Site Levels]
	Changes to townscape Heritage receptors during operation	Changes to the character, composition and amenity of

Topic	Effects which are Not Significant and are Proposed to be Scoped out of the EIA	Likely Significant Environmental Effects to be Considered in the ES
	[Heritage townscape receptors]	views [Viewpoints 1, 2, 3, 5, 6, 7, 8, and 10]
	Changes to Townscape Urban Grain receptor during operation [urban grain]	
	Changes to Townscape Land Use receptor during operation [land use]	
	Changes to Townscape Building Height receptor during operation [townscape building height]	
	Changes to Townscape Movement and Linkages receptor during operation [movement and linkages]	
	Changes to Townscape Environmental Designations & Public Open Space receptor during operation [townscape environmental designations and public open space]	
Daylight, Sunlight, Overshadowing and Solar Glare	Reduced daylight and sunlight amenity during construction [surrounding residential receptors]	Reduced daylight and sunlight amenity [Lambert House, Fairfield House, Warehouse One, and Stonebridge House]
	Solar glare affecting residential amenity [surrounding residential receptors]	Reduced sunlight amenity [Vimto Park]
		Solar glare impacting visibility of road users at sensitive locations such as intersections and junctions [Selected viewpoints within 500m of the Site where the Proposed Scheme is visible, see **Table 10.1**]
Wind Microclimate	Potential effects on wind microclimate during the construction of the Proposed Scheme [sensitive receptors within 500m from the Site]	Potential changes to the wind microclimate from the Proposed Scheme outside of the Site [Existing pedestrian street-level and open amenity spaces receptors within 500m from the Site]
	Potential effects on wind	Potential changes to the wind

Topic	Effects which are Not Significant and are Proposed to be Scoped out of the EIA	Likely Significant Environmental Effects to be Considered in the ES
	microclimate from the Proposed Scheme beyond 500m from the Site [areas beyond 500m from the Site]	microclimate from the Proposed Scheme within the Site [Accessible balconies, roof terraces and new amenity spaces within the Proposed Scheme]
Noise and Vibration	Nuisance and disturbance as a result of noise from construction activities [existing residential receptors located close to the Site]	Plant noise [Barnes Walls Building, Fairfield Hall, Joule Library, Lambert Hall, MacDonald Hotel, Maths @ Science West Building, Pendulum Hotel, Renold Building, Vimto Park, Receptors on the Site]
	Nuisance and disturbance as a result of vibration from construction activities [existing residential receptors located close to the Site]	
	Nuisance and disturbance as a result of increased noise from construction traffic [existing residential receptors located close to the Site]	
	Nuisance and disturbance as a result of increased noise from operational traffic [existing residential receptors located close to the Site]	
	Nuisance and disturbance resulting from the impact of vibration from railway traffic [new receptors on the Site]	

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M1 4HD

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Figure 1.1: EIA Study Area Boundary

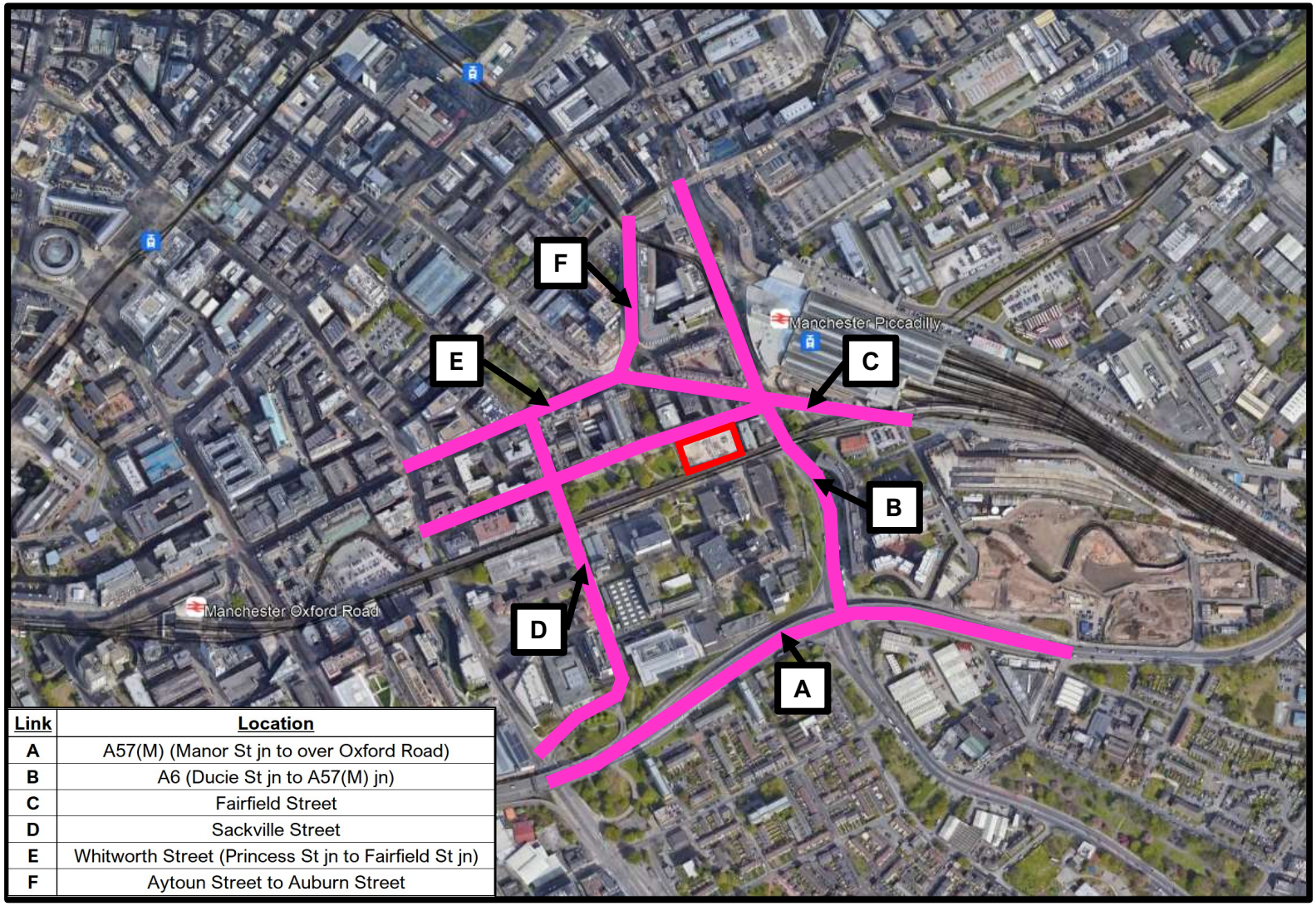
Manchester Metropolitan University
(Aytoun Campus)
The Business School
LB
39.9m
WHITWORTH STREET
TCB
11
11a
MINSHULL STREET SOUTH
39.9m
Cycle Way
2
3
4
5
MINSHULL STREET SOUTH
COBOURG STREET
EBDEN STREET
BACK ACTON STREET
Fairfield House
Sackville Street Building
Lambert Hall
GRANBY ROW
ECHO STREET
FB
38.1m
SP
Lighting Gantry
FB
Wright Robinson Hall
Barnes Wallis Building
ALTRINCHAM STREET
36.9m
Renold Building
James Lighthill B

KEY

Application Boundary
4980m²

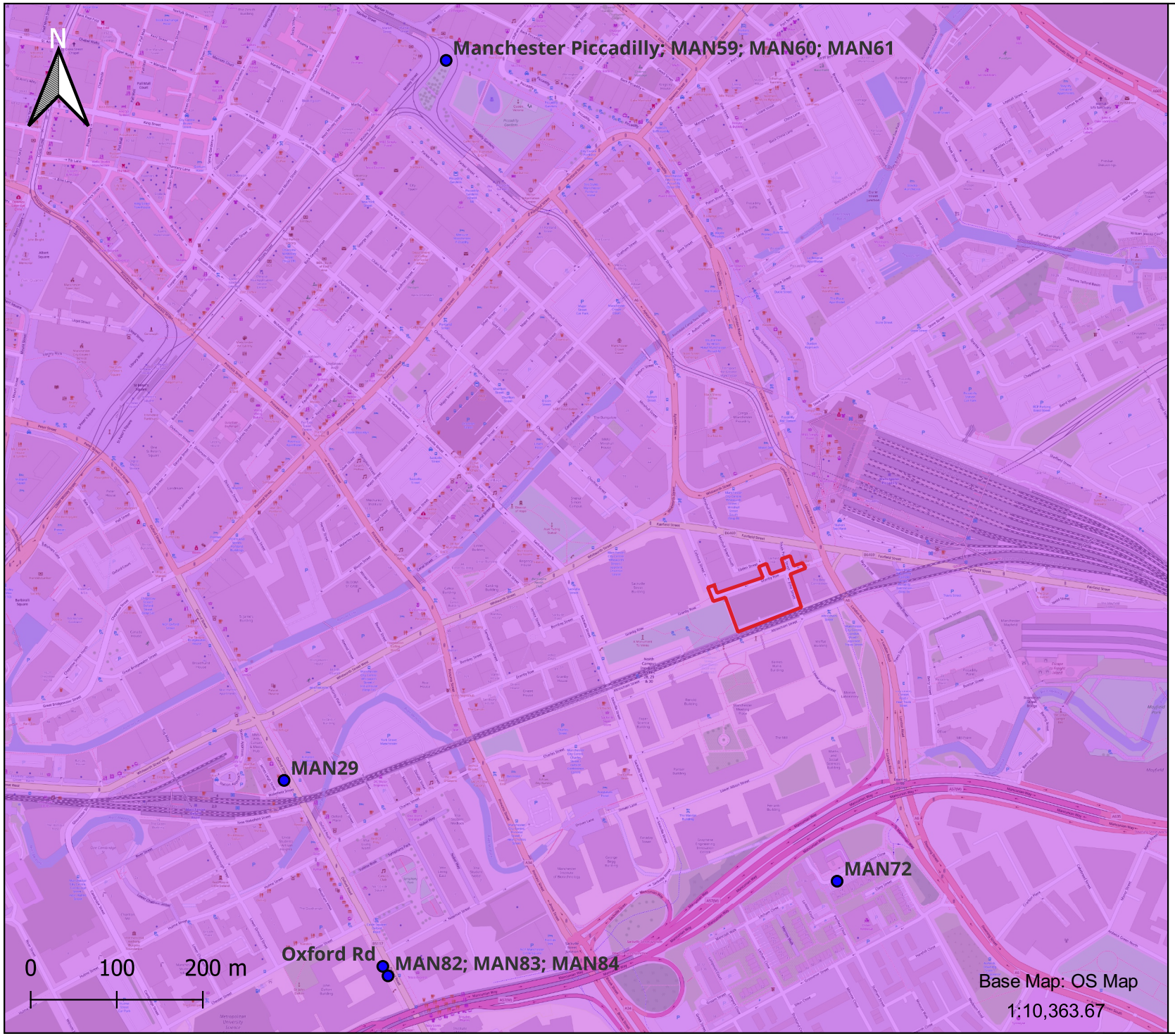
EIA Study Area
1:500 @ A1

Figure 5.1: Link Network Map



Link	Location
A	A57(M) (Manor St jn to over Oxford Road)
B	A6 (Ducie St jn to A57(M) jn)
C	Fairfield Street
D	Sackville Street
E	Whitworth Street (Princess St jn to Fairfield St jn)
F	Aytoun Street to Auburn Street

Figure 5.2: AQMA and MCC Monitoring



Legend

- Site
- AQMA
- MCC monitoring

Drawn by: MH

Project: Chandos

Report Number: 101532-2

Disclaimer: the scale is for indicative purposes only as the map may be skewed once it is an image, for instance during printing.

MILLER GOODALL
ACOUSTICS - AIR QUALITY - LIGHTING

Date: 25/01/2023

Figure 8.1: Heritage Asset Plan

Ref	Listed Building	Grade
1	Police And Fire Station	II*
2	Former Goods Offices To Piccadilly Station	II
3	Sculptural Wall	II
4	Orient House	II
5	Granby House	II
6	Train Shed And Undercroft At Manchester Piccadilly Station	II
7	42 And 44, Sackville Street	II
8	46, Sackville Street	II
9	Institute Of Science And Technology (university Of Manchester)	II
10	Regency House With Barclays Bank	II
11	The Shena Simon Sixth-form College	II
12	Rochdale Canal Lock Number 86, To East Of Chorlton Street	II
13	Rochdale Canal Boundary Wall To Canal Between Sackville Street And Chorlton Street	II
14	Rochdale Canal Boundary Wall To Canal Between Chorlton Street And Minshull Street	II
15	Minshull House	II
16	Mintierna House	II
17	Manchester South Junction And Altrincham Railway Viaduct	II

Ref	HER Building
18	Monroes public house (36 London Road)
19	Jackson Street Mills (UMIST Campus) (now University of Manchester)
20	Rochdale Canal

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This drawing is for illustrative purposes only and should not be used for any construction or estimation purposes. To be scaled for planning application purposes only. No liability or responsibility is accepted arising from reliance upon the information contained within this drawing.

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Site Boundary

Study Area

Conservation Area

Listed Buildings

I

II*

II

HER Buildings

CLIENT:
IQSA Chandos Sarl

PROJECT:
Echo Street PBSA

DRAWING:
Heritage Asset Plan

PROJECT NUMBER:
IQSM3015

DRAWING NUMBER: GIS_100

CHECKED BY: JS

REVISION: 1.0

STATUS: Draft

DATE: January 2023

SCALE: 1:3,000 @ A3

0 100 200 m

1:3,000

Turley

Figure 9.1: Townscape and Visual Impact Assessment Study Area

Turley

Figure 1: Townscape & Visual Impact Assessment Study Area

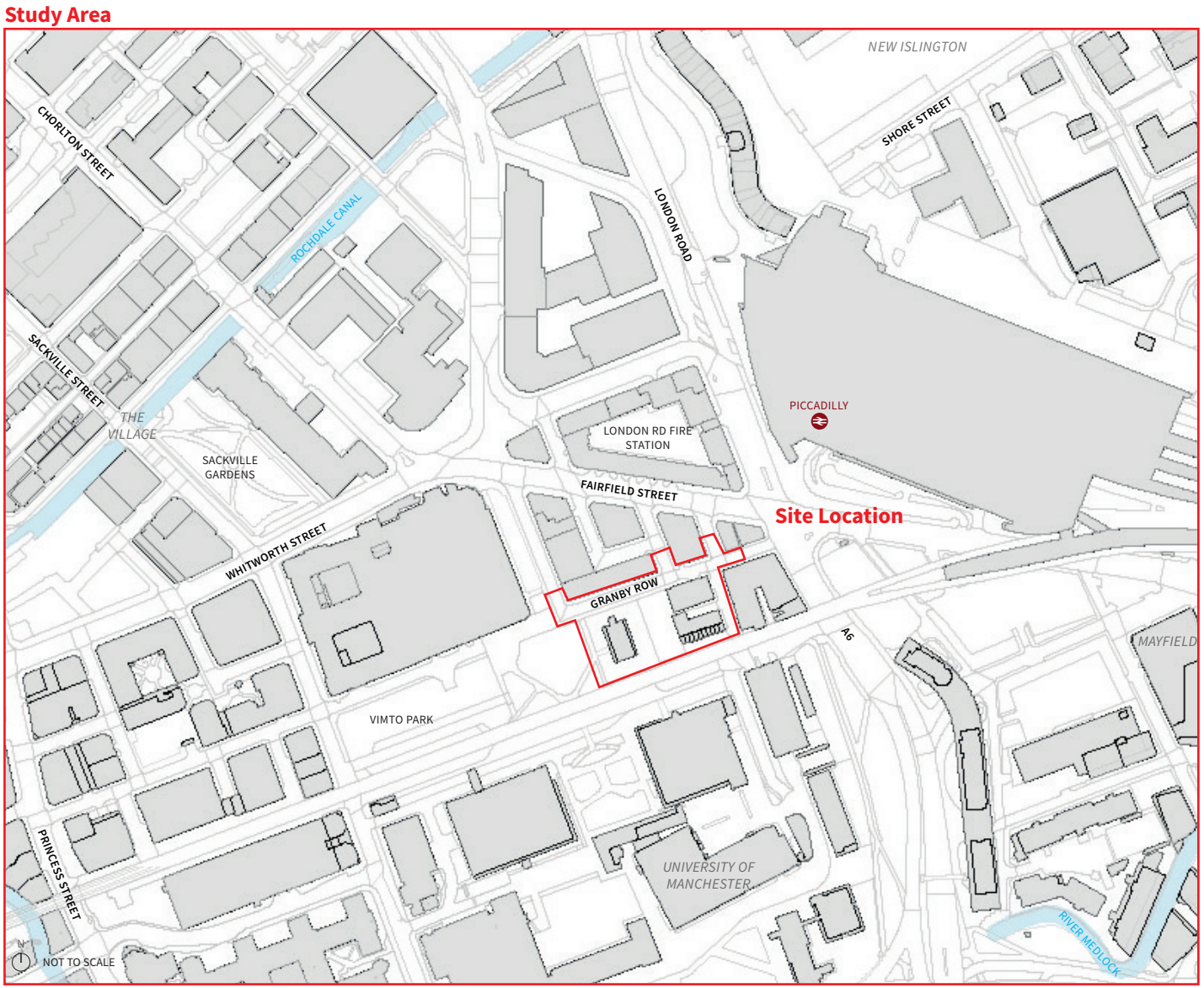


Figure 9.2: Google Viewshed - Viewpoint Selection

Turley

Figure 2: Google Viewshed - Viewpoint Selection

Diagram indicates a 89.55m tall structure located in the site - which represents the tallest proposed building.

Green shading indicates potential visibility of the structure in the surrounding context.

KEY

- Application Boundary
- Proposed View (Numbering aligned with previous 2017 assessment for clarity)
- Discounted viewpoint

PROPOSED VIEWPOINTS

1 Piccadilly Station main entrance

2 Piccadilly Station taxi rank, Fairfield Street

3 Piccadilly Station platform 13 and 14

5 Sculptural wall, London Road

6 View west along Granby Row

7 Vimto Park

8 University of Manchester, Altrincham Street

10. Granby Row / Samuel Ogden Street

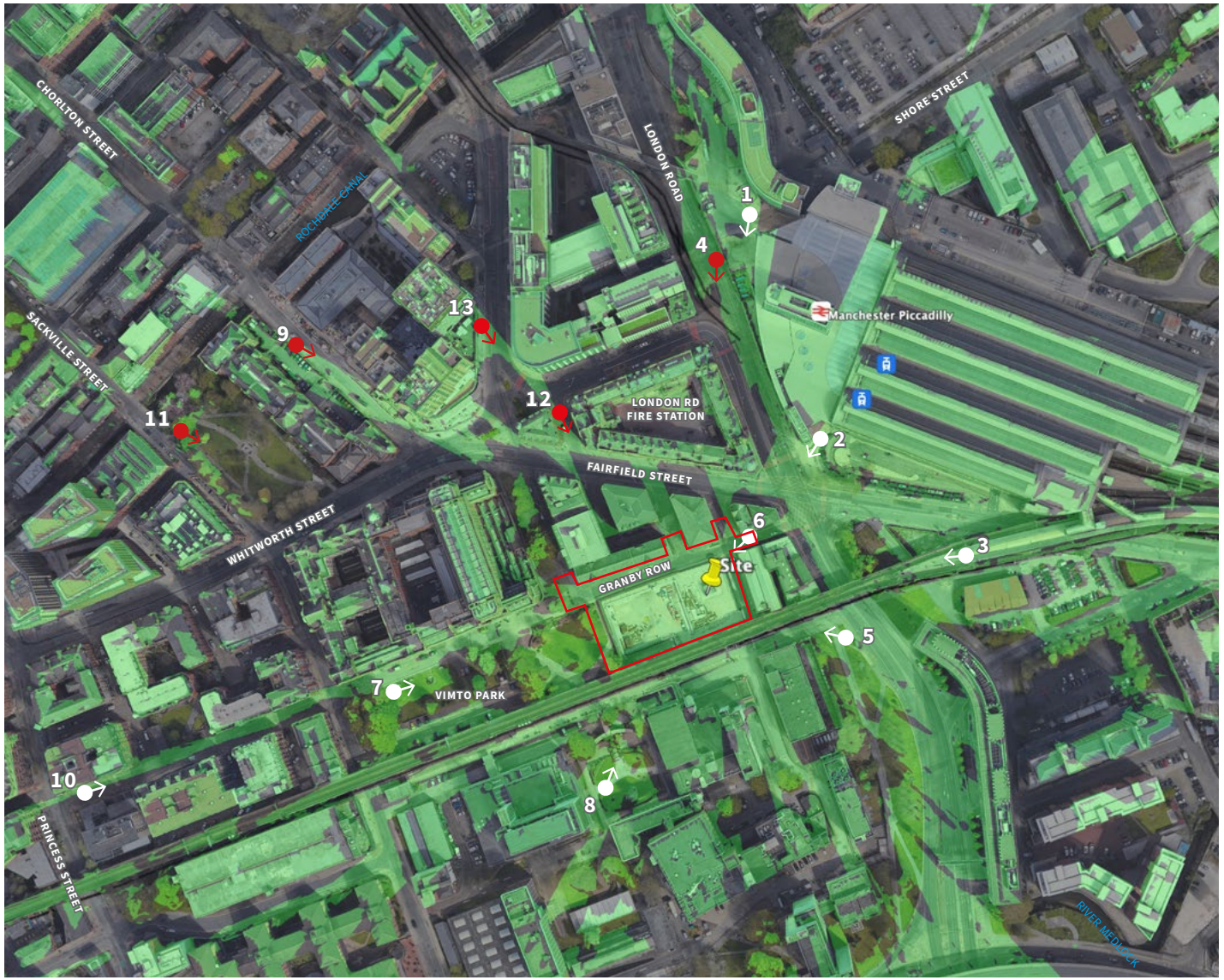


Figure - Zone of visual influence (ZVI) Mapping and viewpoint selection (source - Google Earth Pro Viewshed

Appendix 1.1: Record of Consultation

Consultee (Body / Organisation)	Date and Form of Consultation	Summary and Outcome of Consultation
Archaeology		
Greater Manchester Archaeological Advisory Service (GMAAS)	10/01/2023, email	Agreed Archaeology can be scoped out of ES, but expects a DBA to support the planning application.
Transport		
MCC Highways	17/01/2023, email	Scoping email issued to MCC Highways Officer setting out the principles of the Proposed Scheme and the proposed approach to transport assessment. Email response received 20/01/23 acknowledging the email and looking to set up a meeting to discuss the Proposed Scheme. Meeting to be arranged by MCC Highways Officer.
Noise and Vibration		
MCC	12/01/2023, email	Proposed methodology provided for the ES Chapter on noise and vibration impacts. Including: • Proposal to scope out construction noise assessment; • Proposal to scope out construction vibration; • Proposal to scope out operational traffic; • Proposed methodology for the plant and equipment assessment; and • Assessment for façade noise assessment. Awaiting response.
Air Quality		
MCC	31/01/2023, email	The consultation set out the apprach to the assessment as set out below which includes scoping out of the: • Effect of construction traffic; • Effect of construction dust • Effect of operational traffic; • Effect of combustion emissions; and • Impact of road traffic and the nearby

Consultee (Body / Organisation)	Date and Form of Consultation	Summary and Outcome of Consultation
		railway line on the Proposed Scheme. The Environmental Protection Officer at MCC responded to the consultation on 3 February 2023. She advised that she considered the proposals to be reasonable and pointed to MCCs air quality guidance, requesting that it be referred to in the assessment.

Appendix 2.1: Preliminary Environmental Management Plan

Project specific measures to avoid and / or prevent significant adverse environmental effects (i.e. mitigation measures) have been considered through the EIA Scoping process, when appraising likely environmental effects.

At this stage, this has focussed on 'primary mitigation' (i.e. inherent mitigation, comprising fundamental aspects of the project design) and 'tertiary mitigation' (i.e. standard environmental commitments / practices).

In order to support MCC and other stakeholders, the mitigation measures that have been identified at this stage have been collated into a single preliminary Environmental Management Plan set out below. This will be developed further as part of the ES.

It is envisaged that mitigation will be secured through suitably worded planning conditions or other mechanism, where appropriate, and the Environmental Management Plan will be utilised by the Applicant and appointed contractor(s) to control mitigation commitments and assurance over their implementation.

Mitigation Measure	Description / Details of Measure
Primary Mitigation	
Building heights and layout	The maximum building height on Site will be 28 storeys (excluding basement and platforms on roof) and 89.550m above the entrance level (which is at +41.300m AOD). The maximum height of the building will be at the top of the parapet, which will be up to +130.850m AOD. Built form will be across three blocks which will be stepped in height, with height increasing away from Vimto Park to the west (up to a maximum height of +130.850m AOD).
Public realm and landscape strategy	Landscaping / open space will be provided in the private courtyards between the main blocks and the public realm surrounding the building (Granby Row and Echo Street). Works will focus on pedestrian use, including general resurfacing, with lowered kerbs, widening of the pavement and localized tree planting along Granby Row extending to the boundary with Vimto Park. Courtyards will include multi stem shade tolerant species, on raised planters, complemented with lightweight furniture and catenary lights. In addition, one of the courtyards will provide means of escape from the central block, and feature a bike shed with a ramp leading to Echo Street. The landscaping proposals will seek to maximise the ecological value of the Site through the provision of native and/or wildlife friendly landscape planting, including the selection of climate tolerant species.
Surface water drainage strategy	The proposed surface water drainage will not increase the runoff rate and will include an allowance for climate change in accordance with relevant guidance[133]. Sustainable Drainage Systems (SuDS) will be incorporated into the surface water drainage network, in accordance with CIRIA 753 – The SuDS Manual[134] where practical. This will include consideration of climate change effects on river levels and the design of the surface water

[133] Flood risk assessments: climate change allowances (2022). Available at: Flood risk assessments: climate change allowances - GOV.UK (www.gov.uk)
[134] CIRIA (2015). The SuDS Manual C753. Available at: SuDS Manual C753 Chapter List (ciria.org)

Mitigation Measure	Description / Details of Measure
	drainage system which will take into account the 1 in 100 year storm event and required climate change allowances. In line with MCC guidance, The Proposed Scheme will seek to achieve a minimum reduction in surface water runoff rates of 50% for Brownfield sites, with an aim of reducing runoff to Greenfield rates up to a 1 in 100-year storm event, considering climate change. The proposed surface water drainage system will be designed to comply with the minimum reduction of flows set by the Lead Local Flood Authority (MCC) and provide capacity to accommodate the volumes generated for up to the 100-year storm event with an allowance for 45% increase rainfall. Climate change allowances are in accordance with current requirements for the Irwell Management Catchment. It will include the necessary mitigation for surface water flood risk where required, such as perimeter ground levels and ensuring the ground levels fall away from buildings to not encourage overland flows to be directed towards the buildings. The Drainage Strategy will demonstrate that the Proposed Scheme will not increase surface water flooding and will include proposals for a robust foul and surface water drainage system including assessment against the Sustainable Drainage hierarchy and necessary capacity to accommodate volumes generated including anticipated increases in rainfall due to climate change for the lifetime of the development. The proposed drainage solution will remove 100% of the existing surface water flows discharging to the existing combined sewer network and discharge proposed surface water flows to the existing surface water sewer network at a maximum of 50% of existing flows. A petrol interceptor or filter chamber will be required within the drainage system to serve the external access ramp prior to discharge off site.
Lighting strategy	All lighting installations will meet Institute of Lighting Professionals (ILP) Guidance Notes for the Reduction of Obtrusive Light 2021[135], British Standard 5489-1:2020[136]; BS EN 13201-2 – Road lighting[137],.and BS EN 12464-2 – Lighting of Work Places[138].

[135] Institute for Lighting Professionals (2021). Guidance Note 01/21 for the Reduction of Obtrusive Light.
[136] British Standard (2020). 5489-1:2020 Design of road lighting. Lighting of roads and public amenity areas. Code of practice.
[137] BS EN 13201-2:2015 Road Lighting Performance Requirements (2016)

Mitigation Measure	Description / Details of Measure
Waste strategy	Appropriate provision for waste storage and handling facilities/areas, inclusive of areas for segregation of waste and recycling will be provided. It is assumed that all waste storage/handling facilities will be designed in accordance with British Standard (BS) 5906:2005 Waste Management in Building – Code of Practice.
Building safety	The final building management company will have in place the required emergency producers/practices (i.e. Fire Emergency Evacuation Plan (FEEP)) or apparatus/instruments (i.e. smoke detectors/sprinklers) required by law for these uses. In addition, the buildings will be designed, in line with Building Regulations Approved Document D: Fire Safety, with appropriate fire preventative measures (i.e. fire doors, extinguishers etc.) and all external façades and materials will meet the necessary fire resistance standards set out within Building Regulations and by law. The design of the Proposed Scheme will be informed by 'Secure by Design' principles and appropriate design and site management measures (including appropriate lighting and digital entry systems at each building). Plant rooms and equipment will be designed to contain any spills through bunds and prevent infiltration into ground. It is currently proposed that plant will be housed in the basement which will have a concrete floor.
Overheating strategy	As part of the detailed design a sample of units in buildings will undergo overheating assessment in line with the requirements of Part O of the Buildings Regulations[139] to assess and reduce the risk of summer overheating taking into account future climate scenarios. Where measures are provided to reduce the risk of overheating this will be done in accordance with the cooling hierarchy.
Water efficiency	Measures to reduce water consumption, including the provision of water efficient fixtures and fittings, i.e. low flow taps and low water use WCs.
Air quality	NO_X filters will be installed in some rooms on the second, third and fourth floor levels.
Tertiary Mitigation	
Construction Environmental	A CEMP will be prepared by the appointed contractor in advance of commencing construction works. The document will provide detailed measures / controls to avoid and manage potential adverse effects upon the

[138] BS EN 12464-2:2014 Light and Lighting – lighting of work places. Outdoor work Places (2014)

[139] https://www.gov.uk/government/publications/overheating-approved-document-o

Mitigation Measure	Description / Details of Measure
Management Plan (CEMP)	environment during the construction stage. Measures will include: <u>General Measures</u> • The proposed construction works will be carried out by a competent contractor that will comply with current legislation[140]. • The site security arrangements for the Proposed Scheme during the construction stage will be in line with the requirements set out in the Construction (Design and Management) Regulations 2015 and appropriate levels of security (personnel / CCTV) will be provided. • Construction working hours[141] (noisy work) will be 07:30 to 18:00 Monday to Friday; 08:30 to 14:00 on Saturday; and no noisy work on Sundays and Bank Holidays. Operations outside of these hours will be agreed with MCC. • Climate change adaptation measures will be set out to reduce risks to human health from overheating such as provision of shaded refuges to reduce overheating risks, and potable water supplies to avoid dehydration. • 3m high Site hoarding lines. <u>Traffic</u> • The CEMP will manage construction traffic in the area, seeking to minimise the potential for disruption to other road users through measures such as vehicle booking systems. • Safe pedestrian routes maintained along Granby Row.

[140] This includes the Health and Safety at Work etc. Act 1974; the Control of Pollution Act 1974; and Construction (Design and Management) Regulations 2015.

[141] Manchester City Council. Tackle a noise problem – Noise from building sites. Available at: Noise from building sites | Tackle a noise problem | Manchester City Council [Accessed: 14/12/2022].

Mitigation Measure	Description / Details of Measure
	• Site exit managed to keep clear of debris, mud and materials. • Reuse of materials on site to avoid traffic movements. • Most traffic and deliveries to the Site will arrive from the A6 and Fairfield Street, with access via the main entrance at Back Acton Street and egress via the main exit at Cobourg Street ie there will be a one-way system in place close to the Site. Air Quality • The CEMP will be informed by Institute of Air Quality Management (IAQM) guidance[142] and would include prevention measures, such as screening stockpiles of materials, deployment of windbreak netting and dampening exposed soils as appropriate and set out requirements for ongoing monitoring and liaison with the local community, and MCC. • Measures to control emissions from non-road mobile machinery, such as the use of emission standards for NRMM based on engine size. Noise and Vibration • Controls implemented in accordance with BS5288-1:2014[143], including site hoardings, hours of operation, and the use of practicable measures to control noise at source. • Controls implemented in accordance with BS5288-2:2014[144], including the use of low-vibration working methods, such as continuous flight auger (CFA) and reasonable hours of working (see hours above, under General Measures).

[142] IAQM (2014). Assessment of dust from demolition and construction v1.1 Available at construction-dust-2014.pdf (iaqm.co.uk) [Accessed 17/1/2023].
[143] BSI Standards Publications (2014). BS5228-1:A1:2014: available at https://knowledge.bsigroup.com/products/code-of-practice-for-noise-and-vibration-control-on-construction-and-open-sites-vibration/standard [Accessed 13/1/2023].

Mitigation Measure	Description / Details of Measure
	• Maintain good road surfaces. <u>Lighting</u> • Lighting will be controlled through a series of best practice measures, in line with lighting industry standards and guidance including the CIE publication 'Technical Report Document 129[145] and BS EN 12464-2:2014[146]. • The following measures are proposed in order to control Light Spill, Glare and Sky Glow effects and thus manage light pollution: – Where practicable, construction lighting in the Site would be designed to comply with Environmental Zone E4 in accordance with the ILP Guidance Note GN01[147]; – Illuminance levels arising from temporary lighting to be designed in accordance with BS EN 12464-2: 2014 and CIE 129; – Placement of temporary lighting required to ensure safe working conditions and to maintain security, to have due regard of sensitive receptors (i.e. occupied residential premises); – Lighting to be directed so as avoid unnecessary Light Spill outside of construction areas and to ensure that the light distribution is toward the task area; – Lighting to be switched off when not required for safe working conditions and Site

[144] BSI Standards Publications (2014) BS5228-2:A1:2014: available at https://knowledge.bsigroup.com/product./code-of-practice-for-noise-and-vibration-control-on-construction-and-open-sites-vibration/standard [Accessed on 13/1/2023].
[145] CIE - Technical Report Document 129 (1998) Guide for Lighting Exterior Work Areas.
[146] British Standards (2014) BS EN 12464-2 – Lighting of Work Places – Part 2: Outdoor Work Places.
[147] Institute of Lighting Professionals (ILP) (2021) Guidance Notes for the Reduction of Obtrusive Light (GN01).

Mitigation Measure	Description / Details of Measure
	security; – Use of light shields/baffles to control upward light to within the maximum 15% set out in the ILP Guidance Note GN01, where possible; – Lighting to be kept at 0° tilt to avoid Sky Glow, where practicable; and – Light dimming and automatic switch off would be used (where appropriate). <u>Waste</u> • The CEMP will be informed by the waste provisions of the Environmental Protection Act 1990[148] and the Environmental Protection (Duty of Care) Regulations 1991[149] and will set out the principles and legal requirements relating to waste, including any hazardous waste that is encountered and required to be exported off-site for disposal. • Hazardous waste will be handled, processed and removed from Site by suitability qualified contractors, all being undertaken in line with The Hazardous Waste (England and Wales) Regulations 2005. <u>Ground and Earthworks</u> • All earthworks and foundation design will be in accordance with relevant industry guidance,

[148] Environmental Protection Act 1990 No. 43 Available at: https://www.legislation.gov.uk/ukpga/1990/43/contents [Accessed: 18/01/2023].
[149] Environmental Protection (Duty of Care) Regulations 1991 No. 2839. Available at: https://www.legislation.gov.uk/uksi/1991/2839/made#:~:text=The%20duty%20requires%20such%20persons,person%20or%20to%20a%20person [Accessed: 18/01/2023].

Mitigation Measure	Description / Details of Measure

including but not limited to CIRIA Report C572: Treated ground engineering properties and performance[150], British Research Establishment document FB75: Building on Fill - Geotechnical Aspects[151] and British Standard 6031:2009: Code of Practice for Earthworks[152].

- Measures to protect construction workers, neighbours and general public passing by from exposure to any contaminated material which is encountered including (but not be limited to); dust suppression methods, ensuring covered wagons transport material and ensuring suitable PPE is provided and worn on site.
- Fuels, oils and hazardous substances used in construction will need to be suitably stored and bunded containers with spill kits easily accessible.
- A Piling Risk Assessment will be undertaken for any further piling works that are required.
- Site Specific Unexploded Ordnance Awareness Briefings to all personnel conducting intrusive works.
- In medium risk area of UXO the following will be undertaken:
  - Open Intrusive Works (trial pits, service pits, open excavations, shallow foundations etc.);
  - UXO Specialist On-site Support and Site Specific Unexploded Ordnance Awareness Briefings to all personnel conducting intrusive works; and
  - Boreholes – Intrusive Magnetometer Survey of all borehole and pile locations/clusters down to maximum bomb penetration depth.

[150] CIRIA (2002). Report C572: Treated ground engineering properties and performance.
[151] British Research Establishment (2015). FB75: Building on Fill - Geotechnical Aspects. 3rd Edition.
[152] British Standard (2009). 6031:2009: Code of Practice for Earthworks.

Mitigation Measure	Description / Details of Measure
	Water • The monitoring and setting of targets to reduce water use. • A Surface Water Management Plan (in accordance with best practice guidance such as The SuDS Manual (C753)[153] and BS8582:2013 Code of practice for surface water management for development sites[154]) will be established. This will include the installation of a temporary drainage system to collect and contain run-off including any discharge agreements with the local sewer authority and measures to protect the Site from increased risk of flooding during construction, for example compounds storage compounds with raised levels and temporary drainage; and drainage and pollution prevention systems. • Introduction of perimeter cut off drains to prevent overland run-off and additional interceptors for pollution and debris collection if required. • Bowsers to be in place for potable water requirements until a permeant solution is in place. • Measures to limit the amount of silt and other pollutants that are able to reach the existing sewer infrastructure. Silt will be controlled using traps and measures implemented to reduce the amount of material that could be washed into the Watercourse via overland flows. The use of cut off trenches to intercept the overland flow routes will also prevent pollution. • Designation of specific areas where refuelling and maintenance occurs. • Storage of materials will be located an appropriate distance away from the watercourse to ensure there is limited flow routes for contamination to use to get the existing sewer

[153] CIRIA (2015). The SuDS Manual (C753).
[154] BSI (2013). BS8582:2013 Code of practice for surface water management for development sites. Available at: BS 8582:2013 | 30 Nov 2013 | BSI Knowledge (bsigroup.com)

Mitigation Measure	Description / Details of Measure
	infrastructure.
Remediation strategy	In the event that contamination is identified, a programme of mitigation or remediation work will be carried out as part of the enabling works in line with a Remediation Strategy approved by the regulators and MCC. Recommended remediation is likely to comprise inclusion of an engineered capping layer of clean soils in soft landscaped areas to ensure the end users do not come into contact with contaminated soils. Quantitative risk assessments will be reviewed and revised in respect to contamination and ground gas. Where revised quantitative risk assessments identify an elevated risk, design and implementation of any remedial measures will be required to discharge pre-commencement and pre-occupation planning conditions relating to ground contamination. Requirements would be detailed in a Phase 3 Remediation report Strategy and records of completion included in a Phase 4 verification report. The implementation of any gas protection measures (e.g gas resistant membrane) will be required to discharge pre-commencement and pre-occupation planning conditions relating to ground contamination will be identified. A United Utilities water supply pipe risk assessment will be undertaken to further assess the risk of contaminants entering the water supply prior to installation of water supply pipes. Remediation measures where required would entail ensuring contaminant resistant water supply pipes are used (known as barrier pipe) to prevent migration of contamination into water supply pipes.
TV Reception	If TV interference is reported, one or a combination of the following measures would be implemented: • Replacement of receiving aerial with a more directional or higher gain, aerial; • Repositioning the receiving aerial so that the received signal is stronger; and • Replacing terrestrial reception equipment with satellite or cable reception equipment.

Mitigation Measure	Description / Details of Measure
Foundation design	Consideration of The Building Regulations[155] to consider the impact of ground movement in foundation design.

[155] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/540328/BR_PDF_AD_L2A_2013_with_2016_amendments.pdf

Appendix 2.2: Structure of the Environmental Statement

Volume 1: Primary Report and Supporting Graphics

Chapter 1: Introduction

Chapter 2: Approach to EIA

Chapter 3: Site Context

Chapter 4: Development Specification

Chapter 5: Consideration of Alternatives

Chapter 6: Socio-Economics and Human Health

Chapter 7: Climate Change

Chapter 8: Built Heritage

Chapter 9: Townscape and Visual

Chapter 10: Daylight, Sunlight, Overshadowing and Solar Glare

Chapter 11: Wind Microclimate

Chapter 12: Noise and Vibration

Chapter 13: Assessment of Cumulative Effects

Chapter 14: Summary of ES

Volume 2: Technical Appendices

Volume 3: Environmental Management Plan

Volume 4: Non-Technical Summary

Appendix 5.1: Archaeological Evaluation Report

Turley



University of Salford MANCHESTER

Archaeological Evaluation

Echo Street, Manchester

Client:
The Environment Partnership Ltd

Planning Ref:
118267/FO/2017

Technical Report:
Andrew Radford

Report No:
SA/2019/63

The Centre for Applied Archaeology

REGISTERED ORGANISATION CIfA

Location:	The Site is located along Echo Street and Granby Row, Manchester, M1 3QJ. The development Site comprises of Chandos Hall and the adjoining buildings currently leased as garages and a children's day nursery.
NGR:	SJ 84660 97705
Project:	Echo Street, Manchester
Planning Ref:	118267/FO/2017
Report No:	SA/2019/63
Prepared for:	The Environment Partnership Ltd
Document:	Archaeological Evaluation Report
Version:	Version 1
Author:	Andrew Radford
Position:	Archaeologist
Date:	July 2019
Approved by:	Ian Miller BA FSA **Signed:**
Position:	Assistant Director
Date:	July 2019

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Contact: Salford Archaeology, Centre for Applied Archaeology, LG 19 – 26 Peel Building, University of Salford, the Crescent, Salford, M5 4WT.

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Contents

Summary 3

1. Introduction 4

2. Historical Background 7

3. Methodology 15

4. Evaluation Results 17

5. Finds 23

6. Discussion 24

7. Conclusion 25

8. Archive and Dissemination 26

Acknowledgements 27

Sources 28

Appendix 1: Figures 30

Appendix 2: Context List 37

Summary

IQSA Services Limited (IQ Student Accommodation) has obtained planning permission for a development located on Echo Street in Manchester city centre (NGR SJ 84660 97705). The proposals allow for the demolition of existing buildings on site and their replacement with a mixed-use development that is focused on three towers, together with associated plant and public realm enhancements (Planning ref 118267/FO/2017). Delivery of the proposal will necessitate ground-breaking works that have a potential to damage or remove any archaeological remains that may survive *in-situ*.

The site was occupied from the 18th century by a large house and gardens and, from the early 19th century, by back-to-back workers' housing and industrial buildings. Although the 18th- and 19th-century structures were demolished during the mid-20th century to make way for Chandos Hall, car garages, and a depot, an archaeological assessment that was prepared to support the planning application concluded that there was potential for archaeological remains of interest to survive below these structures.

Following consultation with the Greater Manchester Archaeological Advisory Service, Manchester City Council attached a condition (Condition 37) to the planning consent that required a programme of archaeological investigation to be undertaken in advance of development. It was recommended that in the first instance this should comprise a scheme of evaluation trenching to establish whether any archaeological remains survived below ground. In the light of this condition, The Environment Partnership Ltd commissioned Salford Archaeology to carry out the recommended programme of evaluation trenching, comprising the excavation of two trenches that were targeted on the footprint of the 18th- and early 19th-century buildings.

The fragmentary structural remains identified during the archaeological evaluation are considered to be of little archaeological interest. Whilst elements of probable 18th-century walls were found *in-situ*, almost certainly representing the large 18th-century house shown on historic mapping, it is unlikely that further investigation would enhance an understanding of the building and its development, and has no potential to inform any of the research initiatives for the industrial period that are laid out in the current Archaeological Research Framework for the Northwest. The evaluation also demonstrated that those remains of the most archaeological interest, including the early 19th-century back-to-back houses, had been removed completely during the mid-20th-century clearance of the site. Similarly, the intensive development of the site from the 18th century appears to have removed any earlier archaeological remains that may have existed.

The results obtained from the evaluation trenching indicate that the site has little archaeological potential, and that development will have a negligible impact on the below-ground archaeological resource.

1. Introduction

1.1 Background

IQSA Services Limited (IQ Student Accommodation) has obtained permission for a development located on Echo Street in Manchester city centre (Plate 1). The proposals allow for the demolition of existing buildings on site and their replacement with a mixed use development comprising three towers providing 403 units of residential accommodation with associated shared amenity spaces, 94 units of purpose-built student accommodation with associated shared amenity spaces; ground-floor commercial floor space and children's day nursery, together with associated plant and public realm enhancements (Planning ref 118267/FO/2017).



Plate 1: Recent aerial view across the Site, showing the development site boundary

Delivery of the development proposals will entail considerable earth-moving works, which will impact on any below-ground archaeological remains that survive *in-situ*. The historic interest in the development site was highlighted in an archaeological desk-based assessment that was produced to support the planning application (TEP 2017). This concluded that the site holds potential to contain buried remains of archaeological interest, relating to the 18th- and 19th-century development of the site. These potential buried remains primarily relate to a large 18th-century house, small-scale industrial works, and early 19th-century back-to-back workers' housing.

In light of the conclusions drawn from the desk-based study, and following consultation with Greater Manchester Archaeological Advisory Service (GMAAS) in their role as archaeological advisors to Manchester City Council, it was recommended that the development required an appropriate scheme of archaeological investigation to be undertaken in advance of development. Following this recommendation, Manchester City Council attached a condition (Condition 37) to the planning permission which stated:

'The programme of archaeological works for that phase shall be undertaken in accordance with the approved WSI, prepared by TEP.

Reason - To record and advance understanding of heritage assets impacted on by the development and to make information about the archaeological heritage interest publicly accessible pursuant to policy EN3 of the Manchester Core Strategy.'

The Written Scheme of Investigation (WSI), produced in consultation with GMAAS, proposed an initial programme of archaeological evaluation by trial trenching, followed by the production of this evaluation report and archive (TEP 2017). It was intended that the results of the evaluation would be used to inform any potential requirement for further investigation.

1.2 Aims and Objectives

1.2.1 Objectives

The principal aims of the project, as laid out in the WSI (TEP 2017), were as follows:

'The following programme has been designed to identify any archaeological deposits or features that may be present within the area of the proposed ground disturbance, where the potential for the survival of archaeological evidence is predicted to be high.

The programme of work is designed to then allow for the need for, and scope of, any further necessary archaeological mitigation to be designed and undertaken. This approach is in accordance with paragraph 141 of the National Planning Policy Framework'.

1.2.2 Academic Aims

The further aims of the projects, as laid out in the WSI (TEP 2017), were as follows:

'The research objectives of the programme of work will be determined by what, if any, archaeological remains are present within the development footprint. However, subsequent assessment and analysis will be in accordance with the research outlined in the *Archaeological Research Framework of the North-West of England* (2006).'

It is anticipated that the archaeological investigation will further address several of the initiatives for archaeological research of the industrial and modern periods stated in the current *Archaeological Research Framework for North West England* (Newman and McNeil 2007; McNeil and Newman 2007). Those considered of particular relevance are:

- Initiative 7.6: 'A study of the development of workers' housing in Greater Manchester should be undertaken to examine the development of different housing types…' (McNeil and Newman 2007, 139);
- Initiative 7.7: 'Study the material culture of industrial workers' households…'.

1.4 Location, Geology and Topography

The underlying solid geology of the Site, as mapped by the British Geological Survey at 1:50000, is comprised of the Chester Formation - Sandstone. To the north of the Site runs the West Manchester Fault line. Overlying the sandstone are glacial Devensian till deposits associated with Ice Age conditions (British Geological Survey, 2019).

Topographically, the Manchester Conurbation as a region lies within an undulating lowland basin, which is bounded by the Pennine uplands to the east and to the north. The region as a whole comprises the Mersey river valley, whilst the rivers Irwell, Medlock, and Irk represent the principal watercourses in Manchester (Countryside Commission 1998, 125).

2. Historical Background

2.1 Introduction

An overview of the archaeological and historical development of the area is presented below to provide a framework in which to consider the results obtained from the evaluation trenching. This has been compiled with reference to the archaeological and historical periods listed in Table 1.

Period		Date Range
Prehistoric	Palaeolithic	Pre-10000 BC
	Mesolithic	10000 – 3500 BC
	Neolithic	3500 – 2200 BC
	Bronze Age	2300 – 700 BC
	Iron Age	700 BC – AD 43
Romano-British		AD 43 – AD 410
Early Medieval		AD 410 – AD 1066
Medieval		AD 1066 – AD 1540
Post-Medieval		AD 1540 – AD 1750
Industrial Period		AD 1750 – 1914
Modern		Post- 1914

Table 1: Summary of British archaeological periods and date ranges

2.2 Prehistoric Periods

The current understanding of human activity in the Manchester region during the prehistoric period is relatively poor. However, it could be reasonable to assume that the study area was conducive for late prehistoric settlement on account of the natural topography and its location close to the River Medlock (Connelly 2002). Occasional prehistoric artefacts have been found around Manchester, especially around Castlefield on the south-western side of the city centre, but many of these remain without context (Nevell 2008, 11-2). No prehistoric finds are known to have come from the present site.

2.3 Romano-British Period

The first military occupation of Manchester was established during the governorship of Agricola (AD 77-84), and commenced with a five-acre wooden fort, known as *Mamucium* (Bruton 1909). Roads from the fort linked Manchester with Buxton to the south-east, Chester to the south, Wigan to the north-west, Ribchester to the north and Castleshaw, and York to the north-east. The total extent of the associated civilian settlement, located in the vicinity of Chester Road, is not known, though it is though unlikely that it extended as far eastwards as the current site boundary; there is no known evidence for any Romano-British activity within the vicinity of the site,

2.4 Early Medieval Period

There is scant archaeological evidence in the region as a whole that represents the period between the end of the Roman occupation and the Norman Conquest, although the area around Manchester is known to have come under the control of several kingdoms during this period. In AD 919, Edward the Elder established a *burh* at Manchester, which was then part of Northumbria. It has been suggested that the *burh* lay within the area around the cathedral and Hanging Ditch, which had certainly become a new focus for settlement by the late 11th century, and the site occupied presently by Chetham's School is thought to have been the site of a castle founded by Manchester's Norman barons.

2.5. Medieval and Post-medieval Periods

Post-Conquest Manchester was established around the manor house and parish church of St Mary, located over 1.2km to the north-west of the study site. In 1223, the right to hold an annual fair was obtained, and the town was important enough to be granted a charter in 1301 (Kidd 1993, 14). The area south of Manchester and the Medlock was a separate township, known as Chorlton Row and later, Chorlton-upon-Medlock. It is first recorded as 'Cherleton' in 1196 and was tenanted by a Gospatrick de Chorlton in 1202. At a later stage in the 13th century, the Grelleys acquired the lordship which in turn passed to the de Trafford family in 1334. Although Manchester developed into a moderately sized settlement during the post-medieval period, Chorlton still remained predominantly rural and in 1774, only 46 houses and 226 inhabitants were recorded (Arrowsmith 2012, 5).

2.6 Industrial Period and Later

The onset of the rapid industrialisation centred on Manchester from the 18th century resulted in a massive expansion of the town's population. It was during this period that some of the principal streets, including Deansgate, Market Street and Shude Hill were developed. By the 1780s, the national demand for textiles, particularly cotton, began to rise, resulting in a dramatic increase in mill and house building that transformed Manchester into a centre of the factory-based cotton manufacturing industry of international importance. In 1773, records suggest 22,481 people lived in Manchester, but this figure had more than tripled to 75,281 by 1801 (Lloyd-Jones and Lewis, 1993).

A commercial boom in 1800-02 saw the number of cotton-spinning firms in the township of Manchester double from 51 in 1799 to 111 in 1802, setting Manchester on its path to becoming the most highly concentrated centre of cotton spinning in the world.

Chorlton-upon-Medlock was transformed after the late 18th century by the rapid expansion of Manchester and eventually became part of the new municipal borough in 1838, along with Hulme and Ardwick. One of the first maps to show the area in detail is William Green's map of 1794, which shows that although the area remained predominantly rural, new streets had begun to be laid out (Plate 2). A number of industrial sites were visible at the time of Green's survey, and included Chorlton Old Mill and the nearby Garret Mill.

Back-to-back housing was constructed in large numbers in the vicinity of the site during the early to mid-19th century. These were needed to house the increasing numbers of workers arriving at Chorlton to work in the textile industry. Back-to-back housing was found at the nearby London Court, Sutcliffe Street, and many others, in addition to Albion Place, within the development boundary (Plates 3 and 4).

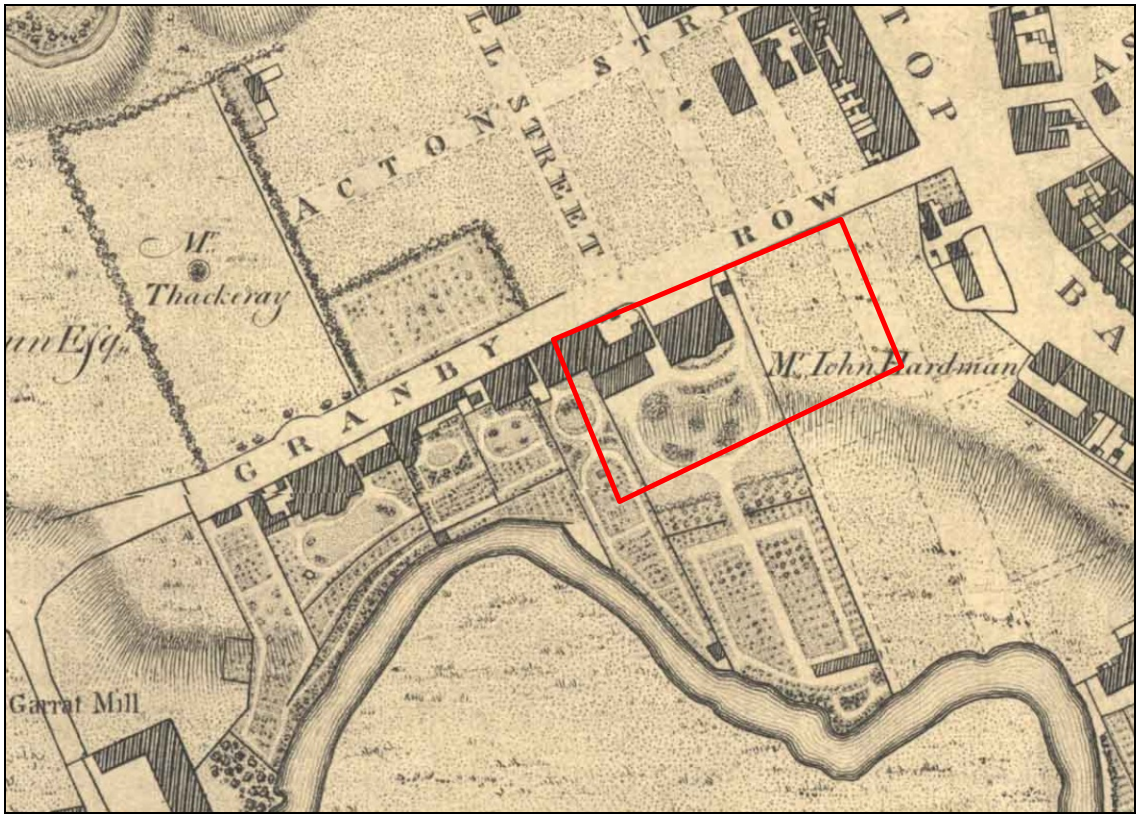


Plate 2: William Green's map of 1794, showing the approximate location of the site

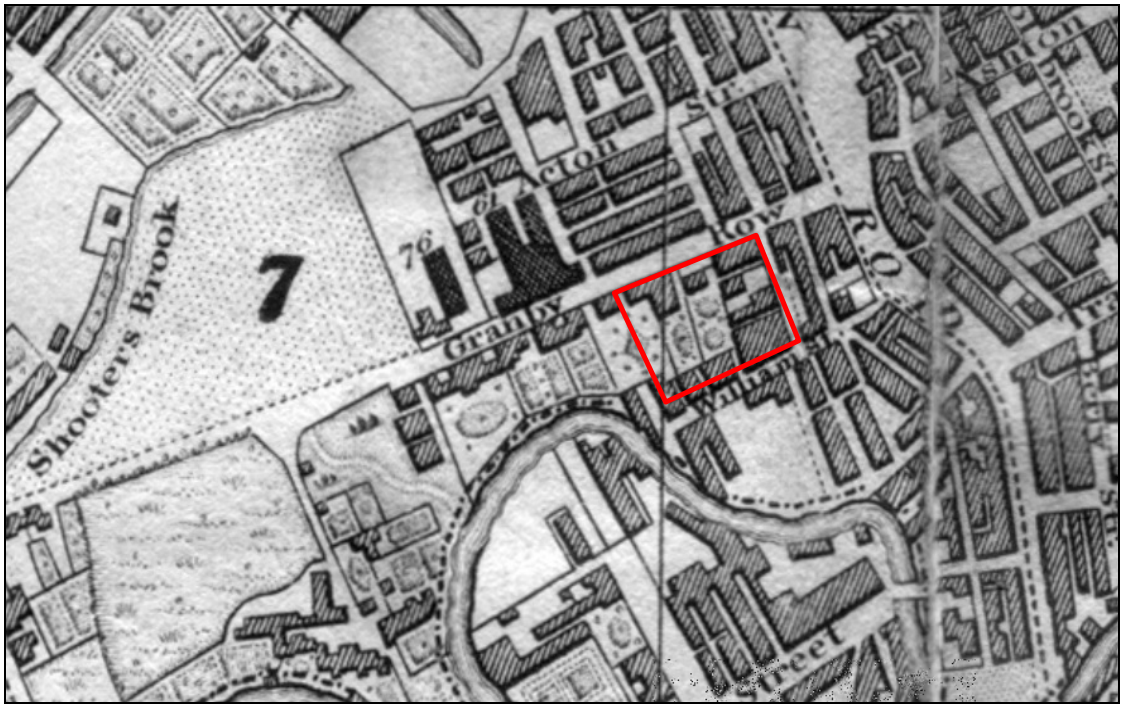


Plate 3: Extract from Swire's map of 1824, showing the approximate site boundary



Plate 4: Extract from Bancks & Co's map of 1831, showing the approximate site boundary

Chorlton continued to expand though the early 19th century, and had been fully developed by the time of the Ordnance Survey Town Plan of 1851. Some areas had been cleared by the late 19th century to make room for larger more modern factories, such as the nearby London Road Iron Works.

Back-to-back housing began to be cleared around Chorlton from the early 20th century. By the time of the 1922 Ordnance Survey map, for instance, such dwellings had been demolished at London Court and Back Acton Street. Throughout the 20th century, the area in the vicinity of the study area slowly became less residential and began to be dominated by industrial and light industrial units, such as garages. By the 1950s, the greatly expanded College of Technology covered much of the area to the north of the site. From the 1960s onwards, the expansion of the university was particularly noticeable with the construction of the Barnes Wallis Building and the Renold Building, for example.

2.7 Development of the Site

It is unknown precisely when the buildings along the south side of Granby Row shown on William Green's map of 1794 were constructed. The land in the vicinity of the site boundary had remained mostly undeveloped by that time, though some streets appeared to have been laid out and awaiting development. The precise nature of the structures fronting Granby Row on Green's map is similarly unclear, although the presence of formal gardens suggests that they represented wealthy residential plots. Scholes' trade directory for 1794 lists several 'principal inhabitants' resident at Granby Row. These included a calico printer, a brewer, and cotton manufacturers.

Cole and Roper's map of 1801, though produced at a scale that precludes any analysis of individual buildings, indicates that the study area had changed little since 1794 (Plate 5). The eastern part of the site remained undeveloped, while the western part remained dominated by the house and gardens.

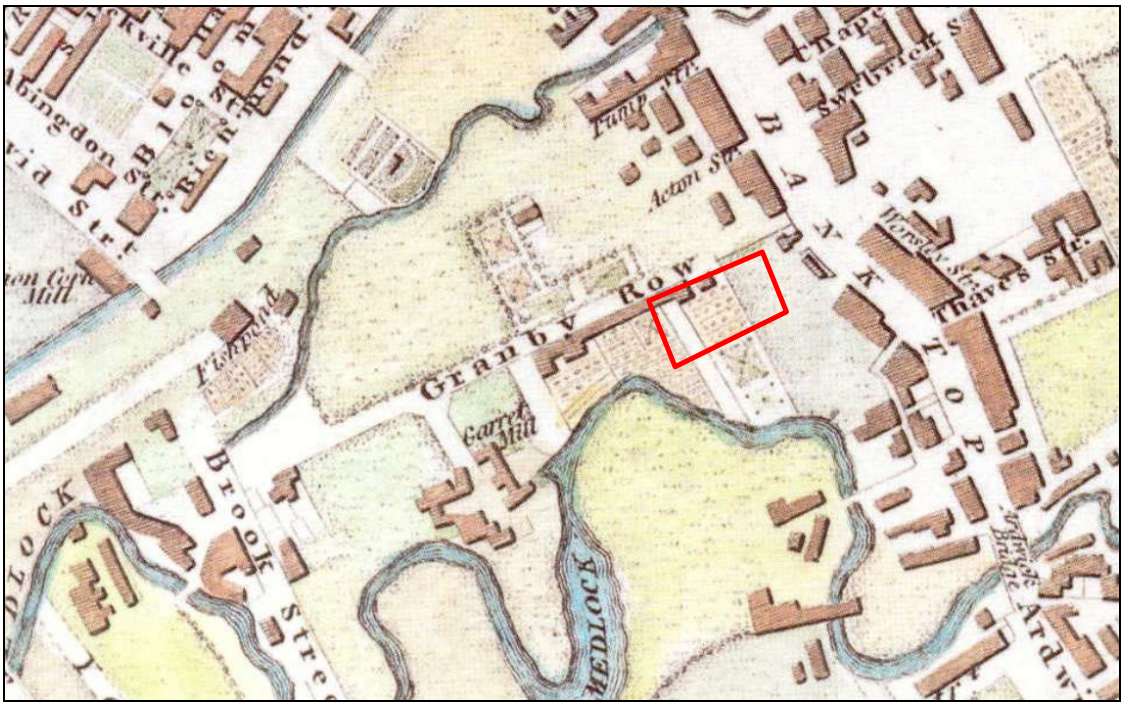


Plate 5: Cole and Roper's Map of 1801 showing the approximate location of the Site

Johnson's map of 1819 similarly lacks detail, although it indicates that more development had taken place within the site boundary. Terraced houses in the north-eastern part of the site, fronting onto Granby Row had been constructed, but the back-to-back houses which later cover much of the footprint of the development area had yet to be built.

Bancks & Co's map of 1831 indicates that back-to-back houses had been constructed by that time, and London Place had been established along the southern boundary of the site, together with Albion Street (known subsequently as Echo Street) along the eastern boundary. The map indicates that a total of 24 back-to-back houses had been constructed in the south-eastern part of the site, in two blocks of 12 dwellings. The large 18th-century house still stood in the centre of the site, with associated formal gardens located to its south-east up to London Place. The internal divisions of the building, which correlated to divisions within the formal gardens, suggested that by that time the house may have become a tenement of three separate dwellings.

The next available mapping of the area is provided by Joseph Adhead's plan of 1851, and the Ordnance Survey 1:1056 Town Plan of 1851. The most noticeable change since Bancks & Co's map of 1831 was the construction of Altrincham Street and the railway viaduct, which necessitated the demolition of the most southerly of the two blocks of back-to-back housing. Most of the site was dominated by residential buildings, including the remaining back-to-backs, and the large 18th-century house, which again appeared to have been used as three separate dwellings at that time.

Adshead identifies the 18th-century buildings that fronted Granby Row, and first mapped by Green in 1794, as business premises. The Ordnance Survey Town Plan of 1851 shows that the roadway to the west of the 18th-century house was named Lawton Street, the roadway to the north of the back-to-backs was named Albion Place while the houses themselves, or potentially out-of-view buildings within the viaduct, were named as Horsefield's Buildings. It is perhaps more likely that 'Horsefield's Buildings' referred to some of those back-to-back housing, as the 1861 Census lists residential properties of that name located at Albion Place.

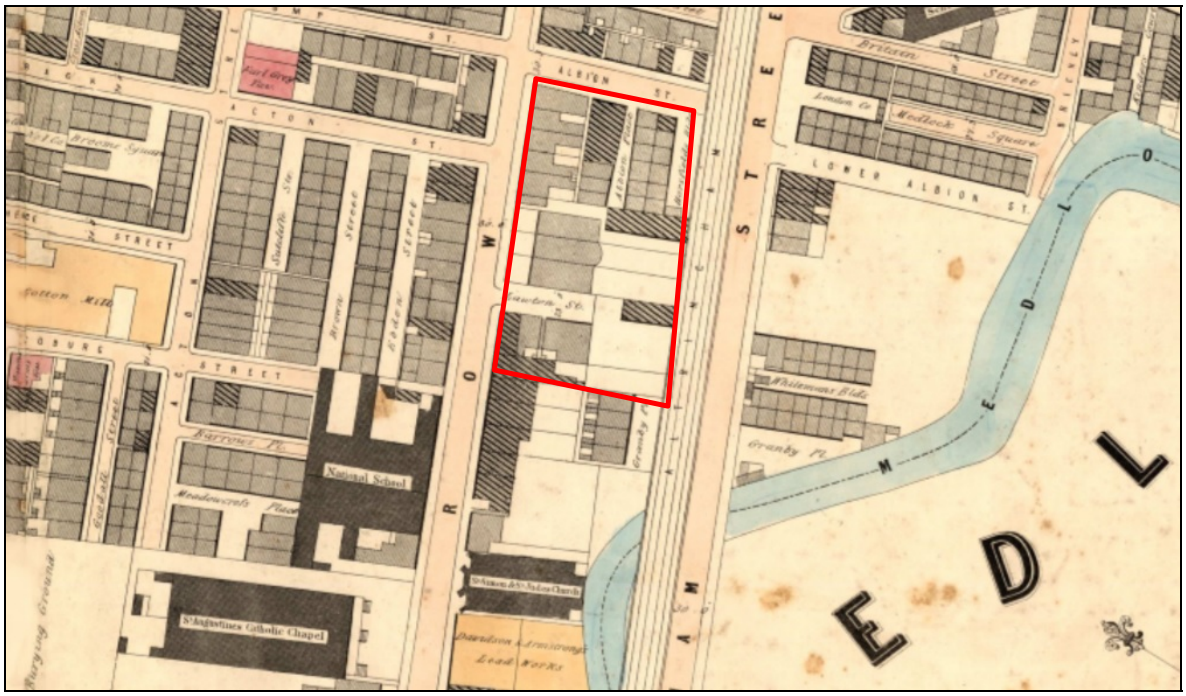


Plate 6: Adhead's Map of 1851, showing the approximate boundary of the Site

By the time of the survey for the Ordnance Survey 1:500 Town Plan of 1891, there had been little change within the site boundary. The south-centre of the site, in what had been the garden of the 18th-century house, several small structures had been built, as well as a 'tank'. It is likely that by that time the house was no longer used for residential purposes. Goad's Insurance Plan of 1893-6 (not reproduced) does not list any part of the 18th-century house as a dwelling, but partly as 'vacant' and 'warehouse', whilst the building built across the formal gardens is listed as a 'factory'. The buildings built over the earlier gardens between 1851 and 1891 are labelled as a 'factory', but it was unclear whether it remained in use at that time. Most of the back-to-back houses along Albion Place are also not listed as dwellings. Most had been converted for industrial works, and are labelled by Goad as 'Smithy' and 'A. Charlesworth Saddlers Ironmongery Works'. Only the north-western two properties of the back-to-back block of housing are listed as 'dwelling'. The north-eastern part of the site was still mostly dwellings, although a 'sign enameller' and 'stable' was also present.

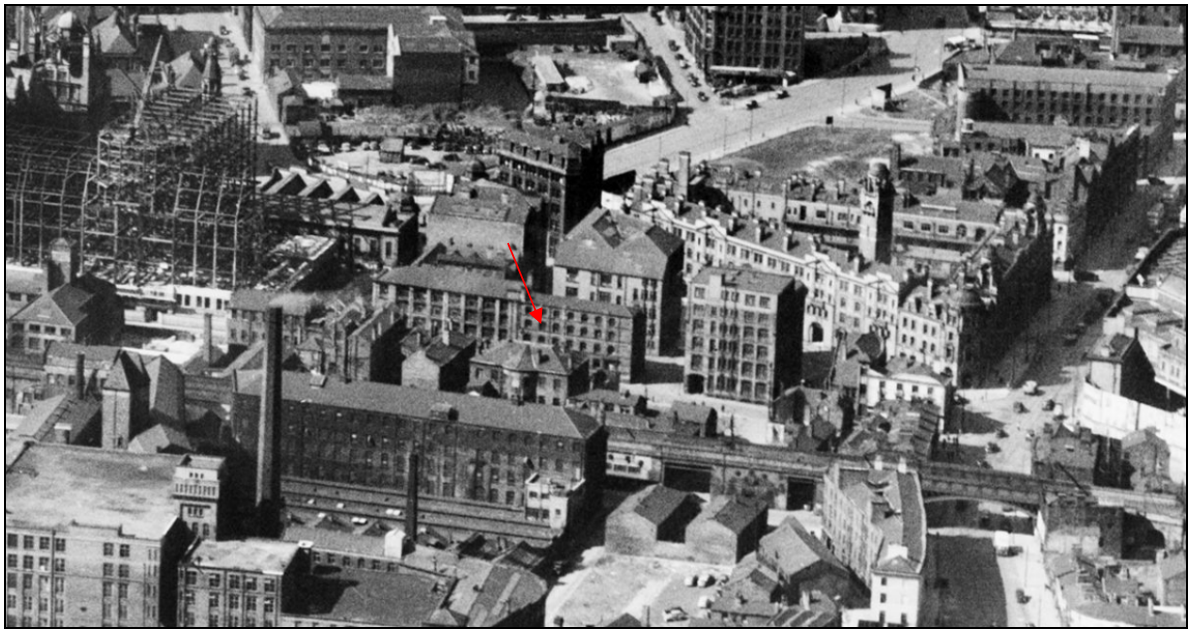


Plate 7: 1949 aerial photograph looking north across the site. Note the large 18th-century house with the terraced and back-to-back house on its right. The College of Technology can be seen under construction in the upper left

Little change was recorded throughout the first half of the 20th century in the available cartographic sources. Echo Street took on its current name, changed from Albion Street, from the Ordnance Survey map of 1908. The 1922 Ordnance Survey map indicates that a further industrial unit, 8 Echo Street, had been constructed to the south of the remaining back-to-back houses next to the viaduct. That new property was listed in Slater's trade directory for 1909 as Arthur Charlesworth, Son, & Co at 8 Echo Street, a chain maker. The converted back-to-back housing is listed in the same directory as belonging to Henry Baugh, 6 Echo Street, a manufacturer and dealer in packing materials.

Some photography of the site exists from the 1940s and 1950s, and shows the large 18th-century house and the back-to-back dwellings, most of which appeared to have been converted for industrial and business use, such as ironworks and glassworks (Plates 7 and 8). The glassworks visible in the 1950s photography was named Harling & Watson, whilst the sign enameller listed on Goad's Insurance Plan is also listed in Slater's trade directory for 1909 as a sign writers.

The Ordnance Survey map of 1964 shows that the entire site had been redeveloped. All the buildings within the site boundary had been demolished *c* 1954-64, between the surveys for those respective Ordnance Survey maps. All the 18th- and 19th-buildings along Granby Row had also been cleared to make way for the new College of Technology. Within the site boundary, Chandos Hall had been constructed in addition to a 'depot' to the north-east. The site had been further developed by the 1970s, and contained a series of garages and a tennis court. These buildings remained mostly extant until the programme of demolition works associated with the current redevelopment.

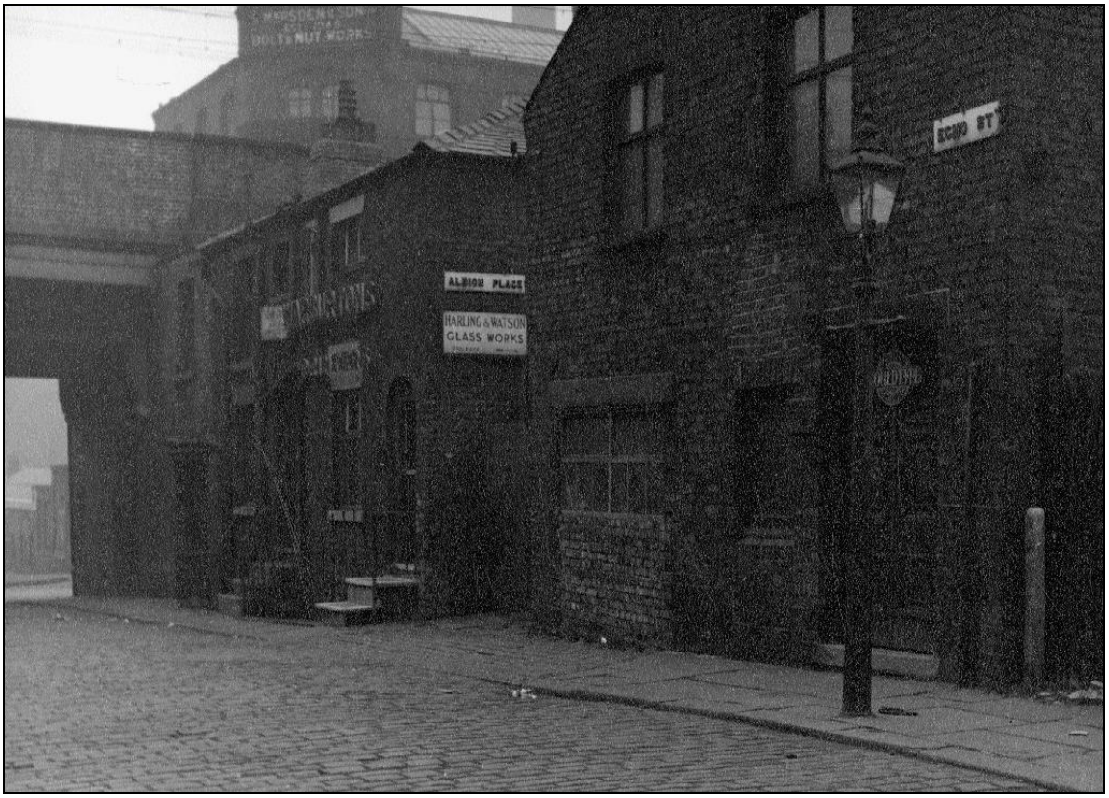


Plate 8: 1957 photograph of Echo Street with Albion Place in the Centre. Harling & Watson Glass Works is visible in the centre, in what had been back-to-back housing. Looking south-west

2.8 Previous Archaeological Work

No previous intrusive archaeological investigation has taken place within the site boundary, although a considerable amount of such work has been undertaken within the general vicinity. This work has tended to focus on 18th- and 19th-century remains, and has recently included a 19th or early 20th-century foundry at Charles Street (Radford 2019), a 19th-century engineering and finishing works at New Wakefield Street (Radford 2018), and 19th-century terraced housing at Higher Chatham Street (Harvey and Mottershead 2019).

3. Methodology

3.1 Archaeological Excavation

The principal aims of the evaluation were to establish the presence or absence of buried archaeological remains on the site and, if present, characterise the level of preservation and significance, and provide a good understanding of their potential.

General Methodology: all archaeological work was conducted following the CIfA Standards and Guidance for archaeological field excavation (Standards and Guidelines for an Archaeological Excavation CIfA 2014). Prior to the commencement of any excavation works, the location of the areas targeted for archaeological investigation were laid out accurately with respect to the Ordnance Survey national grid. Service plans were inspected and the area scanned for any live services using a cable avoidance tool. The excavations were regularly scanned as work progressed.

Bulk Excavation: this entailed mechanical excavation using a tracked machine of appropriate power to excavate the overburden, which was undertaken under close archaeological supervision. All material excavated was stockpiled away from the trench in a designated stockpile area and made safe. Any large obstructions encountered which were not of archaeological significance were only removed if necessary, to access archaeological remains beneath them. These were then stored away from the trench in a separate stockpile and not mixed into the main spoil stockpiles. Any large obstructions that were encountered which did not impede access to archaeologically significant remains were left *in situ*.

Archaeological Excavation: machine excavation was used to define carefully the extent of any surviving structures, features, and other remains. At this point any surviving structural remains were assessed for stability and any considered unsafe were reduced to foundation level and the trench edges battered to make safe. Any surviving cellars were emptied by machine and the contents stockpiled. Remains were cleaned manually to define their extent, nature, form and, where possible, date. Once the extent of buried archaeological remains was established, key remains were subject to detailed archaeological excavation and recording. Hand excavation was undertaken by trained professional archaeologists. All information identified in the course of the site works was recorded stratigraphically and was accompanied with sufficient pictorial record (plans, sections and photographs) to identify and illustrate individual features

Context Recording: a unique text-number site code was created prior to the commencement of the programme of works. Separate contexts were recorded individually and annotated onto drawings and sketches.

Photographic Archive: a comprehensive photographic archive was produced utilising a high-resolution digital camera. All frames, excluding general contextual views, incorporate a graduated metric scale. Photograph records were maintained on special photograph pro-forma sheets. All photography was carried out following the latest Historic England guidance (Digital Image Capture and File Storage: Guidelines for Best Practice HE 2015).

Planning: a ‘site location plan’ indicating the site north and based on the current Ordnance Survey 1:1250 map (reproduced with the permission of the Controller of HMSO) was prepared. This is supplemented by a trench plan, which shows the location of the areas investigated in relation to the investigation area and National Grid.

The precise location of all archaeological remains encountered was surveyed by GPS linked to a data-logging pen computer. This process generates scaled plans within AutoCAD, which were then subject to manual survey enhancement. The drawings were generated at an accuracy appropriate to the final output scale. All level information is tied in to Ordnance Datum, taken from either GPS or temporary benchmarks set out using GPS. All plan drawings are geo-referenced based on the Ordnance Survey National Grid.

4. Evaluation Results

4.1 Introduction

Following consultation with GMAAS and TEP, an evaluation plan was developed which intended to target the 18th- and 19th-century remains within the site boundary that had archaeological potential, comprising the back-to-back houses, the 18th-century house, and the terraced houses fronting Granby Row. Both trenches were aligned north-west/south-east and measured 25 x 1.8 m. Trench 1 was located in the centre of the site, in the area which had previously been a tennis court and nursery yard. Trench 2 was located at the east of the site in the area that had been covered by the nursery and garage buildings.

4.2 Trench 1

Trench 1 was located in the centre of the site, and was aligned north-west/south-east. It measured 25 x 1.8 m and was excavated to a maximum depth of 1.05m (Plate 9). The uppermost layer encountered was a general demolition and crushed concrete material, ***001***, which had a maximum thickness of 0.3m. Below this more recently disturbed material was layer ***002***, a mid-brown-orange compacted clay which contained a high frequency of brick fragments and had a maximum thickness of 0.25m. Below this layer was blue-brown clay, ***003***, which contained occasional small fragments of brick and was considered as disturbed natural drift geology and had a maximum thickness of 0.1m. A sondage was placed at the south of Trench 1, which was excavated to a depth of 1.05m and cut into the natural boulder clay, ***004***. The natural geology consisted of a hard, flaky, grey-blue clay which contained occasional small to mid-sized rounded stones.

In the centre-west of the trench, 7m from the southern limit of the excavation, was a small brick structure, ***005***. This feature measured 1.05 x 0.5m and was exposed at a depth of 0.45m below the modern ground surface. The bricks were hand-made, unbonded, and clearly disturbed. It continued beyond the limit of excavation to the west. Though disturbed, the vestiges of the structure contained a dark brown/black, silty organic fill, ***006***, which produced no finds. Due to the nature of structure ***005***, and fill ***006***, it was thought that this likely represented the remains of a drain system.

In the centre-east of the trench was a semi-circular single-coursed brick structure, ***007***, which almost certainly represented a well (Plate 10). The bricks were hand-made and unbonded. The well continued beyond the eastern limit of excavation. The exposed brick structure covered a maximum area of 2.4 x 0.9m and was exposed at a depth of 0.56m. The interior of well ***007*** was filled by ***008***, a somewhat loose demolition material, which was not excavated further.

At the northern end of the trench, at a depth of 1.4m, was a brick structure, ***009*** (Plate 11). This consisted of a four-coursed brick wall that was bonded with a soft, yellow, sandy mortar which had inclusions of small stones and charcoal. It was constructed of hand-made bricks. The wall was aligned north/south, and measured 5.4 x 0.48m. This returned to the west at the northern end, of which 0.85 x 0.48m of wall was visible. It continued beyond the limit of excavation to the west.

Contained within structure ***009*** was a flagstone floor, ***010,*** which covered an area of 1.65 x 0.85m. The flagstones abutted structure ***009*** and continued beyond the limit of excavation to the west. No complete flagstones were found within this surface. Brick wall ***009*** was somewhat disturbed and appeared to have been crushed, while flagstone surface ***010*** was heavily disturbed.



Plate 9: Trench 1, looking north-west



*Plate 10: Well **007**, looking east*



*Plate 11: The brick wall and flagstone floor, **009** and **010**, looking west*

4.3 Trench 2

Trench 2 was placed across the eastern part of the site, and was aligned north-west/south-east (Plate 12). It measured 25m x 1.8, and was excavated to a maximum depth of 3m. The uppermost layer was the concrete-pad floor the nursery and garage buildings, ***200***. This layer was up to 0.25m thick. Below layer ***200*** was a thick deposit of made ground, ***201***, which contained frequent brick and concrete rubble. This had a maximum thickness of 2.5m. Below this made-ground layer was the natural boulder clay, ***203***, which was exposed at a minimum depth of 1.1m.

The southern limit of excavation was formed by a north-east/south-west-aligned wall, which was constructed with machine-made bricks and hard, grey cement, indicative of a late 19th- or early 20th-century construction date. A sondage was placed adjacent to this wall to a depth of 3m. The wall was surrounded by loose rubble, ***201***, which contained a high-frequency of hand-made bricks. The base of that wall was not exposed during the course of the evaluation (Plate 13).

The centre of the trench was characterised by the remains of the mid-20th-century buildings, which had replaced the 19th-century structure that was demolished *c* 1954-64. These remains included two east/west-aligned walls, ***204*** and ***206***, that were exposed immediately beneath current ground level. They were reduced by *c* 1m during the course of the evaluation. A brick-built manhole, ***205***, lay between these walls. This was located in what had been the driveway between the garages and nursery, and Albion Place before that. The area to the north was characterised by a series of concrete foundations, ***207***, which had cut into the natural drift geology, ***203***. These remains consisted of a stanchion base and two wall foundations which based may have been associated with the 'depot' building visible on the Ordnance Survey map of 1964. None of these remains were of any archaeological interest.

Towards the northern end of the trench, however, were the remains of double-coursed brick wall, ***208***, which comprised hand-made bricks bonded with a soft, yellow, sandy mortar, consistent with an 18th- or early 19th-century construction date. This wall lay 6.5m from the northern limit of excavation, and was exposed at a depth of 0.65m. It was aligned north-east/south-west, and survived to a height of 0.3m.

Situated to the north of wall ***208*** was a brick surface, ***209***, which extended beyond the northern limit of excavation; a maximum area of 4.5 x 2.5m was exposed during the evaluation. The bricks were hand-made and were aligned north-east/south-west, parallel to the wall. The floor had been destroyed in some places, particularly around a ceramic drain which was located in the centre of the structure, 3m from the northern limit of excavation. The floor was noticeably uneven with difference of up to 0.1m from the highest to the lowest point. It was unclear whether this was intentional to facilitate drainage, or through later disturbance.

A single sandstone step, ***210***, was found at the east of brick floor ***209***. This step measured 1 x 0.45 x 0.075m, and was aligned to the brick floor and wall. It was found at a depth of 0.95m. Brick floor ***209*** was sealed beneath demolition material ***202***, which contained a high frequency of hand-made bricks and likely represented the demolition of the terraced houses.



Plate 12: Trench 2, looking south-east



Plate 13: Sondage excavated at the southern end of Trench 2, showing the 20th-century walls and building materials

5. The Finds

5.1 The Finds

No finds was recovered from either of the evaluation trenches, and none of the excavation deposits warranted palaeo-environmental sampling.

6. Discussion

6.1 Discussion

Various structural remains associated with the 18th-, 19th- and 20th-century development of the site were identified during the course of the evaluation, with no indication for any earlier activity. Brick wall ***009***, and its associated floor, ***010***, represented the earliest archaeological remains encountered across the site. The position of these features corresponds to the footprint of the large 18th-century house visible on historical mapping. Though the cartographic record suggests that the house had undergone several developments throughout its lifetime, no archaeological evidence of those changes was identified in the physical remains. This may suggest that the integral structure had remained the same, while superficial modifications had occurred within and around the building. This conclusion is supported by mid-20th-century photographs, which show that the building retained its distinctive shape.

The brick-built well, ***007***, was also of some archaeological interest. Its size and design appeared broadly typical of 18th- and 19th-century domestic wells that have been found across Manchester and Salford. The well is not recorded on any historic maps, suggesting that it had been located within the original private grounds of the 18th-century house, as shown on Green's map of 1794, but must have gone out of use by 1891 when the area is shown on Ordnance Survey mapping to have been covered by light industrial structures.

The vestiges of the terraced house revealed at the northern end of Trench 1 are likely to have derived from structures first visible on Swire's map of 1824. Though the remains were fragmentary, the depth at which they were exposed implies that they formed part of a cellar. This would explain why they were the only historic structural remains to survive in that part of the site, having escaped complete clearance during 20th-century redevelopment due to their depth.

The substantial concrete and brick remains found across Trench 2 all dated to the mid-20th-century redevelopment of the site. This activity had evidently largely destroyed most of the earlier buildings completely, and no physical remains of Albion Place, the back-to-back houses, their associated yards and/or ancillary buildings, survived *in-situ*.

The southernmost block of back-to-back houses visible on Bancks & Co's map of 1831 had been demolished by 1851 to make way for the viaduct, whilst the northern block of back-to-back houses, most of which had been converted to light industrial use by the early 20th century, were then destroyed to make way for the foundations of the garages. The complete absence of any remains of the back-to-back houses implies that they did not have cellars.

7. Conclusion

7.1 Conclusion

The fragmentary structural remains identified during the archaeological evaluation are considered to be of little archaeological interest. Whilst elements of probable 18th-century walls were found *in-situ*, almost certainly representing the large 18th-century house shown on historic mapping, it is unlikely that further investigation would enhance an understanding of the building and its development, and has no potential to inform any of the research initiatives for the industrial period that are laid out in the current Archaeological Research Framework for the Northwest.

The evaluation demonstrated that those remains of the most archaeological interest, which would have some potential to contribute to research initiatives, had been removed completely during the mid-20th-century clearance of the site. In particular, the early 19th-century back-to-back houses appeared from the historic mapping to be a type of workers' housing that merits new data from archaeological investigation. Similarly, the intensive development of the site from the 18th century appears to have removed any earlier archaeological remains that may have existed.

The results obtained from the evaluation trenching indicate that the site has little archaeological potential, and that development will have a negligible impact on the below-ground archaeological resource.

8. Archive and Dissemination

8.1 Archive

The results of the archaeological investigation will form the basis of a full archive to professional standards and in line with current CIfA guidelines updated 2014. The project archive represents the collation and indexing of all the data and material gathered during the course of the project. The deposition of a properly ordered and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the CIfA in that organisation's code of conduct. As part of the archiving process, the on-line OASIS (On-line Access to Index of Archaeological Investigations) form will be completed.

The site archive will be so organised as to be compatible with the other archaeological archives produced in the Northwest of England. All drawn records will be transferred to and stored in digital format, in systems which are easily accessible. The integrity of the site archive will be maintained upon completion of the archaeological works, with the archive ultimately being offered for deposition with Manchester Museum of Science and Industry (MoSI).

8.2 Dissemination

The results obtained from the evaluation will be placed in the public domain via an appropriate level of dissemination, as required by Condition 37. Given the largely negative results obtained from the evaluation, the deposition of this report with the Greater Manchester Historic Environment Record, with a digital copy being made available on OASIS, is considered to represent an appropriate level of dissemination.

Acknowledgments

Salford Archaeology would like to thank TEP for commissioning the archaeological works. Salford Archaeology would also like to thank Norman Redhead for providing monitoring support and advice through GMAAS.

The on-site excavations were conducted by Andrew Radford. The report was written by Andrew Radford, and illustrated by Sarah Mottershead. The report was edited by Ian Miller, who was also responsible for project management.

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Appendix 1: Figures

Figure 1: Site location map

Figure 2: Trench location plan

Figure 3: Trench location superimposed on William Green's map of 1787-94

Figure 4: Trench location superimposed on the Ordnance Survey Town Plan of 1851

Figure 5: Plan of Trench 1

Figure 6: Plan of Trench 2

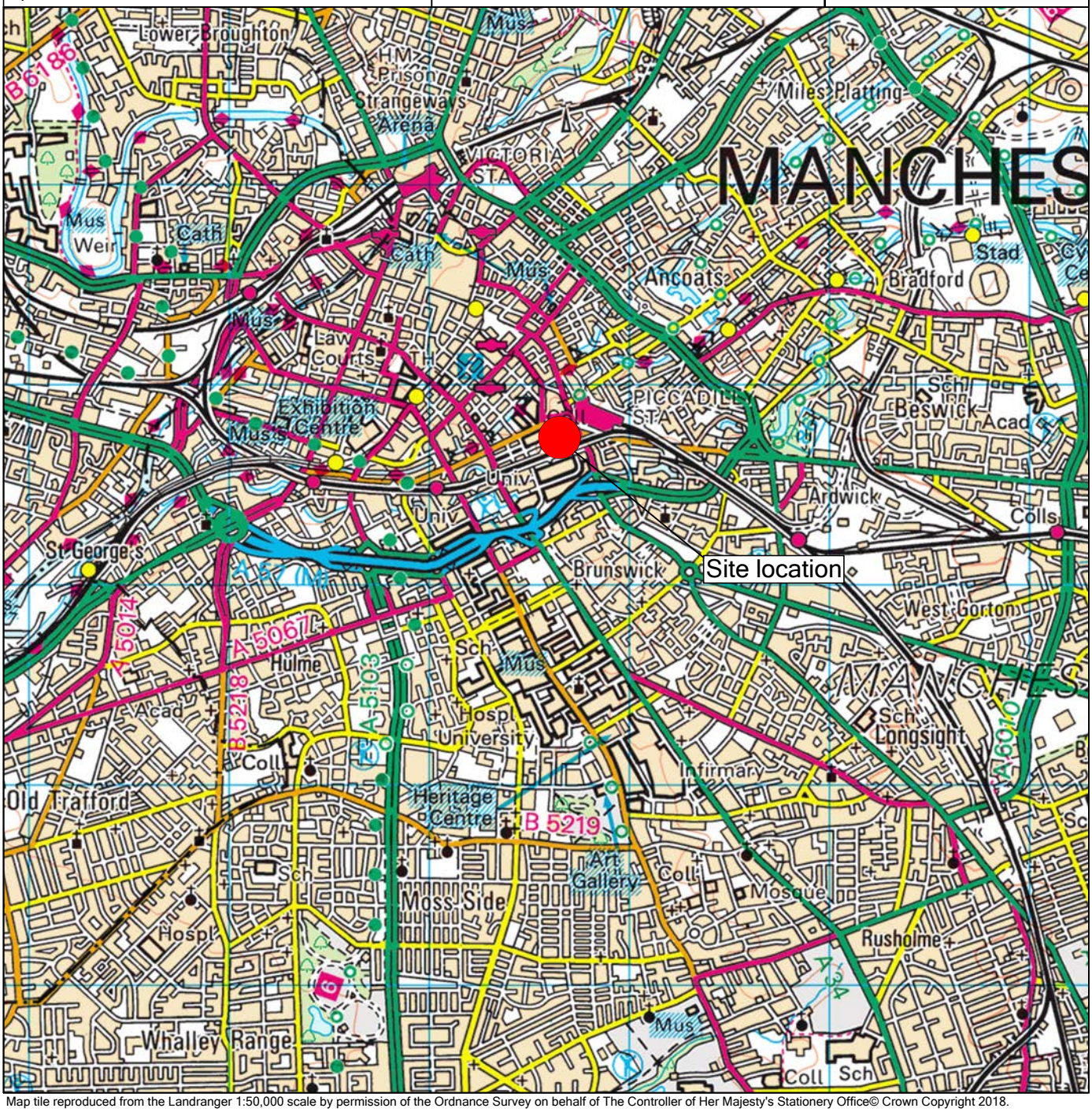




Figure 1:

Site location (centered on NGR SJ 84660 97705)

SALFORD ARCHAEOLOGY



Map tile reproduced from the Landranger 1:50,000 scale by permission of the Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office© Crown Copyright 2018.

Salford Archaeology, Peel Building,The Crescent, Salford, M5 4WT

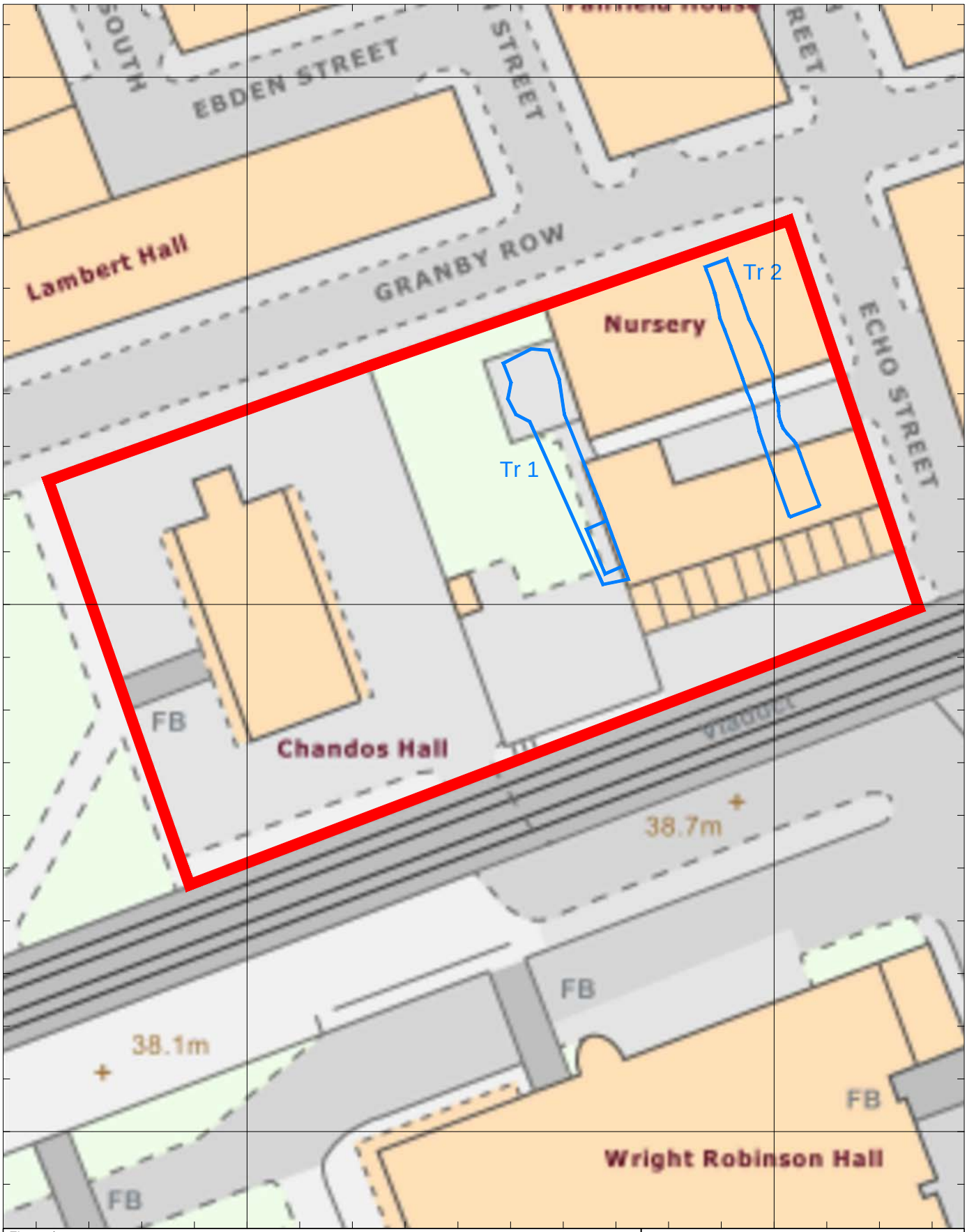


Figure 4:

Evaluation trenches superimposed onto Ordnance Survey 1:500 Town Plan 1851

N

Key:

Site boundary

Trench

SALFORD ARCHAEOLOGY

0 20 m

Scale at A4 1:500

Salford Archaeology, Peel Building,The Crescent, Salford, M5 4WT

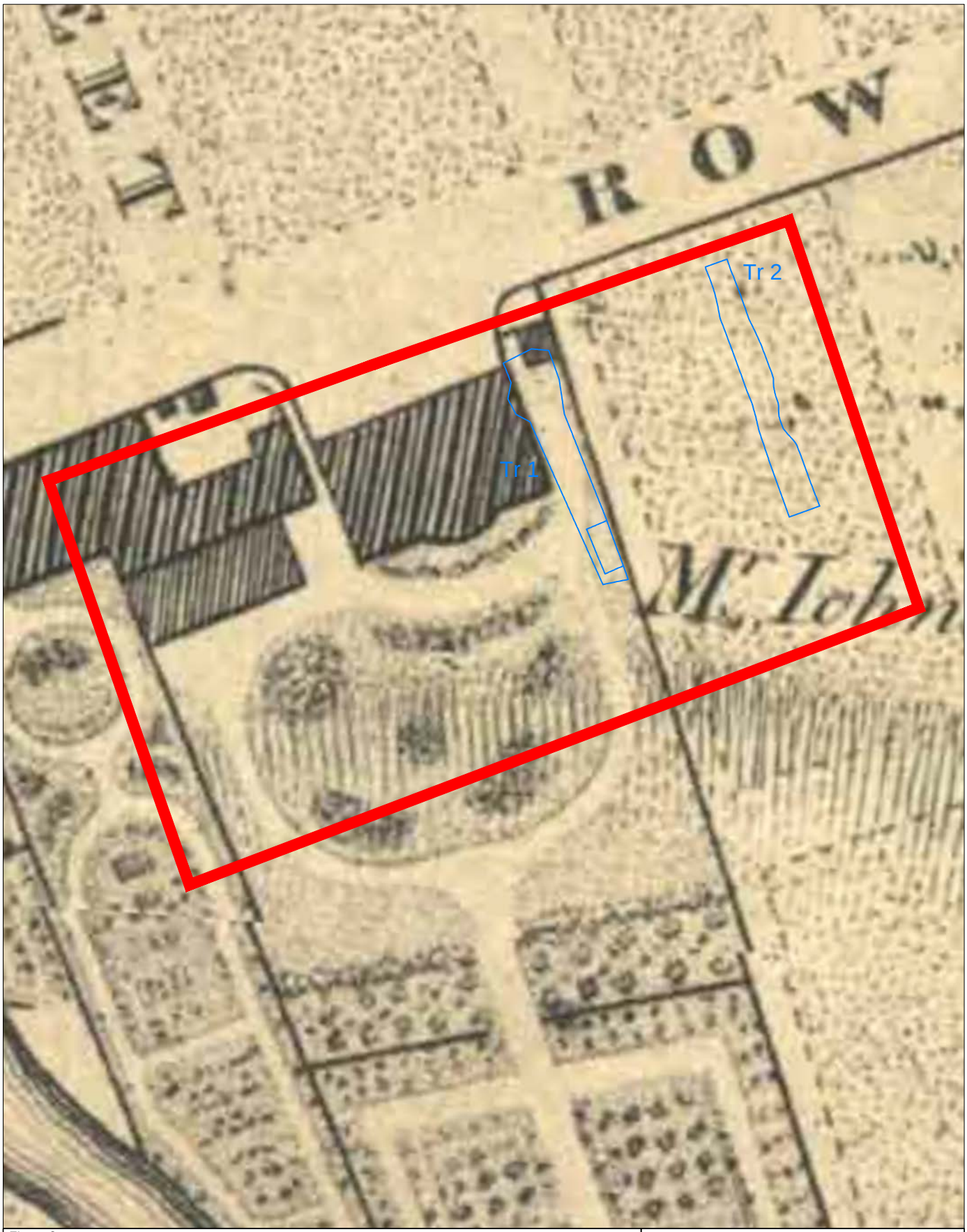


Figure 3:

Evaluation trenches superimposed onto Green's Plan of Manchester and Salford 1787-94

N

Key:

Site boundary

Trench

SALFORD ARCHAEOLOGY

0 20 m

Scale at A4 1:500

Salford Archaeology, Peel Building,The Crescent, Salford, M5 4WT

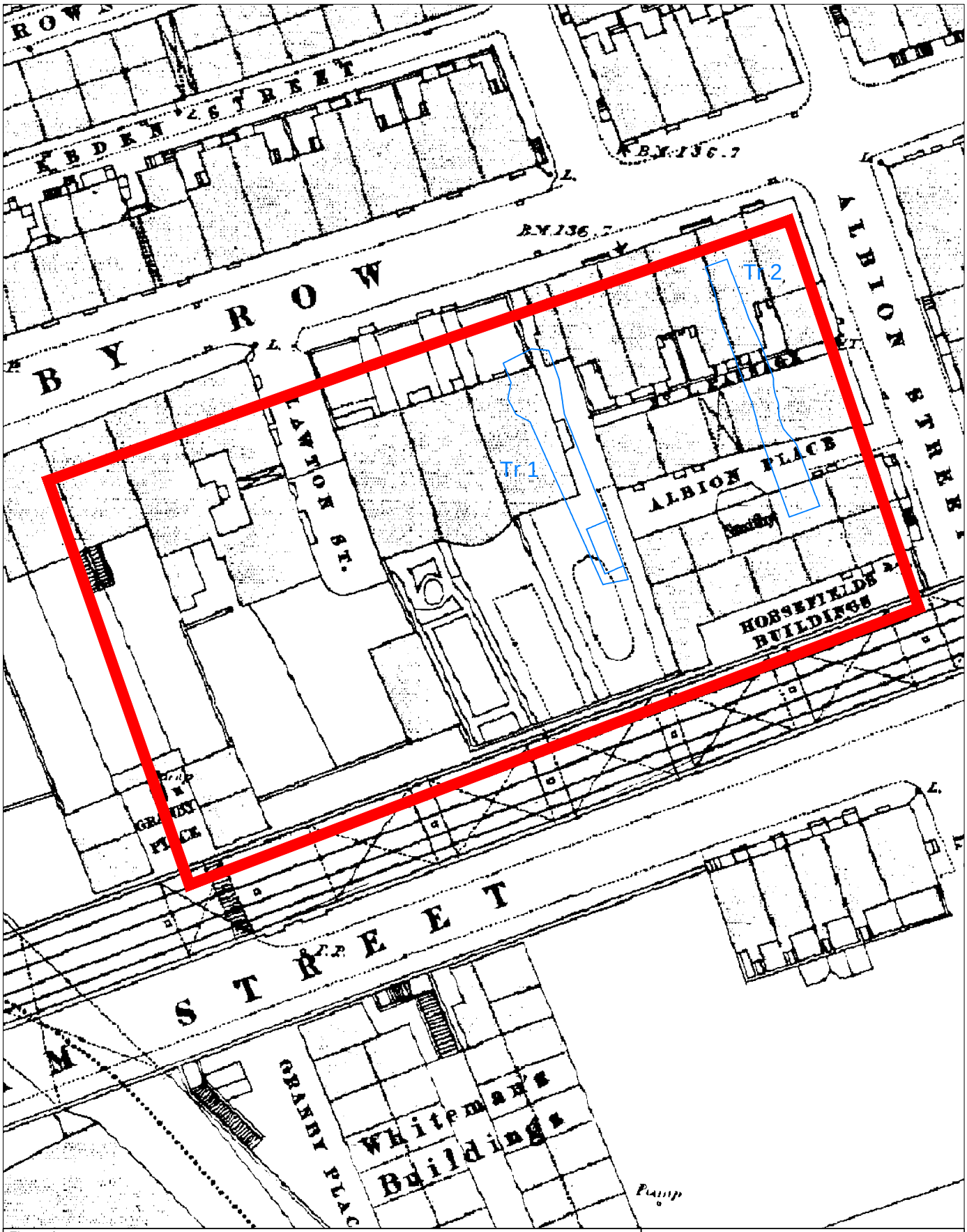


Figure 4:

Evaluation trenches superimposed onto Ordnance Survey 1:500 Town Plan 1851

N

Key:

- Site boundary
- Trench

SALFORD ARCHAEOLOGY

0 20 m

Scale at A4 1:500

Salford Archaeology, Peel Building,The Crescent, Salford, M5 4WT

384670 384680 384690

397730 397720 397710 397700

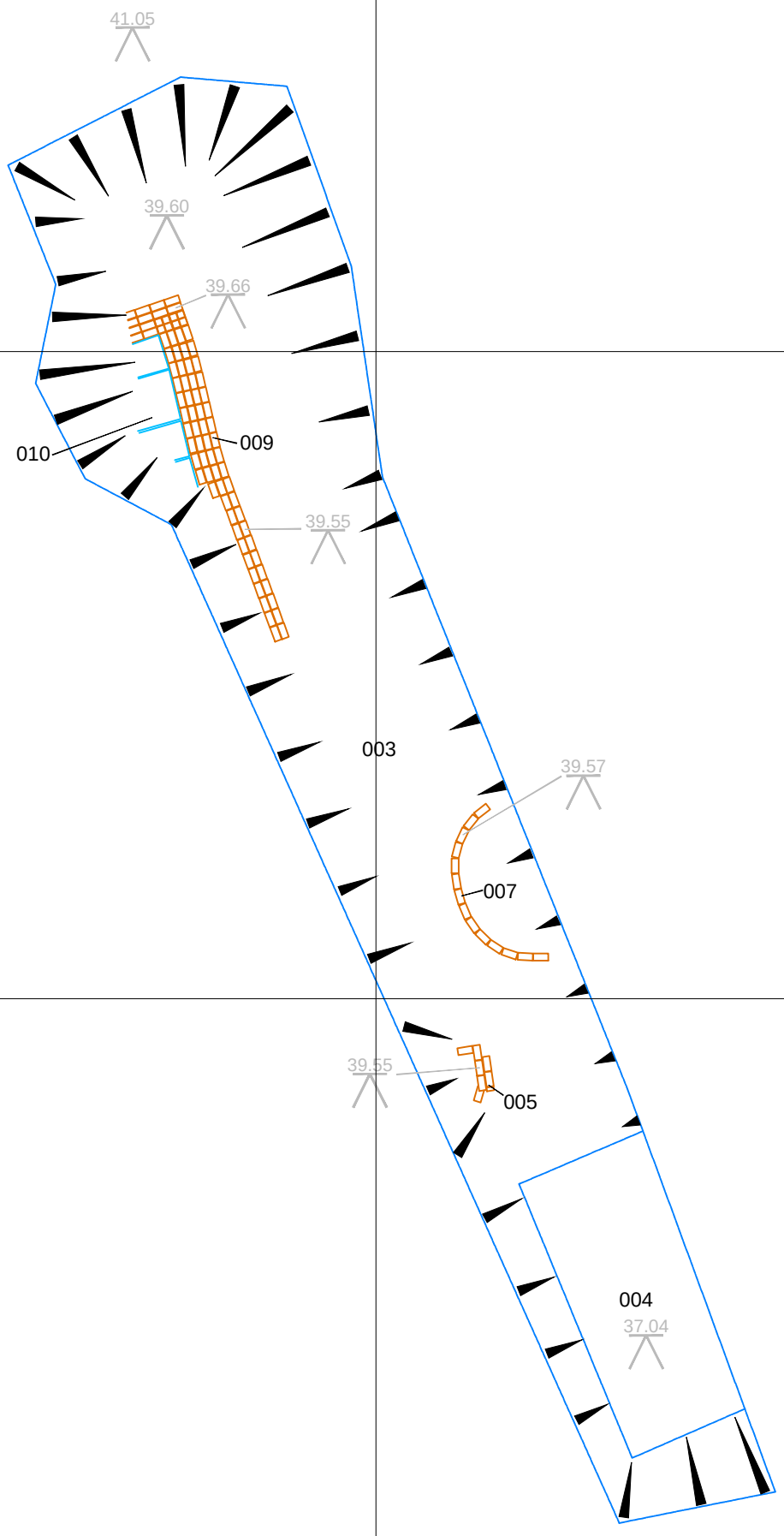


Figure 5:

Plan of evaluation trench 1 with contexts and levels annotated

N

SALFORD ARCHAEOLOGY

0 5 m

Scale at A3 1:100

Key:

- Brick wall
- Brick surface
- Concrete
- Drain
- Stone
- Trench

Salford Archaeology, Peel Building, The Crescent, Salford, M5 4WT

384690

384700

384710

397730

397720

397710

41.17

209

40.39

Drain

210

209

40.29

209

40.59

208

203

40.76

207

203

206

203

205

39.97

40.46

204

40.16

203

37.98

40.98

Figure 6:

Plan of evaluation trench 2 with contexts and levels annotated

N

SALFORD ARCHAEOLOGY

0 5 m

Scale at A3 1:100

Key:

- Brick wall
- Brick surface
- Concrete
- Drain
- Stone
- Trench

Salford Archaeology, Peel Building,The Crescent, Salford, M5 4WT

Appendix 2: Context List

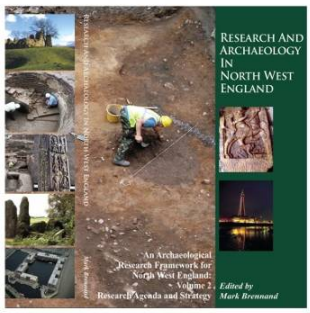
Context No	Trench No	Description
001	1	Layer of crushed concrete levelling
002	1	Layer of compacted clay with rubble inclusions
003	1	Compacted orange clay – top of natural geology
004	1	Grey boulder clay – natural geology
005	1	Brick-built structure
006	1	Fill of brick-built structure *005*
007	1	Brick-built semi-circular structure – probable well
008	1	Demolition fill of probable well *007*
009	1	North end of wall
010	1	Flagstone floor abutting wall *009*
200	2	Concrete slab
201	2	Layer of modern demolition material
202	2	Layer of earlier demolition material
203	2	Natural clay geology
204	2	Modern wall
205	2	Modern man-hole structure
206	2	Modern wall
207	2	Modern foundations / concrete stanchions
208	2	Brick-built wall
209	2	Brick floor
210	2	Stone step

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The Centre for Applied Archaeology

REGISTERED CIfA ORGANISATION

CONSULTANCY



DESK BASED ASSESMENTS



WATCHING BRIEF & EVALUATION



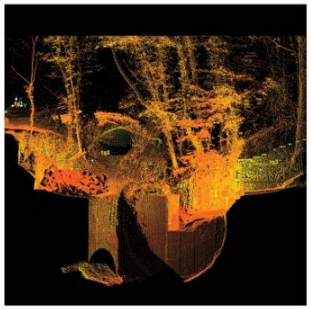
EXCAVATION



BUILDING SURVEY



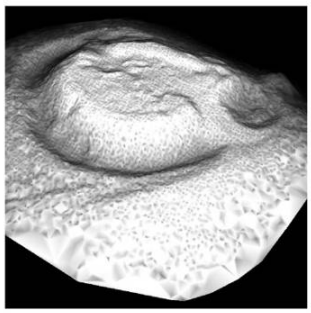
3D LASER SCANNING



COMMUNITY INVOLVEMENT



LANDSCAPE SURVEYS



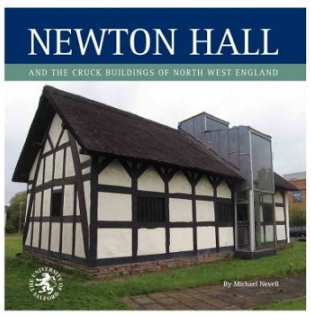
GEOPHYSICAL SURVEYS



WORKSHOPS & VOCATIONAL TRAINING



RESEARCH PUBLICATIONS



SEMINARS, DAYSCHOOLS CPD EVENTS



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Appendix 5.2: Extended Phase 1 Habitat Survey

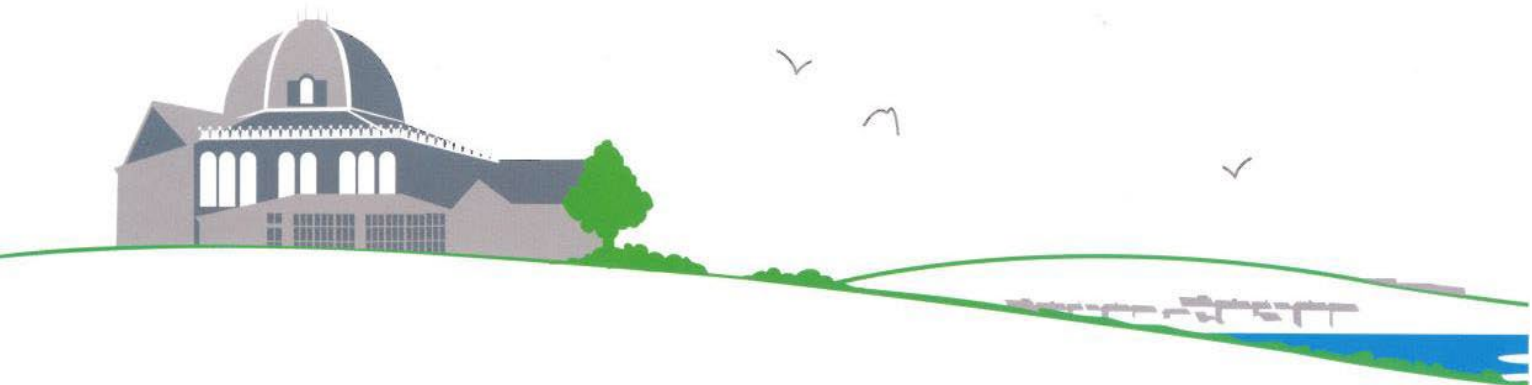
Turley

Penny Anderson Associates Ltd
CONSULTANT ECOLOGISTS

IQ STUDENT

ECHO STREET, MANCHESTER

EXTENDED PHASE 1 HABITAT SURVEY



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January 2023

This project has been undertaken in accordance with PAA policies and Procedures on quality Assurance

Signed: 

Penny Anderson Associates Ltd
CONSULTANT ECOLOGISTS

CONTENTS

Page

1. INTRODUCTION 1

Site Location 1

Legislative Context 1

Invasive Species 3

2. METHODS 4

Desk Study 4

Extended Phase 1 Habitat Survey 4

Limitations 4

3. RESULTS 5

Desk Study 5

Statutory Protected Sites 5

European Sites 5

Sites of Special Scientific Interest 5

National and Local Nature Reserves 5

Non-Statutory Protected Sites 5

Priority Habitats 6

Protected and Notable Species 6

Granted European Protected Species Application 6

Badger 6

Otter 6

Water Vole 7

Bats 7

Other Mammals 7

Birds 7

Amphibians 8

Reptiles 8

Invertebrates 9

White-clawed Crayfish and Notable Fish 9

Notable Plant Species 9

Phase 1 Habitat Survey 9

Main Habitats Present 9

Hardstanding and Bare Ground 9

Introduced Shrub 9

Ephemeral/Short Perennial Grassland 9
Invasive Non-Native Species 9
Protected Species 10
Bats 10
4. DISCUSSION AND RECOMMENDATIONS 11
Designated Sites 11
Habitats 11
Protected Species 11
Bats 11
Birds 11
Biodiversity Enhancement Opportunities 11
5. REFERENCES 12
6. ABBREVIATIONS 13

TABLES

1 Bat European Protected Species Licenses 6
2 Bat Roost Records 7
3 Bird Species of Principal Importance 8

FIGURE

1 Phase 1 Habitat Map

APPENDICES

1 Botanical Species List
2 Photographs

1. INTRODUCTION

1.1. Penny Anderson Associates Ltd (PAA) was commissioned by IQ Student in January 2023 to undertake an extended Phase 1 habitat survey on an area of land at Echo Street, Manchester (hereafter referred to as the 'site'). The site is centred on grid reference SJ84679770.

1.2. The report has been requested to accompany a planning application for re-development of the site. This report details the results of the desk study, the site survey, and evaluates the results in the context of the proposed re-development of the site, making recommendations for any further survey work as required.

1.3. PAA previously carried out an extended Phase 1 habitat survey and bat inspection (PAA 2017a) in May 2017 of the site, with subsequent bat activity surveys following (PAA 2017b). The on-site buildings that were the subject of the bat inspections have since been demolished.

Site Location

1.4. Echo Street is an urban city centre site comprising hardstanding and bare ground with small patches of ephemeral/short perennial vegetation and introduced shrub. The wider surrounding land use is primarily urban development comprising roads, offices, and residential buildings.

1.5. The site is bound by student residential lots to the north, the A6 and Bainbridge house to the east, a small park and university building to the west, and a railway track to the south. Piccadilly train station is located 100m from the site.

Legislative Context

1.6. A range of international and national legislation has been established in the UK to protect important nature conservation sites and priority species. At the international level, European Union (EU) Directives require individual member states to implement their conservation provisions nationally for the benefit of Europe as a whole. These Directives have been transposed into UK law by the Conservation of Habitats and Species Regulations 2017 (amended).

1.7. Other international conventions include: the Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979), which requires the maintenance of populations of wild flora and fauna, giving particular protection to endangered and vulnerable species; and the Bonn Convention on the Conservation of Migratory Species of Wild Animals (1979), which requires the protection of migratory species throughout their entire range. The above conventions are implemented in England and Wales via the Wildlife and Countryside Act (WCA), 1981 (as amended) and Countryside and Rights of Way (CRoW) Act 2000. This legislation also protects important habitats and sites such as Sites of Special Scientific Interest (SSSI).

1.8. At the national level, Biodiversity 2020 (Defra 2011) forms England's national biodiversity strategy. Building on the Natural Environment White Paper[1] published in 2011, this provides a means of delivering the UK's commitments to maintaining and protecting biodiversity. Under Biodiversity 2020, the Priority Species and Habitats referred to are those of 'Principal Importance' for the conservation of biodiversity in England as listed on Section 41 (England) of the Natural Environment and Rural Communities (NERC) Act 2006 (amended).

[1] *www.gov.uk/government/publications/the-natural-choice-securing-the-value-of-nature*

1.9. More recently, the Environment Act 2021 further supports this commitment to, and strengthens the legislation in respect of, maintaining and also enhancing biodiversity in England, and Part 6 Nature and Biodiversity includes the following key areas:

- Strengthened biodiversity duty for public authorities in England;
- Biodiversity net gain to ensure developments deliver at least 10% increase in biodiversity;
- Local Nature Recovery Strategies to support a Nature Recovery Network;
- Duty upon Local Authorities to consult on street tree felling;
- Strengthen woodland protection enforcement measures; and
- Protected Site Strategies and Species Conservation Strategies to support the design and delivery of strategic approaches to deliver better outcomes for nature.

1.10. Finally, the National Planning Policy Framework (NPPF 2021) provides guidance for local authorities on the content of the Local Plans and is a material consideration in determining planning applications. Briefly, with an overall focus on sustainable development, the NPPF states that developments should aim to engender positive outcomes for habitats and biodiversity, with a particular focus on the maintenance and creation of ecological networks.

1.11. The NPPF identifies the following principals that should be applied by local planning authorities when determining planning applications:

a. If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b. Development on land within or outside a SSSI, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of SSSI;

c. Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons, and a suitable compensation strategy exists; and

d. Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

1.12. The NPPF states that the planning system should contribute to and enhance the natural environment through a range of actions, including:

- Protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils;
- Recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services; and
- Minimising impacts on biodiversity and providing net gains for biodiversity including establishing coherent ecological networks that are more resilient to current and future pressures.

1.13. To protect and enhance biodiversity and geodiversity, plans should:

- Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of

importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and

- Promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

Invasive Species

1.14. Certain non-native species that have been introduced into the UK are regarded as being a threat to native biodiversity. Legislative measures have, therefore, been put in place to prevent the spread of these invasive species in the wild.

1.15. Under section 14 of the WCA, 1981 (as amended), it is illegal to introduce plants listed under Part II of Schedule 9 of the WCA into the wild or sell these species. Offences include causing the spread of viable plant material or neglecting to contain or appropriately manage non-native species.

1.16. Commonly introduced Schedule 9 species include non-native cotoneaster species, specifically, small-leaved cotoneaster[2] (*Cotoneaster microphylla*) and wall cotoneaster (*C. horizontalis*), Himalayan balsam (*Impatiens glandulifera*) and Japanese knotweed (*Reynoutria japonica*).

[2] *Plant names follow Stace 2019*

2. METHODS

Desk Study

2.1. A request for details of protected and notable species and locally designated sites within 2km of the centre of the site was made to the Greater Manchester Ecology Unit (GMEU), with data returned in January 2023. Additionally, the Multi-Agency Geographic Information for the Countryside (MAGIC[3]) website was consulted for details of statutory designated sites and Priority Habitats within 2km of the site and details of European Protected Species (EPS) within a 1km search zone.

2.2. It is important to note that the desk study results provide an indication of the species present in and around the site, and do not confirm current presence or absence of any species. Protected species are often under-recorded in county wildlife databases.

Extended Phase 1 Habitat Survey

2.3. An extended Phase 1 habitat survey was undertaken by senior ecologist Rob Lamb (ACIEEM[4]) and assistant ecologist Stephen Griffith on 18th January 2023.

2.4. The extended Phase 1 habitat survey was undertaken in accordance with the best practice methodology as detailed by CIEEM (2017) and the Joint Nature Conservation Committee (JNCC 2010).

2.5. This entailed mapping, describing and collating plant species lists for habitats within the site boundary. The broad habitat types were mapped, with each habitat type coded according to the standard JNCC Phase 1 habitat survey methodology.

2.6. Each plant species was assigned abundance codes within each habitat. This was done using the 'DAFOR' scale (where: d = dominant; a = abundant; f = frequent; o = occasional; r = rare), which provides an indication of the relative abundance of each plant species present within a particular habitat. Common names and scientific names according to Stace (2019) are provided in the species list (Appendix 1) but common names only are referred to in the text.

2.7. The survey was 'extended' (Institute of Environmental Assessment 1995) to include notes on fauna and habitats which could potentially support protected or notable species. The presence of, or potential for, protected or notable species was noted during the survey.

Limitations

2.8. The site was fully accessible at the time of the survey and, given the lack of botanical interest at the site, was carried out at an appropriate time of year for this type of survey, and there were no significant constraints.

[3] *https://magic.defra.gov.uk/MagicMap.aspx (last accessed [24/01/2023])*

[4] *Associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM).*

3. RESULTS

Desk Study

3.1. The desk study utilised data obtained from GMEU in January 2023, searching within a 2km radius of the site centre. The MAGIC[5] search engine was also used to obtain additional data on statutory designated site and Priority Habitats, as well as EPS licences within 1km of the site.

Statutory Protected Sites

European Sites

3.2. European protected sites include Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar wetland sites, possible SAC, potential SPA and proposed Ramsar sites.

3.3. No European protected sites are present within 2km of the site centroid.

Sites of Special Scientific Interest

3.4. SSSI represent a selection of this country's best wildlife and geological sites and cover approximately 7% of the terrestrial area of the country (with over 4,000 separate sites in England).

3.5. No SSSI are present within 2km of the site centroid.

National and Local Nature Reserves

3.6. No national or local nature reserves are present within 2km of the site centroid.

Non-Statutory Protected Sites

3.7. Two Sites of Biological Importance (SBI) were identified within the 2km search area:

- Ashton Canal (West) (approximately 360m north-east of site boundary) - The canal is an important wildlife corridor linking Ashton with Manchester via Openshaw and provides an important accessible natural greenspace in an otherwise urban landscape. Both floating water-plantain and grasswrack pondweed (*Potamogeton crompressus*) are UK Priority Biodiversity Species and have been recorded here; and
- Rochdale Canal: Stott's Lane to Ducie Street Basin (approximately 390m north of site boundary) - Statutory designations such as the Rochdale Canal SAC and the Rochdale Canal SSSI apply to the Oldham and Rochdale sections only and are, thus, not located within the 2km search area. Floating, emergent and marginal flora occurs along the Manchester section of the canal. This includes occasional emergent stands of bulrush (*Typha latifolia*), common reed (*Phragmites australis*), yellow iris (*Iris pseudacorus*) and purple-loosestrife (*Lythrum salicaria*). Marginal species also include occasional hard rush (*Juncus inflexus*), great willowherb (*Epilobium hirsutum*), hoary willowherb (*Epilobium parviflorum*), gypsywort (*Lycopus europaeus)* and water forget-me-not (*Myosotis scorpioides*). A small harbour connecting the Ashton canal and Rochdale canal, named the New Islington Marina, supports large shoals of perch and roach of various age classes, indicating this is now an important nursery for coarse fish. Water vole (*Arvicola amphibius*) and white-clawed crayfish (*Austropotamobius pallipes*) are known to be present in other sections of the canal.

[5] *Multi Agency Geographic Information for the Countryside*

Priority Habitats

3.8. Many records of Priority Habitat – deciduous woodland are present within the 2km search area. The closest of these records is located 750m south-east of the site boundary.

3.9. 26 records of priority habitat – open mosaic are present within the 2km search area. The closest of these records is located 740m south-west of the site boundary, at Cambridge Street.

Protected and Notable Species

Granted European Protected Species Application

3.10. Records for protected species licences were returned for ten locations within the 1km search area. These were all for Pipistrelle species (*Pipistrellus* sp.) and are displayed in Table 1 below.

Table 1 Bat European Protected Species Licenses

Species	License to Allow	Date License Granted	Date License Expires	Distance from Site Boundary
Common pipistrelle[6]	Destruction and damage of a resting place	2019	2021	205m SE
Common pipistrelle	Destruction of a resting place	2021	2022	325m SE
Common pipistrelle and Soprano pipistrelle[7]	Destruction of a resting place	2014	2017	285m NW
Common pipistrelle	Destruction and damage of a resting place	2018	2040	280m NW
Common pipistrelle	Damage of a resting place	2014	2015	880m SE
Common pipistrelle	Destruction of a resting place	2020	2025	850m NW
Common pipistrelle	N/A	2013	2016	950m SW
Common pipistrelle	Destruction of a resting place	2014	2020	930m NE
Common pipistrelle	Destruction of a resting place	2016	2018	970m N
Common pipistrelle	Destruction of a resting place	2013	2015	950m N

Badger

3.11. One record for a badger (*Meles meles*) sett was returned from the 2km data search, dating from 2011. This record was located 1.4km from the site boundary. Due to the confidential nature of this information, exact locations cannot be disclosed.

3.12. 17 other records for badger were also returned from the 2km data search, dating between 2011 and 2014.

Otter

3.13. Three records of otter (*Lutra lutra*) were returned from the 2km data search, dating between 2013 and 2022. The closest of these records is located 1.6km west of the site boundary, at Castlefield canals.

[6] *Pipistrellus pipistrellus*
[7] *Pipistrellus pygmaeus*

Water Vole

3.14. No records for water vole (*Arvicola amphibius*) were returned from the 2km data search.

Bats

3.15. A total of 70 records were returned for bat roosts from the 2km data search. These records are displayed in Table 2.

3.16. Other records for four species of bat were also returned from the 2km data search, including brown long-eared (*Plecotus auritus*), common pipistrelle, Daubenton's (*Myotis daubentonii)*, and soprano pipistrelle.

Table 2 Bat Roost Records

Common Name	Scientific Name	No. of roost records	Closest Record (approximate distance and direction from site boundary)
Bat species	*Chiroptera* sp.	1	1.8km W
Common pipistrelle	*Pipistrellus pipistrellus*	48	320m N
Daubenton's	*Myotis daubentonii*	1	1.8km W
Myotis species	*Myotis* sp.	1	270m E
Pipistrelle species	*Pipistrellus* sp.	17	270m E
Soprano pipistrelle	*Pipistrellus pygmaeus*	2	320m N

Other Mammals

3.17. 17 records of hedgehog (*Erinaceus europaeus*) were returned from the 2km data search, dating between 2012 and 2020. The closest of these records was located 420m north-east of the site boundary.

Birds

3.18. All nesting birds, their nests and eggs are protected from harm under the WCA, 1981 (as amended). In addition, species listed under Schedule 1 of the WCA are further protected against disturbance when breeding.

3.19. A number of bird species are listed under Section 41 in the NERC Act (2006, amended) as species 'of principal importance for the purpose of conserving biodiversity'. These species are often known as the 'S41 species'. There is a legal requirement for a public body to 'have regard to' these species in relation to maintaining biodiversity. The S41 list overlaps somewhat with the UK BAP[8] species, with national or local targets to maintain and enhance populations.

3.20. Furthermore, the Birds of Conservation Concern (BoCC) report lists those bird species that are classed as being of High (Red listed) and Medium (Amber Listed) conservation concern based on population monitoring (Stanbury *et al*. 2021). This Red and Amber classification helps guide the assessment of bird species of conservation interest on or near to a site, alongside legislative and policy requirements.

3.21. A small number of Schedule 1 species, including black redstart (*Phoenicurus ochruros*), hobby (*Falco subbuteo*) kingfisher (*Alcedo atthis*), little ringed plover (*Charadrius dubius*) and peregrine (*Falco peregrinus*) were recorded within the 2km search area; these records are classed as

[8] *Biodiversity Action Plan*

confidential. All other protected and notable bird species records within the 2km search area are listed in Table 3, along with their respective conservation status.

Table 3 Bird Species of Principal Importance

Common Name	Scientific Name	Amber[9] Listed	Red Listed	Section 41 Priority Species[10]
Bullfinch	*Pyrrhula pyrrhula*	x		x
Cuckoo	*Cuculus canorus*		x	x
Curlew	*Numenius arquata*		x	x
Dunnock	*Prunella modularis*	x		x
Greenfinch	*Carduelis chloris*		x	
Herring Gull	*Larus argentatus*		x	x
House Martin	*Delichon urbicum*		x	
House Sparrow	*Passer domesticus*		x	x
Lapwing	*Vanellus vanellus*		x	x
Lesser Redpoll	Acanthis caberet			x
Linnet	*Linaria cannabina*		x	x
Mistle Thrush	*Turdus viscivorus*		x	
Skylark	*Alauda arvensis*		x	x
Song Thrush	*Turdus philomelos*	x		x
Spotted Flycatcher	*Muscicapa striata*		x	x
Starling	*Sturnus vulgaris*		x	x
Tree Sparrow	*Passer montanus*		x	x
Woodcock	*Scolopax rusticola*		x	
Yellow Wagtail	*Motacilla flava*		x	x

Amphibians

3.22. No records for amphibians were returned from the 2km data search.

3.23. The river Medlock is located 230m south-east of the site before continuing below ground. This river is unlikely to provide suitable habitat for GCN and is separated from the site with no habitat connectivity. There are no other waterbodies present within the search area that would provide suitable habitat for amphibians. This is supported by the lack of records for the area.

Reptiles

3.24. No records for reptiles were returned from the 2km data search.

[9] *The UK's birds can be split in to three categories of conservation importance - red, amber and green. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group, followed by green.*

[10] *Species of Principal Importance under Section 41 of the NERC Act 2006.*

Invertebrates

3.25. 15 records of cinnabar moth (*Tyria jacobaeae*) were returned from the 2km data search, dating between 2012 and 2019. The closest of these records is located 500m north of the site boundary.

3.26. One record of white-letter hairstreak (*Satyrium w-album*) was returned from the 2km data search, dating from 2019. This record is located 1.5km north-east of the site boundary.

White-clawed Crayfish and Notable Fish

3.27. No records for white-clawed crayfish or notable fish species were returned from the 2km data search.

Notable Plant Species

3.28. Five records for bee orchid (*Ophrys apifera*) were returned from the 2km data search, dating between 2016 and 2022. The closest of these records is located 170m north-east of the site boundary.

3.29. One record of floating water plantain (*Luronium natans*) was returned from the 2km data search, dating from 2001. This record is located 1.1km north-east of the site boundary.

Phase 1 Habitat Survey

3.30. Figure 1 presents the habitat map of the site. Botanical species lists for the habitats on-site are presented in Appendix 1, with illustrative photographs in Appendix 2.

Main Habitats Present

3.31. The site is dominated by hardstanding with small patches of ephemeral/short perennial vegetation scattered across the site (Figure 1). Introduced shrub lines the southern site boundary, with small sections also present to the north-west of site. Fencing borders the site on all sides and no buildings are present on-site.

Hardstanding and Bare Ground

3.32. The site is dominated by hardstanding and bare ground (including concrete and asphalt). These areas host very little vegetation; either due to recent use (for example heavy machinery) or because of the relatively intact nature of the hardstanding (Photograph 1). The site boundary extends onto Echo Street to the east and Granby row to the north.

Introduced Shrub

3.33. Stands of butterfly-bush (*Buddleja davidii*) were locally abundant across the entire southern site boundary (Photograph 2). Small patches were also present at the site boundary fencing to the north-west of the site and a single patch was present within the centre of the site.

Ephemeral/Short Perennial Grassland

3.34. Small patches of ephemeral/short perennial vegetation are present throughout the site (Photograph 3). All species present were common, widespread and typical of urban city centre sites. They included frequent willowherb species, with occasional annual meadow-grass, Yorkshire-fog, common ragwort, perennial sow-thistle and moss species. Rarely occurring species recorded on-site include ribwort plantain, groundsel, and aster species.

Invasive Non-Native Species

3.35. No invasive non-native plant species (as listed on Schedule 9 of the WCA, 1981 (as amended)) were recorded on-site.

Protected Species

3.36. The site is isolated from any larger areas of natural or semi-natural habitat.

3.37. The suitability of the site for black redstarts is considered to be very limited due to the dominance of intact hardstanding and lack of suitable features for foraging and nesting.

3.38. Due to the lack of shelter or suitable habitat for protected species, it was concluded that the only species relevant to this assessment are foraging bats.

Bats

3.39. The site contains no potential tree roost sites for bats as there are no mature or larger trees on or adjacent to the site. There are no buildings on the site for bats to potentially roost in.

3.40. The hardstanding provides no significant foraging habitat for bats. Street lighting, together with the lack of vegetation and connectivity to other semi-natural habitats, significantly diminishes its potential for bat foraging.

3.41. The GMEU data search revealed that the site is 270m from the closest known bat roost, belonging to a *Myotis* species, dating from 2015, situated on Fairfield Street.

3.42. Thus, development of the site is unlikely to significantly impact upon the local population of bats due to the lack of any suitable roost features, lack of foraging habitat and lack of connectivity with other nearby suitable habitats or roost sites.

4. DISCUSSION AND RECOMMENDATIONS

Designated Sites

4.1. The site contains no statutory nature conservation sites, and none are within 2km of the site, with those situated further afield considered unlikely to be impacted by the proposed development.

4.2. Non-statutory sites are of a sufficient distance to site that they are unlikely to be impacted by the proposed development.

Habitats

4.3. The habitats and plant species recorded within the site are widespread and common throughout Greater Manchester and the UK. None of the plant species recorded within the site are either Nationally Scarce or Nationally Rare (Hill *et al.* 2004) or of any other conservation significance (Cheffings and Farrell 2005, as amended; Stroh *et al*. 2014). Priority Habitats within 2km of the site were limited, with the closest an area of open mosaic habitat 740m from site.

Protected Species

Bats

4.4. The site provides no significant area of foraging habitat and is unlikely to be used by foraging bats. No potential roost features were identified on the site. The proposed development is, therefore, predicted to have a negligible impact on the conservation status of bats within the local area and Greater Manchester

Birds

4.5. The site is considered to provide a relatively limited foraging resource for local populations of birds. The site is unlikely, therefore, to form a key part of the foraging habitat for any local populations of bird such as black redstart.

4.6. There is no significant habitat suitable for nesting birds on-site. The patches of butterfly-bush are currently unlikely to provide a suitable nesting habitat due to the sparse and open character of the vegetation which does not provide sufficient cover or shelter for nesting birds, however, if shrub/scrub areas continue to develop on-site over time, these should be inspected by an Ecologist prior to removal if being removed within the nesting season (March to August inclusive).

Biodiversity Enhancement Opportunities

4.7. The site is currently of limited ecological value and development presents an opportunity to increase biodiversity. Potential enhancement measures comprise:

- Use of British native or pollinator-friendly tree, shrub and herbaceous species in any landscape planting, for example, inclusion of species that provide nectar for invertebrates or berries to provide a food source for birds;
- Inclusion of integrated bat roost features such as bat bricks or bat tubes to increase opportunities for roosting bats, coupled with a suitable lighting strategy to avoid unnecessary lighting of roost features; and
- Including a green/brown roof design would enhance/expand forage opportunities for any local populations of foraging birds, if the design allows.

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6. ABBREVIATIONS

BAP	Biodiversity Action Plan(s)
BoCC	Birds of Conservation Concern
CIEEM	Chartered Institute of Ecology and Environmental Management
CRoW	Countryside and Rights of Way
EPS	European Protected Species
EU	European Union
GMEU	Greater Manchester Ecology Unit
JNCC	Joint Nature Conservation Committee
MAGIC	Multi Agency Geographic Information for the Countryside
NERC	National Environment and Rural Communities
NPPF	National Planning Policy Framework
PAA	Penny Anderson Associates Ltd
SAC	Special Area(s) of Conservation
SPA	Special Protection Area(s)
SSSI	Site(s) of Special Scientific Interest
WCA	Wildlife and Countryside Act

FIGURE

384600 384650 384700

397750

397700

COBOURG STREET

3

5

HULL STREET SOUTH

EBDEN STREET

BACK ACTON STREET

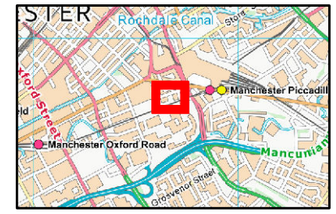
Fairfield House

Lambert Hall

GRANBY ROW

ECHO STREET

FB



Legend

- Assessment area

Phase 1 Habitats

- J1.4, Introduced shrub
- J5, Hardstanding
- J1.3, Ephemeral/short perennial

N

British National Grid
Projection: Transverse Mercator
False Easting: 400000.000000
False Northing: -100000.000000
Central Meridian: -2.000000
Scale Factor: 0.999601
Latitude Of Origin: 49.000000

ISO A3

0 2.5 5 10 15 Metres

Penny Anderson Associates Ltd
Consultant Ecologists

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Telephone 01298 27086

Project Name: Echo Street, Manchester

Discipline: Ecology

Title:

PRELIMINARY ECOLOGICAL APPRAISAL MAP

Scale	1:434	Drawing No.	Figure 1
Drawn By	CC	Originator SG	Date 23/01/2023
Grid Ref.	384,668 397,716	Revision	1.0

G:\IQSA\02_Echo_Street\Maps\Figure 1 - PEA Map - Echo Street - IQSA02 CC 230123.mxd

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APPENDICES

APPENDIX 1

Botanical Species List

Appendix 1 Botanical Species List

Common Name	Scientific Name	DAFOR
Woody Species		
Butterfly-bush	*Buddleja davidii*	la
Herbs and Grasses		
Annual meadow-grass	*Poa annua*	o
Aster species	*Aster* sp.	r
Common ragwort	*Jacobaea vulgaris*	o
Groundsel	*Senecio vulgaris*	r
Moss species	*Bryum* sp.	o
Perennial sow-thistle	*Sonchus arvensis*	o
Ribwort plantain	*Plantago lanceolata*	r
Willowherb species	*Epilobium* sp.(annual)	f
Yorkshire-fog	*Holcus lanatus*	o

KEY

d - Dominant
a - Abundant
f - Frequent
o - Occasional
r - Rare
l - Locally

APPENDIX 2

Photographs



Photograph 1
Hardstanding and bare ground



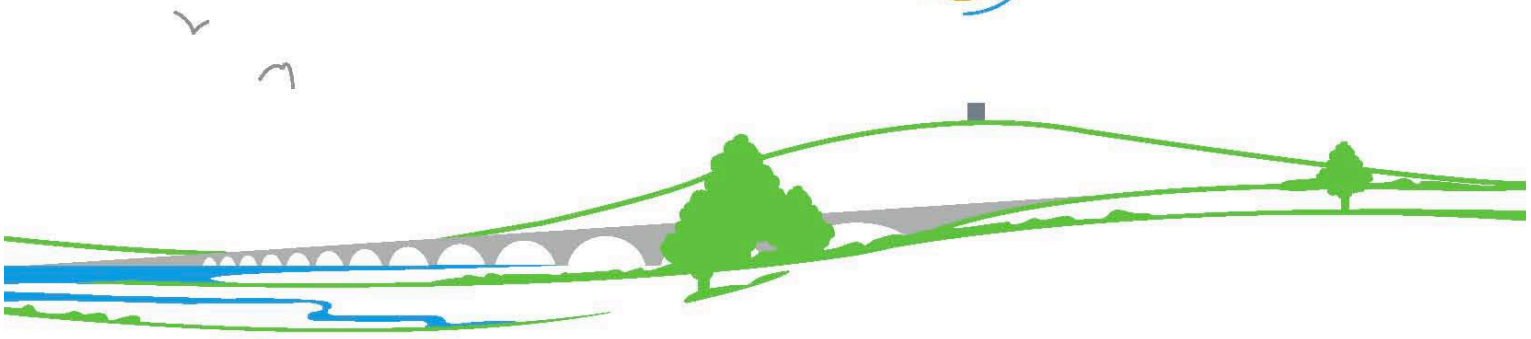
Photograph 2
Butterfly-bush at southern site boundary



Photograph 3
Small patches of ephemeral / short perennial vegetation

Penny Anderson Associates Ltd

CONSULTANT ECOLOGISTS



Park Lea, 60 Park Road, Buxton, Derbyshire SK17 6SN

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Appendix 5.3: Phase 1 Preliminary Risk Assessment

Turley









Echo Street

Phase 1 Preliminary Risk Assessment

Curtins Ref: 065374-CUR-XX-XX-RP-GE-80001

Revision: P01

Issue Date: 01 February 2023

Client Name: IQ Student Accommodation

Client Address: Suite 8a, Manchester One, 53 Portland St, Manchester, M1 3LD

Site Address: Granby Row, Manchester, M1 7AB

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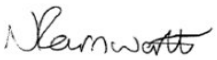
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Rev	Description	Issued by	Checked	Date
P01	Report Issue	RBJ	NF	01/02/2023

This report has been prepared for the sole benefit, use, and information for the client. The liability of Curtins Limited with respect to the information contained in the report will not extend to any third party.

Author	Signature	Date
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Reviewed	Signature	Date
R Baksh-Jones BSc (Hons) Geo-Environmental Engineer		01 February 2023

Authorised	Signature	Date
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Executive Summary

Appointment	**In January 2023 Curtins have been instructed to undertake an updated Phase 1 Preliminary Site Assessment of a site at Echo Street, Manchester, M1 7AB.** **Curtins previously carried out a Phase 1 Preliminary Site Assessment for the site in January 2017. Construction commenced in 2019 however, project progression was halted in 2020 following the COVID 19 pandemic.** **This report has been undertaken in support of a new planning application and amendments to development proposals including building heights, internal layouts and change from mixed use to 100% purpose-built student accommodation. Limited updated development plans have been made available to Curtins at the time of writing.**
Current Site Status	The site is approximately 0.48Ha in size. The site is currently vacant following previous demolition and commencement of construction works. Piling has been completed and construction of pile caps and ring beams is complete in part. Gravel surfacing covers the site and some equipment and materials remain on site (barriers, cones, gravel etc). Access gates to the construction site are located on Echo Street.
Site History	Earliest historical mapping illustrates a mix of commercial developments including a printing works, window cleaner and battery cleaner, with an associated storage 'tank' noted. These were subsequently converted to a hostel/University accommodation, tennis courts and garages by 1965, with the tank no longer indicated as present and the garage towards the north converted to a nursey by 1994. By the present day, the site has undergone a various demolition and groundworks including piling on site.
Geology	The BGS maps records Made Ground across the site which is underlain by Glacial Till (Diamicton), overlying the Chester Pebble Beds Formation (sandstone). A BGS borehole 150m south recorded Made Ground to 5.48m bgl, underlain by gravel to 6.55m bgl. This is further underlain by hard red sandstone to 68.96m bgl. No BGS faults lines are recorded traversing the site, however the site is bound each side by 2 faults travelling in the south-east direction. The site is within an area which may be affected by coal mining. No identified coal outcrops or mine entries are located within 1km of the site. The site is not noted within an area that has been influenced by past shallow coal mine workings. There are no recorded mineral sites within 500m of the site.
Hydrogeology	The Glacial Till formation is designated as a Secondary Undifferentiated Aquifer, with the Chester Formation designated as a Principal Aquifer. There are nine groundwater abstraction points located within 1km of the site, the closest being 255m west for industrial/ commercial/public purposes. The site is not situated within a Groundwater Source Protection Zone (SPZ).
Hydrology	The nearest surface water feature is the Rochdale Canal located 175m north. The River Medlock is recorded 200m south-east of the site, flowing east to west. There is no surface water abstraction point recorded within 250m of the site. There are six discharge consents within 250m, the closest been 164m north-west of the site comprising storm sewage overflow.
Unexploded Ordnance	An elevated risk of encountering UXO on site as part of the ground investigation was initially assessed and so on this basis, a detailed UXO risk assessment has been procured from 1st Line Defence. The report has assessed the majority of the site as **Low** risk and the northeast of the site as **Medium** risk for Curtins ground investigation works.
Initial Ground Contamination Assessment	The risk, from Made Ground, posed to site end-users is considered to be **Moderate/Low**, accounting for the potential for localised contamination. The risk posed to groundwater is considered **Moderate/Low** and the risk to surface waters is considered **Low**. The risk posed to end-users from ground generating gases is considered to be **Moderate**.
Recommendations	In summary, the following recommendations are made: • Undertake an intrusive ground investigation; • Undertake a GQRA as part of the ground investigation; • Undertake Ground Gas Monitoring; and • Provide UXO risk mitigation for ground investigation works within the Medium Risk area. It is further recommended that this work is completed in advance of any development works taking place

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Table of Contents

1.0 Introduction 1
1.1 Project Background 1
1.2 Scope of Services 1
2.0 Current Site and Surrounding Area Details 2
2.1 Site Location and Current Details 2
2.2 Surrounding Area Details 3
3.0 Site History 4
4.0 Geology, Hydrogeology and Hydrology 5
4.1 Geology and Hydrogeology 5
4.1.1 Mining 6
4.1.2 Other Ground Stability Issues 6
4.1.3 Ground Gas 6
4.2 Hydrology 7
5.0 Unexploded Ordnance Risk Assessment 8
5.1 Preliminary UXO Assessment 8
6.0 Conceptual Site Model & Qualitative Risk Assessment 12
6.1 Additional Risk Assessments 12
7.0 Conclusion and Recommendations 14
7.1 Contaminants of Concern 14
7.2 Other Considerations 14
8.0 References 15

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Appendices

Appendix A **Drawings**
Appendix B **Supporting Information**
Appendix C **Risk Assessment Rationale**

1.0 Introduction

1.1 Project Background

In January 2023 Curtins have been instructed to undertake an updated Phase 1 Preliminary Site Assessment of a site at Echo Street, Manchester, M1 7AB.

Curtins previously carried out a Phase 1 Preliminary Site Assessment for the site in January 2017. Construction commenced in 2019 however, project progression was halted in 2020 following the COVID 19 pandemic.

This report has been undertaken in support of a new planning application and amendments to development proposals including building heights, internal layouts and change from mixed use to 100% purpose-built student accommodation. Limited updated development plans have been made available to Curtins at the time of writing, drawings provided are enclosed in Appendix A.

1.2 Scope of Services

The Preliminary Risk Assessment (PRA) is intended to provide an overview of the geo-environmental setting of the site. The report will develop a working preliminary conceptual ground model for the site as well as present an initial assessment of geo-environmental risks that could be presented to the future development of the site.

Specifically, the PRA provides an initial assessment of the site with regard to:

a) Potential contamination of the site from historical and/or current use.
b) The potential impact on the wider environment from historical and/or current use.
c) The potential impact from surrounding land uses and other environmental factors.
d) Potential risks associated with geological features such as faulting, mineral extraction, mining and land instability.
e) The location of apparent sub-surface structures that may affect the proposed redevelopment.
f) The location of above-surface features that may affect the proposed redevelopment.

The PRA is a desk-based exercise written using information provided from a desk based environmental study and any information made available to Curtins from the Client. The PRA can be utilised to inform the requirement for, and extent of, any future intrusive investigation work. Consideration of detailed flood risk, ecology and archaeological issues are outside of the scope of this report.

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2.0 Current Site and Surrounding Area Details

2.1 Site Location and Current Details

Site use, location and description are shown below in *Table 2.1* and *Figure 2.1*.

Table 2.1 – *Site Details*

Site Address	Echo Street, Manchester, M1 7AB
NGR	384670, 397720
Area of Site	Approximately 0.48Ha.
Current Site Use and Description	The site is currently vacant following previous demolition and commencement of construction works. Piling has been completed and construction of pile caps and ring beams is complete in part. Gravel surfacing covers the site and some equipment and materials remain on site (barriers, cones, gravel etc). Access gates to the construction site are located on Echo Street.

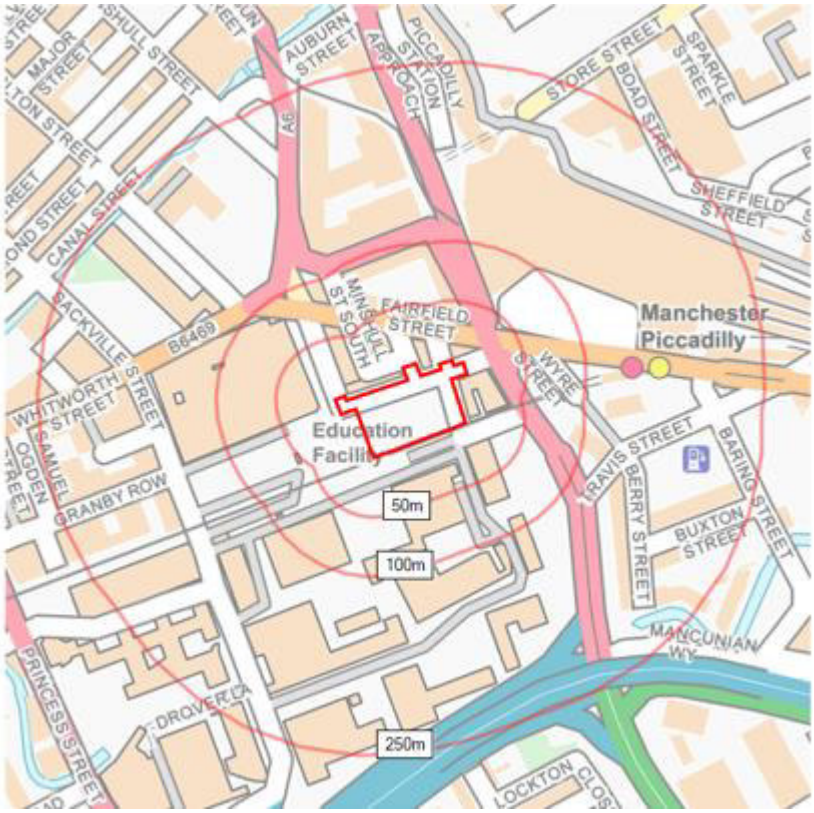


Figure 2.1 *– Site Location Plan (site boundary shown in red)*
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2.2 Surrounding Area Details

The following information was established through undertaking an environmental database search. The full Envirocheck report (Ref. 1) is included in *Appendix B*.

Table 2.2 – *Surrounding Land Uses*

Surrounding Area	**N**	Lambert House residential apartments, with Fairfield street beyond.
	E	Retail unit immediately to the east, with London Road beyond and Manchester Piccadilly Station to the North-East of the site.
	S	A railway line (viaduct) abuts the southern boundary of the site, with Altrincham street beyond, with University of Manchester campus buildings and communal garden beyond.
	W	Vimto park abuts the western boundary, and a mixed use residential and retail unit, Sackville Street Building, abuts the North-West site boundary.

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3.0 Site History

A review of the available historical mapping and other information for the site, as presented within the Envirocheck Report (Ref. 1), has been undertaken and is presented in *Table 3.0* below.

Table 3.0 – *Previous Site and Surrounding Area Uses and Potential Sources of Contamination.* ***Bold text refers to on-site activity.***

Date	Description	Potential Sources of Contamination
1848-1942	**During this period, the site is occupied by commercial developments notably; a window cleaner, print works, label punching works and battery repair works. Granby Street is recorded in the north and Echo Street in the East of the subject site. A sunk petrol tank is recorded in the centre of the site adjacent to Granby Street.** Several works and mills are recorded in the surrounding area (< 50m). The London Road railway station is recorded 100m north-east, with the main lines running in the south-east direction away from site, with a line 10m south, running west to east. Moreover, a Fire Engine Station is recorded 90m north. The River Medlock is recorded 30m south-west of the site, flowing westerly and the Rochdale Canal is recorded 250m north-west.	• Uncontrolled deposition of Made Ground from construction waste associated with on-site development. • Contamination associated with on-site industrial uses including battery repairs, printing works and window cleaner. • Potential fuel/oil spillages associated with sunk petrol tanks on site. • Potential coal tar contamination associated with road construction. • Potential ash deposition associated with coal fires. Potential contamination associated with works recorded in the surrounding area.
1960-1981	**During this period, the site undergoes significant demolition and a depot/ garage with a sunk petrol tank is constructed in the north-east corner. A hostel in the western portion of the site (later named Chandos Hall) and a tennis court in the centre by 1965. Additional development to the south-east by 1969 later marked as garages.** Manchester Nut & Bolt Works is demolished by 1965 (later developed 1969-1970 as college buildings). The River Medlock culverted and College of Science & Technology is constructed to the south-west.	• Potential fuel/oil spillages associated with depot/garage on site. • Uncontrolled deposition of Made Ground and contamination arising from demolition including ash, asbestos, fuels and oils.
1969	**No significant changes.** College buildings constructed 50m south and the construction of Mancunian Way 150m south-east.	No further sources noted.
1994- 2017	**The depot/ garage to the north-east is converted to a nursey.**	No further sources noted.
2017 - Present Day	**It is understood that during this period the site has undergone a myriad of construction works. Including the demolition of buildings on site as well as groundworks including piling.**	Uncontrolled deposition of Made Ground and contamination arising from demolition including ash, asbestos, fuels and oils.

Potential sources of onsite contamination are further discussed in *Section 6.0*.

4.0 Geology, Hydrogeology and Hydrology

4.1 Geology and Hydrogeology

A study of the Envirocheck (Ref. 1) Report and the British Geological Survey (BGS) 1:50,000 mapping records (Bedrock and Superficial Editions) for Manchester (Sheet 085) dated 2010 (Ref. 2) indicates the following geological and hydrogeological succession underlying the site:

Table 4.1 – *Geological/Hydrogeological Succession*

Geology	Associated Hydrogeological Classification
Made Ground deposits are recorded on geological mapping and are considered likely onsite due to the development and site history	N/A
Superficial deposits – **Till, Devensian**[1]	Secondary – Undifferentiated[3]
Bedrock deposits – **Chester Formation**[2]	Principal Aquifer[4]

Notes:

1. *These comprise a group of sediments laid down by the direct action of glacial ice, usually sandy, silty clay with pebbles, but can contain gravel-rich, or laminated sand layers; varied in colour and consistency.*
2. *Conglomerates and reddish brown, cross-bedded, pebbly sandstones with subordinate beds of red-brown mudstone. The conglomerates have a reddish brown sandy matrix and consist mainly of pebbles of brown or purple quartzite, with quartz conglomerate and vein quartz. The formation generally fines upwards, from dominantly conglomerates at the base, to interbedded conglomerates and sandstones, with sandstone and pebbly sandstone predominant in the upper part, and rare mudstones. The formation has subordinate lenticular beds of reddish brown mudstone or siltstone throughout; these are more common in Cumbria.*
3. Secondary undifferentiated are aquifers where it is not possible to apply either a Secondary A or B definition because of the variable characteristics of the rock type. These have only a minor value.
4. Principal aquifers provide significant quantities of drinking water, and water for business needs. They may also support rivers, lakes and wetlands.

No BGS fault lines are recorded traversing the site, however the site is bound each side by 2 faults travelling in the south-east direction.

BGS online open-source borehole archives (Ref. 2) record a number of boreholes to the south and north of the site. These boreholes are likely associated with the installation of water wells and development by the University of Manchester. The nearest available borehole information is related to a cluster of borehole records approximately 150m to the north and south. Two of these boreholes are summarised in *Tables 4.1a and Table 4.1b*.

Table 4.1a - BGS borehole records approximately 150m south of site boundary

SD72NW519 –NGR 384684, 397602			
Main Unit	Description	Depth Range (m bgl)	Thickness (m)
Made Ground	Loose stone and soil fill	0.00 – 5.18	5.18
Sandstone	Gravel	5.18 – 6.55	1.37
Sandstone	Hard red sandstone	6.55m – 68.96	62.41

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Table 4.1b - BGS borehole records approximately 150m north of site boundary

SD72NW519 – NGR 384628, 397838			
Main Unit	Description	Depth Range (m bgl)	Thickness (m)
Made Ground	Loose stone and soil fill	0.00 – 3.35	3.35
Sandstone	Hard red sandstone	3.35 – 9.14	5.79

The site is not situated within a Groundwater Source Protection Zone (SPZ).

There are ten groundwater abstraction points located within 1000m of the site, the closest of which is 236m to the west used for industrial/commercial/public service: non-evaporative cooling.

4.1.1 Mining

The Coal Authority interactive mapping (Ref. 4) shows that the site is located within a coal mining reporting area. No coal outcrops and/or mine entries are located within 1 km of the site and it is not located within an area that has been influenced by past shallow coal mine workings.

As such, the risk to the development from coal mine workings is low and has not been considered further.

There are no recorded mineral sites within 1 km of the site.

4.1.2 Other Ground Stability Issues

The Envirocheck report (Ref. 1) confirms that there is Low to No Hazard from the following ground stability hazards on the site; collapsible and compressible ground, dissolution, landslide, running sand and shrinking or swelling clay.

4.1.3 Ground Gas

There are no registered landfills or active licensed wastes management facilities with within 500m of the site boundary. There is one historically infilled land (water) within 100m of the site which has been detailed in *Table 4.1.3 below*.

Table 4.1.3 – *Historically infilled land associated with water*

Map ID	Details	Date of Mapping	Distance from Site (m)
142	Potentially Infilled Land (water)	1956	22 SW

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The BGS Radon Mapping (Ref. 5) confirms the site is situated in a lower probability radon area where <1% of homes are at or above the radon action level. On this basis, radon protection measures are not considered necessary in the construction of new dwellings or extensions. If the new development incorporates a basement, the advice of a specialist Radon assessor must be obtained.

4.2 Hydrology

The nearest surface water is the Rochdale Canal located 175m north of the subject site; it was classed as General Quality Assessment (GQA) Grade B in 2000. The culverted River Medlock is recorded, approximately 200m south-east of the site, flowing east to west; classified as General Quality Assessment (GQA) Grade E in 2000.

There are eight discharge consents within 250m of the site. The closest to the site is 143m to the north-west comprising public sewage: storm sewage overflow into a freshwater stream/river to Dukes Tunnel.

No pollution incidents have been recorded within 250m of the site within the last 10 years.

There are no surface water abstractions recorded within 250m of the site.

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5.0 Unexploded Ordnance Risk Assessment

Military activities including those conducted as part of both the First and Second World Wars have resulted in a legacy of unexploded ordnance (UXO) being present within the shallow soils of the UK.

UXO result from various sources including both allied (military training) and German (bombing raids) with a guide figure of approximately 10% of all munitions failing to function as designed.

The likelihood of UXO being encountered on a development site is influenced by several factors including; the proximity to strategic targets, the nature of the development works being undertaken and evidence of local damage in the post-war periods amongst others. To determine the likelihood of UXO being present on a site, a step-wise risk assessment process is followed. This process is outlined within CIRIA C681 Unexploded Ordnance: A Guide for the Construction Industry (Ref. 6) with the following commentary considered to represent a Preliminary Risk Assessment intended to guide if and where there is a requirement for a Detailed Risk Assessment

5.1 Preliminary UXO Assessment

Risk mapping (Ref. 7) for UXO's has placed the site in a **Moderate**-risk area. Areas designated as moderate risk are those that show a high density of bombing hits (15-49 bombs per 1000 acres).

The area in and around Manchester generally escaped the worst of Britain's WWII bombing, particularly when compared with other major UK cities, such as Liverpool or London. The peripheries of Manchester were only bombed sporadically, with the major targets in the city consisting of the port, city centre and industry in Stretford.

Historical mapping shows a Wharf 110m and 200m north-west of the city centre site. A review of available Manchester Bomb Damage mapping (7) was also undertaken as indicated in *Figure 5.1.1* indicating bombing ruins (red shading), several fire bombs (red circles), high explosives (blue circles) ruins and damaged buildings (dashed shading) in the immediate surroundings of the site.

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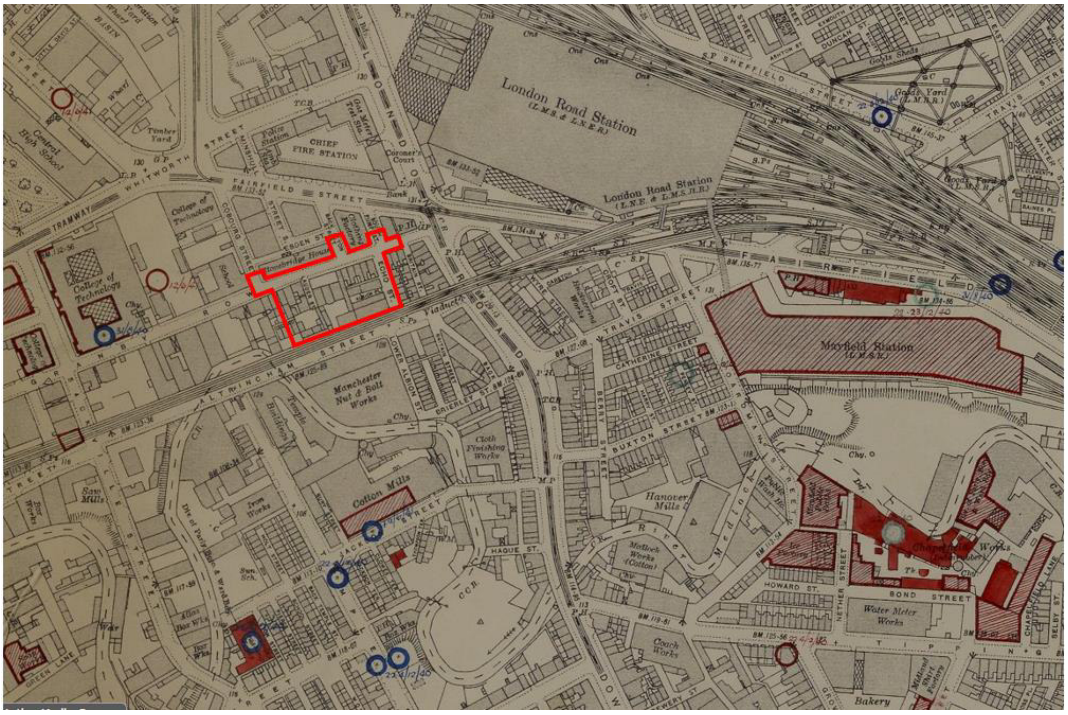


Figure 5.1.1 *Map of bomb damage in Manchester from WWII. Site identified in red.*

Considering the above, the initial appraisal has identified an elevated risk of encountering potential UXO as part of future intrusive work. A Detailed UXO Risk Assessment was obtained from 1st Line Defence in 2017 to further establish the risk for Curtins ground investigation works presented in *Appendix B*.

The findings of the Detailed UXO Risk Assessment have been summarised below:

- Manchester bomb plot and damage mapping indicates the presence of bombing incidents in the surrounding area of the proposed site, but none within the site boundary. However, the mapping only covers raids in 1940 so does not record any bombs which fell from 1941 to 1944. Furthermore, no written bomb incident records are available for Manchester. It is understood from the local archive that they were destroyed during/post-war. It has therefore not been possible to ascertain with certainly whether or not the site was bombed.
- An area of clearance is noted in the north-eastern corner of the site. It is thought possible that this was as a result of a bomb strike/fire damage. If rubble and debris was present in this area, there is a risk that evidence of UXO. The rest of the site appears to have survived the war intact.
- The majority of the site does not appear to have sustained any significant bomb damage and which appear to have remained in regular use have been assessed as **Low Risk.** The small area of cleared structures within the northeast of the site is a cause for concern, as there is no evidence to suggest it was not a bomb strike that caused the clearance, therefore has been assessed as **Medium Risk**. While bomb strikes were recorded within these areas is not considered to be significant. The areas are shown in *Figure 5.1*.

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Figure 5.1: UXO Risk Map Zone. Green indicates low risk areas and orange indicate medium risk areas.

Based on the findings of the Detailed UXO Risk Assessment, 1st Line Defence provided the following risk mitigation measures for the site for Curtins Ground Investigation works:

- A UXO Risk Management Plan and Site Specific UXO Awareness Briefings must be provided to all personnel conducting intrusive works. All intrusive ground investigation within **Medium risk** northeast area of the site will require supervision by a UXO specialist with Intrusive Magnetometer Survey down to maximum bomb penetration depth.
- If unexploded ordnance is discovered during any works, stop immediately, prevent access to the area and inform the police.
- If the site boundary or location changes then the UXO risk should be reassessed.

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Any future works relating to the proposed development not covered by the scope of Curtins ground investigation will require procurement of a separate Detailed UXO Risk Assessment specific to the work being undertaken. Contractors undertaking their own excavations should undertake their own risk assessments with specialist input where required.

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6.0 Conceptual Site Model & Qualitative Risk Assessment

The Conceptual Site Model (CSM) and Qualitative Risk Assessment (QRA) are presented in the table within this section.

The CSM details the source-pathway-receptor linkages or potential pollutant linkages (PPL) that have been identified for the site. The QRA details the associated level of risk relating to these potential pollutant linkages.

The CSM and QRA concern risk to human health and water environment with additional, more specific risk assessment protocols contained within the main body of this reporting, as detailed in *Section 6.1* below.

The QRA follows the framework outlined within CIRIA C552 (Ref. 9) which is summarised within *Appendix B.*

The 'risk rating' within the QRA refers to the risk that the source, pathway, receptor linkage or PPL is complete. Unless specifically stated it does not necessarily refer to an immediate risk and is intended to be used as a tool to assess the necessity for further assessment/investigation.

6.1 Additional Risk Assessments

The following risk assessments, listed below, are not included within the main CSM and QRA but nonetheless can be of critical importance to the onward development of the site:

- The risk presented by Mining is discussed and assessed in *Section 4.1.1*.
- The risk presented by Radon is discussed and assessed in *Section 4.1.3*.
- The risk presented by Unexploded Ordnance is discussed and assessed in *Section 5.0*.

Under current health and safety legislation, employers are required to carry out their own appropriate risk assessments and mitigation to protect themselves and their employees, other human receptors and the environment from potential contamination. Such risks must be adequately mitigated by law, specifically the Construction Design Management (CDM) Regulations, 2015 (Ref. 10) which require that potential risks to human health and the environment from construction activities are appropriately identified and all necessary steps taken to eliminate / manage that risk. It has been assumed that any future construction works on site will be undertaken in compliance with these requirements.

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- The table below represents the first stage in the land quality risk assessment process: The Qualitative Risk Assessment.
- For a development site to be deemed 'suitable for use', the level of risk needs to be brought down to acceptable levels, i.e., low to very low risk. The purpose of each stage of risk assessment is ultimately to establish, if there is a requirement for additional levels of assessment to be made to have sufficient confidence to support a risk characterisation or management decision, e.g., remedial action.
- In the absence of specific site data, a Generic Quantitative Risk Assessment is invariably recommended.

Conceptual Site Model			Qualitative Risk Assessment			Recommended Actions
Source	**Pathway(s)**	**Receptor(s)**	**Consequence**	**Likelihood of Occurrence**	**Risk Rating**	
On-site sources of potential contamination: *Uncontrolled deposition of Made Ground associated with the construction/demolition onsite.* *Potential coal tar contamination associated with road construction immediately surrounding the site.* *Potential contamination associated with battery, cleaner and printing works, with the above sources include a range of metals, organic petrol and diesel range hydrocarbons, and Poly-cyclic aromatic hydrocarbons (PAHs), and asbestos.* *Potential contamination associated with fuel/oil spillages from depot/garage and sunk petrol tanks, with the above sources include a range of metals, organic petrol and diesel range hydrocarbons, and Poly-cyclic aromatic hydrocarbons (PAHs).* **Off-site sources of potential contamination:** *Uncontrolled deposition of Made Ground associated with historical construction/demolition off-site*	**Direct contact, ingestion, inhalation (dust and vapours)**	**End users of site** (Residential)	**Medium** Chronic health risk	**Low** Potential for contamination within the Made Ground across the site associated with historical construction/demolition on site. Vapour intrusion risk associated with fuel/oil spillages associated with historical depot/garage and the sunk petrol tank.	**Moderate / Low**	**Generic Quantitative Risk Assessment** Recommended as part of the ground investigation.
	Vertical migration through the superficial deposits (soils)	**Controlled Waters** (groundwater) Principal Aquifer (bedrock) Secondary Undifferentiated Aquifer (superficial deposits) Not within a designated Source Protection Zone.	**Medium** Pollution of sensitive water resources	**Low** Low permeability Superficial Secondary Undifferentiated Aquifer and a lack of water abstractions and SPZs limits the pathways-receptor linkage	**Moderate / Low**	**Generic Quantitative Risk Assessment** Recommended as part of the ground investigation.
	Horizontal migration over and through the superficial deposits (soils)	**Controlled Waters (surface water)** Nearest surface water feature is the Rochdale Canal 175m north. The River Medlock is recorded 200m southwest of the site.	**Medium** Pollution of sensitive water resources	**Unlikely** Considering the distance from the site to the nearest surface water receptor, this pathway is considered unlikely.	**Low**	No further action required.
On-site sources of potential ground gas: *Potential ground gas generation from Made Ground deposits containing organic/ putrescible content.*	**Vertical and horizontal migration through existing service corridors and Made Ground**	**End users of site** (Residential)	**Medium** Chronic health risk	**Likely** High potential for made ground deposits to be present beneath development. Potential for ground generated gases to migrate through superficial deposits.	**Moderate**	**Generic Quantitative Risk Assessment** Recommended as part of the ground investigation.

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7.0 Conclusion and Recommendations

The Qualitative Risk Assessment (QRA) determined an overall Low to Moderate level of risk to future site users and risk to controlled waters associated with the proposed development. The QRA concluded that further requirements comprising a Generic Quantitative Risk Assessment (GQRA) are required to determine the potential contamination risk on-site and to confirm ground conditions.

It is recommended that the GQRA are conducted as part of a ground investigation in support of the engineering design of the proposed development an outline scope for which is detailed in the section hereafter. In summary, the following recommendations are made:

- Undertake an intrusive ground investigation;
- Undertake a GQRA as part of the ground investigation
- Undertake ground gas monitoring; and
- Provide UXO risk mitigation for ground investigation works within the Medium Risk area.

It is further recommended that the site investigation works are completed in advance of any development works taking place.

7.1 Contaminants of Concern

Potential contaminants of concern associated with the sources identified within the Conceptual Site Model in *Section 6.0* of this reporting include but are not limited to: broad range aliphatic and aromatic hydrocarbons present within any fuel oils; polycyclic aromatic hydrocarbons (PAHs); inorganic compounds including heavy metals; and asbestos present in discarded building materials.

7.2 Other Considerations

There may be subsurface obstructions, voids and relic foundations associated with the former developments on site.

The requirement for additional surveys, e.g. arboricultural and ecological surveys, should be confirmed through advice from a suitably qualified and experienced professional.

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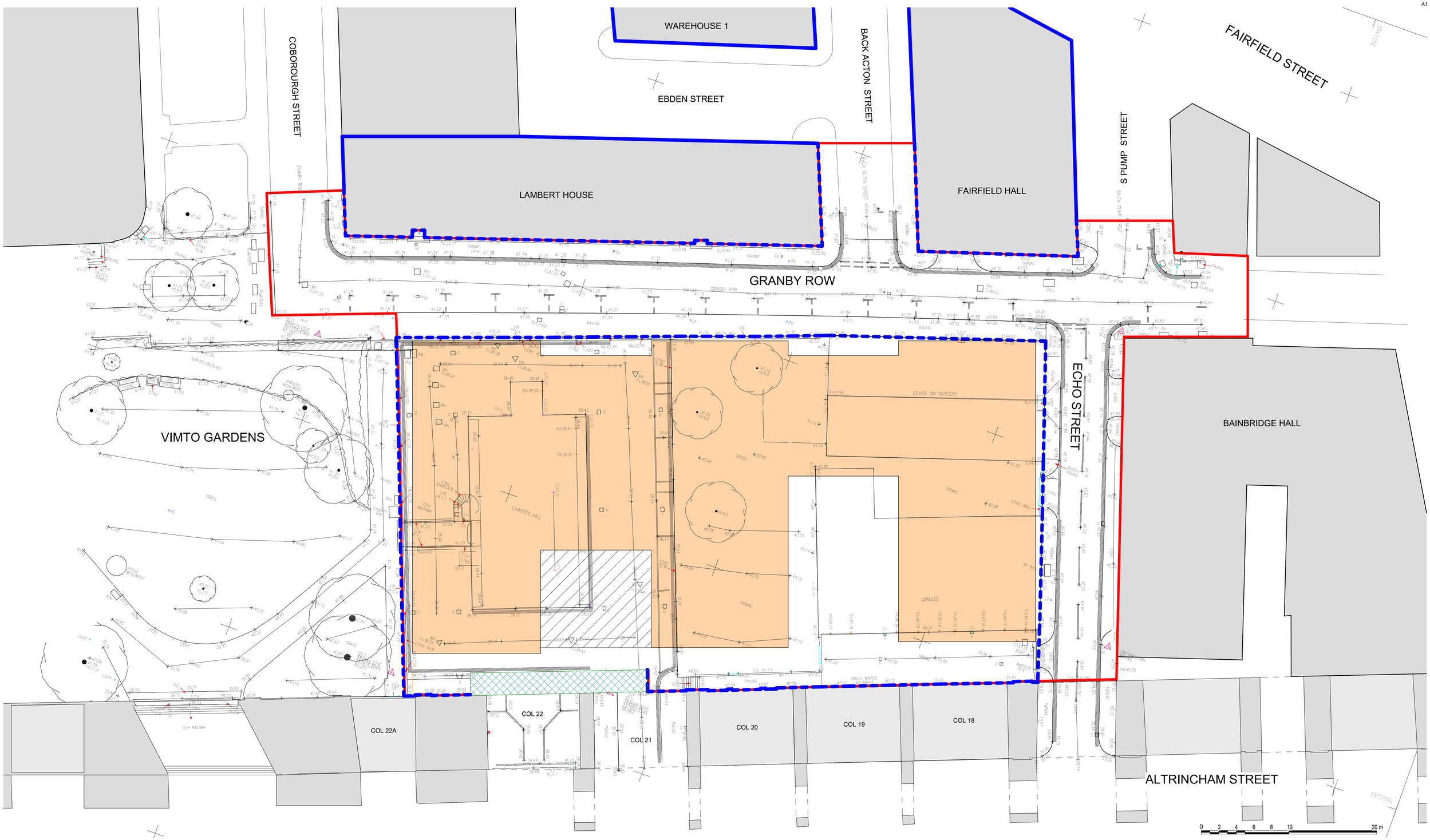
8.0 References

1. Landmark (2023) Envirocheck Report (report no. 306235410_1_1).
2. British Geological Survey (BGS) Solid and Drift Editions (2010) 1:50,000 mapping, Sheet No. 085 (Manchester)
3. BGS Geology of Britain Viewer [online], http://mapapps.bgs.ac.uk/geologyofbritain/home.html (accessed January 2023).
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9. CIRIA (2001) Contaminated Land Risk Assessment. A guide to good practice (report no. C552).
10. Health and Safety Executive (2015) Construction (Design and Management) Regulations.

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Appendix A Drawings

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Figures relate to the likely areas of the building at the current stage of the design and are calculated using one of the following (as stated in the accompanying areas schedule) IPMS1, IPMS2, IPMS 3, Gross External Area (GEA), Gross Internal Area (GIA) or Nett Internal Area (NIA) methods of measurement from the RICS Property Measurement 1st edition.

PLAN KEY

Site Boundaries

- Applicant Ownership
- Planning Application Boundary
- Network Rail Ownership
- Proposed Building Footprint
- Ground Floor Courtyard - Slab between ground floor and lower ground floor

REV.	DATE	AMENDMENT	KEYPLAN
P01	24/01/23	First Issue - For Information	

CLIENT

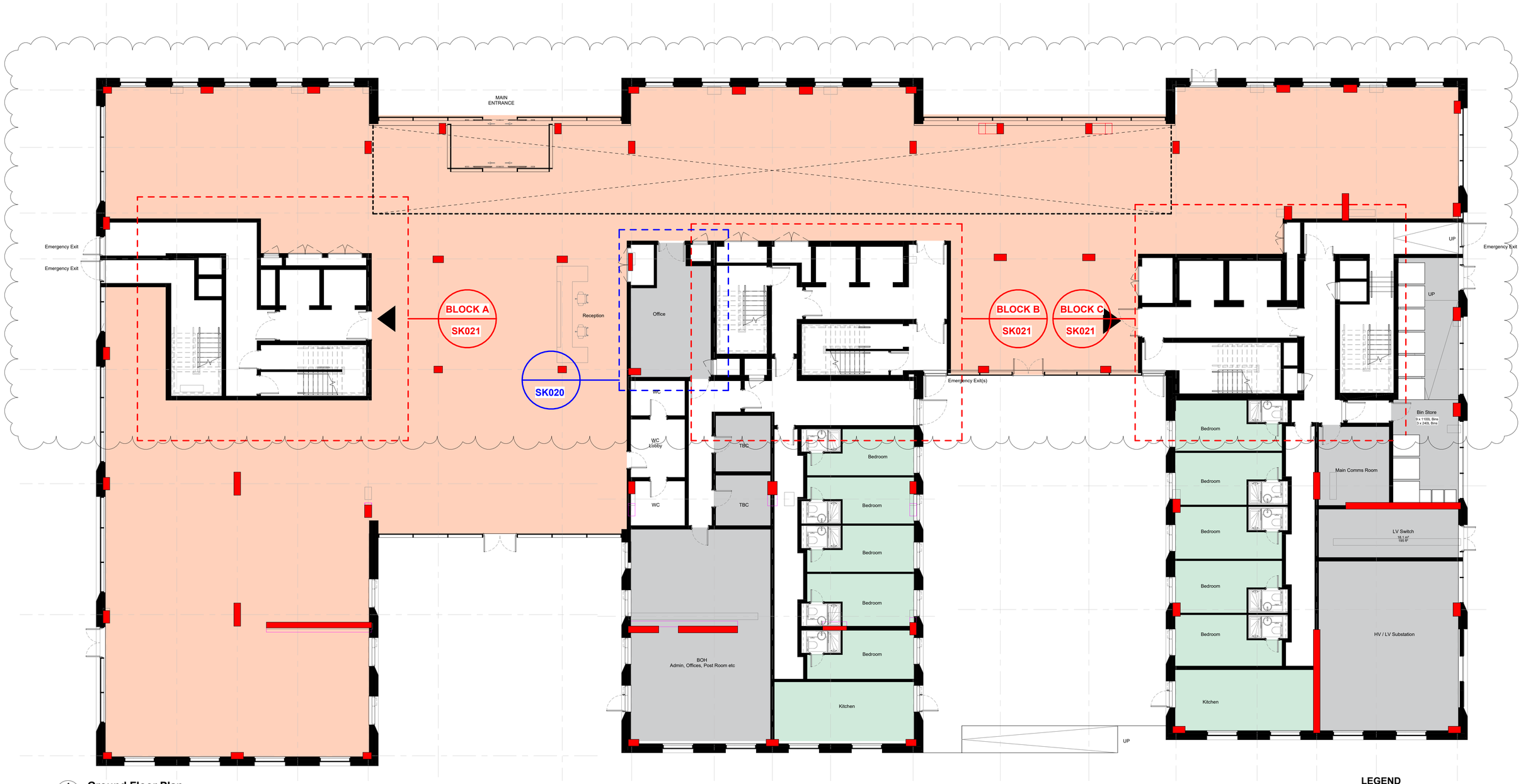
IQ Student Accommodation

SHEPPARD ROBSON
27th Floor City Tower Piccadilly Plaza Manchester M1 4BT
T: +44 (0)161 233 8900 E: manchester@sheppardrobson.com

SCALE@A1	DATE	ORIGINATOR	CHECKED	AUTHORISED
1 : 200	24/01/2023	LG	VC	RG

PROJECT
Echo Street
Existing Site Plan with Proposed Building Footprint

STATUS	PURPOSE FOR ISSUE	SR NO.	DRAWING NO.	REV.
S2	For Information	7054	ECHO- SRA- ZZ- XX- DR - A - 00803	P01



1 02100 **Ground Floor Plan**
1 : 100

LEGEND

- GROUND FLOOR AMENITY = 1054m²
  LEVEL 09, 10 & 12 AMENITY = 46m²
  TOAL AMENITY = 1100m²
- BOH, MEP SERVICES
- CLUSTER BEDROOMS x 5 (+ KITCHEN / LIVING)
- PREFERRED STRUCTURAL LOCATION INDICATIVE ONLY

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NOTES:

Refer to SK020 for alternative layouts to multifunctional space adjacent to Block B core (ie accessible bedroom, comms, laundry, amenity, studio etc)

Refer to SK021 for Block A, B and C core layouts at Ground Floor Level

Refer to SK027 for Block A, B and C core layouts at Typical Floor Levels

Refer to SK025 for Block A, B and C core layouts at Roof Level

Layouts subject to change following comments by design team - fire, structural and MEP engineers

REV.	DATE	AMENDMENT
P01	18/01/23	First Issue - Issued for Information
P02	23/01/23	Cores updated following comments from fire engineer (as clouded)

KEYPLAN

CLIENT
IQ Student Accommodation

SHEPPARD ROBSON
27th Floor City Tower Piccadilly Plaza Manchester M1 4BT
T: +44 (0)161 233 8900 E: enquiries@sheppardrobson.com

SCALE@A1	DATE	ORIGINATOR	CHECKED	AUTHORISED
1 : 100	**23/01/23**	**LK**	**VC**	**RG**

PROJECT
Echo Street
General Arrangement
Ground Floor Plan

SR NO.
7054

STATUS **S2**
PURPOSE FOR ISSUE **For Information**

DRAWING NO. **ECHO- SRA- ZZ- 00- DR- A- 02100**
REV. **P02**

Appendix B Supporting Information

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Envirocheck® Report:

Datasheet

Order Details:

Order Number:
306235410_1_1

Customer Reference:
065374

National Grid Reference:
384670, 397720

Slice:
A

Site Area (Ha):
0.48

Search Buffer (m):
1000

Site Details:

Flat at Old Garratt, 79
Granby Row
MANCHESTER
M1 7AB

Client Details:

Mr R Taylor
Curtins Consulting Ltd
Merchant Exchange
17-19 Whitworth Street West
Manchester
M1 5WG

Contents

Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	57
Hazardous Substances	-
Geological	63
Industrial Land Use	69
Sensitive Land Use	153
Data Currency	154
Data Suppliers	161
Useful Contacts	162

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.
For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.
In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Report Version v53.0

curtins

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes		Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1		8	38	41
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control	pg 23				1
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 23			2	12
Local Authority Pollution Prevention and Control Enforcements	pg 25			1	
Nearest Surface Water Feature	pg 25		Yes		
Pollution Incidents to Controlled Waters	pg 25		5	11	9
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances	pg 29		8		17
River Quality	pg 33		1	3	2
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points	pg 34				1
Substantiated Pollution Incident Register	pg 35				1
Water Abstractions	pg 35		2		8 (*49)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 49	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk			n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 49	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 49	Yes	n/a	n/a	n/a
Source Protection Zones	pg 50				1
Extreme Flooding from Rivers or Sea without Defences	pg 50		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 50		Yes	n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 50		5	19	29

curtins

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites	pg 57				1
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 57				6
Local Authority Landfill Coverage	pg 58	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)					
Potentially Infilled Land (Water)	pg 58		4	6	29
Registered Landfill Sites	pg 61				1
Registered Waste Transfer Sites	pg 61				1
Registered Waste Treatment or Disposal Sites	pg 62				2
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

curtins

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 63	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 63	Yes	Yes		Yes
BGS Recorded Mineral Sites					
BGS Urban Soil Chemistry	pg 65		Yes	Yes	Yes
BGS Urban Soil Chemistry Averages	pg 67	Yes			
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 67	Yes	n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities	pg 68				1
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 68	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 68	Yes		n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 68	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 68	Yes		n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 68	Yes		n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 69		22	102	539
Fuel Station Entries	pg 126				4
Points of Interest - Commercial Services	pg 126		2	14	95
Points of Interest - Education and Health	pg 135			1	1
Points of Interest - Manufacturing and Production	pg 136			46	99
Points of Interest - Public Infrastructure	pg 148		7	5	31
Points of Interest - Recreational and Environmental	pg 151		1		8
Gas Pipelines					
Underground Electrical Cables					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 153				1
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (SE)	0	1	384672 397718
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (E)	277	1	385000 397718
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (E)	297	1	385000 397600
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14SW (E)	441	1	385150 397600
1	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Chorlton Street Cso 281j2 Chorlton Street, ., Manchester, Greater Manchester, M1 3hw Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0162 Permit Version: 2 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: 4th February 2016 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: Dukes Tunnel **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	143	2	384510 397820
1	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Chorlton Street Cso 281j2 Chorlton Street, ., Manchester, Greater Manchester, M1 3hw Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0162 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 2nd September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Into And/Or Watercourse Receiving Water: Dukes Tunnel **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A13NW (NW)	143	2	384510 397820
1	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Chorlton Street Cso 281j2 Chorlton Street, ., Manchester, Greater Manchester, M1 3hw Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0162 Permit Version: 4 Effective Date: 11th April 2018 Issued Date: 11th April 2018 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: Shooters Brook Trib Rvr Medloc **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	151	2	384502 397823

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Chorlton Street Cso 281j2 Chorlton Street, ., Manchester, Greater Manchester, M1 3hw Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0162 Permit Version: 3 Effective Date: 5th February 2016 Issued Date: 5th February 2016 Revocation Date: 10th April 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: Dukes Tunnel **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	151	2	384502 397823
2	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Minshull St/Whitworth St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0355 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 18th July 2014 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Unknown Receiving Water: Not Supplied **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 100m	A13NW (NW)	151	2	384580 397870
2	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Aytoun St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982630 Permit Version: 1 Effective Date: 30th September 1994 Issued Date: Not Supplied Revocation Date: 30th October 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: Shooters Brook **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 100m	A13NW (NW)	155	2	384580 397875
2	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Aytoun St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0318 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 1st January 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: Shooters Brook **Status: Consent revoked or revised: New Consent issued (Section 37(1))** Positional Accuracy: Located by supplier to within 100m	A13NW (NW)	159	2	384580 397880

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Mount St/Rutland St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0287 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A13SW (S)	243	2	384580 397440
3	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Mount Street/Greek Street Cso Mancunian Way, (Opp To George Begg Building), Manchester, Greater Manchester, M1 7dn Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0187 Permit Version: 4 Effective Date: 10th July 2020 Issued Date: 10th July 2020 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A13SW (S)	289	2	384552 397401
4	**Discharge Consents** Operator: United Utilities Water Plc Property Type: Sewage Disposal Works - Water Company Location: Baring St(Late Stove St), Tipping Street, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0308 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 1st December 1994 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A13SE (SE)	259	2	384930 397550
4	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Baring St(Late Stove St), Tipping Street, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982729 Permit Version: 1 Effective Date: 28th November 1994 Issued Date: Not Supplied Revocation Date: 29th November 1999 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Manually corrected supplier location	A13SE (SE)	259	2	384930 397550

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
4	**Discharge Consents** Operator: United Utilities Water Plc (?) Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Mancunian Way Cso Manc Way Slip Road, ., ., Manchester, M12 6hh Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982729 Permit Version: 2 Effective Date: 30th November 1999 Issued Date: Not Supplied Revocation Date: 28th March 2021 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A13SE (SE)	292	2	384940 397510
4	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Mancunian Way Cso Manc Way Slip Road, ., ., Manchester, M12 6hh Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982729 Permit Version: 3 Effective Date: 29th March 2021 Issued Date: 29th March 2021 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock Via Sws **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A13SE (SE)	295	2	384944 397510
5	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Aytoun St/Auburn St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0370 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 27th March 2015 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Unknown Receiving Water: Not Supplied **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 100m	A13NW (N)	267	2	384580 398000
6	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Store Street, Ancoats, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0371 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 5th December 2014 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Unknown Receiving Water: Not Supplied **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 100m	A13NE (NE)	293	2	384860 398010

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	**Discharge Consents** Operator: Factory Communications Ltd Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) Location: 112-116 Princess Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016991403 Permit Version: 1 Effective Date: 24th April 1989 Issued Date: Not Supplied Revocation Date: 31st March 1992 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	301	2	384400 397500
7	**Discharge Consents** Operator: Factory Communications Ltd Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) Location: 112-116 Princess Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016991403 Permit Version: 2 Effective Date: 1st April 1992 Issued Date: Not Supplied Revocation Date: 10th February 1993 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	301	2	384400 397500
8	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Mount Street/Greek Street Cso Mancunian Way, (Opp To George Begg Building), Manchester, Greater Manchester, M1 7dn Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0187 Permit Version: 2 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: 4th February 2016 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	307	2	384530 397390
8	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Mount Street/Greek Street Cso Mancunian Way, (Opp To George Begg Building), Manchester, Greater Manchester, M1 7dn Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0187 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 2nd September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	307	2	384530 397390

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	**Discharge Consents** Operator: West Contracting Limited Property Type: Undefined Or Other Location: Gshp Serving Origin Development 56 Princess Street, Manchester, ., ., M1 6ja Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: Npswqd004449 Permit Version: 3 Effective Date: 1st April 2013 Issued Date: 28th October 2011 Revocation Date: 3rd October 2014 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Underground Water Receiving Water: Groundwater **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A12NE (W)	308	2	384306 397746
9	**Discharge Consents** Operator: West Contracting Limited Property Type: Undefined Or Other Location: Gshp Serving Origin Development 56 Princess Street, Manchester, ., ., M1 6ja Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: Npswqd004449 Permit Version: 2 Effective Date: 16th April 2009 Issued Date: 16th April 2009 Revocation Date: 31st March 2013 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Underground Water Receiving Water: Groundwater **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A12NE (W)	308	2	384306 397746
9	**Discharge Consents** Operator: West Contracting Limited Property Type: Undefined Or Other Location: Gshp Serving Origin Development 56 Princess Street, Manchester, ., ., M1 6ja Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: Npswqd004449 Permit Version: 1 Effective Date: 1st April 2009 Issued Date: 5th March 2009 Revocation Date: 15th April 2009 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Underground Water Receiving Water: Groundwater **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A12NE (W)	308	2	384306 397746
9	**Discharge Consents** Operator: West Contracting Limited Property Type: Undefined Or Other Location: Gshp Serving Origin Development 56 Princess Street, Manchester, ., ., M1 6ja Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: Npswqd004449 Permit Version: 3 Effective Date: 1st April 2013 Issued Date: 28th October 2011 Revocation Date: 3rd October 2014 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Underground Water Receiving Water: Groundwater **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A12NE (W)	323	2	384291 397734

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	**Discharge Consents** Operator: West Contracting Limited Property Type: Undefined Or Other Location: Gshp Serving Origin Development 56 Princess Street, Manchester, ., ., M1 6ja Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: Npswqd004449 Permit Version: 2 Effective Date: 16th April 2009 Issued Date: 16th April 2009 Revocation Date: 31st March 2013 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Underground Water Receiving Water: Groundwater **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A12NE (W)	323	2	384291 397734
9	**Discharge Consents** Operator: West Contracting Limited Property Type: Undefined Or Other Location: Gshp Serving Origin Development 56 Princess Street, Manchester, ., ., M1 6ja Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: Npswqd004449 Permit Version: 1 Effective Date: 1st April 2009 Issued Date: 5th March 2009 Revocation Date: 15th April 2009 Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Underground Water Receiving Water: Groundwater **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A12NE (W)	323	2	384291 397734
10	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Brook St/Mount St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982723 Permit Version: 1 Effective Date: 28th November 1994 Issued Date: Not Supplied Revocation Date: 14th July 2000 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Manually corrected supplier location	A13SW (SW)	313	2	384450 397430
11	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Mount Street/Greek Street Cso Mancunian Way, (Opp To George Begg Building), Manchester, Greater Manchester, M1 7dn Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0187 Permit Version: 3 Effective Date: 5th February 2016 Issued Date: 5th February 2016 Revocation Date: 9th July 2020 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A8NW (S)	330	2	384541 397361

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Princess St/Granby Row Cs, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Upper Mersey Reference: 016982956 Permit Version: 1 Effective Date: 23rd June 1995 Issued Date: Not Supplied Revocation Date: 31st March 1998 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Consent revoked: Discharge ceased (Water Resources Act 1991, Schedule 10 & 6)** Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	345	2	384330 397520
12	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Princess St/Whitworth St Cso 282mn 67 Whitworth St, Manchester, ., Greater Manchester, M1 6lq Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982950 Permit Version: 1 Effective Date: 23rd June 1995 Issued Date: Not Supplied Revocation Date: 19th October 2020 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	345	2	384330 397520
12	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Princess St/Whitworth St Cso 282mn 67 Whitworth St, Manchester, ., Greater Manchester, M1 6lq Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982950 Permit Version: 2 Effective Date: 20th October 2020 Issued Date: 20th October 2020 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock Via Sws **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	349	2	384328 397516
12	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Charles St Princess St Cso 28116 106 Princess Street, ., ., Manchester, M1 6ng Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0166 Permit Version: 3 Effective Date: 1st April 2018 Issued Date: 21st March 2018 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	349	2	384330 397513

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Charles St Princess St Cso 28116 106 Princess Street, ., ., Manchester, M1 6ng Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0166 Permit Version: 2 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: 31st March 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	351	2	384330 397510
12	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Charles St Princess St Cso 28116 106 Princess Street, ., ., Manchester, M1 6ng Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0166 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 2nd September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	351	2	384330 397510
12	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Whitworth St/Sackville St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0253 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 1st January 2017 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	351	2	384330 397510
12	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Charles Street Cso 7 Charles Street, ., ., Manchester, M1 7en Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0183 Permit Version: 3 Effective Date: 1st April 2018 Issued Date: 19th March 2018 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	365	2	384320 397500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Charles Street Cso 7 Charles Street, ., ., Manchester, M1 7en Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0183 Permit Version: 2 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: 31st March 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	365	2	384320 397500
12	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Charles Street Cso 7 Charles Street, ., ., Manchester, M1 7en Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0183 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 2nd September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	365	2	384320 397500
12	**Discharge Consents** Operator: Factory Communications Ltd Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) Location: 112-116 Princess Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016991403 Permit Version: 1 Effective Date: 24th April 1989 Issued Date: Not Supplied Revocation Date: 31st March 1992 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	381	2	384300 397500
12	**Discharge Consents** Operator: Factory Communications Ltd Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) Location: 112-116 Princess Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016991403 Permit Version: 2 Effective Date: 1st April 1992 Issued Date: Not Supplied Revocation Date: 10th February 1993 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	381	2	384300 397500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	**Discharge Consents** Operator: Factory Communications Ltd Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) Location: 112-116 Princess Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016991403 Permit Version: 3 Effective Date: 11th February 1993 Issued Date: Not Supplied Revocation Date: 1st November 1994 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	381	2	384300 397500
13	**Discharge Consents** Operator: British Broadcasting Corporation Property Type: LAND TRANSPORT + VIA PIPELINES/FREIGHT Location: Bbc Vehicle Maintenance Base Swo, Pritchard Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016991346 Permit Version: 1 Effective Date: 22nd September 1994 Issued Date: Not Supplied Revocation Date: 22nd September 1994 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	368	2	384400 397400
14	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Store Street, Ancoats, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982994 Permit Version: 1 Effective Date: 23rd June 1995 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 10m	A18SE (NE)	440	2	384990 398100
15	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: York St/Charles St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0281 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 9th August 2019 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	486	2	384180 397500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
15	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Mallard Street/Charles Street Cso Mallard Street, Manchester, ., Greater Manchester, M1 6ey Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982736 Permit Version: 1 Effective Date: 30th September 1994 Issued Date: Not Supplied Revocation Date: 9th July 2020 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	495	2	384170 397500
15	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Medlock St(Off Charles St), Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0343 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 1st January 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Unknown Receiving Water: Not Supplied **Status: Consent revoked or revised: New Consent issued (Section 37(1))** Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	495	2	384170 397500
15	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Mallard Street/Charles Street Cso Mallard Street, Manchester, ., Greater Manchester, M1 6ey Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982736 Permit Version: 2 Effective Date: 10th July 2020 Issued Date: 10th July 2020 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	496	2	384169 397499
15	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Oxford Road/Grosvenor Street Cso 137 Oxford Road, Manchester, ., Greater Manchester, M1 7dz Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0189 Permit Version: 4 Effective Date: 29th March 2021 Issued Date: 29th March 2021 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock Via Sws **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	524	2	384159 397457

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
15	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Oxford Road/Grosvenor Street Cso 137 Oxford Road, Manchester, ., Greater Manchester, M1 7dz Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0189 Permit Version: 3 Effective Date: 5th February 2016 Issued Date: 5th February 2016 Revocation Date: 28th March 2021 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	531	2	384150 397460
15	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Oxford Road/Grosvenor Street Cso 137 Oxford Road, Manchester, ., Greater Manchester, M1 7dz Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0189 Permit Version: 2 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: 4th February 2016 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	531	2	384150 397460
15	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Oxford/New Wakefild St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01man0165 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 31st March 1998 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	531	2	384150 397460
15	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Oxford Road/Grosvenor Street Cso 137 Oxford Road, Manchester, ., Greater Manchester, M1 7dz Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0189 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 2nd September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	531	2	384150 397460

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
16	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Oxford Rd, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0342 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 19th December 1999 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Unknown Receiving Water: Not Supplied **Status:** **Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	541	2	384150 397440
16	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Oxford Rd, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982631 Permit Version: 1 Effective Date: 30th September 1994 Issued Date: Not Supplied Revocation Date: 19th December 1999 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status:** **Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Manually corrected supplier location	A12SE (SW)	541	2	384150 397440
17	**Discharge Consents** Operator: United Utilities Water Limited Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY) Location: Great Ancoats Street, Sso, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01man0023 Permit Version: 1 Effective Date: 15th September 1993 Issued Date: Not Supplied Revocation Date: 15th September 1993 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Shooters Brook **Status:** **Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	635	2	385170 398200
18	**Discharge Consents** Operator: United Utilities Water Plc (?) Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Chester Street Cso Junction Of Chester Street/, Lower Osmond Street, ., Manchester, M1 5qf Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016983278 Permit Version: 1 Effective Date: 1st December 1999 Issued Date: 19th February 1999 Revocation Date: 8th July 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: The River Medlock **Status:** **New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	648	2	384080 397350

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
18	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Chester Street Cso Junction Of Chester Street/, Lower Osmond Street, ., Manchester, M1 5qf Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016983278 Permit Version: 2 Effective Date: 9th July 2018 Issued Date: 9th July 2018 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: The River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	649	2	384071 397362
18	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Lower Ormomd St/Hulme St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0282 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 9th August 2019 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	651	2	384070 397360
19	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Fairfield St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Upper Mersey Reference: 016982713 Permit Version: 1 Effective Date: 30th September 1994 Issued Date: Not Supplied Revocation Date: 23rd December 1996 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Manually corrected supplier location	A14SE (E)	669	2	385390 397670
19	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Raven Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01man0198 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 31st March 1998 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A14SE (E)	679	2	385400 397670

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
19	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Fairfield St/Crane St, Ardwick, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982727 Permit Version: 1 Effective Date: 28th November 1994 Issued Date: Not Supplied Revocation Date: 31st March 1998 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Consent revoked: Discharge ceased (Water Resources Act 1991, Schedule 10 & 6)** Positional Accuracy: Located by supplier to within 10m	A14SE (E)	691	2	385410 397640
19	**Discharge Consents** Operator: United Utilities Water Plc Property Type: Sewage Disposal Works - Water Company Location: Fairfield St/Crane St, Ardwick, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0300 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 10m	A14SE (E)	691	2	385410 397640
19	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Mancunian Way, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01man0192 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 18th July 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A14SE (E)	703	2	385420 397620
19	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Fairfield Street Cso Fairfield Street, ., Mancunian Way, Manchester, M12 6ej Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982730 Permit Version: 2 Effective Date: 1st April 2018 Issued Date: 19th March 2018 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A14SE (E)	712	2	385430 397630

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
19	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Fairfield Street Cso Fairfield Street, ., Mancunian Way, Manchester, M12 6ej Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0309 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 1st January 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Consent revoked or revised: New Consent issued (Section 37(1))** Positional Accuracy: Located by supplier to within 100m	A14SE (E)	712	2	385430 397630
19	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Fairfield Street Cso Fairfield Street, ., Mancunian Way, Manchester, M12 6ej Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982730 Permit Version: 1 Effective Date: 30th September 1994 Issued Date: Not Supplied Revocation Date: 31st March 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A14SE (E)	713	2	385430 397625
20	**Discharge Consents** Operator: Swinton Insurance Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Location: Car Pk, Malborough St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016991176 Permit Version: 1 Effective Date: 8th September 1987 Issued Date: Not Supplied Revocation Date: 1st July 1991 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Lapsed (under Environment Act 1995, Schedule 23)** Positional Accuracy: Manually corrected supplier location	A12SE (SW)	692	2	384000 397400
21	**Discharge Consents** Operator: United Utilities Water Limited Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY) Location: Great Ancoats Street, Sso, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01man0024 Permit Version: 1 Effective Date: 15th September 1993 Issued Date: Not Supplied Revocation Date: 15th September 1993 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Shooters Brook **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	723	2	385180 398310

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
22	**Discharge Consents** Operator: Manchester Metropolitan University Property Type: EDUCATION/NURSERY/SCHOOL/COLLEGE/UNI/TRAINING VENUE Location: Gshp At Manchester Metropolitan Uni Manchester Metropolitan Uni, Lower Chatham Street, ., Manchester, M15 6bh Authority: Environment Agency, North West Region Catchment Area: Medlock Reference: Eprdp3526gn Permit Version: 1 Effective Date: 1st April 2011 Issued Date: 23rd August 2010 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Land/Soakaway Receiving Water: Groundwaters **Status: New issued under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	784	2	384096 397114
22	**Discharge Consents** Operator: Manchester Metropolitan University Property Type: EDUCATION/NURSERY/SCHOOL/COLLEGE/UNI/TRAINING VENUE Location: Gshp At Manchester Metropolitan Uni Manchester Metropolitan Uni, Lower Chatham Street, ., Manchester, M15 6bh Authority: Environment Agency, North West Region Catchment Area: Medlock Reference: Eprdp3526gn Permit Version: 1 Effective Date: 1st April 2011 Issued Date: 23rd August 2010 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Cooling Water Discharge Environment: Land/Soakaway Receiving Water: Groundwaters **Status: New issued under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	824	2	384083 397072
23	**Discharge Consents** Operator: United Utilities Water Plc (?) Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Cambridge Street Cso 282d9 1 Cambridge Street, ., Manchester, Greater Manchester, M1 5bw Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982721 Permit Version: 2 Effective Date: 15th November 1999 Issued Date: Not Supplied Revocation Date: 10th April 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A12SW (W)	825	2	383850 397410
23	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Cambridge Street Cso 282d9 1 Cambridge Street, ., Manchester, Greater Manchester, M1 5bw Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982721 Permit Version: 3 Effective Date: 11th April 2018 Issued Date: 11th April 2018 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A12SW (W)	847	2	383830 397400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
23	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Wilmott St At River St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0184 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 18th October 1999 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 10m	A12SW (W)	847	2	383830 397400
23	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Lower Cambridge St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982721 Permit Version: 1 Effective Date: 30th September 1994 Issued Date: Not Supplied Revocation Date: 14th November 1999 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Manually corrected supplier location	A12SW (W)	847	2	383830 397400
23	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Lower Cambridge St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0285 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 15th November 1999 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Consent revoked or revised: New Consent issued (Section 37(1))** Positional Accuracy: Located by supplier to within 100m	A12SW (W)	849	2	383830 397395
24	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Great Bridgewater St Cso (281wi) 80 Great Bridgewater Street, Great Ancoats, Manchester, Greater Manchester, M1 5jg Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01man0163 Permit Version: 1 Effective Date: 15th September 1993 Issued Date: Not Supplied Revocation Date: 15th September 1993 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: River Tib Culvert **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A12SW (W)	831	2	383790 397610

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
25	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Great Bridgewater St Cso (281wi) 80 Great Bridgewater Street, Great Ancoats, Manchester, Greater Manchester, M1 5jg Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982707 Permit Version: 2 Effective Date: 20th October 2020 Issued Date: 20th October 2020 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A12SW (W)	837	2	383819 397459
25	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Great Bridgewater St Cso (281wi) 80 Great Bridgewater Street, Great Ancoats, Manchester, Greater Manchester, M1 5jg Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0252 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 1st January 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Consent revoked or revised: New Consent issued (Section 37(1))** Positional Accuracy: Located by supplier to within 100m	A12SW (W)	845	2	383810 397460
25	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Great Bridgewater St Cso (281wi) 80 Great Bridgewater Street, Great Ancoats, Manchester, Greater Manchester, M1 5jg Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982707 Permit Version: 1 Effective Date: 30th September 1994 Issued Date: Not Supplied Revocation Date: 19th October 2020 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A12SW (W)	847	2	383810 397455
26	**Discharge Consents** Operator: Edwin Butterworth & Co Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Location: Soho Works Site Swo, Pollard Street, Ancoats, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016991041 Permit Version: 1 Effective Date: 30th September 1985 Issued Date: Not Supplied Revocation Date: 1st July 1991 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Canal Receiving Water: Manchester & Ashton Canal **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A19SE (NE)	873	2	385400 398300

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
27	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Blackett Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01man0194 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 18th July 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A14NE (E)	887	2	385610 397740
27	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Great Ancoats St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0257 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 13th June 1999 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A14NE (E)	897	2	385620 397760
27	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Pin Mill Brow, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01man0193 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 17th August 1999 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A14NE (E)	897	2	385620 397740
27	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Great Ancoats St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982711 Permit Version: 1 Effective Date: 30th September 1994 Issued Date: Not Supplied Revocation Date: 13th June 1999 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Manually corrected supplier location	A14NE (E)	897	2	385620 397760

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
28	**Discharge Consents** Operator: United Utilities Water Limited Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY) Location: Trumpet Street, Sso, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01man0168 Permit Version: 1 Effective Date: 15th September 1993 Issued Date: Not Supplied Revocation Date: 15th September 1993 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: River Tib Culvert-Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A12SW (W)	910	2	383720 397550
29	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Albion Street/Hewitt St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0251 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 1st January 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Consent revoked or revised: New Consent issued (Section 37(1))** Positional Accuracy: Located by supplier to within 100m	A12SW (W)	948	2	383700 397470
29	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Albion Street/Hewitt St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982706 Permit Version: 1 Effective Date: 30th September 1994 Issued Date: Not Supplied Revocation Date: 13th November 2019 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 100m	A12SW (W)	949	2	383700 397465
30	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Newcastle St/Chester St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0361 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Unknown Receiving Water: Not Supplied **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	952	2	383780 397260

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
31	**Integrated Pollution Prevention And Control** Name: Manchester Heat Network Tradeco Limited Location: Manchester Civic Quarter Energy Centre Epr/Jp3700bu, Manchester Civic Quarter Energy Centre, Off Lower Mosley Street, Manchester Authority: Environment Agency, North West Region Permit Reference: JP3700BU Original Permit Ref: Jp3700bu Effective Date: 20th August 2020 **Status:** **Effective** Application Type: Application App. Sub Type: New Positional Accuracy: Located by supplier to within 10m Activity Code: 25B (3) (1) (b) Activity Description: Tranche A SG permitting date 1st October 2019 Primary Activity: N Activity Code: 25A (a) Activity Description: New Medium Combustion Plant Primary Activity: Y	A12SW (W)	905	2	383710 397670
32	**Local Authority Pollution Prevention and Controls** Name: Central Taxi Spares Ltd Location: 31-35 Chapeltown Street, Ancoats, MANCHESTER, M1 2NN Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/02/91 Dated: 9th August 1991 Process Type: Local Authority Air Pollution Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input **Status:** **Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A13NE (NE)	350	3	384983 397984
33	**Local Authority Pollution Prevention and Controls** Name: Tj Stafford (Plant Hire) Ltd Location: Hoyle Street, Ardwick, Manchester, M12 6hg Authority: Manchester City Council, Environmental Health Department Permit Reference: PPCM89/96 Dated: 5th July 1996 Process Type: Local Authority Pollution Prevention and Control Description: PG3/16 Mobile screening and crushing processes **Status:** **Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A14SW (E)	490	3	385206 397632
34	**Local Authority Pollution Prevention and Controls** Name: Presbar Diecastings Ltd Location: Store Street/Ducie Street, Piccadilly Village, Ancoats, M1 2WD Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/B/38/05/AW Dated: 21st November 1991 Process Type: Local Authority Pollution Prevention and Control Description: PG2/1Furnaces for the extraction of non-ferrous metal from scrap **Status:** **Permitted** Positional Accuracy: Manually positioned to the address or location	A19SW (NE)	530	3	385024 398187
34	**Local Authority Pollution Prevention and Controls** Name: Presbar Diecastings Ltd Location: Store Street, MANCHESTER, Lancashire, M1 2WD Authority: Manchester City Council, Environmental Health Department Permit Reference: 34/92 Dated: 21st November 1991 Process Type: Local Authority Pollution Prevention and Control Description: PG2/1Furnaces for the extraction of non-ferrous metal from scrap **Status:** **Permitted** Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	557	3	385051 398201
34	**Local Authority Pollution Prevention and Controls** Name: Presbar Diecastings Ltd Location: Store Street, MANCHESTER, Lancashire, M1 2WD Authority: Manchester City Council, Environmental Health Department Permit Reference: 34/92 Dated: 13th January 1993 Process Type: Local Authority Air Pollution Control Description: PG2/6 Aluminium and aluminium alloy processes **Status:** **Authorised** Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	583	3	385100 398195
35	**Local Authority Pollution Prevention and Controls** Name: Ardwick Spares Location: 2 Hoyle Street, Ardwick, MANCHESTER, Lancashire, M12 6HG Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/30/92 Dated: 1st April 1994 Process Type: Local Authority Air Pollution Control Description: PG2/1Furnaces for the extraction of non-ferrous metal from scrap **Status:** **Authorisation revoked** Positional Accuracy: Manually positioned to the address or location	A14SW (E)	633	3	385319 397495

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
36	**Local Authority Pollution Prevention and Controls** Name: The Laundry Shop (Manchester Ltd) Location: Unit 5 Peter House, Oxford Street, Manchester Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/DC/RM/01/09 Dated: 1st February 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A12NW (W)	708	3	383915 397839
37	**Local Authority Pollution Prevention and Controls** Name: Tesco Express Ardwick Location: Ardwick Green, Ardwick, MANCHESTER, Lancashire, M13 9XF Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/PFS/RM/002/06 Dated: 3rd December 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status: Authorised** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	807	3	385255 397098
38	**Local Authority Pollution Prevention and Controls** Name: Johnsons Cleaners Uk Ltd - Manchester Location: 24 High Street, Manchester Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/DC/RM/13/07 Dated: 1st February 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	840	3	384254 398481
39	**Local Authority Pollution Prevention and Controls** Name: Dunlop LtdGrg Division Location: P O Box 151, MANCHESTER, Lancashire, M60 1PD Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/58/93 Dated: 2nd December 1993 Process Type: Local Authority Air Pollution Control Description: PG6/28 Rubber processes **Status: Authorisation revoked** Positional Accuracy: Manually positioned to the address or location	A7NW (SW)	841	3	383890 397289
40	**Local Authority Pollution Prevention and Controls** Name: Advent Manchester Location: 309 Great Ancoats Street, MANCHESTER, Lancashire, M4 7DF Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/105/01 Dated: 9th February 2001 Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles **Status: Authorisation revoked** Positional Accuracy: Manually positioned to the address or location	A14NE (E)	878	3	385559 398012
41	**Local Authority Pollution Prevention and Controls** Name: Johnson Cleaners Uk Ltd - Manchester Location: 59 Cross Street, Albert Square, Manchester Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/DC/RM/12/07 Dated: 1st February 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Located by supplier to within 10m	A17SW (NW)	905	3	383845 398199
42	**Local Authority Pollution Prevention and Controls** Name: Express Printers Manchester Ltd Location: Henry Street, Ancoats, MANCHESTER, Lancashire, M60 4HB Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/56/93 Dated: 1st March 1995 Process Type: Local Authority Air Pollution Control Description: PG6/21 Hide and skin processes **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A18NE (N)	940	3	384738 398694

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
43	**Local Authority Pollution Prevention and Controls** Name: Jessop & Baird Ltd Location: Medlock House, Hulme Street, Hulme, MANCHESTER, Lancashire, M15 6AL Authority: Manchester City Council, Environmental Health Department Permit Reference: 41/93 Dated: 14th June 1993 Process Type: Local Authority Air Pollution Control Description: PG6/32 Adhesive coating **Status: Authorisation revoked** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	984	3	383796 397169
44	**Local Authority Pollution Prevention and Control Enforcements** Location: Store Street, MANCHESTER, Lancashire, M1 2WD Type: Air Pollution Control Enforcement Notice Reference: 34/92 Date Issued: 19th November 1998 Enforcement Date: Not Supplied Details: Failure To Update Furnace Emission Records Positional Accuracy: Automatically positioned to the address	A18SE (N)	312	3	384808 398052
	Nearest Surface Water Feature	A13NW (N)	175	-	384610 397913
45	**Pollution Incidents to Controlled Waters** Property Type: Private Sewage (Non-PLC): Sewerage Systems Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Unknown Sewage Note: Tributary River Mersey Incident Date: 1st March 1991 Incident Reference: 91510290 Catchment Area: Mersey - Non-Tidal Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 1 - Major Incident Positional Accuracy: Located by supplier to within 100m	A13NE (N)	146	2	384700 397900
46	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: None Affected Incident Date: 8th November 1996 Incident Reference: 96632315 Catchment Area: Medlock Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	162	2	384500 397600
47	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Oils - Other Oil Note: River Medlock; Diesel Incident Date: 26th June 1996 Incident Reference: 96631409 Catchment Area: Medlock Receiving Water: Not Given Cause of Incident: Miscellaneous/Other Pollution Type Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SE (SE)	206	2	384900 397600
48	**Pollution Incidents to Controlled Waters** Property Type: Pollution Found Source Not Determined Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Colour Note: Not Supplied Incident Date: 2nd February 1995 Incident Reference: 95630210 Catchment Area: Medlock Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SE (SE)	217	2	384800 397500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
49	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: None Pollution Found Incident Date: 8th November 1996 Incident Reference: 96632326 Catchment Area: Rochdale Canal Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Unknown	A13NW (W)	227	2	384400 397800
50	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: Oil To Drains Incident Date: 10th July 1996 Incident Reference: 96631536 Catchment Area: Medlock Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13NW (NW)	301	2	384500 398000
51	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Foam Note: River Medlock; Detergent Incident Date: 30th March 1995 Incident Reference: 95630655 Catchment Area: Medlock Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	301	2	384400 397500
52	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: River Medlock; None Pollution Found Incident Date: 6th October 1995 Incident Reference: 95632478 Catchment Area: Medlock Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	310	2	384500 397400
53	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: River Medlock Incident Date: 2nd July 1995 Incident Reference: 95631978 Catchment Area: Medlock Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SE (SE)	345	2	385001 397501
53	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Inert Suspended Solids Note: River Medlock; Silt Incident Date: 17th January 1996 Incident Reference: 96630110 Catchment Area: Medlock Receiving Water: Not Given Cause of Incident: In River Works Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SE (SE)	348	2	385001 397496

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
54	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: None Pollution Found Incident Date: 11th January 1996 Incident Reference: 96630052 Catchment Area: Medlock Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	381	2	384300 397500
55	**Pollution Incidents to Controlled Waters** Property Type: Transport, Storage, Communications: Road Location: North Western Street, ARDWICK, Greater Manchester Authority: Environment Agency, North West Region Pollutant: General Biodegradable : Tree Cuttings Note: Not Supplied Incident Date: 19th May 1999 Incident Reference: 29115 Catchment Area: Irwell Receiving Water: River Stretch (Freshwater) Cause of Incident: Unauthorised Activity : Unauthorised Burning Of Waste Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m	A14SW (SE)	430	2	385100 397500
56	**Pollution Incidents to Controlled Waters** Property Type: Pollution Found Source Not Determined Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Chemicals - Paints / Dyes Note: Ashton Canal; Flouroscein Incident Date: 31st October 1996 Incident Reference: 96632291 Catchment Area: Ashton Canal Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SE (N)	454	2	384800 398200
57	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: None Affected; Diesel Spill Incident Date: 22nd August 1996 Incident Reference: 96631887 Catchment Area: Irwell Receiving Water: Not Given Cause of Incident: Accidental Spillage/Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Unknown	A12SE (SW)	468	2	384200 397500
57	**Pollution Incidents to Controlled Waters** Property Type: Private Sewage (Non-PLC): Sewerage Systems Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Crude Sewage Note: River Medlock; Crude Sewage Incident Date: 25th March 1996 Incident Reference: 96630555 Catchment Area: Medlock Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SE (SW)	470	2	384200 397495
58	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: Diesel Reported Incident Date: 6th June 1996 Incident Reference: 96631224 Catchment Area: Medlock Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (E)	479	2	385200 397700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
59	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Princess Street , MANCHESTER Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Foam Note: Detergent Pollution; Medlock; Detergent Incident Date: 18th April 1997 Incident Reference: 97630663 Catchment Area: Medlock Receiving Water: Freshwater Stream/River Cause of Incident: Overfilling During Delivery Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (SE)	522	2	385200 397495
60	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Chemicals - Paints / Dyes Note: Ashton Canal; Tracing Dye Incident Date: 29th September 1995 Incident Reference: 95632439 Catchment Area: Ashton Canal Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	676	2	385300 398100
61	**Pollution Incidents to Controlled Waters** Property Type: Water Company Sewage: Storm Overflow Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Oils - Waste Oil Note: Oil Entering Medlock From Outfall Up Stream Temperance Stream Incident Date: 10th July 1998 Incident Reference: SO981348 Catchment Area: Medlock Receiving Water: Freshwater Stream/River Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Unknown	A14SE (E)	678	2	385400 397700
62	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: None Affected Incident Date: 16th December 1996 Incident Reference: 96632549 Catchment Area: Rochdale Canal Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NE (NE)	795	2	385001 398496
62	**Pollution Incidents to Controlled Waters** Property Type: Pollution Found Source Not Determined Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Foam Note: Ashton Canal; Foam Incident Date: 9th April 1996 Incident Reference: 96630678 Catchment Area: Ashton Canal Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NE (NE)	799	2	385001 398501
63	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: None Pollution Found Incident Date: 24th April 1996 Incident Reference: 96630895 Catchment Area: Ashton Canal Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A19SE (NE)	873	2	385400 398300

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
64	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: None Affected; None Pollution Found Incident Date: 16th December 1996 Incident Reference: 96612549 Catchment Area: Rochdale Canal Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18NE (N)	894	2	385001 398601
65	**Pollution Incidents to Controlled Waters** Property Type: Construction Location: Redhill Street, MANCHESTER, Greater Manchester Authority: Environment Agency, North West Region Pollutant: Contaminated Material : Soils & Sub-soils Note: Not Supplied Incident Date: 13th January 1999 Incident Reference: 751 Catchment Area: Rochdale Canal Receiving Water: Canal Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Manually positioned to the road within the address or location	A19NW (NE)	929	2	385100 398600
66	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: Not Supplied Incident Date: 3rd August 1996 Incident Reference: 96641712 Catchment Area: Medlock Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A9NE (SE)	967	2	385600 397300
67	**Registered Radioactive Substances** Name: The University Of Manchester Location: North Campus, Manchester, M1 3bu Authority: Environment Agency, North West Region Permit Reference: Bx8661 Dated: Not Supplied Process Type: Not Supplied Description: Not Supplied **Status: Application has been determined by the EA** Positional Accuracy: Located by supplier to within 100m	A13SW (S)	151	2	384600 397530
67	**Registered Radioactive Substances** Name: The University Of Manchester Location: North Campus, Manchester, M1 3bu Authority: Environment Agency, North West Region Permit Reference: Bx8645 Dated: Not Supplied Process Type: Not Supplied Description: Not Supplied **Status: Application has been determined by the EA** Positional Accuracy: Located by supplier to within 100m	A13SW (S)	151	2	384600 397530
68	**Registered Radioactive Substances** Name: Umist Location: Po Box 88, Sackville Street, MANCHESTER, M60 1QD Authority: Environment Agency, North West Region Permit Reference: Bk5380 Dated: 6th March 2001 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Substantial variation to a registration under the Act of an open source which is also the subject of an authorisation **Status: Authorisation either revoked or cancelled** Positional Accuracy: Manually positioned to the address or location	A13SW (S)	221	2	384612 397456

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
69	**Registered Radioactive Substances** Name: Umist Location: PO Box 88, MANCHESTER, Lancashire, M60 1QD Authority: Environment Agency, North West Region Permit Reference: Bq2154 Dated: 9th April 2002 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Substantial variation to authorisation under RSA **Status: Authorisation either revoked or cancelled** Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	227	2	384500 397500
69	**Registered Radioactive Substances** Name: Umist Location: PO Box 88, MANCHESTER, Lancashire, M60 1QD Authority: Environment Agency, North West Region Permit Reference: AC8878 Dated: 31st March 1991 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA **Status: Authorisation either revoked or cancelled** Positional Accuracy: Located by supplier to within 100m	A13SW (SW)	227	2	384500 397500
69	**Registered Radioactive Substances** Name: Umist Location: Po Box 88, Sackville Street, MANCHESTER, M60 1QD Authority: Environment Agency, North West Region Permit Reference: AX0526 Dated: 30th January 1997 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Manually positioned to the address or location	A13SW (SW)	233	2	384478 397512
69	**Registered Radioactive Substances** Name: Umist Location: Po Box 88, Sackville Street, MANCHESTER, M60 1QD Authority: Environment Agency, North West Region Permit Reference: AP0143 Dated: 16th January 1995 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Manually positioned to the address or location	A13SW (SW)	233	2	384478 397512
69	**Registered Radioactive Substances** Name: Umist Location: Po Box 88, Sackville Street, MANCHESTER, M60 1QD Authority: Environment Agency, North West Region Permit Reference: AZ8692 Dated: 13th November 1997 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Manually positioned to the address or location	A13SW (SW)	234	2	384477 397512
70	**Registered Radioactive Substances** Name: Epistem Limited Location: The Incubator Building & University Of Manchester, Manchester South Campus, Grafton Street, Manchester, M13 9xx Authority: Environment Agency, North West Region Permit Reference: VB3130DX Dated: Not Supplied Process Type: Not Supplied Description: Not Supplied **Status: Application has been determined by the EA** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	712	2	385100 397100
71	**Registered Radioactive Substances** Name: Manchester Metropolitan University Location: John Dalton Building, Chester Street, MANCHESTER, Lancashire, M1 5GD Authority: Environment Agency, North West Region Permit Reference: Bw5861 Dated: 1st December 2003 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	731	2	384070 397222

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
71	**Registered Radioactive Substances** Name: Manchester Metropolitan University Location: John Dalton Building, Chester Street, MANCHESTER, Greater Manchester, M1 5GD Authority: Environment Agency, North West Region Permit Reference: AP8403 Dated: 9th March 1995 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	732	2	384070 397222
71	**Registered Radioactive Substances** Name: Manchester Metropolitan University Location: John Dalton Building, Chester Street, MANCHESTER, Greater Manchester, M1 5GD Authority: Environment Agency, North West Region Permit Reference: AO3155 Dated: 16th October 1994 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Substantial variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	732	2	384070 397222
71	**Registered Radioactive Substances** Name: Manchester Metropolitan University Location: John Dalton Building, Chester Street, MANCHESTER, Greater Manchester, M1 5GD Authority: Environment Agency, North West Region Permit Reference: AC9718 Dated: 31st March 1991 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Registration under the Act of an open source which is also the subject of an authorisation **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	732	2	384070 397222
71	**Registered Radioactive Substances** Name: Manchester Metropolitan University Location: John Dalton Building, Chester Street, MANCHESTER, Greater Manchester, M1 5GD Authority: Environment Agency, North West Region Permit Reference: AC9688 Dated: 31st March 1991 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	732	2	384070 397222
71	**Registered Radioactive Substances** Name: Manchester Metropolitan University Location: John Dalton Building, Chester Street, Manchester, M1 5gd Authority: Environment Agency, North West Region Permit Reference: Ca1464 Dated: Not Supplied Process Type: Not Supplied Description: Not Supplied **Status: Application has been determined by the EA** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	732	2	384069 397222
71	**Registered Radioactive Substances** Name: Manchester Metropolitan University Location: John Dalton Building, Chester Street, Manchester, M1 5gd Authority: Environment Agency, North West Region Permit Reference: BI0324 Dated: Not Supplied Process Type: Not Supplied Description: Not Supplied **Status: Application has been determined by the EA** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	732	2	384069 397222

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
72	**Registered Radioactive Substances** Name: University Of Manchester Location: Oxford Road, Manchester, M13 9PL Authority: Environment Agency, North West Region Permit Reference: CB0137 Dated: 8th December 2006 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Application has been authorised and any conditions apply to the operator** Positional Accuracy: Automatically positioned to the address	A8SW (S)	850	2	384615 396824
72	**Registered Radioactive Substances** Name: University Of Manchester Location: Oxford Road, MANCHESTER, M13 9PL Authority: Environment Agency, North West Region Permit Reference: Bz3067 Dated: 28th June 2005 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Initial variation to an authorisation under RSA□ **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A8SW (S)	850	2	384615 396824
72	**Registered Radioactive Substances** Name: University Of Manchester Location: Oxford Road, MANCHESTER, Lancashire, M13 9PL Authority: Environment Agency, North West Region Permit Reference: Bx8548 Dated: 1st October 2004 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Registration under the Act of an open source which is also the subject of an authorisation **Status: Application has been authorised and any conditions apply to the operator** Positional Accuracy: Automatically positioned to the address	A8SW (S)	850	2	384615 396824
72	**Registered Radioactive Substances** Name: University Of Manchester Location: Oxford Road, MANCHESTER, Lancashire, M13 9PL Authority: Environment Agency, North West Region Permit Reference: Bx8564 Dated: 2nd September 2004 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A8SW (S)	850	2	384615 396824
72	**Registered Radioactive Substances** Name: Central Manchester University Hospitals Nhs Foundation Trust Location: Oxford Road, Manchester, Lancashire, M13 9PL Authority: Environment Agency, North West Region Permit Reference: Bm2918 Dated: 19th November 2001 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Substantial variation to a registration under the Act of an open source which is also the subject of an authorisation **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A8SW (S)	851	2	384615 396824
73	**Registered Radioactive Substances** Name: Victoria University Of Manchester Location: Williamson Building, Oxford Road, MANCHESTER, Greater Manchester, M13 9PL Authority: Environment Agency, North West Region Permit Reference: Bt9640 Dated: 3rd February 2003 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Substantial variation to a registration under the Act of an open source which is not the subject of an authorisation, or an application for an authorisation **Status: Authorisation either revoked or cancelled** Positional Accuracy: Manually positioned to the address or location	A3NW (S)	982	2	384645 396692

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
73	**Registered Radioactive Substances** Name: Victoria University Of Manchester Location: Williamson Building, Oxford Road, MANCHESTER, Greater Manchester, M13 9PL Authority: Environment Agency, North West Region Permit Reference: BG4739 Dated: 16th August 1999 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Substantial variation to a registration under the Act of an open source which is not the subject of an authorisation, or an application for an authorisation **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Manually positioned to the address or location	A3NW (S)	982	2	384645 396692
73	**Registered Radioactive Substances** Name: Victoria University Of Manchester Location: Williamsom Building, Oxford Road, MANCHESTER, Greater Manchester, M13 9PL Authority: Environment Agency, North West Region Permit Reference: AP8713 Dated: 20th February 1995 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Registration under the Act of an open source which is also the subject of an authorisation **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Manually positioned to the address or location	A3NW (S)	982	2	384645 396692
73	**Registered Radioactive Substances** Name: University Of Manchester Location: Williamson Building, Oxford Road, MANCHESTER, Greater Manchester, M13 9PL Authority: Environment Agency, North West Region Permit Reference: AD0155 Dated: 31st March 1991 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA **Status: Authorisation either revoked or cancelled** Positional Accuracy: Manually positioned to the address or location	A3NW (S)	982	2	384645 396692
	River Quality Name: Rochdale Canal GQA Grade: River Quality B Reach: Ashton Canal To Knott Mill Estimated Distance (km): 1.8 Flow Rate: Flow greater than 80 cumecs Flow Type: Canal Year: 2000	A13NW (NW)	224	2	384523 397931
	River Quality Name: Medlock GQA Grade: River Quality E Reach: Lords Bk To Irwell Estimated Distance (km): 9.5 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000	A13SW (S)	256	2	384635 397418
	River Quality Name: Ashton Canal GQA Grade: River Quality C Reach: Robertsons To Rochdale Canal Estimated Distance (km): 6.4 Flow Rate: Flow greater than 80 cumecs Flow Type: Canal Year: 2000	A18SE (NE)	374	2	384904 398079
	River Quality Name: Rochdale Canal GQA Grade: River Quality B Reach: Empress Processing To Ashton Canal Estimated Distance (km): .3 Flow Rate: Flow greater than 80 cumecs Flow Type: Canal Year: 2000	A18SE (N)	491	2	384859 398224

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	River Quality Name: Rochdale Canal GQA Grade: River Quality B Reach: Qsl At Summit To Empress Processing Estimated Distance (km): 27.6 Flow Rate: Flow greater than 80 cumecs Flow Type: Canal Year: 2000	A18NE (N)	732	2	384915 398458
	River Quality Name: Corn Bk GQA Grade: River Quality C Reach: Qsl At Openshaw To Msc Estimated Distance (km): 5.6 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000	A8SW (S)	742	2	384534 396941
74	**River Quality Chemistry Sampling Points** Name: Medlock Reach: Lords Brook To Irwell Estimated Distance: 9.50 Objective: Not Supplied Positional Accuracy: Located by supplier to within 10m Year: 1990 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 1993 GQA Grade: River Quality Chemistry GQA Grade E - Poor Compliance: Not Supplied Year: 1994 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied Year: 1995 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied Year: 1996 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied Year: 1997 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied Year: 1998 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied Year: 1999 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied Year: 2000 GQA Grade: River Quality Chemistry GQA Grade C - Fairly Good Compliance: Not Supplied Year: 2001 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied Year: 2002 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied Year: 2003 GQA Grade: River Quality Chemistry GQA Grade C - Fairly Good Compliance: Not Supplied Year: 2004 GQA Grade: River Quality Chemistry GQA Grade C - Fairly Good Compliance: Not Supplied Year: 2005 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2006 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2007 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 2008 GQA Grade: River Quality Chemistry GQA Grade C - Fairly Good Compliance: Not Supplied Year: 2009 GQA Grade: River Quality Chemistry GQA Grade C - Fairly Good Compliance: Not Supplied	A15NW (E)	991	2	385714 397750

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
75	**Substantiated Pollution Incident Register** Authority: Environment Agency - North West Region, South Area Incident Date: 16th August 2015 Incident Reference: 1365039 Water Impact: Category 2 - Significant Incident Air Impact: Category 4 - No Impact Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Storm Sewage	A14NE (E)	875	2	385597 397772
76	**Water Abstractions** Operator: West Contracting Licence Number: Nw0690006001 Permit Version: 1 Location: Boreholes At Origin Developments, Manchester Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 May Authorised End: 30 September Permit Start Date: 19th January 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A13NW (W)	236	2	384378 397733
76	**Water Abstractions** Operator: West Contracting Licence Number: Nw/069/0006/001 Permit Version: 1 Location: Boreholes At Origin Developments, Manchester Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 May Authorised End: 30 September Permit Start Date: 19th January 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A13NW (W)	236	2	384378 397733
77	**Water Abstractions** Operator: North Western Electricity Board Licence Number: 2569006023 Permit Version: Not Supplied Location: Rochdale Canal, Dickinson Street, MANCHESTER Authority: Environment Agency, North West Region Abstraction: Cooling Abstraction Type: Not Supplied Source: Canal Daily Rate (m3): 82 Yearly Rate (m3): 25230 Details: Licence Status: Revoked Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A12SE (W)	514	2	384100 397700
78	**Water Abstractions** Operator: Moseley Rubber Co Ltd Licence Number: 2569006001 Permit Version: 100 Location: Borehole At Premises, Broadie St, Ardwick, Manchester Authority: Environment Agency, North West Region Abstraction: Rubber: General Cooling (Existing Licences Only) (Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 909 Yearly Rate (m3): 331858 Details: Premises At Broadie St., Ardwick Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 8th February 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14SW (E)	544	2	385240 397540

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
79	**Water Abstractions** Operator: British Telecommunications Plc Licence Number: 2569007069 Permit Version: 100 Location: Borehole At George St, Manchester Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: General Cooling (Existing Licences Only) (Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 860 Yearly Rate (m3): 1100 Details: Premises At Rutherford Hse, York St Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	584	2	384100 398000
80	**Water Abstractions** Operator: Manchester Metropolitan University Licence Number: Nw/069/0006/003 Permit Version: 2 Location: Borehole 1 At Lower Chatham Street Authority: Environment Agency, North West Region Abstraction: Schools and Colleges: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 4th April 2014 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	746	2	384180 397091
80	**Water Abstractions** Operator: Manchester Metropolitan University Licence Number: Nw/069/0006/003 Permit Version: 2 Location: Borehole 1 At Lower Chatham Street Authority: Environment Agency, North West Region Abstraction: Schools and Colleges: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 4th April 2014 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	746	2	384180 397091
80	**Water Abstractions** Operator: Manchester Metropolitan University Licence Number: Nw/069/0006/003 Permit Version: 1 Location: Borehole 1 At Lower Chatham Street Authority: Environment Agency, North West Region Abstraction: Schools and Colleges: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2011 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	746	2	384180 397091

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
80	**Water Abstractions** Operator: Manchester Metropolitan University Licence Number: Nw/069/0006/003 Permit Version: 1 Location: Borehole 1 At Lower Chatham Street Authority: Environment Agency, North West Region Abstraction: Schools and Colleges: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2011 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	746	2	384180 397091
81	**Water Abstractions** Operator: Dunlop Rubber Co Limited Licence Number: 2569007027 Permit Version: Not Supplied Location: Borehole, Cambridge Street, MANCHESTER Authority: Environment Agency, North West Region Abstraction: Cooling Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 1811 Yearly Rate (m3): 154564 Details: Licence Status: Revoked Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	801	2	384000 397200
	Water Abstractions Operator: Manchester Metropolitan University Licence Number: Nw/069/0004/003 Permit Version: 1 Location: Borehole At Manchester Metropolitan University Authority: Environment Agency, North West Region Abstraction: Schools and Colleges: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st January 2015 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7SW (SW)	1314	2	383715 396746
	Water Abstractions Operator: Manchester Metropolitan University Licence Number: Nw/069/0004/003 Permit Version: 1 Location: Borehole At Manchester Metropolitan University Authority: Environment Agency, North West Region Abstraction: Schools and Colleges: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st January 2015 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7SW (SW)	1314	2	383715 396746

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: British Telecommunications Plc Licence Number: 2569007070 Permit Version: 101 Location: Borehole At Dial House Chapel Street Salford Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: General Cooling (Existing Licences Only) (High Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises At Dial House, Salford Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A17NW (NW)	1338	2	383700 398700
	Water Abstractions Operator: British Telecom Licence Number: 2569007070 Permit Version: 100 Location: Borehole At Dial House, Chapel St, Salford Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: General Cooling (Existing Licences Only) (High Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 30 Yearly Rate (m3): 45 Details: Premises At Dial House, Salford Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 27th January 1971 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A17NW (NW)	1338	2	383700 398700
	Water Abstractions Operator: G T Energy Uk Limited Licence Number: Nw/069/0004/005 Permit Version: 2 Location: Area Of Abstraction - Lower Carboniferous Limestone Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: Heat Pump Abstraction Type: Water may be abstracted from any point within an area Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Devonshire Street, Manchester Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 11th June 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A10SW (SE)	1368	2	385729 396778
	Water Abstractions Operator: Gt Energy Limited Licence Number: Nw/069/0004/005 Permit Version: 1 Location: Area Of Abstraction - Lower Carboniferous Limestone Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: Heat Pump Abstraction Type: Water may be abstracted from any point within an area Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 17th January 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A10SW (SE)	1368	2	385729 396778

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Her Majesty'S Court Service Licence Number: 2569007089 Permit Version: 2 Location: 2 Boreholes At Gartside Street Manchester Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At Gartside Street Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 10th July 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A16SE (NW)	1407	2	383335 398310
	Water Abstractions Operator: Bovis Lend Lease Ltd Licence Number: 2569007089 Permit Version: 1 Location: 2 Boreholes At Gartside Street Manchester Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At Gartside Street Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 28th January 2005 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A16SE (NW)	1407	2	383335 398310
	Water Abstractions Operator: Renaker Build Ltd Licence Number: Nw/069/0006/010 Permit Version: 1 Location: Borehole Pw9 Chester Formation At Crown Street Authority: Environment Agency, North West Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th September 2021 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A6NW (W)	1468	2	383223 397253
	Water Abstractions Operator: Renaker Build Ltd Licence Number: Nw/069/0006/010 Permit Version: 1 Location: Borehole Pw10 Chester Formation At Crown Street Authority: Environment Agency, North West Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th September 2021 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A6NW (W)	1472	2	383211 397276

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Renaker Build Ltd Licence Number: Nw/069/0006/010 Permit Version: 1 Location: Borehole Pw11 Chester Formation At Crown Street Authority: Environment Agency, North West Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th September 2021 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A6NW (W)	1472	2	383204 397298
	Water Abstractions Operator: Renaker Build Ltd Licence Number: Nw/069/0006/010 Permit Version: 1 Location: Borehole Pw8 Chester Formation At Crown Street Authority: Environment Agency, North West Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th September 2021 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A6NW (W)	1476	2	383224 397225
	Water Abstractions Operator: Renaker Build Ltd Licence Number: Nw/069/0006/010 Permit Version: 1 Location: Borehole Pw5 Chester Formation At Crown Street Authority: Environment Agency, North West Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th September 2021 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A6NW (W)	1503	2	383193 397230
	Water Abstractions Operator: Renaker Build Ltd Licence Number: Nw/069/0006/010 Permit Version: 1 Location: Borehole Pw6 Chester Formation At Crown Street Authority: Environment Agency, North West Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th September 2021 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A6NW (W)	1510	2	383171 397275

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Renaker Build Ltd Licence Number: Nw/069/0006/010 Permit Version: 1 Location: Borehole Pw7 Chester Formation At Crown Street Authority: Environment Agency, North West Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th September 2021 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A6NW (W)	1521	2	383184 397203
	Water Abstractions Operator: Renaker Build Ltd Licence Number: Nw/069/0006/010 Permit Version: 1 Location: Borehole Pw4 Chester Formation At Crown Street Authority: Environment Agency, North West Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th September 2021 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A6NW (W)	1542	2	383159 397210
	Water Abstractions Operator: Renaker Build Ltd Licence Number: Nw/069/0006/010 Permit Version: 1 Location: Borehole Pw3 Chester Formation At Crown Street Authority: Environment Agency, North West Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th September 2021 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A6NW (W)	1558	2	383140 397217
	Water Abstractions Operator: Manchester Quays Development (Mgy) Ltd Licence Number: Nw/069/0004/019 Permit Version: 1 Location: St Johns Manchester Authority: Environment Agency, North West Region Abstraction: Industrial, Commercial and Public Services: Transfer Between Sources (Post Water Act 2003) Abstraction Type: Water may be abstracted from any point within an area Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: St Johns, Manchester Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 13th September 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A16SW (W)	1566	2	383094 398099

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: British Waterways Licence Number: 2569006990 Permit Version: 100 Location: Ashton Canal, Manchester [Distillers, Ancoats] Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: General Cooling (Existing Licences Only) (Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): 0 Yearly Rate (m3): 750090 Details: (Lancashire Tar Distillers Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 1969 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A25SW (NE)	1574	2	385900 398795
	Water Abstractions Operator: British Waterways Board Licence Number: 2569006030 Permit Version: Not Supplied Location: Manchester, MANCHESTER Authority: Environment Agency, North West Region Abstraction: Not Supplied Abstraction Type: Not Supplied Source: Canal Daily Rate (m3): 0 Yearly Rate (m3): 0 Details: Ashton Canal Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A25SW (NE)	1578	2	385900 398800
	Water Abstractions Operator: Renaker Build Ltd Licence Number: Nw/069/0006/010 Permit Version: 1 Location: Borehole Pw2 Chester Formation At Crown Street Authority: Environment Agency, North West Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th September 2021 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A6NW (W)	1579	2	383113 397230
	Water Abstractions Operator: Renaker Build Ltd Licence Number: Nw/069/0006/010 Permit Version: 1 Location: Borehole Pw1 Chester Formation At Crown Street Authority: Environment Agency, North West Region Abstraction: Construction:Dewatering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 24th September 2021 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A6NW (W)	1600	2	383085 397249

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole Number 2 At Premises Strangeways Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22NW (NW)	1669	2	383820 399190
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole (No 2) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22NW (NW)	1669	2	383820 399190
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole Number 2 At Premises Strangeways Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22NW (NW)	1669	2	383820 399190
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole Number 2 At Premises Strangeways Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22NW (NW)	1669	2	383820 399190

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 101 Location: Borehole (No 2) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 682 Yearly Rate (m3): 194755 Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 25th May 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22NW (NW)	1669	2	383820 399190
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 101 Location: Borehole (No 2) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 25th May 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22NW (NW)	1669	2	383820 399190
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole Number 3 At Premises Strangeways Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22NW (NW)	1691	2	383830 399220
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole Number 3 At Premises Strangeways Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22NW (NW)	1691	2	383830 399220

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole Number 3 At Premises Strangeways Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22NW (NW)	1691	2	383830 399220
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole (No 3) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Borehole At Strangeways Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22NW (NW)	1691	2	383830 399220
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 101 Location: Borehole (No 3) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 25th May 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22NW (NW)	1691	2	383830 399220
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 101 Location: Borehole (No 3) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 25th May 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22NW (NW)	1691	2	383830 399220

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole Number 1 At Premises Strangeways Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22NW (NW)	1708	2	383850 399250
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole (No 1) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22NW (NW)	1708	2	383850 399250
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole (No 1) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Borehole At Strangeways, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22NW (NW)	1708	2	383850 399250
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole Number 1 At Premises Strangeways Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22NW (NW)	1708	2	383850 399250

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 101 Location: Borehole (No 1) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 25th May 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22NW (NW)	1708	2	383850 399250
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 101 Location: Borehole (No 1) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 25th May 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22NW (NW)	1708	2	383850 399250
	Water Abstractions Operator: Threlfalls (Salford) Ltd. Licence Number: 2569006009 Permit Version: Not Supplied Location: Four Boreholes, Cook Street, SALFORD Authority: Environment Agency, North West Region Abstraction: Cooling & Manufacturing Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 977 Yearly Rate (m3): 227300 Details: Additional Purpose: Cooling; Licence Status: Revoked Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A21SW (NW)	1778	2	383200 398800
	Water Abstractions Operator: Heineken Uk Ltd Licence Number: 2569007007 Permit Version: 102 Location: Borehole At Premises Moss Side Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: General Cooling (Existing Licences Only) (High Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises At Moss Side, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 23rd November 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(SW)	1924	2	383900 395900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Heineken Uk Ltd Licence Number: 2569007007 Permit Version: 102 Location: Borehole At Premises Moss Side Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises At Moss Side, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 23rd November 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(SW)	1924	2	383900 395900
	Water Abstractions Operator: Scottish And Newcastle Uk Ltd Licence Number: 2569007007 Permit Version: 101 Location: Borehole At Premises Moss Side Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: General Cooling (Existing Licences Only) (High Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises At Moss Side, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 17th April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(SW)	1924	2	383900 395900
	Water Abstractions Operator: Scottish And Newcastle Uk Ltd Licence Number: 2569007007 Permit Version: 101 Location: Borehole At Premises Moss Side Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises At Moss Side, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 17th April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(SW)	1924	2	383900 395900
	Water Abstractions Operator: Scottish Courage Brewing Ltd Licence Number: 2569007007 Permit Version: 100 Location: Borehole At Premises Moss Side Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: General Cooling (Existing Licences Only) (High Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 900 Yearly Rate (m3): 227000 Details: Premises At Moss Side, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 31st December 2003 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(SW)	1924	2	383900 395900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Scottish Courage Brewing Ltd Licence Number: 2569007007 Permit Version: 100 Location: Borehole At Premises Moss Side Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises At Moss Side, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 31st December 2003 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1924	2	383900 395900
	Water Abstractions Operator: Heineken Uk Ltd Licence Number: 2569007007 Permit Version: 103 Location: Borehole At Premises Moss Side Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises At Moss Side, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 8th May 2014 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1930	2	383865 395909
	Water Abstractions Operator: Heineken Uk Ltd Licence Number: 2569007007 Permit Version: 103 Location: Borehole At Premises Moss Side Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: General Cooling (Existing Licences Only) (High Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises At Moss Side, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 8th May 2014 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1930	2	383865 395909
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Low Vulnerability Combined Vulnerability: Low Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: <40% Superficial Patchiness: >90% Superficial Thickness: 3-10m Superficial Recharge: Low	A13NE (SE)	0	4	384672 397718
	Groundwater Vulnerability - Soluble Rock Risk None				
	Bedrock Aquifer Designations Aquifer Designation: Principal Aquifer	A13NE (SE)	0	4	384672 397718
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A13NE (SE)	0	4	384672 397718

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
82	**Source Protection Zones** Name: Not Supplied Source: Environment Agency, Head Office Reference: Not Supplied Type: Zone III (Total Catchment): The total area needed to support the discharge from the protected groundwater source.	A7NE (SW)	634	2	384115 397324
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (SW)	184	2	384507 397554
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (SE)	207	2	384844 397536
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (SE)	218	2	384861 397535
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SW (SW)	242	2	384519 397467
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
83	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1011.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 2	A13NW (N)	144	5	384635 397889
84	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 536.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A13SE (SE)	202	5	384775 397505
85	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 340.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A13SE (SE)	221	5	384863 397533
86	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 18.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A13NW (N)	231	5	384619 397975
87	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 310.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A13NW (NW)	240	5	384467 397918

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
88	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A13NW (W)	279	5	384341 397779
89	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 23.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A13NW (NW)	282	5	384550 398004
90	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 589.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A13NW (W)	284	5	384336 397782
91	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 53.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A13NW (N)	288	5	384568 398018
92	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 80.9 Watercourse Level: Underground Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A13NW (N)	308	5	384609 398051
93	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 177.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A13SW (SW)	334	5	384422 397426
94	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 261.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A12SE (SW)	347	5	384317 397539
95	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 14.2 Watercourse Level: Underground Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A12SE (SW)	352	5	384324 397517
96	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 35.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A18SE (N)	354	5	384669 398106

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
97	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 15.8 Watercourse Level: Underground Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A18SE (N)	365	5	384701 398120
98	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 10.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A18SE (N)	371	5	384716 398126
99	**OS Water Network Lines** Watercourse Form: Lock or flight of locks Watercourse Length: 25.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A18SE (N)	377	5	384724 398132
100	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 260.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Ashton Canal Catchment Name: Mersey Primacy: 1	A18SE (NE)	380	5	384841 398113
101	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 66.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A18SE (N)	394	5	384744 398147
102	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A14SW (E)	426	5	385116 397542
103	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 216.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A14SW (E)	427	5	385117 397543
104	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 219.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A18SE (N)	431	5	384803 398176
105	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 34.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 2	A18SE (NE)	441	5	384983 398107

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
106	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 250.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Ashton Canal Catchment Name: Mersey Primacy: 1	A19SW (NE)	468	5	385017 398114
107	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 10.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A12SE (SW)	502	5	384167 397492
108	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 92.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A12SE (SW)	509	5	384163 397482
109	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 147.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A14SW (E)	567	5	385272 397568
110	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 236.6 Watercourse Level: Underground Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A12SE (SW)	589	5	384115 397404
111	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A18SE (N)	645	5	384892 398374
112	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 309.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A18SE (N)	645	5	384892 398374
113	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 81.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Ashton Canal Catchment Name: Mersey Primacy: 1	A19SW (NE)	665	5	385252 398152
114	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 34.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Ashton Canal Catchment Name: Mersey Primacy: 2	A19SW (NE)	665	5	385252 398152

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
115	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 299.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A14SE (E)	670	5	385391 397695
116	**OS Water Network Lines** Watercourse Form: Lock or flight of locks Watercourse Length: 25.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Ashton Canal Catchment Name: Mersey Primacy: 2	A19SW (NE)	699	5	385282 398168
117	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 205.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A12SW (W)	718	5	383950 397447
118	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 20.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Ashton Canal Catchment Name: Mersey Primacy: 2	A19SW (NE)	724	5	385305 398179
119	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 41.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Ashton Canal Catchment Name: Mersey Primacy: 1	A19SW (NE)	744	5	385325 398184
120	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 125.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Islington Branch Catchment Name: Mersey Primacy: 1	A19SE (NE)	784	5	385358 398209
121	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 36.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Ashton Canal Catchment Name: Mersey Primacy: 1	A19SE (NE)	784	5	385358 398209
122	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A14NE (E)	796	5	385514 397829
123	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1387.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A14NE (E)	801	5	385519 397825

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
124	**OS Water Network Lines** Watercourse Form: Lock or flight of locks Watercourse Length: 23.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Ashton Canal Catchment Name: Mersey Primacy: 1	A19SE (NE)	820	5	385388 398229
125	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 22.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12SW (W)	822	5	383806 397566
126	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 281.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A12SW (W)	825	5	383808 397543
127	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 231.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A12SW (W)	840	5	383817 397456
128	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 101.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Ashton Canal Catchment Name: Mersey Primacy: 1	A19SE (NE)	843	5	385404 398246
129	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 193.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A19NE (NE)	902	5	385352 398395
130	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 119.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A19NW (NE)	913	5	385209 398524
131	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 139.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A19NW (NE)	913	5	385209 398524
132	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6195.1 Watercourse Level: Underground Permanent: True Watercourse Name: Corn Brook Catchment Name: Mersey Primacy: 1	A8SW (S)	916	5	384573 396761

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
133	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 569.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Mersey Primacy: 1	A19NW (NE)	925	5	385110 398591
134	**OS Water Network Lines** Watercourse Form: Lock or flight of locks Watercourse Length: 24.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Ashton Canal Catchment Name: Mersey Primacy: 1	A19SE (NE)	944	5	385477 398316
135	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 1604.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Ashton Canal Catchment Name: Mersey Primacy: 1	A19SE (NE)	968	5	385494 398333

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
136	**Historical Landfill Sites** Licence Holder: Peter Birse Limited Location: Great Ancoats Street, River Medlock, Ardwick, Manchester, Greater Manchester Name: Palmerston Street Landfill Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16530 First Input Date: 1st September 1986 Last Input Date: 31st December 1987 Specified Waste Type: Deposited Waste included Inert and Industrial Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 4200/9162 BGS Ref: Not Supplied Other Ref: RD/LIC/440/86, F046	A14NE (E)	948	2	385667 397829
137	**Licensed Waste Management Facilities (Locations)** Licence Number: 53582 Location: 2 Hoyle Street, Ardwick, Manchester, M12 6HG Operator Name: Donnelly Mr A Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Metal Recycling Sites (Mixed) **Licence Status: Expired** Issued: 11th October 1996 Last Modified: Not Supplied Expires: Not Supplied Suspended: 25/01/2002 Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m	A14SW (E)	520	2	385200 397500
137	**Licensed Waste Management Facilities (Locations)** Licence Number: 402157 Location: Hoyle Trading Estate, Hoyle Street, Manchester, M12 6HL Operator Name: E Delaney Demolition Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Treatment of waste to produce soil <75,000 tpy **Licence Status: Surrendered** Issued: 26th February 2015 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 18th October 2021 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14SW (E)	550	2	385235 397506
138	**Licensed Waste Management Facilities (Locations)** Licence Number: 402399 Location: Hoyle Street, Hoyle Trading Estate, Manchester, M12 6JL Operator Name: City Excavations Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Inert & excavation Waste TS + treatment **Licence Status: Surrendered** Issued: 1st June 2015 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 28th January 2021 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14SW (E)	587	2	385296 397583

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
139	**Licensed Waste Management Facilities (Locations)** Licence Number: 53583 Location: Temperance Street, Ardwick, Manchester, M12 6HS Operator Name: Pye Metals Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Metal Recycling Sites (Mixed) **Licence Status: Expired** Issued: 11th October 1996 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14SW (E)	610	2	385300 397510
140	**Licensed Waste Management Facilities (Locations)** Licence Number: 50191 Location: Little Ireland Phase B, Great Marlborough Street, Manchester, M1 5NN Operator Name: Terra Vac (uk) Ltd Operator Location: Strategic Business Centre, Blue Ridge Park, Thunderhead Ridge, Glasshoughton, Castleford, WF10 4UA Authority: Environment Agency - North East Region, Ridings Area Site Category: Mobile Plant **Licence Status: Issued** Issued: 17th June 2002 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	706	2	383998 397374
141	**Licensed Waste Management Facilities (Locations)** Licence Number: 105196 Location: 100 Barbirolli Square, Manchester, M2 3AB Operator Name: Hillhouse Remediation Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Mobile plant for reclamation, restoration **Licence Status: Issued** Issued: 22nd June 2011 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Manually positioned to the address or location	A12SW (W)	735	2	383879 397693
	Local Authority Landfill Coverage Name: Manchester City Council - Had landfill data but passed it to the relevant environment agency		0	6	384672 397718
142	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A13SW (SW)	22	-	384624 397663
143	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A13NW (NW)	112	-	384565 397823
144	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A13SE (SE)	196	-	384779 397515
145	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A13SE (S)	213	-	384753 397487
146	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A13NW (NW)	290	-	384533 398003
147	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A18SE (N)	439	-	384711 398194
148	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A12SE (W)	442	-	384172 397690

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
149	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A12NE (W)	465	-	384151 397766
150	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A19SW (NE)	478	-	385063 398085
151	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A12SE (W)	484	-	384132 397674
152	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A9NW (SE)	524	-	385061 397305
153	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A19SW (NE)	538	-	385123 398109
154	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A18SE (NE)	589	-	384925 398305
155	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1896	A12SE (SW)	591	-	384114 397402
156	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A19SW (NE)	613	-	385191 398145
157	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A18SE (N)	624	-	384755 398377
158	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A18SE (NE)	627	-	384997 398315
159	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1896	A12SW (W)	645	-	383971 397660
160	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A18SE (NE)	650	-	384966 398354
161	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A18SE (N)	654	-	384889 398385
162	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A12NW (W)	705	-	383909 397747
163	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A12SW (W)	773	-	383842 397671
164	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A12SW (W)	775	-	383890 397445
165	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A19SE (NE)	780	-	385363 398194
166	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1896	A12SW (W)	795	-	383874 397430
167	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A19SW (NE)	800	-	385287 398318
168	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A19NW (NE)	813	-	385121 398460
169	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1896	A12SW (W)	834	-	383817 397472

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
170	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A12SW (W)	836	-	383777 397711
171	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A19NW (NE)	839	-	385135 398482
172	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A19NW (NE)	844	-	385139 398485
173	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A19NW (NE)	875	-	385149 398515
174	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A19SE (NE)	891	-	385434 398286
175	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A8SW (S)	910	-	384595 396766
176	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A19SE (NE)	910	-	385419 398336
177	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A19NW (NE)	913	-	385173 398545
178	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A8SE (S)	981	-	384956 396744
179	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A8SW (S)	990	-	384416 396711
180	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A9SW (SE)	995	-	385072 396772

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
181	**Registered Landfill Sites** Licence Holder: Peter Birse Ltd Licence Reference: 00440/86 Site Location: Palmerston Street./Great Ancoats Street, Ardwick, Manchester, Greater Manchester Licence Easting: 385700 Licence Northing: 397800 Operator Location: Clarence House, Mellor Road, Cheadle Hulme, STOCKPORT, Cheshire, SK8 5AT Authority: Environment Agency - North West Region, South Area Site Category: Landfill Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source Restrictions: Waste produced/controlled by licence holder Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st August 1986 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Ceramic Materials Construction Ind. Wastes Glass Metals O Similar Non Leachate Forming Materials Soil,Clay,Sand, Stone,Brick,Concrete,Slate Prohibited Waste: Animal Flesh Chemical Waste Of Any Nature Fibreglass Foodstuffs Liquid Wastes Paper/Cardboard Waste Plasterboard Plastics Sawdust Sludge Wastes Textiles Vegetable Matter Waste Forming Polluting Leachate Wood	A15NW (E)	979	2	385700 397800
182	**Registered Waste Transfer Sites** Licence Holder: W A Goddard (Sales) Ltd Licence Reference: 00853/92 Site Location: Mill Green Street, Ardwick, MANCHESTER, Greater Manchester, M12 6FA Operator Location: As Site Address Authority: Environment Agency - North West Region, South Area Site Category: Transfer Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Site exempt from licenceExempt Dated: 1st February 1993 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Max.Storage In Licence Photographic Processing Waste Prohibited Waste: Asbestos Explosive Waste Gmwda Group 1 - Non/V.Slow Decomp.Wast Gmwda Group 2 - Slow Decomp./Slight So Gmwda Group 3 - Decomp./Soluble Waste In Pressurised Cont'Rs Waste N.O.S. - Pretreated Or Not Waste Violently Reactive With Water	A14SE (E)	865	2	385576 397566

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
183	**Registered Waste Treatment or Disposal Sites** Licence Holder: A Donnelly t/a Ardwick Autospares Licence Reference: 01073 Site Location: 2 Hoyle Street, Ardwick, MANCHESTER, Greater Manchester, M12 6HG Operator Location: Whitehouse Farm, Torkington Road, Hazel Grove, Stockport, Cheshire Authority: Environment Agency - North West Region, South Area Site Category: Scrapyard Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 1st October 1996 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Max.Storage In Licence; Other Non-Ferrous Metal Scrap; Scrap Vehicles Prohibited Waste: Asbestos (Other Than Normal Part Veh.); Bulk Powders; Clinical Wastes; Explosive Waste; Pcbs; Pressurised Wastes Or Containers; Spec.Waste (Epa'90:S62/1996 Regs)N.O.S; Violently Reactive Wastes; Waste In Drums; Waste N.O.S.	A14SW (E)	562	2	385270 397580
184	**Registered Waste Treatment or Disposal Sites** Licence Holder: Pye Metals Ltd Licence Reference: 00937 Site Location: Temperance Street, Ardwick, MANCHESTER, Greater Manchester, M12 6HS Operator Location: Britannia Suite, International House, MANCHESTER, Greater Manchester, M3 2ER Authority: Environment Agency - North West Region, South Area Site Category: Scrapyard Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 1st October 1996 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Ferrous Metal Scrap; Max.Storage Ferrous Mat'L; Max.Storage Non-Ferrous Mat'L; Max.Waste Permitted By Licence; Non-Ferrous Metal Scrap Prohibited Waste: Asbestos (Other Than Parts Of Vehicle); Bulk Powders; Clinical Wastes; Explosive Waste; Pcbs; Pesrrurised Waste Or Containers; Spec.Waste (Epa'90:S62/1996 Regs)N.O.S; Violently Reactive Wastes; Waste In Drums; Waste N.O.S.	A14SE (E)	698	2	385400 397540

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Triassic Rocks (Undifferentiated)	A13NE (SE)	0	1	384672 397718
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 30 - 45 mg/kg	A13NE (SE)	0	1	384672 397718
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: <15 mg/kg	A13NW (N)	54	1	384649 397800
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: <15 mg/kg	A13SE (SE)	129	1	384793 397596
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 30 - 45 mg/kg	A7NE (SW)	589	1	384142 397362
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A7NE (SW)	589	1	384166 397332
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 30 - 45 mg/kg	A7NE (SW)	591	1	384209 397275

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A12SW (W)	647	1	383985 397570
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 45 - 60 mg/kg	A8SW (S)	700	1	384457 397000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14SE (E)	734	1	385437 397539
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 200 - 300 mg/kg Nickel Concentration: 30 - 45 mg/kg	A14NE (E)	777	1	385500 397718
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A19SE (NE)	823	1	385401 398214
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8SW (S)	861	1	384661 396814

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 200 - 300 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14NE (E)	880	1	385564 398000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 30 - 45 mg/kg	A11NE (W)	969	1	383646 397777
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 384770, 397740 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 27.70 mg/kg Cadmium Measured Concentration: 1.00 mg/kg Chromium Measured Concentration: 94.40 mg/kg Lead Measured Concentration: 189.40 mg/kg Nickel Measured Concentration: 22.20 mg/kg	A13NE (E)	47	1	384770 397740
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 384430, 397810 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 34.90 mg/kg Cadmium Measured Concentration: 1.90 mg/kg Chromium Measured Concentration: 78.20 mg/kg Lead Measured Concentration: 339.10 mg/kg Nickel Measured Concentration: 32.10 mg/kg	A13NW (W)	204	1	384430 397810
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 384750, 397300 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 18.80 mg/kg Cadmium Measured Concentration: 0.60 mg/kg Chromium Measured Concentration: 81.30 mg/kg Lead Measured Concentration: 157.30 mg/kg Nickel Measured Concentration: 25.60 mg/kg	A8NE (S)	389	1	384750 397300

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 384750, 398170 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 15.60 mg/kg Cadmium Measured Concentration: 0.50 mg/kg Chromium Measured Concentration: 83.30 mg/kg Lead Measured Concentration: 178.60 mg/kg Nickel Measured Concentration: 23.50 mg/kg	A18SE (N)	417	1	384750 398170
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 384430, 397270 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 12.70 mg/kg Cadmium Measured Concentration: 0.60 mg/kg Chromium Measured Concentration: 66.10 mg/kg Lead Measured Concentration: 64.40 mg/kg Nickel Measured Concentration: 18.50 mg/kg	A8NW (SW)	458	1	384430 397270
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 384380, 398240 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 2.50 mg/kg Cadmium Measured Concentration: 0.30 mg/kg Chromium Measured Concentration: 28.60 mg/kg Lead Measured Concentration: 20.10 mg/kg Nickel Measured Concentration: 5.40 mg/kg	A18SW (NW)	568	1	384380 398240
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 385210, 397220 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 37.30 mg/kg Cadmium Measured Concentration: 1.30 mg/kg Chromium Measured Concentration: 81.30 mg/kg Lead Measured Concentration: 433.10 mg/kg Nickel Measured Concentration: 34.30 mg/kg	A9NW (SE)	687	1	385210 397220
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 385290, 398180 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 32.90 mg/kg Cadmium Measured Concentration: 0.90 mg/kg Chromium Measured Concentration: 93.40 mg/kg Lead Measured Concentration: 438.40 mg/kg Nickel Measured Concentration: 37.30 mg/kg	A19SW (NE)	712	1	385290 398180

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 383880, 397770 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 11.90 mg/kg Cadmium Measured Concentration: 0.30 mg/kg Chromium Measured Concentration: 55.90 mg/kg Lead Measured Concentration: 102.20 mg/kg Nickel Measured Concentration: 17.80 mg/kg	A12NW (W)	735	1	383880 397770
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 385450, 397590 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 14.40 mg/kg Cadmium Measured Concentration: 0.30 mg/kg Chromium Measured Concentration: 45.80 mg/kg Lead Measured Concentration: 260.00 mg/kg Nickel Measured Concentration: 13.10 mg/kg	A14SE (E)	737	1	385450 397590
	BGS Urban Soil Chemistry Averages Source: British Geological Survey, National Geoscience Information Service Sample Area: Manchester Count Id: 300 Arsenic Minimum Concentration: 3.00 mg/kg Arsenic Average Concentration: 28.00 mg/kg Arsenic Maximum Concentration: 1008.00 mg/kg Cadmium Minimum Concentration: 0.30 mg/kg Cadmium Average Concentration: 1.40 mg/kg Cadmium Maximum Concentration: 80.30 mg/kg Chromium Minimum Concentration: 29.00 mg/kg Chromium Average Concentration: 92.00 mg/kg Chromium Maximum Concentration: 1252.00 mg/kg Lead Minimum Concentration: 20.00 mg/kg Lead Average Concentration: 270.00 mg/kg Lead Maximum Concentration: 2687.00 mg/kg Nickel Minimum Concentration: 5.00 mg/kg Nickel Average Concentration: 32.00 mg/kg Nickel Maximum Concentration: 137.00 mg/kg	A13NE (SE)	0	1	384672 397718
	Coal Mining Affected Areas Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A13NE (SE)	0	7	384672 397718

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Man-Made Mining Cavities Easting: 384900 Northing: 397100 Distance: 627 Quadrant Reference: A8 Quadrant Reference: NE Bearing Ref: S Cavity Type: SHAFT ENTRY SANDSTONE WORKINGS Commodity: Sandstone Solid Geology Detail: BUNTER SANDSTONE MANCHESTER MARLS COLLYHURST SANDSTONE Superficial Geology Detail: Glacial Till	A8NE (S)	627	8	384900 397100
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	384672 397718
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	171	1	384742 397528
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	384672 397718
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	214	1	384786 397957
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	384672 397718
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	384672 397718
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	384672 397718
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	384672 397718
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	134	1	384803 397597
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	384672 397718
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	384672 397718

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
185	**Contemporary Trade Directory Entries** Name: Intertek Testing Services International Location: Bainbridge House, 86-90, London Road, Manchester, M1 2PW Classification: Corrosion Prevention & Control **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (E)	11	-	384726 397734
185	**Contemporary Trade Directory Entries** Name: Capcis Location: Capcis House, 1, Echo Street, Manchester, M1 7DP Classification: Corrosion Prevention & Control **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (E)	11	-	384726 397734
185	**Contemporary Trade Directory Entries** Name: Intertek Capcis Location: Bainbridge House, 86-90, London Road, Manchester, M1 2PW Classification: Corrosion Prevention & Control **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (E)	11	-	384726 397734
186	**Contemporary Trade Directory Entries** Name: S A Car Services Location: 8 Wyre St, Manchester, M1 2PR Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13NE (E)	62	-	384785 397748
187	**Contemporary Trade Directory Entries** Name: The Clinco Ltd Location: 5, PICCADILLY PLACE, MANCHESTER, M1 3BR Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	128	-	384598 397854
187	**Contemporary Trade Directory Entries** Name: Quality Lab Location: 5, PICCADILLY PLACE, MANCHESTER, M1 3BR Classification: Engineers - General **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	128	-	384598 397854
188	**Contemporary Trade Directory Entries** Name: The Body Shop International Location: Unit 10, Piccadilly Station, Manchester, M1 2BN Classification: Cosmetic Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	142	-	384845 397819
189	**Contemporary Trade Directory Entries** Name: The Ralphs Group Location: 3, Piccadilly Place, Manchester, M1 3BN Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (N)	163	-	384646 397911
189	**Contemporary Trade Directory Entries** Name: Ove Arup & Partners Location: 3, Piccadilly Place, Manchester, M1 3BN Classification: Engineering Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (N)	163	-	384646 397911
189	**Contemporary Trade Directory Entries** Name: Scrap Cars Vans Caravans Buyer Location: 3, Piccadilly Place, Manchester, M1 3BN Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (N)	165	-	384650 397914
189	**Contemporary Trade Directory Entries** Name: Advanced Valve Solutions Uk Ltd Location: 3, Piccadilly Place, Manchester, M1 3BN Classification: Valve Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (N)	165	-	384650 397914
190	**Contemporary Trade Directory Entries** Name: The Leather Shop Location: Gateway House, Piccadilly South, Manchester, M1 2GH Classification: Leather Garments & Products **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (N)	186	-	384742 397938

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
191	**Contemporary Trade Directory Entries** Name: Archmate Ltd Location: Flat 15, Granby House, Granby Row, Manchester, M1 7AR Classification: Rubber & Plastic Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	197	-	384447 397612
192	**Contemporary Trade Directory Entries** Name: United Global Location: Minshull House, 47, Chorlton Street, Manchester, M1 3FY Classification: Road Haulage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	212	-	384479 397885
193	**Contemporary Trade Directory Entries** Name: Itfaq Knitwear Location: 27, Berry Street, Manchester, M1 2PP Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	222	-	384912 397590
193	**Contemporary Trade Directory Entries** Name: Flowplant Group Ltd Location: 27, Berry Street, Manchester, Lancashire, M1 2PP Classification: Pumps - Sales, Servicing & Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	222	-	384912 397590
193	**Contemporary Trade Directory Entries** Name: Delprint Display Location: 26 Buxton St, Manchester, M1 2PT Classification: Screen Process Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SE (SE)	222	-	384912 397590
194	**Contemporary Trade Directory Entries** Name: Network Rail Location: First-Third Floor, Rail House, Store Street, Manchester, M60 7RT Classification: Railways **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	232	-	384831 397957
194	**Contemporary Trade Directory Entries** Name: Rail Passengers Committee Location: Rail House, Store Street, Manchester, M1 2RP Classification: Railways **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	232	-	384831 397957
195	**Contemporary Trade Directory Entries** Name: Transport For Greater Manchester Location: 2, Piccadilly Place, Manchester, M1 3BG Classification: Bus & Coach Operators & Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (N)	233	-	384640 397981
195	**Contemporary Trade Directory Entries** Name: Transport For Greater Manchester Location: 2 Piccadilly Place, Manchester, Greater Manchester, M1 3BG Classification: Bus & Coach Operators & Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (N)	233	-	384640 397981
195	**Contemporary Trade Directory Entries** Name: A & B Engineering Location: 5 Picadilly Pl, Manchester, Lancashire, M1 3BG Classification: Engineering Machine Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13NW (N)	238	-	384637 397986
196	**Contemporary Trade Directory Entries** Name: Forths Location: Amazon House, 3 Brazil Street, Manchester, Lancashire, M1 3PJ Classification: Commercial Vehicle Servicing, Repairs, Parts & Accessories **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (W)	262	-	384358 397778
196	**Contemporary Trade Directory Entries** Name: Neat & Tidy Location: Amazon House, 3, Brazil Street, Manchester, M1 3PJ Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (W)	262	-	384358 397778

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
196	**Contemporary Trade Directory Entries** Name: Kdp (Uk) Ltd Location: 36, Canal Street, Manchester, M1 3WD Classification: Non-Ferrous Metals **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (W)	284	-	384346 397818
197	**Contemporary Trade Directory Entries** Name: Greater Manchester Electronic Booking Location: Gateway House, Piccadilly South, Manchester, Lancashire, M60 7LP Classification: Hospitals **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (N)	262	-	384706 398017
198	**Contemporary Trade Directory Entries** Name: Cozy Knitwear Location: 58, Baring Street, Manchester, M1 2PY Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (E)	269	-	384969 397598
198	**Contemporary Trade Directory Entries** Name: Olympic Enterprises Location: 58, Baring Street, Manchester, Lancashire, M1 2PY Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SE (E)	269	-	384969 397598
199	**Contemporary Trade Directory Entries** Name: Fleet Angel Location: 29-31, SACKVILLE STREET, MANCHESTER, M1 3LZ Classification: Commercial Vehicle Servicing, Repairs, Parts & Accessories **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NW (W)	285	-	384357 397847
199	**Contemporary Trade Directory Entries** Name: Samkou Export Co Location: 26, Richmond Street, Manchester, M1 3NB Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	297	-	384356 397870
199	**Contemporary Trade Directory Entries** Name: Sports Fashion Distribution Uk Ltd Location: 4th Floor Richmond House,15 Bloom Street, Manchester, Greater Manchester, M1 3HZ Classification: Distribution Services **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A13NW (NW)	298	-	384366 397887
200	**Contemporary Trade Directory Entries** Name: William Chitham Location: 121, Princess Street, Manchester, M1 7AD Classification: Photo & Digital Imaging Bureaus **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (W)	299	-	384333 397620
200	**Contemporary Trade Directory Entries** Name: Harris Darkrooms Location: 121, Princess Street, Manchester, M1 7AD Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (W)	299	-	384333 397620
200	**Contemporary Trade Directory Entries** Name: Subway Location: Second Floor, 121, Princess Street, Manchester, Lancashire, M1 7AG Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SW (W)	299	-	384333 397620
200	**Contemporary Trade Directory Entries** Name: Chamber Communication Ltd Location: 121, Princess Street, Manchester, Lancashire, M1 7AG Classification: Telecommunications Equipment & Systems **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SW (W)	299	-	384333 397620

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
200	**Contemporary Trade Directory Entries** Name: Northern Contract Cleaners Location: Asia House, 82, Princess Street, Manchester, M1 6NF Classification: Cleaning Services - Commercial **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	340	-	384288 397624
200	**Contemporary Trade Directory Entries** Name: Broomwell Healthwatch Ltd Location: 86, Princess Street, Manchester, Lancashire, M1 6NG Classification: Medical & Dental Laboratories **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SE (W)	348	-	384297 397578
200	**Contemporary Trade Directory Entries** Name: Seba (Uk) Ltd Location: 84 Princess St, Manchester, Lancashire, M1 6NG Classification: Machine Tool Accessories & Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SE (W)	349	-	384296 397577
201	**Contemporary Trade Directory Entries** Name: Principal Car Sales Location: 18, Sparkle Street, Manchester, M1 2NA Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	312	-	384919 397993
201	**Contemporary Trade Directory Entries** Name: Central Motor Services Location: 26-32, Store Street, Manchester, M1 2WD Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	322	-	384894 398024
202	**Contemporary Trade Directory Entries** Name: Track Brewing Co Location: Unit 5 Sheffield Street, Manchester, Greater Manchester, M1 2ND Classification: Brewers **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A14NW (E)	318	-	385026 397839
203	**Contemporary Trade Directory Entries** Name: F & B Hosiery Location: 10, Nether Street, Manchester, M12 6HY Classification: Lingerie & Hosiery Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	328	-	384990 397514
203	**Contemporary Trade Directory Entries** Name: Ryder Towing Equipment Ltd Location: Mancunian Way, Manchester, Lancashire, M12 6HJ Classification: Trailers & Towing Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	357	-	385029 397521
204	**Contemporary Trade Directory Entries** Name: W H Hammond & Co (Manchester) Ltd Location: 58, Richmond Street, Manchester, M1 3WB Classification: Soft Furnishings - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (W)	329	-	384296 397807
205	**Contemporary Trade Directory Entries** Name: Northwest Metrocab Uk Plc Location: 31-35, Chapeltown Street, Manchester, M1 2NN Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	349	-	384980 397985
205	**Contemporary Trade Directory Entries** Name: A & A Autos Location: 31-35, Chapeltown Street, Manchester, M1 2NN Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	349	-	384980 397985
206	**Contemporary Trade Directory Entries** Name: Dordaf & Partners Location: Flat 8, Roby Court, 14, Roby Street, Manchester, M1 3AG Classification: Bathroom Fixtures - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	360	-	384557 398090

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
206	**Contemporary Trade Directory Entries** Name: Sa Group Services Location: Stan, Lancashire, M1 3BL Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A18SW (N)	383	-	384530 398105
207	**Contemporary Trade Directory Entries** Name: Crown Knitwear Ltd Location: 10-20, Grosvenor Street, MANCHESTER, M1 7JJ Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	362	-	384785 397340
207	**Contemporary Trade Directory Entries** Name: Le Missey Ltd Location: 10-20, Grosvenor Street, Manchester, Lancashire, M1 7JJ Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8NE (S)	362	-	384785 397340
208	**Contemporary Trade Directory Entries** Name: Manchester Carpet Cleaning Location: 111, Piccadilly, Manchester, M1 2HX Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	364	-	384648 398114
208	**Contemporary Trade Directory Entries** Name: Damp Pro Location: Rodwell Tower, 111, Piccadilly, Manchester, M1 2HY Classification: Damp & Dry Rot Control **Status: Active** Positional Accuracy: Automatically positioned to the address	A18SW (N)	364	-	384647 398114
208	**Contemporary Trade Directory Entries** Name: Cash For Scrap Cars Location: 111, Piccadilly, Manchester, M1 2HX Classification: Scrap Yards **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	364	-	384648 398114
208	**Contemporary Trade Directory Entries** Name: 118 Cleaning Location: Piccadilly, Manchester, Lancashire, M1 2HX Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A18SW (N)	364	-	384648 398114
208	**Contemporary Trade Directory Entries** Name: Scrap Yard In Anchester Htt Location: Rodwell Tower, 111, Piccadilly, Manchester, M1 2HY Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	364	-	384647 398114
208	**Contemporary Trade Directory Entries** Name: Balfour Beatty Rail Signalling Ltd Location: 111 Piccadilly, Manchester, M1 2HY Classification: Railways **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	364	-	384647 398114
208	**Contemporary Trade Directory Entries** Name: Piccadily Dry Cleaners Location: Unit B,Rodwell Tower,111 Piccadilly, Manchester, Lancashire, M1 2HY Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	364	-	384647 398114
208	**Contemporary Trade Directory Entries** Name: Ucarpia.Com Location: 111, Piccadilly, Manchester, M1 2HX Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	364	-	384648 398114

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
209	**Contemporary Trade Directory Entries** Name: Ireland & Hindley Ltd Location: Unit 8, Downing Street Industrial Estate, Charlton Place, Ardwick, Manchester, M12 6HH Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	365	-	384972 397438
209	**Contemporary Trade Directory Entries** Name: Olympus Coachcraft Location: Unit 7, Downing Street Industrial Estate, Charlton Place, Ardwick, Manchester, Lancashire, M12 6HH Classification: Car Customisation & Conversion Specialists **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	381	-	384980 397422
210	**Contemporary Trade Directory Entries** Name: Election Workshop Location: Unit 3, Sheffield Street, Manchester, M1 2ND Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14NW (E)	366	-	385079 397827
211	**Contemporary Trade Directory Entries** Name: G A Armstrong Location: 81, Dale Street, Manchester, M1 2HG Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (N)	368	-	384742 398122
212	**Contemporary Trade Directory Entries** Name: Spi Materials Location: 105 Princess St, Manchester, Lancashire, M1 6DD Classification: Electricity Companies **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12NE (W)	382	-	384240 397804
213	**Contemporary Trade Directory Entries** Name: Print Chain Location: Barlow House, Minshull Street, Manchester, Greater Manchester, M1 3DZ Classification: Printers **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A13NW (NW)	391	-	384380 398036
214	**Contemporary Trade Directory Entries** Name: Speedy Location: Unit 1-3, Downing Street Industrial Estate, Charlton Place, Ardwick, Manchester, M12 6HH Classification: Lifting Equipment **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8NE (SE)	404	-	384953 397372
214	**Contemporary Trade Directory Entries** Name: Speedy Services Location: Unit 1-3, Downing Street Industrial Estate, Charlton Place, Ardwick, Manchester, M12 6HH Classification: Lifting Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	406	-	384943 397363
214	**Contemporary Trade Directory Entries** Name: The Studio Workshop Location: Downing Street Indust Est,Charlton Pl, Ardwick, Manchester, M12 6HH Classification: Photographic Equipment & Supplies - Wholesale **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SE (SE)	417	-	384995 397388
215	**Contemporary Trade Directory Entries** Name: Mayfield Press Location: The Mayfield Centre, Fairfield Street, Manchester, M1 2QF Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	404	-	385124 397665
216	**Contemporary Trade Directory Entries** Name: Hilclare Ltd Location: Unit 1, Bond Street Industrial Estate, Mancunian Way, Manchester, M12 6HW Classification: Lighting Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	405	-	385076 397508

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
216	**Contemporary Trade Directory Entries** Name: Klyne & Klyne Location: Unit 5, Bond Street Industrial Estate, Mancunian Way, Manchester, M12 6HW Classification: Do It Yourself Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	405	-	385076 397508
217	**Contemporary Trade Directory Entries** Name: Scrap A Car Manchester Location: Portland Tower,Portland Street, Manchester, Greater Manchester, M1 3LF Classification: Salvage Dealers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A12NE (NW)	409	-	384285 397965
217	**Contemporary Trade Directory Entries** Name: Leaflet Distribution Manchester Location: Portland Tower,Portland Street, Manchester, Lancashire, M1 3HU Classification: Distribution Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	412	-	384280 397963
217	**Contemporary Trade Directory Entries** Name: Scrap A Car For Cash Manchester Location: Portland Tower, Portland Street, Manchester, M1 3LD Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	412	-	384280 397963
217	**Contemporary Trade Directory Entries** Name: See-Av Location: Manchester One, 53 Portland Street, Manchester, Greater Manchester, M1 3LD Classification: Cinema Equipment **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A12NE (NW)	412	-	384280 397963
217	**Contemporary Trade Directory Entries** Name: Best Stairlift Company Reviews Location: Suite 473,53 Portland Street, Manchester, Greater Manchester, M1 3LD Classification: Stairlifts - Manufacturers & Installers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	412	-	384280 397963
217	**Contemporary Trade Directory Entries** Name: Debs Europe Liason Office Location: Portland Tower, Portland Street, Manchester, M1 3LD Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	412	-	384280 397963
217	**Contemporary Trade Directory Entries** Name: Beverley Clifton Morris Location: Portland Tower, Portland Street, Manchester, Lancashire, M1 3LF Classification: Mechanical Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	412	-	384280 397963
217	**Contemporary Trade Directory Entries** Name: Scrap Cars For Cash Manchester Location: Portland St, Manchester, Lancashire, M1 3LF Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A12NE (NW)	412	-	384280 397963
218	**Contemporary Trade Directory Entries** Name: Unique Knitwear Ltd Location: 62, Chapeltown Street, Manchester, M1 2WQ Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	413	-	385054 397994
218	**Contemporary Trade Directory Entries** Name: Garsdale Knitwear Ltd Location: 64, Chapeltown Street, Manchester, M1 2WQ Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	432	-	385072 398003

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
218	**Contemporary Trade Directory Entries** Name: Abbey Knitwear Ltd Location: Manchester, M1 2WH Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	447	-	385088 398007
218	**Contemporary Trade Directory Entries** Name: Abbey Knitwear Ltd Location: 66-72, Chapeltown Street, Manchester, M1 2WH Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	447	-	385088 398007
218	**Contemporary Trade Directory Entries** Name: Euro Textiles Ltd Location: 66-72, Chapeltown Street, Manchester, M1 2WH Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	447	-	385088 398007
218	**Contemporary Trade Directory Entries** Name: Imperial Knitwear Ltd Location: 66-72, Chapeltown Street, Manchester, M1 2WH Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	451	-	385092 398008
218	**Contemporary Trade Directory Entries** Name: Abbey Knitwear (Manchester) Ltd Location: 66-72, Chapeltown Street, Manchester, M1 2WH Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	451	-	385092 398008
218	**Contemporary Trade Directory Entries** Name: Dream Knitwear Location: 66-72, Chapeltown Street, Manchester, Lancashire, M1 2WH Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	451	-	385092 398008
218	**Contemporary Trade Directory Entries** Name: A M S Manchester Location: 66-72, Chapeltown Street, Manchester, Lancashire, M1 2WH Classification: Boilers - Servicing, Replacements & Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	451	-	385092 398008
218	**Contemporary Trade Directory Entries** Name: Samson Hosiery Ltd Location: 66-72, Chapeltown Street, Manchester, M1 2WH Classification: Leisure & Sportswear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	451	-	385092 398008
218	**Contemporary Trade Directory Entries** Name: Khalil Knitwear Location: 66-72, Chapeltown Street, Manchester, Lancashire, M1 2WH Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	451	-	385092 398008
218	**Contemporary Trade Directory Entries** Name: Celsius Air Conditioning Ltd Location: 56, Thomas Telford Basin, Manchester, M1 2NH Classification: Air Conditioning & Refrigeration Contractors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	453	-	385074 398035
219	**Contemporary Trade Directory Entries** Name: Scootabout International Location: 101, Princess Street, Manchester, Lancashire, M1 6DD Classification: Materials Handling Equipment **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12NE (W)	428	-	384208 397860
219	**Contemporary Trade Directory Entries** Name: Licence Trade Consultants Location: Imex House, 40, Princess Street, Manchester, Lancashire, M1 6DE Classification: Brewers' Equipment & Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12NE (W)	460	-	384170 397844

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
219	**Contemporary Trade Directory Entries** Name: Northern Consultancy Of Medical Management Ltd Location: Imex House, 40, Princess Street, Manchester, Lancashire, M1 6DE Classification: Medical & Dental Laboratories **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12NE (W)	460	-	384170 397844
219	**Contemporary Trade Directory Entries** Name: R S I S Projects Ltd Location: Imex House, 40, Princess Street, Manchester, Lancashire, M1 6DE Classification: Railways **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12NE (W)	460	-	384170 397844
219	**Contemporary Trade Directory Entries** Name: Patriot Advertising Solutions Location: Imex House, 40, Princess Street, Manchester, M1 6DE Classification: Distribution Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (W)	460	-	384170 397844
219	**Contemporary Trade Directory Entries** Name: Dunbar & Boardman Partnership Location: Imex House, 40, Princess Street, Manchester, Lancashire, M1 6DE Classification: Lift Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (W)	460	-	384170 397844
219	**Contemporary Trade Directory Entries** Name: London Global Location: 40 Princess Street, Manchester, Greater Manchester, M1 6DE Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (W)	460	-	384170 397844
220	**Contemporary Trade Directory Entries** Name: M C C S Location: 6 Paton St, Manchester, Lancashire, M1 2BA Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A18SW (N)	438	-	384618 398185
220	**Contemporary Trade Directory Entries** Name: N S Fashion Location: 64-66, Dale Street, Manchester, Lancashire, M1 2HR Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	462	-	384645 398213
221	**Contemporary Trade Directory Entries** Name: D C Motor Engineers Location: 45, York Street, Manchester, M1 7DE Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	442	-	384226 397506
222	**Contemporary Trade Directory Entries** Name: Pure Electric Location: 4-10 London Road, Manchester, Greater Manchester, M1 3AN Classification: Electric Motor Sales & Service **Status: Active** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	444	-	384547 398175
223	**Contemporary Trade Directory Entries** Name: Maronixardwick Location: 50 Downing St, Manchester, Lancashire, M1 7JE Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A8NE (SE)	449	-	384911 397296
224	**Contemporary Trade Directory Entries** Name: Aecon Location: Bridgewater House 58-60, Whitworth Street, Manchester, M1 6LT Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	456	-	384165 397640
224	**Contemporary Trade Directory Entries** Name: First North Western Location: Bridgewater House, 58, Whitworth Street, Manchester, M1 6LS Classification: Railways **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	464	-	384158 397633

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
225	**Contemporary Trade Directory Entries** Name: Corstorphine & Wright Location: Paradise Wharf, Ducie Street, Manchester, Lancashire, M1 2JN Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (NE)	470	-	384962 398155
226	**Contemporary Trade Directory Entries** Name: Fine Shape (Clothing) Ltd Location: 19a Ducie St,Eidr Ho, Manchester, M1 2JE Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SE (N)	475	-	384865 398205
227	**Contemporary Trade Directory Entries** Name: Mels Location: 2, Stockland Close, Manchester, M13 9WY Classification: Ironing & Home Laundry Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	477	-	384713 397202
228	**Contemporary Trade Directory Entries** Name: Trevor Autos Location: 108d, North Western Street, Manchester, M1 2WS Classification: Mechanical Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	478	-	385201 397732
228	**Contemporary Trade Directory Entries** Name: City Lubrication Services Location: 108c, North Western Street, Manchester, M1 2WS Classification: Mot Testing Centres **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A14NW (E)	492	-	385214 397723
229	**Contemporary Trade Directory Entries** Name: Lamb Bros Location: 4, Cakebread Street, Manchester, M12 6HF Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	480	-	385074 397377
229	**Contemporary Trade Directory Entries** Name: Euro Beds Location: Unit 1, Manor Street, Manchester, M12 6HE Classification: Bed & Mattress Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	480	-	385074 397377
229	**Contemporary Trade Directory Entries** Name: Grand Central Autos Location: 4, Cakebread Street, Manchester, Lancashire, M12 6HF Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SW (SE)	480	-	385074 397377
229	**Contemporary Trade Directory Entries** Name: Auto Care Manchester Location: 2, Manor Street, Manchester, M12 6HE Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	480	-	385074 397377
229	**Contemporary Trade Directory Entries** Name: Bench Location: Tanzaro House, Ardwick Green North, Manchester, M12 6FZ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	481	-	385040 397343
229	**Contemporary Trade Directory Entries** Name: Equator Vegetarian Foods Location: Progress Centre, Charlton Place, Ardwick, Manchester, Lancashire, M12 6HS Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	481	-	385040 397343

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
229	**Contemporary Trade Directory Entries** Name: Blue Com Location: The Mews, Tanzaro House, Charlton Place, Ardwick, Manchester, Lancashire, M12 6HS Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status:** **Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	481	-	385040 397343
229	**Contemporary Trade Directory Entries** Name: City Traders Ltd Location: Progress Centre, Charlton Place, Ardwick, Manchester, M12 6HS Classification: Cosmetic Manufacturers **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	481	-	385040 397343
229	**Contemporary Trade Directory Entries** Name: C S O Electronics Ltd Location: Unit 3,Progress Centre,Charlton Pl, Ardwick, Manchester, Lancashire, M12 6HS Classification: Electronic Engineers **Status:** **Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	482	-	385040 397342
230	**Contemporary Trade Directory Entries** Name: Cleaners (Manchester) Location: Apartment 725, 40, Hilton Street, Manchester, M1 2BL Classification: Cleaning Services - Domestic **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (N)	483	-	384718 398238
231	**Contemporary Trade Directory Entries** Name: R Tech Group Ltd Location: Unit 5, Progress Centre, Charlton Place, Manchester, M12 6HS Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status:** **Active** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	486	-	385038 397334
232	**Contemporary Trade Directory Entries** Name: R & G Industrial Sewing Machines Ltd Location: Portugal Street East, Manchester, M1 2WX Classification: Sewing Machines - Industrial **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	490	-	385156 397975
233	**Contemporary Trade Directory Entries** Name: Hong Kong Printing Co Ltd Location: 41, Faulkner Street, Manchester, M1 4EE Classification: Printers **Status:** **Active** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	491	-	384224 398021
234	**Contemporary Trade Directory Entries** Name: Kama Services Ltd Location: GAINSBOROUGH HOUSE, 109, PORTLAND STREET, MANCHESTER, M1 6DN Classification: Cleaning Services - Domestic **Status:** **Active** Positional Accuracy: Automatically positioned to the address	A12NE (W)	497	-	384129 397834
234	**Contemporary Trade Directory Entries** Name: V T G Location: Gainsborough House, 109, Portland Street, Manchester, Lancashire, M1 6DN Classification: Lift Manufacturers **Status:** **Inactive** Positional Accuracy: Manually positioned to the address or location	A12NE (W)	501	-	384124 397827
234	**Contemporary Trade Directory Entries** Name: Operations Abroad Ltd Location: Gainsborough House, 109, Portland Street, Manchester, M1 6DN Classification: Hospitals **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (W)	501	-	384124 397827
234	**Contemporary Trade Directory Entries** Name: Feather Brooksbank Location: 117-119, Portland Street, Manchester, M1 6ED Classification: Tungsten Tool Manufacturers & Distributors **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (W)	513	-	384105 397794

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
235	**Contemporary Trade Directory Entries** Name: Keppie Design Location: 1, Portland Street, Manchester, M1 3BE Classification: Mechanical Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	499	-	384519 398224
236	**Contemporary Trade Directory Entries** Name: Impex Trading Co Location: Flat 23, Oxford Place, 7, Oxford Road, Manchester, M1 6EY Classification: Carpets & Rugs - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	503	-	384176 397471
237	**Contemporary Trade Directory Entries** Name: Van Kollem Location: Unit 4,Ducie House,37 Ducie St, Manchester, Lancashire, M1 2JW Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SE (NE)	503	-	384932 398209
237	**Contemporary Trade Directory Entries** Name: Powell Creative Products Location: Duplex 1, Ducie House, 37, Ducie Street, Manchester, M1 2JW Classification: Stationery Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (NE)	504	-	384933 398209
237	**Contemporary Trade Directory Entries** Name: Baked Goods Distribution Location: Unit 201, Ducie House, 37, Ducie Street, Manchester, M1 2JW Classification: Distribution Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (NE)	504	-	384933 398209
237	**Contemporary Trade Directory Entries** Name: Tlc Equipment (Europe) Location: Unit 215, Ducie House, 37, Ducie Street, Manchester, Lancashire, M1 2JW Classification: Engineering Machine Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (NE)	504	-	384933 398209
237	**Contemporary Trade Directory Entries** Name: Concept 3 Ltd Location: Unit 103, Ducie House, 37, Ducie Street, Manchester, Lancashire, M1 2JW Classification: Glass Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (NE)	504	-	384933 398209
237	**Contemporary Trade Directory Entries** Name: Gold Star Ions Location: 10, Pigeon Street, Manchester, M1 2JX Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (NE)	533	-	384955 398231
237	**Contemporary Trade Directory Entries** Name: I B S Manchester Engines Reconditioning Location: 10, Pigeon Street, Manchester, M1 2JX Classification: Mechanical Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (NE)	533	-	384955 398231
238	**Contemporary Trade Directory Entries** Name: Jogo Associates Ltd Location: 49-51, Dale Street, Manchester, M1 2HF Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (N)	506	-	384671 398259
239	**Contemporary Trade Directory Entries** Name: Honeyhull Ltd Location: 56, Dale Street, Manchester, M1 2HN Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	511	-	384616 398259
239	**Contemporary Trade Directory Entries** Name: Uk Fashion Wear Ltd Location: 56, Dale Street, Manchester, M1 2HN Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	511	-	384616 398259

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
239	**Contemporary Trade Directory Entries** Name: Fashionpulse Location: 56, Dale Street, Manchester, Lancashire, M1 2HN Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	511	-	384616 398259
239	**Contemporary Trade Directory Entries** Name: Iana Ltd Location: 47, Dale Street, Manchester, M1 2HF Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	526	-	384655 398278
239	**Contemporary Trade Directory Entries** Name: A Garstang & Co Ltd Location: 16, Newton Street, Manchester, M1 2AE Classification: Shirt Makers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	537	-	384614 398284
239	**Contemporary Trade Directory Entries** Name: Maximum Bright Services Location: Dale House,35 Dale St, Manchester, Lancashire, M1 2HF Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	559	-	384643 398310
239	**Contemporary Trade Directory Entries** Name: Mpg Ltd Location: Dale House, 35, Dale Street, Manchester, Lancashire, M1 2HF Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	560	-	384644 398311
239	**Contemporary Trade Directory Entries** Name: Slack & Andrews Location: Dale House, 35, Dale Street, Manchester, Lancashire, M1 2HF Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	561	-	384644 398311
239	**Contemporary Trade Directory Entries** Name: Maximum Bright Services Location: Dale House, 35, Dale Street, Manchester, Lancashire, M1 2HF Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	561	-	384644 398311
240	**Contemporary Trade Directory Entries** Name: Final Print Location: Grosvenor Street,All Saints, Manchester, Greater Manchester, M1 7HL Classification: Printers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A8NW (S)	514	-	384509 397178
240	**Contemporary Trade Directory Entries** Name: Billington Foods Location: 39-44 Davy Close, Park Farm Industrial Estate, Wellingborough, Northamptonshire, NN8 6XX Classification: Food Products - Manufacturers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A8NW (S)	514	-	384509 397178
240	**Contemporary Trade Directory Entries** Name: Wildwood Charcoal & Coppice Products Location: 53 Warehead Cottages, Halnaker, Chichester, West Sussex, PO18 0NF Classification: Coal & Smokeless Fuel Merchants & Distributors **Status: Active** Positional Accuracy: Manually positioned to the address or location	A8NW (S)	514	-	384509 397178
240	**Contemporary Trade Directory Entries** Name: Fleetwood Agencies Location: Grosvenor House, 94-96, Grosvenor Street, Manchester, M1 7HL Classification: Rubber & Plastic Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	516	-	384507 397176

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
240	**Contemporary Trade Directory Entries** Name: Euro Exim Ltd Location: 96-98, Grosvenor Street, Manchester, M1 7HL Classification: Chemicals - Distributors & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (S)	516	-	384506 397177
240	**Contemporary Trade Directory Entries** Name: Influx Design & Print Location: 98, Grosvenor Street, Manchester, M1 7HL Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	517	-	384497 397179
241	**Contemporary Trade Directory Entries** Name: Bantuway Manchester Ltd Location: 105, Temperance Street, Manchester, M12 6HR Classification: Meat - Wholesale **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (E)	518	-	385238 397655
242	**Contemporary Trade Directory Entries** Name: Shaheen Knitwear Ltd Location: 17, Manor Street, Manchester, M12 6HE Classification: Packaging & Wrapping Equipment & Supplies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	526	-	385130 397372
242	**Contemporary Trade Directory Entries** Name: 2 Squared Agency Location: 27, Manor Street, Manchester, Lancashire, M12 6HE Classification: Footwear Manufacturers & Wholesale **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	532	-	385107 397337
243	**Contemporary Trade Directory Entries** Name: Transport For Greater Manchester Location: 2, Picadilly Place, Manchester, Lancashire, M1 3BG Classification: Bus & Coach Operators & Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (NW)	526	-	384406 398205
244	**Contemporary Trade Directory Entries** Name: Norman Disney & Young Location: St. James House, 7, Charlotte Street, Manchester, Lancashire, M1 4DZ Classification: Mechanical Engineers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A17SE (NW)	526	-	384227 398079
244	**Contemporary Trade Directory Entries** Name: British Engineering Services Location: 5, New York Street, Manchester, M1 4JB Classification: Engineering Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	551	-	384233 398120
245	**Contemporary Trade Directory Entries** Name: Simone'S Bespoke Housekeeping Service Location: 32, Hilton Street, Manchester, M1 2EH Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (N)	527	-	384708 398282
245	**Contemporary Trade Directory Entries** Name: Lanford Ltd Location: 30-32, Hilton Street, Manchester, M1 2EH Classification: Shirt Makers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (N)	527	-	384708 398282
245	**Contemporary Trade Directory Entries** Name: Gio Goi Location: Fourways House,Hilton St, Manchester, Lancashire, M1 2EJ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SE (N)	540	-	384741 398294
245	**Contemporary Trade Directory Entries** Name: Chowhan & Co Location: 14, Tariff Street, Manchester, M1 2FF Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (N)	546	-	384701 398301

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
245	**Contemporary Trade Directory Entries** Name: T D S Fashions Location: Second Floor, 14, Tariff Street, Manchester, M1 2FF Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (N)	546	-	384701 398301
245	**Contemporary Trade Directory Entries** Name: Complete Processing Location: 14, Tariff Street, Manchester, Lancashire, M1 2FF Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SE (N)	546	-	384701 398301
245	**Contemporary Trade Directory Entries** Name: Style House Manchester Ltd Location: Ground Floor, Fourways House, 16, Tariff Street, Manchester, Lancashire, M1 2FN Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SE (N)	560	-	384729 398314
245	**Contemporary Trade Directory Entries** Name: Local Map Co Location: Tariff St, Manchester, Lancashire, M1 2FF Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A18SW (N)	572	-	384663 398325
245	**Contemporary Trade Directory Entries** Name: Priority Chauffeur Services Location: Hilton House, 26-28, Hilton Street, Manchester, M1 2EH Classification: Car Engine Tuning & Diagnostic Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (N)	582	-	384682 398336
245	**Contemporary Trade Directory Entries** Name: B Y Form Location: 3, Tariff Street, Manchester, M1 2FF Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (N)	585	-	384724 398340
245	**Contemporary Trade Directory Entries** Name: Minuteman Press Location: 27a Hilton st, Manchester, Greater Manchester, M1 1EL Classification: Printers **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	A18SE (N)	595	-	384694 398350
246	**Contemporary Trade Directory Entries** Name: Rentokil Specialist Hygiene Location: Faulkner House, Faulkner Street, Manchester, M1 4DY Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	528	-	384264 398118
246	**Contemporary Trade Directory Entries** Name: Scrap Cars Vans Caravans Buyer Location: Faulkner House, Faulkner Street, Manchester, M1 4DY Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	528	-	384264 398118
246	**Contemporary Trade Directory Entries** Name: Arrow Electronics Uk Location: 5 New York Street, Manchester, Greater Manchester, M1 4JB Classification: Electronic Component Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	554	-	384245 398136
247	**Contemporary Trade Directory Entries** Name: Scrap That Car Location: 91, PRINCESS STREET, MANCHESTER, M1 4HT Classification: Salvage Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NE (W)	532	-	384129 397942

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
247	**Contemporary Trade Directory Entries** Name: Lewis Bookmakers Location: 48a, Faulkner Street, Manchester, M1 4FH Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	534	-	384143 397975
248	**Contemporary Trade Directory Entries** Name: K M Print Design Ltd Location: 52, HEYROD STREET, MANCHESTER, M1 2WW Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14NW (E)	535	-	385220 397942
248	**Contemporary Trade Directory Entries** Name: Gorman Shorrock & Davies Ltd Location: 52, Heyrod Street, Manchester, M1 2WW Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14NW (E)	536	-	385221 397942
249	**Contemporary Trade Directory Entries** Name: Max Spielmann Location: 63, Piccadilly, Manchester, Lancashire, M1 2AG Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	539	-	384534 398271
249	**Contemporary Trade Directory Entries** Name: Oil Colour Chemists Association Location: First Floor, 59, Piccadilly, Manchester, M1 2AQ Classification: Adhesives, Glues & Sealants **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	549	-	384522 398277
249	**Contemporary Trade Directory Entries** Name: John Addley Ltd Location: Clayton House, 59, Piccadilly, Manchester, Lancashire, M1 2AQ Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	550	-	384518 398278
249	**Contemporary Trade Directory Entries** Name: Scotfax Location: Clayton House, 59, Piccadilly, Manchester, Lancashire, M1 2AQ Classification: Photocopiers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	550	-	384518 398278
249	**Contemporary Trade Directory Entries** Name: Scotfax Location: Clayton House, 59, Piccadilly, Manchester, Lancashire, M1 2AQ Classification: Photocopiers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	550	-	384518 398278
249	**Contemporary Trade Directory Entries** Name: Forward Bird Control Location: Clayton House, 59, Piccadilly, Manchester, Lancashire, M1 2AQ Classification: Pest & Vermin Control **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	550	-	384518 398278
249	**Contemporary Trade Directory Entries** Name: Oceanblue Logistics Location: Clayton House, 59, Piccadilly, Manchester, Lancashire, M1 2AQ Classification: Freight Forwarders **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	550	-	384518 398278
249	**Contemporary Trade Directory Entries** Name: Multitude Estates Ltd Location: Clayton House, 59, Piccadilly, Manchester, M1 2AQ Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	550	-	384518 398278
249	**Contemporary Trade Directory Entries** Name: Force C Location: 5 Newton St, Manchester, M1 1HW Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	556	-	384542 398290

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
249	**Contemporary Trade Directory Entries** Name: P N H Location: St. Margarets Chambers, 5, Newton Street, Manchester, Lancashire, M1 1HL Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	556	-	384543 398291
249	**Contemporary Trade Directory Entries** Name: Carr Manufacturing Co (Radcliffe) Ltd Location: First Floor, Clayton House, 59, Piccadilly, Manchester, M1 2AS Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	561	-	384529 398292
249	**Contemporary Trade Directory Entries** Name: Damp Aid Location: Clayton House, 59, Piccadilly, Manchester, M1 2AQ Classification: Damp & Dry Rot Control **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	561	-	384529 398292
249	**Contemporary Trade Directory Entries** Name: Kane Contracts Ltd Location: Third Floor,Clayton House,59 Piccadilly, Manchester, M1 2AQ Classification: Cleaning Services - Commercial **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	561	-	384528 398292
249	**Contemporary Trade Directory Entries** Name: Cherry Smart Services Ltd Location: Clayton House, 59, Piccadilly, Manchester, M1 2AQ Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	561	-	384529 398292
249	**Contemporary Trade Directory Entries** Name: Oxyrane Uk Location: Piccadilly House, 49, Piccadilly, Manchester, M1 2AP Classification: Laboratories **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	575	-	384494 398296
249	**Contemporary Trade Directory Entries** Name: O C M Print Location: Piccadilly House, 49, Piccadilly, Manchester, M1 2AP Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	575	-	384494 398296
249	**Contemporary Trade Directory Entries** Name: Sudstech Location: Piccadilly House,49 Piccadilly, Manchester, Greater Manchester, M1 2AP Classification: Builders' Merchants **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	575	-	384494 398296
249	**Contemporary Trade Directory Entries** Name: Manchester Office Cleaners Location: Piccadilly House, 49, Piccadilly, Manchester, M1 2AP Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	576	-	384494 398297
250	**Contemporary Trade Directory Entries** Name: C H A Technologies Group Location: St. James Buildings, 79, Oxford Street, Manchester, M1 6FQ Classification: Knitting Yarn Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	540	-	384075 397678
250	**Contemporary Trade Directory Entries** Name: Soleheat Location: St. James Buildings, 79, Oxford Street, Manchester, M1 6HT Classification: Under Floor Heating **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	540	-	384075 397678
250	**Contemporary Trade Directory Entries** Name: Heatrise Location: St. James Buildings, 79, Oxford Street, Manchester, M1 6HT Classification: Under Floor Heating **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	540	-	384075 397678

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
250	**Contemporary Trade Directory Entries** Name: Soleheat Location: FOURTH FLOOR, ST. JAMES BUILDING, 79, OXFORD STREET, MANCHESTER, M1 6HT Classification: Under Floor Heating **Status:** **Active** Positional Accuracy: Automatically positioned to the address	A12SE (W)	540	-	384075 397678
250	**Contemporary Trade Directory Entries** Name: Faupel Plc Location: St. James Buildings, 79, Oxford Street, Manchester, Lancashire, M1 6FQ Classification: Soft Furnishings - Manufacturers **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	540	-	384075 397678
250	**Contemporary Trade Directory Entries** Name: Jany (Uk) Location: St. James Buildings, 79, Oxford Street, Manchester, Lancashire, M1 6FQ Classification: Commercial Vehicle Bodybuilders & Repairers **Status:** **Inactive** Positional Accuracy: Manually positioned to the address or location	A12SE (W)	540	-	384075 397678
251	**Contemporary Trade Directory Entries** Name: Manchester Van Hire Location: 7, Heyrod Street, Manchester, M1 2WW Classification: Garage Services **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	540	-	385211 397977
251	**Contemporary Trade Directory Entries** Name: Dalkeith Autos Location: 7, Heyrod Street, Manchester, M1 2WW Classification: Garage Services **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	540	-	385211 397977
251	**Contemporary Trade Directory Entries** Name: A J Crawford & Sons Location: 37, Longacre Street, Manchester, M1 2WN Classification: Commercial Vehicle Servicing, Repairs, Parts & Accessories **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	543	-	385198 398009
251	**Contemporary Trade Directory Entries** Name: G B M Location: 2, Heyrod Street, Manchester, M1 2WW Classification: Printers **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	587	-	385242 398021
252	**Contemporary Trade Directory Entries** Name: Royal Mail Logistics Location: Travis Street, Manchester, Lancashire, M1 2NG Classification: Distribution Services **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	544	-	385267 397755
253	**Contemporary Trade Directory Entries** Name: Hayes Of Manchester Location: 29, Wadeson Road, Manchester, M13 9UG Classification: Garage Services **Status:** **Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A8NE (SE)	546	-	384937 397201
253	**Contemporary Trade Directory Entries** Name: Motor Fix Auto Ltd Location: Unit 29b,Wadeson Road, Manchester, Greater Manchester, M13 9UG Classification: Mot Testing Centres **Status:** **Active** Positional Accuracy: Manually positioned within the geographical locality	A8NE (SE)	565	-	384950 397186
254	**Contemporary Trade Directory Entries** Name: Print Copy Shop Location: Mandela Buildings, 99, Oxford Road, Manchester, M1 7EL Classification: Copying & Duplicating Services **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	553	-	384328 397221

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
254	**Contemporary Trade Directory Entries** Name: Print Location: Mandela Buildings, 99, Oxford Road, Manchester, M1 7EL Classification: Copying & Duplicating Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	553	-	384328 397221
255	**Contemporary Trade Directory Entries** Name: Bookbind Location: 2-4, Oxford Road, Manchester, Lancashire, M1 5QA Classification: Bookbinders **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SE (SW)	553	-	384146 397423
256	**Contemporary Trade Directory Entries** Name: Crescent Auto Centre Ltd Location: 29, Wadeson Road, Manchester, M13 9UG Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	555	-	384986 397215
256	**Contemporary Trade Directory Entries** Name: Halfords Autocentre Location: 22, Ardwick Green South, Manchester, M13 9XE Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	583	-	385025 397206
256	**Contemporary Trade Directory Entries** Name: Halfords Autocentre Manchester (Ardwick Green) Location: 22-24, Ardwick Green South, Manchester, M13 9XE Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	583	-	385025 397206
256	**Contemporary Trade Directory Entries** Name: Westwood Securities Shutters Ltd Location: 24, Ardwick Green South, Manchester, Lancashire, M13 9XE Classification: Roller Shutter Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	583	-	385025 397206
256	**Contemporary Trade Directory Entries** Name: Dainese D-Store Location: 22, Ardwick Green South, Manchester, M13 9XE Classification: Cycle Accessories, Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	597	-	385062 397213
257	**Contemporary Trade Directory Entries** Name: Logistica Fleet Services Location: St. Andrews Square, Manchester, M1 2NS Classification: Commercial Vehicle Servicing, Repairs, Parts & Accessories **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	557	-	385265 397873
257	**Contemporary Trade Directory Entries** Name: Rockbar Location: St. Andrews Square, Manchester, M1 2NS Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	557	-	385265 397873
257	**Contemporary Trade Directory Entries** Name: T T Express Location: St. Andrews Square, Manchester, M1 2NS Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	557	-	385265 397873
258	**Contemporary Trade Directory Entries** Name: Nxgen Europe Ltd Location: City Tower,Piccadilly Plaza, Manchester, Greater Manchester, M1 4BT Classification: Cash Registers & Check-Out Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	563	-	384277 398173
259	**Contemporary Trade Directory Entries** Name: Gesco Location: Oxford Rd, Manchester, M1 7ED Classification: Plastics - Injection Moulding **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A7NE (SW)	564	-	384246 397276

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
260	**Contemporary Trade Directory Entries** Name: B G M Wire Products Ltd Location: 102, North Western Street, Manchester, M12 6JL Classification: Wire Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A14SW (E)	569	-	385290 397674
260	**Contemporary Trade Directory Entries** Name: Manchester Tyre Services Location: 101, Fairfield Street, Manchester, M1 2WG Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	595	-	385317 397709
260	**Contemporary Trade Directory Entries** Name: Greenwell Motors Location: 94-104, Fairfield Street, Manchester, M1 2WR Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	613	-	385334 397669
260	**Contemporary Trade Directory Entries** Name: Fletcher Garages Location: 94-104, Fairfield Street, Manchester, M1 2WR Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	613	-	385334 397669
261	**Contemporary Trade Directory Entries** Name: Davies Brothers Tyres Location: Unit 5, Chancel Place, Store Street, Manchester, M1 2WB Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	570	-	385116 398162
261	**Contemporary Trade Directory Entries** Name: Presbar Diecastings Location: Store Street, Manchester, M1 2WD Classification: Die-Casting Equipment & Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	600	-	385113 398206
262	**Contemporary Trade Directory Entries** Name: Best Rest Location: 120-122, Grosvenor Street, Manchester, M1 7HL Classification: Bed & Mattress Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (SW)	574	-	384426 397144
263	**Contemporary Trade Directory Entries** Name: S A S Fashions Ltd Location: 55-59, Ducie Street, Manchester, M1 2JQ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	584	-	385015 398256
264	**Contemporary Trade Directory Entries** Name: Aesthetic Services Soda Blasting Location: Devonshire House, 36, George Street, Manchester, M1 4HA Classification: Blast Cleaning **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	586	-	384185 398122
264	**Contemporary Trade Directory Entries** Name: A D T Location: 1, New York Street, Manchester, M1 4HD Classification: Firefighting Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	623	-	384182 398170
265	**Contemporary Trade Directory Entries** Name: Zed Two Location: 131-133 Portland St, Manchester, Lancashire, M1 4PZ Classification: Toys, Games & Sporting Goods - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12NE (W)	587	-	384027 397732
266	**Contemporary Trade Directory Entries** Name: Oakland Fabrics Ltd Location: 44, George Street, Manchester, M1 4HF Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	589	-	384149 398085

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
266	**Contemporary Trade Directory Entries** Name: Sofas4u Location: George House, 48, George Street, Manchester, Lancashire, M1 4HF Classification: Furniture - Reproduction **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A17SE (NW)	589	-	384140 398073
266	**Contemporary Trade Directory Entries** Name: Hazexperts Location: International House,61 Mosley Street, Manchester, Greater Manchester, M2 3HZ Classification: Chemical Recycling & Disposal Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	625	-	384126 398113
266	**Contemporary Trade Directory Entries** Name: Prontaprint Location: 71a, Mosley Street, Manchester, M2 3JN Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	628	-	384105 398090
266	**Contemporary Trade Directory Entries** Name: Prontaprint Location: 71a, Mosley Street, Manchester, M2 3JN Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	629	-	384107 398094
266	**Contemporary Trade Directory Entries** Name: C F E S Location: Woolwich House, 61, Mosley Street, Manchester, M2 3HZ Classification: Ventilators & Ventilation Systems **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	633	-	384117 398115
266	**Contemporary Trade Directory Entries** Name: Prime Power Solution Location: Woolwich House, 61, Mosley Street, Manchester, M2 3HZ Classification: Electricity Generating & Distributing Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	633	-	384117 398115
266	**Contemporary Trade Directory Entries** Name: North West Lightning Protection Ltd Location: WOOLWICH HOUSE, 61, MOSLEY STREET, MANCHESTER, M2 3HZ Classification: Engineering Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	633	-	384117 398115
266	**Contemporary Trade Directory Entries** Name: Manchester House Cleaning Services Location: WOOLWICH HOUSE, 61, MOSLEY STREET, MANCHESTER, M2 3HZ Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	633	-	384117 398115
267	**Contemporary Trade Directory Entries** Name: William Hodgson & Co Location: Sixth Floor, Churchgate House, 56, Oxford Street, Manchester, Lancashire, M1 6EU Classification: Oils - Edible **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SE (W)	590	-	384028 397647
268	**Contemporary Trade Directory Entries** Name: Harrison Motors Location: 51 New Wakefield St, Manchester, Lancashire, M1 5NP Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A12SE (SW)	595	-	384080 397457
269	**Contemporary Trade Directory Entries** Name: Urban Fabrication & Engineering Ltd Location: 100, Temperance Street, Manchester, Lancashire, M12 6HU Classification: Steel Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	595	-	385309 397610

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
269	**Contemporary Trade Directory Entries** Name: Bakewell Engineering Ltd Location: 99, North Western Street, Manchester, M12 6JL Classification: Metal Products - Fabricated **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	631	-	385349 397635
269	**Contemporary Trade Directory Entries** Name: Revolution It Location: 100, Fairfield Street, Manchester, Lancashire, M1 2WR Classification: Computer Recycling & Disposal **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	638	-	385357 397655
269	**Contemporary Trade Directory Entries** Name: Fairfield Motor Garage Location: 100, Fairfield Street, Manchester, M1 2WR Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	638	-	385357 397655
269	**Contemporary Trade Directory Entries** Name: Autocare Assist Location: 100, Fairfield Street, Manchester, M1 2WR Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	639	-	385359 397654
269	**Contemporary Trade Directory Entries** Name: Generation Clothing Location: 98 North Western St, Manchester, Lancashire, M12 6JL Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SE (E)	649	-	385366 397624
269	**Contemporary Trade Directory Entries** Name: Wander Beyond Brewing Location: 98 North Western Street, Manchester, Greater Manchester, M12 6JL Classification: Brewers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SE (E)	650	-	385366 397622
269	**Contemporary Trade Directory Entries** Name: Cristecuk Ltd Location: 102 Fairfield St, Manchester, Lancashire, M1 2WR Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SE (E)	654	-	385374 397654
269	**Contemporary Trade Directory Entries** Name: Cristecuk Garage Location: 102 Fairfield Street, Manchester, Lancashire, M1 2WR Classification: Breakdown and Recovery **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SE (E)	655	-	385375 397656
269	**Contemporary Trade Directory Entries** Name: The Cab Co Location: 102 Fairfield St, Manchester, Lancashire, M1 2WR Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SE (E)	662	-	385380 397638
270	**Contemporary Trade Directory Entries** Name: Arriva North West Ltd Location: St. Andrews Square, Manchester, M1 2NS Classification: Bus & Coach Operators & Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	596	-	385312 397834
271	**Contemporary Trade Directory Entries** Name: Bodyguard Clothing Ltd Location: 33, Dale Street, Manchester, Lancashire, M1 2HE Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	604	-	384638 398354
271	**Contemporary Trade Directory Entries** Name: Zig Zag Clothing Ltd Location: 33, Dale Street, Manchester, Lancashire, M1 2HE Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	604	-	384638 398354

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
271	**Contemporary Trade Directory Entries** Name: Ben Sherman Location: 47, Newton Street, Manchester, Lancashire, M1 1FT Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	627	-	384618 398376
271	**Contemporary Trade Directory Entries** Name: Guy Foam Location: 10, Little Lever Street, Manchester, M1 1HR Classification: Photo & Digital Imaging Bureaus **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	635	-	384599 398382
271	**Contemporary Trade Directory Entries** Name: J & B Textiles Location: 14, Little Lever Street, Manchester, M1 1HR Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	644	-	384607 398392
271	**Contemporary Trade Directory Entries** Name: Print Pug Location: Suite 3b 22 Lever Street, Manchester, Greater Manchester, M1 1EA Classification: Printers **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A18NW (N)	652	-	384556 398392
271	**Contemporary Trade Directory Entries** Name: Alert 2 Media Location: 24, Lever Street, Manchester, Lancashire, M1 1DZ Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	652	-	384580 398396
271	**Contemporary Trade Directory Entries** Name: Ax-S Global Location: 22, Lever Street, Manchester, M1 1EA Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	652	-	384556 398392
271	**Contemporary Trade Directory Entries** Name: Elert 2 Media Location: 24, Lever Street, Manchester, Lancashire, M1 1DZ Classification: Printers Textile **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	652	-	384580 398397
271	**Contemporary Trade Directory Entries** Name: Godske Group Location: 22, Lever Street, Manchester, M1 1EA Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	652	-	384556 398392
271	**Contemporary Trade Directory Entries** Name: Ax S Global Location: 22, Lever Street, Manchester, M1 1EA Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	652	-	384556 398392
271	**Contemporary Trade Directory Entries** Name: Stairlifts Manchester Location: Studio 18,18 Hilton Street, Manchester, Greater Manchester, M1 1FR Classification: Stairlifts - Manufacturers & Installers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	655	-	384620 398404
272	**Contemporary Trade Directory Entries** Name: Brian Winder G C C Ltd Location: Aeroworks, 5, Adair Street, Manchester, M1 2NQ Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	605	-	385280 397981
272	**Contemporary Trade Directory Entries** Name: P A Metals Location: 7, Adair Street, Manchester, Lancashire, M1 2NQ Classification: Scrap Metal Merchants **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	605	-	385280 397981

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
272	**Contemporary Trade Directory Entries** Name: Armstrongs Office Furniture Location: 1, Adair Street, MANCHESTER, M1 2NQ Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	605	-	385280 397981
272	**Contemporary Trade Directory Entries** Name: Intercity Group Ltd Location: Aeroworks, 5, Adair Street, Manchester, Lancashire, M1 2NQ Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	605	-	385280 397981
272	**Contemporary Trade Directory Entries** Name: Gorton Bros Ltd Location: Aeroworks, 5, Adair Street, Manchester, Lancashire, M1 2NQ Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	605	-	385280 397981
272	**Contemporary Trade Directory Entries** Name: Paragon Hygiene Services Ltd Location: Aeroworks, 5, Adair Street, Manchester, Lancashire, M1 2NQ Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14NW (NE)	605	-	385280 397981
272	**Contemporary Trade Directory Entries** Name: L P M Cleaning Location: Aeroworks, 5, Adair Street, Manchester, M1 2NQ Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	605	-	385280 397981
273	**Contemporary Trade Directory Entries** Name: Stratstone Jaguar Location: 19-21, Upper Brook Street, Manchester, M13 9XH Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	614	-	384691 397062
273	**Contemporary Trade Directory Entries** Name: Williams Jaguar Ltd Location: 19-21, Upper Brook Street, Manchester, M13 9XH Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	614	-	384690 397062
274	**Contemporary Trade Directory Entries** Name: Dee Wong Food Ltd Location: Unit 1, Hoyle Street, Manchester, M12 6HG Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	614	-	385298 397492
274	**Contemporary Trade Directory Entries** Name: Bearing Mart Location: Unit 1, Hoyle Street, Manchester, Lancashire, M12 6HG Classification: Engineering Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	614	-	385298 397492
274	**Contemporary Trade Directory Entries** Name: Ply-Lining (Northern) Ltd Location: Unit 1, Hoyle Street, Manchester, M12 6HG Classification: Commercial Vehicle Bodybuilders & Repairers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	616	-	385298 397487
274	**Contemporary Trade Directory Entries** Name: Ardwick Auto Spares Location: Unit 2, Hoyle Street, Manchester, M12 6HG Classification: Car Breakdown & Recovery Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	633	-	385320 397495
274	**Contemporary Trade Directory Entries** Name: Manchester Recovery Services Location: Unit 3, Hoyle Street, Manchester, M12 6HG Classification: Car Breakdown & Recovery Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	641	-	385328 397495

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
274	**Contemporary Trade Directory Entries** Name: Manmunian Garage Location: Unit 6, Hoyle Street, Manchester, M12 6HG Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (E)	651	-	385329 397469
274	**Contemporary Trade Directory Entries** Name: Jemm Autos Location: Unit 4, Hoyle Street, Manchester, M12 6HG Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	651	-	385338 397495
275	**Contemporary Trade Directory Entries** Name: Weeshred Ltd Location: 13th Floor City Tower,Piccadilly Plaza, Manchester, Greater Manchester, M1 4BT Classification: Shredding Equipment & Services **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A17SE (NW)	615	-	384236 398207
276	**Contemporary Trade Directory Entries** Name: City Recovery & Storage Location: 50, Newton Street, Manchester, Lancashire, M1 2EA Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	617	-	384658 398370
277	**Contemporary Trade Directory Entries** Name: Tariff Street Motors Location: 43 Tariff St, Manchester, M1 2FF Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SE (N)	623	-	384902 398348
278	**Contemporary Trade Directory Entries** Name: Showerdrape Ltd Location: 3, Longacre Street, Manchester, M1 2WN Classification: Bathroom Fixtures - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	625	-	385257 398073
279	**Contemporary Trade Directory Entries** Name: Eric Brownbill Fashion Agencies Location: 20, Dale Street, Manchester, Lancashire, M1 1EZ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	629	-	384527 398362
279	**Contemporary Trade Directory Entries** Name: Watts Bros (Manchester) Ltd Location: 20, Dale Street, Manchester, Lancashire, M1 1EZ Classification: Hats & Caps - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	629	-	384527 398362
279	**Contemporary Trade Directory Entries** Name: La Vie Facile Location: 20, Dale Street, Manchester, Lancashire, M1 1EZ Classification: Footwear Manufacturers & Wholesale **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	629	-	384527 398362
279	**Contemporary Trade Directory Entries** Name: Medusa 19 Ltd Location: 2nd Floor, Manchester, Greater Manchester, M1 1EZ Classification: Chemicals - Distributors & Wholesalers **Status: Active** Positional Accuracy: Manually positioned to the road within the address or location	A18SW (N)	650	-	384524 398383
279	**Contemporary Trade Directory Entries** Name: K O Sports Location: Apartment 104, Chatsworth House, 19, Lever Street, Manchester, M1 1BY Classification: Sports Equipment Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	658	-	384491 398382

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
279	**Contemporary Trade Directory Entries** Name: Scrap Car Now Today Cash Manchester Town Location: Chatsworth House, 19, Lever Street, Manchester, M1 1AN Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	658	-	384492 398382
280	**Contemporary Trade Directory Entries** Name: Geek Fix Location: Manchester, Greater Manchester, M1 2jq Classification: Machinery - Industrial & Commercial **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A19SW (NE)	637	-	385077 398280
280	**Contemporary Trade Directory Entries** Name: I T Designs Location: 81, Ducie Street, Manchester, M1 2JQ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	644	-	385084 398284
280	**Contemporary Trade Directory Entries** Name: Crime Scene Cleaning Services Location: 83, Ducie Street, Manchester, M1 2JQ Classification: Hygiene & Cleansing Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	649	-	385090 398286
280	**Contemporary Trade Directory Entries** Name: Network Print Support Ltd Location: 83, Ducie Street, Manchester, M1 2JQ Classification: Photocopiers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	649	-	385090 398286
280	**Contemporary Trade Directory Entries** Name: Car Scraping Scrap Yards In Manchester Location: 83, Ducie Street, Manchester, M1 2JQ Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	649	-	385090 398286
280	**Contemporary Trade Directory Entries** Name: Breeze Carpet Cleaners Ltd Location: 83, Ducie Street, Manchester, M1 2JQ Classification: Carpet, Curtain & Upholstery Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	650	-	385091 398286
280	**Contemporary Trade Directory Entries** Name: Bestbooze Location: 83 Ducie Street, Manchester, Greater Manchester, M1 2JQ Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A19SW (NE)	650	-	385091 398286
280	**Contemporary Trade Directory Entries** Name: Energiea Limited Location: 83, Ducie Street, Manchester, M1 2JQ Classification: Energy Efficient Products and Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	650	-	385091 398286
280	**Contemporary Trade Directory Entries** Name: Compare Parking Deals Location: 83, Ducie Street, Manchester, M1 2JQ Classification: Car Painters & Sprayers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	650	-	385091 398286
280	**Contemporary Trade Directory Entries** Name: Cleanhappy Location: 83, Ducie Street, Manchester, M1 2JQ Classification: Cleaning Services - Domestic **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	650	-	385091 398286
280	**Contemporary Trade Directory Entries** Name: Shutters & Blinds Uk Location: 83 Ducie Street, Manchester, Greater Manchester, M1 2JQ Classification: Blinds, Awnings & Canopies **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	650	-	385091 398286

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
280	**Contemporary Trade Directory Entries** Name: The Bizz Location: 83, Ducie Street, Manchester, M1 2JQ Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	650	-	385091 398286
280	**Contemporary Trade Directory Entries** Name: Total Clean Manchester Location: Manchester, Greater Manchester, M1 2jq Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A19SW (NE)	650	-	385098 398281
280	**Contemporary Trade Directory Entries** Name: A R C Window Films Ltd Location: 83, Ducie Street, Manchester, M1 2JQ Classification: Window Film Manufacturers and Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	650	-	385091 398286
280	**Contemporary Trade Directory Entries** Name: Network Print Support Location: 83, Ducie Street, Manchester, M1 2JQ Classification: Copying & Duplicating Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	650	-	385091 398286
280	**Contemporary Trade Directory Entries** Name: M B Energy Location: 83 Ducie Street, Manchester, Greater Manchester, M1 2JQ Classification: Gas Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	650	-	385091 398286
280	**Contemporary Trade Directory Entries** Name: S T Caravan Services Location: 83 Ducie Street, Manchester, Greater Manchester, M1 2JQ Classification: Caravans - Servicing & Repairs **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	650	-	385091 398286
280	**Contemporary Trade Directory Entries** Name: Heros Carpet Clean Location: 83, DUCIE STREET, MANCHESTER, M1 2JQ Classification: Carpet, Curtain & Upholstery Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	650	-	385091 398286
280	**Contemporary Trade Directory Entries** Name: Come Around Clean Location: 83, DUCIE STREET, MANCHESTER, M1 2JQ Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	650	-	385091 398286
280	**Contemporary Trade Directory Entries** Name: Cleared 4 U Rubbish Removals Location: 83 Ducie Street, Manchester, Greater Manchester, M1 2JQ Classification: Waste Disposal Services **Status: Active** Positional Accuracy: Manually positioned to the address or location	A19SW (NE)	650	-	385091 398286
280	**Contemporary Trade Directory Entries** Name: Kinderlee Cleaning Location: 83, DUCIE STREET, MANCHESTER, M1 2JQ Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	650	-	385091 398286
280	**Contemporary Trade Directory Entries** Name: Ecolamp Recycling Ltd Location: 83, Ducie Street, Manchester, M1 2JQ Classification: Recycling Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	650	-	385091 398286
280	**Contemporary Trade Directory Entries** Name: Sparkle Cleaning Services Location: 83 Ducie Street, Manchester, Greater Manchester, M1 2JQ Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	650	-	385091 398286

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
280	**Contemporary Trade Directory Entries** Name: J Cotton & Co Location: 126, Great Ancoats Street, Manchester, M4 6DE Classification: Car Breakdown & Recovery Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	651	-	385076 398298
280	**Contemporary Trade Directory Entries** Name: French Polisher Manchester Location: Rear Of 1b Great Ancoats Street, Manchester, Greater Manchester, M4 6DE Classification: French Polishing **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A19SW (NE)	651	-	385075 398298
280	**Contemporary Trade Directory Entries** Name: Golden Girls Cleaning & Laundry Services Location: 132-134, Great Ancoats Street, Manchester, M4 6DE Classification: Laundries & Launderettes **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	654	-	385092 398291
280	**Contemporary Trade Directory Entries** Name: Golden Girls Manchester Uk Ltd Location: 132-134, Great Ancoats Street, Manchester, M4 6DE Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	654	-	385092 398291
280	**Contemporary Trade Directory Entries** Name: Spirit Cleaning Location: 132-134, Great Ancoats Street, Manchester, M4 6DE Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	654	-	385092 398291
280	**Contemporary Trade Directory Entries** Name: M C Genesis Ltd Location: 132-134, Great Ancoats Street, Manchester, Lancashire, M4 6DE Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Manually positioned to the address or location	A19SW (NE)	654	-	385092 398290
280	**Contemporary Trade Directory Entries** Name: Ocean Design Uk Location: 132-134, Great Ancoats Street, Manchester, M4 6DE Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	655	-	385093 398291
280	**Contemporary Trade Directory Entries** Name: North West Cleaning Solutions Ltd Location: 132-134, Great Ancoats Street, Manchester, M4 6DE Classification: Cleaning Materials & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	655	-	385093 398291
280	**Contemporary Trade Directory Entries** Name: Online Building Supplies Location: 132-134, Great Ancoats Street, Manchester, M4 6DE Classification: Builders' Merchants **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	655	-	385093 398291
280	**Contemporary Trade Directory Entries** Name: Lush Carpet Cleaners Location: 132-134, Great Ancoats Street, Manchester, M4 6DE Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	655	-	385093 398291
280	**Contemporary Trade Directory Entries** Name: Castle Comfort Stairlifts Ltd Location: 132-134, Great Ancoats Street, Manchester, M4 6DE Classification: Stairlifts - Manufacturers & Installers **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	655	-	385093 398291
280	**Contemporary Trade Directory Entries** Name: Damp Aid Uk Location: 132-134, Great Ancoats Street, Manchester, M4 6DE Classification: Damp & Dry Rot Control **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	655	-	385093 398291

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
280	**Contemporary Trade Directory Entries** Name: Currys Location: Unit 2a Currys Pc World Central Retail Park,Great Ancoats Street, Manchester, Greater Manchester, M4 6DL Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A19SW (NE)	678	-	385074 398331
281	**Contemporary Trade Directory Entries** Name: Euro-Industrial Engineering Ltd Location: 133, Grosvenor Street, Manchester, M1 7HE Classification: Pumps - Sales, Servicing & Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (SW)	637	-	384404 397085
282	**Contemporary Trade Directory Entries** Name: Evans Textile (Sales) Ltd Location: Helmet Street, Manchester, M1 2NT Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NE (E)	637	-	385360 397767
282	**Contemporary Trade Directory Entries** Name: Climate Center Location: 2, Helmet Street, Manchester, Lancashire, M1 2NT Classification: Refrigeration Equipment - Commercial **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14NE (E)	637	-	385360 397767
282	**Contemporary Trade Directory Entries** Name: Climate Centre Location: 2, Helmet Street, Manchester, Lancashire, M1 2NT Classification: Air Conditioning & Refrigeration Contractors **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14NE (E)	637	-	385360 397767
283	**Contemporary Trade Directory Entries** Name: Marco Trading Co Ltd Location: Marco House, Tariff Street, Manchester, M1 2FF Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (N)	640	-	384806 398387
284	**Contemporary Trade Directory Entries** Name: Univick Ltd Location: Ardwick Green North, Manchester, M12 6FZ Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9NW (SE)	644	-	385190 397262
285	**Contemporary Trade Directory Entries** Name: Indesign (Uk) Ltd Location: 104 Great Ancoats St, Manchester, Lancashire, M4 5BQ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	647	-	385013 398330
286	**Contemporary Trade Directory Entries** Name: Fast Cash 4 Scrap Cars Manchester Aeg Location: 52, Newton Street, Manchester, M1 1ED Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	656	-	384689 398410
287	**Contemporary Trade Directory Entries** Name: Screwfix Manchester - Ancoats Location: Piccadilly Trading Estate,Great Ancoats Street, Manchester, Greater Manchester, M1 2NP Classification: Builders' Merchants **Status: Active** Positional Accuracy: Automatically positioned to the address	A14NE (E)	657	-	385343 397959
287	**Contemporary Trade Directory Entries** Name: The Studio Workshop Location: 9, Piccadilly Trading Estate, Manchester, Lancashire, M1 2NP Classification: Photographic Equipment & Supplies - Wholesale **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NE (E)	690	-	385381 397950

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
287	**Contemporary Trade Directory Entries** Name: Cloudwater Brew Co Location: 7-8, Piccadilly Trading Estate, Manchester, M1 2NP Classification: Brewers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14NE (E)	700	-	385396 397936
288	**Contemporary Trade Directory Entries** Name: Total Hygiene Uk Location: 166-174, Great Ancoats Street, Manchester, M4 7AB Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	657	-	385189 398212
289	**Contemporary Trade Directory Entries** Name: Easy Wheels Location: 8, Lower Ormond Street, Manchester, M1 5QJ Classification: Confectionery Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	666	-	384078 397320
289	**Contemporary Trade Directory Entries** Name: Ormond Street Motors Location: 2-4, Lower Ormond Street, Manchester, M1 5QF Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	667	-	384078 397320
289	**Contemporary Trade Directory Entries** Name: Manchester Print Co Location: 8, Lower Ormond Street, Manchester, M1 5QF Classification: T-Shirts **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	667	-	384078 397320
290	**Contemporary Trade Directory Entries** Name: A & S Fashions Location: Brownsfield Mill, Binns Place, Manchester, M4 5BP Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	672	-	384889 398403
291	**Contemporary Trade Directory Entries** Name: Daisy Fashions Location: 25, Hilton Street, Manchester, M1 1EL Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	673	-	384646 398424
291	**Contemporary Trade Directory Entries** Name: Rawagencies Ltd Location: 22, Little Lever Street, Manchester, M1 1HR Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	683	-	384638 398434
291	**Contemporary Trade Directory Entries** Name: Moving Fashion Ltd Location: 11, Stevenson Square, Manchester, M1 1DB Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	702	-	384632 398453
292	**Contemporary Trade Directory Entries** Name: Wise Pharmaceuticals Ltd Location: Oxford House, 16, Oxford Street, Manchester, M1 5AE Classification: Pharmaceutical Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	675	-	383944 397803
292	**Contemporary Trade Directory Entries** Name: Cas Hire Location: Peter House, 1-2 Oxford Street, Manchester, Greater Manchester, M1 5AN Classification: Air Conditioning Equipment & Systems **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NW (W)	693	-	383930 397837
292	**Contemporary Trade Directory Entries** Name: Twistfix Location: Peter House, Oxford Street, Manchester, M1 5AN Classification: Builders' Merchants **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	700	-	383925 397847

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
292	**Contemporary Trade Directory Entries** Name: Joe Scrapping In Manchester Location: Peter House, Oxford Street, Manchester, M1 5AN Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	700	-	383925 397847
292	**Contemporary Trade Directory Entries** Name: Laundry Shop Location: Peter House, Oxford Street, Manchester, Lancashire, M1 5AN Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12NW (W)	700	-	383925 397847
292	**Contemporary Trade Directory Entries** Name: Energy Feat Location: Peter House, Oxford Street, Manchester, M1 5AN Classification: Energy Efficient Products and Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	700	-	383925 397847
292	**Contemporary Trade Directory Entries** Name: Pest Solutions Ltd Location: Peter House,Oxford Street, Manchester, Greater Manchester, M1 5AN Classification: Pest & Vermin Control **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NW (W)	701	-	383924 397846
292	**Contemporary Trade Directory Entries** Name: Scrap Yard In Manchester Htt Location: Peter House, Oxford Street, Manchester, M1 5AN Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	701	-	383924 397846
292	**Contemporary Trade Directory Entries** Name: Douglas Fir Ltd Location: Peter House, Oxford Street, Manchester, M1 5AN Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	701	-	383924 397846
292	**Contemporary Trade Directory Entries** Name: Feet & Spine Location: Peter House, Oxford Street, Manchester, M1 5AN Classification: Office Furniture & Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NW (W)	701	-	383924 397846
293	**Contemporary Trade Directory Entries** Name: Lowbend Location: 95, Temperance Street, Manchester, Lancashire, M12 6HU Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SE (E)	688	-	385393 397555
293	**Contemporary Trade Directory Entries** Name: Joe Farrell Location: 93, Temperance Street, Manchester, M12 6HU Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A14SE (E)	709	-	385412 397543
293	**Contemporary Trade Directory Entries** Name: Plastic Art Co Location: 92, Temperance Street, Manchester, M12 6HU Classification: Lamination & Encapsulation Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	714	-	385416 397539
294	**Contemporary Trade Directory Entries** Name: F D T Transport Ltd Location: 113, Fairfield Street, Manchester, Lancashire, M12 6EL Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	696	-	385417 397686
295	**Contemporary Trade Directory Entries** Name: We Print Group Location: Barnett House, 53, Fountain Street, Manchester, M2 2AN Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A17SE (NW)	698	-	384112 398208

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
295	**Contemporary Trade Directory Entries** Name: Msl Interiors Location: Barnett House, 53, Fountain Street, Manchester, M2 2AN Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	698	-	384112 398208
295	**Contemporary Trade Directory Entries** Name: Fast Carpet Cleaners Location: Barnett House, 53, Fountain Street, Manchester, M2 2AN Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	698	-	384112 398208
295	**Contemporary Trade Directory Entries** Name: Indie Cases Location: Barnett House, Manchester, Lancashire, M2 2AN Classification: Mobile Phone Accessories and Car Kits **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	698	-	384112 398208
295	**Contemporary Trade Directory Entries** Name: Scrap My Car Now For Money Manchester Kws Location: Barnett House, 53, Fountain Street, Manchester, M2 2AN Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	698	-	384112 398208
295	**Contemporary Trade Directory Entries** Name: Urban Icon Location: Barnett House, 53, Fountain Street, Manchester, M2 2AN Classification: Garden & Patio Furniture Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	698	-	384112 398208
295	**Contemporary Trade Directory Entries** Name: The Quantum Print Location: Barnett House,53 Fountain Street, Manchester, Greater Manchester, M2 2AN Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	699	-	384110 398206
295	**Contemporary Trade Directory Entries** Name: Atlantic Property Services Location: Barnett House,53 Fountain Street, Manchester, Greater Manchester, M2 2AN Classification: Cladding Suppliers & Installers **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	699	-	384110 398206
295	**Contemporary Trade Directory Entries** Name: Clean Corner Location: 20 York Street, Manchester, Lancashire, M2 3BB Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	702	-	384123 398224
296	**Contemporary Trade Directory Entries** Name: Klein Imaging Location: Studio 15a,8 Lower Ormond Street, Manchester, Greater Manchester, M1 5QJ Classification: Copying & Duplicating Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	698	-	384053 397300
296	**Contemporary Trade Directory Entries** Name: Danebridge Engineering Co Ltd Location: 3, Lower Chatham Street, Manchester, M1 5QL Classification: Air Conditioning Equipment & Systems **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	722	-	384044 397273
297	**Contemporary Trade Directory Entries** Name: Ops International Ltd Location: Brook House, 64-72, Spring Gardens, Manchester, M2 2BQ Classification: Oil Companies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	699	-	384072 398164
298	**Contemporary Trade Directory Entries** Name: Smiler Service Location: Flat 111, The Lock Building, 41, Whitworth Street West, Manchester, M1 5BD Classification: Freight Forwarders **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	705	-	383933 397538

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
298	**Contemporary Trade Directory Entries** Name: Bandbox Laundry Premier Outlet Location: Unit C 41 Whitworth Street, Manchester, Greater Manchester, M1 5BE Classification: Laundry & Dry Cleaning Supplies **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	705	-	383933 397538
298	**Contemporary Trade Directory Entries** Name: Graham'S Motors Location: 59, Whitworth Street West, Manchester, Lancashire, M1 5WW Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SW (W)	711	-	383939 397495
299	**Contemporary Trade Directory Entries** Name: Taylor Edwards & Co Location: Royal Buildings, 2, Mosley Street, Manchester, Lancashire, M2 3AN Classification: Gas Companies **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A17SE (NW)	709	-	384259 398336
300	**Contemporary Trade Directory Entries** Name: Anexsys Location: 77 Newton Street, Manchester, Greater Manchester, M1 1EX Classification: Copying & Duplicating Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	714	-	384700 398469
301	**Contemporary Trade Directory Entries** Name: D & G Packaging Ltd Location: Afflecks Arcade 35-39, Oldham Street, Manchester, M1 1JG Classification: Paper & Cardboard Products & Packaging - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	728	-	384429 398435
301	**Contemporary Trade Directory Entries** Name: Glass Bottle Bottle Glass Location: Afflecks Arcade, 35-39, Oldham Street, Manchester, M1 1JG Classification: Glass Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	742	-	384423 398448
301	**Contemporary Trade Directory Entries** Name: The Bead Shop Location: Aflex Palace, 52, Church Street, Manchester, M4 1PW Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	742	-	384423 398448
301	**Contemporary Trade Directory Entries** Name: Kustom Korner Location: Aflex Palace, 52, Church Street, Manchester, M4 1PW Classification: T-Shirts **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NW (N)	742	-	384423 398448
301	**Contemporary Trade Directory Entries** Name: Oblong Location: Aflex Palace, 52, Church Street, Manchester, Lancashire, M4 1PW Classification: Abattoirs **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	742	-	384423 398448
301	**Contemporary Trade Directory Entries** Name: Sentsations Location: Afflecks Arcade, 35-39, Oldham Street, Manchester, Lancashire, M1 1JG Classification: Perfume Suppliers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	742	-	384423 398448
302	**Contemporary Trade Directory Entries** Name: Proten Services Location: 35 Fountain Street, Manchester, Greater Manchester, M2 2AN Classification: Damp & Dry Rot Control **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	730	-	384159 398292
302	**Contemporary Trade Directory Entries** Name: Richard Conrad & Co Ltd Location: 36-38, Fountain Street, Manchester, M2 2BE Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	751	-	384114 398283

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
303	**Contemporary Trade Directory Entries** Name: Haadi Composite Woods Location: JOHN DALTON BUILDING, CHESTER STREET, MANCHESTER, M1 5GD Classification: Wood Products, Except Furniture - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	732	-	384069 397222
304	**Contemporary Trade Directory Entries** Name: Tyrewyse Service Centre Location: 8-10 Kale Street, Manchester, Greater Manchester, M13 9XG Classification: Mot Testing Centres **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A8SE (S)	734	-	384962 397009
305	**Contemporary Trade Directory Entries** Name: R Jaffay Location: 63, Houldsworth Street, Manchester, M1 2ES Classification: Furniture Manufacturers - Home & Office **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	736	-	384832 398480
305	**Contemporary Trade Directory Entries** Name: A Jeffay Location: 63, Houldsworth Street, Manchester, M1 2ES Classification: Furniture Manufacturers - Home & Office **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	736	-	384832 398480
305	**Contemporary Trade Directory Entries** Name: Jeffay Location: 63, Houldsworth Street, Manchester, Lancashire, M1 2ES Classification: Furniture Manufacturers - Home & Office **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	736	-	384832 398480
305	**Contemporary Trade Directory Entries** Name: Bec Digital Ltd Location: 47, Houldsworth Street, Manchester, M1 2ES Classification: Photocopiers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	761	-	384803 398510
306	**Contemporary Trade Directory Entries** Name: Printing.Com Location: 119, Great Ancoats Street, Manchester, M4 5AG Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	746	-	384923 398470
306	**Contemporary Trade Directory Entries** Name: Va Clean Manchester Ltd Location: 78, Pickford Street, Manchester, M4 5BT Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	756	-	384915 398483
307	**Contemporary Trade Directory Entries** Name: Flyers Group Location: 12, Hilton Street, Manchester, M1 1JF Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	747	-	384528 398483
307	**Contemporary Trade Directory Entries** Name: Sumayah Deria Ltd Location: 12 Hilton Street, Manchester, Greater Manchester, M1 1JF Classification: Builders' Merchants **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	747	-	384529 398483
307	**Contemporary Trade Directory Entries** Name: Bermona Ltd Location: 12, Hilton Street, Manchester, M1 1JF Classification: Hats & Caps - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	747	-	384528 398483
307	**Contemporary Trade Directory Entries** Name: Matrix Transport Location: Hilton Street, Manchester, Greater Manchester, M1 1JF Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	747	-	384529 398483

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
307	**Contemporary Trade Directory Entries** Name: Dynamik Designs Location: 1, Stevenson Square, Manchester, Lancashire, M1 1DN Classification: Car Accessories Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	754	-	384565 398497
307	**Contemporary Trade Directory Entries** Name: Pro Cleaners Ancoats Location: 19, Hilton Street, Manchester, M1 1JJ Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	760	-	384541 398499
307	**Contemporary Trade Directory Entries** Name: Launderette Location: 19, Hilton Street, Manchester, M1 1JJ Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	760	-	384541 398499
307	**Contemporary Trade Directory Entries** Name: The Audiences Agency Location: 46-50, Oldham Street, Manchester, M4 1LE Classification: Distribution Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	782	-	384547 398522
308	**Contemporary Trade Directory Entries** Name: Williams Bmw Location: 45, Upper Brook Street, Manchester, M13 9WS Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	750	-	384784 396937
308	**Contemporary Trade Directory Entries** Name: Citroen Manchester - Central Location: 53-57, Upper Brook Street, Manchester, M13 9TD Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	789	-	384820 396905
308	**Contemporary Trade Directory Entries** Name: Robins & Day Manchester Location: 53-57, Upper Brook Street, Manchester, M13 9TD Classification: Car Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	790	-	384820 396904
309	**Contemporary Trade Directory Entries** Name: J F Haulage (Manchester) Ltd Location: 127, Fairfield Street, Manchester, M12 6EL Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	751	-	385472 397686
309	**Contemporary Trade Directory Entries** Name: Gilbert Albert & Son Ltd Location: 137, Fairfield Street, Manchester, M12 6FJ Classification: Commercial Vehicle Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	762	-	385483 397683
309	**Contemporary Trade Directory Entries** Name: John Grundy (Labels) Ltd Location: 137, Fairfield Street, Manchester, M12 6FJ Classification: Print Finishers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	762	-	385483 397683
309	**Contemporary Trade Directory Entries** Name: Car Clearence Location: 137, Fairfield Street, Manchester, Lancashire, M12 6FJ Classification: Car Dealers - Used **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	762	-	385483 397683

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
309	**Contemporary Trade Directory Entries** Name: A W Allsop (Manchester) Ltd Location: Unit A, Aldow Enterprise Park, Blackett Street, Manchester, Lancashire, M12 6AE Classification: Lamination & Encapsulation Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NE (E)	788	-	385510 397715
309	**Contemporary Trade Directory Entries** Name: Mr Clutch Location: Blackett Street, Manchester, M12 6EJ Classification: Brake & Clutch Service Centres **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SE (E)	809	-	385531 397703
309	**Contemporary Trade Directory Entries** Name: Mr Clutch Location: Blackett Street, Manchester, M12 6EJ Classification: Brake & Clutch Service Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	809	-	385531 397703
309	**Contemporary Trade Directory Entries** Name: Mr Clutch Location: Blackett Street, Manchester, M12 6EJ Classification: Brake & Clutch Service Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	809	-	385531 397703
310	**Contemporary Trade Directory Entries** Name: Price Location: Market St, Manchester, Lancashire, M60 1TA Classification: Cutlery Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A17NE (NW)	761	-	384250 398390
310	**Contemporary Trade Directory Entries** Name: Belleek Pottery Ltd Location: Market St, Manchester, Lancashire, M60 1TA Classification: Pottery Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A17NE (NW)	766	-	384244 398393
311	**Contemporary Trade Directory Entries** Name: Tetra Pak Business Services Ltd Location: The Chancery,58 Spring Gdns, Manchester, M2 1EW Classification: Boxes & Cartons **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	764	-	384010 398190
311	**Contemporary Trade Directory Entries** Name: Whitecliffs Group Location: 61-63, Brown Street, Manchester, Lancashire, M2 2JG Classification: Electrolysis **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A17SE (NW)	765	-	383995 398172
312	**Contemporary Trade Directory Entries** Name: The White Lab Location: 52, ARDWICK GREEN SOUTH, MANCHESTER, M13 9XF Classification: Laboratories **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	764	-	385227 397130
313	**Contemporary Trade Directory Entries** Name: Steelcase Solutions Location: 12, Booth Street, Manchester, M2 4AW Classification: Furniture Manufacturers - Home & Office **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	766	-	383975 398145
314	**Contemporary Trade Directory Entries** Name: Nisbets Location: 12 Booth Street, Manchester, Greater Manchester, M2 4AW Classification: Catering Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	767	-	383971 398140

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
314	**Contemporary Trade Directory Entries** Name: Frank Rostron Location: 39, Princess Street, Manchester, M2 4FN Classification: Shirt Makers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	802	-	383924 398130
314	**Contemporary Trade Directory Entries** Name: Cheshire Shirtmakers Ltd Location: 39, Princess Street, Manchester, Lancashire, M2 4FN Classification: Shirt Makers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	802	-	383924 398130
315	**Contemporary Trade Directory Entries** Name: The Color Co Location: 41, Spring Gardens, Manchester, M2 2BG Classification: Copying & Duplicating Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	770	-	384065 398263
315	**Contemporary Trade Directory Entries** Name: The Color Co Location: 41, Spring Gardens, Manchester, M2 2BG Classification: Copying & Duplicating Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	770	-	384065 398263
316	**Contemporary Trade Directory Entries** Name: Currys Location: Central Retail Park, Great Ancoats Street, Manchester, Lancashire, M4 6DL Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	771	-	385184 398369
317	**Contemporary Trade Directory Entries** Name: Residential Real Estate Management Location: Student Village, Lower Chatham Street, Manchester, M1 5SX Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	773	-	383973 397285
318	**Contemporary Trade Directory Entries** Name: The Dot Factory Ltd Location: Jubilee House, 10, Durling Street, Manchester, M12 6FS Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	781	-	385346 397234
319	**Contemporary Trade Directory Entries** Name: Autocare M O T & Engineers Ltd Location: 86-87, Temperance Street, Manchester, M12 6HU Classification: Mot Testing Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	783	-	385477 397498
319	**Contemporary Trade Directory Entries** Name: Big Tread Tyre Ltd Location: 86-87, Temperance Street, Manchester, M12 6HU Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	783	-	385477 397498
320	**Contemporary Trade Directory Entries** Name: Pulse Laser Hairaesthetics Location: 18-20, Fountain Street, Manchester, M2 2AA Classification: Electrolysis **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	784	-	384140 398346
320	**Contemporary Trade Directory Entries** Name: Eleven Sports Media Ltd Location: Eleventh Floor, Lowry House, 17, Marble Street, Manchester, M2 3AW Classification: Sports Equipment Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	811	-	384110 398358
320	**Contemporary Trade Directory Entries** Name: Orbit Card Services Location: Lowry House,17 Marble Street, Manchester, Greater Manchester, M2 3AW Classification: Cash Registers & Check-Out Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	811	-	384110 398358

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
321	**Contemporary Trade Directory Entries** Name: Goodwill Safe Boxes Location: 202 City View House,5 Union Street, Ardwick, Manchester, Greater Manchester, M12 4JD Classification: Safes & Vaults - Suppliers & Installers **Status:** **Active** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	790	-	385437 397369
321	**Contemporary Trade Directory Entries** Name: Proto Gold Marine Services Location: City View House, 5, Union Street, Ardwick, Manchester, M12 4JD Classification: Machinery - Industrial & Commercial **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	790	-	385437 397369
321	**Contemporary Trade Directory Entries** Name: Ici Caldaie Ltd Location: The Works,5 Union St, Ardwick, Manchester, Lancashire, M12 4JD Classification: Boiler Manufacturers **Status:** **Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9NE (SE)	818	-	385467 397366
321	**Contemporary Trade Directory Entries** Name: Siptel Location: Union St, Ardwick, Manchester, Lancashire, M12 4JD Classification: Telecommunications Equipment & Systems **Status:** **Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9NE (SE)	821	-	385464 397352
322	**Contemporary Trade Directory Entries** Name: Access Pest Control Location: 16, Peter Street, Manchester, M60 2DS Classification: Pest & Vermin Control **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	791	-	383833 397848
323	**Contemporary Trade Directory Entries** Name: I B B Builders Merchants Location: 24, Piccadilly Trading Estate, Manchester, M1 2NP Classification: Builders' Merchants **Status:** **Active** Positional Accuracy: Automatically positioned to the address	A14NE (E)	795	-	385501 397909
323	**Contemporary Trade Directory Entries** Name: Broadcasting Support Services Location: 24, Piccadilly Trading Estate, Manchester, M1 2NP Classification: Distribution Services **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A14NE (E)	826	-	385532 397910
324	**Contemporary Trade Directory Entries** Name: K B K Meal Prep Location: 67, GREAT ANCOATS STREET, MANCHESTER, M4 5AB Classification: Food Products - Manufacturers **Status:** **Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	797	-	384863 398537
325	**Contemporary Trade Directory Entries** Name: Texaco Location: Hyde Road, Manchester, Greater Manchester, M18 7EE Classification: Petrol Filling Stations **Status:** **Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	799	-	385241 397096
325	**Contemporary Trade Directory Entries** Name: Esso Location: Ardwick Green South, Manchester, M13 9XF Classification: Petrol Filling Stations **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	800	-	385240 397094
325	**Contemporary Trade Directory Entries** Name: Esso Location: Ardwick Green Tesco Service Station, Ardwick Green South, Manchester, M13 9XF Classification: Petrol Filling Stations **Status:** **Active** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	801	-	385244 397096

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
325	**Contemporary Trade Directory Entries** Name: Tesco Petrol Station Location: Ardwick Green South, Manchester, Greater Manchester, M13 9XF Classification: Petrol Filling Stations **Status: Active** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	801	-	385241 397093
325	**Contemporary Trade Directory Entries** Name: Ardwick Green Service Station Location: Ardwick Green South, Manchester, M13 9XF Classification: Petrol Filling Stations - 24 Hour **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	815	-	385252 397084
326	**Contemporary Trade Directory Entries** Name: Universal Utilities Location: Third Floor, Tootal House, 19-21, Spring Gardens, Manchester, M2 1FB Classification: Gas Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	801	-	384093 398331
326	**Contemporary Trade Directory Entries** Name: Calvin Assett Management Ltd Location: 19 Spring Gdns, Manchester, Lancashire, M2 1FB Classification: Meter Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	807	-	384088 398334
326	**Contemporary Trade Directory Entries** Name: Octapharma Location: The Zenith Building, 26, Spring Gardens, Manchester, Lancashire, M2 1AB Classification: Chemists' & Pharmacists' Suppliers & Wholesalers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A17SE (NW)	844	-	384054 398354
326	**Contemporary Trade Directory Entries** Name: M60 Rescue & Recovery Location: 406 St James Ct,Brown St, Manchester, Lancashire, M2 2JG Classification: Commercial Vehicle Breakdown & Recovery Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A17SE (NW)	854	-	384026 398341
326	**Contemporary Trade Directory Entries** Name: Anywaste Uk Location: St. James Court, 30, Brown Street, Manchester, M2 1DH Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	868	-	384013 398350
326	**Contemporary Trade Directory Entries** Name: Wastelift Location: St. James Court, 30, Brown Street, Manchester, M2 1DH Classification: Waste Disposal Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	868	-	384013 398350
327	**Contemporary Trade Directory Entries** Name: Teese Ltd Location: Unit C, Aldow Enterprise Park, Blackett Street, Manchester, M12 6AE Classification: T-Shirts **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NE (E)	804	-	385526 397785
327	**Contemporary Trade Directory Entries** Name: Hugo James Ltd Location: Unit D, Aldow Enterprise Park, Blackett Street, Manchester, M12 6AE Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NE (E)	813	-	385536 397765
328	**Contemporary Trade Directory Entries** Name: Mafana Ltd Location: 65-71, Lever Street, MANCHESTER, M1 1FL Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	806	-	384650 398558
328	**Contemporary Trade Directory Entries** Name: Manchester Printing Co Ltd Location: 75, Lever Street, Manchester, M1 1FL Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	818	-	384667 398572

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
329	**Contemporary Trade Directory Entries** Name: Hunters Contracts Ltd Location: MacIntosh House, 4a, Cambridge Street, Manchester, M1 5GG Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	810	-	383916 397306
330	**Contemporary Trade Directory Entries** Name: George Woodhead & Co Ltd Location: 2, Gloucester Street, Manchester, M1 5GP Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	815	-	383844 397455
330	**Contemporary Trade Directory Entries** Name: John Sherratt & Co Ltd Location: Hotspur House, 2, Gloucester Street, Manchester, M1 5QR Classification: Bookbinding & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	815	-	383844 397455
330	**Contemporary Trade Directory Entries** Name: Aaa Location: 2, Gloucester Street, Manchester, M1 5GP Classification: Distribution Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	815	-	383844 397455
330	**Contemporary Trade Directory Entries** Name: 24 Design Ltd Location: Hotspur House, 2, Gloucester Street, Manchester, Lancashire, M1 5QR Classification: Furniture Manufacturers - Home & Office **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SW (W)	815	-	383844 397455
331	**Contemporary Trade Directory Entries** Name: Brenca Metals Ltd Location: Ship Canal House, 98, King Street, Manchester, M2 4WU Classification: Scrap Metal Merchants **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	818	-	383976 398234
331	**Contemporary Trade Directory Entries** Name: Nationwide Fuels Llp Location: Ship Canal House,98 King Street, Manchester, Greater Manchester, M2 4WU Classification: Lubricant Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	818	-	383976 398234
331	**Contemporary Trade Directory Entries** Name: Haughton Engineering Services Location: Ship Canal House, 98, King Street, Manchester, Lancashire, M2 4WU Classification: Engineering Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	818	-	383976 398234
332	**Contemporary Trade Directory Entries** Name: Carfinance 247 Location: Block B, 12, Pollard Street, MANCHESTER, M4 7AJ Classification: Car Component Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SE (NE)	822	-	385438 398153
333	**Contemporary Trade Directory Entries** Name: Kea Designer Sportswear Location: Unit 1, Dark Lane, Manchester, Lancashire, M12 6FA Classification: Leisure & Sportswear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	823	-	385534 397568
334	**Contemporary Trade Directory Entries** Name: Beehive Telecom Location: 79, Thomas Street, Manchester, M4 1LQ Classification: Telecommunications Equipment & Systems **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	827	-	384480 398554
335	**Contemporary Trade Directory Entries** Name: Corralls Location: 54-58, Great Ancoats Street, Manchester, M4 5AB Classification: Coal & Smokeless Fuel Merchants & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	827	-	384822 398574

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
335	**Contemporary Trade Directory Entries** Name: Spray Tech Location: Ground Floor, 16, Blossom Street, Manchester, M4 5AW Classification: Printers Textile **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	852	-	384859 398594
335	**Contemporary Trade Directory Entries** Name: Bhana Clothing Location: Ground Floor, 16, Blossom Street, Manchester, Lancashire, M4 5AW Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NE (N)	852	-	384859 398594
335	**Contemporary Trade Directory Entries** Name: Daisy Fashions Location: 16, Blossom Street, Manchester, Lancashire, M4 5AW Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	852	-	384859 398594
335	**Contemporary Trade Directory Entries** Name: Miroil Uk Ltd Location: 13, Blossom Street, Manchester, M4 5AF Classification: Catering Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	874	-	384820 398622
336	**Contemporary Trade Directory Entries** Name: A 2 Z Knitwear Ltd Location: 56, Lever Street, Manchester, M1 1FJ Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	828	-	384720 398582
336	**Contemporary Trade Directory Entries** Name: Silk Beauty Hair Removal Location: 10, Bradley Street, Manchester, M1 1EH Classification: Electrolysis **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	829	-	384673 398583
337	**Contemporary Trade Directory Entries** Name: The Studio Copy Shop Location: 89-95, Oldham Street, Manchester, M4 1LW Classification: T-Shirts **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	828	-	384532 398567
337	**Contemporary Trade Directory Entries** Name: T-Shirt Xpress Location: 89-95, Oldham Street, Manchester, M4 1LW Classification: T-Shirts **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NW (N)	828	-	384532 398567
337	**Contemporary Trade Directory Entries** Name: Stephs Manufacturing Location: 66 Tib St, Manchester, M4 1LG Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	829	-	384515 398564
337	**Contemporary Trade Directory Entries** Name: Fern Audio Ltd Location: 70-72, Tib Street, Manchester, M4 1LG Classification: Sound Equipment Systems Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	838	-	384522 398575
337	**Contemporary Trade Directory Entries** Name: Prime Direct Distribution Ltd Location: 99 Oldham St, Manchester, Lancashire, M4 1LW Classification: Record, Tape & CD Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	843	-	384544 398584
338	**Contemporary Trade Directory Entries** Name: F Dunn & Sons Location: Vesta St, Ancoats, Manchester, M4 6DS Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A19SW (NE)	832	-	385338 398310

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
339	**Contemporary Trade Directory Entries** Name: Manchester City Council Location: Town Hall, Albert Square, Manchester, Lancashire, M2 5DB Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	832	-	383867 398089
340	**Contemporary Trade Directory Entries** Name: J K Dairies Location: 83, North Western Street, Manchester, M12 6DY Classification: Dairies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	833	-	385527 397493
340	**Contemporary Trade Directory Entries** Name: Al-Arabia Cargo Ltd Location: 82 Temperance Street, Manchester, Greater Manchester, M12 6HU Classification: Cargo Handling Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SE (E)	834	-	385522 397468
340	**Contemporary Trade Directory Entries** Name: Baxter Diesel Service Location: 80, Temperance Street, Manchester, M12 6HU Classification: Fuel Injection Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	855	-	385540 397456
341	**Contemporary Trade Directory Entries** Name: Scott Group Location: Higher Ardwick, Manchester, Greater Manchester, M12 6DB Classification: Pallets, Crates & Packing Cases **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A9NE (SE)	836	-	385412 397231
342	**Contemporary Trade Directory Entries** Name: Best Laundrette Location: 40, Brunswick Street, Manchester, M13 9TQ Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	840	-	385122 396964
342	**Contemporary Trade Directory Entries** Name: Best Laundrette Location: 40, Brunswick Street, Manchester, M13 9TQ Classification: Laundries & Launderettes **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	840	-	385122 396964
343	**Contemporary Trade Directory Entries** Name: Johnsons The Cleaners Location: 24, High Street, Manchester, M4 1QB Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A17NE (NW)	841	-	384256 398483
344	**Contemporary Trade Directory Entries** Name: Discovery Forensics Location: PALL MALL COURT 61-67, KING STREET, MANCHESTER, M2 4PD Classification: Laboratories **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	850	-	383979 398287
344	**Contemporary Trade Directory Entries** Name: J M B Professional Location: Pall Mall Court,61-67 King Street, Manchester, Greater Manchester, M2 4PD Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	850	-	383979 398287
345	**Contemporary Trade Directory Entries** Name: Yating Lighting Location: Oxford Rd, Manchester, Lancashire, M13 9PL Classification: Lighting Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A8SW (S)	851	-	384615 396824
346	**Contemporary Trade Directory Entries** Name: M Y Manchester Cleaners Location: 55 Turner Street, Manchester, Greater Manchester, M4 1DN Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A18NW (N)	859	-	384389 398560

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
346	**Contemporary Trade Directory Entries** Name: New Deal Skates Location: 51 Turner St, Manchester, M4 1DN Classification: Leisure & Sportswear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	859	-	384389 398560
346	**Contemporary Trade Directory Entries** Name: True Brand International Location: 51, Turner Street, Manchester, Lancashire, M4 1DN Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	859	-	384389 398560
346	**Contemporary Trade Directory Entries** Name: Brookley Ltd Location: 43-45 Turner St, Manchester, M4 1DN Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	866	-	384380 398564
346	**Contemporary Trade Directory Entries** Name: Fashion Row Manchester Ltd Location: 43-45 Turner St, Manchester, M4 1DN Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	866	-	384380 398564
347	**Contemporary Trade Directory Entries** Name: Refuel Global Brands Location: Unit 12, Royal Mills, 17, Redhill Street, Manchester, M4 5BA Classification: Hats & Caps - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A19NW (NE)	866	-	385027 398562
347	**Contemporary Trade Directory Entries** Name: Ed Chapman Ltd Location: Union Mill, Redhill Street, Manchester, M4 5AU Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19NW (NE)	898	-	385066 398582
348	**Contemporary Trade Directory Entries** Name: Awan Auto Tec Location: Unit 1 Mill Green Street, Manchester, Greater Manchester, M12 6FB Classification: Mot Testing Centres **Status: Active** Positional Accuracy: Manually positioned to the address or location	A14SE (E)	868	-	385577 397556
348	**Contemporary Trade Directory Entries** Name: Passion Knitwear Ltd Location: Dark Lane, Manchester, M12 6FA Classification: Knitwear Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SE (E)	871	-	385573 397521
348	**Contemporary Trade Directory Entries** Name: Choudhary Manufacturing Co Ltd Location: Dark Lane, Manchester, M12 6FA Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	871	-	385573 397521
348	**Contemporary Trade Directory Entries** Name: K H Cabs Repair & Servicing Location: Mill Green St, Manchester, Lancashire, M12 6FB Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A14SE (E)	874	-	385583 397556
349	**Contemporary Trade Directory Entries** Name: The Perfume Shop Manchester Arndale Centre Location: Unit 9a Cromford Court The Perfume Shop, Manchester, Greater Manchester, M4 2EA Classification: Perfume Suppliers **Status: Active** Positional Accuracy: Automatically positioned to the address	A17NE (NW)	868	-	384160 398462

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
349	**Contemporary Trade Directory Entries** Name: Kiddycare International Location: Unit R30, Marsden Way South, Manchester, M4 3AT Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17NE (NW)	868	-	384160 398462
350	**Contemporary Trade Directory Entries** Name: Strong Mechanical Services Location: Peter St, Manchester, Lancashire, M2 3NQ Classification: Mechanical Engineers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A12NW (W)	869	-	383770 397932
350	**Contemporary Trade Directory Entries** Name: Down Under Location: 47, Peter Street, Manchester, Lancashire, M2 3NG Classification: Abattoirs **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12NW (W)	903	-	383742 397958
351	**Contemporary Trade Directory Entries** Name: Wsc Cleaning Location: 82 King St, Manchester, Lancashire, M2 4WQ Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	873	-	383923 398256
351	**Contemporary Trade Directory Entries** Name: Firemart Location: 82, King Street, Manchester, M2 4WQ Classification: Firefighting Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	873	-	383923 398256
351	**Contemporary Trade Directory Entries** Name: Mxm Location: 82, King Street, Manchester, Lancashire, M2 4WQ Classification: Medical Equipment Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A17SW (NW)	873	-	383923 398256
351	**Contemporary Trade Directory Entries** Name: New Brush Cleaning Services Location: Manchester, Greater Manchester, M2 4nh Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A17SW (NW)	905	-	383877 398248
351	**Contemporary Trade Directory Entries** Name: Alex Atkinson-Fletcher Ltd Location: 76 King Street, Manchester, Greater Manchester, M2 4NH Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	905	-	383877 398248
351	**Contemporary Trade Directory Entries** Name: Wardell Armstrong Llp Location: 76 King Street, Manchester, Greater Manchester, M2 4NH Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	905	-	383877 398248
351	**Contemporary Trade Directory Entries** Name: Incanthera Ltd Location: 76 King Street, Manchester, Greater Manchester, M2 4NH Classification: Laboratories **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	905	-	383877 398248
351	**Contemporary Trade Directory Entries** Name: Yourprintingsolutionltd.Co.Uk Location: 76, KING STREET, MANCHESTER, M2 4NH Classification: Office Furniture & Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	905	-	383877 398248
352	**Contemporary Trade Directory Entries** Name: Cannon Electrical Contractors (Manchester) Ltd Location: 8, Clarence Street, Manchester, M2 4DW Classification: Electrical Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	873	-	383872 398182

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
352	**Contemporary Trade Directory Entries** Name: Inpeto Ltd Location: Northern Assurance Building, 9-21, Princess Street, Manchester, Lancashire, M2 4DN Classification: Pet Foods & Animal Feeds **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A17SW (NW)	873	-	383872 398182
352	**Contemporary Trade Directory Entries** Name: Johnsons The Cleaners Location: 61, Cross Street, Manchester, M2 4JW Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	901	-	383842 398188
352	**Contemporary Trade Directory Entries** Name: Max Spielmann Location: 59a, Cross Street, Manchester, Lancashire, M2 4JW Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	902	-	383845 398194
353	**Contemporary Trade Directory Entries** Name: Advent Location: 309, Great Ancoats Street, Manchester, M4 7DF Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NE (E)	879	-	385559 398014
354	**Contemporary Trade Directory Entries** Name: Blossom Motor Co Location: 27, Gun Street, Manchester, M4 5DN Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	880	-	384804 398630
354	**Contemporary Trade Directory Entries** Name: V A Clean Location: 46, Henry Street, Manchester, M4 5DD Classification: Cleaning Services - Domestic **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	888	-	384813 398637
354	**Contemporary Trade Directory Entries** Name: Best Knitwear Ltd Location: 24-28, George Leigh Street, Manchester, M4 5DQ Classification: Knitwear Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	928	-	384809 398678
354	**Contemporary Trade Directory Entries** Name: Al-Murid Pleating Co Location: 24-28, George Leigh Street, Manchester, M4 5DQ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	928	-	384809 398678
354	**Contemporary Trade Directory Entries** Name: Sam Knitwear Ltd Location: 24-28, George Leigh Street, Manchester, M4 5DQ Classification: Knitwear Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	928	-	384809 398678
355	**Contemporary Trade Directory Entries** Name: Hartecast Location: Union Street, Ardwick, Manchester, Greater Manchester, M12 4JD Classification: Metal Products - Fabricated **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A9NE (SE)	884	-	385516 397316
356	**Contemporary Trade Directory Entries** Name: James Darby Location: The Deaprtment Store, 1-7, Oak Street, Manchester, Lancashire, M4 5JD Classification: Shirt Makers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	887	-	384437 398605

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
356	**Contemporary Trade Directory Entries** Name: The Print Room Location: 46, Edge Street, Manchester, M4 1HN Classification: Screen Process Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	897	-	384422 398611
356	**Contemporary Trade Directory Entries** Name: Taylor & Galvin Location: 46-48, Copperas Street, Manchester, M4 1HS Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	934	-	384434 398652
356	**Contemporary Trade Directory Entries** Name: Seed Ceramics Location: Studio 14, Manchester Craft Centre, 17, Oak Street, Manchester, Lancashire, M4 5JD Classification: Ceramic Manufacturers, Supplies & Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	939	-	384454 398663
356	**Contemporary Trade Directory Entries** Name: Manchester Craft & Design Centre Location: Manchester Craft Centre, 17, Oak Street, Manchester, M4 5JD Classification: Ceramic Manufacturers, Supplies & Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	939	-	384454 398663
357	**Contemporary Trade Directory Entries** Name: Scrap My Car Now For Money Manchester Kws Location: Lawrence Buildings, Manchester, Lancashire, M2 5WQ Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A12NW (W)	891	-	383774 398020
357	**Contemporary Trade Directory Entries** Name: Mount Distribution Ltd Location: 2 Mount Street, Manchester, Greater Manchester, M2 5WQ Classification: Distribution Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	892	-	383773 398020
358	**Contemporary Trade Directory Entries** Name: Pdc Manchester Location: 129, Oldham Street, Manchester, M4 1LN Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	903	-	384605 398652
358	**Contemporary Trade Directory Entries** Name: Pdc (Manchester) Location: 129, Oldham Street, Manchester, M4 1LN Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	903	-	384605 398652
358	**Contemporary Trade Directory Entries** Name: Berwick Electronics Location: 53, Tib Street, Manchester, M4 1LS Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	904	-	384559 398648
358	**Contemporary Trade Directory Entries** Name: Print-Wear Ltd Location: 108 Tib Street, Manchester, Lancashire, M4 1LR Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18NW (N)	907	-	384590 398654
358	**Contemporary Trade Directory Entries** Name: Applique Apparel Ltd Location: 110-112, Tib Street, Manchester, M4 1LR Classification: T-Shirts **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NW (N)	913	-	384595 398661

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
358	**Contemporary Trade Directory Entries** Name: The White Peg Co Location: 110-112, Tib Street, Manchester, M4 1LR Classification: Laundries & Launderettes **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	913	-	384595 398661
359	**Contemporary Trade Directory Entries** Name: Total Location: 1-5, Hyde Road, Manchester, M12 6BQ Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	907	-	385404 397106
359	**Contemporary Trade Directory Entries** Name: New Ardwick Body Centre Location: 10-12, Harkness Street, Manchester, M12 6BT Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	917	-	385460 397159
359	**Contemporary Trade Directory Entries** Name: T N A Knitwear Ltd Location: 11, Dolphin Street, Manchester, M12 6BG Classification: Knitting Yarn Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	926	-	385438 397116
359	**Contemporary Trade Directory Entries** Name: T & A Location: 11, Dolphin Street, Manchester, M12 6BG Classification: Knitting Yarn Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	926	-	385438 397116
359	**Contemporary Trade Directory Entries** Name: Fashion Waves Ltd Location: 17, Dolphin Street, Manchester, M12 6BG Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	936	-	385453 397119
359	**Contemporary Trade Directory Entries** Name: Echo Manchester Ltd Location: 17, Dolphin Street, Manchester, M12 6BG Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	936	-	385453 397119
359	**Contemporary Trade Directory Entries** Name: Muizz Knitwear Ltd Location: 16 Dolphin Street, Manchester, Greater Manchester, M12 6BG Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	936	-	385434 397096
359	**Contemporary Trade Directory Entries** Name: Goldenknit M C R Ltd Location: Rear Of, 16, Dolphin Street, Manchester, M12 6BG Classification: Knitwear Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	936	-	385434 397096
359	**Contemporary Trade Directory Entries** Name: Classic Knitwear (Uk) Ltd Location: 13, Dolphin Street, Manchester, M12 6BG Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	936	-	385453 397119
359	**Contemporary Trade Directory Entries** Name: Mia Fashions (Manchester) Ltd Location: 13, Dolphin Street, Manchester, M12 6BG Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	936	-	385453 397119
359	**Contemporary Trade Directory Entries** Name: Khalil Knitwear Location: 11, Dolphin Street, Manchester, M12 6BG Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	936	-	385453 397119

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
359	**Contemporary Trade Directory Entries** Name: Allied Knitwear Location: Ardwick Hall, 16, Dolphin Street, Manchester, M12 6BG Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	937	-	385435 397096
359	**Contemporary Trade Directory Entries** Name: Axiom Knitwear Ltd Location: Ardwick Hall, 16, Dolphin Street, Manchester, Lancashire, M12 6BG Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	937	-	385435 397096
359	**Contemporary Trade Directory Entries** Name: Omnifore Ltd Location: Ardwick Hall, 16, Dolphin Street, Manchester, Lancashire, M12 6BG Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NE (SE)	937	-	385435 397096
359	**Contemporary Trade Directory Entries** Name: Awais Knitwear Ltd Location: 16, Dolphin Street, Manchester, M12 6BG Classification: Knitting Yarn Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	937	-	385435 397096
359	**Contemporary Trade Directory Entries** Name: A & I Manchester Ltd Location: 18b, Harkness Street, Manchester, M12 6BT Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	943	-	385487 397153
359	**Contemporary Trade Directory Entries** Name: Zam Zam Knitwear Location: 13, Dolphin Street, Manchester, M12 6BG Classification: Knitwear Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	945	-	385457 397111
359	**Contemporary Trade Directory Entries** Name: Yorkshire Trading Location: Unit 9,Dolphin St, Manchester, Lancashire, M12 6BG Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9NE (SE)	946	-	385453 397104
359	**Contemporary Trade Directory Entries** Name: Apollo Tyres Location: 23, Hyde Road, Manchester, M12 6BQ Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	972	-	385464 397076
359	**Contemporary Trade Directory Entries** Name: Apollo Tyre & Service Centre Ltd Location: 23, Hyde Road, Manchester, M12 6BQ Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	972	-	385464 397076
360	**Contemporary Trade Directory Entries** Name: Currys Pc World Location: Pin Mill Brow, Manchester, Greater Manchester, M12 6EH Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NE (E)	910	-	385633 397729
361	**Contemporary Trade Directory Entries** Name: C G (Europe) Ltd Location: Enterprise House, 15, Whitworth Street West, Manchester, Lancashire, M1 5WG Classification: China & Glassware Manufacturers & Repairs **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SW (W)	914	-	383721 397526

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
362	**Contemporary Trade Directory Entries** Name: Tuesdays Girl Ltd Location: 54, Higher Ardwick, Manchester, M12 6DA Classification: Cosmetic Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	916	-	385503 397226
362	**Contemporary Trade Directory Entries** Name: Dolphin Knitting Co Ltd Location: 54, Higher Ardwick, Manchester, M12 6DA Classification: Knitting Machine - Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	916	-	385503 397226
362	**Contemporary Trade Directory Entries** Name: Horizon Knitwear Location: Horizon House, Harkness Street, Manchester, M12 6BT Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	933	-	385510 397204
362	**Contemporary Trade Directory Entries** Name: Horizon Knitwear Ltd Location: Horizon House, Harkness Street, Manchester, M12 6BT Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	933	-	385510 397204
363	**Contemporary Trade Directory Entries** Name: Amc Graphics Location: Lynx House, 17, Cotton Street, Manchester, M4 6AA Classification: Lithographic Plate Makers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	919	-	384858 398662
363	**Contemporary Trade Directory Entries** Name: Appleyard Press Location: Lynx House, 17, Cotton Street, Manchester, M4 6AA Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	919	-	384858 398662
364	**Contemporary Trade Directory Entries** Name: Tom Blackburn Garage Ltd Location: 74 North Western Street, Manchester, Greater Manchester, M12 6DX Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	920	-	385603 397440
364	**Contemporary Trade Directory Entries** Name: Ventella & Harrison Location: 72, Temperance Street, Manchester, M12 6HU Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A14SE (E)	937	-	385611 397407
364	**Contemporary Trade Directory Entries** Name: A 2 B Logistics Location: 72 Temperance St, Manchester, Lancashire, M12 6HU Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SE (E)	937	-	385610 397406
364	**Contemporary Trade Directory Entries** Name: D C M Services Location: 72, Temperance Street, Manchester, Lancashire, M12 6HU Classification: Recycling Centres **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	937	-	385611 397407
364	**Contemporary Trade Directory Entries** Name: Kendall & Roberts Location: 72, North Western Street, Manchester, M12 6DX Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	944	-	385623 397423
364	**Contemporary Trade Directory Entries** Name: Hosler Motors Location: 70-71, North Western Street, Manchester, M12 6DX Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	959	-	385635 397411

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
365	**Contemporary Trade Directory Entries** Name: Brucella Tait Location: First Floor, 40, Thomas Street, Manchester, M4 1ER Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	920	-	384366 398617
365	**Contemporary Trade Directory Entries** Name: David Ellis Jewellery Location: First Floor, 40, Thomas Street, Manchester, M4 1ER Classification: Jewellery Manufacturers & Repairers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NW (N)	920	-	384366 398617
365	**Contemporary Trade Directory Entries** Name: Why Publications Location: 40, Thomas Street, Manchester, Lancashire, M4 1ER Classification: Distribution Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	920	-	384366 398617
365	**Contemporary Trade Directory Entries** Name: Mehta & Mehta Ltd Location: 38, Thomas Street, Manchester, M4 1ER Classification: Children & Babywear - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	925	-	384363 398621
365	**Contemporary Trade Directory Entries** Name: Manchester Gold Buyers Location: Thomas St, Manchester, Lancashire, M4 1NA Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A18NW (N)	929	-	384390 398634
365	**Contemporary Trade Directory Entries** Name: Marc The Printers Location: 28-30, Edge Street, Manchester, M4 1HN Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	939	-	384399 398647
365	**Contemporary Trade Directory Entries** Name: Gyroscope Ltd Location: 30-32, Thomas Street, Manchester, Lancashire, M4 1ER Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	949	-	384349 398642
366	**Contemporary Trade Directory Entries** Name: N C S M Group Location: 3-9 Hyde Road, Manchester, Greater Manchester, M12 6BQ Classification: Car Dealers - Used **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	924	-	385403 397078
366	**Contemporary Trade Directory Entries** Name: Global Facility Management Ltd Location: 3-9 Hyde Road, Manchester, Greater Manchester, M12 6BQ Classification: Cleaning Services - Domestic **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	924	-	385403 397078
367	**Contemporary Trade Directory Entries** Name: Gerards Ltd Location: William St, Ardwick, Manchester, M12 5FX Classification: Ice Cream Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A14SE (E)	924	-	385639 397593
368	**Contemporary Trade Directory Entries** Name: Corner House Publications Location: 2 Tony Wilson Place, Manchester, Greater Manchester, M15 4FN Classification: Distribution Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	925	-	383726 397459
369	**Contemporary Trade Directory Entries** Name: The Offices Location: 53 King Street, Manchester, Greater Manchester, M2 4LQ Classification: Office Equipment Servicing & Maintenance **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	927	-	383885 398295

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
369	**Contemporary Trade Directory Entries** Name: Direct Service Solutions Location: 53 King Street, Manchester, Greater Manchester, M2 4LQ Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	927	-	383885 398295
370	**Contemporary Trade Directory Entries** Name: Dev Des I T Location: Jactin House,24 Hood Street, Manchester, Greater Manchester, M4 6WX Classification: Computer Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	928	-	384958 398650
370	**Contemporary Trade Directory Entries** Name: M A Quality Foods Location: Jactin House,24 Hood Street, Manchester, Greater Manchester, M4 6WX Classification: Food Products - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	928	-	384958 398650
371	**Contemporary Trade Directory Entries** Name: Serious Clean Location: 5 Luna Street, Manchester, Greater Manchester, M4 5LX Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	929	-	384736 398683
372	**Contemporary Trade Directory Entries** Name: Merseyside Metalworks Location: 81-97, Upper Brook Street, Manchester, M13 9TX Classification: Air Conditioning Equipment & Systems **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	930	-	384888 396777
373	**Contemporary Trade Directory Entries** Name: Diamond Trading Co Location: 7-9, Swan Street, Manchester, M4 5JJ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	937	-	384619 398687
374	**Contemporary Trade Directory Entries** Name: Pollard Vacforming Co Location: Vulcan Works, Pollard Street, Manchester, Lancashire, M4 7AN Classification: Packaging & Wrapping Equipment & Supplies **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A19SE (NE)	937	-	385536 398214
374	**Contemporary Trade Directory Entries** Name: Gina Fashions Location: Vulcan Works, Pollard Street, Manchester, Lancashire, M4 7AN Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A19SE (NE)	937	-	385536 398214
374	**Contemporary Trade Directory Entries** Name: Twentyfour Seven Vulcan Ltd Location: Vulcan Works, Pollard Street, Manchester, Lancashire, M4 7AR Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A19SE (NE)	937	-	385536 398214
374	**Contemporary Trade Directory Entries** Name: Arthur Henriques Ltd Location: Vulcan Works, Pollard Street, Manchester, M4 7AR Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SE (NE)	938	-	385536 398214
374	**Contemporary Trade Directory Entries** Name: Diamond Auto Salvage Location: 21 Pollard St, Manchester, M4 7AF Classification: Salvage Dealers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A19SE (NE)	950	-	385534 398242
374	**Contemporary Trade Directory Entries** Name: Zolpidem Uk Location: 2 Malta Street, Manchester, Greater Manchester, M4 7BH Classification: Chemists' & Pharmacists' Suppliers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SE (NE)	985	-	385577 398238

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
374	**Contemporary Trade Directory Entries** Name: C H Cross & Son Ltd Location: Vulcan Works, Malta Street, Manchester, M4 7AP Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SE (NE)	986	-	385575 398242
375	**Contemporary Trade Directory Entries** Name: Ats Euromaster Ltd Location: 20, Wilmott Street, Manchester, Lancashire, M15 6BE Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	938	-	383881 397130
376	**Contemporary Trade Directory Entries** Name: Simon & Simon Location: Lock 90,Trumpet Street, Manchester, Greater Manchester, M1 5LW Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SW (W)	942	-	383683 397574
376	**Contemporary Trade Directory Entries** Name: E F G Matthews Office Furniture Ltd Location: Albion Street, Manchester, M1 5LL Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	964	-	383661 397574
377	**Contemporary Trade Directory Entries** Name: New Beach Retail Ltd Location: 75, Tib Street, Manchester, M4 1LS Classification: Distribution Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	944	-	384598 398692
377	**Contemporary Trade Directory Entries** Name: Quality Engineering Design Ltd Location: 77, Tib Street, Manchester, M4 1LS Classification: Mechanical Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	944	-	384598 398692
377	**Contemporary Trade Directory Entries** Name: Quality Engineering Design Location: 77, Tib Street, Manchester, M4 1LS Classification: Mechanical Engineers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NW (N)	944	-	384598 398692
377	**Contemporary Trade Directory Entries** Name: Unique Design Ltd Location: 19-23, Swan Street, Manchester, M4 5JJ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	972	-	384578 398718
377	**Contemporary Trade Directory Entries** Name: Luton Engineering Services Location: 6 Swan St, Manchester, Lancashire, M4 5JN Classification: Engineering Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A23SW (N)	981	-	384624 398732
377	**Contemporary Trade Directory Entries** Name: Luton Engineering Services S W Ltd Location: 6, Swan Street, Manchester, M4 5JN Classification: Engineering Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A23SW (N)	982	-	384624 398733
378	**Contemporary Trade Directory Entries** Name: Auto Trader Location: 1, Tony Wilson Place, Manchester, M15 4FN Classification: Car Customisation & Conversion Specialists **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (W)	946	-	383735 397371
378	**Contemporary Trade Directory Entries** Name: Autotrader Location: 1, TONY WILSON PLACE, MANCHESTER, M15 4FN Classification: Car Dealers - Used **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	948	-	383729 397382

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
379	**Contemporary Trade Directory Entries** Name: Seven Brothers Bars Ltd Location: Apartment 802, Ice Plant, 39, Blossom Street, Manchester, M4 6AP Classification: Brewers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	953	-	384907 398687
380	**Contemporary Trade Directory Entries** Name: Boda Skins Location: Lloyds House, 18-22, Lloyd Street, Manchester, M2 5WA Classification: Leather Garments & Products **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (W)	955	-	383718 398054
380	**Contemporary Trade Directory Entries** Name: Manchester Chemicals & Pigments Ltd Location: Lloyds House, 18-22, Lloyd Street, Manchester, Lancashire, M2 5WA Classification: Chemicals - Distributors & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A17SW (W)	955	-	383718 398054
381	**Contemporary Trade Directory Entries** Name: Davidson Powell Design Location: 40, John Dalton Street, Manchester, M2 6LE Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	955	-	383781 398190
382	**Contemporary Trade Directory Entries** Name: Emptymybins Location: 70, Temperance Street, Manchester, M12 6HU Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	957	-	385627 397393
382	**Contemporary Trade Directory Entries** Name: Mouse Kingdom Location: ARCH 70, TEMPERANCE STREET, MANCHESTER, M12 6HU Classification: Distilleries **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SE (E)	958	-	385628 397393
382	**Contemporary Trade Directory Entries** Name: Platting Pallets Location: North Western Street, Cressberry Street, Manchester, Greater Manchester, M12 6DX Classification: Pallets, Crates & Packing Cases **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A14SE (E)	984	-	385656 397395
382	**Contemporary Trade Directory Entries** Name: Mr Pigs Motorcycles Location: 67, Temperance Street, Manchester, M12 6DP Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NE (E)	986	-	385651 397373
383	**Contemporary Trade Directory Entries** Name: Lacamanda Ltd Location: EAGLE BUILDINGS, 64, CROSS STREET, MANCHESTER, M2 4JQ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	957	-	383833 398276
383	**Contemporary Trade Directory Entries** Name: Pure Beauty Location: 49, King Street, Manchester, Lancashire, M2 7AY Classification: Toiletries **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A17SW (NW)	978	-	383832 398310
383	**Contemporary Trade Directory Entries** Name: Thomas Pink Location: 58, King Street, Manchester, M2 4LY Classification: Shirt Makers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	987	-	383803 398286

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
383	**Contemporary Trade Directory Entries** Name: Jonathan Kaye Location: Third Floor, James Binney House, 52, Cross Street, Manchester, M2 7AR Classification: Jewellery Manufacturers & Repairers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	991	-	383826 398323
383	**Contemporary Trade Directory Entries** Name: Now Time Location: James Binney House, 52, Cross Street, Manchester, M2 7AR Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	991	-	383826 398323
383	**Contemporary Trade Directory Entries** Name: Harrisons Cleaning Specialists Location: National House, 36, St. Ann Street, Manchester, M60 8HF Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	993	-	383838 398343
384	**Contemporary Trade Directory Entries** Name: Fragrance Shop Location: 23, ARNDALE CENTRE, MARKET STREET, MANCHESTER, M4 3AB Classification: Perfume Suppliers **Status: Active** Positional Accuracy: Automatically positioned to the address	A17NE (NW)	959	-	384079 398518
384	**Contemporary Trade Directory Entries** Name: Currys Location: 93 Halle Mall Arndale Shopping Centre Greater, Manchester, Greater Manchester, M4 2HU Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A17NE (NW)	959	-	384079 398518
384	**Contemporary Trade Directory Entries** Name: The Perfume Shop Location: Unit L2 Manchester Arndale, Manchester, Greater Manchester, M4 1AZ Classification: Perfume Suppliers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A17NE (NW)	964	-	384089 398531
384	**Contemporary Trade Directory Entries** Name: Currys Pc World Location: 93 Halle Mall, Arndale Shopping Centre, Manchester, M4 2HU Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A17NE (NW)	988	-	384075 398550
384	**Contemporary Trade Directory Entries** Name: Comet Location: 19a Arndale Centre, Manchester, Lancashire, M4 2HU Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A17NE (NW)	1000	-	384059 398554
384	**Contemporary Trade Directory Entries** Name: Currys Location: 165-166, Arndale Centre, Manchester, M4 3AB Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17NE (NW)	1000	-	384059 398554
384	**Contemporary Trade Directory Entries** Name: Willie'S Location: 85, Arndale Centre, Manchester, Lancashire, M4 2HU Classification: Wallpapers & Wall Coverings **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17NE (NW)	1000	-	384059 398554
384	**Contemporary Trade Directory Entries** Name: The Fast Picture Show Location: 142-143, Market Hall, Arndale Centre, Manchester, M4 2EB Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17NE (NW)	1000	-	384059 398554

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
384	**Contemporary Trade Directory Entries** Name: Home Design Store Location: 136, Arndale Centre, Manchester, Lancashire, M4 2EA Classification: Gunsmiths **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17NE (NW)	1000	-	384059 398554
384	**Contemporary Trade Directory Entries** Name: Bodycare (Health & Beauty) Location: 111-112, Arndale Centre, Manchester, M4 2EA Classification: Toiletries **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17NE (NW)	1000	-	384059 398554
384	**Contemporary Trade Directory Entries** Name: The Sony Centre Location: 162, Arndale Centre, Manchester, Lancashire, M4 3AB Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17NE (NW)	1000	-	384059 398554
384	**Contemporary Trade Directory Entries** Name: Image Gallery Location: Arndale House, Arndale Centre, Manchester, Lancashire, M4 3AQ Classification: Photo & Digital Imaging Bureaus **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A17NE (NW)	1000	-	384059 398554
385	**Contemporary Trade Directory Entries** Name: Georgia Fashions Location: First Floor Suite 1.22, Waulk Mill, Bengal Street, Manchester, M4 6AQ Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19NW (NE)	960	-	385090 398638
386	**Contemporary Trade Directory Entries** Name: Panache Autocentre Location: Panache House, 14, Hyde Road, Manchester, M12 6BW Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A9SE (SE)	965	-	385396 397013
386	**Contemporary Trade Directory Entries** Name: Anam Knitware Ltd Location: Unit 4 Apsley Grove Apollo Bussiness Park, Manchester, Greater Manchester, M12 6AW Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A9SE (SE)	987	-	385389 396976
386	**Contemporary Trade Directory Entries** Name: Unique Design Location: Apsley Gr, Manchester, Lancashire, M12 6AW Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9SE (SE)	992	-	385384 396965
386	**Contemporary Trade Directory Entries** Name: Fashion Waves Location: 3 Apsley Gr, Manchester, Lancashire, M12 6AW Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9SE (SE)	993	-	385385 396964
387	**Contemporary Trade Directory Entries** Name: Muprint Ltd Location: Liberty Central,28 Higher Cambridge Street, Manchester, Greater Manchester, M15 6AA Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	966	-	384164 396836
388	**Contemporary Trade Directory Entries** Name: Tshirts2print.Com Location: 49, High Street, Manchester, M4 3AH Classification: T-Shirts **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17NE (NW)	969	-	384220 398608

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
388	**Contemporary Trade Directory Entries** Name: Bramhall Refrigeration Services Location: 23, Market Hall, Arndale Centre, Manchester, M4 3AW Classification: Refrigerators & Freezers - Servicing & Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17NE (NW)	969	-	384220 398608
388	**Contemporary Trade Directory Entries** Name: J J Nets Location: 49, High Street, Manchester, M4 3AH Classification: Homefurnishings - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17NE (NW)	969	-	384220 398608
389	**Contemporary Trade Directory Entries** Name: R M R I Ltd Location: 44, Peter Street, Manchester, Lancashire, M2 5GP Classification: Materials Handling Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	975	-	383661 397930
389	**Contemporary Trade Directory Entries** Name: Kinnarps (Uk) Ltd Location: Colchester House, 38-40, Peter Street, Manchester, M2 5GP Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (W)	993	-	383644 397937
390	**Contemporary Trade Directory Entries** Name: Gerards Ice Cream Ltd Location: William Street, Ardwick, Manchester, M12 5FX Classification: Ice Cream Manufacturers & Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (E)	978	-	385695 397611
391	**Contemporary Trade Directory Entries** Name: An Knitwear Ltd Location: Dalberg House, 25, Dolphin Street, Manchester, M12 6BG Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	981	-	385510 397119
391	**Contemporary Trade Directory Entries** Name: Classic Knitwear Location: Dalberg House, 25, Dolphin Street, Manchester, M12 6BG Classification: Knitwear Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	981	-	385510 397119
391	**Contemporary Trade Directory Entries** Name: A & N Knitwear Location: Dalberg House, 25, Dolphin Street, Manchester, M12 6BG Classification: Knitwear Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	981	-	385510 397119
391	**Contemporary Trade Directory Entries** Name: Unico Knitwear Ltd Location: 19, Dolphin Street, Manchester, M12 6BG Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	981	-	385510 397119
391	**Contemporary Trade Directory Entries** Name: Super Knit Ltd Location: Dalberg House, 25, Dolphin Street, Manchester, M12 6BG Classification: Knitwear Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	981	-	385510 397119
391	**Contemporary Trade Directory Entries** Name: A & N Dalberg House Location: Dalberg House, 25, Dolphin Street, Manchester, M12 6BG Classification: Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	981	-	385510 397119
391	**Contemporary Trade Directory Entries** Name: Lyons Motors Location: A, 22, Dolphin Street, Manchester, M12 6BG Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	995	-	385494 397076

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
392	**Contemporary Trade Directory Entries** Name: Duha Trading Ltd Location: 24, Harkness Street, Manchester, M12 6BT Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	986	-	385530 397139
392	**Contemporary Trade Directory Entries** Name: Fashion Waves Ltd Location: 24, Harkness Street, Manchester, M12 6BT Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	986	-	385530 397139
392	**Contemporary Trade Directory Entries** Name: Shipping To China Location: 25-27, Harkness Street, Manchester, M12 6BT Classification: Freight Forwarders **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	993	-	385559 397170
393	**Contemporary Trade Directory Entries** Name: B J Products Shavers & Spares Location: 5, Nicholas Croft, Manchester, M4 1EY Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17NE (NW)	987	-	384282 398656
394	**Contemporary Trade Directory Entries** Name: Laziz Bakery Ltd Location: UNIT 1, THAMES INDUSTRIAL ESTATE, HIGHER ARDWICK, MANCHESTER, M12 6DD Classification: Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	991	-	385622 397290
394	**Contemporary Trade Directory Entries** Name: Scott Pallets Location: Unit 2, Thames Industrial Estate, Higher Ardwick, Manchester, M12 6DD Classification: Pallets, Crates & Packing Cases **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	995	-	385635 397308
395	**Contemporary Trade Directory Entries** Name: Autolink Location: Chancellor Lane, Manchester, M12 6JZ Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (E)	996	-	385691 397476
395	**Contemporary Trade Directory Entries** Name: Total Location: Chancellor Lane, Manchester, M12 6JZ Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (E)	996	-	385691 397476
395	**Contemporary Trade Directory Entries** Name: Gatewear Location: 60, Temperance Street, Manchester, Lancashire, M12 6DP Classification: Gate Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (E)	996	-	385691 397476
395	**Contemporary Trade Directory Entries** Name: West Way Nissan Manchester Location: Chancellor Lane, Ardwick, Manchester, Lancashire, M12 6JZ Classification: Car Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A15SW (E)	996	-	385691 397476
396	**Contemporary Trade Directory Entries** Name: The Perfume Shop Location: 9a, Arndale Centre, Manchester, M4 3AB Classification: Perfume Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17NW (NW)	997	-	383985 398496

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
396	**Contemporary Trade Directory Entries** Name: Klick Photopoint Location: 27, Market Street, Manchester, Lancashire, M1 1WR Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A17NW (NW)	997	-	383985 398496
396	**Contemporary Trade Directory Entries** Name: Klick Location: 27 Market St, Manchester, Lancashire, M1 1WR Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A17NW (NW)	998	-	383984 398496
397	**Fuel Station Entries** Name: Fletcher Garages Location: 100, Fairfield Street , , Manchester, Greater Manchester, M1 2WR Brand: Unbranded Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Manually positioned to the address or location	A14SE (E)	640	-	385359 397649
398	**Fuel Station Entries** Name: Ormond Street Motors Location: 2-4, Lower Ormond Street , , Manchester, Greater Manchester, M1 5QF Brand: Obsolete Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	667	-	384078 397320
399	**Fuel Station Entries** Name: Ardwick Green Express Location: Ardwick Green South , , Manchester, Greater Manchester, M13 9XF Brand: Esso Premises Type: Petrol Station **Status: Open** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	801	-	385241 397094
400	**Fuel Station Entries** Name: Blossom Motor Company Location: 27, Gun Street , Ancoats , Manchester, Greater Manchester, M4 5DN Brand: OBSOLETE Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Approximate location provided by supplier	A18NE (N)	845	-	384700 398600
401	**Points of Interest - Commercial Services** Name: Manchester Pest Control Location: 50 London Road, Manchester, M1 2PH Category: Contract Services Class Code: Pest and Vermin Control Positional Accuracy: Positioned to address or location	A13NE (N)	68	9	384703 397822
402	**Points of Interest - Commercial Services** Name: United Global Location: 47 Chorlton Street, Manchester, M1 3FY Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A13NW (NW)	209	9	384471 397875
403	**Points of Interest - Commercial Services** Name: Park N Shine Location: 1-3 Gateway House, Piccadilly South, Manchester, M1 2GH Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A13NE (N)	273	9	384693 398028
404	**Points of Interest - Commercial Services** Name: Fleet Angel Location: 29-31 Sackville Street, Manchester, M1 3LZ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NW (W)	285	9	384357 397847
404	**Points of Interest - Commercial Services** Name: Sports Fashion Distribution UK Ltd Location: Richmond House 15, Bloom Street, Manchester, M1 3HZ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A13NW (NW)	297	9	384377 397901

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
405	**Points of Interest - Commercial Services** Name: Central Motor Services Location: 26-32 Store Street, Manchester, M1 2WD Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NE (NE)	322	9	384894 398024
405	**Points of Interest - Commercial Services** Name: Central Motor Services Location: 26-32 Store Street, Manchester, M1 2WD Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NE (NE)	322	9	384894 398024
406	**Points of Interest - Commercial Services** Name: Manchester Towbar & Trailer Centre Ltd Location: Mancunian Way, Manchester, M12 6HJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SW (SE)	357	9	385029 397521
406	**Points of Interest - Commercial Services** Name: Manchester Towbar Trailer & Roofrack Centre Ltd Location: Bond Street Industrial Estate, Mancunian Way, Manchester, M12 6HW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SW (SE)	405	9	385076 397508
407	**Points of Interest - Commercial Services** Name: Cash for Scrap Cars Location: 111 Piccadilly, Manchester, M1 2HX Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A18SW (N)	364	9	384648 398114
408	**Points of Interest - Commercial Services** Name: Scrap a Car Manchester Location: 53 Portland Street, Manchester, M1 3LF Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A12NE (NW)	412	9	384279 397963
408	**Points of Interest - Commercial Services** Name: Leaflet Distribution Manchester Location: 53 Portland Street, Manchester, M1 3LF Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A12NE (NW)	412	9	384280 397963
409	**Points of Interest - Commercial Services** Name: D C Motor Engineers Location: Arch 45 at 5a, York Street, Piccadilly, Manchester, M1 7DE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (SW)	441	9	384228 397504
410	**Points of Interest - Commercial Services** Name: London Global Location: Imex House 40, Princess Street, Manchester, M1 6DE Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A12NE (W)	460	9	384170 397843
410	**Points of Interest - Commercial Services** Name: Patriot Advertising Solutions Location: Imex House 40, Princess Street, Manchester, M1 6DE Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A12NE (W)	460	9	384170 397844
411	**Points of Interest - Commercial Services** Name: 33 Joints Location: Tanzaro House, Ardwick Green North, Manchester, M12 6FZ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A9NW (SE)	481	9	385040 397343
411	**Points of Interest - Commercial Services** Name: 2 Squared Agency Ltd Location: 25 Manor Street, Manchester, M12 6HE Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A9NW (SE)	532	9	385117 397347

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
412	**Points of Interest - Commercial Services** Name: Scrap Yard Location: M12 Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A14SW (E)	520	9	385228 397586
412	**Points of Interest - Commercial Services** Name: Scrap Yard Location: Not Supplied Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to an adjacent address or location	A14SW (E)	524	9	385232 397583
413	**Points of Interest - Commercial Services** Name: Scrap That Car Location: 91 Princess Street, Manchester, M1 4HT Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A12NE (W)	532	9	384129 397942
414	**Points of Interest - Commercial Services** Name: McR Engines Location: 10 Pigeon Street, Manchester, M1 2JX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18SE (NE)	533	9	384955 398231
415	**Points of Interest - Commercial Services** Name: Manchester Van Hire Location: Tanla Works, Heyrod Street, Manchester, M1 2WW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (NE)	540	9	385211 397977
415	**Points of Interest - Commercial Services** Name: Dalkeith Autos Location: 7 Heyrod Street, Manchester, M1 2WW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (NE)	540	9	385211 397977
415	**Points of Interest - Commercial Services** Name: Dalkeith Autos Location: 7 Heyrod Street, Manchester, M1 2WW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (NE)	540	9	385211 397977
415	**Points of Interest - Commercial Services** Name: P A Metals Location: 7 Adair Street, Manchester, M1 2NQ Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A14NW (E)	558	9	385248 397934
415	**Points of Interest - Commercial Services** Name: P A Metals Location: 7 Adair Street, Manchester, M1 2NQ Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A14NW (NE)	605	9	385280 397981
416	**Points of Interest - Commercial Services** Name: I T True Ltd Location: St. James Building 79, Oxford Street, Manchester, M1 6FQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A12SE (W)	540	9	384075 397678
416	**Points of Interest - Commercial Services** Name: Faupel Plc Location: St. James Buildings 79, Oxford Street, Manchester, M1 6FQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A12SE (W)	540	9	384075 397678
417	**Points of Interest - Commercial Services** Name: M 1 1st Call Locksmiths Location: Cobac House 14-16, Charlotte Street, Manchester, M1 4FL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17SE (NW)	545	9	384186 398060

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
417	**Points of Interest - Commercial Services** Name: Hazexperts Location: 61 Mosley Street, Manchester, M2 3HZ Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A17SE (NW)	625	9	384126 398113
417	**Points of Interest - Commercial Services** Name: Total Towing Location: 61 Mosley Street, Manchester, M2 3HZ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17SE (NW)	633	9	384117 398114
418	**Points of Interest - Commercial Services** Name: Forward Bird Control Location: Clayton House 59, Piccadilly, Manchester, M1 2AQ Category: Contract Services Class Code: Pest and Vermin Control Positional Accuracy: Positioned to address or location	A18SW (N)	550	9	384518 398278
418	**Points of Interest - Commercial Services** Name: Oceanblue Logistics Location: Clayton House 59, Piccadilly, Manchester, M1 2AQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A18SW (N)	550	9	384518 398278
418	**Points of Interest - Commercial Services** Name: Forward Bird Control - National Location: Clayton House 59, Piccadilly, Manchester, M1 2AQ Category: Contract Services Class Code: Pest and Vermin Control Positional Accuracy: Positioned to address or location	A18SW (N)	550	9	384518 398278
418	**Points of Interest - Commercial Services** Name: freightnet.com Location: Clayton House 59, Piccadilly, Manchester, M1 2AQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A18SW (N)	550	9	384518 398278
419	**Points of Interest - Commercial Services** Name: Tyrewise Location: 8-10 Kale Street, Manchester, M13 9XG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NE (SE)	555	9	384986 397215
419	**Points of Interest - Commercial Services** Name: Crescent Auto Centre Ltd Location: 29 Wadeson Road, Manchester, M13 9UG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NE (SE)	555	9	384986 397215
419	**Points of Interest - Commercial Services** Name: Crescent Auto Centre Ltd Location: 29 Wadeson Road, Manchester, M13 9UG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NE (SE)	555	9	384986 397215
419	**Points of Interest - Commercial Services** Name: Tyrewyse Service Centre Location: 29 Wadeson Road, Manchester, M13 9UG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NE (SE)	555	9	384985 397215
419	**Points of Interest - Commercial Services** Name: Majestic Valeting Location: 29 Wadeson Road, Manchester, M13 9UG Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A8NE (SE)	555	9	384986 397215
419	**Points of Interest - Commercial Services** Name: Motor Fix Auto Ltd Location: Unit 29b, Wadeson Road, Manchester, M13 9UG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NE (SE)	564	9	384984 397204

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
419	**Points of Interest - Commercial Services** Name: Benz Automotive Location: Hanover House 29a, Wadeson Road, Manchester, M13 9UG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NE (SE)	571	9	384983 397196
419	**Points of Interest - Commercial Services** Name: Nationwide Autocentre Location: 24 Ardwick Green South, Manchester, M13 9XE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NW (SE)	583	9	385025 397206
419	**Points of Interest - Commercial Services** Name: Halfords Autocentre Location: 22 Ardwick Green South, Manchester, M13 9XE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NW (SE)	583	9	385025 397206
419	**Points of Interest - Commercial Services** Name: Halfords Autocentre Location: 22-24 Ardwick Green South, Manchester, M13 9XE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NW (SE)	583	9	385025 397206
419	**Points of Interest - Commercial Services** Name: Nationwide Autocentre Location: 22-24 Ardwick Green South, Manchester, M13 9XE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NW (SE)	583	9	385025 397206
419	**Points of Interest - Commercial Services** Name: Halfords Autocentre Location: 22-24 Ardwick Green South, Manchester, M13 9XE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NW (SE)	583	9	385025 397206
420	**Points of Interest - Commercial Services** Name: Ancoats Autos Ltd Location: Unit 1-5 Chancel Place, Store Street, Manchester, M1 2WB Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A19SW (NE)	578	9	385128 398161
421	**Points of Interest - Commercial Services** Name: Wez Morrell Location: 101 Fairfield Street, Manchester, M1 2WG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SW (E)	595	9	385317 397709
421	**Points of Interest - Commercial Services** Name: Wez Morrell Towbars & Roofracks Location: 101 Fairfield Street, Manchester, M1 2WG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SW (E)	595	9	385317 397709
421	**Points of Interest - Commercial Services** Name: Kendek Ltd Location: 101 Fairfield Street, Manchester, Greater Manchester, M1 2WG Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A14SW (E)	595	9	385317 397709
421	**Points of Interest - Commercial Services** Name: Fletcher Garages Location: 94-104 Fairfield Street, Manchester, M1 2WR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SW (E)	613	9	385334 397669
421	**Points of Interest - Commercial Services** Name: City Centre Garage Location: 101 Fairfield Street, Manchester, M1 2WG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	636	9	385358 397701

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
421	**Points of Interest - Commercial Services** Name: Fletcher Garages Location: 100 Fairfield Street, Manchester, M1 2WR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	638	9	385357 397655
421	**Points of Interest - Commercial Services** Name: Revolution It Location: 100 Fairfield Street, Manchester, M1 2WR Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A14SE (E)	638	9	385357 397655
421	**Points of Interest - Commercial Services** Name: Fairfield Motor Garage Location: 100 Fairfield Street, Manchester, M1 2WR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	638	9	385357 397655
421	**Points of Interest - Commercial Services** Name: Manchester Motor Garage Location: 100 Fairfield Street, Manchester, M1 2WR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	638	9	385357 397655
421	**Points of Interest - Commercial Services** Name: Autocare Assist Location: 102 Fairfield Street, Manchester, M1 2WR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	654	9	385374 397653
421	**Points of Interest - Commercial Services** Name: Cristecuk Garage Ltd Location: 102 Fairfield Street, Manchester, Lancashire, M1 2WR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	657	9	385376 397642
421	**Points of Interest - Commercial Services** Name: The Cab Co Location: 102 Fairfield St, Manchester, Lancashire, M1 2WR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	662	9	385380 397638
421	**Points of Interest - Commercial Services** Name: The Cab Company Location: 102 Fairfield Street, Manchester, Lancashire, M1 2WR Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	662	9	385380 397638
421	**Points of Interest - Commercial Services** Name: F D T Transport Ltd Location: 113 Fairfield Street, Manchester, M12 6EL Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A14SE (E)	696	9	385417 397686
422	**Points of Interest - Commercial Services** Name: Greenbrow Motors Location: 1 Great Marlborough Street, Manchester, M1 5NJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (SW)	628	9	384058 397426
423	**Points of Interest - Commercial Services** Name: Manmunian Garage Location: Unit 6 Hoyle Street Industrial Estate, Hoyle Street, Manchester, M12 6HG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SW (E)	653	9	385332 397471
424	**Points of Interest - Commercial Services** Name: Asha Freight Location: 132-134 Great Ancoats Street, Manchester, M4 6DE Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A19SW (NE)	655	9	385093 398291

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
425	**Points of Interest - Commercial Services** Name: Marco Location: 68-68a, Port Street, Manchester, M1 2EG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18NE (N)	658	9	384787 398408
426	**Points of Interest - Commercial Services** Name: J E Gordon Ltd Location: 60 Whitworth Street West, Manchester, M1 5WW Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A12SW (W)	685	9	383963 397507
426	**Points of Interest - Commercial Services** Name: Smiler Service Location: Unit 3c the Lock Building, 41 Whitworth Street West, Manchester, M1 5BD Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A12SW (W)	703	9	383932 397550
426	**Points of Interest - Commercial Services** Name: Graham's Motors Location: 59 Whitworth Street West, Manchester, M1 5WW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SW (W)	711	9	383939 397495
427	**Points of Interest - Commercial Services** Name: Pest Solutions Ltd Location: Peter House, Oxford Street, Manchester, M1 5AN Category: Contract Services Class Code: Pest and Vermin Control Positional Accuracy: Positioned to address or location	A12NW (W)	701	9	383924 397846
428	**Points of Interest - Commercial Services** Name: Joe Farrell Location: 93 Temperance Street, Manchester, M12 6HU Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A14SE (E)	709	9	385412 397543
428	**Points of Interest - Commercial Services** Name: City Centre Tyresave Location: 86-87 Temperance Street, Manchester, M12 6HU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	783	9	385477 397498
428	**Points of Interest - Commercial Services** Name: Autocare M O T & Engineers Ltd Location: 86-87 Temperance Street, Manchester, M12 6HU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	783	9	385477 397498
428	**Points of Interest - Commercial Services** Name: Al-arabia Cargo Ltd Location: Arch 82, Temperance Street, Manchester, M12 6HU Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A14SE (E)	834	9	385521 397467
429	**Points of Interest - Commercial Services** Name: Matrix Transport Location: Hilton Street, Manchester, M1 1JF Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A18NW (N)	747	9	384529 398483
429	**Points of Interest - Commercial Services** Name: The Audience Agency Location: 46-50 Oldham Street, Manchester, M4 1LE Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A18NW (N)	806	9	384569 398551
430	**Points of Interest - Commercial Services** Name: D C Motor Engineers Location: 1-3 York Street, Manchester, M1 7DE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17SE (NW)	784	9	384082 398298

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
431	**Points of Interest - Commercial Services** Name: Mr Clutch Autocentres Location: 5-7 Blackett Street, Manchester, M12 6EJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	809	9	385531 397703
431	**Points of Interest - Commercial Services** Name: Mr Clutch Location: Blackett Street, Manchester, M12 6EJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	809	9	385531 397703
431	**Points of Interest - Commercial Services** Name: Mr Clutch Location: Blackett Street, Manchester, M12 6EJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	809	9	385531 397703
431	**Points of Interest - Commercial Services** Name: Mr Clutch Autocentres Location: Blackett Street, Manchester, M12 6EJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	809	9	385531 397703
432	**Points of Interest - Commercial Services** Name: Publicity Location: 2 Gloucester Street, Manchester, M1 5GP Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A12SW (W)	815	9	383844 397455
432	**Points of Interest - Commercial Services** Name: All About Audiences Distribution Location: Hotspur House 2, Gloucester Street, Manchester, M1 5QR Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A12SW (W)	815	9	383843 397455
433	**Points of Interest - Commercial Services** Name: Brenca Metals Ltd Location: Ship Canal House 98, King Street, Manchester, M2 4WU Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A17SW (NW)	818	9	383976 398234
433	**Points of Interest - Commercial Services** Name: The Accident Group Location: 55 King Street, Manchester, M2 4LQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17SW (NW)	884	9	383933 398286
434	**Points of Interest - Commercial Services** Name: 2 Squared Agency Location: Unit 4 Royal Mills 17, Redhill Street, Manchester, M4 5BA Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A18NE (N)	824	9	384993 398530
435	**Points of Interest - Commercial Services** Name: Broadcasting Support Services Location: 24 Piccadilly Trading Estate, Manchester, M1 2NP Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A14NE (E)	826	9	385532 397910
435	**Points of Interest - Commercial Services** Name: Broadcasting Support Services Location: 24 Piccadilly Trading Estate, Manchester, M1 2NP Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A14NE (E)	826	9	385532 397910
436	**Points of Interest - Commercial Services** Name: Blossom Motor Co Location: 27 Gun Street, Manchester, M4 5DN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18NE (N)	880	9	384804 398630

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
436	**Points of Interest - Commercial Services** Name: Blossom Motor Co Location: 27 Gun Street, Manchester, M4 5DN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18NE (N)	880	9	384804 398630
437	**Points of Interest - Commercial Services** Name: Awan Auto Tec Location: Unit 1, Mill Green Street, Manchester, M12 6FB Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	881	9	385590 397557
438	**Points of Interest - Commercial Services** Name: Mount Distribution Ltd Location: 2 Mount Street, Manchester, M2 5WQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A12NW (W)	892	9	383773 398020
439	**Points of Interest - Commercial Services** Name: New Ardwick Body Centre Location: 10-12 Harkness Street, Manchester, M12 6BT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NE (SE)	917	9	385460 397159
439	**Points of Interest - Commercial Services** Name: New Ardwick Body Centre Location: 10-12 Harkness Street, Manchester, M12 6BT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NE (SE)	917	9	385460 397159
440	**Points of Interest - Commercial Services** Name: Tom Blackburn Garage Ltd Location: Arch 74, North Western Street, Ardwick, Manchester, M12 6DX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	919	9	385602 397439
440	**Points of Interest - Commercial Services** Name: Tom Blackburns Location: 74 North Western Street, Manchester, M12 6DX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	925	9	385607 397436
440	**Points of Interest - Commercial Services** Name: Tom Blackburn Garage Ltd Location: 74 North Western Street, Manchester, M12 6DX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	925	9	385607 397436
440	**Points of Interest - Commercial Services** Name: D C M Services Location: 72 Temperance Street, Manchester, M12 6HU Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A14SE (E)	937	9	385611 397407
440	**Points of Interest - Commercial Services** Name: Olympus Conversions Ltd Location: 69 Temperance Street, Manchester, M12 6HU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14SE (E)	970	9	385637 397384
440	**Points of Interest - Commercial Services** Name: Mr Pigs Motorcycles Location: Arch 67, Temperance Street, Manchester, M12 6DP Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NE (E)	985	9	385650 397373
440	**Points of Interest - Commercial Services** Name: Mr Pigs Motorcycle Engineering Location: 67 Temperance Street, Manchester, M12 6DP Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NE (E)	986	9	385651 397373

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
440	**Points of Interest - Commercial Services** Name: RAC Auto Windscreens Location: Unit 3 Thames Industrial Estate, Higher Ardwick, Manchester, M12 6DD Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NE (E)	1000	9	385644 397317
440	**Points of Interest - Commercial Services** Name: RAC Auto Windscreens Location: Unit 3 Thames Industrial Estate, Higher Ardwick, Manchester, M12 6DD Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9NE (E)	1000	9	385644 397317
441	**Points of Interest - Commercial Services** Name: Corner House Publications Location: 2 Tony Wilson Place, Manchester, M15 4FN Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A12SW (W)	926	9	383726 397459
441	**Points of Interest - Commercial Services** Name: Kickstart Motorcycles Location: Arch 77, Whitworth Street West, Manchester, M1 5WQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SW (W)	939	9	383702 397495
442	**Points of Interest - Commercial Services** Name: New Beach Retail Ltd Location: 75 Tib Street, Manchester, M4 1LS Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A18NW (N)	949	9	384600 398697
442	**Points of Interest - Commercial Services** Name: Marco Services Ltd Location: 15-17 Swan Street, Manchester, M4 5JJ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A18NW (N)	964	9	384587 398711
443	**Points of Interest - Commercial Services** Name: Panache Motor Co Location: 14 Hyde Road, Manchester, M12 6BW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9SE (SE)	965	9	385396 397013
443	**Points of Interest - Commercial Services** Name: Panache Autocentre Location: 14 Hyde Road, Manchester, M12 6BW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9SE (SE)	966	9	385396 397012
444	**Points of Interest - Commercial Services** Name: Bauer Millett Location: 2 Dark Lane, Manchester, M12 6FA Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A15SW (E)	976	9	385688 397569
445	**Points of Interest - Commercial Services** Name: Shipping to China Location: 25-27 Harkness Street, Manchester, M12 6BT Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A9NE (SE)	992	9	385558 397169
446	**Points of Interest - Education and Health** Name: Greater Manchester Electronic Booking Location: Gateway House, Piccadilly South, Manchester, M60 7LP Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A13NE (N)	262	9	384706 398017
447	**Points of Interest - Education and Health** Name: NHS Nightingale Hospital North West Location: Windmill Street, Manchester, M2 3GX Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A12NW (W)	929	9	383685 397748

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
448	**Points of Interest - Manufacturing and Production** Name: Mayfield Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SE (SE)	304	9	384972 397531
448	**Points of Interest - Manufacturing and Production** Name: Works Location: M1 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SE (SE)	304	9	384971 397529
448	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13SE (SE)	329	9	384994 397519
448	**Points of Interest - Manufacturing and Production** Name: Factory Location: M12 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A13SE (SE)	333	9	385003 397526
449	**Points of Interest - Manufacturing and Production** Name: Anchester House Management Location: Manchester House 86, Princess Street, Manchester, M1 6NG Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A12SE (W)	349	9	384296 397577
449	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (SW)	407	9	384266 397506
449	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (SW)	468	9	384215 397473
449	**Points of Interest - Manufacturing and Production** Name: Works Location: M1 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (SW)	472	9	384211 397472
449	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (SW)	486	9	384201 397461
449	**Points of Interest - Manufacturing and Production** Name: Manchester Business Centre Ltd Location: 60 Charles Street, Manchester, M1 7DF Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A12SE (SW)	488	9	384201 397458
449	**Points of Interest - Manufacturing and Production** Name: Works Location: M1 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (SW)	490	9	384197 397460
450	**Points of Interest - Manufacturing and Production** Name: Gateway Industrial Estate Location: M1 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A13NE (NE)	364	9	384939 398043

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
450	**Points of Interest - Manufacturing and Production** Name: Gateway Industrial Estate Location: M1 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A13NE (NE)	371	9	384946 398047
451	**Points of Interest - Manufacturing and Production** Name: Mail Boxes Etc Location: 111 Piccadilly, Manchester, M1 2HX Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A18SW (N)	364	9	384648 398114
451	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18SE (N)	377	9	384671 398130
452	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NE (S)	365	9	384783 397336
452	**Points of Interest - Manufacturing and Production** Name: Factory Location: M1 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A8NE (S)	369	9	384786 397333
453	**Points of Interest - Manufacturing and Production** Name: Industrial Estate Location: M12 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A13SE (SE)	371	9	384952 397412
453	**Points of Interest - Manufacturing and Production** Name: Downing Street Industrial Estate Location: M12 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A14SW (SE)	413	9	385015 397412
453	**Points of Interest - Manufacturing and Production** Name: Works Location: M12 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NE (SE)	442	9	384990 397352
453	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NE (SE)	444	9	384994 397352
453	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NE (SE)	452	9	384989 397339
453	**Points of Interest - Manufacturing and Production** Name: Works Location: M12 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NE (SE)	452	9	384989 397339
453	**Points of Interest - Manufacturing and Production** Name: Progress Centre Location: Progress Centre, Charlton Place, Manchester, M12 6HS Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A9NW (SE)	486	9	385038 397334

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
454	**Points of Interest - Manufacturing and Production** Name: Works Location: M12 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SW (E)	375	9	385077 397583
454	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SW (E)	378	9	385080 397584
455	**Points of Interest - Manufacturing and Production** Name: Bruntwood Location: Portland Tower, Portland Street, Manchester, M1 3LD Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A12NE (NW)	412	9	384280 397963
455	**Points of Interest - Manufacturing and Production** Name: Bruntwood Business Centres Location: Portland Tower, Portland Street, Manchester, M1 3LD Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A12NE (NW)	412	9	384280 397963
455	**Points of Interest - Manufacturing and Production** Name: Bruntwood Location: 53 Portland Street, Manchester, M1 3LD Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A12NE (NW)	413	9	384280 397965
456	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (NE)	418	9	385068 397984
456	**Points of Interest - Manufacturing and Production** Name: Works Location: M1 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (NE)	467	9	385120 397993
456	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (NE)	470	9	385124 397993
456	**Points of Interest - Manufacturing and Production** Name: Crusader Works No 1 Location: M1 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (NE)	471	9	385110 398016
456	**Points of Interest - Manufacturing and Production** Name: Crusader Works No 1 Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (NE)	491	9	385128 398025
456	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (NE)	547	9	385185 398040
456	**Points of Interest - Manufacturing and Production** Name: Factory Location: M1 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A14NW (NE)	548	9	385183 398046

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
457	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12NE (W)	421	9	384193 397717
457	**Points of Interest - Manufacturing and Production** Name: Works Location: M1 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12NE (W)	425	9	384189 397717
457	**Points of Interest - Manufacturing and Production** Name: China House Location: M1 Category: Extractive Industries Class Code: Sand, Gravel and Clay Extraction and Merchants Positional Accuracy: Positioned to an adjacent address or location	A12NE (W)	459	9	384155 397750
458	**Points of Interest - Manufacturing and Production** Name: Citibase Location: Imex House 40, Princess Street, Manchester, M1 6DE Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A12NE (W)	460	9	384170 397844
458	**Points of Interest - Manufacturing and Production** Name: Citibase Location: Imex House 40, Princess Street, Manchester, M1 6DE Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A12NE (W)	460	9	384170 397844
458	**Points of Interest - Manufacturing and Production** Name: Citibase Business Centres Location: Imex House 40, Princess Street, Manchester, M1 6DE Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A12NE (W)	460	9	384170 397844
459	**Points of Interest - Manufacturing and Production** Name: Junction Works Location: M1 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18SE (NE)	470	9	384909 398183
459	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18SE (NE)	510	9	384993 398183
459	**Points of Interest - Manufacturing and Production** Name: Works Location: M4 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A19SW (NE)	539	9	385029 398194
459	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A19SW (NE)	544	9	385035 398196
459	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18SE (NE)	579	9	384982 398269
459	**Points of Interest - Manufacturing and Production** Name: Factory Location: M1 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A18SE (NE)	580	9	384982 398270

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
460	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (E)	472	9	385171 397891
460	**Points of Interest - Manufacturing and Production** Name: Works Location: M1 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (E)	473	9	385176 397881
460	**Points of Interest - Manufacturing and Production** Name: Works Location: M1 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A14NW (E)	475	9	385173 397894
460	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (E)	476	9	385179 397879
461	**Points of Interest - Manufacturing and Production** Name: Tank Location: M12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A14SW (SE)	495	9	385172 397499
461	**Points of Interest - Manufacturing and Production** Name: Tank Location: M12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A14SW (SE)	539	9	385204 397463
461	**Points of Interest - Manufacturing and Production** Name: Works Location: M12 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SW (E)	551	9	385236 397507
461	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SW (E)	553	9	385239 397508
461	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SW (SE)	567	9	385239 397471
461	**Points of Interest - Manufacturing and Production** Name: Works Location: M12 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SW (SE)	567	9	385239 397471
461	**Points of Interest - Manufacturing and Production** Name: Hoyle Street Industrial Estate Location: M12 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A14SW (E)	642	9	385325 397484
461	**Points of Interest - Manufacturing and Production** Name: Hoyle Street Industrial Estate Location: M12 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A14SW (E)	643	9	385325 397482

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
462	**Points of Interest - Manufacturing and Production** Name: Works Location: M1 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (E)	525	9	385213 397932
462	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (E)	528	9	385215 397935
462	**Points of Interest - Manufacturing and Production** Name: Works Location: M1 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (NE)	586	9	385263 397972
462	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (NE)	590	9	385267 397973
463	**Points of Interest - Manufacturing and Production** Name: Think Power Ltd Location: Piccadilly House 49, Piccadilly, Manchester, M1 2AP Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A18SW (N)	575	9	384494 398296
463	**Points of Interest - Manufacturing and Production** Name: Piccadilly House Location: Piccadilly House 49, Piccadilly, Manchester, M1 2AP Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A18SW (N)	576	9	384494 398297
463	**Points of Interest - Manufacturing and Production** Name: Piccadilly House Location: Piccadilly House 49, Piccadilly, Manchester, M1 2AP Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A18SW (N)	576	9	384494 398297
464	**Points of Interest - Manufacturing and Production** Name: Works Location: M4 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A19SW (NE)	593	9	385080 398224
464	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A19SW (NE)	598	9	385087 398225
464	**Points of Interest - Manufacturing and Production** Name: Advantage Business Centre Location: 132-134 Great Ancoats Street, Manchester, M4 6DE Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A19SW (NE)	655	9	385093 398291
465	**Points of Interest - Manufacturing and Production** Name: City Tower Location: City Tower, Piccadilly Plaza, Manchester, M1 4HN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A17SE (NW)	615	9	384236 398207
466	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A19SW (NE)	634	9	385262 398082

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
467	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8NW (S)	647	9	384420 397067
468	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	666	9	384007 397447
468	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SE (SW)	670	9	384010 397430
468	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	716	9	383994 397360
468	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12SW (SW)	742	9	383943 397403
469	**Points of Interest - Manufacturing and Production** Name: Century House Commissionaire Location: Century Ho, 11 St Peters Sq, Manchester, M2 3DN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A12NW (W)	670	9	383980 397940
469	**Points of Interest - Manufacturing and Production** Name: Century House Commissionaire Location: Century House, 11 St Peters Square, Manchester, Greater Manchester, M2 3DN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A12NW (W)	670	9	383980 397940
470	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	687	9	384026 397362
471	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	687	9	384823 398432
472	**Points of Interest - Manufacturing and Production** Name: Regus Location: Barnett House 53, Fountain Street, Manchester, M2 2AN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A17SE (NW)	698	9	384112 398208
472	**Points of Interest - Manufacturing and Production** Name: Abbey Business Centre Location: Barnett House 53, Fountain Street, Manchester, M2 2AN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A17SE (NW)	698	9	384112 398208
472	**Points of Interest - Manufacturing and Production** Name: Abbey Business Centre Location: Barnett House 53, Fountain Street, Manchester, M2 2AN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A17SE (NW)	698	9	384112 398208

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
472	**Points of Interest - Manufacturing and Production** Name: Abbey Business Centre Location: Barnett House 53, Fountain Street, Manchester, M2 2AN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A17SE (NW)	698	9	384112 398208
473	**Points of Interest - Manufacturing and Production** Name: Regus Location: Peter House, Oxford Street, Manchester, M1 5AN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A12NW (W)	700	9	383925 397847
473	**Points of Interest - Manufacturing and Production** Name: Regus Location: Peter House, Oxford Street, Manchester, M1 5AN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A12NW (W)	700	9	383925 397847
473	**Points of Interest - Manufacturing and Production** Name: Nemesis Agency Ltd Location: 1 Oxford Court, Manchester, M2 3WQ Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A12NW (W)	716	9	383901 397789
474	**Points of Interest - Manufacturing and Production** Name: Works Location: M12 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	751	9	385469 397636
474	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	754	9	385473 397637
474	**Points of Interest - Manufacturing and Production** Name: Works Location: M12 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	758	9	385479 397677
474	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	762	9	385483 397677
475	**Points of Interest - Manufacturing and Production** Name: The Studio Location: The Hive 51, Lever Street, Manchester, M1 1FN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A18NW (N)	768	9	384615 398517
476	**Points of Interest - Manufacturing and Production** Name: The Works Business Centre Location: M12 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	773	9	385411 397353
476	**Points of Interest - Manufacturing and Production** Name: City View House Location: The Works Business Centre 5, Union Street, Ardwick, Manchester, M12 4JD Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A9NE (SE)	789	9	385436 397367
476	**Points of Interest - Manufacturing and Production** Name: Anvic Development Location: City View House 5, Union Street, Ardwick, Manchester, M12 4JD Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A9NE (SE)	790	9	385437 397369

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
477	**Points of Interest - Manufacturing and Production** Name: Adlow Industrial Park Location: M12 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A14NE (E)	791	9	385514 397747
477	**Points of Interest - Manufacturing and Production** Name: Adlow Industrial Park Location: M12 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A14NE (E)	797	9	385520 397750
477	**Points of Interest - Manufacturing and Production** Name: Works Location: M12 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	807	9	385529 397705
477	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	811	9	385533 397706
477	**Points of Interest - Manufacturing and Production** Name: Works Location: M12 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NE (E)	849	9	385571 397784
478	**Points of Interest - Manufacturing and Production** Name: Bruntwood Business Centres Ltd Location: Lowry House 17, Marble Street, Manchester, M2 3AW Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A17SE (NW)	811	9	384110 398358
479	**Points of Interest - Manufacturing and Production** Name: Tank Location: M1 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A12SW (W)	818	9	383867 397388
479	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7NW (SW)	874	9	383845 397303
480	**Points of Interest - Manufacturing and Production** Name: Works Location: M12 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	829	9	385530 397521
480	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	831	9	385533 397522
480	**Points of Interest - Manufacturing and Production** Name: Works Location: M12 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	864	9	385572 397553
480	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	866	9	385575 397554

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
480	**Points of Interest - Manufacturing and Production** Name: Works Location: M12 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	870	9	385570 397511
480	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	873	9	385573 397512
480	**Points of Interest - Manufacturing and Production** Name: Works Location: M12 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	873	9	385569 397492
481	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A19SE (NE)	837	9	385450 398161
482	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NE (E)	853	9	385575 397785
483	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	860	9	384850 398603
483	**Points of Interest - Manufacturing and Production** Name: Factory Location: M4 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A18NE (N)	863	9	384849 398607
483	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	908	9	384844 398653
483	**Points of Interest - Manufacturing and Production** Name: Works Location: M4 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	910	9	384841 398655
484	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A19SE (NE)	861	9	385367 398320
485	**Points of Interest - Manufacturing and Production** Name: Regus Location: 82 King Street, Manchester, M2 4WQ Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A17SW (NW)	873	9	383923 398256
485	**Points of Interest - Manufacturing and Production** Name: Orega Management Ltd Location: 76 King Street, Manchester, M2 4NH Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A17SW (NW)	905	9	383878 398248

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
485	**Points of Interest - Manufacturing and Production** Name: The Offices Location: Lloyds Bank Buildings, 53, King Street, Manchester, M2 4LQ Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A17SW (NW)	927	9	383885 398295
486	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9SW (SE)	873	9	385278 397031
487	**Points of Interest - Manufacturing and Production** Name: Works Location: M12 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	881	9	385466 397232
487	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	882	9	385466 397231
488	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A19SE (NE)	894	9	385493 398202
488	**Points of Interest - Manufacturing and Production** Name: Vulcan Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A19SE (NE)	934	9	385535 398209
488	**Points of Interest - Manufacturing and Production** Name: Vulcan Works Location: M4 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A19SE (NE)	938	9	385540 398207
489	**Points of Interest - Manufacturing and Production** Name: 1 Marsden Street Business Centre Location: 1 Marsden Street, Manchester, M2 1HW Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A17SW (NW)	901	9	383974 398356
490	**Points of Interest - Manufacturing and Production** Name: Bruntwood Ltd Location: 2-10 Albert Square, Manchester, M2 6LW Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A17SW (NW)	925	9	383794 398151
491	**Points of Interest - Manufacturing and Production** Name: Factories Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A19NW (NE)	927	9	385054 398617
491	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A19NW (NE)	951	9	385108 398621
492	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	941	9	385462 397122

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
492	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	998	9	385514 397096
493	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	952	9	384761 398705
494	**Points of Interest - Manufacturing and Production** Name: Stone Superstore Location: 79 Tib Street, Manchester, M4 1LS Category: Extractive Industries Class Code: Stone Quarrying and Preparation Positional Accuracy: Positioned to address or location	A18NW (N)	958	9	384608 398707
495	**Points of Interest - Manufacturing and Production** Name: Works Location: M12 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	963	9	385680 397610
495	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A15SW (E)	966	9	385683 397611
496	**Points of Interest - Manufacturing and Production** Name: Locus Properties Ltd Location: 19 Albion Wharf, Manchester, M1 5LN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A12SW (W)	965	9	383660 397574
497	**Points of Interest - Manufacturing and Production** Name: Works Location: M4 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	980	9	384985 398696
497	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	982	9	384989 398697
497	**Points of Interest - Manufacturing and Production** Name: Works Location: M4 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A19NW (N)	992	9	385006 398703
498	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A19SE (NE)	997	9	385498 398376
498	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A19SE (NE)	998	9	385492 398385
499	**Points of Interest - Manufacturing and Production** Name: Market Poultry Location: Arndale House, Arndale Centre, Manchester, M4 3AQ Category: Farming Class Code: Poultry Farming, Equipment and Supplies Positional Accuracy: Positioned to address or location	A17NE (NW)	1000	9	384059 398554

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
499	**Points of Interest - Manufacturing and Production** Name: Market Poultry Location: Arndale House, Arndale Centre, Manchester, M4 3AQ Category: Farming Class Code: Poultry Farming, Equipment and Supplies Positional Accuracy: Positioned to address or location	A17NE (NW)	1000	9	384059 398554
500	**Points of Interest - Public Infrastructure** Name: Manchester Piccadilly Rail Station Location: M1 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A13NE (NE)	140	9	384844 397818
500	**Points of Interest - Public Infrastructure** Name: Manchester Piccadilly Station Location: Nr Fairfield Street, M1 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A13NE (NE)	140	9	384844 397818
500	**Points of Interest - Public Infrastructure** Name: British Transport Police Location: Tower Block, Piccadilly Station, Manchester, M1 2BP Category: Central and Local Government Class Code: Police Stations Positional Accuracy: Positioned to address or location	A13NE (NE)	142	9	384845 397819
501	**Points of Interest - Public Infrastructure** Name: Weir Location: M1 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A13SE (SE)	228	9	384876 397535
501	**Points of Interest - Public Infrastructure** Name: Weir Location: M1 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A13SE (SE)	229	9	384879 397537
502	**Points of Interest - Public Infrastructure** Name: Transport for Greater Manchester Location: 2 Piccadilly Place, Manchester, M1 3BG Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A13NW (N)	233	9	384640 397981
502	**Points of Interest - Public Infrastructure** Name: Transport for Greater Manchester Location: 2 Piccadilly Place, Manchester, M1 3BG Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A13NW (N)	233	9	384640 397981
503	**Points of Interest - Public Infrastructure** Name: Coach Station Location: M1 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	332	9	384346 397919
503	**Points of Interest - Public Infrastructure** Name: National Express Ltd Location: Central Coach Station, Chorlton Street, Manchester, M1 3JF Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A13NW (NW)	347	9	384347 397945
503	**Points of Interest - Public Infrastructure** Name: National Express Coach Station Location: Central Coach Station, Chorlton Street, Manchester, M1 3JF Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A13NW (NW)	347	9	384347 397945
503	**Points of Interest - Public Infrastructure** Name: Coach Station Location: M1 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	350	9	384331 397928

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
504	**Points of Interest - Public Infrastructure** Name: M C R Recycling Ltd Location: 111 Piccadilly, Manchester, M1 2HX Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A18SW (N)	364	9	384648 398114
505	**Points of Interest - Public Infrastructure** Name: Gmpte Location: 2 Picadilly Place, Manchester, M1 3BG Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A18SW (NW)	526	9	384406 398205
505	**Points of Interest - Public Infrastructure** Name: Bus Station Location: M1 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A17SE (NW)	574	9	384319 398214
506	**Points of Interest - Public Infrastructure** Name: Bus Station Location: M1 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to an adjacent address or location	A17SE (NW)	590	9	384304 398224
507	**Points of Interest - Public Infrastructure** Name: Arriva North West Location: St. Andrews Square, Manchester, M1 2NS Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A14NW (E)	596	9	385312 397834
508	**Points of Interest - Public Infrastructure** Name: Manchester Oxford Road Rail Station Location: Great Marlborough Street, M1 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A12SE (W)	636	9	384029 397472
508	**Points of Interest - Public Infrastructure** Name: Manchester Oxford Road Station Location: Great Marlborough Street, M1 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A12SE (W)	636	9	384029 397472
509	**Points of Interest - Public Infrastructure** Name: Revolution It Location: 100 Fairfield Street, Manchester, M1 2WR Category: Infrastructure and Facilities Class Code: Recycling Centres Positional Accuracy: Positioned to address or location	A14SE (E)	638	9	385357 397655
510	**Points of Interest - Public Infrastructure** Name: Cleared 4 U Rubbish Removals Location: 83 Ducie Street, Manchester, M1 2JQ Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A19SW (NE)	650	9	385091 398286
511	**Points of Interest - Public Infrastructure** Name: Tanzo Passenger Services Ltd Location: Peter House, Oxford Street, Manchester, M1 5AN Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A12NW (W)	700	9	383925 397847
511	**Points of Interest - Public Infrastructure** Name: Tanzo Passenger Services Ltd Location: Peter House, Oxford Street, Manchester, M1 5AN Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A12NW (W)	700	9	383925 397847
512	**Points of Interest - Public Infrastructure** Name: Weir Location: M4 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A18NE (N)	751	9	384971 398461

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
513	**Points of Interest - Public Infrastructure** Name: Bus Station Location: M1 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to an adjacent address or location	A18NW (N)	786	9	384616 398535
514	**Points of Interest - Public Infrastructure** Name: Texaco Location: Hyde, Road, Manchester, M18 7EE Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A9NW (SE)	799	9	385240 397095
514	**Points of Interest - Public Infrastructure** Name: Esso Location: Ardwick Green South, Manchester, M13 9XF Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A9NW (SE)	800	9	385240 397094
514	**Points of Interest - Public Infrastructure** Name: Esso Location: Ardwick Green, Manchester, M13 9XF Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A9NW (SE)	800	9	385243 397096
514	**Points of Interest - Public Infrastructure** Name: Tesco Petrol Station Location: Ardwick Green South, Manchester, M13 9XF Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A9NW (SE)	801	9	385241 397094
514	**Points of Interest - Public Infrastructure** Name: Ardwick Green Express Location: Ardwick Green South, Manchester, M13 9XF Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A9NW (SE)	801	9	385241 397094
514	**Points of Interest - Public Infrastructure** Name: Ardwick Green Express Location: Ardwick Green South, Manchester, M13 9XF Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A9NW (SE)	815	9	385252 397084
515	**Points of Interest - Public Infrastructure** Name: Manchester City Council Location: Town Hall, Albert Square, Manchester, M2 5DB Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A17SW (NW)	832	9	383867 398089
516	**Points of Interest - Public Infrastructure** Name: Weirs Location: M1 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A12SW (W)	832	9	383841 397412
516	**Points of Interest - Public Infrastructure** Name: Weirs Location: M1 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A12SW (W)	836	9	383837 397411
517	**Points of Interest - Public Infrastructure** Name: Sluice Location: M4 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A19SE (NE)	847	9	385410 398244
517	**Points of Interest - Public Infrastructure** Name: Sluice Location: M4 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A19SE (NE)	852	9	385415 398245

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
518	**Points of Interest - Public Infrastructure** Name: Wastelift Location: 30 Brown Street, Manchester, M2 1DH Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A17SE (NW)	867	9	384013 398347
518	**Points of Interest - Public Infrastructure** Name: Anywaste UK Location: St. James Court 30, Brown Street, Manchester, M2 1DH Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A17SE (NW)	868	9	384013 398350
518	**Points of Interest - Public Infrastructure** Name: Tesco Petrol Filling Station Location: 58-66 Market Street, Manchester, M1 1PW Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A17NE (NW)	917	9	384046 398442
519	**Points of Interest - Public Infrastructure** Name: Total Location: 1-5 Hyde Road, Manchester, M12 6BQ Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A9NE (SE)	907	9	385404 397106
520	**Points of Interest - Public Infrastructure** Name: Bootle Street Police Station Location: Bootle Street, Manchester, M2 5GU Category: Central and Local Government Class Code: Police Stations Positional Accuracy: Positioned to address or location	A12NW (W)	929	9	383726 397997
521	**Points of Interest - Public Infrastructure** Name: D C M Services Location: 72 Temperance Street, Manchester, M12 6HU Category: Infrastructure and Facilities Class Code: Recycling Centres Positional Accuracy: Positioned to address or location	A14SE (E)	937	9	385611 397407
521	**Points of Interest - Public Infrastructure** Name: Dcm Services Location: 72 Temperance Street, Manchester, M12 6HU Category: Infrastructure and Facilities Class Code: Recycling Centres Positional Accuracy: Positioned to address or location	A14SE (E)	937	9	385611 397407
521	**Points of Interest - Public Infrastructure** Name: Emptymybins Location: 70 Temperance Street, Manchester, M12 6HU Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A14SE (E)	957	9	385627 397393
522	**Points of Interest - Recreational and Environmental** Name: Skatepark Location: M1 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A13SE (SE)	250	9	384875 397506
523	**Points of Interest - Recreational and Environmental** Name: Play Area Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8NE (S)	527	9	384825 397179
524	**Points of Interest - Recreational and Environmental** Name: Play Area Location: M13 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8NE (S)	581	9	384745 397102
524	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8NE (S)	597	9	384752 397087

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
525	**Points of Interest - Recreational and Environmental** Name: Play Area Location: M13 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A9NW (SE)	735	9	385258 397201
525	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A9NW (SE)	813	9	385330 397164
525	**Points of Interest - Recreational and Environmental** Name: Playground Location: Ardwick Green North, M13 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A9NW (SE)	813	9	385328 397162
526	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A8SE (S)	990	9	384982 396743
526	**Points of Interest - Recreational and Environmental** Name: Playground Location: Glenbarry Close, M13 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A8SE (S)	990	9	384982 396743

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
527	**Nitrate Vulnerable Zones** Name: River Irk (Moston Brook To River Irwell) Nvz Description: Surface Water Source: Environment Agency, Head Office	A18NW (N)	705	4	384400 398400

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Environment Agency - Head Office	June 2020	Annually
Trafford Metropolitan Borough Council - Renewal and Environmental Protection	November 2013	Annual Rolling Update
Manchester City Council - Environmental Health Department	October 2017	Annual Rolling Update
Oldham Metropolitan Borough Council - Environmental Health Department	October 2017	Annual Rolling Update
Salford City Council - Environmental Health Department	October 2017	Annual Rolling Update
Stockport Metropolitan Borough Council - Environment Team (Land & Water)	October 2017	Annual Rolling Update
Tameside Metropolitan Borough Council - Environmental Health Department	October 2017	Annual Rolling Update
Bury Metropolitan Borough Council - Environmental Health Department	September 2017	Annual Rolling Update
Discharge Consents		
Environment Agency - North West Region	October 2022	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - North West Region	March 2013	
Integrated Pollution Controls		
Environment Agency - North West Region	January 2009	
Integrated Pollution Prevention And Control		
Environment Agency - North West Region	October 2022	Quarterly
Local Authority Integrated Pollution Prevention And Control		
Bury Metropolitan Borough Council - Environmental Health Department	February 2015	Variable
Tameside Metropolitan Borough Council - Environmental Health Department	June 2015	Variable
Oldham Metropolitan Borough Council - Environmental Health Department	March 2015	Variable
Salford City Council - Environmental Health Department	March 2015	Variable
Stockport Metropolitan Borough Council - Environmental Health Department, EEDD	October 2014	Variable
Trafford Metropolitan Borough Council - Environmental Health Department	October 2014	Variable
Manchester City Council - Environmental Health Department	September 2014	Variable
Local Authority Pollution Prevention and Controls		
Bury Metropolitan Borough Council - Environmental Health Department	February 2015	Not Applicable
Tameside Metropolitan Borough Council - Environmental Health Department	June 2015	Annual Rolling Update
Oldham Metropolitan Borough Council - Environmental Health Department	March 2015	Annual Rolling Update
Salford City Council - Environmental Health Department	March 2015	Annual Rolling Update
Stockport Metropolitan Borough Council - Environmental Health Department, EEDD	October 2014	Annual Rolling Update
Trafford Metropolitan Borough Council - Environmental Health Department	October 2014	Annual Rolling Update
Manchester City Council - Environmental Health Department	September 2014	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements		
Bury Metropolitan Borough Council - Environmental Health Department	February 2015	Variable
Tameside Metropolitan Borough Council - Environmental Health Department	June 2015	Variable
Oldham Metropolitan Borough Council - Environmental Health Department	March 2015	Variable
Salford City Council - Environmental Health Department	March 2015	Variable
Stockport Metropolitan Borough Council - Environmental Health Department, EEDD	October 2014	Variable
Trafford Metropolitan Borough Council - Environmental Health Department	October 2014	Variable
Manchester City Council - Environmental Health Department	September 2014	Variable
Nearest Surface Water Feature		
Ordnance Survey	October 2022	
Pollution Incidents to Controlled Waters		
Environment Agency - North West Region	January 2000	
Prosecutions Relating to Authorised Processes		
Environment Agency - North West Region	July 2015	
Prosecutions Relating to Controlled Waters		
Environment Agency - North West Region	March 2013	
Registered Radioactive Substances		
Environment Agency - North West Region	June 2016	As notified
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable

Agency & Hydrological	Version	Update Cycle
River Quality Biology Sampling Points Environment Agency - Head Office	April 2012	
River Quality Chemistry Sampling Points Environment Agency - Head Office	April 2012	
Substantiated Pollution Incident Register Environment Agency - North West Region - South Area	October 2022	Quarterly
Water Abstractions Environment Agency - North West Region	October 2022	Quarterly
Water Industry Act Referrals Environment Agency - North West Region	October 2017	
Groundwater Vulnerability Map Environment Agency - Head Office	June 2018	As notified
Groundwater Vulnerability - Soluble Rock Risk Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Superficial Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Source Protection Zones Environment Agency - Head Office	September 2022	Bi-Annually
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	August 2022	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	August 2022	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	August 2022	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	August 2022	Quarterly
Flood Defences Environment Agency - Head Office	August 2022	Quarterly
OS Water Network Lines Ordnance Survey	October 2022	Quarterly
Surface Water 1 in 30 year Flood Extent Environment Agency - Head Office	May 2018	Annually
Surface Water 1 in 100 year Flood Extent Environment Agency - Head Office	May 2018	Annually
Surface Water 1 in 1000 year Flood Extent Environment Agency - Head Office	May 2018	Annually
Surface Water Suitability Environment Agency - Head Office	February 2016	Annually
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	As notified

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	November 2002	As notified
Historical Landfill Sites		
Environment Agency - Head Office	November 2022	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - North West Region	January 2009	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - North West Region - South Area	October 2022	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - North East Region - Ridings Area	July 2022	Quarterly
Environment Agency - North West Region - South Area	July 2022	Quarterly
Local Authority Landfill Coverage		
Bury Metropolitan Borough Council	February 2003	Not Applicable
Manchester City Council - Planning Department	February 2003	Not Applicable
Oldham Metropolitan Borough Council	February 2003	Not Applicable
Salford City Council - Environmental Health Department	February 2003	Not Applicable
Stockport Metropolitan Borough Council - Environmental Health Department, EEDD	February 2003	Not Applicable
Tameside Metropolitan Borough Council	February 2003	Not Applicable
Trafford Metropolitan Borough Council - Environmental Health Department	February 2003	Not Applicable
Local Authority Recorded Landfill Sites		
Bury Metropolitan Borough Council	October 2018	
Manchester City Council - Planning Department	October 2018	
Oldham Metropolitan Borough Council	October 2018	
Salford City Council - Environmental Health Department	October 2018	
Stockport Metropolitan Borough Council - Environmental Health Department, EEDD	October 2018	
Tameside Metropolitan Borough Council	October 2018	
Trafford Metropolitan Borough Council - Environmental Health Department	October 2018	
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	
Registered Landfill Sites		
Environment Agency - North West Region - South Area	March 2006	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - North West Region - South Area	April 2018	
Registered Waste Treatment or Disposal Sites		
Environment Agency - North West Region - South Area	June 2015	

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	January 2022	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	August 2001	
Planning Hazardous Substance Enforcements		
Trafford Metropolitan Borough Council	April 2016	Variable
Bury Metropolitan Borough Council	February 2016	Variable
Manchester City Council - Planning Department	February 2016	Variable
Oldham Metropolitan Borough Council	February 2016	Variable
Stockport Metropolitan Borough Council - Environment and Economic Development	February 2016	Variable
Tameside Metropolitan Borough Council - Planning and Building Control	February 2016	Variable
Salford City Council	June 2016	Variable
Planning Hazardous Substance Consents		
Trafford Metropolitan Borough Council	April 2016	Variable
Bury Metropolitan Borough Council	February 2016	Variable
Manchester City Council - Planning Department	February 2016	Variable
Oldham Metropolitan Borough Council	February 2016	Variable
Stockport Metropolitan Borough Council - Environment and Economic Development	February 2016	Variable
Tameside Metropolitan Borough Council - Planning and Building Control	February 2016	Variable
Salford City Council	June 2016	Variable

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	As notified
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	December 2015	As notified
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2022	Bi-Annually
BGS Urban Soil Chemistry British Geological Survey - National Geoscience Information Service	December 2015	As notified
BGS Urban Soil Chemistry Averages British Geological Survey - National Geoscience Information Service	December 2015	As notified
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB) Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011 November 2020	As notified
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	June 1998	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	As notified
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	September 2022	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	September 2022	Annually

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	October 2022	Quarterly
Fuel Station Entries Catalist Ltd - Experian	January 2023	Quarterly
Gas Pipelines National Grid	October 2021	Bi-Annually
Points of Interest - Commercial Services PointX	December 2022	Quarterly
Points of Interest - Education and Health PointX	December 2022	Quarterly
Points of Interest - Manufacturing and Production PointX	December 2022	Quarterly
Points of Interest - Public Infrastructure PointX	December 2022	Quarterly
Points of Interest - Recreational and Environmental PointX	December 2022	Quarterly
Underground Electrical Cables National Grid	May 2021	Bi-Annually

Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural England	February 2021	Bi-Annually
Areas of Adopted Green Belt		
Bury Metropolitan Borough Council	July 2022	Quarterly
Manchester City Council	July 2022	Quarterly
Oldham Metropolitan Borough Council	July 2022	Quarterly
Salford City Council	July 2022	Quarterly
Stockport Metropolitan Borough Council	July 2022	Quarterly
Tameside Metropolitan Borough Council	July 2022	Quarterly
Trafford Metropolitan Borough Council	July 2022	Quarterly
Areas of Unadopted Green Belt		
Bury Metropolitan Borough Council	July 2022	Quarterly
Manchester City Council	July 2022	Quarterly
Oldham Metropolitan Borough Council	July 2022	Quarterly
Salford City Council	July 2022	Quarterly
Stockport Metropolitan Borough Council	July 2022	Quarterly
Tameside Metropolitan Borough Council	July 2022	Quarterly
Trafford Metropolitan Borough Council	July 2022	Quarterly
Areas of Outstanding Natural Beauty		
Natural England	August 2022	Bi-Annually
Environmentally Sensitive Areas		
Natural England	January 2017	
Forest Parks		
Forestry Commission	April 1997	Not Applicable
Local Nature Reserves		
Natural England	February 2021	Bi-Annually
Marine Nature Reserves		
Natural England	July 2019	Bi-Annually
National Nature Reserves		
Natural England	January 2021	Bi-Annually
National Parks		
Natural England	February 2018	Bi-Annually
Nitrate Sensitive Areas		
Natural England	April 2016	Not Applicable
Nitrate Vulnerable Zones		
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	April 2016	
Environment Agency - Head Office	June 2017	Bi-Annually
Ramsar Sites		
Natural England	August 2020	Bi-Annually
Sites of Special Scientific Interest		
Natural England	February 2021	Bi-Annually
Special Areas of Conservation		
Natural England	July 2020	Bi-Annually
Special Protection Areas		
Natural England	February 2021	Bi-Annually

Data Suppliers

A selection of organisations who provide data within this report

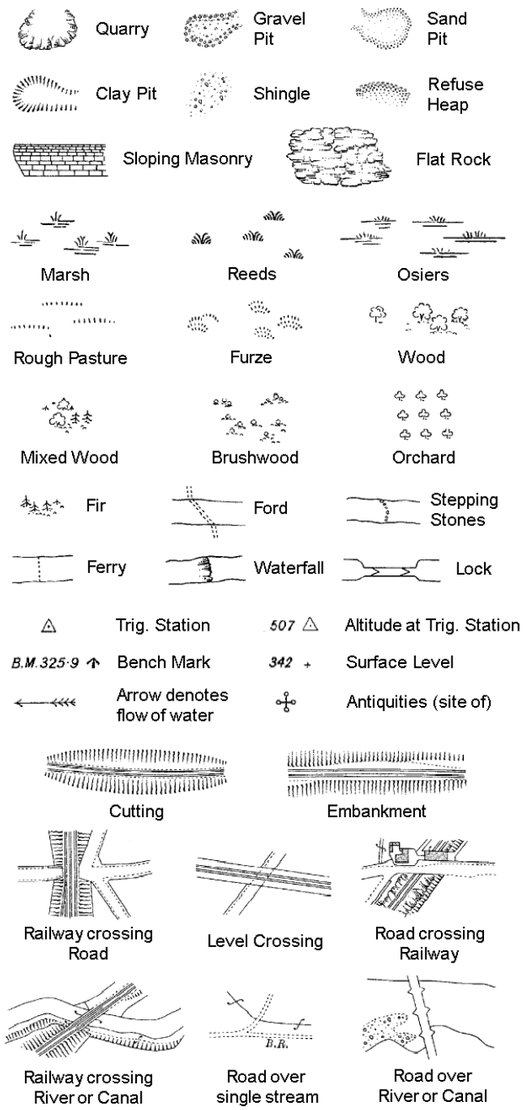
Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	
Centre for Ecology and Hydrology	
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Stantec UK Ltd	

Contact	Name and Address	Contact Details
1	**British Geological Survey - Enquiry Service** British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	**Manchester City Council - Environmental Health Department** PO Box 463, Town Hall Extension, Albert Square, Manchester, Greater Manchester, M60 3NY	Telephone: 0161 234 4884 / 234 4873. Fax: 0161 234 4508 Website: www.manchester.gov.uk
4	**Environment Agency - Head Office** Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
5	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
6	**Manchester City Council - Planning Department** Town Hall, Manchester, Greater Manchester, M60 2LA	Telephone: 0161 234 5000 Fax: 0161 234 4508 Website: www.manchester.gov.uk
7	**The Coal Authority - Property Searches** 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
8	**Stantec UK Ltd** Caversham Bridge House, Waterman Place, Reading, RG1 8DN	Telephone: 0118 950 0761 Email: pba.reading@stantec.com Website: www.stantec.com
9	**PointX** 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
-	**Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.

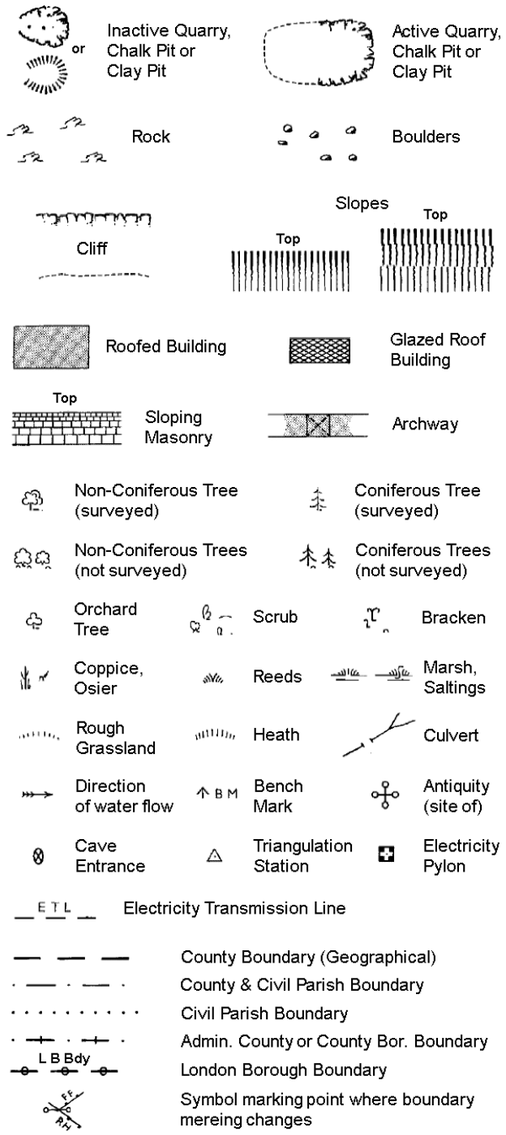
Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



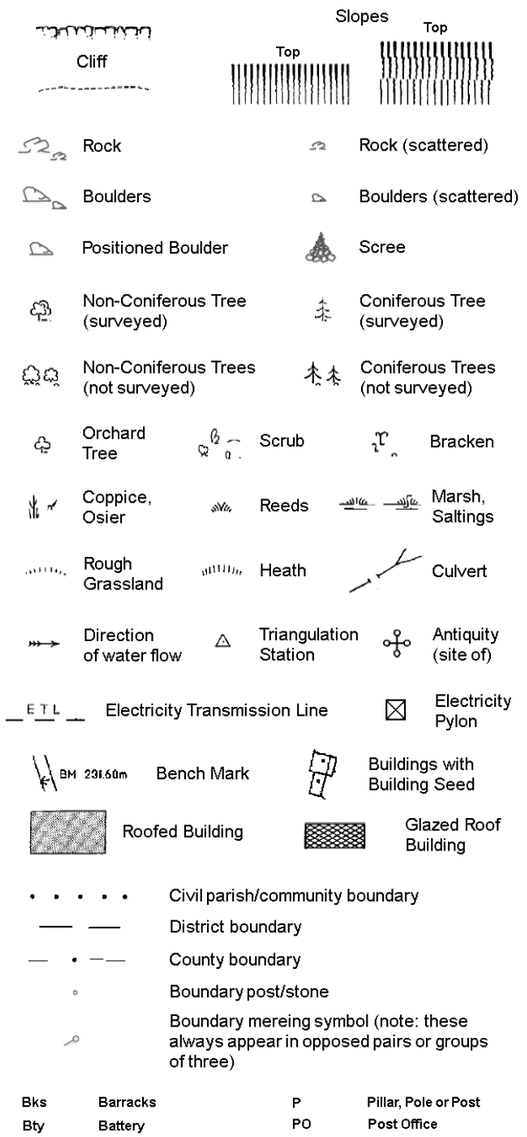
B P B S	Boundary Post or Stone	P.C.B	Police Call Box
B.R.	Bridle Road	P	Pump
E.P	Electricity Pylon	S.P	Signal Post
F.B.	Foot Bridge	St.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P	Guide Post or Board	T.C.B	Telephone Call Box
M.S	Mile Stone	Tr.	Trough
M.P M.R	Mooring Post or Ring	W	Well

Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250



BH	Beer House	P	Pillar, Pole or Post
BP, BS	Boundary Post or Stone	PO	Post Office
Cn, C	Capstan, Crane	PC	Public Convenience
Chy	Chimney	PH	Public House
D Fn	Drinking Fountain	Pp	Pump
El P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
H	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	Wr Pt, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

Large-Scale National Grid Data 1:2,500 and 1:1,250



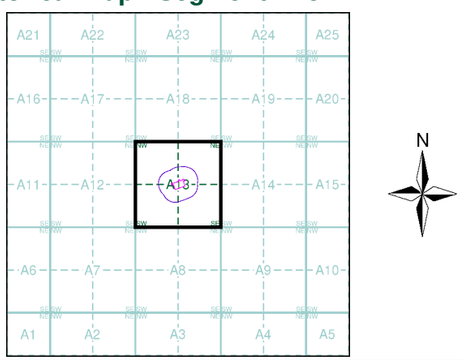
Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
El Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light
FB	Filter Bed	Spr	Spring
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track
Gas Gov	Gas Valve Compound	Tr	Trough
GVC	Gas Governer	Wd Pp	Wind Pump
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap
MH	Manhole	Wks	Works (building or area)
MP, MS	Mile Post or Mile Stone	W	Well

curtins

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:2,500	1893	2
Lancashire And Furness	1:2,500	1908	3
Lancashire And Furness	1:2,500	1932	4
Ordnance Survey Plan	1:1,250	1948	5
Ordnance Survey Plan	1:2,500	1950 - 1951	6
Ordnance Survey Plan	1:1,250	1951 - 1964	7
Ordnance Survey Plan	1:2,500	1953 - 1965	8
Ordnance Survey Plan	1:1,250	1960 - 1981	9
Ordnance Survey Plan	1:2,500	1965	10
Ordnance Survey Plan	1:2,500	1969 - 1970	11
Ordnance Survey Plan	1:1,250	1969 - 1989	12
Supply of Unpublished Survey Information	1:1,250	1974 - 1976	13
Additional SIMs	1:1,250	1978 - 1986	14
Additional SIMs	1:1,250	1985 - 1991	15
Ordnance Survey Plan	1:1,250	1987	16
Additional SIMs	1:1,250	1990 - 1991	17
Large-Scale National Grid Data	1:1,250	1992	18
Additional SIMs	1:1,250	1992	19
Large-Scale National Grid Data	1:1,250	1994 - 1995	20
Large-Scale National Grid Data	1:1,250	1996	21
Historical Aerial Photography	1:2,500	2000	22

Historical Map - Segment A13



Order Details

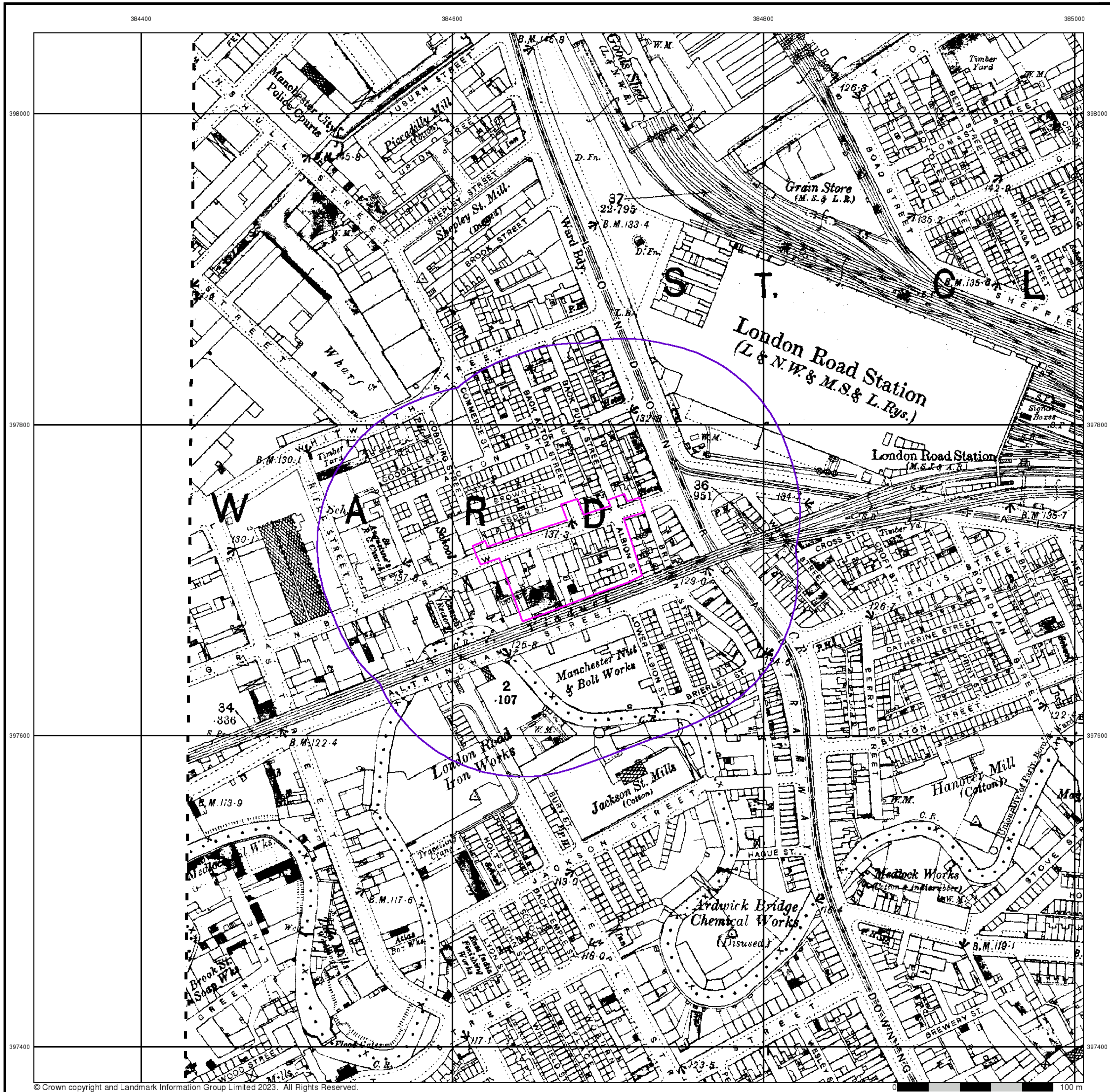
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Customer Ref:	065374
National Grid Reference:	384670, 397720
Slice:	A
Site Area (Ha):	0.48
Search Buffer (m):	100

Site Details

Flat at Old Garratt, 79, Granby Row, MANCHESTER, M1 7AB

Landmark INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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curtins

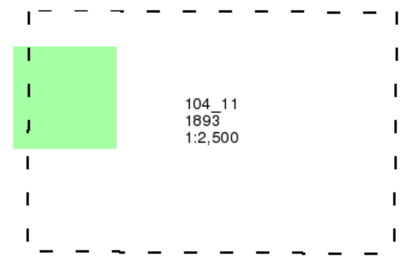
Lancashire And Furness

Published 1893

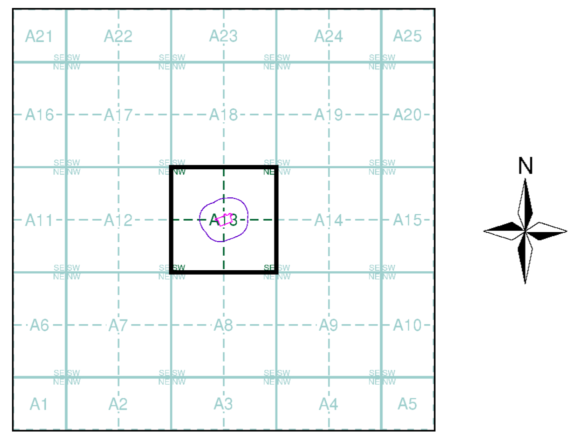
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

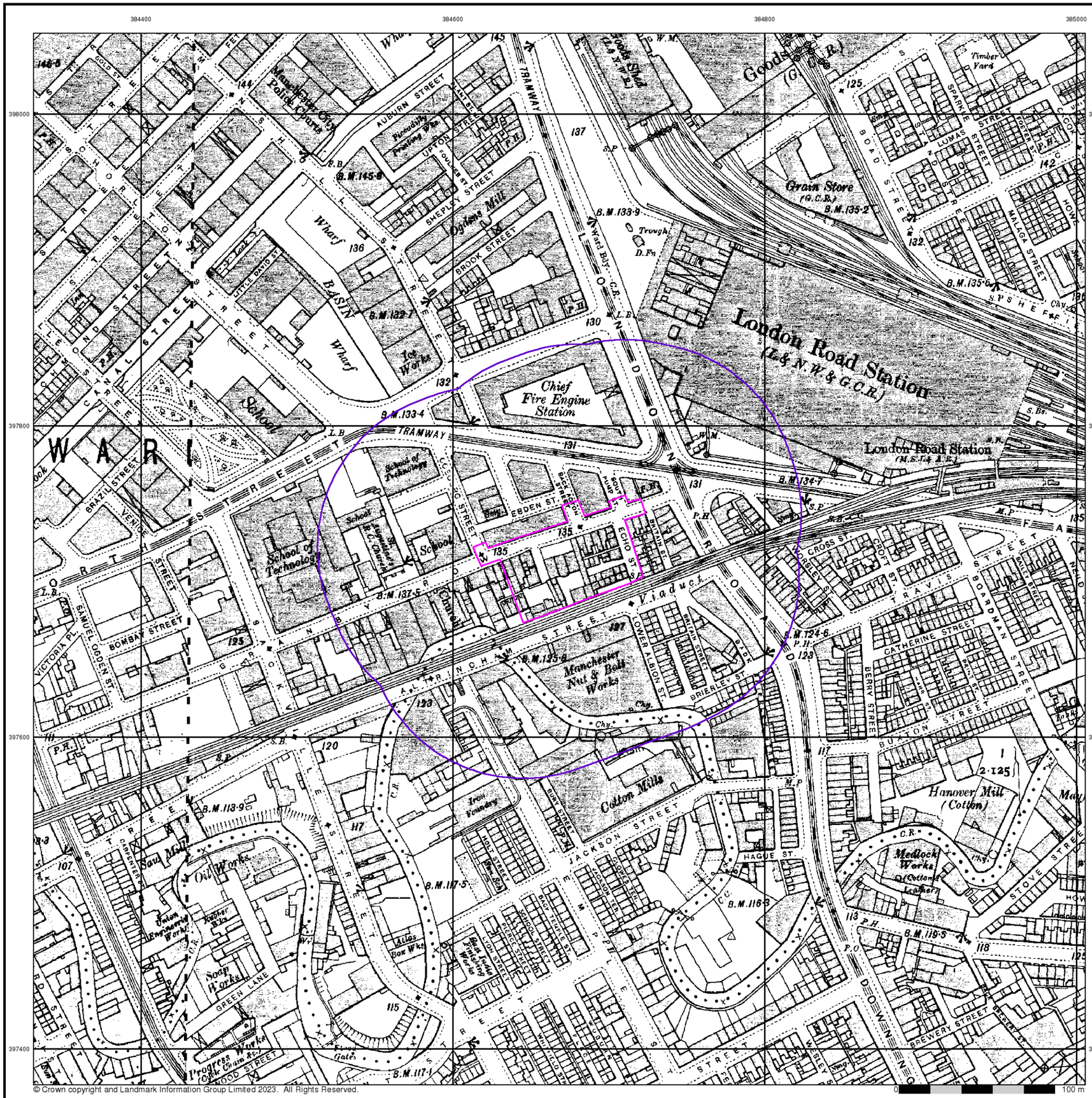
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Customer Ref: 065374
National Grid Reference: 384670, 397720
Slice: A
Site Area (Ha): 0.48
Search Buffer (m): 100

Site Details

Flat at Old Garratt, 79, Granby Row, MANCHESTER, M1 7AB

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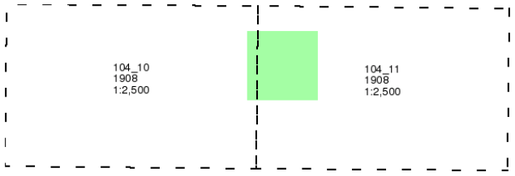
Lancashire And Furness

Published 1908

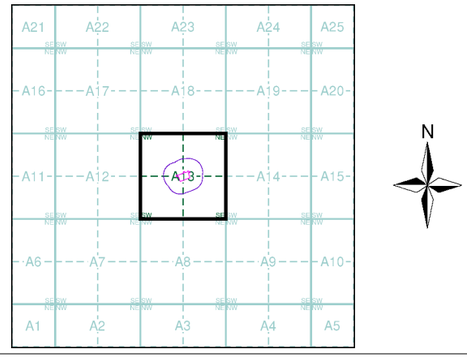
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13

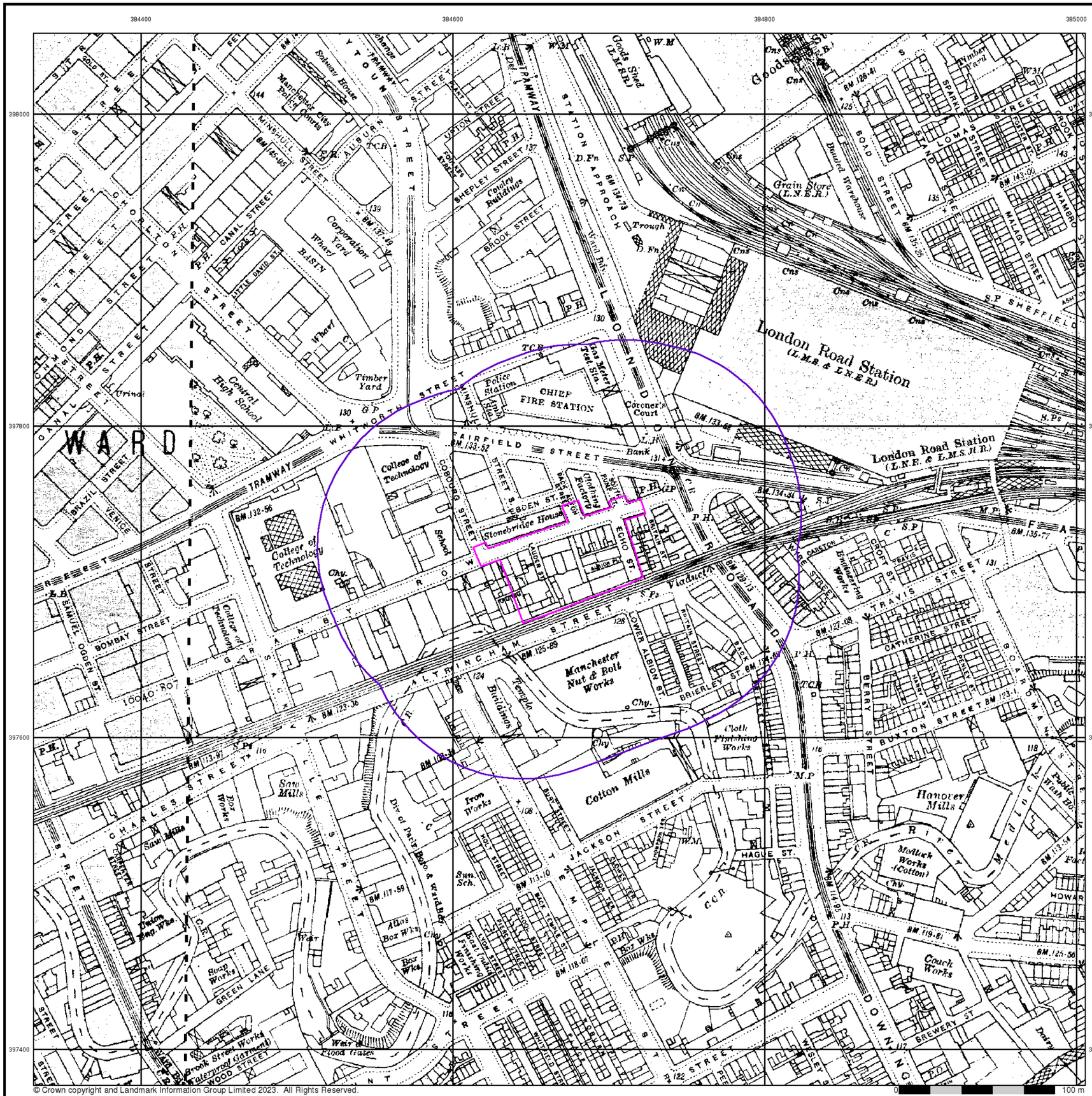


Order Details

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Customer Ref:	065374
National Grid Reference:	384670, 397720
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Site Details

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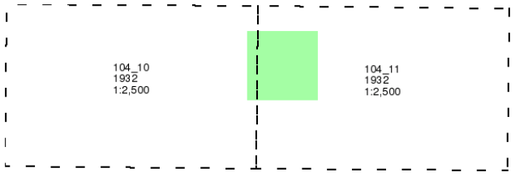
Lancashire And Furness

Published 1932

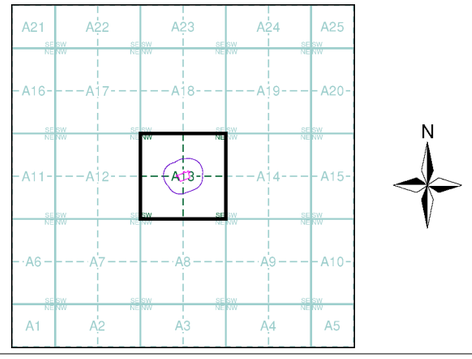
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13

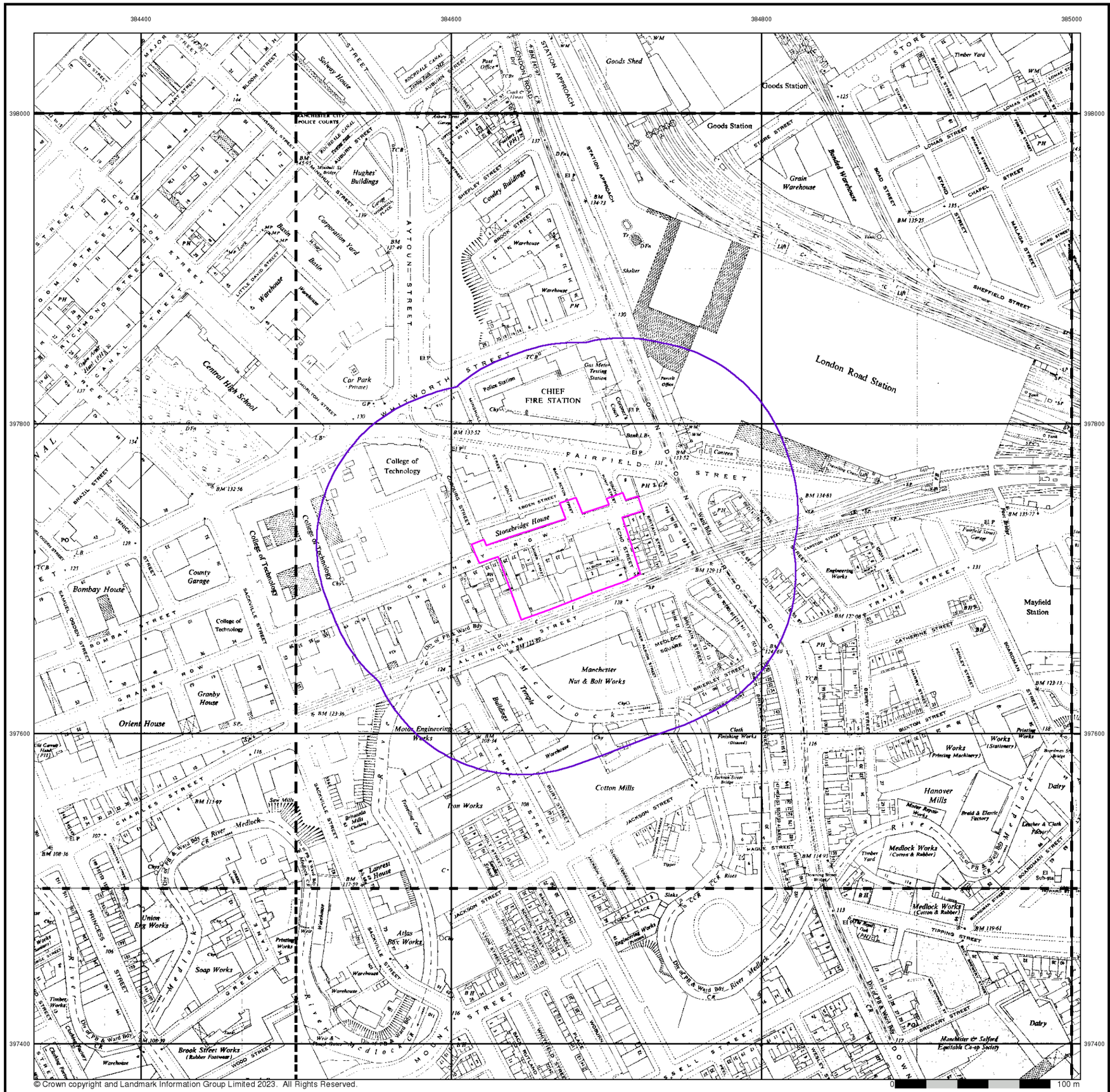


Order Details

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National Grid Reference:	384670, 397720
Slice:	A
Site Area (Ha):	0.48
Search Buffer (m):	100

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0 100 m

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Ordnance Survey Plan

Published 1948

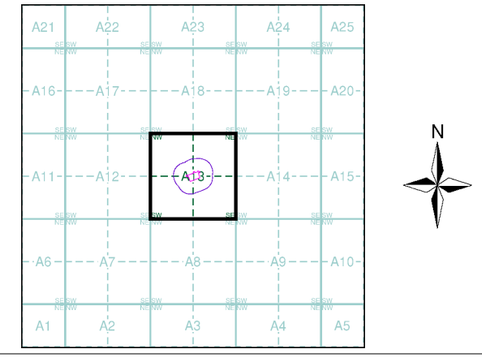
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SJ8498SW 1948 1:1,250	SJ8498SE 1948 1:1,250	
SJ8497NW 1948 1:1,250	SJ8497NE 1948 1:1,250	SJ8597NW 1948 1:1,250
SJ8497SW 1948 1:1,250	SJ8497SE 1948 1:1,250	SJ8597SW 1948 1:1,250

Historical Map - Segment A13



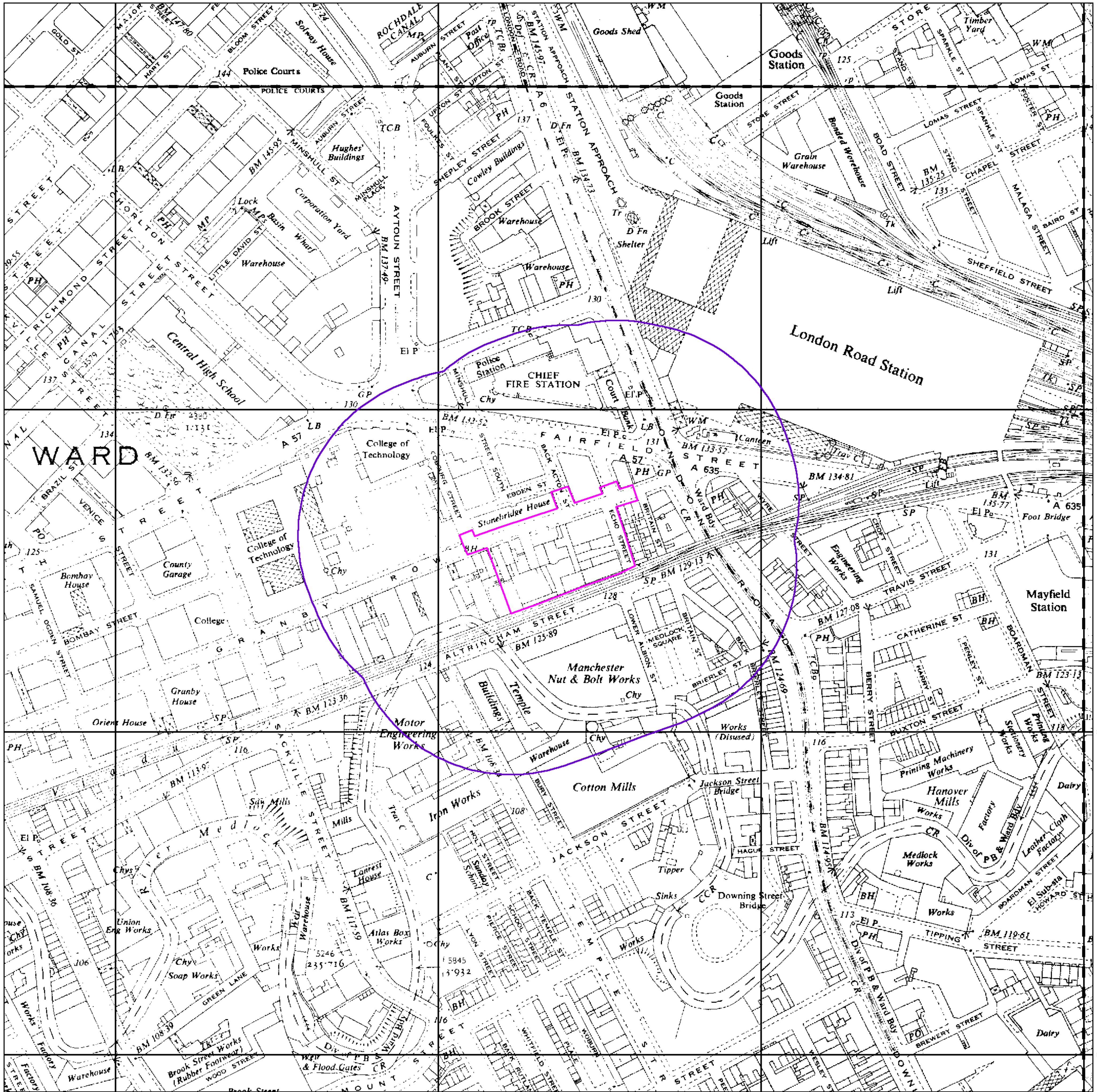
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Site Area (Ha):	0.48
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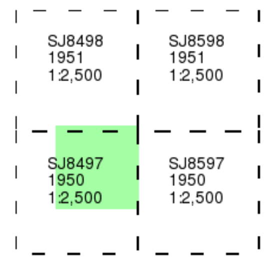
Ordnance Survey Plan

Published 1950 - 1951

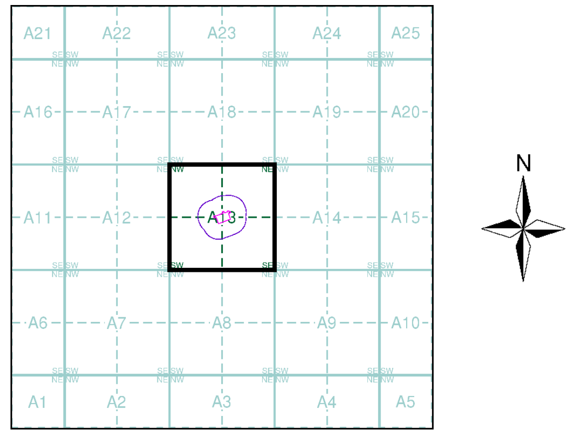
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

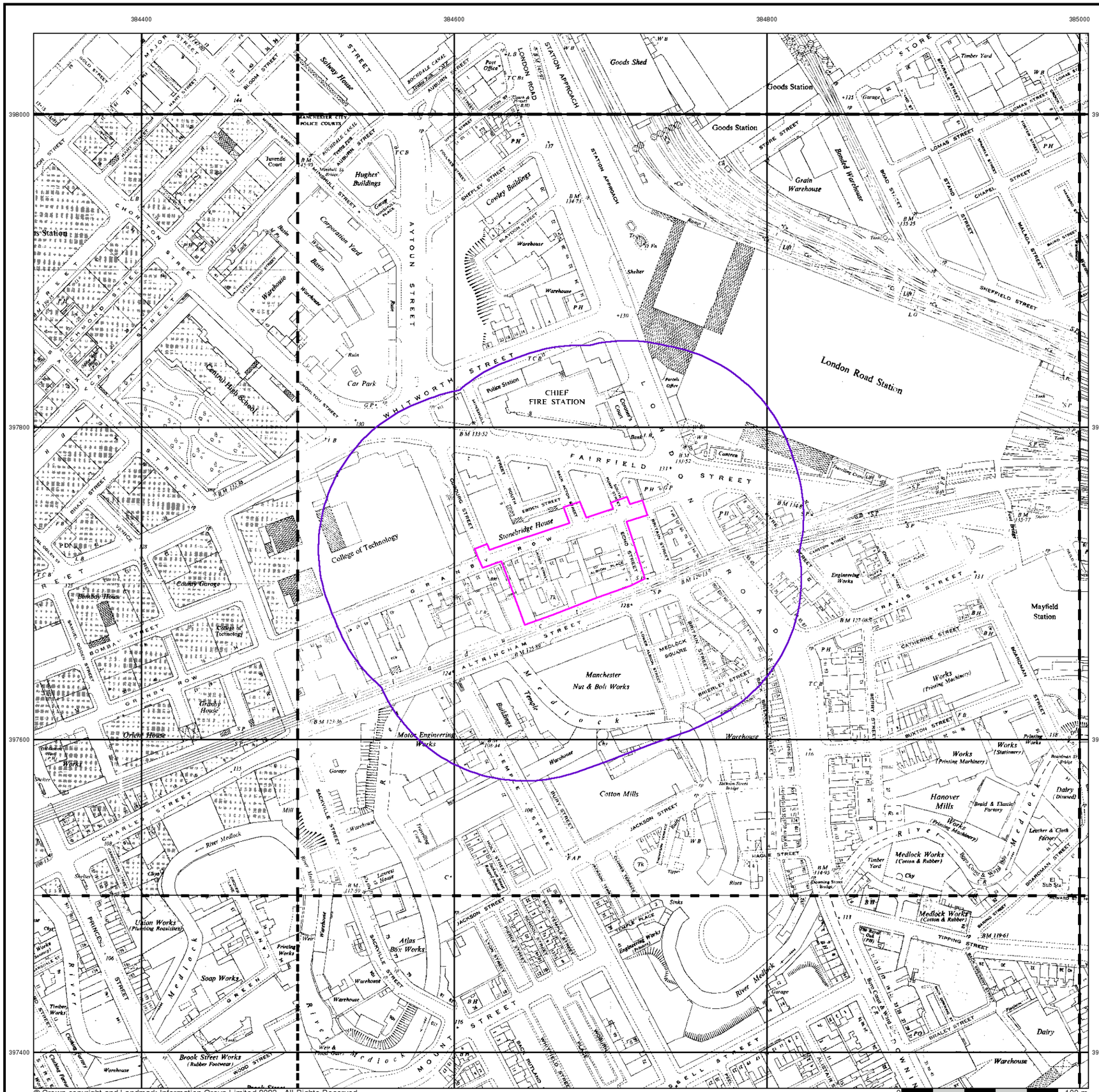
Order Number: 306235410_1_1
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Slice: A
Site Area (Ha): 0.48
Search Buffer (m): 100

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Ordnance Survey Plan

Published 1951 - 1964

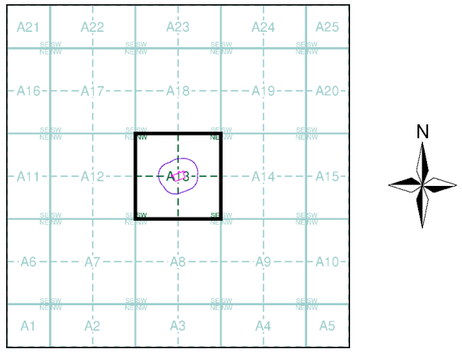
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SJ8498SW 1951 1:1,250	SJ8498SE 1954 1:1,250	SJ8598SW 1955 1:1,250
SJ8497NW 1964 1:1,250	SJ8497NE 1954 1:1,250	SJ8597NW 1963 1:1,250
SJ8497SW 1954 1:1,250	SJ8497SE 1955 1:1,250	SJ8597SW 1954 1:1,250

Historical Map - Segment A13

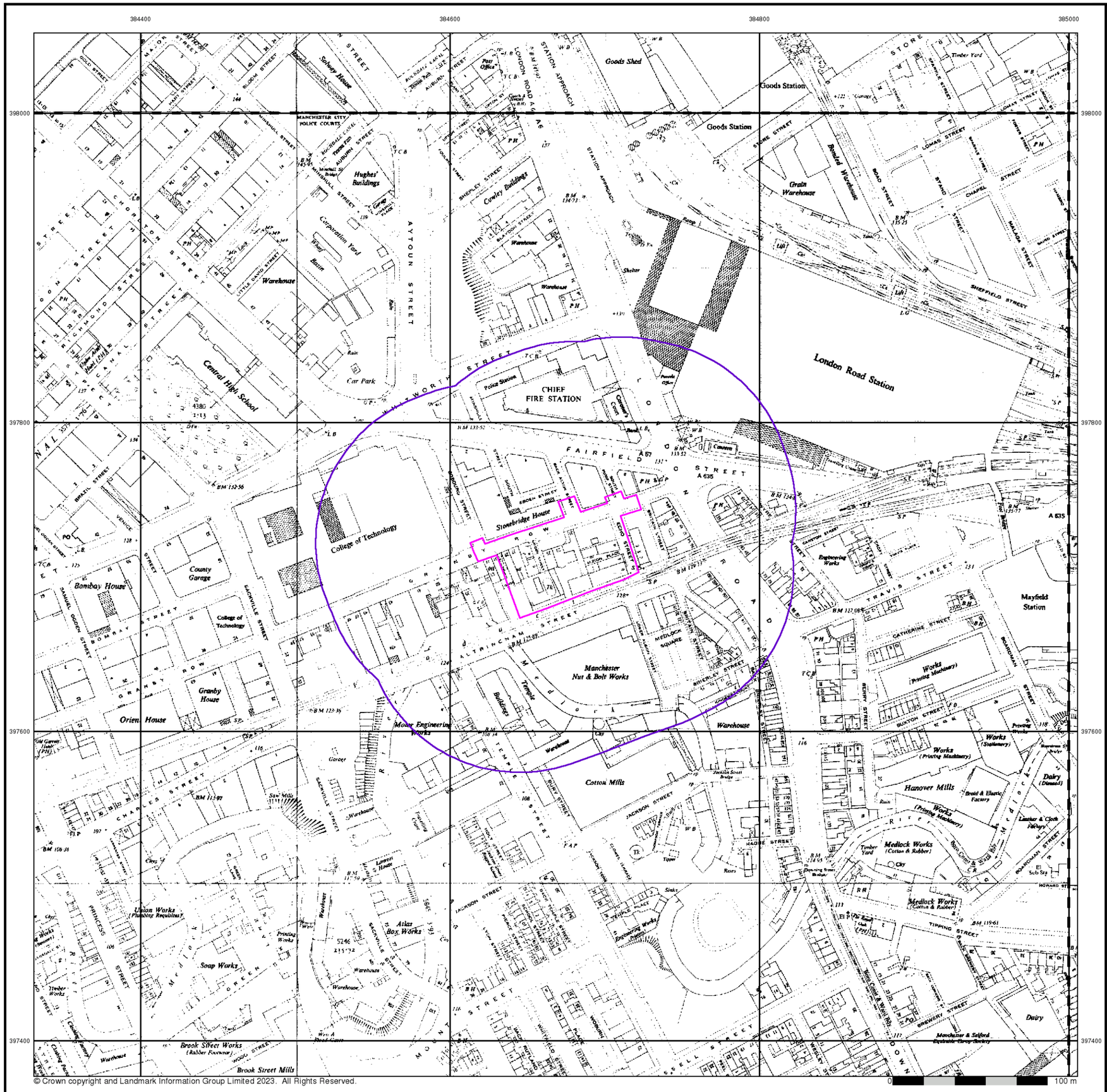


Order Details

Order Number:	306235410_1_1
Customer Ref:	065374
National Grid Reference:	384670, 397720
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Site Area (Ha):	0.48
Search Buffer (m):	100

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Ordnance Survey Plan

Published 1953 - 1965

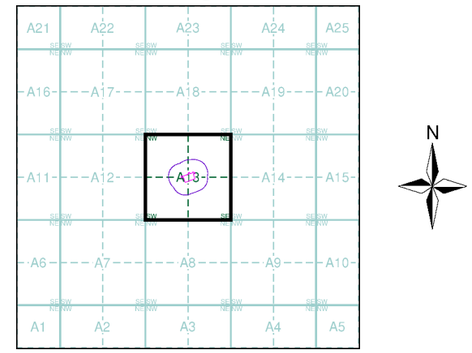
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SJ8498 1955 1:2,500	SJ8598 1953 1:2,500
SJ8497 1955 1:2,500	SJ8597 1965 1:2,500

Historical Map - Segment A13



Order Details

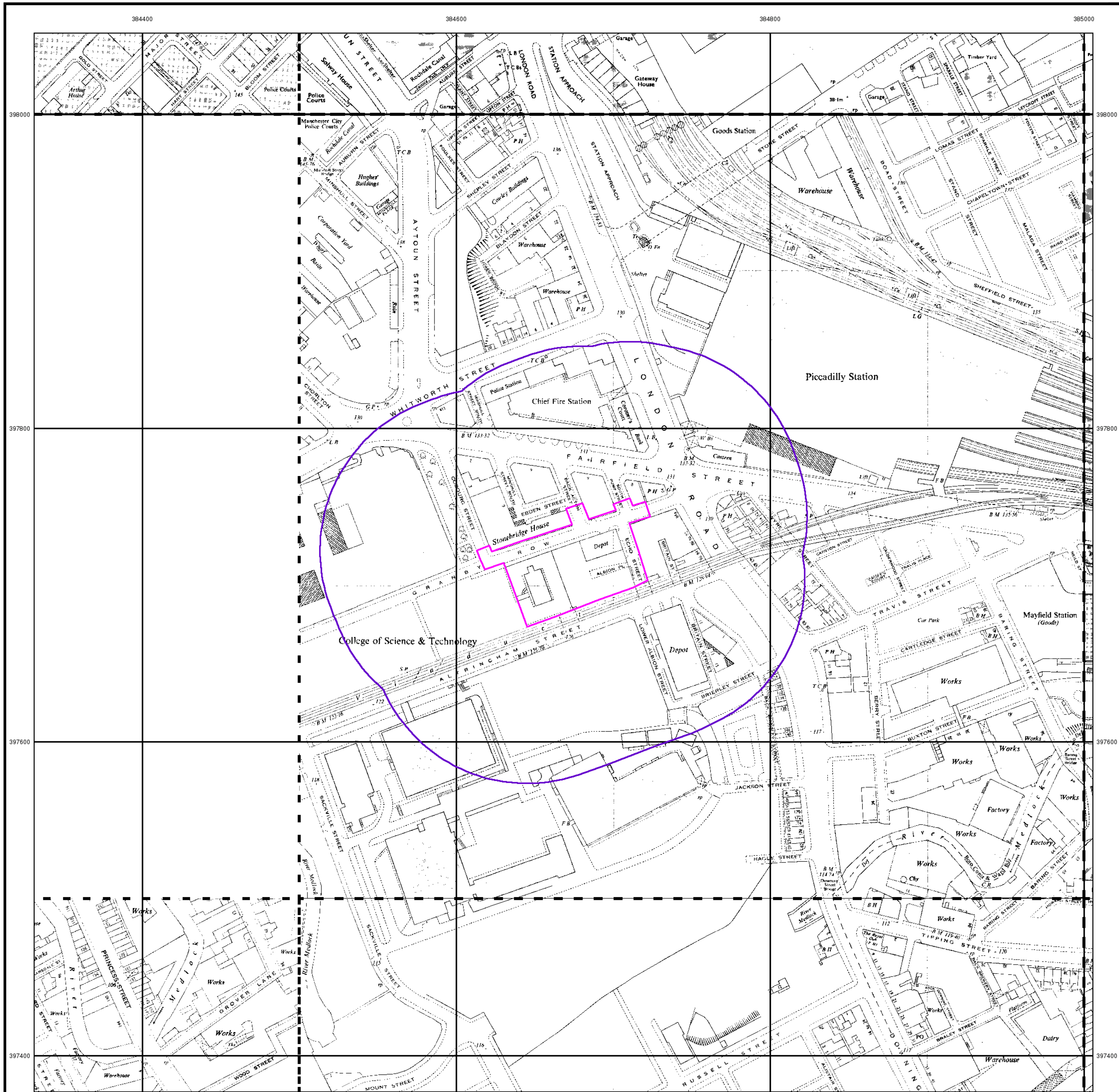
Order Number:	306235410_1_1
Customer Ref:	065374
National Grid Reference:	384670, 397720
Slice:	A
Site Area (Ha):	0.48
Search Buffer (m):	100

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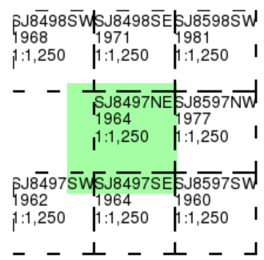
Ordnance Survey Plan

Published 1960 - 1981

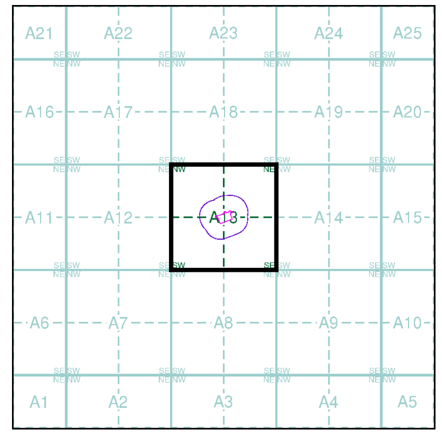
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



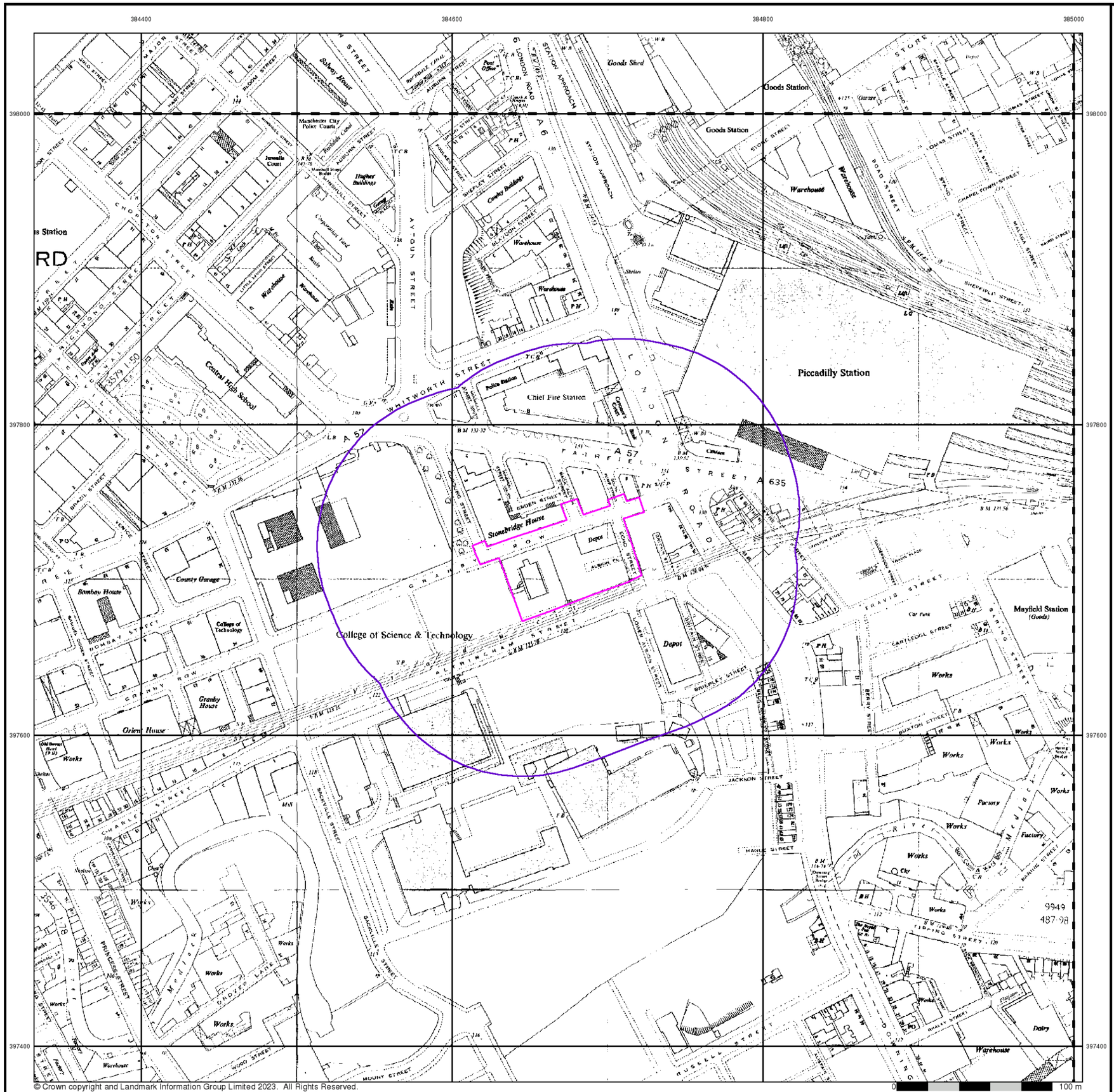
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Slice: A
Site Area (Ha): 0.48
Search Buffer (m): 100

Site Details

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Ordnance Survey Plan

Published 1965

Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

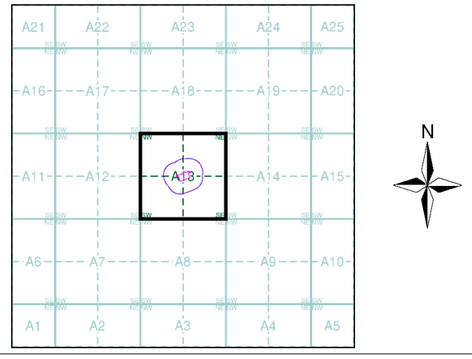
Map Name(s) and Date(s)

SJ8498 1965 1:2,500

SJ8598 1965 1:2,500

SJ8497 1965 1:2,500

Historical Map - Segment A13

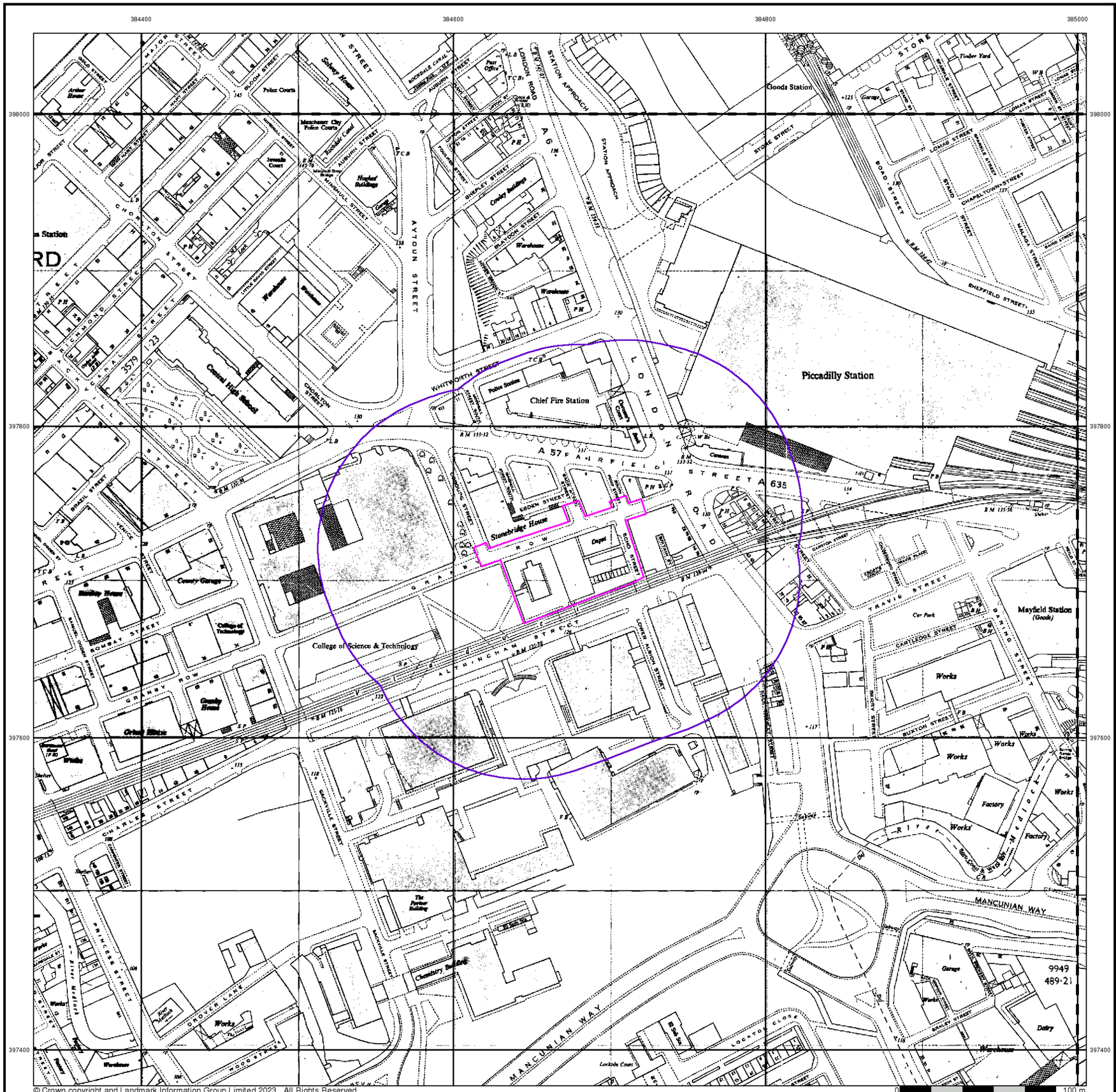


Order Details

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Search Buffer (m):	100

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Ordnance Survey Plan

Published 1969 - 1970

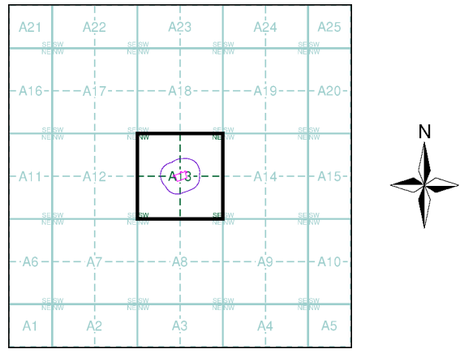
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SJ8498 1969 1:2,500	SJ8598 1969 1:2,500
SJ8497 1970 1:2,500	SJ8597 1970 1:2,500

Historical Map - Segment A13



Order Details

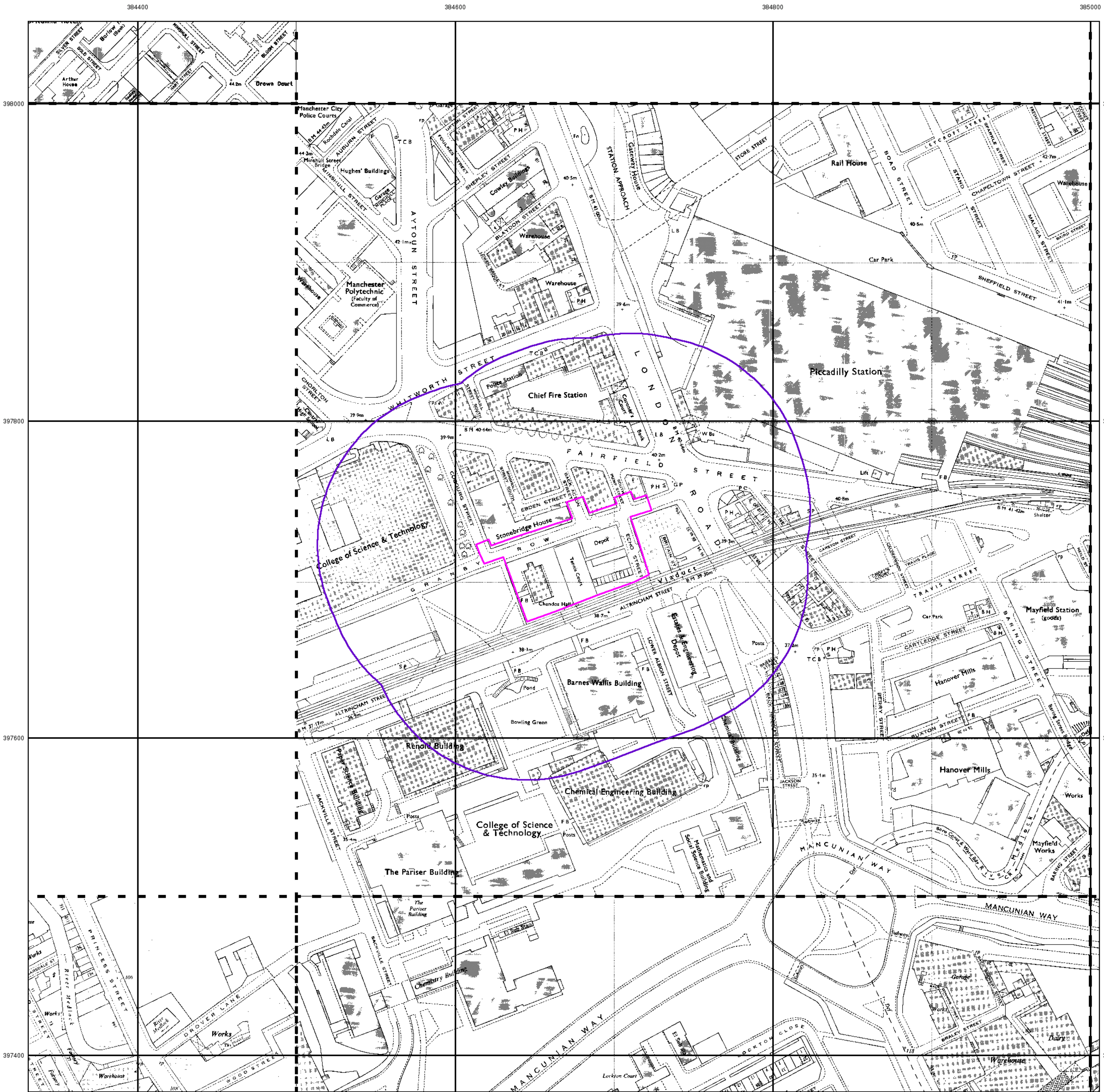
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0 100 m

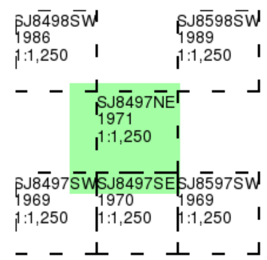
Ordnance Survey Plan

Published 1969 - 1989

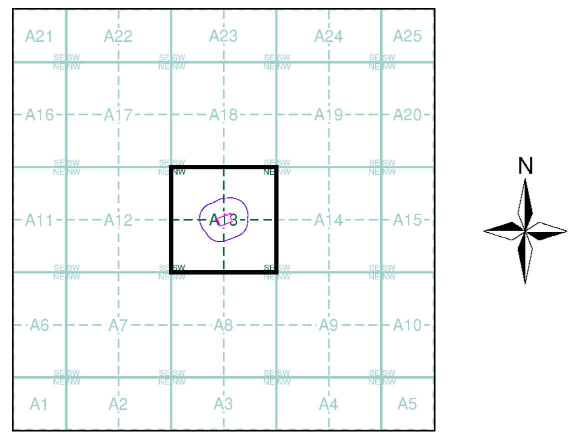
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

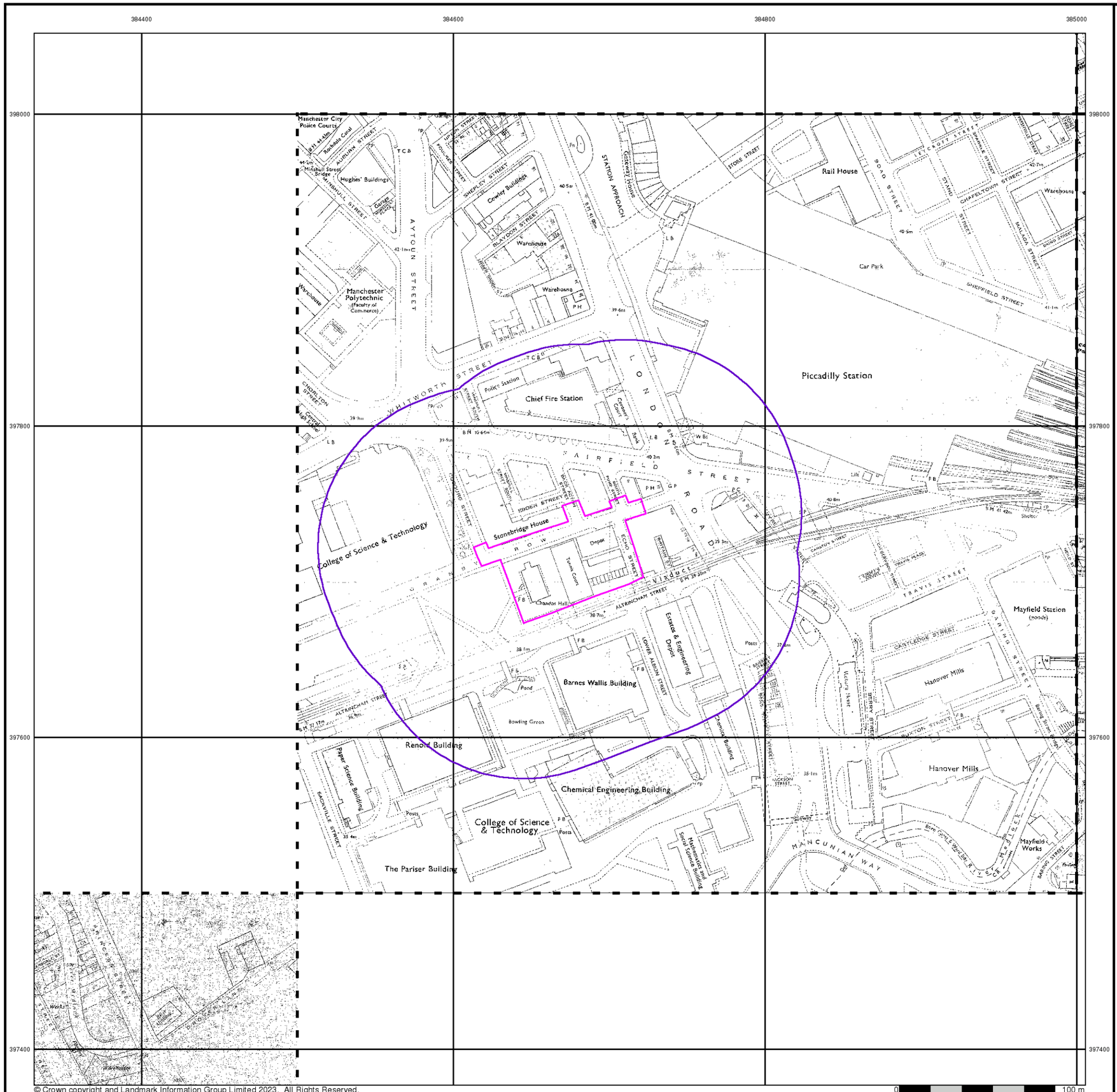
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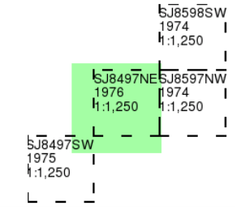
Supply of Unpublished Survey Information

Published 1974 - 1976

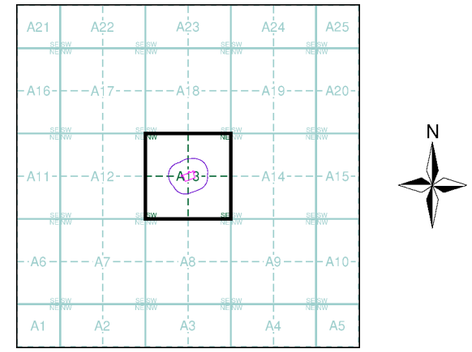
Source map scale - 1:1,250

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were more of a `work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

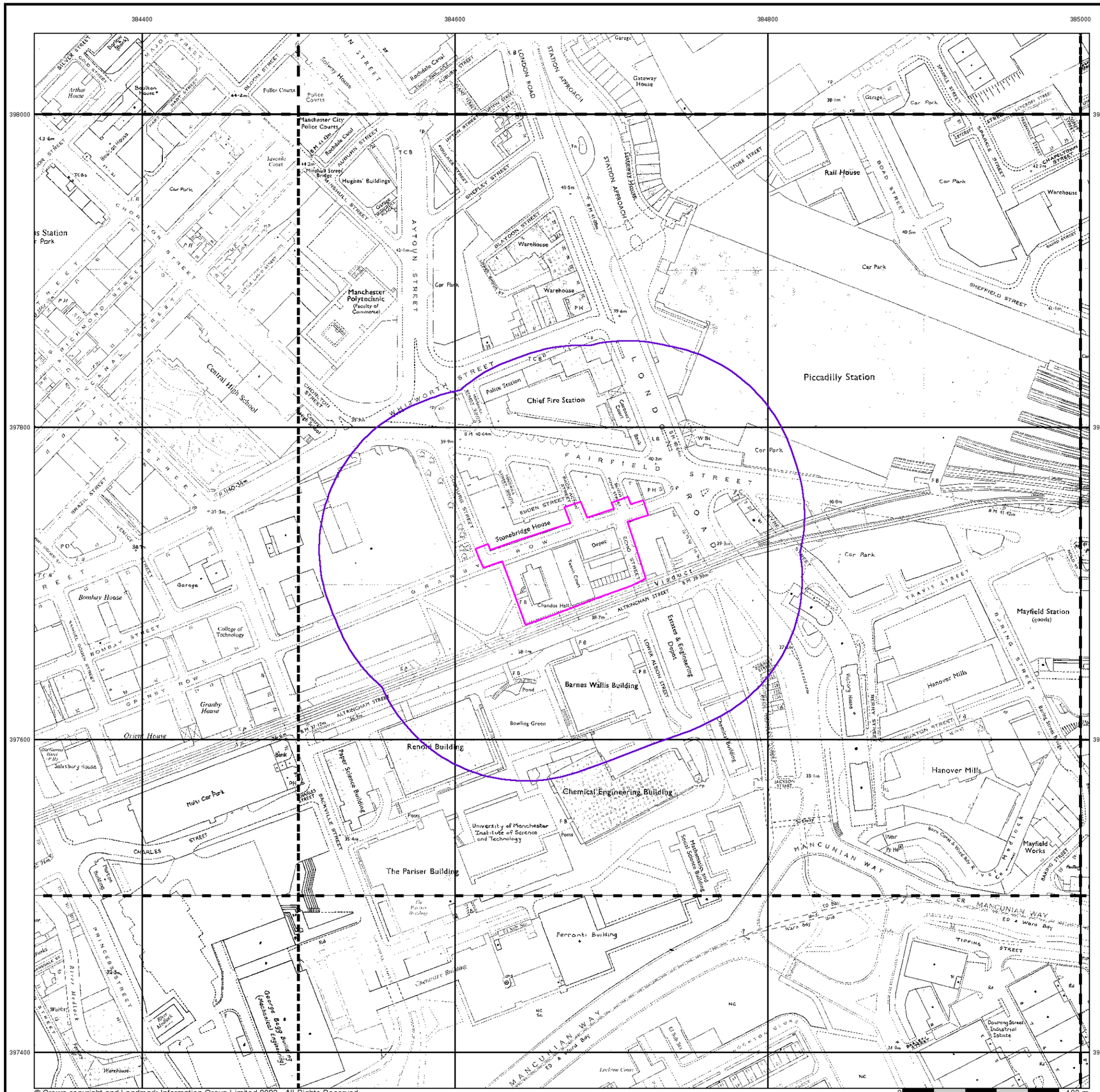
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Site Area (Ha):	0.48
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Additional SIMs

Published 1978 - 1986

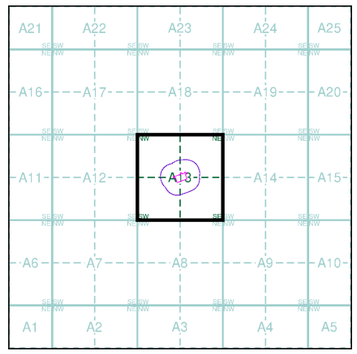
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's `Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SJ8498SW 1980 1:1,250	SJ8498SE 1985 1:1,250	SJ8598SW 1978 1:1,250
SJ8497NW 1985 1:1,250	SJ8497NE 1984 1:1,250	SJ8597NW 1985 1:1,250
SJ8497SW 1978 1:1,250	SJ8497SE 1984 1:1,250	SJ8597SW 1986 1:1,250

Historical Map - Segment A13



Order Details

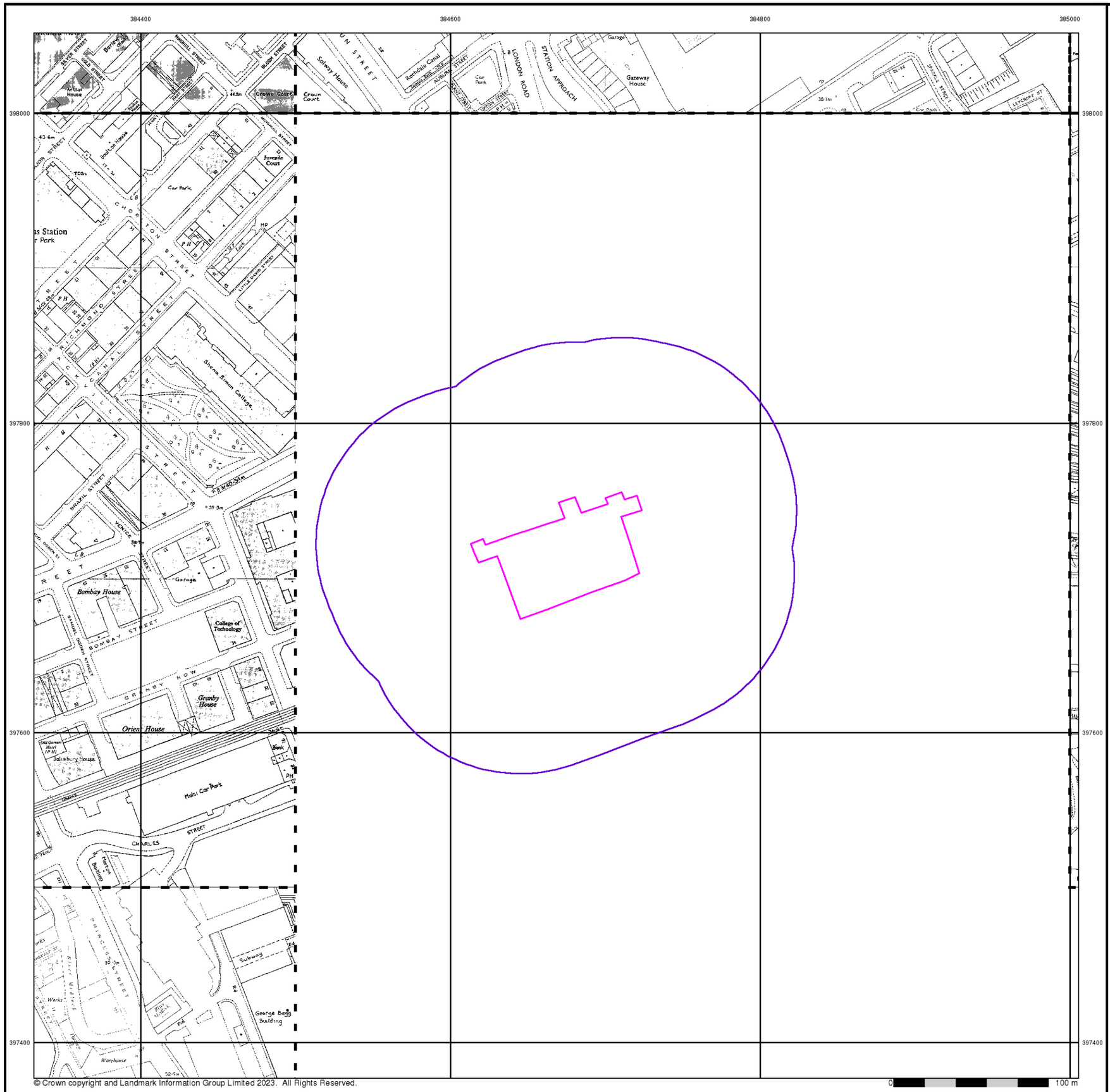
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Search Buffer (m):	100

Site Details

Flat at Old Garratt, 79, Granby Row, MANCHESTER, M1 7AB

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Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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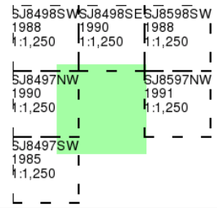
Additional SIMs

Published 1985 - 1991

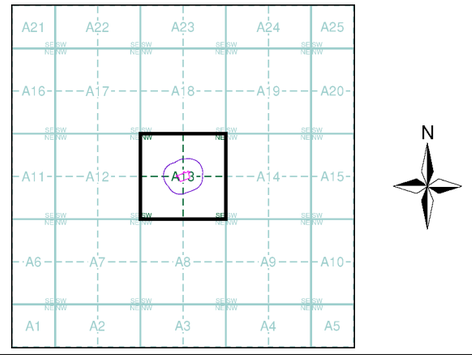
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's `Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13

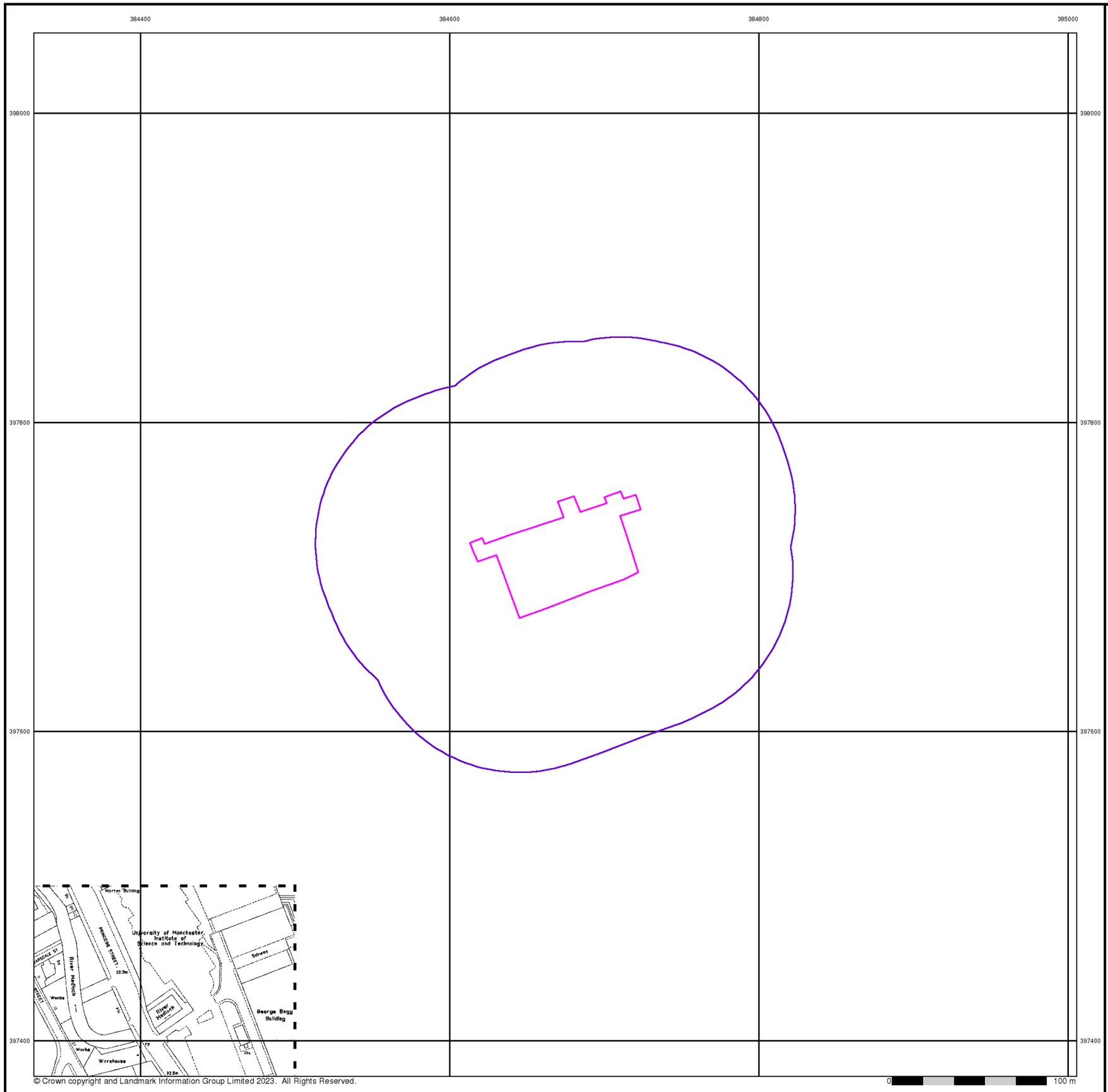


Order Details

Order Number:	306235410_1_1
Customer Ref:	065374
National Grid Reference:	384670, 397720
Slice:	A
Site Area (Ha):	0.48
Search Buffer (m):	100

Site Details

Flat at Old Garratt, 79, Granby Row, MANCHESTER, M1 7AB



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0 100 m

curtins

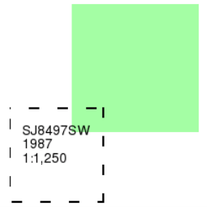
Ordnance Survey Plan

Published 1987

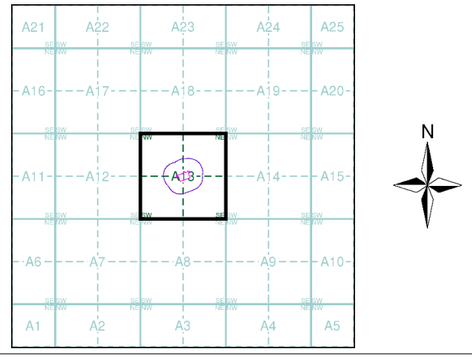
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



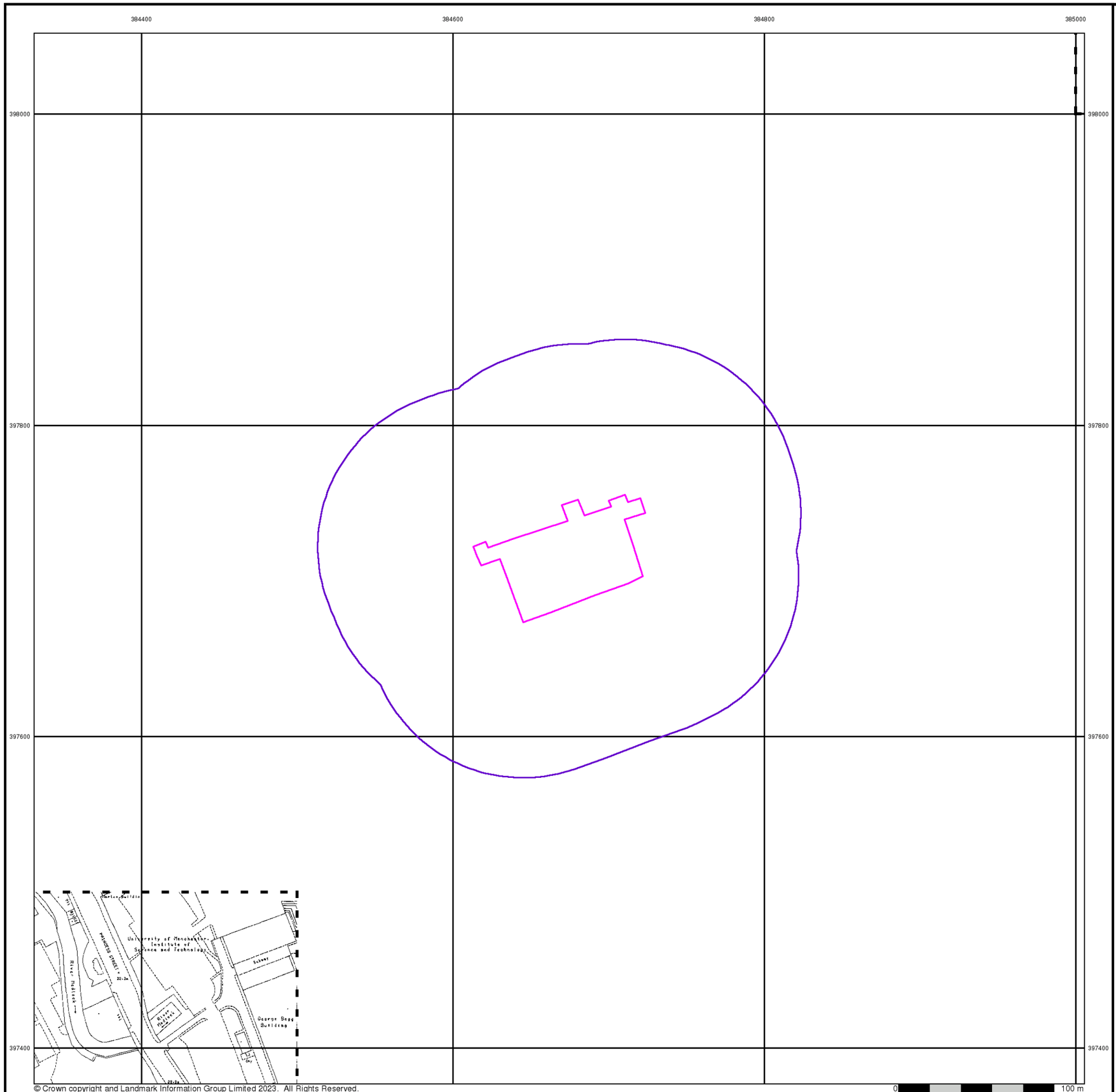
Order Details

Order Number:	306235410_1_1
Customer Ref:	065374
National Grid Reference:	384670, 397720
Slice:	A
Site Area (Ha):	0.48
Search Buffer (m):	100

Site Details

Flat at Old Garratt, 79, Granby Row, MANCHESTER, M1 7AB

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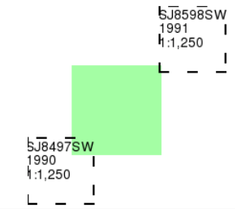
Additional SIMs

Published 1990 - 1991

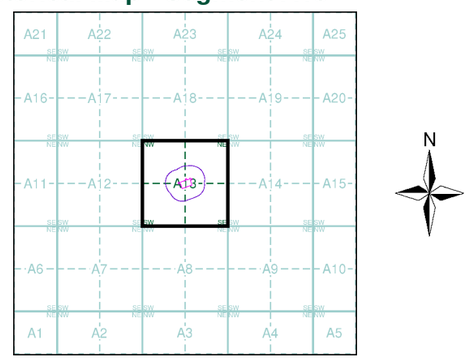
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's `Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



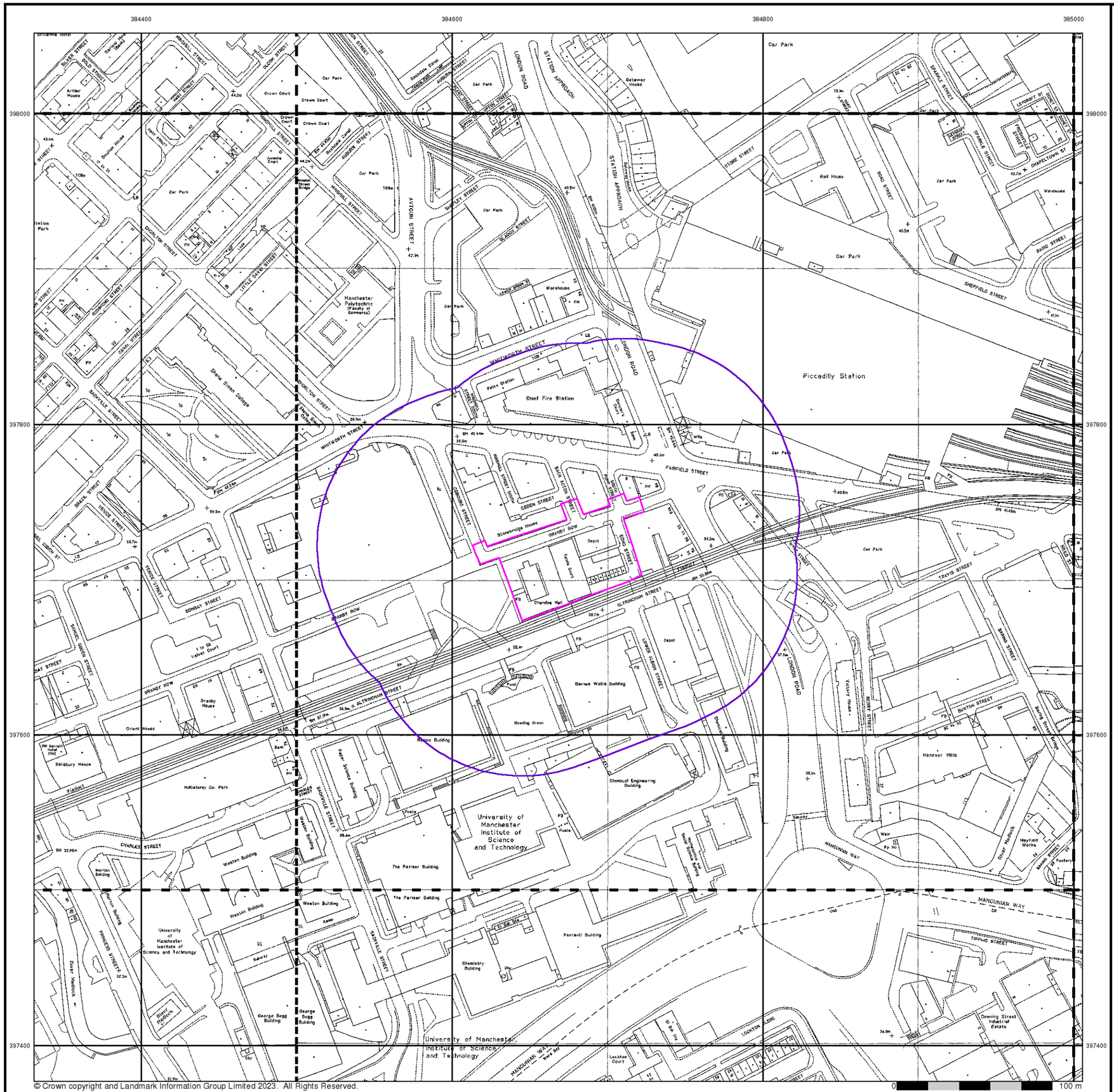
Order Details

Order Number:	306235410_1_1
Customer Ref:	065374
National Grid Reference:	384670, 397720
Slice:	A
Site Area (Ha):	0.48
Search Buffer (m):	100

Site Details

Flat at Old Garratt, 79, Granby Row, MANCHESTER, M1 7AB

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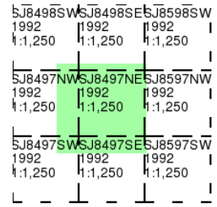
Large-Scale National Grid Data

Published 1992

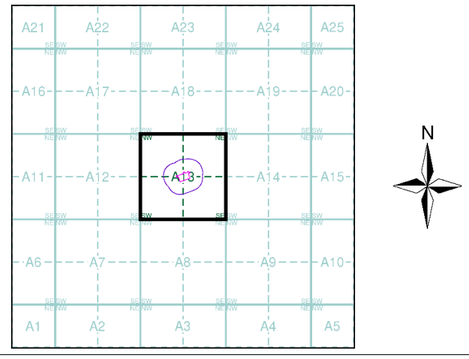
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



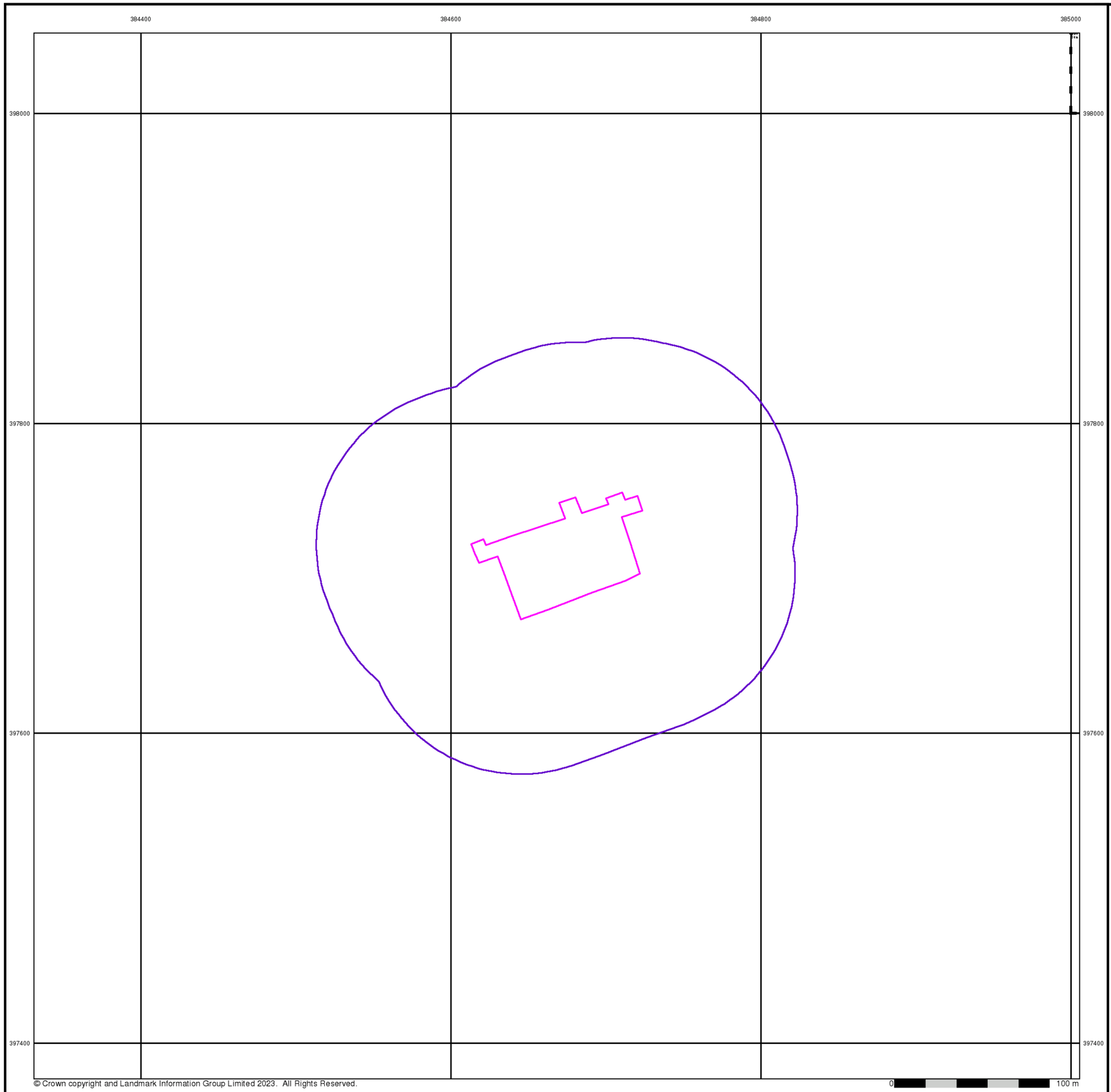
Order Details

Order Number:	306235410_1_1
Customer Ref:	065374
National Grid Reference:	384670, 397720
Slice:	A
Site Area (Ha):	0.48
Search Buffer (m):	100

Site Details

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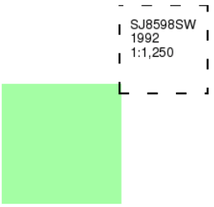
Additional SIMs

Published 1992

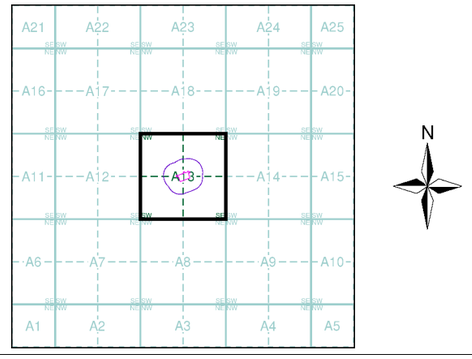
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's `Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

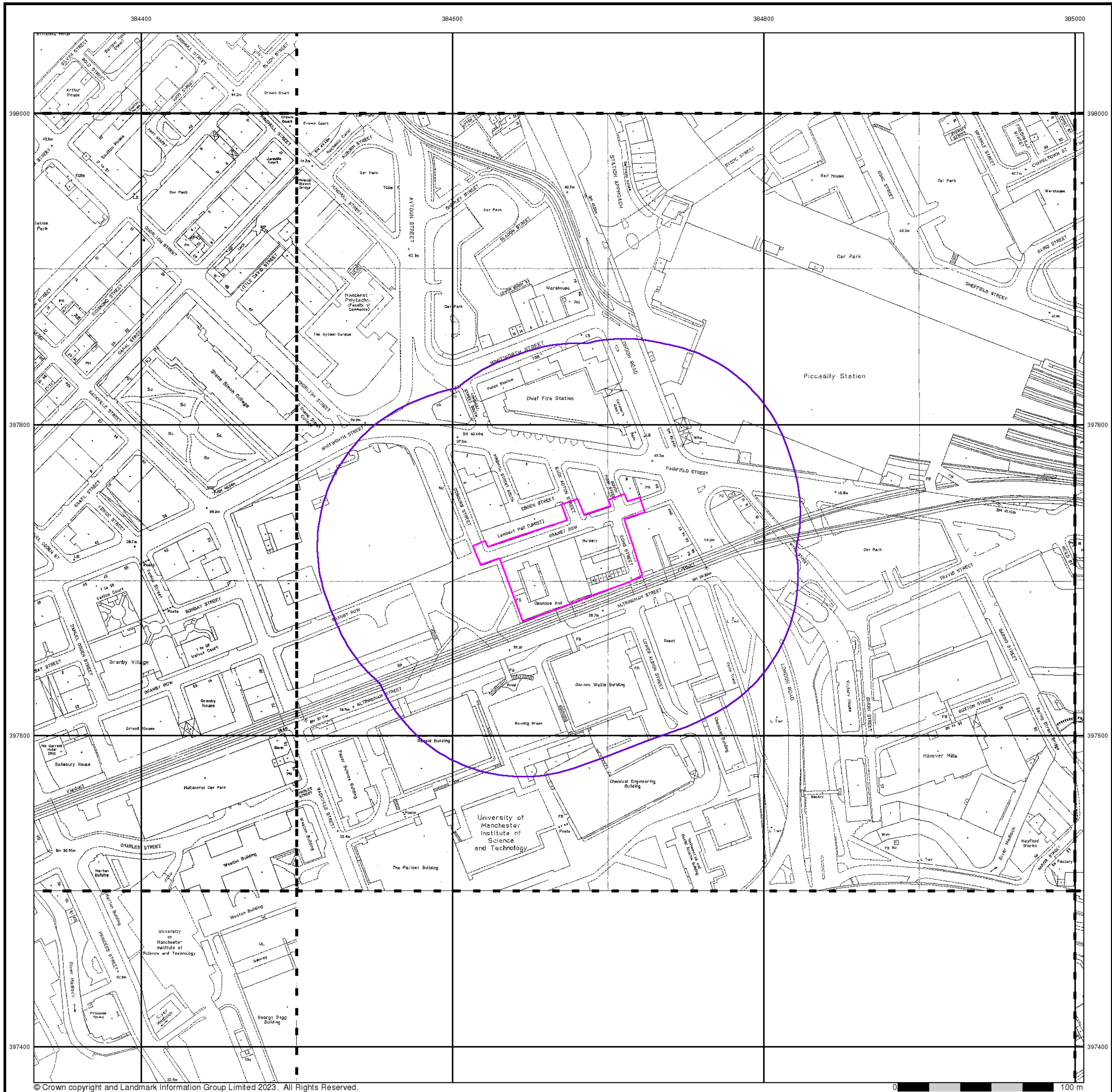
Order Number:	306235410_1_1
Customer Ref:	065374
National Grid Reference:	384670, 397720
Slice:	A
Site Area (Ha):	0.48
Search Buffer (m):	100

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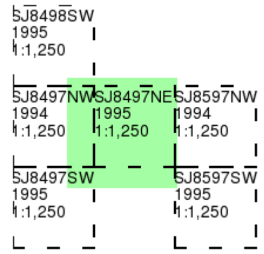
Large-Scale National Grid Data

Published 1994 - 1995

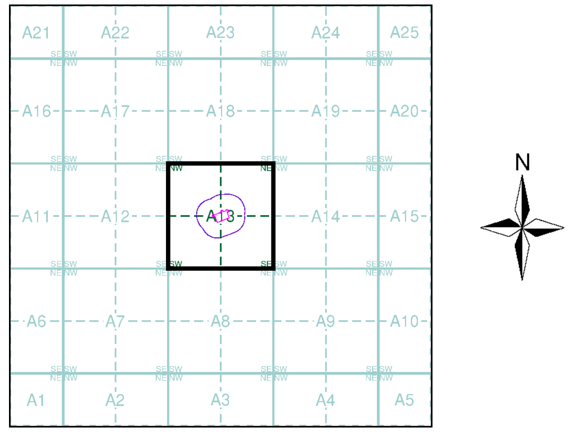
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

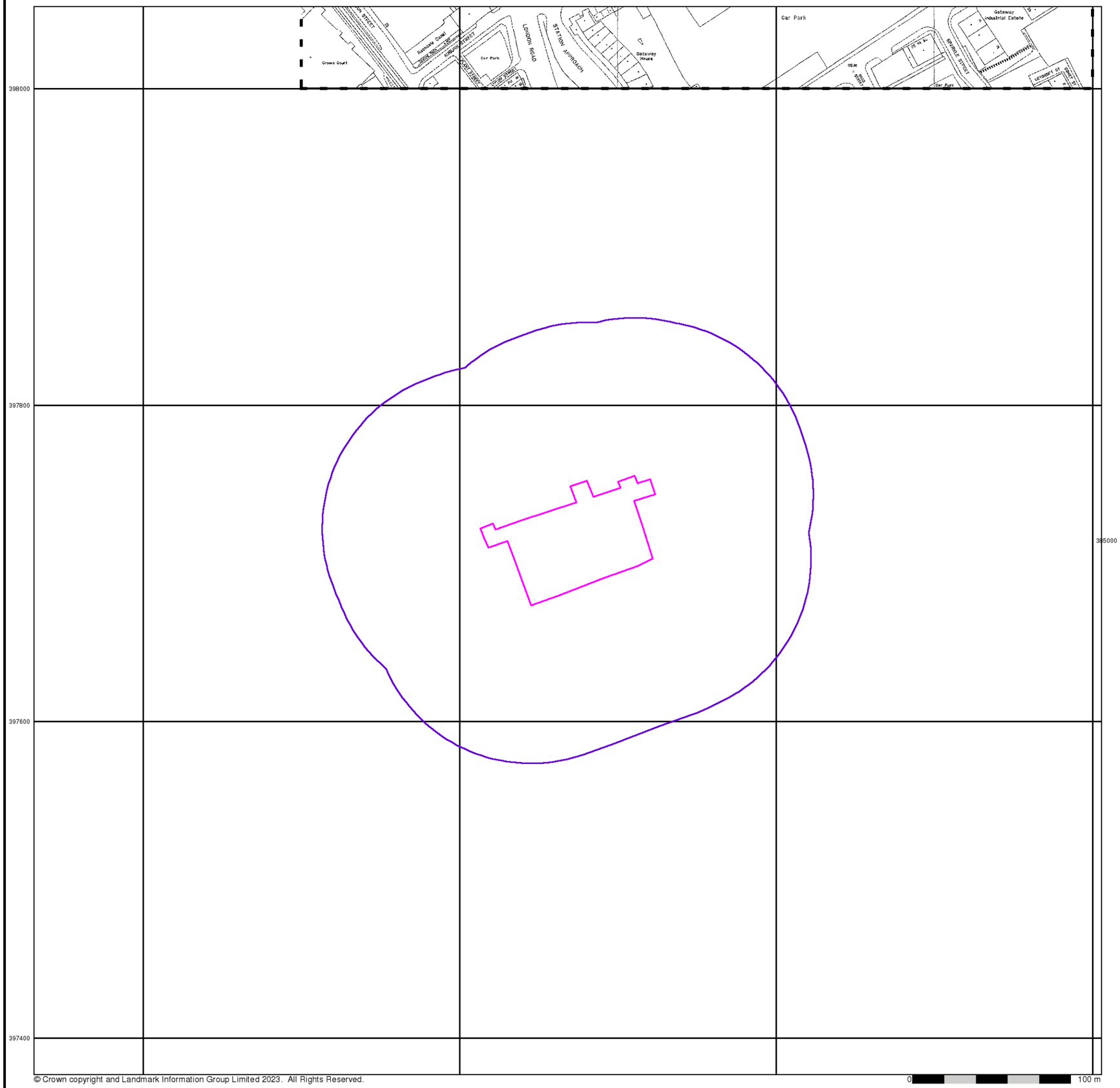
Order Number:	306235410_1_1
Customer Ref:	065374
National Grid Reference:	384670, 397720
Slice:	A
Site Area (Ha):	0.48
Search Buffer (m):	100

Site Details

Flat at Old Garratt, 79, Granby Row, MANCHESTER, M1 7AB

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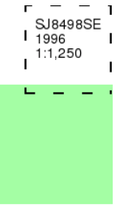
Large-Scale National Grid Data

Published 1996

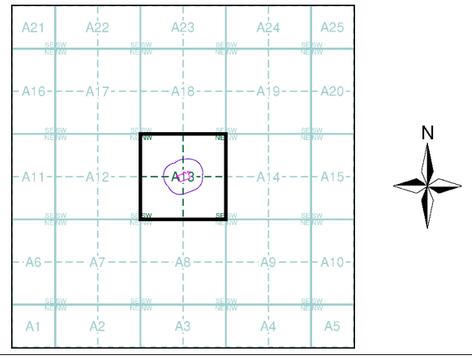
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

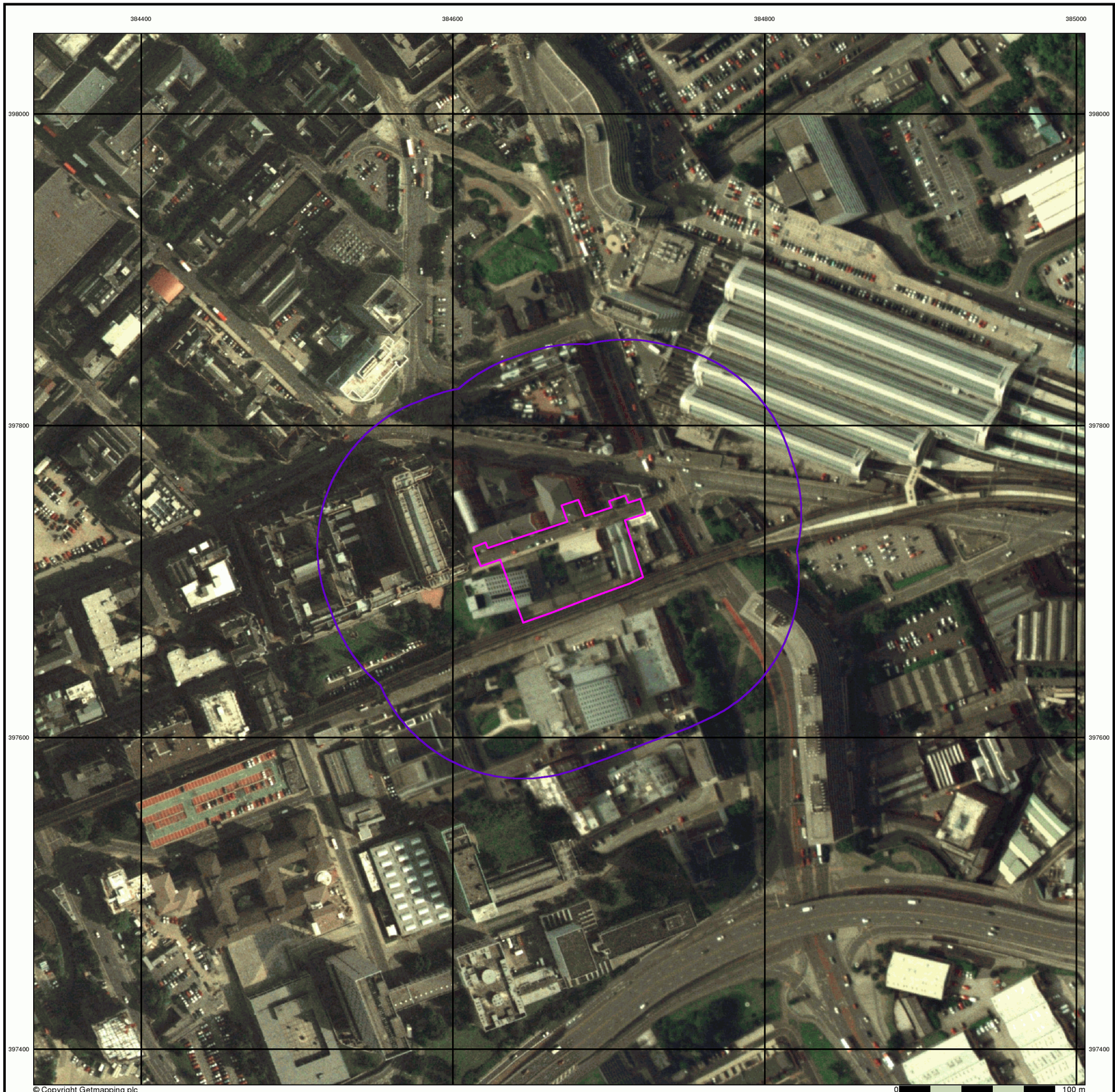
Order Number:	306235410_1_1
Customer Ref:	065374
National Grid Reference:	384670, 397720
Slice:	A
Site Area (Ha):	0.48
Search Buffer (m):	100

Site Details

Flat at Old Garratt, 79, Granby Row, MANCHESTER, M1 7AB

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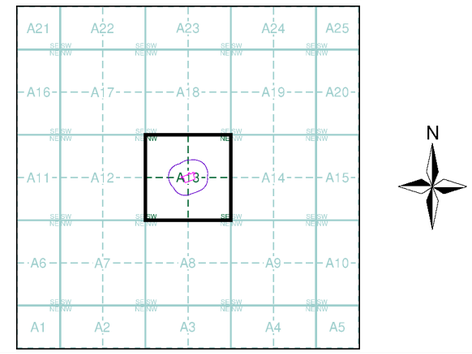
curtins

Historical Aerial Photography

Published 2000

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A13



Order Details

Order Number:	306235410_1_1
Customer Ref:	065374
National Grid Reference:	384670, 397720
Slice:	A
Site Area (Ha):	0.48
Search Buffer (m):	100

Site Details

Flat at Old Garratt, 79, Granby Row, MANCHESTER, M1 7AB

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Historical Mapping Legends

Ordnance Survey County Series 1:10,560

Gravel Pit
Sand Pit
Other Pits
Quarry
Shingle
Orchard
Osiers
Reeds
Marsh
Mixed Wood
Deciduous
Brushwood
Fir
Furze
Rough Pasture
Arrow denotes flow of water
Trigonometrical Station
Site of Antiquities
Bench Mark
Pump, Guide Post, Signal Post
Well, Spring, Boundary Post
·285 Surface Level
Sketched Contour
Instrumental Contour
Main Roads
Fenced
Un-Fenced
Minor Roads
Fenced
Un-Fenced
Sunken Road
Raised Road
Road over Railway
Railway over River
Railway over Road
Level Crossing
Road over River or Canal
Road over Stream
Road over Stream
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
Co. Boro. Bdy. County Borough Boundary (England)
Co. Burgh Bdy. County Burgh Boundary (Scotland)
R.D. Bdy. Rural District Boundary
Civil Parish Boundary

Ordnance Survey Plan 1:10,000

Chalk Pit, Clay Pit or Quarry
Gravel Pit
Sand Pit
Disused Pit or Quarry
Refuse or Slag Heap
Lake, Loch or Pond
Dunes
Boulders
Coniferous Trees
Non-Coniferous Trees
Orchard
Scrub
Coppice
Bracken
Heath
Rough Grassland
Marsh
Reeds
Saltings
Building
Direction of Flow of Water
Shingle
Sand
Glasshouse
Pylon
Pylon
Electricity Transmission Line
Sloping Masonry
Cutting
Embankment
Standard Gauge Multiple Track
Road Under
Road Over
Level Crossing
Foot Bridge
Standard Gauge Single Track
Siding, Tramway or Mineral Line
Narrow Gauge
Geographical County
Administrative County, County Borough or County of City
Municipal Borough, Urban or Rural District, Burgh or District Council
Borough, Burgh or County Constituency
Shown only when not coincident with other boundaries
Civil Parish
Shown alternately when coincidence of boundaries occurs

BP, BS	Boundary Post or Stone	Pol Sta	Police Station
Ch	Church	PO	Post Office
CH	Club House	PC	Public Convenience
F E Sta	Fire Engine Station	PH	Public House
FB	Foot Bridge	SB	Signal Box
Fn	Fountain	Spr	Spring
GP	Guide Post	TCB	Telephone Call Box
MP	Mile Post	TCP	Telephone Call Post
MS	Mile Stone	W	Well

1:10,000 Raster Mapping

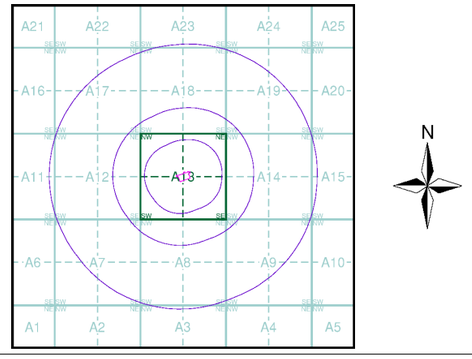
Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Mud
Sand
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England only)
Civil, parish or community boundary
District, Unitary, Metropolitan, London Borough boundary
Constituency boundary
Area of wooded vegetation
Non-coniferous trees
Non-coniferous trees (scattered)
Coniferous trees
Coniferous trees (scattered)
Positioned tree
Orchard
Coppice or Osiers
Rough Grassland
Heath
Scrub
Marsh, Salt Marsh or Reeds
Water feature
Flow arrows
MHW(S) Mean high water (springs)
MLW(S) Mean low water (springs)
Telephone line (where shown)
Electricity transmission line (with poles)
BM 123.45 m Bench mark (where shown)
Triangulation station
Point feature (e.g. Guide Post or Mile Stone)
Pylon, flare stack or lighting tower
Site of (antiquity)
Glasshouse
General Building
Important Building

curtins

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:10,560	1848	3
Cheshire	1:10,560	1882	4
Lancashire And Furness	1:10,560	1894 - 1896	5
Lancashire And Furness	1:10,560	1909	6
Lancashire And Furness	1:10,560	1923	7
Lancashire And Furness	1:10,560	1931 - 1933	8
Lancashire And Furness	1:10,560	1938	9
Ordnance Survey Plan	1:10,000	1956	10
Ordnance Survey Plan	1:10,000	1968	11
Ordnance Survey Plan	1:10,000	1972	12
Manchester	1:25,000	1975	13
Ordnance Survey Plan	1:10,000	1980 - 1981	14
Ordnance Survey Plan	1:10,000	1985 - 1987	15
Ordnance Survey Plan	1:10,000	1989	16
Ordnance Survey Plan	1:10,000	1993 - 1994	17
10K Raster Mapping	1:10,000	1999	18
10K Raster Mapping	1:10,000	2006	19
VectorMap Local	1:10,000	2022	20

Historical Map - Slice A



Order Details

Order Number: 306235410_1_1
Customer Ref: 065374
National Grid Reference: 384670, 397720
Slice: A
Site Area (Ha): 0.48
Search Buffer (m): 1000

Site Details

Flat at Old Garratt, 79, Granby Row, MANCHESTER, M1 7AB

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Russian Military Mapping Legends

1:5,000 and 1:10,000 mapping

a. Not drawn to scale b. Drawn to scale

- Government and Administrative Buildings
- Military and Industrial Buildings
- Military and Communication Areas
- Subway Entrance
- Fireproof Building
- Prominent Fireproof Building
- Non-fireproof Building
- Non-fireproof Building (non-dwelling)
- Factory, mill, and flour mill, with chimneys
- Factory, mill, and flour mill, without chimneys
- Power Station, drawn to scale
- Hydroelectric Power Station
- Radio Station, drawn to scale
- Telephone Station, drawn to scale
- Abandoned Open-pit Mine or Quarry
- Open-pit Salt Mine
- Pit
- Oil Deposit or Well
- Oil Seepage
- Tailings Pile
- Fuel Storage Tanks
- Natural Gas Tank
- Bench Mark
- Drill Hole
- Burial Mound
- Triangulation Point on Burial Mound
- Single-track Railroad
- Double-track Railroad and Station Building
- Coniferous Forest
- Deciduous Forest
- Mixed Forest
- Lawns
- Citrus Orchard
- Wet Ground
- Scattered Vegetation

243,8 — Values for prominent elevations

186.0 — Numbers for spot elevations, depth soundings, contour lines, etc.

0,2 — Velocity of the current, width of river bed, depth of river

Fractional terms: length and capacity of bridges; depth of fords and condition of the river bottom; height of forest and the diameter of trees

Russian Alphabet (For reference and phonetic interpretation of map text)

А а (A)	З з (Z)	П п (P)	Ч ч (CH)
Б б (B)	И и (I)	Р р (R)	Ш ш (SH)
В в (V)	Й й (Y)	С с (S)	Щ щ (SHCH)
Г г (G)	К к (K)	Т т (T)	ъ (–)
Д д (D)	Л л (L)	У у (U)	ы (Y)
Е е (E)	М м (M)	Ф ф (F)	ь (')
Ё ё (YO)	Н н (N)	Х х (KH)	Э э (E)
Ж ж (ZH)	О о (O)	Ц ц (TS)	Ю ю (YU or IU)
			Я я (YA or IA)

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale

- Government and Administrative Buildings
- Military and Industrial Buildings
- Military and Communication Areas
- Subway Entrance
- Partly Demolished Buildings
- Demolished Buildings
- Built-Up Area with Fireproof Buildings Predominant
- Built-Up Area with Non-Fireproof Buildings Predominant
- Individual Fireproof Building
- Prominent Industrial Building
- Individual Dwelling, Fireproof
- Ruins of an Individual Dwelling
- Factory or Mill Chimney
- Factory or Mill with Chimney
- Factory or Mill without Chimney
- Mine or Open Pit Mine
- Operating Shaft or Mine
- Non-Operating Shaft or Mine
- Salt Mine
- Tailings Pile
- Pit
- Stone Quarry
- Gas Pump or Service Station
- Fuel Storage or Natural Gas Tank
- Oil or Natural Gas Derrick
- Small Hydroelectric Power Station
- Power Station
- Transformer Station
- Cemetery
- Burial Mound (height in metres)
- Triangulation Point on Burial Mound
- Triangulation Point
- Bench Mark
- Bench Mark (monumented)
- Telegraph Office
- Telephone Station
- Radio Station
- Radio Tower
- Airfield or Seaplane Base
- Landing Strip
- Main Highway
- Highway under Construction
- Improved Dirt Road (former truck road)
- Double-track Railroad with First Class Station
- Dismantled Railroad
- Railroad Under Construction
- Shore Embankment
- River or Ditch with Embankment
- Well
- Water Reservoir or Rain Water Pit
- Spring
- Isobath with value
- Heavy (Index) Contour Line
- Contour Line and Value
- Half Contour Line
- Spot Elevation Value
- Coniferous
- Deciduous
- Mixed
- Scrub

Key to Numbers on Mapping

SJ89_Manchester

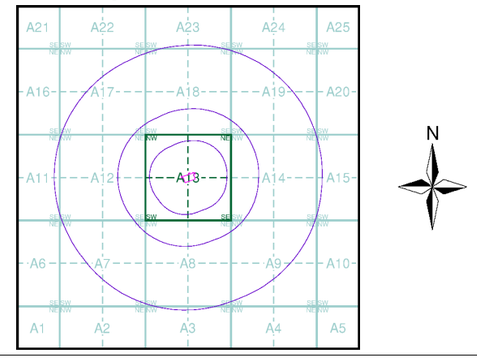
No.	Description
1	Airfield/Airport
6	Railway Station
66	Factory (Gas)
168	Post Office
169	Post Office

curtins

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:10,560	1848	3
Cheshire	1:10,560	1882	4
Lancashire And Furness	1:10,560	1894 - 1896	5
Lancashire And Furness	1:10,560	1909	6
Lancashire And Furness	1:10,560	1923	7
Lancashire And Furness	1:10,560	1931 - 1933	8
Lancashire And Furness	1:10,560	1938	9
Ordnance Survey Plan	1:10,000	1956	10
Ordnance Survey Plan	1:10,000	1968	11
Ordnance Survey Plan	1:10,000	1972	12
Manchester	1:25,000	1975	13
Ordnance Survey Plan	1:10,000	1980 - 1981	14
Ordnance Survey Plan	1:10,000	1985 - 1987	15
Ordnance Survey Plan	1:10,000	1989	16
Ordnance Survey Plan	1:10,000	1993 - 1994	17
10K Raster Mapping	1:10,000	1999	18
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VectorMap Local	1:10,000	2022	20

Russian Map - Slice A



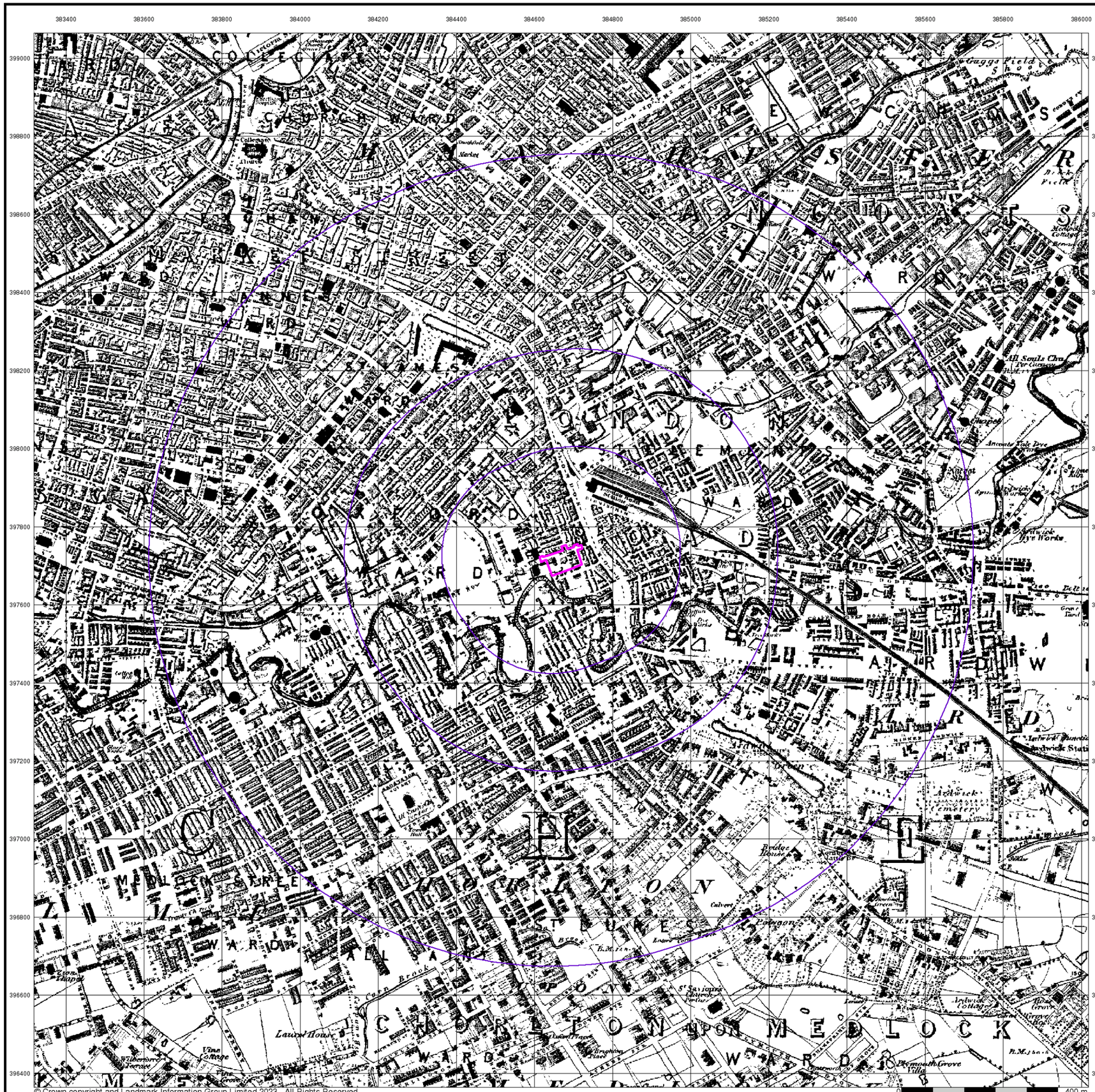
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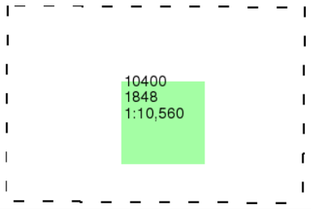
Lancashire And Furness

Published 1848

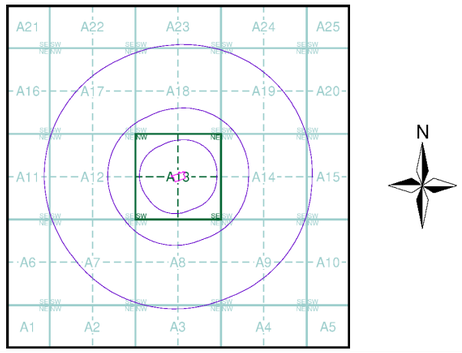
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Map Name(s) and Date(s)



Historical Map - Slice A



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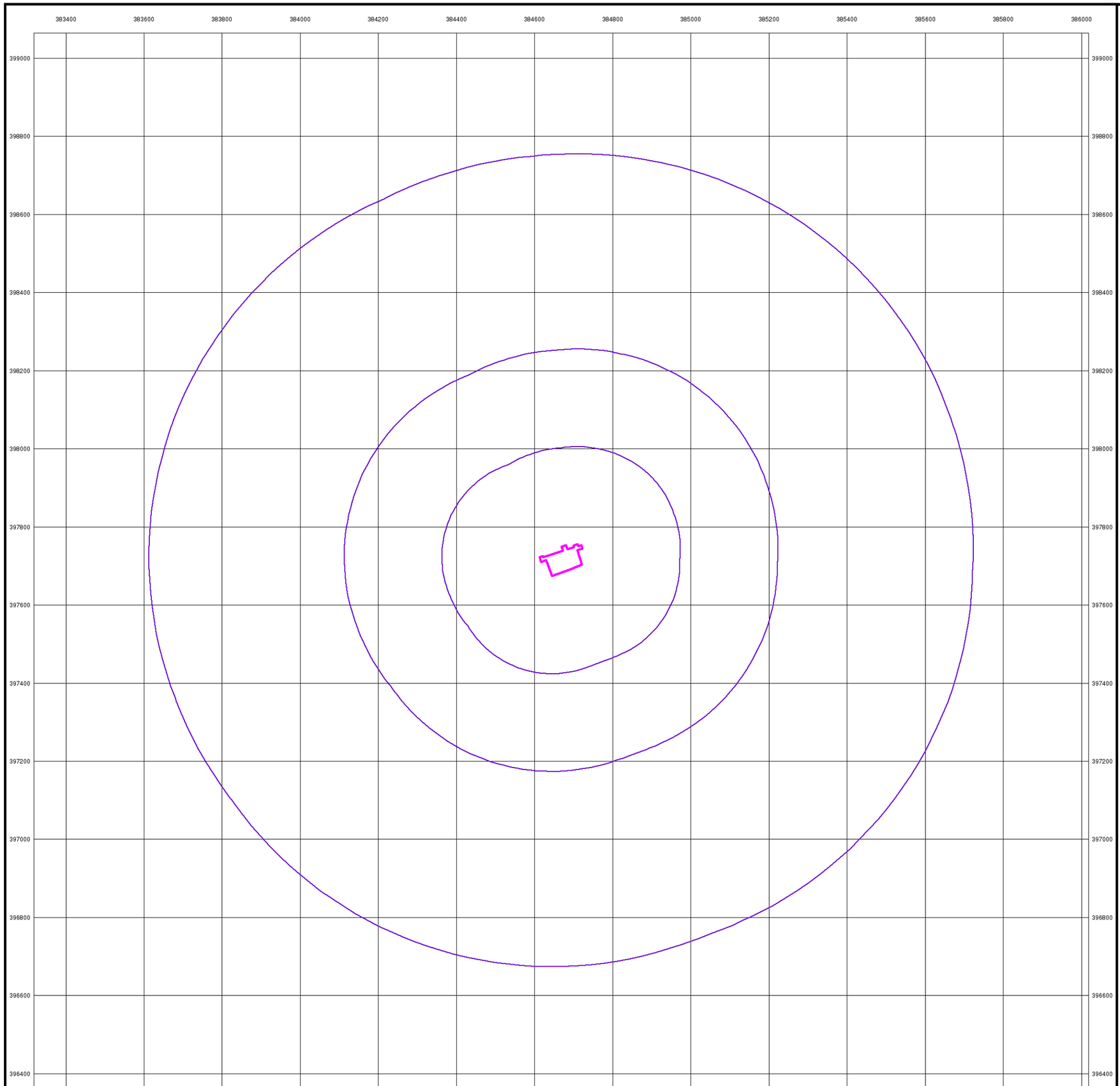
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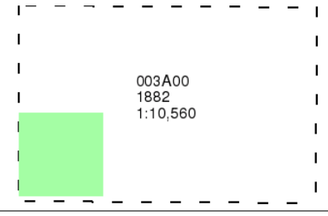
Cheshire

Published 1882

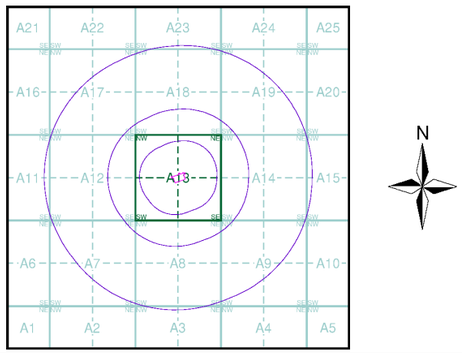
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Map Name(s) and Date(s)



Historical Map - Slice A



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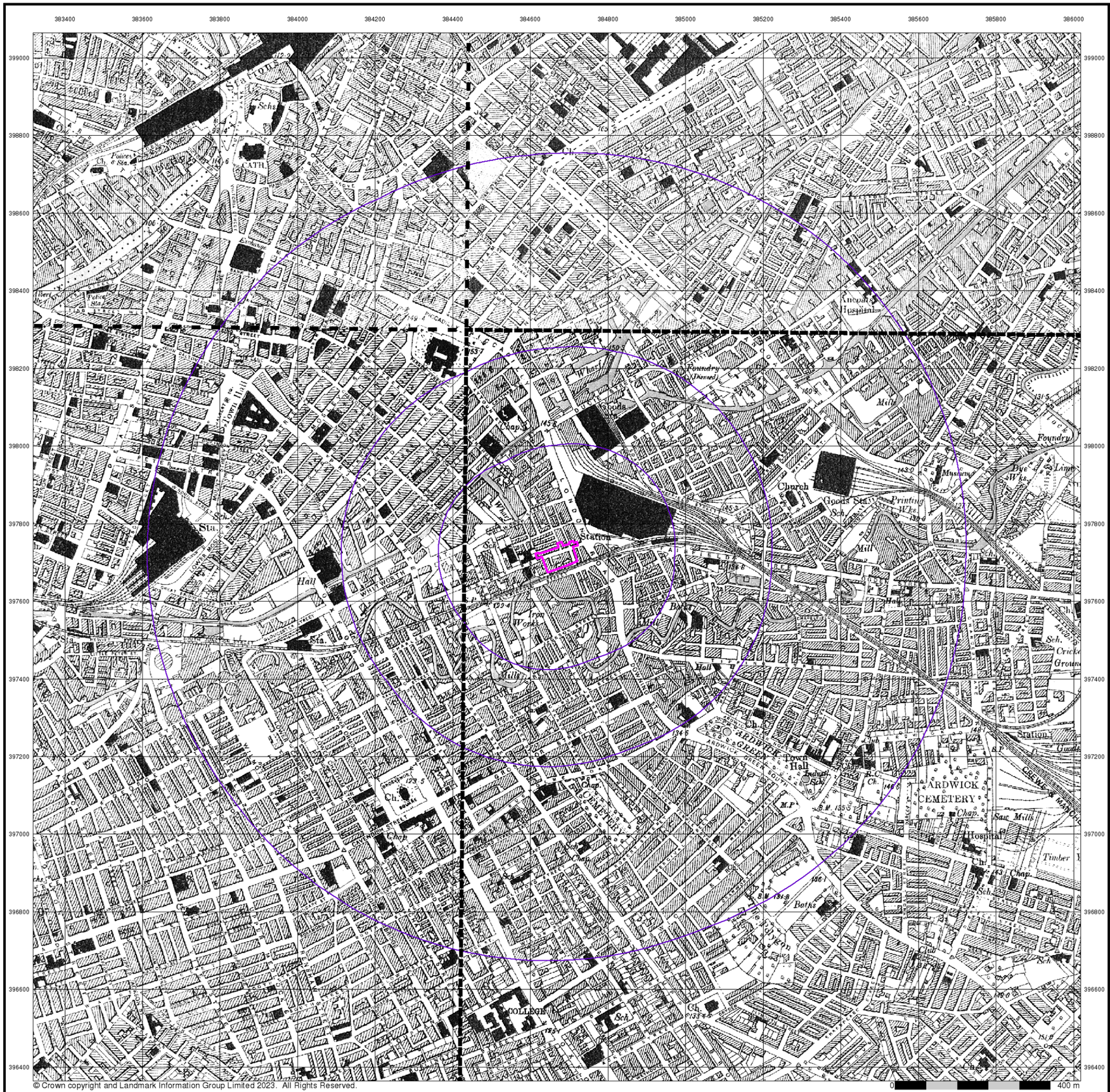
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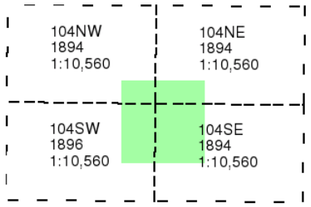
Lancashire And Furness

Published 1894 - 1896

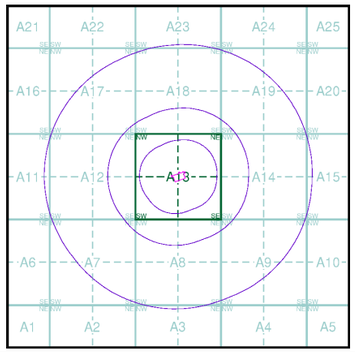
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Map Name(s) and Date(s)



Historical Map - Slice A



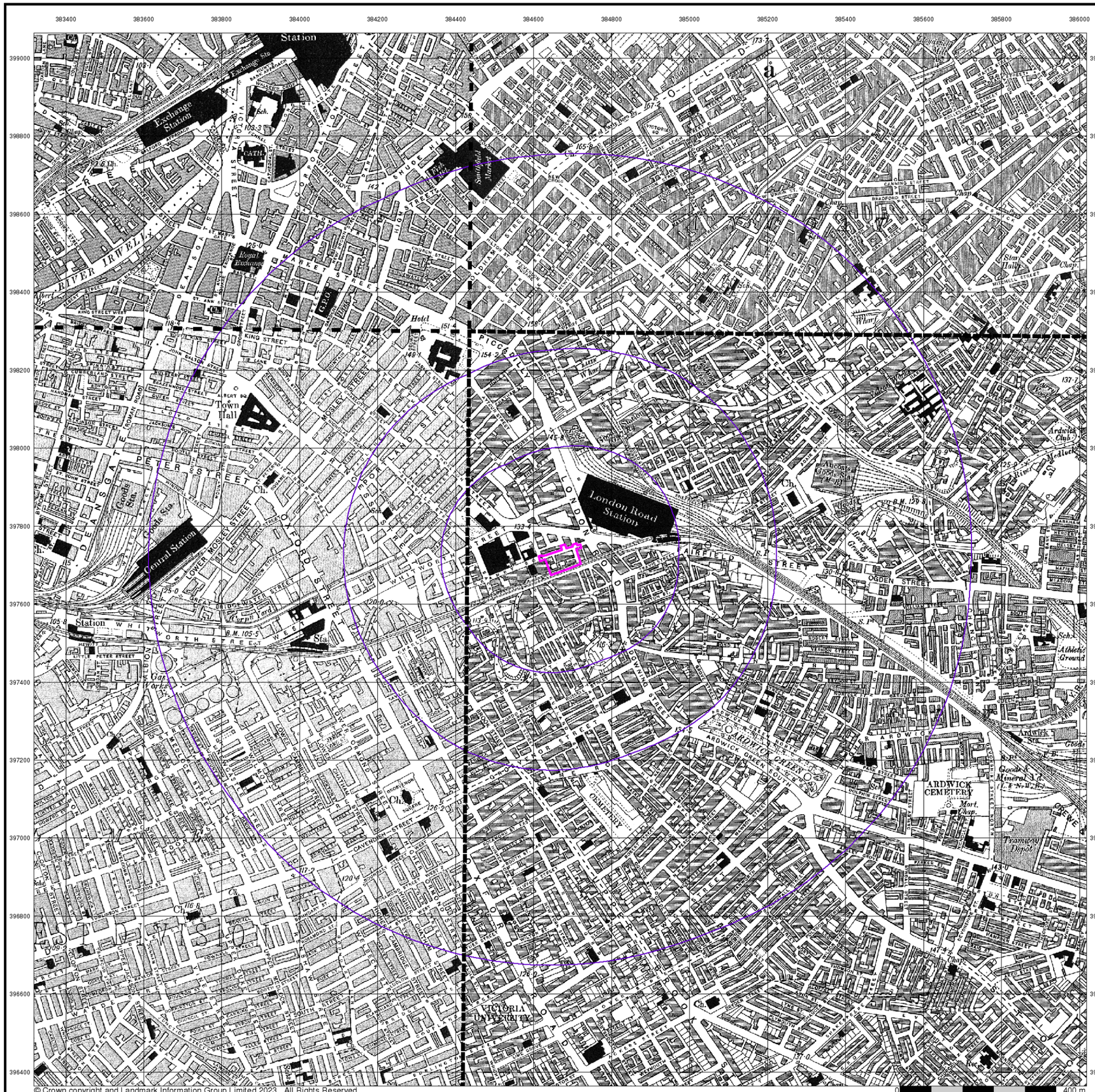
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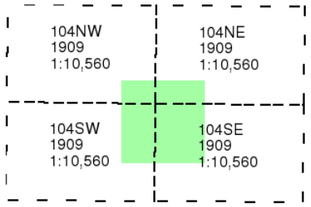
Lancashire And Furness

Published 1909

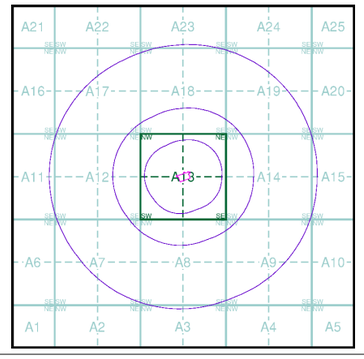
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Map Name(s) and Date(s)



Historical Map - Slice A



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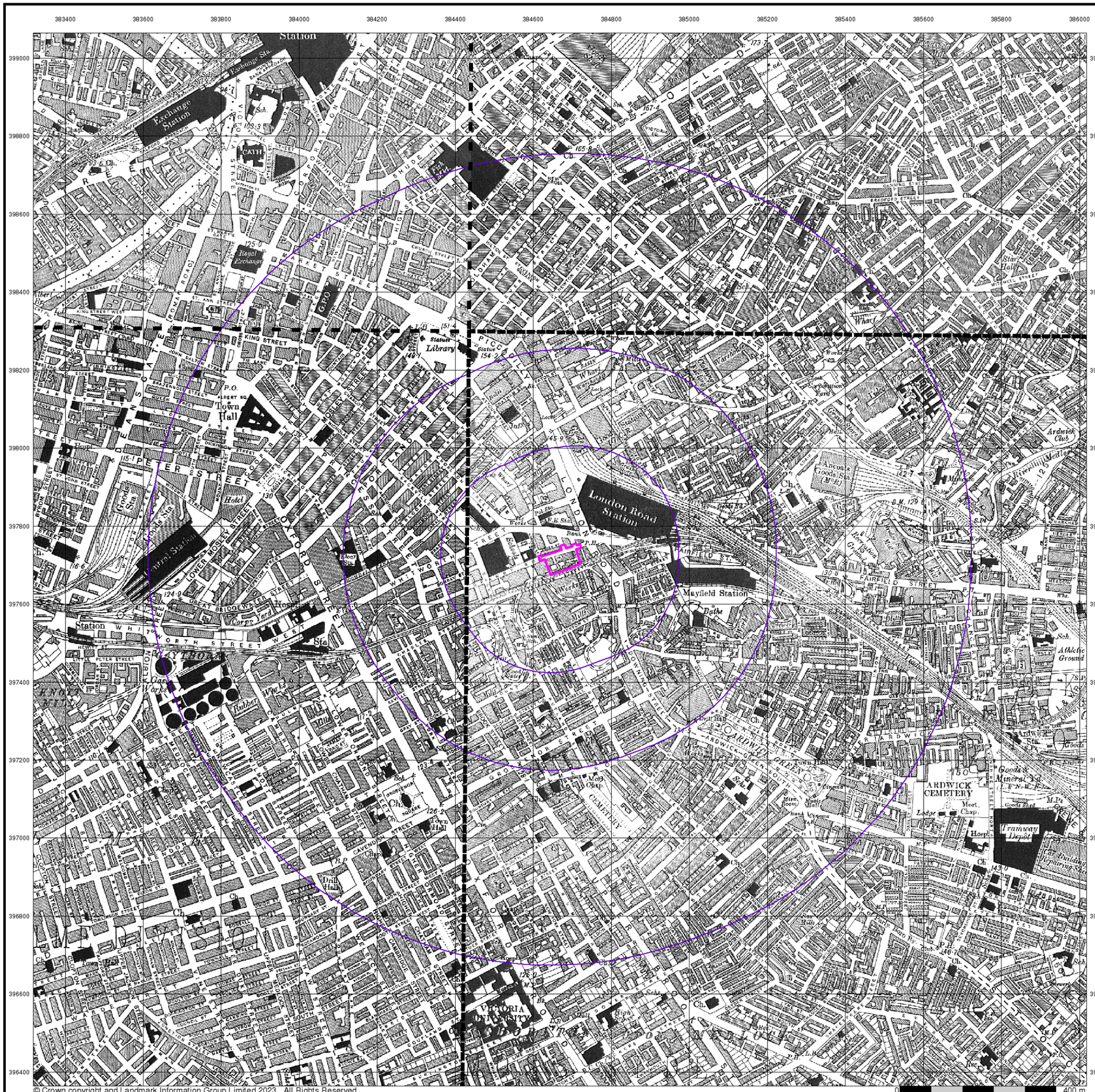
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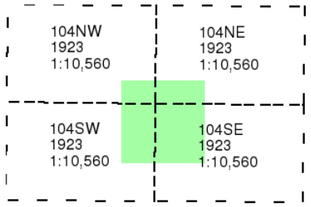
Lancashire And Furness

Published 1923

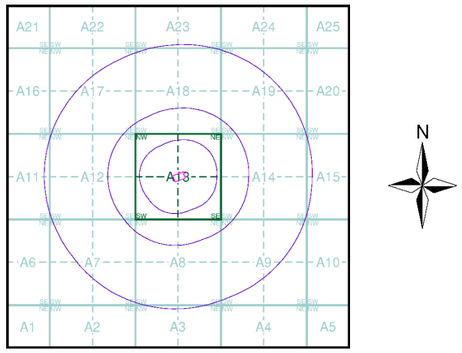
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A



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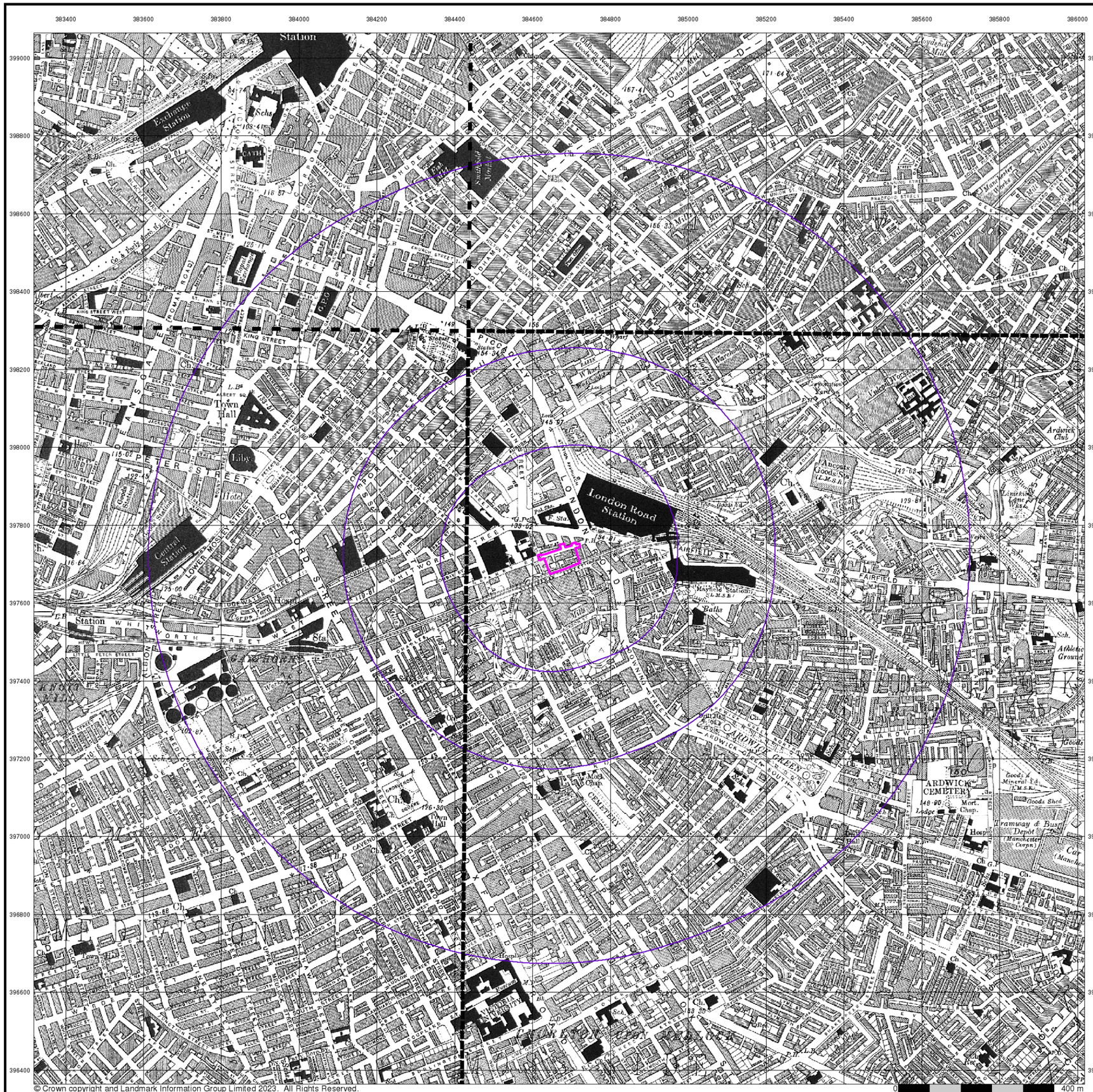
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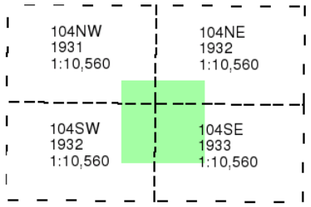
Lancashire And Furness

Published 1931 - 1933

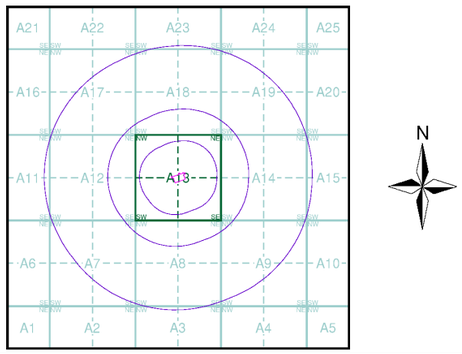
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Map Name(s) and Date(s)



Historical Map - Slice A



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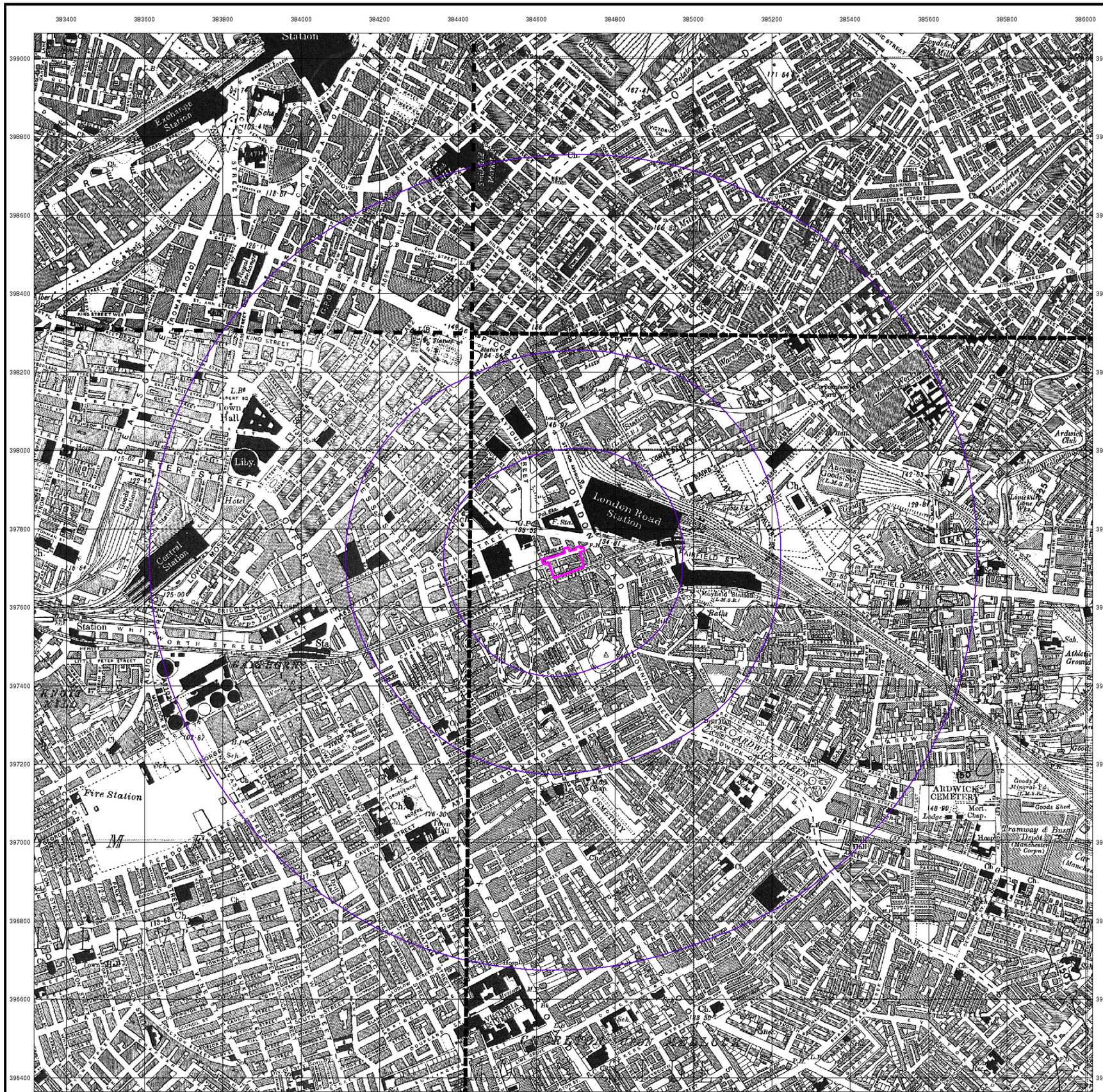
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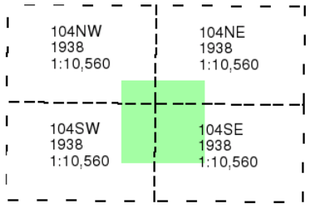
Lancashire And Furness

Published 1938

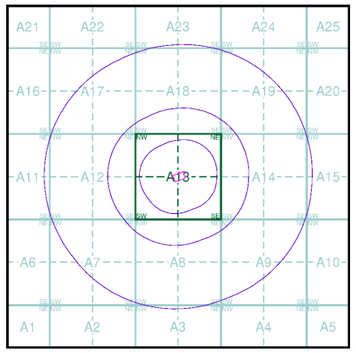
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Map Name(s) and Date(s)



Historical Map - Slice A



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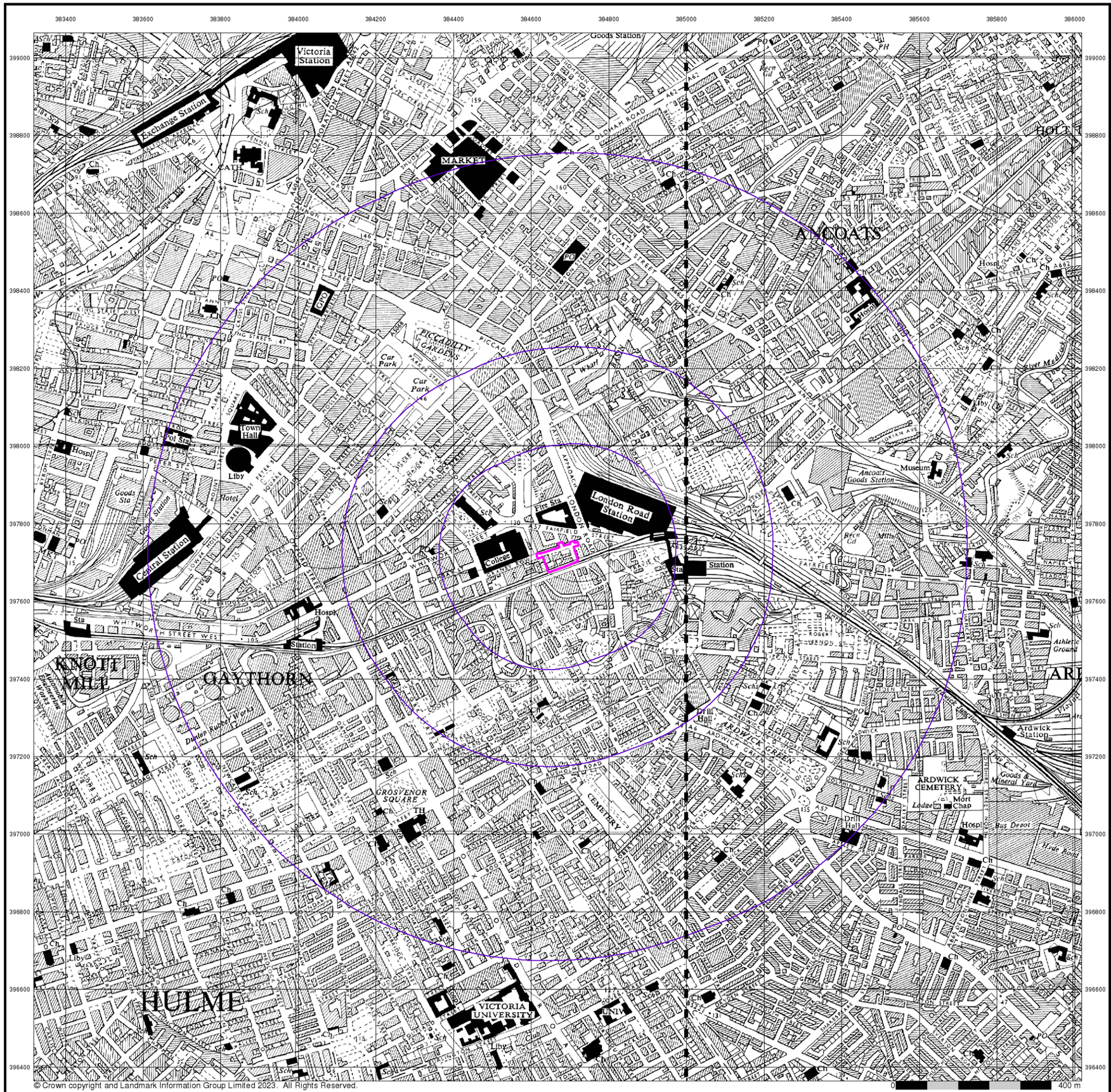
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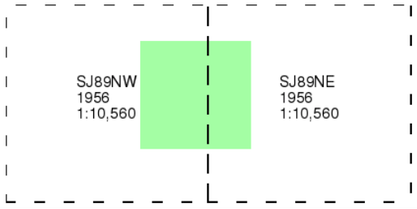
Ordnance Survey Plan

Published 1956

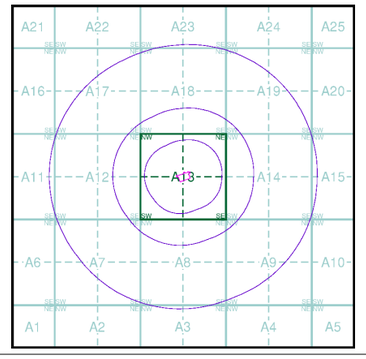
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Map Name(s) and Date(s)



Historical Map - Slice A



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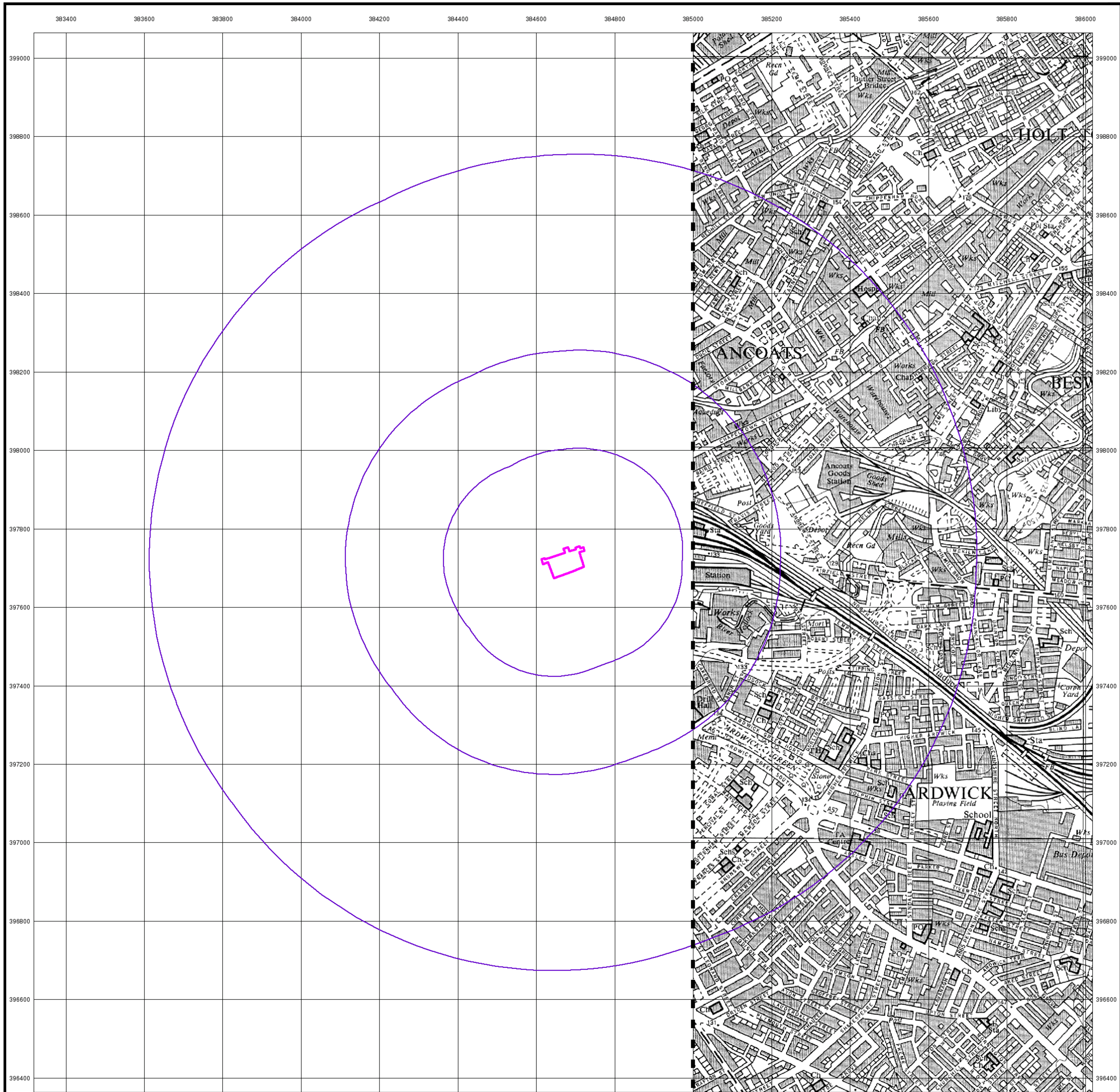
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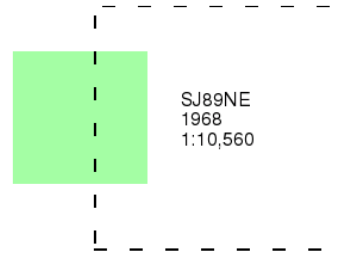
Ordnance Survey Plan

Published 1968

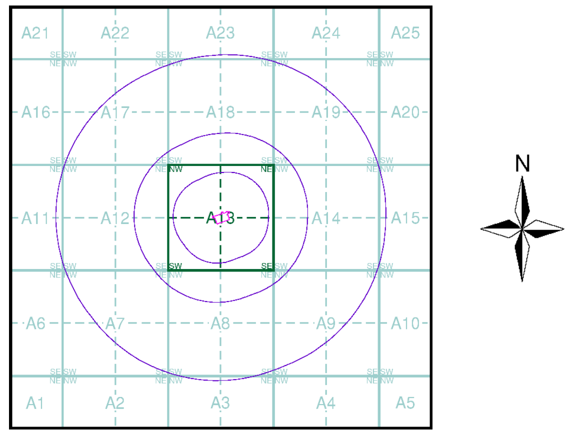
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Map Name(s) and Date(s)



Historical Map - Slice A



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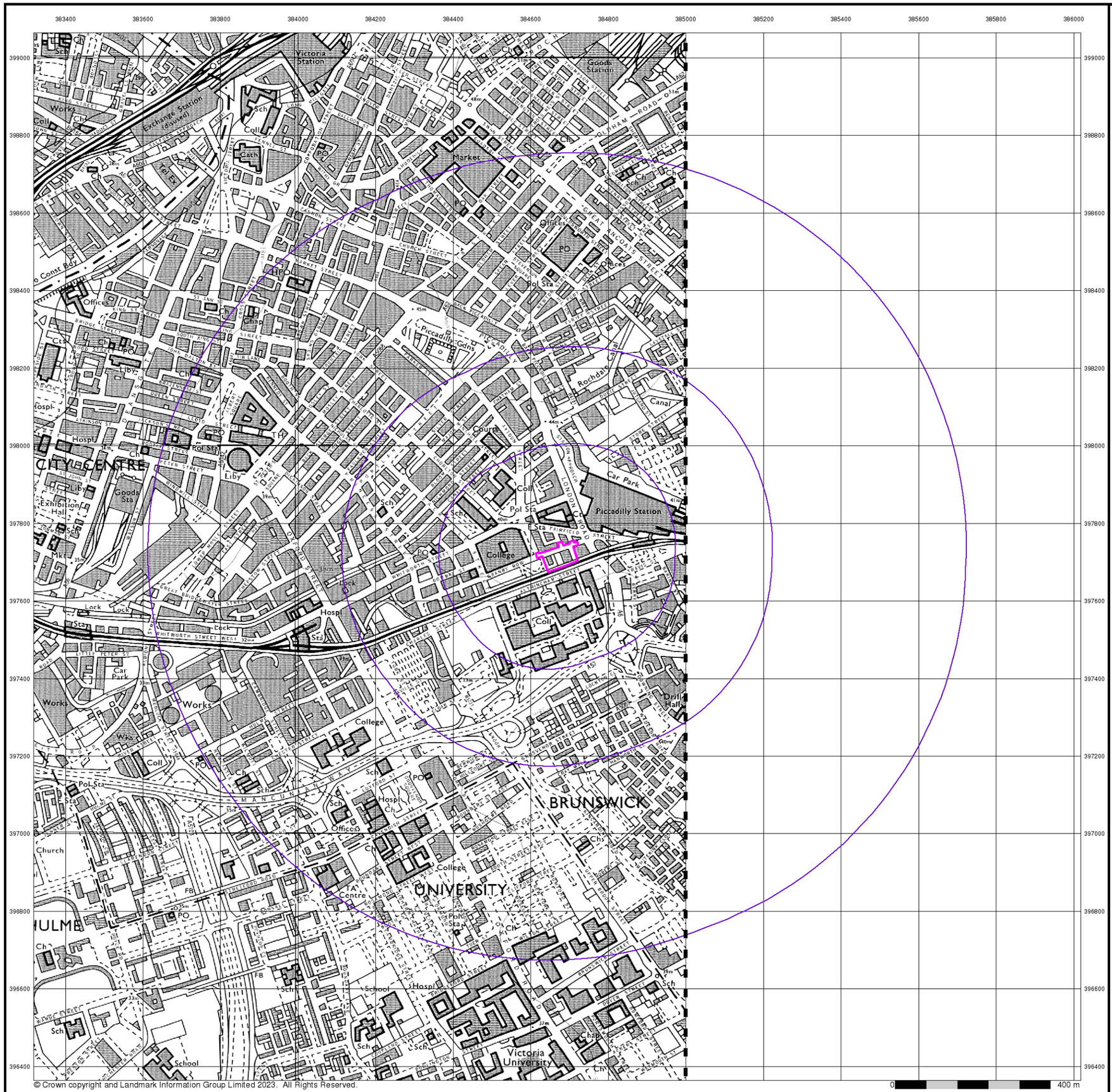
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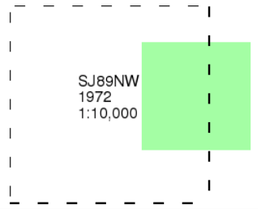
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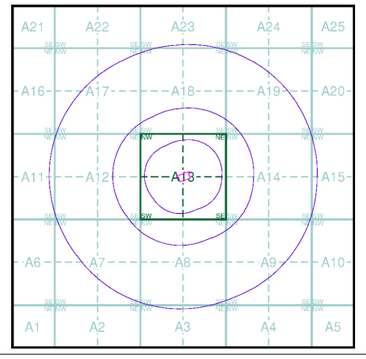
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	306235410_1_1
Customer Ref:	065374
National Grid Reference:	384670, 397720
Slice:	A
Site Area (Ha):	0.48
Search Buffer (m):	1000

Site Details

Flat at Old Garratt, 79, Granby Row, MANCHESTER, M1 7AB

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Manchester

Published 1975

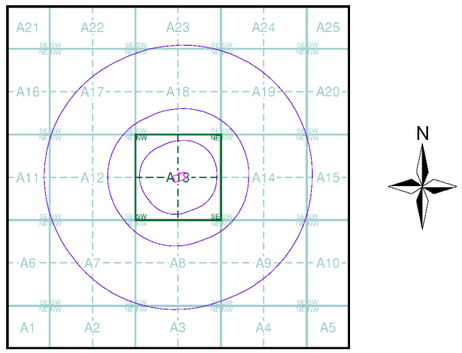
Source map scale - 1:25,000

These maps were produced by the Russian military during the Cold War between 1950 and 1997, and cover 103 towns and cities throughout the U.K. The maps are produced at 1:25,000, 1:10,000 and 1:5,000 scale, and show detailed land use, with colour-coded areas for development, green areas, and non-developed areas. Buildings are coloured black and important building uses (such as hospitals, post offices, factories etc.) are numbered, with a numbered key describing their use.
They were produced by the Russians for the benefit of navigation, as well as strategic military sites and transport hubs, for use if they were to have invaded the U.K. The detailed information provided indicates that the areas were surveyed using land-based personnel, on the ground, in the cities that are mapped.

Map Name(s) and Date(s)



Russian Map - Slice A



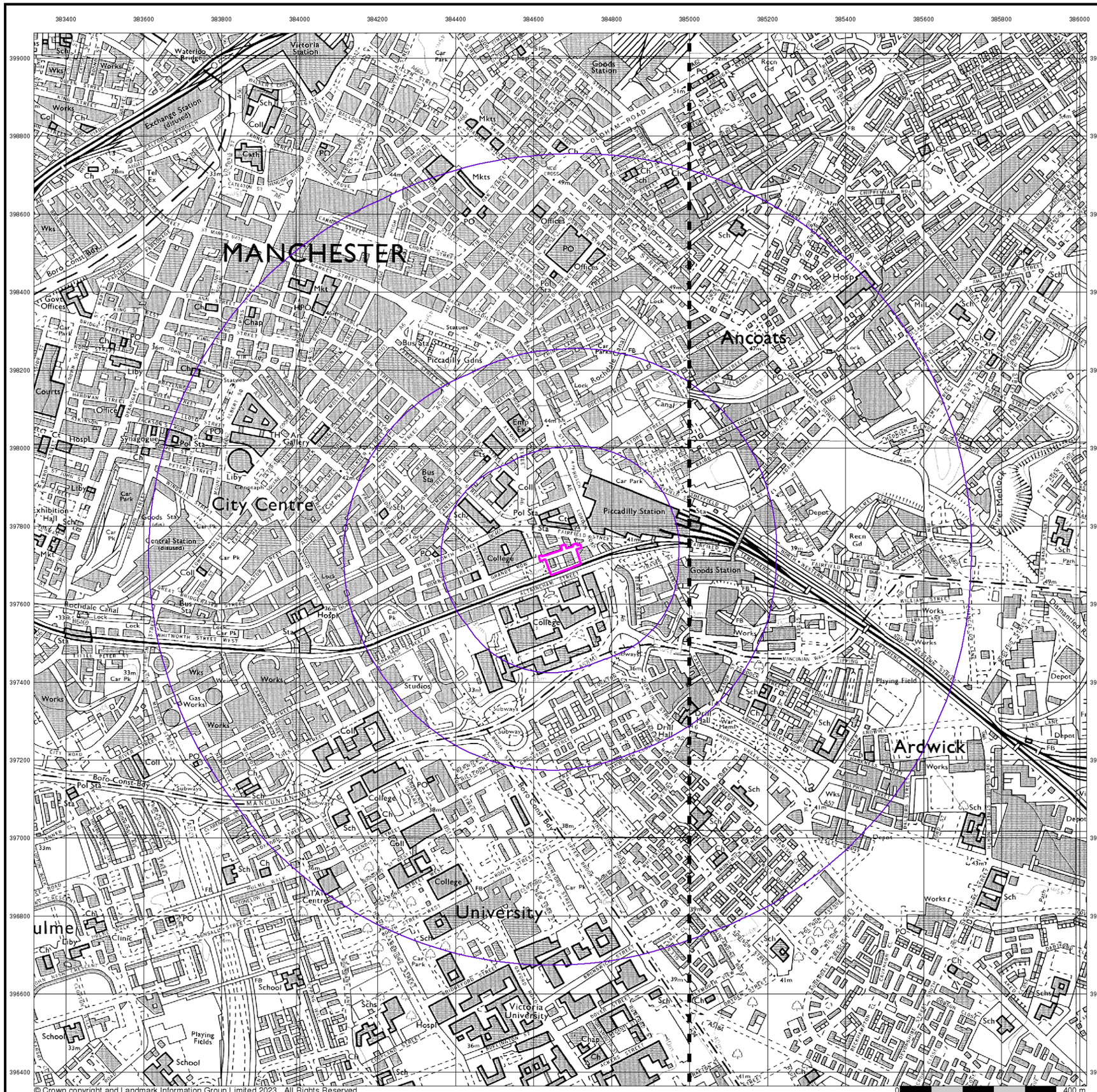
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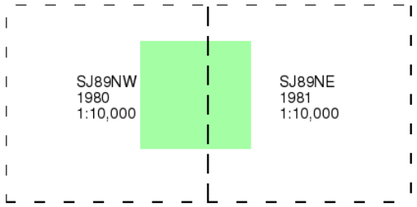
Ordnance Survey Plan

Published 1980 - 1981

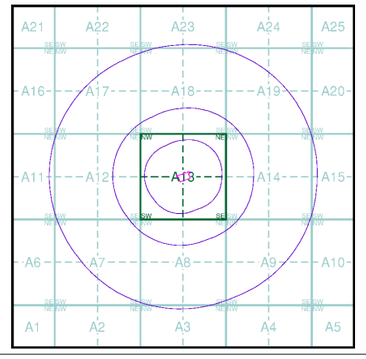
Source map scale - 1:10,000

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Map Name(s) and Date(s)



Historical Map - Slice A



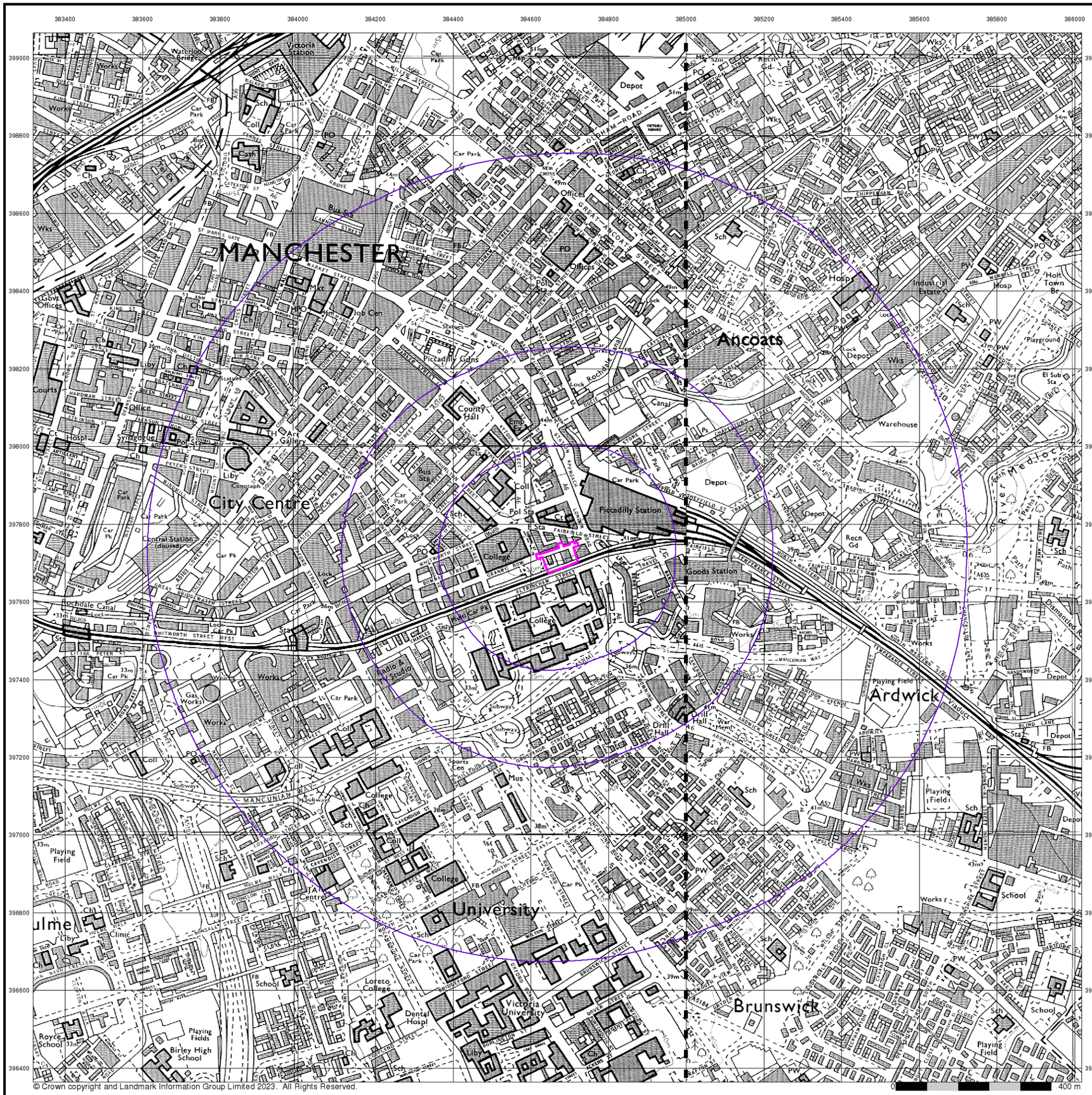
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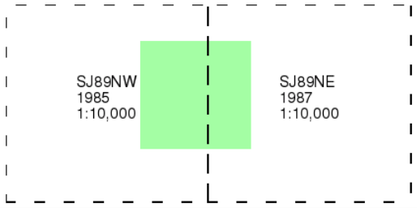
Ordnance Survey Plan

Published 1985 - 1987

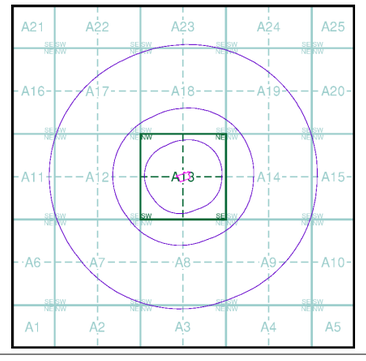
Source map scale - 1:10,000

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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

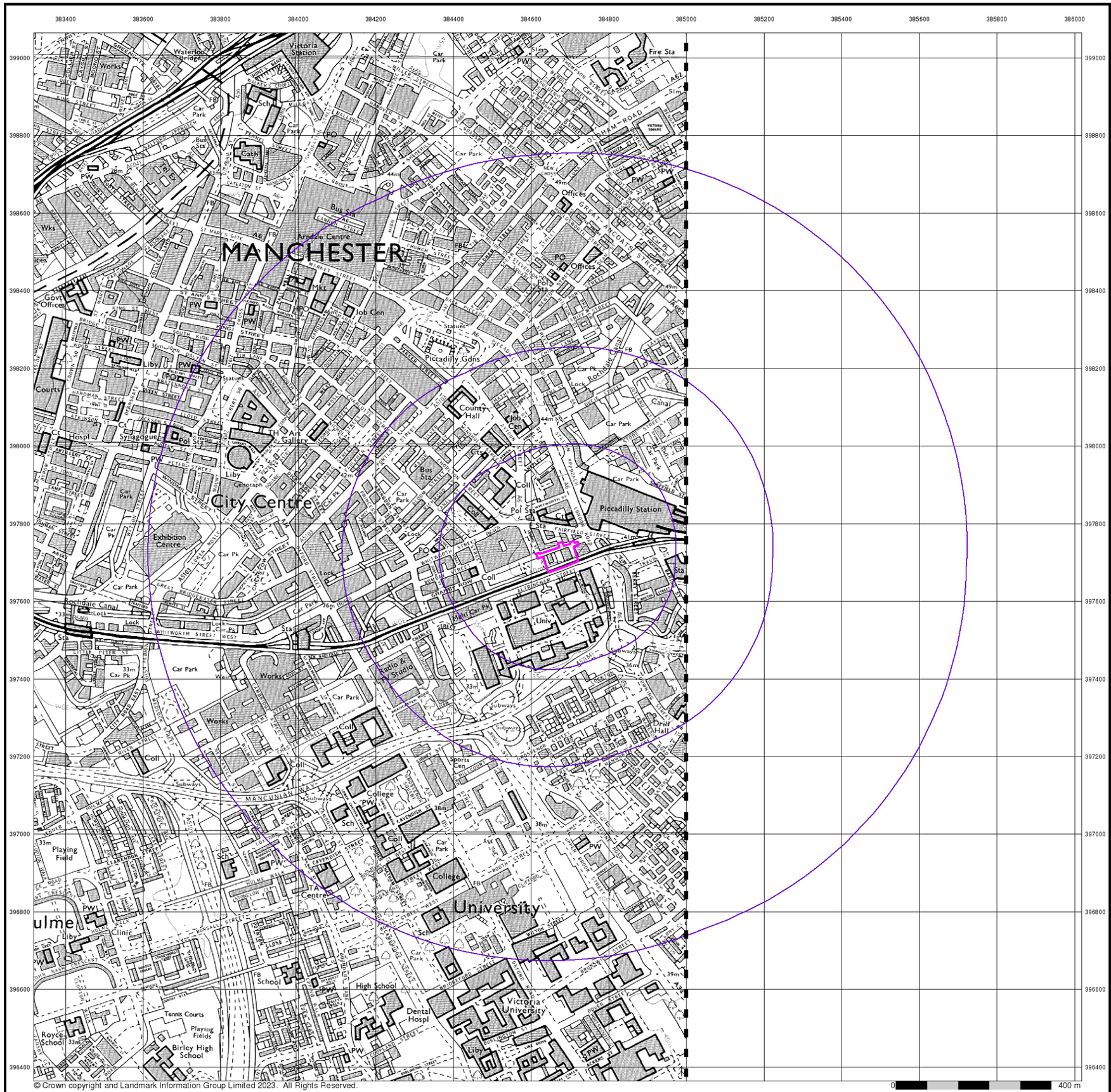
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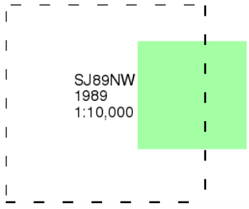
Ordnance Survey Plan

Published 1989

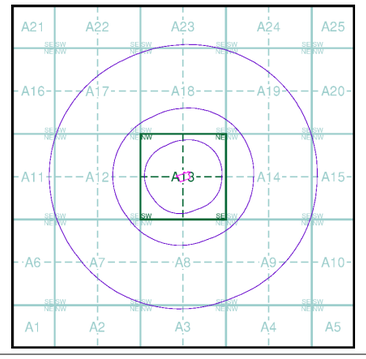
Source map scale - 1:10,000

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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

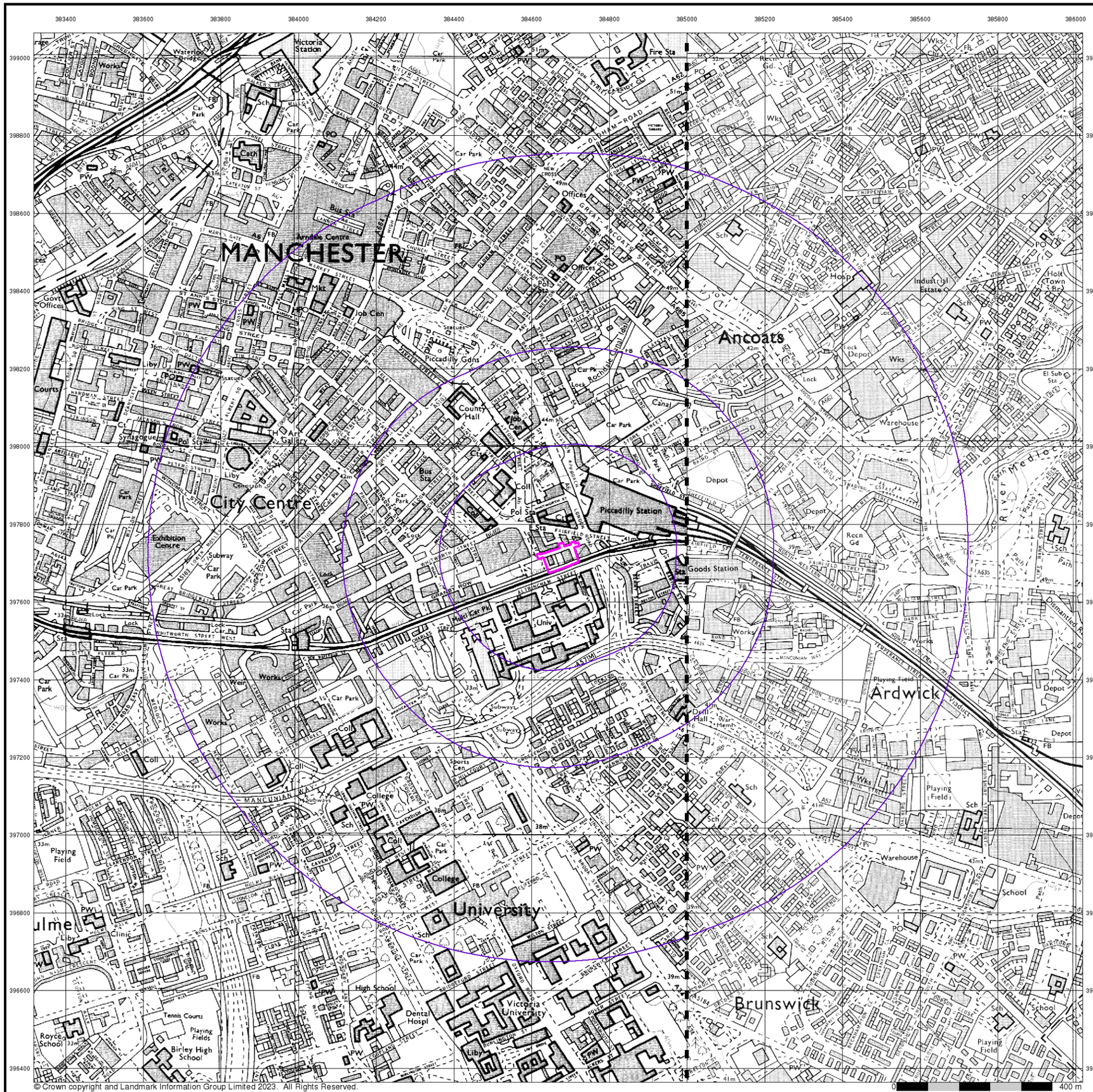
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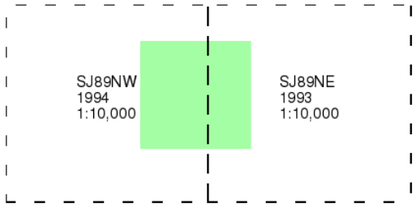
Ordnance Survey Plan

Published 1993 - 1994

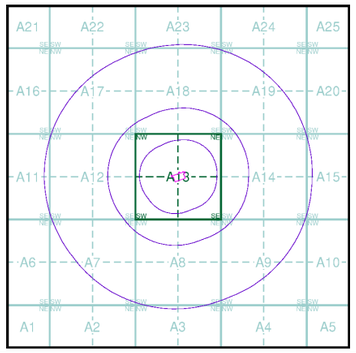
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Order Details

Order Number:	306235410_1_1
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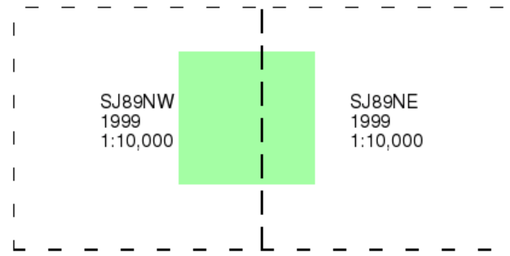
10k Raster Mapping

Published 1999

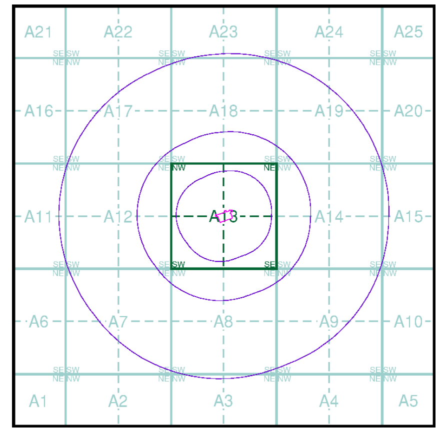
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)



Historical Map - Slice A



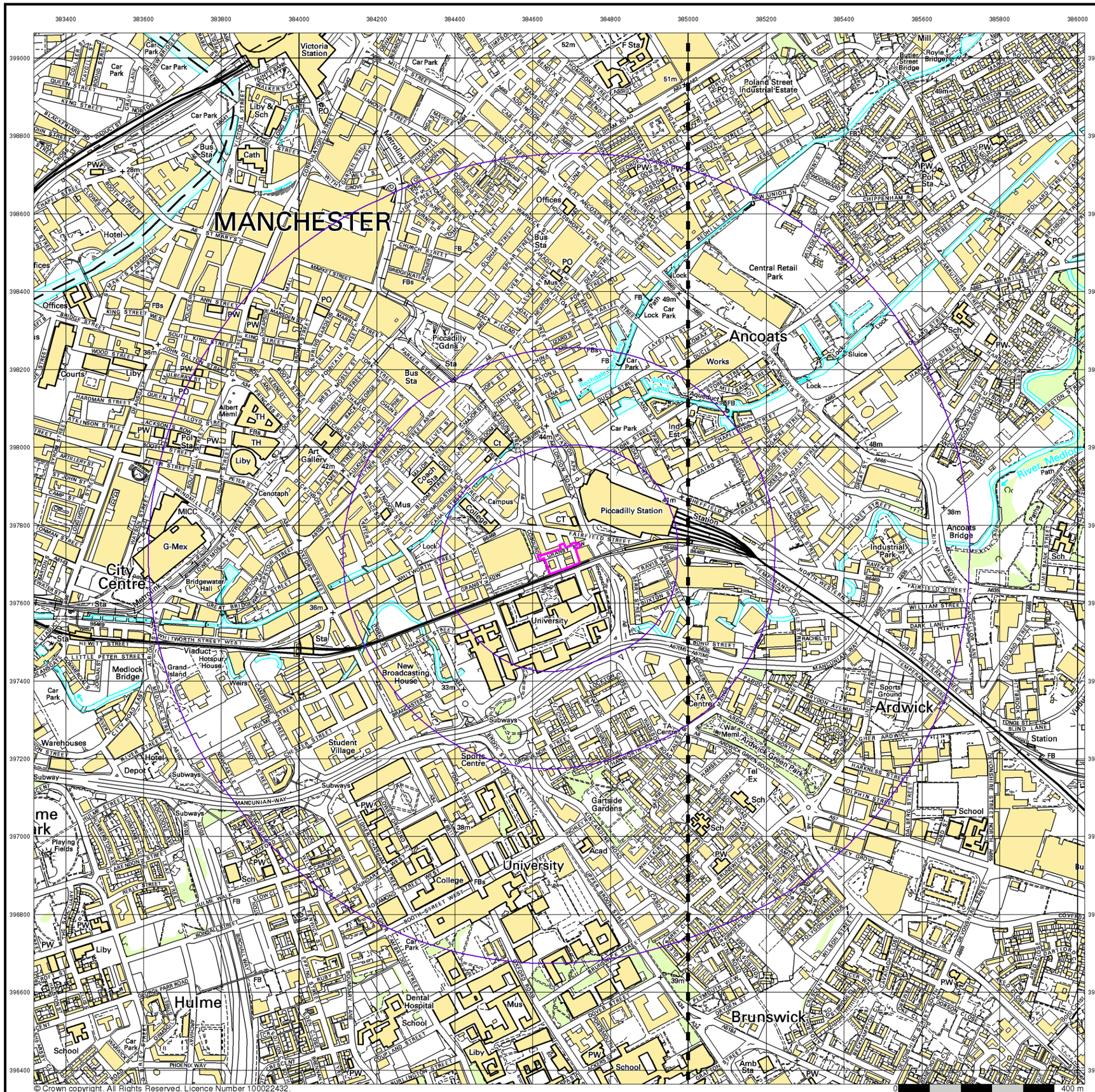
Order Details

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Slice: A
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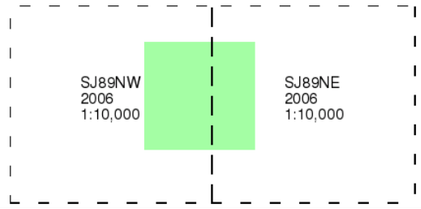
10k Raster Mapping

Published 2006

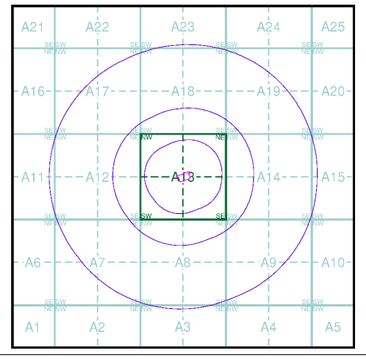
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)



Historical Map - Slice A



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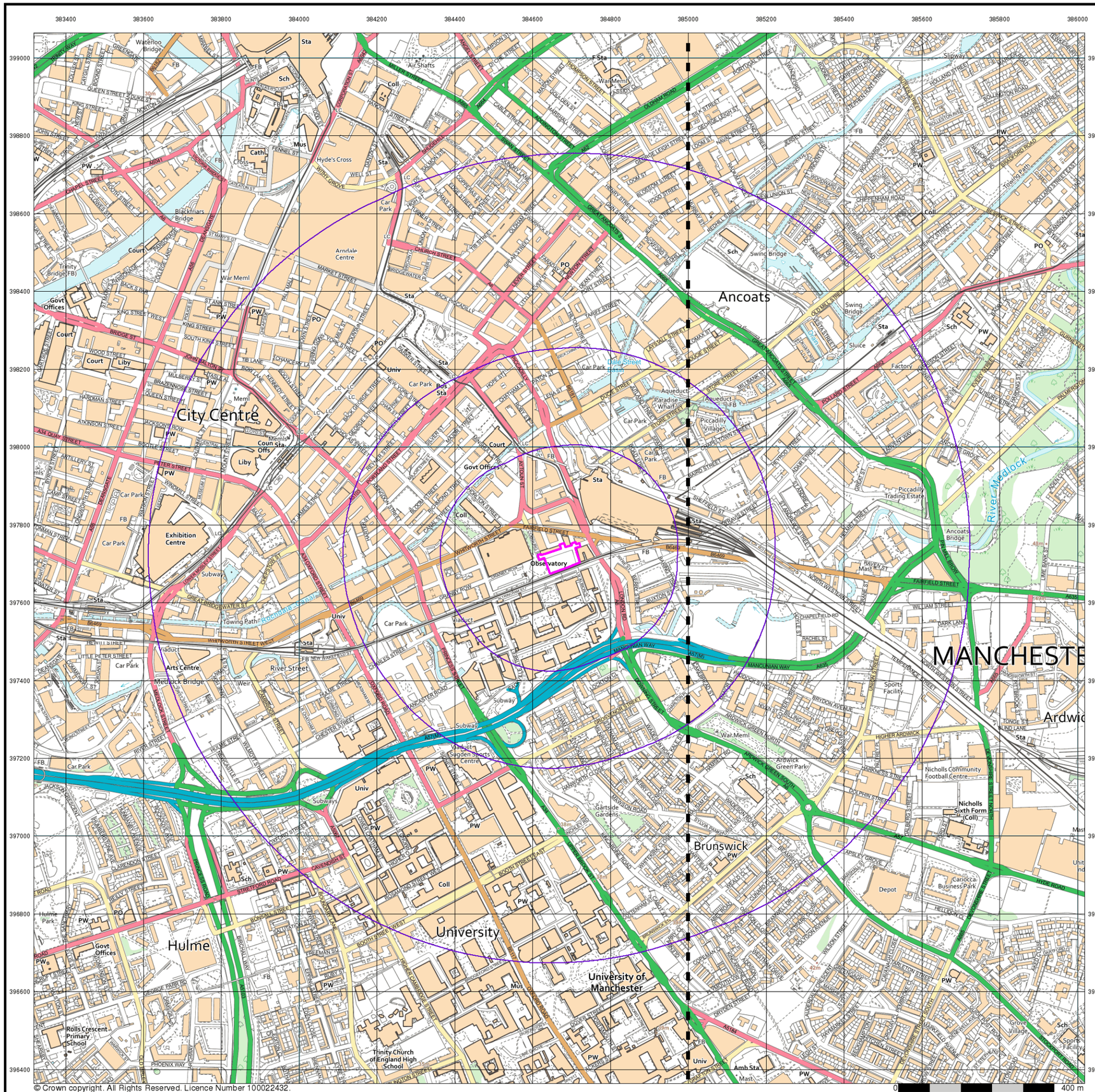
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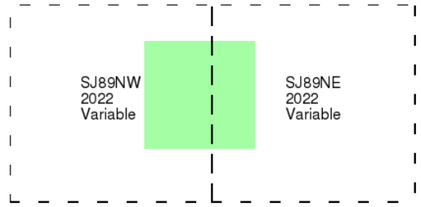
VectorMap Local

Published 2022

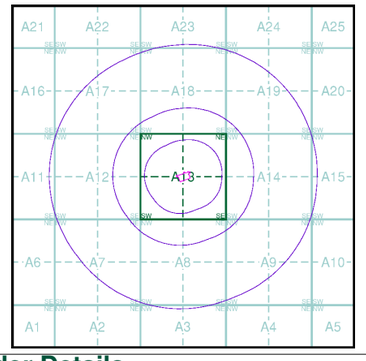
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities),1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	306235410_1_1
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Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	MGR	Made Ground (Undivided)	Artificial Deposit	Not Supplied - Holocene
	WMGR	Infilled Ground	Artificial Deposit	Not Supplied - Holocene

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
		Faults		
		Rock Segments		

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	TILLD	Till, Devensian	Diamicton	Not Supplied - Devensian
	GFSDD	Glaciofluvial Sheet Deposits, Devensian	Sand and Gravel	Not Supplied - Devensian
	RTD1	River Terrace Deposits, 1	Sand and Gravel	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	CHES	Chester Formation	Sandstone	Not Supplied - Olenekian
	WLSF	Wilmslow Sandstone Formation	Sandstone	Not Supplied - Early Triassic
	MM	Manchester Marls Formation	Mudstone	Not Supplied - GUADALUPIAN
	CS	Collyhurst Sandstone Formation	Sandstone	Not Supplied - Cisuralian
	HA	Halesowen Formation	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	GML	Great Mine Limestone	Limestone	Not Supplied - Westphalian
	HTS	Holt Town Sandstone Bed	Sandstone	Not Supplied - Westphalian
	PUCM	Pennine Upper Coal Measures Formation	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	OPS	Openshaw Sandstone	Sandstone	Not Supplied - Westphalian
	PMCM	Pennine Middle Coal Measures Formation	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	ETM	Etruria Formation	Sandstone and Mudstone	Not Supplied - Westphalian

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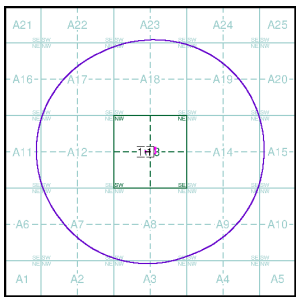
Geology 1:50,000 Maps

This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.
The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID: 1
Map Sheet No: 085
Map Name: Manchester
Map Date: 2010
Bedrock Geology: Available
Superficial Geology: Not Available
Artificial Geology: Not Available
Faults: Not Supplied
Landslip: Not Available
Rock Segments: Not Supplied

Geology 1:50,000 Maps - Slice A



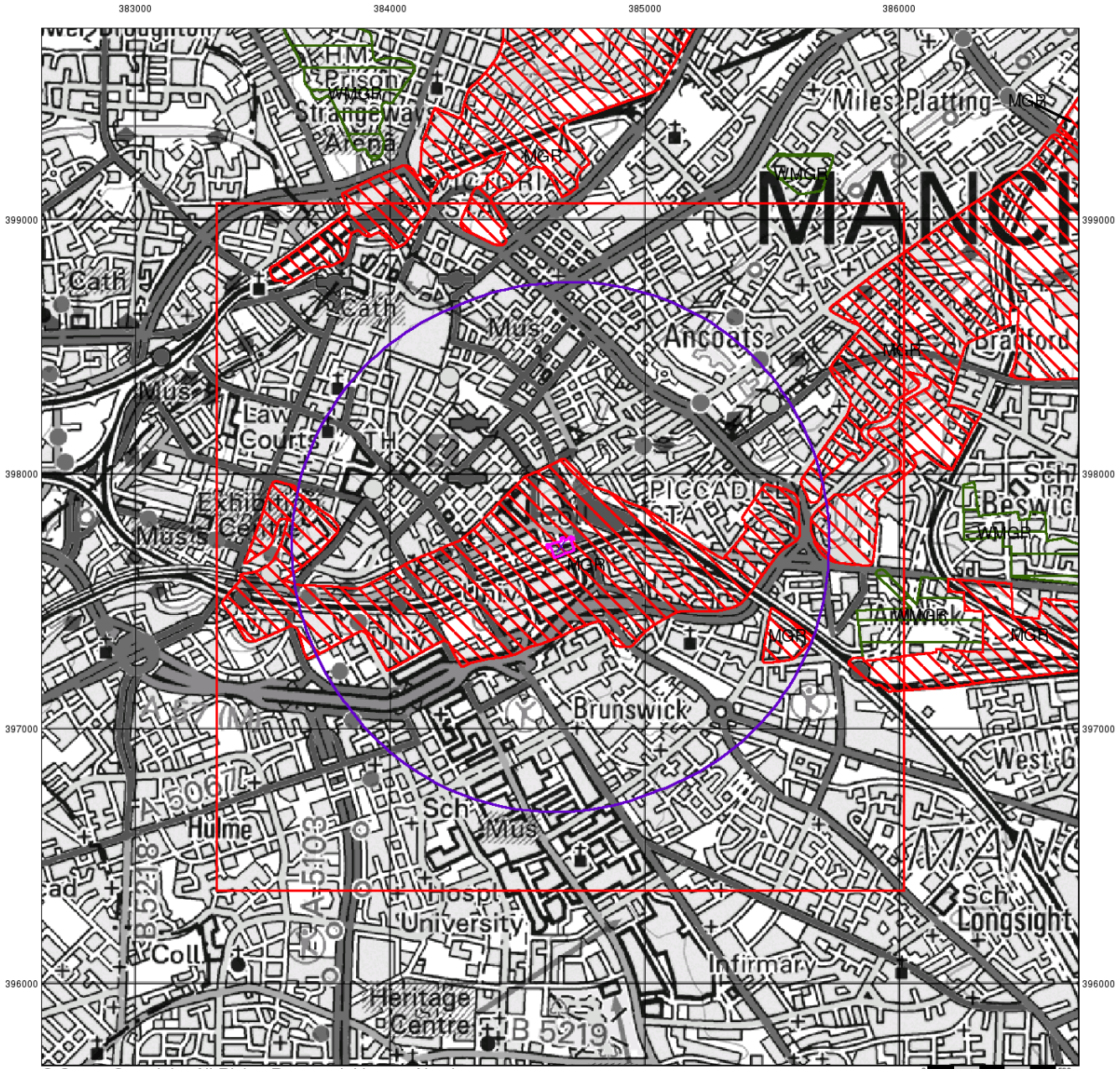
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Slice: A
Site Area (Ha): 0.48
Search Buffer (m): 1000

Site Details:

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Artificial Ground and Landslip

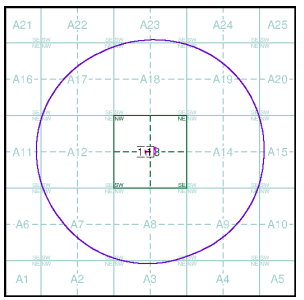
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice A



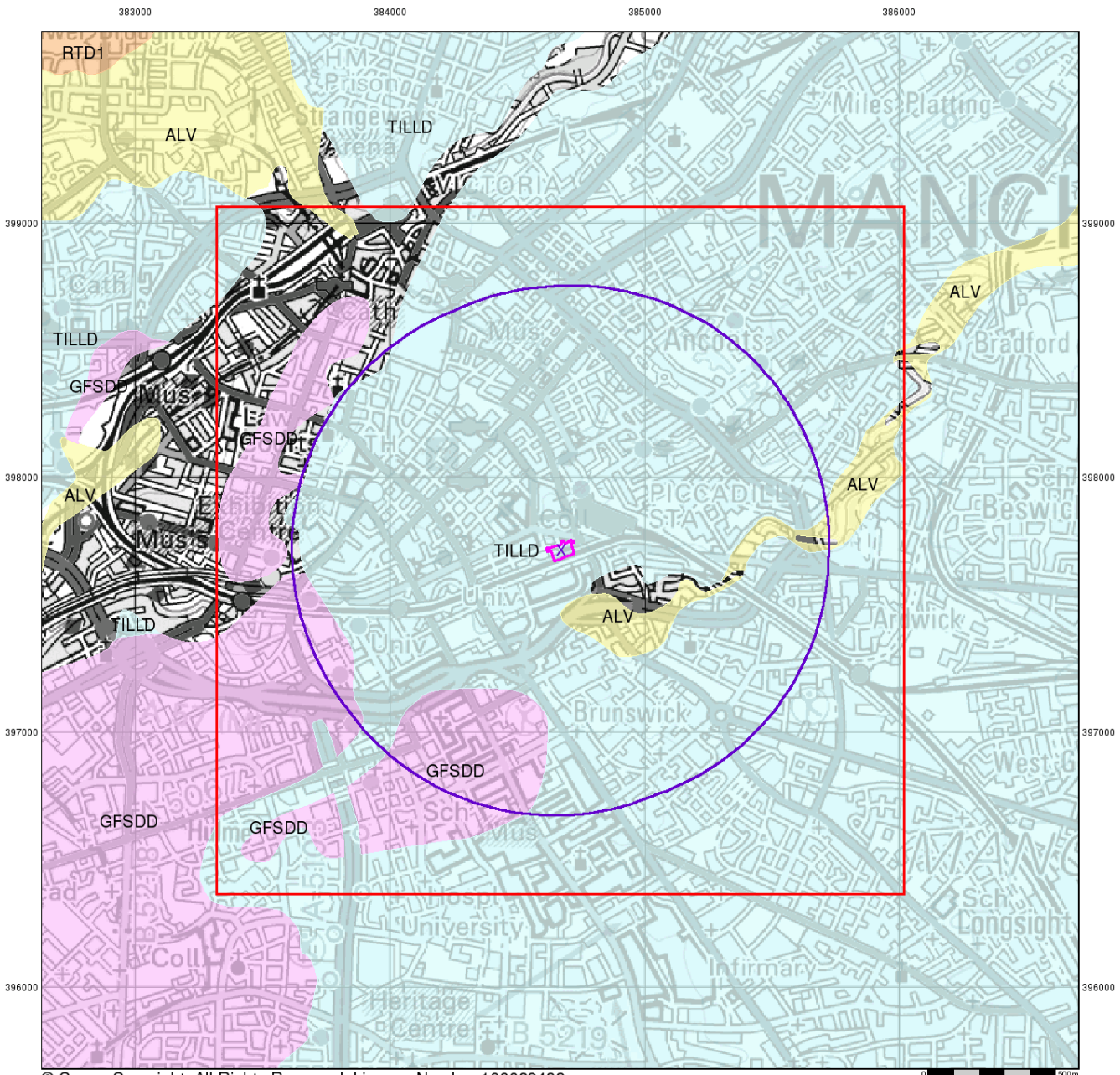
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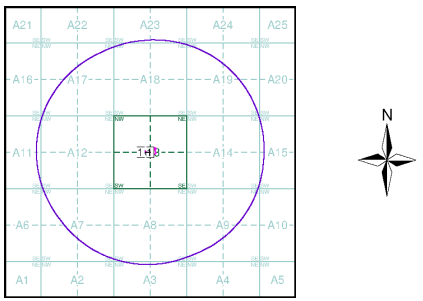
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice A



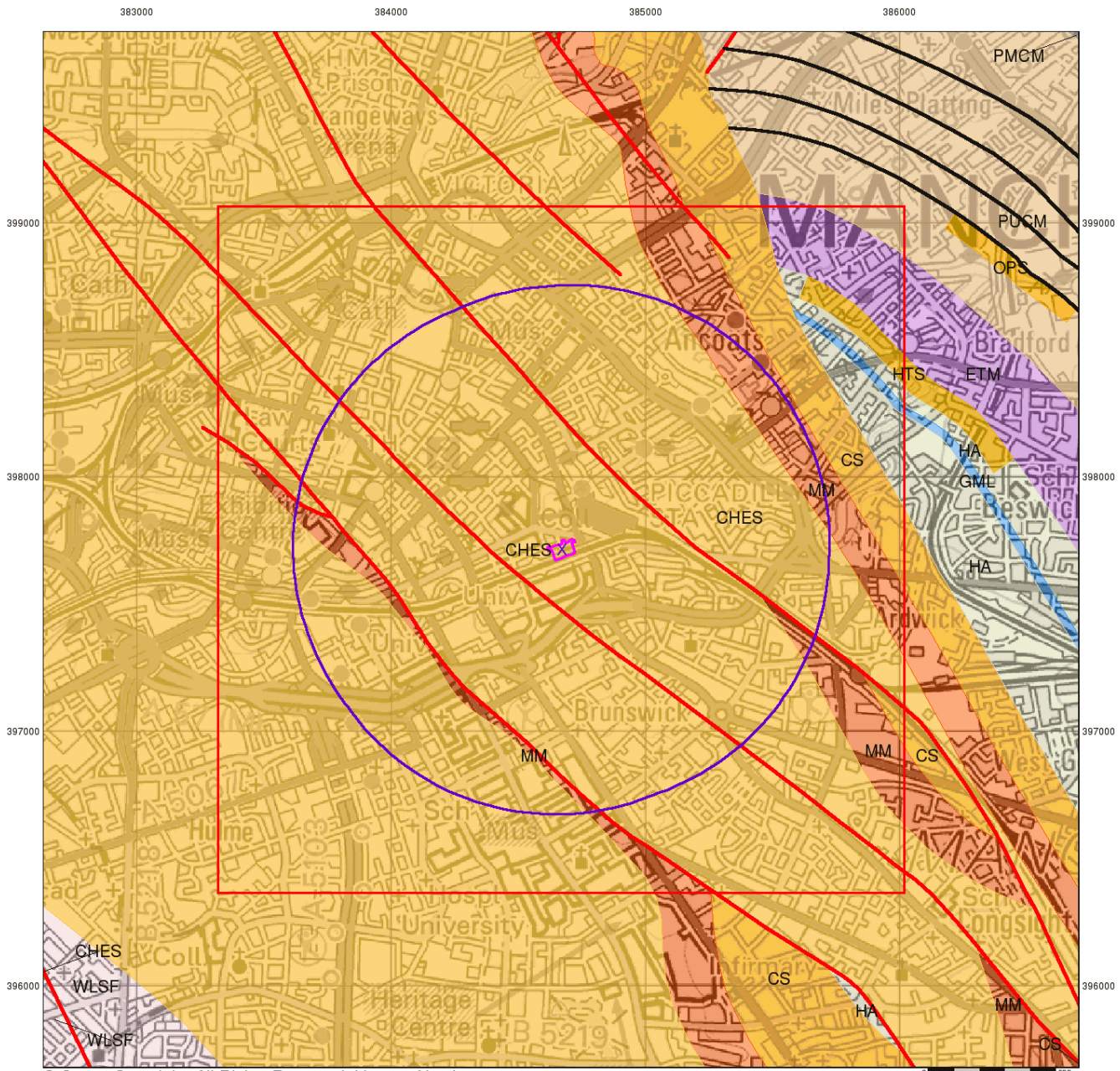
Order Details:

Order Number:	306235410_1_1
Customer Reference:	065374
National Grid Reference:	384670, 397720
Slice:	A
Site Area (Ha):	0.48
Search Buffer (m):	1000

Site Details:

Flat at Old Garratt, 79, Granby Row, MANCHESTER, M1 7AB

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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Bedrock and Faults

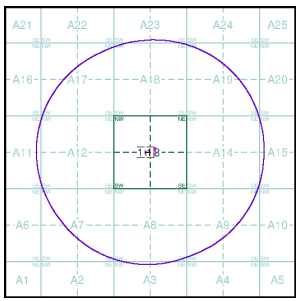
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice A



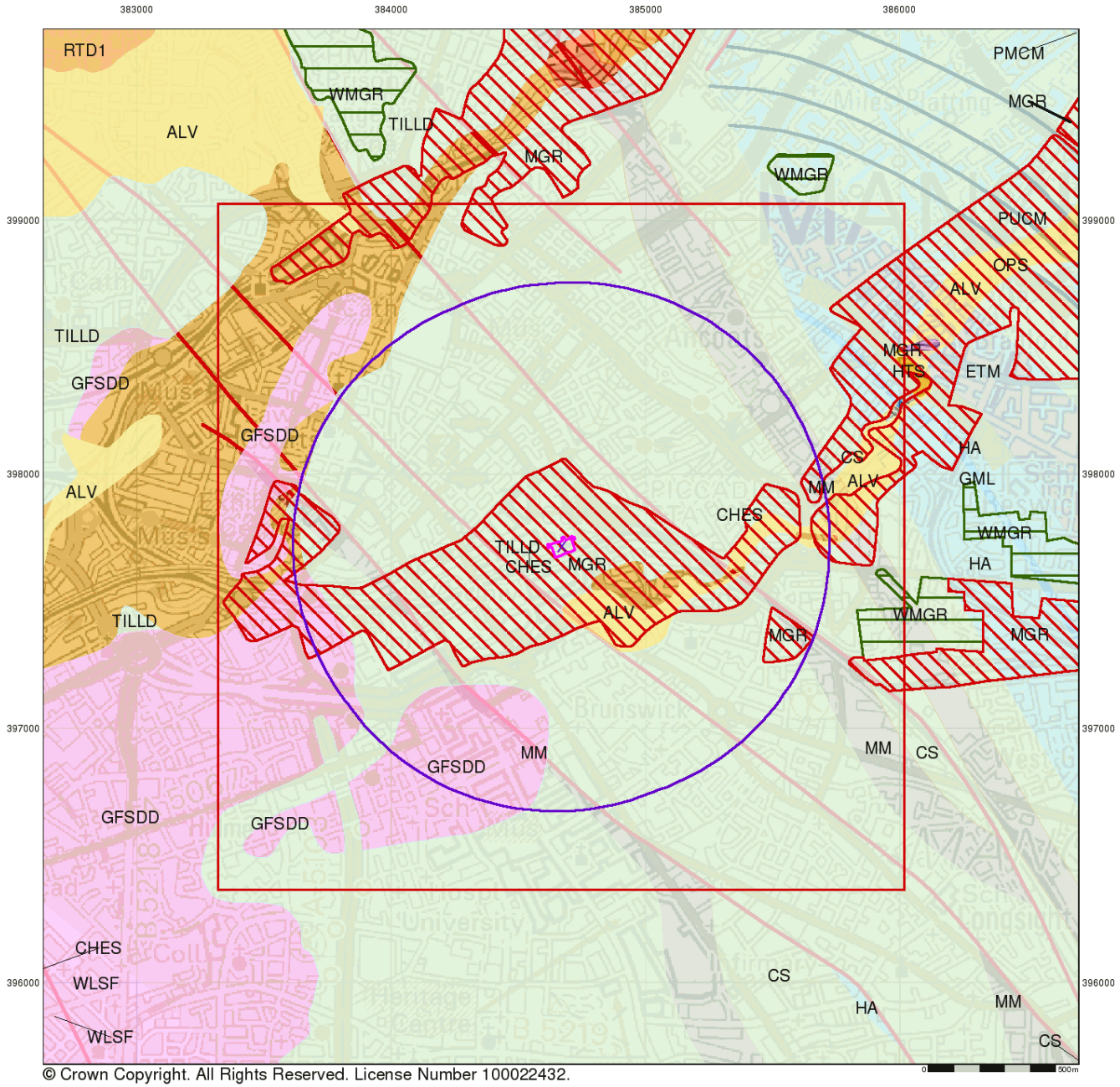
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Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

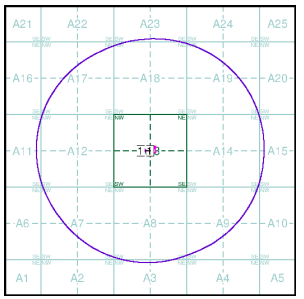
Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

Contact

British Geological Survey
Kingsley Dunham Centre
Keyworth
Nottingham
NG12 5GG
Telephone: 0115 936 3143
Fax: 0115 936 3276
email: enquiries@bgs.ac.uk
website: www.bgs.ac.uk

Combined Geology Map - Slice A



Order Details:

Order Number:	306235410_1_1
Customer Reference:	065374
National Grid Reference:	384670, 397720
Slice:	A
Site Area (Ha):	0.48
Search Buffer (m):	1000

Site Details:

Flat at Old Garratt, 79, Granby Row, MANCHESTER, M1 7AB

1ST LINE DEFENCE
UXO SOLUTIONS



Detailed Unexploded Ordnance (UXO) Risk Assessment

Project Name	Chandos Hall
Client	Curtins
Site Address	Chandos Hall, Granby Row, Manchester, M1 3QJ
Report Reference	DA4989-00
Date	14th July 2017
Originator	CB

1ST LINE DEFENCE
UXO SOLUTIONS

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Tel: +44 (0)1992 245 020 info@1stlinedefence.co.uk

Executive Summary

Site Location and Description

The site is located in the county borough of Manchester in Lancashire, north-west England. It is bordered by Granby Row to the north, Echo Street to the east, a section of railway and Altrincham Road to the south and Granby Row/Cobourg Street to the west. The site is located approximately 210m south-west of Manchester Piccadilly station and approximately 870m south-east of Manchester city centre.

The site is currently occupied by a high-rise apartment building and a single level building of an unknown purpose, possibly a day care centre, which is accompanied by a small section of open greenspace in the form of a playground.

The site is approximately centred on the OS grid reference: **SJ 8466597703**.

Proposed Works

The proposed works are understood to involve an intrusive ground investigation (drilling and excavating) for the pile design of a proposed multi storey student accommodation block.

Geology and Bomb Penetration Depth

Site specific geotechnical information was not available to 1st Line Defence at the time of the production of this report. An assessment of maximum bomb penetration depth can be made once such data becomes available, or by a UXO specialist during on-site support.

It should be noted that the maximum depth that a bomb could reach may vary across a site and will be largely dependent on the specific underlying geological strata and its density.

UXO Risk Assessment

1st Line Defence has assessed that there is a **Low Risk** from UXO across the majority of the site area, with a **Medium Risk** in the north-west of the site. This assessment is based on the following factors:

- The County Borough of Manchester was subject to a **Moderate** density of bombing with 27.1 bombs recorded per 1,000 acres. Manchester bomb plot and damage mapping indicates the presence of bombing incidents in the surrounding area of the proposed site, but none within the site boundary. However, the mapping only covers raids in 1940 so does not record any bombs which fell from 1941 to 1944. Furthermore, no written bomb incident records are available for Manchester. It is understood from the local archive that they were destroyed during/post-war. It has therefore not been possible to ascertain with certainly whether or not the site was bombed.
- At the start of the war, the site was almost entirely occupied by structures of a residential and commercial nature. Across the majority of the site, it is considered that ground cover should have been such that evidence of UXBs should have been noted and reported. However, an area of clearance is noted in the north-eastern corner of the site. It is thought possible that this was as a result of a bomb strike/fire damage. If rubble and debris was present in this area, there is a risk that evidence of UXO could easily have been overlooked. UXBs falling into 'bomb sites' was one of the most common scenarios for this going unnoticed and unrecorded.
- The proposed site was a housing and commercial entity. Should the site have suffered no damage throughout the war, it is anticipated that access levels would have been regular and frequent, and that post-raid checks for evidence of UXO would have been undertaken. Of concern is the north-eastern corner of the site where an area of cleared housing is noted post-war. It is not likely that access was reduced across the entirety of the site. However it cannot be discounted that potential bomb damage occurred in the north-eastern corner therefore lowering access levels and meaning UXO could have potentially fallen unnoticed.

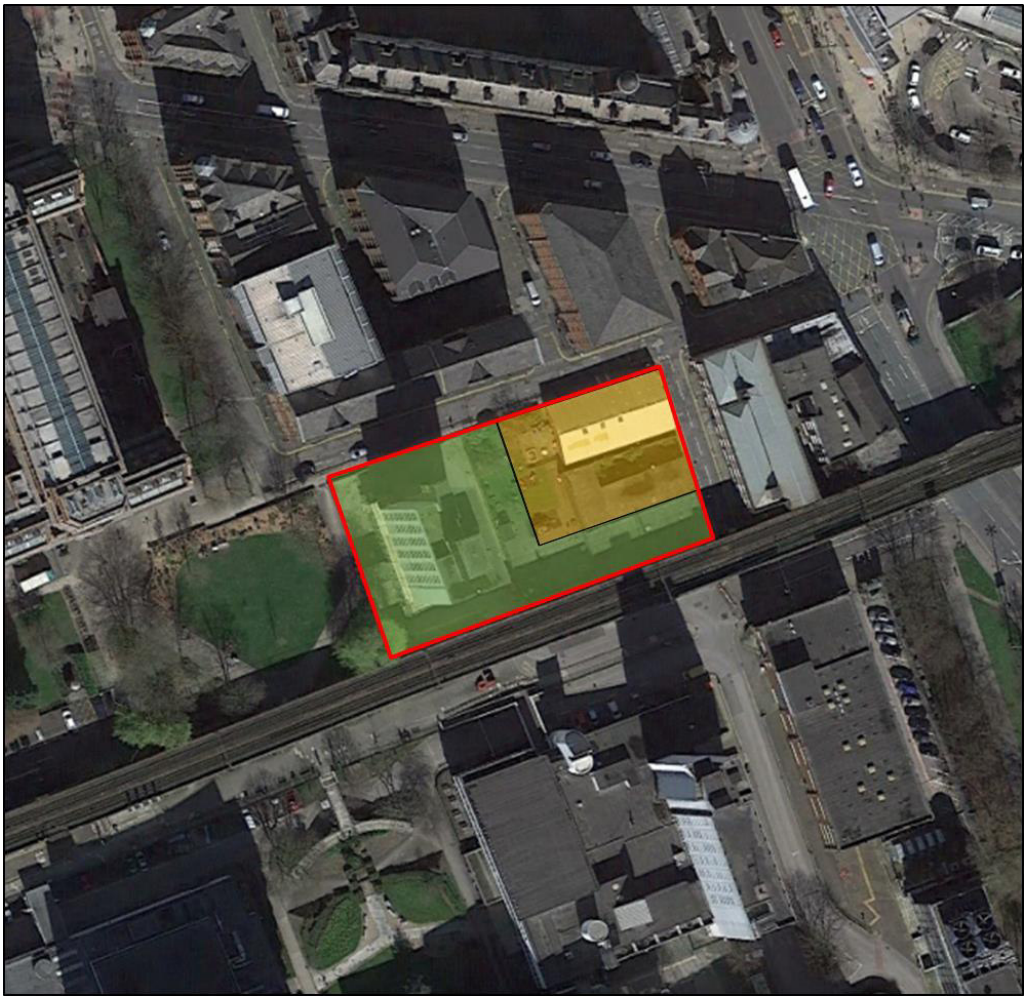
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UXO Risk Assessment
• It is a distinct possibility that damage may have occurred on site due to the area of cleared housing in the north-eastern corner in post-war photography. If rubble and debris were present in this area, there is a risk that evidence of UXO could easily been unnoticed. The rest of the site appears to have survived the war intact. • Given that the majority of the site appears to have survived the war, shows no signs of damage and likely accessed frequently, this part of the site has been given a **Low Risk**. The area within the north-west of the site is shown as cleared on post-war aerial photography. Given the poor quality of the record set for Manchester, it has not proved possible to prove that this clearance was not due to bombing. Thus, this area, with a small buffer to account for the 'J-curve' effect, has been given a **Medium Risk**.

Recommended Risk Mitigation Measures
The following risk mitigation measures are recommended to support the proposed works at the Chandos Hall site: **All Works** • Site Specific Unexploded Ordnance Awareness Briefings to all personnel conducting intrusive works **Medium Risk Areas** **Open Intrusive Works (trial pits, service pits, open excavations, shallow foundations etc.)** • UXO Specialist On-site Support and Site Specific Unexploded Ordnance Awareness Briefings to all personnel conducting intrusive works **Boreholes and Piled Foundations** • Intrusive Magnetometer Survey of all borehole and pile locations/clusters down to maximum bomb penetration depth

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Risk Map



For indicative purposes – not to scale

Medium Risk

Low Risk

Low Risk Areas:

- Site Specific Unexploded Ordnance Awareness Briefings to all personnel conducting intrusive works

Medium Risk Areas:

- Unexploded Ordnance (UXO) Specialist presence on site to support open intrusive works
- Intrusive Magnetometer Survey of any borehole or pile locations/clusters down to an assessed maximum bomb penetration depth

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Glossary

Abbreviation	Definition
AA	Anti-Aircraft
AAA	Anti-Aircraft Ammunition
AFS	Auxiliary Fire Service
AP	Anti-Personnel
ARP	Air Raid Precautions
AWAS	Air Warfare Analysis Section
EOC	Explosive Ordnance Clearance
EOD	Explosive Ordnance Disposal
FP	Fire Pot
GM	G Mine (Parachute mine)
HAA	Heavy Anti Air
HE	High Explosive
IB	Incendiary Bomb
LAA	Light Anti Air
LCC	London County Council
LRRB	Long Range Rocket Bomb (V-2)
LSA	Land Service Ammunition
MOL	Molotov (Incendiary Bomb)
OB	Oil Bomb
PAC	Pilotless Aircraft (V-1)
PB	Phosphorous Bomb
PM	Parachute Mine
POW	Prisoner Of War
RAF	Royal Air Force
RCAF	Royal Canadian Air Force
RFC	Royal Flying Corps
RNAS	Royal Naval Air Service
ROF	Royal Ordnance Factory
SA	Small Arms
SAA	Small Arms Ammunition
SD1000	1000kg high explosive bomb
SD2	2kg incendiary
SIP	Self-Igniting Phosphorous
U/C	Unclassified bomb
UP	Unrotated Projectile (rocket)
USAAF	United States Army Air Force
UX	Unexploded
UXAA	Unexploded Anti Air
UXB	Unexploded Bomb
UXO	Unexploded Ordnance
V1	Vengeance Weapon 1
V2	Vengeance Weapon 2
WAAF	Women's Auxiliary Air Force
X	Exploded

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Contents

Executive Summary ..... **II**

Glossary ..... **V**

Contents ..... **VI**

Annexes ..... **VIII**

1. Introduction **2**

1.1. Background *2*

2. Method Statement **3**

2.1. Report Objectives *3*

2.2. Risk Assessment Process *3*

2.3. Sources of Information *3*

2.4. General Considerations of Historical Research *4*

3. Background to Bombing Records **4**

4. Background to Allied Records **4**

5. UK Regulatory Environment **5**

5.1. General *5*

5.2. CDM Regulations 2015 ..... *5*

5.3. The 1974 Health and Safety at Work etc. Act *5*

5.4. Additional Legislation *5*

6. Role of Commercial UXO Contractors and The Authorities **6**

6.1. Commercial UXO Contractors *6*

6.2. The Authorities *6*

7. The Site **7**

7.1. Site Location *7*

7.2. Site Description *7*

8. Scope of the Proposed Works **7**

8.1. General *7*

9. Ground Conditions **7**

9.1. General Geology *7*

9.2. Site Specific Geology *7*

10. Site History **8**

10.1. Ordnance Survey Historical Maps *8*

10.2. Goad Fire Insurance Mapping *9*

10.3. Historical Aerial Photographs of the Site *9*

11. Aerial Bombing Introduction **10**

11.1. General *10*

11.2. Generic Types of WWII German Air-delivered Ordnance *10*

11.3. Failure Rate of German Air-Delivered Ordnance *11*

11.4. V-Weapons *11*

12. UXB Ground Penetration **12**

12.1. General *12*

12.2. The J-Curve Effect *12*

12.3. WWII UXB Penetration Studies *12*

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12.4. Site Specific Bomb Penetration Considerations 12
13. Initiation of Unexploded Ordnance 13
13.1. General 13
13.2. UXB Initiation Mechanisms 13
13.3. Effects of Detonation 13
14. The Risk from German Air Delivered UXBs 14
14.1. World War I 14
14.2. World War II Bombing of Manchester 14
14.3. Second World War Bombing Statistics 15
14.4. Manchester Blitz Air Raid Precautions Bomb Census and Damage Map 15
14.5. Quality of Historical Record 16
14.6. WWII-Era Aerial Photographs 16
14.7. Abandoned Bombs 16
14.8. Bomb Disposal Tasks 17
14.9. Evaluation of German Air Delivered UXB Risk 17
15. The Risk from Allied Ordnance 18
15.1. General 18
15.2. Defending Manchester from Aerial Attack 18
15.3. Anti-Aircraft Artillery (AAA) and Projectiles 19
15.4. Evaluation of Allied Ordnance Risk 20
16. Ordnance Clearance and Post-WWII Ground Works 21
16.1. General 21
16.2. UXO Clearance 21
16.3. Post war Redevelopment 21
17. 1st Line Defence Risk Assessment 22
17.1. Risk Assessment Stages 22
17.2. Assessed Risk Level 24
18. Proposed Risk Mitigation Methodology 25
18.1. General 25
Bibliography 26

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Annexes

List of Report Annexes	
Annex A	Site Location Maps
Annex B	Recent Aerial Photography
Annex C	Site Plan
Annex D	Pre and Post-WWII Historical Maps
Annex E	GOAD Fire Insurance Mapping
Annex F	Examples of German Air Delivered Ordnance
Annex G	Example of 50kg Bomb Entry Hole
Annex H	Examples of UXO Incidents
Annex I	Britain WWI Bomb Plot Map
Annex J	Luftwaffe Target Reconnaissance Imagery
Annex K	Manchester Blitz Bomb Mapping
Annex L	Interactive Manchester Bomb Map
Annex M	1948 RAF Aerial Photography of the Site
Annex N	Examples of Anti-Aircraft Projectiles
Annex O	Risk Map – 1948 Aerial Photography
Annex P	Risk Map of the Site Area

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1st Line Defence Limited
Detailed Unexploded Ordnance (UXO) Risk Assessment

Site: Chandos Hall, Manchester
Client: Curtins

1. Introduction

1.1. Background

1st Line Defence has been commissioned by Curtins to produce a Detailed Unexploded Ordnance (UXO) Risk Assessment for the proposed works at Chandos Hall.

Buried UXO can present a significant risk to construction works and development projects. The discovery of a suspected device during works can cause considerable disruption to operations as well as cause unwanted delays and expense.

UXO in the UK can originate from three principal sources:

1. Munitions deposited as a result of military training and exercises.
2. Munitions lost, burnt, buried or otherwise discarded either deliberately, accidentally, or ineffectively.
3. Munitions resulting from wartime activities including German bombing in WWI and WWII, long range shelling, and defensive activities.

This report will assess the collective factors that may contribute to the risk of UXO contamination. If a potential risk is identified, this report will recommend appropriate mitigation measures, in order to reduce the risk to as low as is reasonably practicable. Detailed analysis and evidence will be provided to enable the client to understand the basis for the assessed risk level and any recommendations.

This report follows the guidelines outlined in CIRIA C681, 'Unexploded Ordnance (UXO) A Guide for the Construction Industry'.

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2. Method Statement

2.1. Report Objectives

The aim of this report is to conduct a comprehensive assessment of the potential risk from UXO at Chandos Hall. Every reasonable effort has been made to ensure that all available historical information has been accessed and checked. Where possible, evidence has been included in the report to enable the client to understand the basis of the risk assessment.

The report will recommend appropriate site and work-specific risk mitigation measures to reduce the risk from explosive ordnance during the envisaged works to a level that is as low as reasonably practicable.

2.2. Risk Assessment Process

1st Line Defence has undertaken a five-step process for assessing the risk of UXO contamination:

1. The risk that the site was contaminated with UXO.
2. The risk that UXO remains on the site.
3. The risk that UXO may be encountered during the proposed works.
4. The risk that UXO may be initiated.
5. The consequences of initiating or encountering UXO.

In order to address the above, 1st Line Defence has taken into consideration the following factors:

- Evidence of WWI and WWII German air-delivered bombing and the legacy of Allied occupation.
- The nature and conditions of the site during WWII.
- The extent of post-war development and UXO clearance operations on site.
- The scope and nature of the proposed works and the maximum assessed bomb penetration depth.
- The nature of ordnance that may have contaminated the proposed site area.

2.3. Sources of Information

To produce a thorough assessment of UXO risk, military records and archive material held in the public domain have been accessed. The following sources have been consulted for this report:

- The National Archives, Kew, and Greater Manchester County Record Office, Manchester.
- Historical mapping datasets.
- Historic England National Monuments Record.
- Relevant information supplied by Curtins.
- Available material from 33 Engineer Regiment (EOD) Archive.
- 1st Line Defence's extensive historical archives, library and UXO geo-datasets.
- Open sources such as published books and internet resources.

Research involved a visit to The National Archives.

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2.4. General Considerations of Historical Research

This desktop assessment is based largely upon analysis of historical evidence. Every reasonable effort has been made to locate significant and pertinent information, and the sources consulted have been presented in this report. 1st Line Defence cannot be held accountable for any changes to the assessed level of risk or risk mitigation measures, based on documentation or other data that may come to light at a later date, or which was not available to 1st Line Defence at the time of the report's production.

It is often problematic and sometimes impossible to verify the completeness and accuracy of WWII-era records. As a consequence, conclusions as to the exact location and nature of a UXO risk can rarely be quantified and are to a degree subjective. To counter this, a range of many sources and types of information have been consulted, analysed and presented. The same methodology is applied to each report during the risk assessment process. 1st Line Defence cannot be held responsible for inaccuracies or gaps in the available historical information.

3. Background to Bombing Records

During WWII bombing records were gathered by the police, Air Raid Precaution (ARP) wardens and military personnel. Records were maintained in the form of local and regional written records, maps depicting the locations of individual strikes, and maps indicating the levels of damage sustained by structures. Records typically noted when, where and what types of bombs had fallen during an air raid. Records of bomb strikes were made either through direct observation or by post-raid surveys. The immediate priority was frequently focussed on assisting casualties and minimising damage. As a result some records were incomplete and contradictory.

The quality, detail and nature of record keeping could vary considerably between boroughs and towns. No two areas were collated or recorded data in the same way. Some areas maintained bomb and damage mapping, some provided grid references of strikes, and some are too vague in detail to be able to ascertain exactly where bombs fell. Many records were even damaged or destroyed in subsequent bombing raids. Records of raids that took place on sparsely or uninhabited areas were often based upon third party or hearsay information and are therefore not always reliable. Furthermore, records of attacks on military or strategic targets were often maintained separately from the general records and have not always survived.

4. Background to Allied Records

During WWII considerable areas of land were requisitioned by the army for the purpose of defence, training, and the construction of airfields and facilities for munitions production. Records relating to military features vary and some areas may remain censored. Within urban environments datasets will be consulted detailing the location of munitions works and air and land defences. In rural locations it may be possible to obtain plans of airfields and military establishments, as well as training logs, personal memoirs, and operational plans.

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5. UK Regulatory Environment

5.1. General

There is no formal obligation requiring a UXO risk assessment to be undertaken for construction projects in the UK, nor is there any specific legislation stipulating the management or mitigation of UXO risk. However, it is implicit in the legislation outlined below that those responsible for intrusive works (archaeology, site investigation, drilling, piling, excavation etc.) should undertake a comprehensive and robust assessment of the potential risks to employees and that mitigation measures are implemented to address any identified hazards.

5.2. CDM Regulations 2015

The Construction (Design and Management) Regulations 2015 (CDM 2015) define the responsibilities of parties involved in the construction of temporary or permanent structures.

The CDM 2015 establishes a duty of care extending from clients, principle co-ordinators, designers, and contractors to those working on, or affected by, a project. Those responsible for construction projects may therefore be accountable for the personal or proprietary loss of third parties, if correct health and safety procedure has not been applied.

Although the CDM does not specifically reference UXO, the risk presented by such items is both within the scope and purpose of the legislation. It is therefore implied that there is an obligation on parties to:

- Provide an appropriate assessment of potential UXO risks at the site (or ensure such an assessment is completed by others).
- Put in place appropriate risk mitigation measures if necessary.
- Supply all parties with information relevant to the risks presented by the project.
- Ensure the preparation of a suitably robust emergency response plan.

5.3. The 1974 Health and Safety at Work etc. Act

All employers have a responsibility under the Health and Safety at Work etc. Act 1974 and the Management of Health and Safety at Work Regulations 1999, to ensure the health and safety of their employees and third parties, so far as is reasonably practicable and conduct suitable and sufficient risk assessments.

5.4. Additional Legislation

In the event of a casualty resulting from the failure of an employer/client to address the risks relating to UXO, the organisation may be criminally liable under the Corporate Manslaughter and Corporate Homicide Act 2007.

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6. Role of Commercial UXO Contractors and The Authorities

6.1. Commercial UXO Contractors

In the event that a risk of UXO contamination is detected at the proposed site, the support of a UXO specialist may be recommended. A UXO specialist may be able to avoid unnecessary call-outs to the authorities through the disposal or removal of low risk items. In addition a specialist will assist in the swift recognition of high risk items, and will thereafter co-ordinate with the local authority with the objective of causing minimal levels of disruption to site operations, whilst putting in place safe and appropriate measures.

For more information on the role of commercial UXO specialists, see *CIRIA C681*.

6.2. The Authorities

The police have a responsibility to co-ordinate the emergency services in the event of an ordnance-related incident at a construction site. Upon inspection they may impose a safety cordon, order an evacuation, and call the military authorities Joint Services Explosive Ordnance Disposal (JSEOD) to arrange for investigation and/or disposal. In the absence of a UXO specialist, police officers will usually employ such precautionary safety measures, thereby causing works to cease, and possibly requiring the evacuation of neighbouring businesses and properties.

The priority given to the police request will depend on JSEOD's judgement of the nature of the UXO risk, the location, people and assets at risk, as well as the availability of resources. They may respond immediately or it can take 1-2 days and often longer for the authorities to respond and deal with a UXB.

Depending on the on-site risk assessment the item of ordnance may be removed from the site and/or destroyed by a controlled explosion. The latter process is lengthy and may necessitate the establishment of addition cordons and evacuations.

Following the removal of an item of UXO, the military authorities will only undertake further investigations or clearances in high risk situations. If there are regular UXO finds on a site the JSEOD may not treat each occurrence as an emergency and will recommend the construction company puts in place alternative procedures, such as the appointment of a commercial contractor to manage the situation.

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7. The Site

7.1. Site Location

The site is located in the county borough of Manchester in Lancashire, north-west England. It is bordered by Granby Row to the north, Echo Street to the east, a section of railway and Altrincham Road to the south and Granby Row/Cobourg Street to the west. The site is located approximately 210m south-west of Manchester Piccadilly station and approximately 870m south-east of Manchester city centre.

The site is approximately centred on the OS grid reference: **SJ 8466597703**.

Site location maps are presented in **Annex A**.

7.2. Site Description

The site is currently occupied by a high-rise apartment building and a single level building of an unknown purpose, possibly a day care centre, which is accompanied by a small section of open greenspace in the form of a playground.

A recent aerial photograph and site plan are presented in **Annex B** and **Annex C** respectively.

8. Scope of the Proposed Works

8.1. General

The proposed works are understood to involve an intrusive ground investigation (drilling and excavating) for the pile design of a proposed multi storey student accommodation block.

9. Ground Conditions

9.1. General Geology

The British Geological Survey (BGS) map shows the bedrock geology of the site to be underlain by the Chester Pebble Beds Formation – sandstone, of the Early Triassic Epoch. The superficial deposits are comprised of Till, Devansian – Diamicton.

9.2. Site Specific Geology

Site specific geotechnical data was not available at the time of the production of this report.

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10. Site History

10.1. Ordnance Survey Historical Maps

Historical maps were obtained for this report and are presented in **Annex D**. These maps provide an indication of the composition of the site pre and post- WWII. See below for a summary of the site history on various mapping editions.

Pre-WWI		
Date	**Scale**	**Description**
1908	1:2,500	This map indicates the presence of several residential properties within the site boundary. A road intersects the western half of the site. There are some small areas of open ground, assumed to be hard standing in nature.

Pre-WWII		
Date	**Scale**	**Description**
1922	1:2,500	This map shows no significant change since the previous edition. The site remains occupied by residential properties.

Post-WWII		
Date	**Scale**	**Description**
1948	1:1,250	There is no significant change since the previous map edition across the majority of the site area. There is an area of clearance to the north-west of the site on the opposite side of Granby Row, and a row of missing houses in the north-eastern corner of the site.
1965	1:2,500	This map edition shows the site to have been cleared of the residential properties and is now occupied by a 'depot' and a structure of an unknown purpose. The road intersecting the site is now gone.

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10.2. Goad Fire Insurance Mapping

Available pre and post-WWII fire insurance plans for the site were obtained by 1st Line Defence. These are comprehensive street plans detailing the structure and uses of individual buildings. The plans were originally designed to assist the fire insurance industry. See **Annex E** for the mapping with the site boundary outlined accordingly.

WWII Period	
Date	**Description**
1942	This plan shows the majority of the buildings within the site footprint to be made of brick, stone or concrete. There is one wooden structure to the south. Some skylights are visible to the south-east. The majority of the buildings are marked as having been commercial units.

Post-WWII	
Date	**Description**
1962	This plans shows the majority of the buildings from the previous edition to have been demolished, save for the buildings on the far east of the site. A single structure labelled as 'College of Technology', built from brick, stone or concrete, has been erected in place of the former buildings.

10.3. Historical Aerial Photographs of the Site

Historical aerial photographs have been consulted from the Aerofilms collection available from Britain From Above. 1st Line Defence have inquired about obtaining historical air photographs of the site area from the Aerofilms collection. Unfortunately no relevant records could be found.

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11. Aerial Bombing Introduction

11.1. General

During WWI and WWII, many towns and cities across the UK were subjected to bombing which often resulted in extensive damage to city centres, docks, rail infrastructure and industrial areas. The poor accuracy of WWII targeting technology and bombing techniques often resulted in neighbouring areas to specific targets being bombed.

In addition to raids which concentrated on specific targets, indiscriminate bombing of large areas also took place – notably the London 'Blitz', but also affecting many other towns and cities. As discussed in the following sections, a proportion of the bombs dropped on the UK did not detonate as designed. Although extensive efforts were made to locate and deal with these UXBs at the time, many still remain buried and can present a potential risk to construction projects.

The main focus of research for this report will concern air delivered weapons dropped during WWII, although WWI bombing will also be considered.

11.2. Generic Types of WWII German Air-delivered Ordnance

An understanding of the type and characteristics of the ordnance used by the Luftwaffe during WWII allows an informed assessment of the hazards posed by any unexploded items that may remain in situ on a site. A brief summary of these characteristics is given in the table below. Examples of German air delivered ordnance are presented in **Annex F**.

Generic Types of WWII German Air Delivered Ordnance				
Type	Description	Size/Weight	Frequency	Likelihood of detecting Unexploded
High Explosive (HE) Bombs	A HE bomb typically has a strong metal casing, which provides a 'thick skin' that is designed to fragment on detonation. HE bombs possess a sufficient mass and velocity to enable penetration of the ground if they failed to explode. In addition the shape and fins are aerodynamic to keep the tip end of the bomb facing downward.	Most bombs were 50kg, 250kg or 500kg, although larger bombs of up to 1,800kg were also used. About half the weight of HE bombs comprised of explosive TNT or Amatol.	In terms of weight of ordnance dropped, HE bombs were the most frequent weapon deployed by the Luftwaffe during WWII.	Although efforts were made to identify the presence of unexploded ordnance following a raid, often the damage and destruction caused by detonated bombs made observation of UXB entry holes impossible. The entry hole of an unexploded bomb can be as little as 20cm in diameter and was easily overlooked in certain ground conditions (see **Annex G**). Furthermore, ARP documents describe the danger of assuming that damage, actually caused by a large UXB, was due to an exploded 50kg bomb. UXBs therefore present the greatest risk to present–day intrusive works.
Aerial or Parachute Mines (PM)	Luftmines (LMA-500kg and LMB-1000kg) were magnetic sea mines which were thin walled, cylindrical in shape with a hemispherical nose, deployed by parachute. For use on land, the mines were armed with a clockwork bomb fuze which caused the bomb to explode after impact. When operating as designed they caused considerable damage due to the high weight of explosive and their detonation at or near the surface.	PMs either weighed 500kg or 1000kg (approximately 2/3 of the overall weight was explosives) depending on the type of mine. Their length ranged from 1.73-2.64m.	PMs were deployed less frequently than HE and Incendiary bombs due to their size, cost and the difficulty of their deployment.	If functioning correctly, PMs generally would have had a slow rate of descent and were very unlikely to have penetrated the ground. Where the parachute failed, mines would have simply shattered on impact if the main charge failed to explode. There have been extreme cases when these items have been found unexploded. However, in these scenarios, the ground was either extremely soft or the munition fell into water.
1kg Incendiary Bombs (IB)	1kg IB devices had a magnesium shell and were filled with thermite; both components were designed to burn after igniting on impact. They were jettisoned from air-dropped containers.	1kg in weight and approximately 14 inches long.	In terms of the number of weapons dropped, small IBs were the most numerous. Millions of these weapons	IBs had very limited penetration capability and in urban areas would often have been located in post-raid surveys. If they failed to initiate and fell in water, on soft

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	Some variants had explosive heads presenting an increased risk if encountered during works.		were dropped throughout the war.	vegetated ground, or bomb rubble, they could have gone unnoticed.
Large Incendiary Bombs (IB)	Large IBs had various flammable fill materials (including oil and white phosphorus), and a small explosive charge. They were designed to explode and burn close to the surface. Although they were often the same shape as HE bombs, they were thin-skinned and did not generally penetrate the surface.	Large IBs Weighed up to 350kg.	Large IBs were not as common as the 1kg IBs, although they were more frequently deployed than the Parachute Mines and Anti-Personnel Bomblets.	If large IBs did penetrate the ground, complete combustion did not always occur and in such cases they could remain a risk to intrusive works.
Anti-personnel (AP) Bomblets	The SD2 'Butterfly Bomb' had an 8cm long, thin, cylindrical shaped, cast iron outer shell which hinged open when the bomblet deployed. A 15cm long steel cable was attached via a spindle to an aluminium fuze. They were generally lethal to anyone within a radius of 10 metres (33 ft) and could inflict serious shrapnel injuries.	The size and weight ranged depending on the type used. The SD2 weighed 2kg and contained 225 grams of TNT.	AP Bomblets were not commonly used and are generally considered to pose a low risk to most works in the UK.	SD2 bomblets were packed into containers holding between 6 and 108 submunitions. They had little ground penetration ability and should have been located by the post-raid survey unless they fell into water, dense vegetation or bomb rubble.

11.3. Failure Rate of German Air-Delivered Ordnance

It has been estimated that 10% of the German HE bombs dropped during WWII failed to explode as designed. There are a number of reasons why an air-delivered weapon might fail to function as designed:

- Malfunction of the fuze or gain mechanism (manufacturing fault, sabotage by forced labour or faulty installation).
- Many German bombs were fitted with a clockwork mechanism that could jam on impact.
- Failure of the bomber aircraft to arm the bombs due to human error or an equipment defect.
- Jettisoning of the bomb before it was armed or from a very low altitude. This was most likely if the bomber was under attack or crashing.

From 1940 to 1945 bomb disposal teams dealt with a total of 50,000 explosive items of 50kg, over, 7,000 anti-aircraft projectiles and 300,000 beach mines. Unexploded ordnance is still regularly encountered across the UK, especially in London; see press articles in **Annex H**.

11.4. V-Weapons

From mid-1944, Hitler's 'V-weapon' campaign began. It used newly developed unmanned cruise missiles and rockets. The V-1 known as the *Flying Bomb* or *Pilotless Aircraft* and the V-2, a long range rocket, were launched from bases in Germany and occupied Europe. A total of 9,251 V-1s and 1,115 V-2s were recorded in the United Kingdom.

Although these weapons caused considerable damage, their range was limited by their position of deployment across Europe and as a result the vast majority of V-weapon strikes were directed against targets in the south-east of England, predominantly in the London Boroughs and Home Counties. This limitation of capability meant targets in Manchester and north-west England were generally too far to be considered for V-weapon strikes by the Luftwaffe.

The risk from V-weapons in Manchester is therefore considered negligible and will not be further addressed in this report.

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12. UXB Ground Penetration

12.1. General

An important consideration when assessing the risk from a UXB is the likely maximum depth of burial. There are several factors which determine the depth that an unexploded bomb will penetrate:

- Mass and shape of bomb
- Height of release
- Velocity and angle of bomb
- Nature of the ground cover
- Underlying geology

Geology is perhaps the most important variable. If the ground is soft, there is a greater potential of deeper penetration. For example, peat and alluvium are easier to penetrate than gravel and sand, whereas layers of hard strata will significantly retard and may stop the trajectory of a UXB.

12.2. The J-Curve Effect

J-curve is the term used to describe the characteristic curve commonly followed by an air-delivered bomb dropped from height after it penetrates the ground. Typically, as the bomb is slowed by its passage through underlying soils, its trajectory curves towards the surface. Many UXBs are found with their nose cone pointing upwards as a result of this effect. More importantly however is the resulting horizontal offset from the point of entry. This is typically a distance of about one third of the bomb's penetration depth, but can be up to 15m.

12.3. WWII UXB Penetration Studies

During WWII the Ministry of Home Security undertook a major study on actual bomb penetration depths, carrying out statistical analysis on the measured depths of 1,328 bombs as reported by Bomb Disposal. Conclusions were made as to the likely average and maximum depths of penetration of different sized bombs in different geological strata.

For example, the largest common German bomb (500kg) had a likely concluded penetration depth of 6m in sand or gravel but 11m in clay. The maximum observed depth for a 500kg bomb was 11.4m and for a 1000kg bomb 12.8m. Theoretical calculations suggested that significantly greater penetration depths were probable.

12.4. Site Specific Bomb Penetration Considerations

When considering an assessment of the bomb penetration at the site of proposed works the following parameters have been used:

- WWII geology – Chester Pebble Beds Formation.
- Impact angle and velocity – 10-15° from vertical and 270 metres per second.
- Bomb mass and configuration – The 500kg SC HE bomb, without retarder units or armour piercing nose (this was the largest of the common bombs used against Britain).

It has not been possible to determine maximum bomb penetration capabilities at this stage due to the lack of site specific borehole geotechnical information. An assessment can be made once such information becomes available or by an UXO Specialist on-site.

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13. Initiation of Unexploded Ordnance

13.1. General

Unexploded ordnance does not spontaneously explode. All high explosive filling requires significant energy to create the conditions for detonation to occur. In the case of unexploded German bombs discovered within the construction site environment, there are a number of potential initiation mechanisms.

13.2. UXB Initiation Mechanisms

UXB Initiation	
Direct Impact	Unless the fuze or fuze pocket is struck, there needs to be a significant impact e.g. from piling or large and violent mechanical excavation, onto the main body of the weapon to initiate a buried iron bomb. Such violent action can cause the bomb to detonate.
Re- starting the Clock	A small proportion of German WWII bombs employed clockwork fuzes. It is probable that significant corrosion would have taken place within the fuze mechanism over the last 70+ years that would prevent clockwork mechanisms from functioning. Nevertheless, it was reported that the clockwork fuze in a UXB dealt with by 33 EOD Regiment in Surrey in 2002 did re-start.
Friction Impact	The most likely scenario resulting in the detonation of a UXB is friction impact initiating the shock-sensitive fuze explosive. The combined effects of seasonal changes in temperature and general degradation over time can cause explosive compounds to crystallise and extrude out from the main body of the bomb. It may only require a limited amount of energy to initiate the extruded explosive which could detonate the main charge.

Annex H details UXB incidents where intrusive works have caused UXBs to detonate, resulting in death or injury and damage to plant.

13.3. Effects of Detonation

When considering the potential consequences of a detonation, it is necessary to identify the significant receptors that may be affected. The receptors that may potentially be at risk from a UXO detonation on a construction site will vary depending on the site specific conditions but can be summarised as follows:

- People – site workers, local residents and general public.
- Plant and equipment – construction plant on site.
- Services – subsurface gas, electricity, telecommunications.
- Structures – not only visible damage to above ground buildings, but potentially damage to foundations and the weakening of support structures.
- Environment – introduction of potentially contaminating materials.

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14. The Risk from German Air Delivered UXBs

14.1. World War I

During WWI Britain was targeted and bombed by Zeppelin Airships as well as Gotha and Giant fixed-wing aircraft. A WWI map of air raids and naval bombardments across England is presented in **Annex I**.

Manchester escaped WWI bombing, with the only Zeppelin attack getting close to Manchester occurring on 25th September 1916. Damage was caused to buildings in the villages of Holcombe and Greenmount, north of Bury, and there were a number of civilian deaths in Bolton. There was one further, unsuccessful Zeppelin foray on Northwest England in April 1918 which reached the Widnes and Wigan area but not Manchester. Zeppelins more often than not did not have great navigational skills; one 1915 attack, claimed to have been on the port of Liverpool, in fact dropped its bombs on the very inland Black Country.

WWI bombs were generally smaller than those used in WWII and were dropped from a lower altitude. This resulted in limited UXB penetration depths. Aerial bombing was often such a novelty at the time that it attracted public interest and even spectators to watch the raids in progress. For these reasons there is a limited risk that UXBs passed undiscovered in the urban environment. When combined with the relative infrequency of attacks and an overall low bombing density the risk from WWI UXBs is considered low and will not be further addressed in this report.

14.2. World War II Bombing of Manchester

The Luftwaffe's main objective for the attacks on Britain was to inhibit the country's economic and military capability. To achieve this they targeted airfields, depots, docks, warehouses, wharves, railway lines, factories, and power stations. A**s** the war progressed the Luftwaffe bombing campaign expanded to include the indiscriminate bombing of civilian areas in an attempt to subvert public morale.

During WWII the site was located within the County Borough of Manchester, which sustained a moderate density of bombing as represented by bomb density data figures and maps. Manchester was not as targeted as other major northern British cities such as Liverpool and Coventry, but was still subject to numerous major raids. These raids tended to focus on Salford and Stretford, where the majority of Manchester industrial and dockland areas were found. The site was located approximately 4km south-east of Salford.

Manchester and Salford were mapped by the Luftwaffe when preparing for air raids. The mapping is presented in **Annex J**. The map obtained by 1st Line Defence covers Clayton, east Manchester, and highlights targets such as the gas works along Ashton New Road amongst others. Other specific Luftwaffe targets in the city included areas such as Spinningfields, Castlefield, and Ordsall, which lay west of the site. The targets in these areas were predominantly contained on the railway, which proved vital to the war efforts.

Manchester London Road station, or Manchester Piccadilly as it is known today, was marked as a target by the Luftwaffe. WWII bomb accuracy was inconsistent, meaning bombs often missed their targets causing destruction elsewhere. 'Tip and run' raids were frequent, whereby German pilots would empty their aircraft of any remaining bombs before returning to base. It is likely that the Luftwaffe would have used Manchester canal as a source of navigation, of which the nearest point to the site is approximately 1.3km north, and therefore it is probable that the area in general would have endured heavy bombing.

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Records of bombing incidents in the civilian areas of Manchester were collected by the Air Raid Precautions wardens and collated by the Civil Defence Office. Some other organisations, such as the London Port Authority and railways, maintained separate records. Records would be in the form of typed or hand written incident notes, maps and statistics. Bombing data was carefully analysed, not only due to the requirement to identify those parts of the country most needing assistance, but also in an attempt to find patterns in the Germans' bombing strategy in order to predict where future raids might take place.

Records of bombing incidents for Manchester are presented in the following sections.

14.3. Second World War Bombing Statistics

The following table summarises the quantity of German bombs (excluding 1kg incendiaries and anti-personnel bombs) falling on the County Borough of Manchester between 1940 and 1945.

Record of German Ordnance Dropped on the County Borough of Manchester		
Area Acreage		**27,321**
Weapons	High Explosive Bombs (all types)	712
	Parachute Mines	18
	Oil Bombs	7
	Phosphorus Bombs	0
	Fire Pot	0
	Pilotless Aircraft (V-1)	1
	Long Range Rockets (V-2)	0
Total		**738**
Number of Items per 1,000 acres		**27.1**

Source: Home Office Statistics
This table does not include UXO found during or after WWII.

Detailed records of the quantity and locations of the 1kg incendiary and anti-personnel bombs were not routinely maintained by the authorities as they were frequently too numerous to record. Although the risk relating to IBs is lesser than that relating to larger HE bombs, they were designed to inflict damage and injury and should therefore not be dismissed. Therefore, they should not be overlooked in assessing the general risk to personnel and equipment. Anti-personnel bombs were used in much smaller quantities and are rarely found today but are potentially more dangerous.

14.4. Manchester Blitz Air Raid Precautions Bomb Census and Damage Map

A local bomb census map compiled by Manchester City Council showing High Explosive (HE) and Incendiary Bomb strikes on the borough was obtained from Manchester Archives. The section showing the area of the site is described in the table below and presented in **Annex K**.

Manchester Consolidated Bomb Map – Annex K	
Date Range	**Comments**
Consolidated Bomb Plot Map: 1940 - 1945	This map was compiled post-war and depicts all of the strikes that occurred in Manchester during the 1940 Blitz. No strikes were recorded within the site boundary during these raids. No damage is recorded within the site boundary. The nearest damaged area is approximately 170m west of the site. It should be noted that this bomb mapping only covers the 1940 Manchester Blitz and not any subsequent bombing.

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14.5. Quality of Historical Record

The quality of the extant historical record set for Manchester is overall poor, with limited resources available. These limitations hinder the possibility of accurately determining a risk level of UXO being discovered on a site. Whilst more densely bombed areas such as Stretford and Salford have superior record sets, the records for Manchester are lacking in diversity and quality.

No complete written incident records could be found for Manchester. This could be due to them being lost or damaged since the end of WWII. Only one bomb plot map could be found which makes it problematic when attempting to corroborate incidents across several sources. Confirming dates and the extent of damage suffered is likely to be more accurate when done across more than one resource. Furthermore the available record, the Architect's Department map detailed above, has many issues. The mapping only covers a period of the war, 1940-1941, rather than the entirety, meaning that several bombing incidents that occurred in the later war years within the city aren't covered. Moreover, the dates presented next to the strikes are not known to correspond with the incidents. It is therefore incredibly difficult to confirm the exactness or presence of said incidents.

14.6. WWII-Era Aerial Photographs

A high resolution scan of WWII-era aerial photography for the site area was obtained from the National Monuments Record Office (Historic England). This photograph is dated 16th May 1948 and provides a record of the potential composition of the site during the war, as well as its condition immediately following the war (**see Annex M**).

On the whole the site appears to be in good condition, with the majority of the buildings remaining intact. However, an area of clearance is noted in the north-east of the site. The properties are apparent in 1942 GOAD mapping but are gone in the 1948 OS mapping edition. There is no evidence to suggest that bombing occurred on site during the war; however, it is a distinct possibility as the records available to 1st Line Defence were limited at the time of writing as the only bomb map available only covered the Manchester Blitz of 1940. Also, there is an area of lighter coloured earth/structures immediately north-west of the site which may be a sign of bomb damage. However the bomb map available to 1st Line Defence does not indicate any bombing in that particular area.
A view of the wider area is located in **Annex M2**.

14.7. Abandoned Bombs

A post air-raid survey of buildings, facilities, and installations would have included a search for evidence of bomb entry holes. If evidence of an entry hole was encountered, Bomb Disposal Officer Teams would normally have been requested to attempt to locate, render safe, and dispose of the bomb. Occasionally, evidence of UXBs was discovered but due to a relatively benign position, access problems, or a shortage of resources the UXB could not be exposed and rendered safe. Such an incident may have been recorded and noted as an 'Abandoned Bomb'.

Given the inaccuracy of WWII records and the fact that these bombs were 'abandoned', their locations cannot be considered definitive or the lists exhaustive. The MoD states that 'action to make the devices safe would be taken only if it was thought they were unstable'. It should be noted that other than the 'officially' abandoned bombs, there will inevitably be UXBs that were never recorded.

1st Line Defence holds no records of officially registered abandoned bombs at or near the site of the proposed works.

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14.8. Bomb Disposal Tasks

The information service from the Explosive Ordnance Disposal (EOD) Archive Information Office at 33 Engineer Regiment (EOD) is currently facing considerable delay. It has therefore not been possible to include any updated official information regarding bomb disposal/clearance tasks with regards to this site. A database of known disposal/clearance tasks has been referred to which does not make reference to such instances occurring within the site of proposed works. If any relevant information is received at a later date Curtins will be advised.

14.9. Evaluation of German Air Delivered UXB Risk

Factors	Conclusion
Density of Bombing *It is important to consider the bombing density when assessing the possibility that UXBs remain in an area. High levels of bombing density could allow for error in record keeping due to extreme damage caused to the area.*	The County Borough of Manchester was subject to a **Moderate** density of bombing with 27.1 bombs recorded per 1,000 acres. Manchester bomb plot and damage mapping indicates the presence of bombing incidents in the surrounding area of the proposed site, but none within the site boundary. However, the mapping only covers raids in 1940 so does not record any bombs which fell from 1941 to 1944. Furthermore, no written bomb incident records are available for Manchester. It is understood from the local archive that they were destroyed during/post-war. It has therefore not been possible to ascertain with certainly whether or not the site was bombed.
Ground Cover *The nature of the ground cover present during WWII would have a substantial influence on any visual indication that may indicate UXO being present.*	At the start of the war, the site was almost entirely occupied by structures of a residential and commercial nature. Across the majority of the site, it is considered that ground cover should have been such that evidence of UXBs should have been noted and reported. However, an area of clearance is noted in the north-eastern corner of the site. It is thought possible that this was as a result of a bomb strike/fire damage. If rubble and debris was present in this area, there is a risk that evidence of UXO could easily have been overlooked. UXBs falling into 'bomb sites' was one of the most common scenarios for this going unnoticed and unrecorded.
Access Frequency *UXO in locations where access was irregular would have a greater chance of passing unnoticed than at those that were regularly occupied. The importance of a site to the war effort is also an important consideration as such sites are likely to have been both frequently visited and subject to post-raid checks for evidence of UXO.*	The proposed site was a housing and commercial entity. Should the site have suffered no damage throughout the war, it is anticipated that access levels would have been regular and frequent, and that post-raid checks for evidence of UXO would have been undertaken. Of concern is the north-eastern corner of the site where an area of cleared housing is noted post-war. It is not likely that access was reduced across the entirety of the site. However it cannot be discounted that potential bomb damage occurred in the north-eastern corner therefore lowering access levels and meaning UXO could have potentially fallen unnoticed.
Damage *If buildings or structures on a site sustained bomb or fire damage any resulting rubble and debris could have obscured the entry holes of unexploded bombs dropped during the same, or later, raids. Similarly, a High Explosive bomb strike in an area of open agricultural land will have caused soil disturbance, increasing the risk that a UXB entry hole would be overlooked*	There is a distinct possibility that damage may have occurred on site due to the area of cleared housing in the north-eastern corner in post-war photography. If rubble and debris were present in this area, there is a risk that evidence of UXO could easily been unnoticed. The rest of the site appears to have survived the war intact.

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Bomb Failure Rate	There is no evidence to suggest that the bomb failure rate in the locality of the site would have been dissimilar to the 10% normally used.
Abandoned Bombs	1st Line Defence holds no records of abandoned bombs at or within the site vicinity.
Bombing Decoy sites	1st Line Defence could find no evidence of bombing decoy sites within the site vicinity.
Bomb Disposal Tasks	1st Line Defence could find no evidence of Bomb Disposal tasks within the site boundary and immediate area.

15. The Risk from Allied Ordnance

15.1. General

The potential risk of encountering Allied ordnance on construction sites is particularly elevated in areas previously associated with military activity. This includes munitions deposited by military training exercises, dumped as a result of poor working practices, or deliberately placed to prevent adversary occupation and from other home defence activities. For example, contamination from items of Land Service (LSA) and Small Arms Ammunition (SAA) may result from historic occupation of an area or its use for military training.

Urban areas, such as the location of the site, can be at risk from buried unexploded Anti-Aircraft projectiles fired during WWII – see below.

15.2. Defending Manchester from Aerial Attack

Both passive and active defences were deployed against enemy bombers attacking targets in the Manchester region.

Passive Defences	Active Defences
These included defence tactics: • To hinder the identification of targets, by using lighting blackouts at night and camouflaging strategic installations. • To mislead bomber pilots into attacking decoy sites located away from the city with the use of dummy buildings or lighting to replicate that of the city under attack. • To force attacking aircraft to higher altitudes with the use of barrage balloons.	These relied on a coordinated combination of a number of installations in order to actively engage and oppose attacking aircraft. Some of these installations were: • Fighter aircraft to act as interceptors. • Anti-aircraft gun batteries. • The use of rockets and missiles (later during WWII).

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15.3. Anti-Aircraft Artillery (AAA) and Projectiles

At the onset of WWII two types of Anti-Aircraft Artillery (AAA) guns were deployed:

- Heavy Anti-Aircraft Artillery (HAA), using large calibre weapons, such as the 3.7" QF (Quick Firing) gun
- Light Anti-Aircraft Artillery (LAA) using smaller calibre weapons, such as 40mm Bofors gun.

During the early war period there was a severe shortage of AAA available. Older WWI 3" and modified naval 4.5" guns were deployed alongside those available 3.7" weapons.

The maximum ceiling height of fire at that time was around 11,000m for the 3.7" gun and less for other weapons. As the war progressed improved variants of the 3.7" gun were introduced. From 1942, large 5.25'' weapons were brought into service. These had significantly improved ceiling heights of fire reaching over 18,000m.

The LAA batteries were intended to engage fast, low flying aircraft and were typically deployed around airfields or strategic installations. These batteries were mobile and could be moved to new positions with relative ease when required. The most numerous of these were the 40mm Bofors gun, which could fire up to 120 x 40mm HE shells per minute to over 1,800m.

The HAA projectiles were high explosive shells, usually fitted with a time delay or a barometric pressure fuze to make them explode at a pre-determined height. If they failed to explode or strike an aircraft they would eventually descend back to earth. Details of the most commonly deployed WWII AAA projectiles are shown below:

Gun type	Calibre	Shell Weight	Shell Dimensions
3.0 Inch	76mm	7.3kg	76mm x 356mm
3.7 Inch	94mm	12.7kg	94mm x 438mm
4.5 Inch	114mm	24.7kg	114mm x 578mm
40mm	40mm	0.9kg	40mm x 311mm

Although the larger unexploded projectiles could enter beneath the ground surface, they did not have a great penetration ability and are therefore likely to be found close to WWII ground level. Frequently, these shells are sometimes mistakenly identified as small German air-delivered bombs but are differentiated by the copper driving band found in front of the base. If encountered, the high explosive fill and fragmentation hazard of these items of UXO would present a significant risk.
The smaller 40mm projectiles are similar in appearance and effect to SAA and, although still dangerous, present a lower hazard due to its decreased explosive content. They are still dangerous because they were fitted with an impact initiated fuze, which was also a spin-decay self-destruct mechanism.

Numerous unexploded AAA shells were recovered during and following WWII and are still occasionally encountered on sites today.

The closest recorded HAA battery to the site was situated approximately 2.6km north in the vicinity of Cheetham Hill. It should be noted that the positions of mobile LAA gun batteries were generally not well recorded, if at all.

Illustrations of Anti-Aircraft artillery, projectiles and rockets are presented at **Annex N**.

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15.4. Evaluation of Allied Ordnance Risk

1st Line Defence has considered the following potential sources of Allied ordnance contamination:

Sources of Contamination	Conclusion
Military Camps	1st Line Defence could find no evidence of a military camp within the site.
Anti-Aircraft Defences	1st Line Defence could find no evidence of Anti-Aircraft defences in the site proximity.
Home Guard Activity	Evidence of Home Guard training areas and activities is difficult to obtain. 1st Line Defence has no evidence of any Home Guard activities on the site.
Defensive Positions	There is no evidence of any defensive structures in the vicinity of the site.
Training or firing ranges	No evidence of these could be found.
Defensive Minefields	No evidence of these could be found.
Ordnance Manufacture	No evidence of ordnance manufacture could be found.
Military Related Airfields	The site was not situated within the vicinity of a military airfield.
Explosive Ordnance Clearance Tasks	1st Line Defence holds no records of EOC operations on the site.

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16. Ordnance Clearance and Post-WWII Ground Works

16.1. General

It is important to consider the extent to which any explosive ordnance clearance (EOC) activities or extensive ground works have occurred on site. This may indicate previous ordnance contamination or reduce the risk that ordnance remains undiscovered.

16.2. UXO Clearance

1st Line Defence has no evidence that any official ordnance clearance operations have taken place on site. Note however that we have not received confirmation of this fact from 33 EOD Regiment.

16.3. Post war Redevelopment

Development has taken place on site post-war. The structures that remained on the western half of the site immediately following the war were demolished sometime before 1962 to make way for a technology college. In later years all structures were demolished and Chandos Hall was built along with another structure.

The development of any hard standing ground would have involved minimal excavation work. Where this development has taken place the risk of encountering shallow buried UXO, especially 1kg incendiaries and anti-aircraft projectiles will have been partly mitigated.

Construction of the structures on site will have most likely required some deeper foundations. The risk from deep-buried unexploded bombs is only considered mitigated at locations where post war piling or deep foundations have taken place.

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17. 1st Line Defence Risk Assessment

17.1. Risk Assessment Stages

Taking into account the quality of the historical evidence, the assessment of the overall risk from unexploded ordnance is based on the following five considerations:

1. That the site was contaminated with unexploded ordnance.
2. That unexploded ordnance remains on site.
3. That such items will be encountered during the proposed works.
4. That ordnance may be initiated by the works operations.
5. The consequences of encountering or initiating ordnance.

UXO Risk Assessment	
Quality of the Historical Record	The research has evaluated pre- and post-WWII Ordnance Survey maps, GOAD Fire Insurance mapping, WWI maps of air raids, Luftwaffe target imagery, Manchester Blitz bomb mapping, an interactive Manchester bomb map, high resolution post-war RAF aerial photography and comparative bombing statistics. The record sets available are of generally good quality. However, overall the quality of the historical record is poor due to its limited resources.
The Risk that the Site was Contaminated with UXO	1st Line Defence has assessed that there is a **Low Risk** that items of unexploded German air-delivered ordnance could have fallen unrecorded across the majority of the site area, with a **Medium Risk** in the north-west of the site. • The County Borough of Manchester was subject to a **Moderate** density of bombing with 27.1 bombs recorded per 1,000 acres. Manchester bomb plot and damage mapping indicates the presence of bombing incidents in the surrounding area of the proposed site, but none within the site boundary. However, the mapping only covers raids in 1940 so does not record any bombs which fell from 1941 to 1944. Furthermore, no written bomb incident records are available for Manchester. It is understood from the local archive that they were destroyed during/post-war. It has therefore not been possible to ascertain with certainly whether or not the site was bombed. • At the start of the war, the site was almost entirely occupied by structures of a residential and commercial nature. Across the majority of the site, it is considered that ground cover should have been such that evidence of UXBs should have been noted and reported. However, an area of clearance is noted in the north-eastern corner of the site. It is thought possible that this was as a result of a bomb strike/fire damage. If rubble and debris was present in this area, there is a risk that evidence of UXO could easily have been overlooked. UXBs falling into 'bomb sites' was one of the most common scenarios for this going unnoticed and unrecorded. • The proposed site was a housing and commercial entity. Should the site have suffered no damage throughout the war, it is anticipated that access levels would have been regular and frequent, and that post-raid checks for evidence of UXO would have been undertaken. Of concern is the north-eastern corner of the site where an area of cleared housing is noted post-war. It is not likely that access was reduced across the entirety of the site. However it cannot be discounted that potential bomb damage occurred in the north-eastern corner therefore lowering access levels and meaning UXO could have potentially fallen unnoticed. • It is a distinct possibility that damage may have occurred on site due to the area of cleared housing in the north-eastern corner in post-war photography. If rubble

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	and debris were present in this area, there is a risk that evidence of UXO could easily been unnoticed. The rest of the site appears to have survived the war intact. • Given that the majority of the site appears to have survived the war, shows no signs of damage and likely accessed frequently, this part of the site has been given a **Low Risk**. The area within the north-west of the site is shown as cleared on post-war aerial photography. Given the poor quality of the record set for Manchester, it has not proved possible to prove that this clearance was not due to bombing. Thus, this area, with a small buffer to account for the 'J-curve' effect, has been given a **Medium Risk**.
The Risk that UXO Remains on Site	Post-war development has occurred on site – between the 1942 and 1962 GOAD mapping editions the majority of the structures within the site footprint were demolished, leaving only a handful of structures in the western half of the site, with a *College of Technology* erected in place. More development took place in later years with the college being demolished and Chandos Hall erected in its place, along with another structure constructed in the west of the site. The risk of UXO remaining is considered to have been mitigated at the location of and down to the depth of post-war foundations and excavations.
The Risk that UXO may be Encountered during the Works	The most likely scenarios under which items of UXO could be encountered during construction works is during piling, drilling operations or bulk excavations for basement levels. The risk of encountering will depend on the extent of the works, such as the numbers of boreholes/piles (if required) and the volume of the excavations. An air-dropped bomb may come to rest at any depth between just below ground level and its maximum penetration depth. Consequently there is also a chance that such an item could be encountered during shallow excavations (for services or site investigations) into the original WWII ground level.
The Risk that UXO may be Initiated	The risk that UXO could be initiated if encountered will depend on its condition, how it is found, and the energy with which it is struck. Certain construction activities such as piling and percussive drilling pose a greater risk of initiating UXO in comparison to machine excavation, where the force of impact is generally lower and the item more likely to be observed. If a UXB is struck by piling or percussive drilling equipment, the force of the impact can be sufficient to detonate the main high explosive charge irrespective of the condition of the fuze or other components. Violent vibration might also impart enough energy to a chemical detonator for it to function, and there is a potential risk that clockwork fuzes could restart. If piling works are planned at Chandos Hall, there is a potential risk that a UXB, if present, could be initiated. The risk of initiation is assessed to be lower for any shallow intrusive works planned.
The Consequences of Encountering or Initiating Ordnance	The repercussions of the inadvertent detonation of UXO during intrusive ground works are potentially severe, both in terms of human and financial cost. A serious risk to life and limb, damage to plant and total site shutdown during follow-up investigations are potential outcomes. If appropriate risk mitigation measures are put in place, the chances of initiating an item of UXO during ground works is comparatively low. The primary consequence of encounter of UXO will therefore be economic. This would be particularly notable in the case of a high-profile site and sites where it is necessary to evacuate the public from the surrounding area. A site may be closed from a few hours to a week with potentially significant cost in lost time. It should be noted that even the discovery of suspected or possible item of UXO during intrusive works (if handled solely through the authorities), may also involve loss of

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	production. Generally, the first action of the police in most cases will be to isolate the locale whilst awaiting military assistance, even if this turns out to have been unnecessary.

17.2. Assessed Risk Level

Taking into consideration the findings of this study, 1st Line Defence has assessed that there is a **Low-Medium Risk** from unexploded ordnance at the site of proposed works.

Low Risk

This area of the site was occupied by undamaged structures and showed no obvious signs of ground disturbance. It is considered likely that this property and its surrounds would have been accessed throughout WWII and that checks would have been made for evidence of UXO.

Ordnance Type	Risk Level			
	Negligible	Low	Medium	High
German Unexploded Bombs		✓		
German 1kg Incendiary Bombs		✓		
Anti-Aircraft Artillery Projectiles		✓		
Allied Military Land Service Ammunition (Grenades, Mortars etc.)	✓			

Medium Risk

The small area of cleared structures is a cause for concern, as there is no evidence to suggest it was not a bomb strike that caused the clearance. Therefore this area has been given a medium risk due to the potential for conditions to have been such in this area that evidence of a UXB could easily have been overlooked.

Ordnance Type	Risk Level			
	Negligible	Low	Medium	High
German Unexploded Bombs			✓	
German 1kg Incendiary Bombs			✓	
Anti-Aircraft Artillery Projectiles			✓	
Allied Military Land Service Ammunition (Grenades, Mortars etc.)	✓			

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18. Proposed Risk Mitigation Methodology

18.1. General

The following risk mitigation measures are recommended to support the proposed works at Chandos Hall:

Type of Work	Recommended Mitigation Measure
All Works	• **Site Specific Unexploded Ordnance Awareness Briefings to all personnel conducting intrusive works.** As a minimum precaution, all personnel working on the site should be briefed on the basic identification of UXO and what to do in the event that a suspect item is encountered. This should in the first instance be undertaken by a UXO Specialist. Posters and information on the risk of UXO can be held in the site office for reference.
Shallow Intrusive Works/Open Excavations in Medium Risk Areas	• **Unexploded Ordnance (UXO) Specialist Presence on Site to support shallow intrusive works:** When on site the role of the UXO Specialist would include • Monitoring works using visual recognition and instrumentation, including immediate response to reports of suspicious objects or suspected items of ordnance that have been recovered by the ground workers on site. • Providing UXO awareness briefings to any staff that have not already received them and advise staff of the need to modify working practices to take account of the ordnance risk. • To aid Incident Management which would involve liaison with the local authorities and Police should ordnance be identified and present an explosive hazard. UXO Safety and Awareness briefings will be provided to all ground personnel by the UXO Specialist once on site.
Borehole/Piles in Medium Risk Areas	• **Intrusive Magnetometer Survey of all borehole and pile locations down to a maximum bomb penetration depth:** 1st Line Defence can deploy a range of intrusive magnetometer techniques to clear pile locations. The appropriate technique is influenced by a number of factors, but most importantly the site's ground conditions. The appropriate survey methodology would be confirmed once the enabling works have been completed.

In making this assessment and recommending these risk mitigation measures, if known, the proposed works outlined in the 'Scope of the Proposed Works' section were considered. Should the planned works be modified or additional intrusive engineering works be considered, 1st Line Defence should be consulted to see if a re-assessment of the risk or mitigation recommendations is necessary.

1st Line Defence Limited **14th July 2017**

This Report has been produced in compliance with the Construction Industry Research and Information Association (CIRIA) C681 guidelines for the writing of Detailed UXO Risk Assessments.

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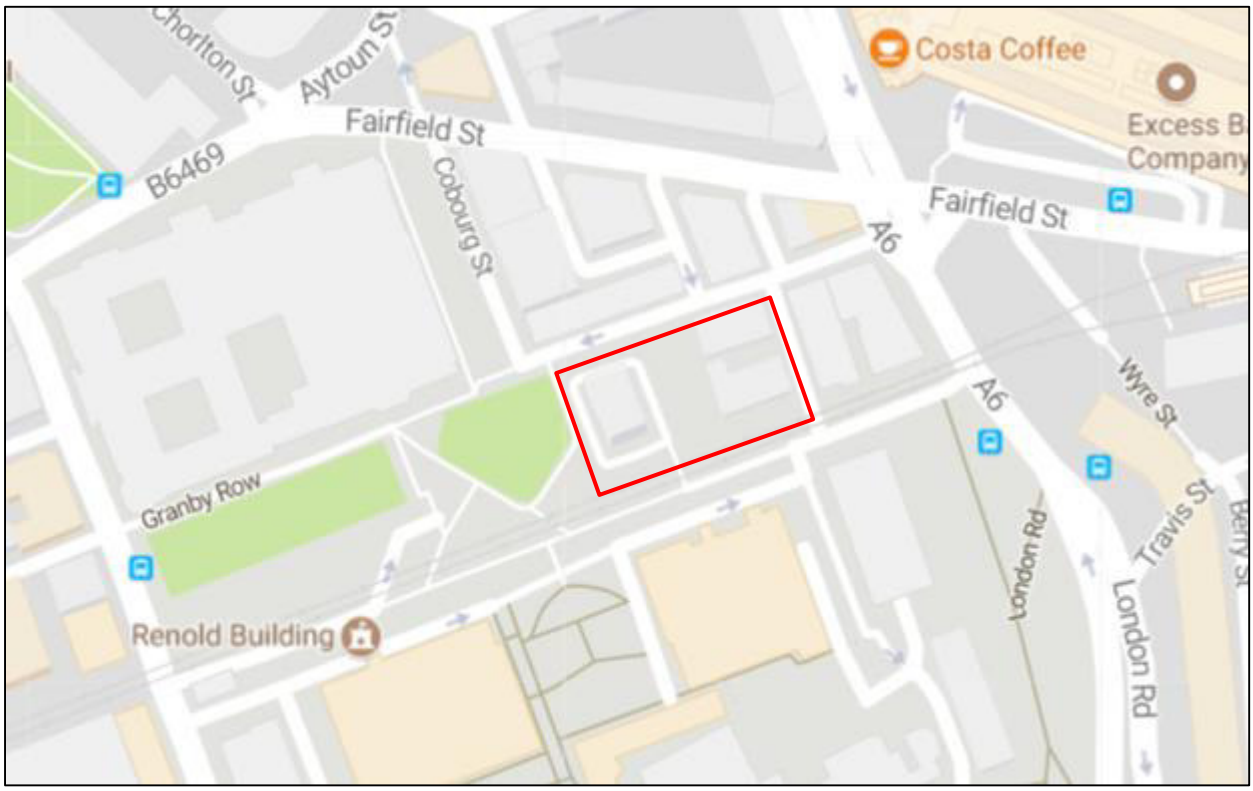
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Site Location Maps

Annex: **A**





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Hertfordshire. EN11 0EX
Email: info@1stlinedefence.co.uk
Tel: +44 (0)1992 245 020

Client: **Curtins**

Approximate site boundary

N

Project: **Chandos Hall, Manchester**

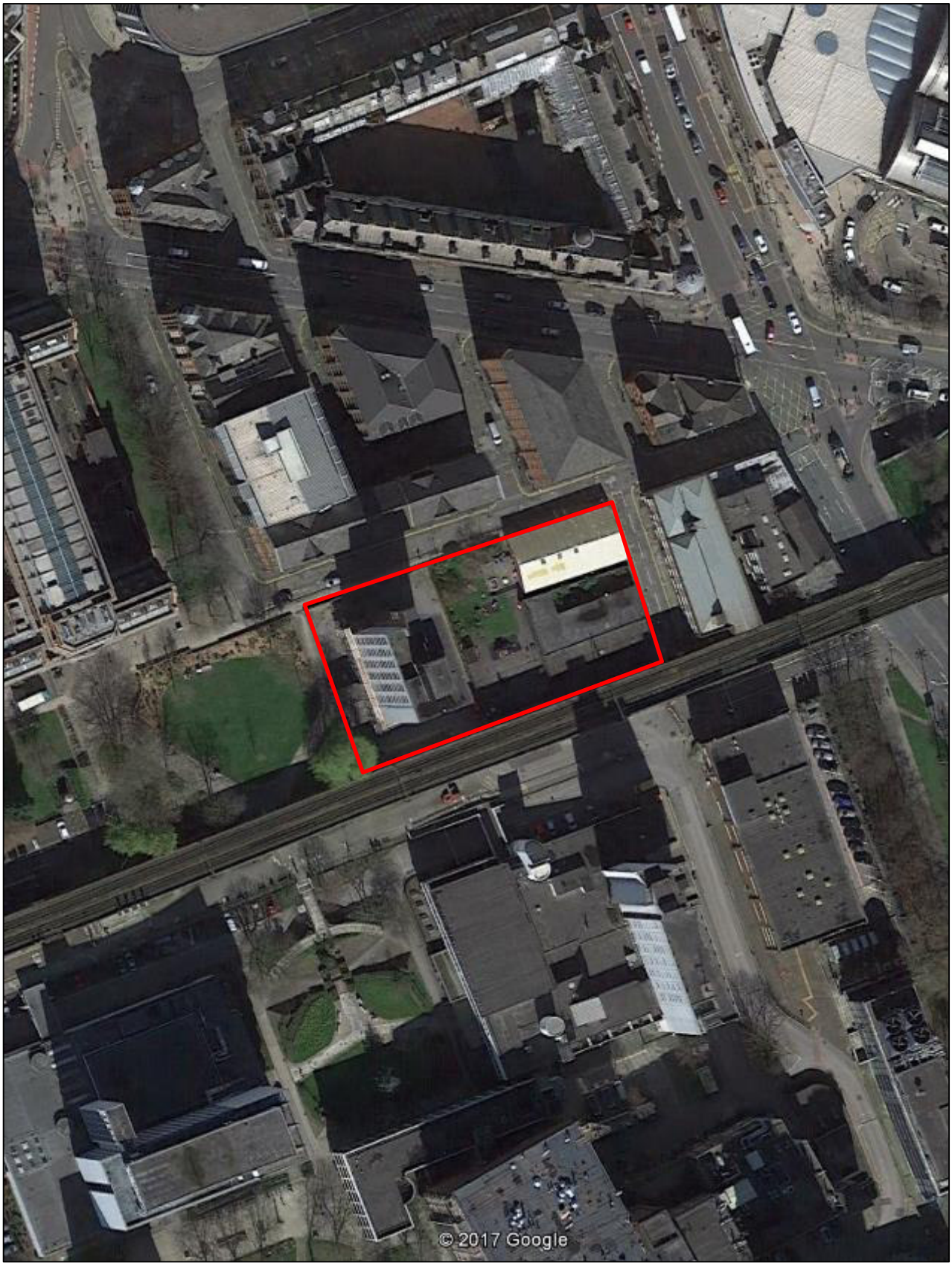
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Recent Aerial Photography

Annex: **B**



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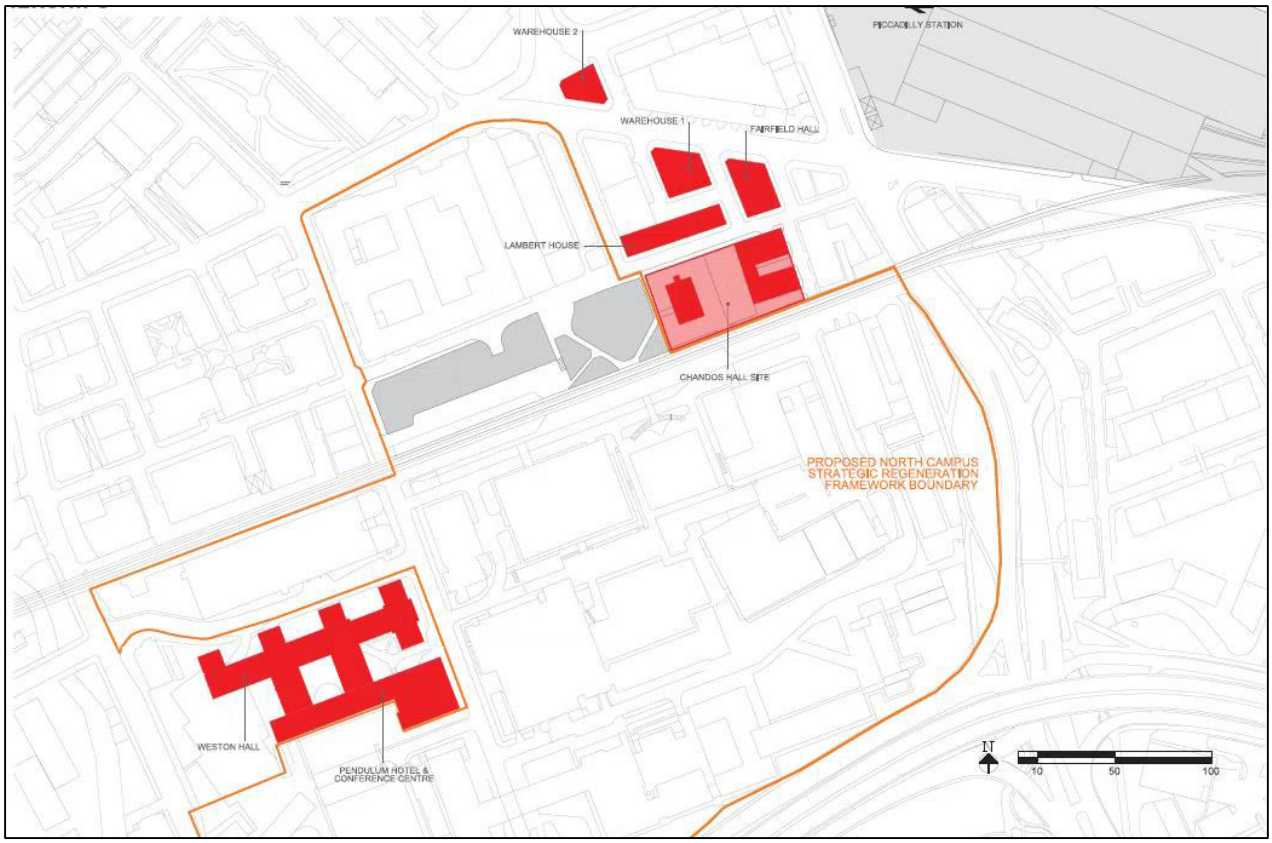
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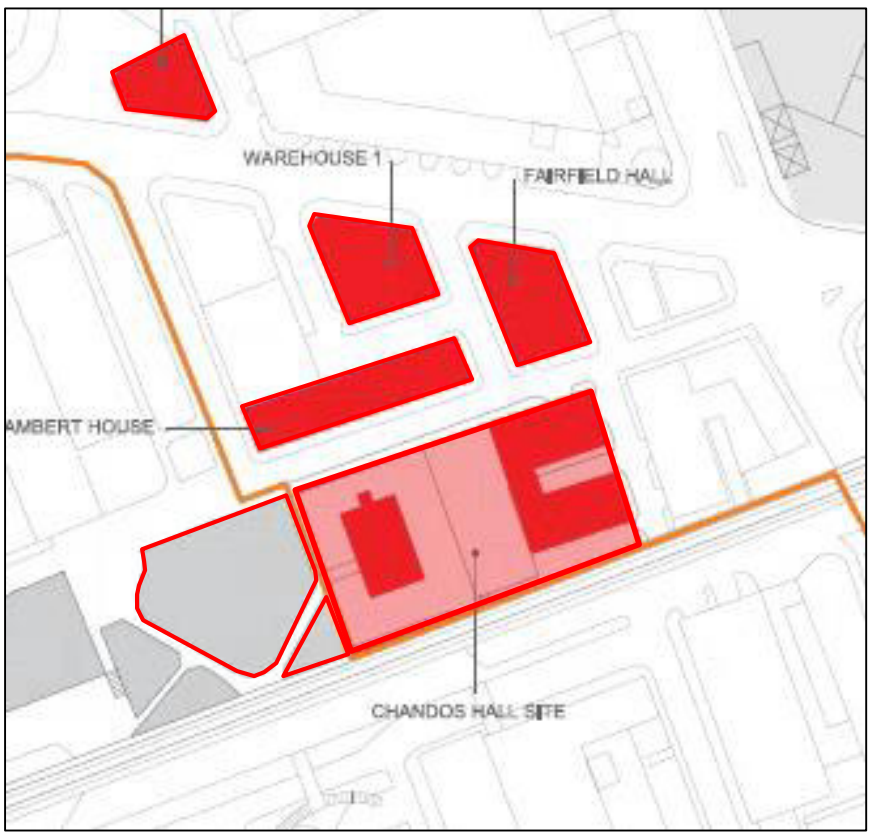
Source: Google Earth ™ Mapping Services

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Client Provided Site Plan

Annex: **C**





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Approximate site boundary

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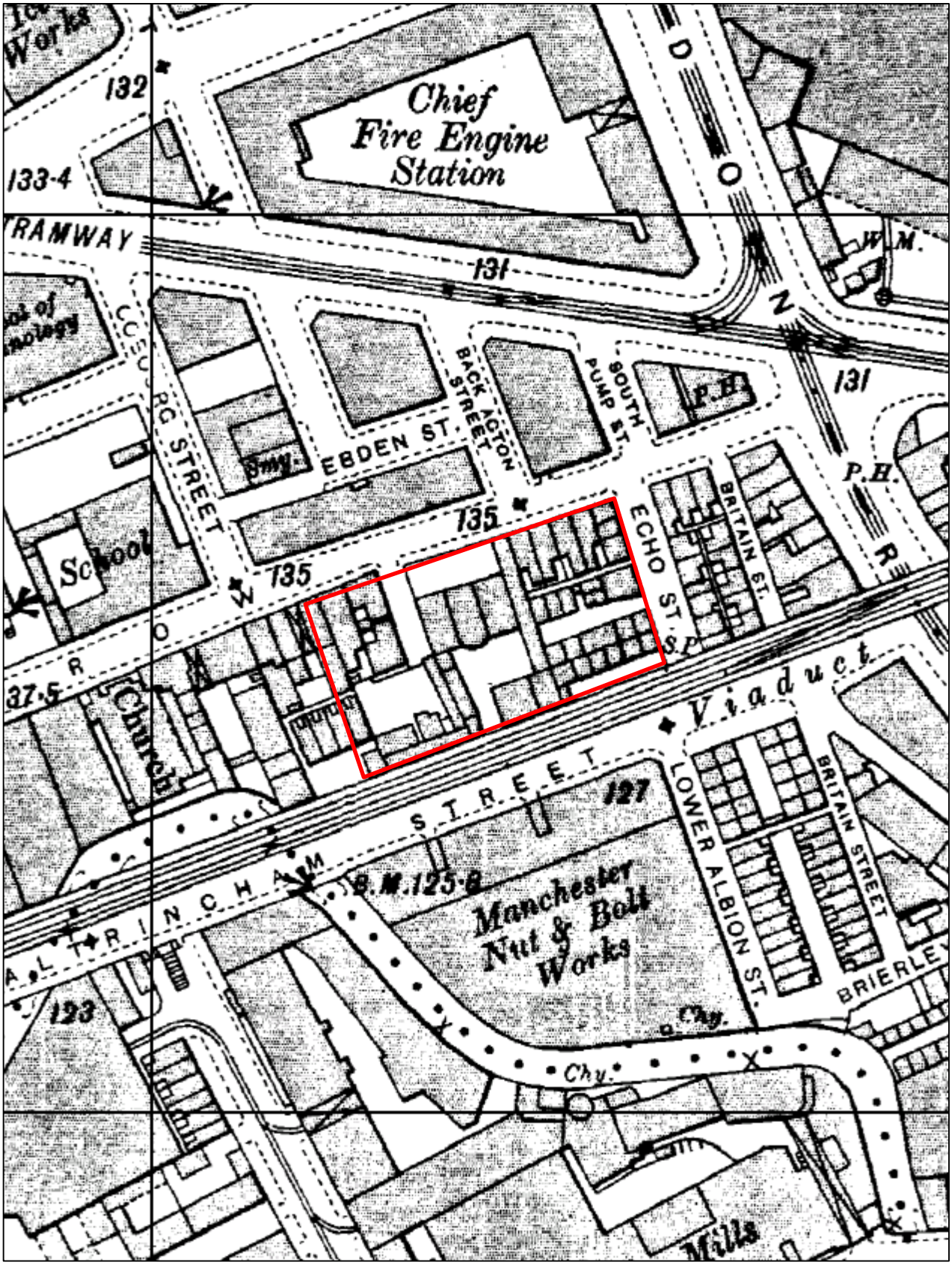
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1908 Historical Map

Annex: **D1**



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Source: Landmark Maps

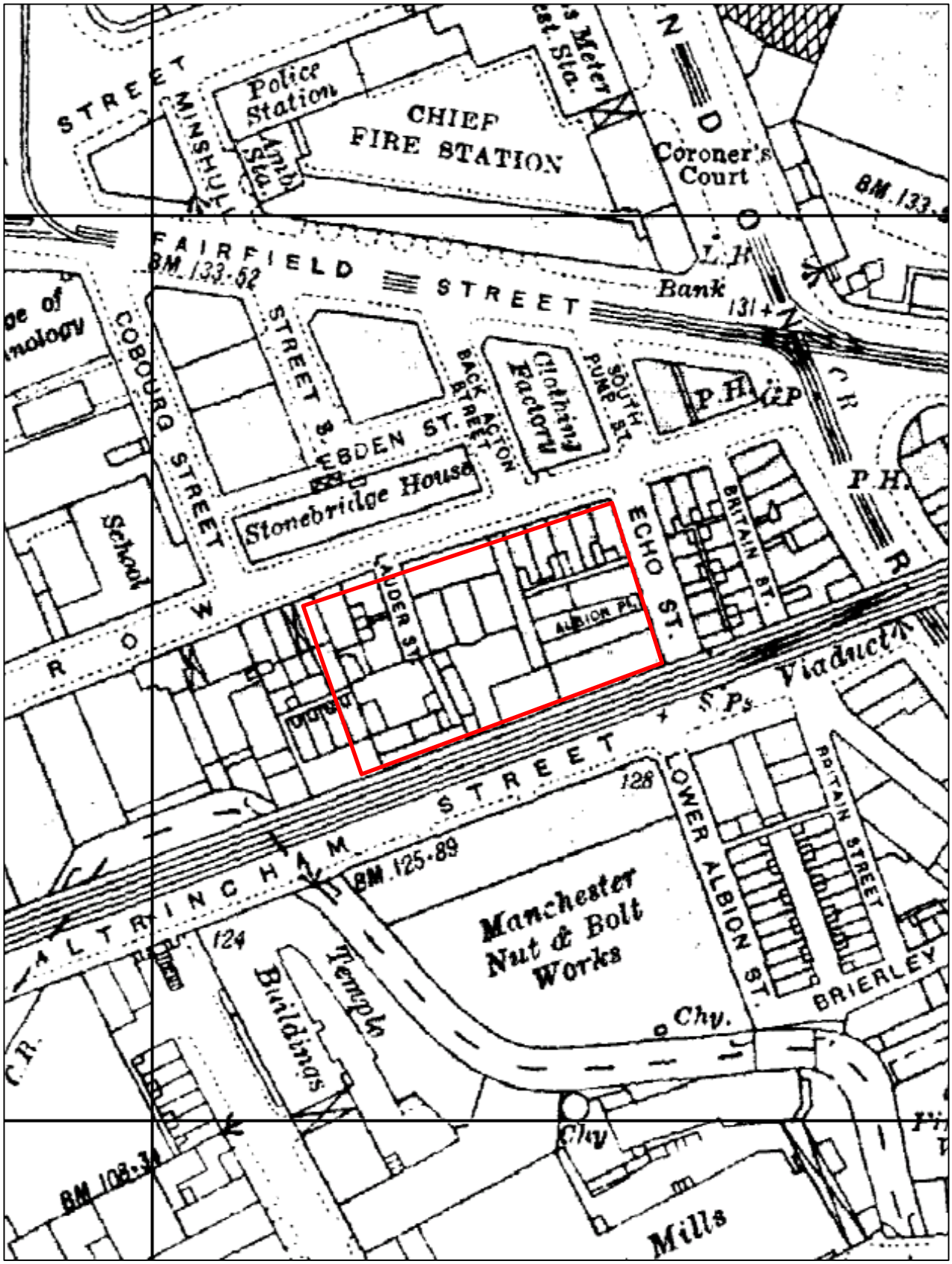
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1922 Historical Map

Annex: **D2**



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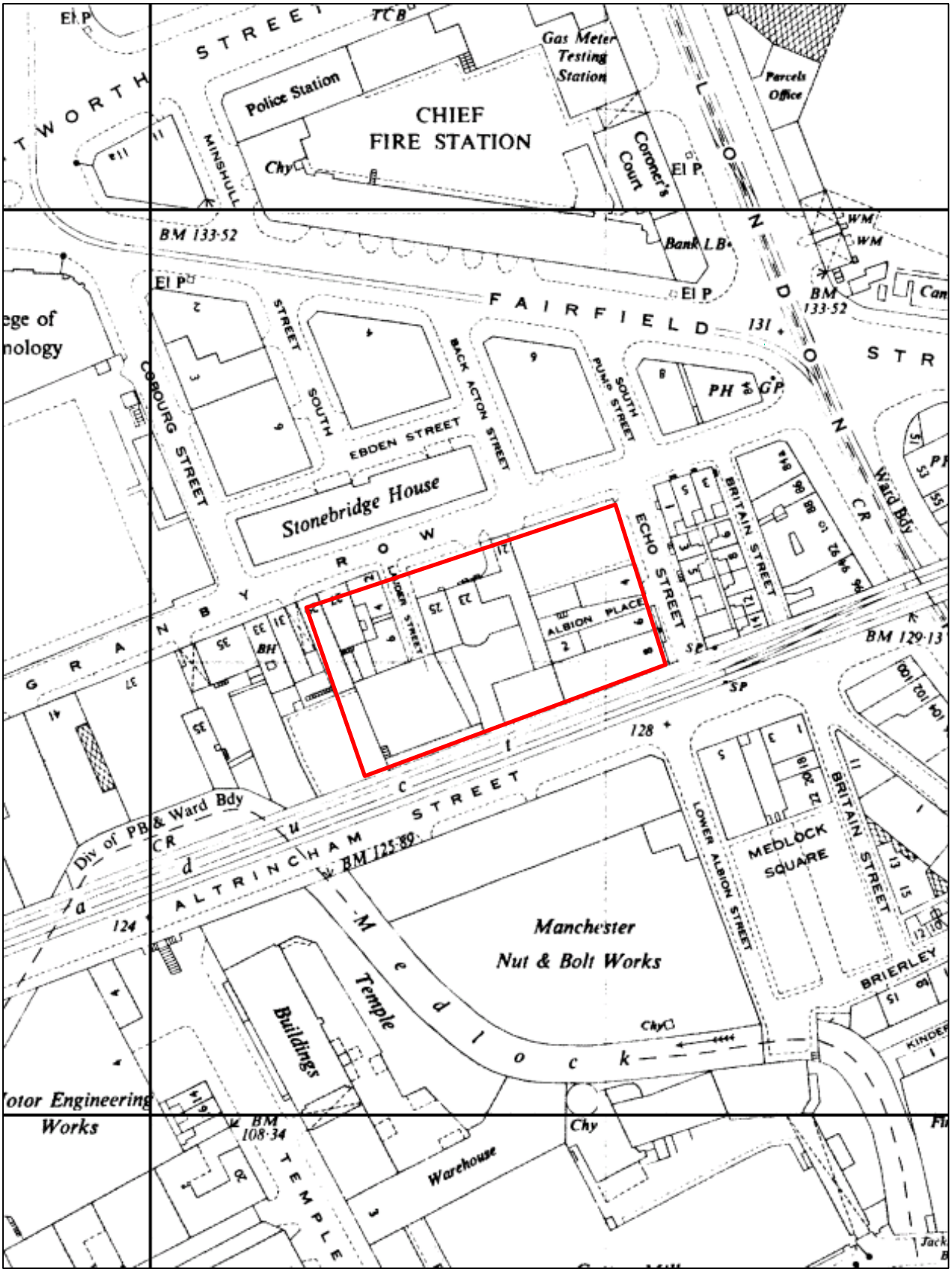
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Client:	**Curtins**	**Approximate site boundary**	N
Project:	**Chandos Hall, Manchester**		
Ref:	**DA4989-00**	Source: Landmark Maps	

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1948 Historical Map

Annex: D3



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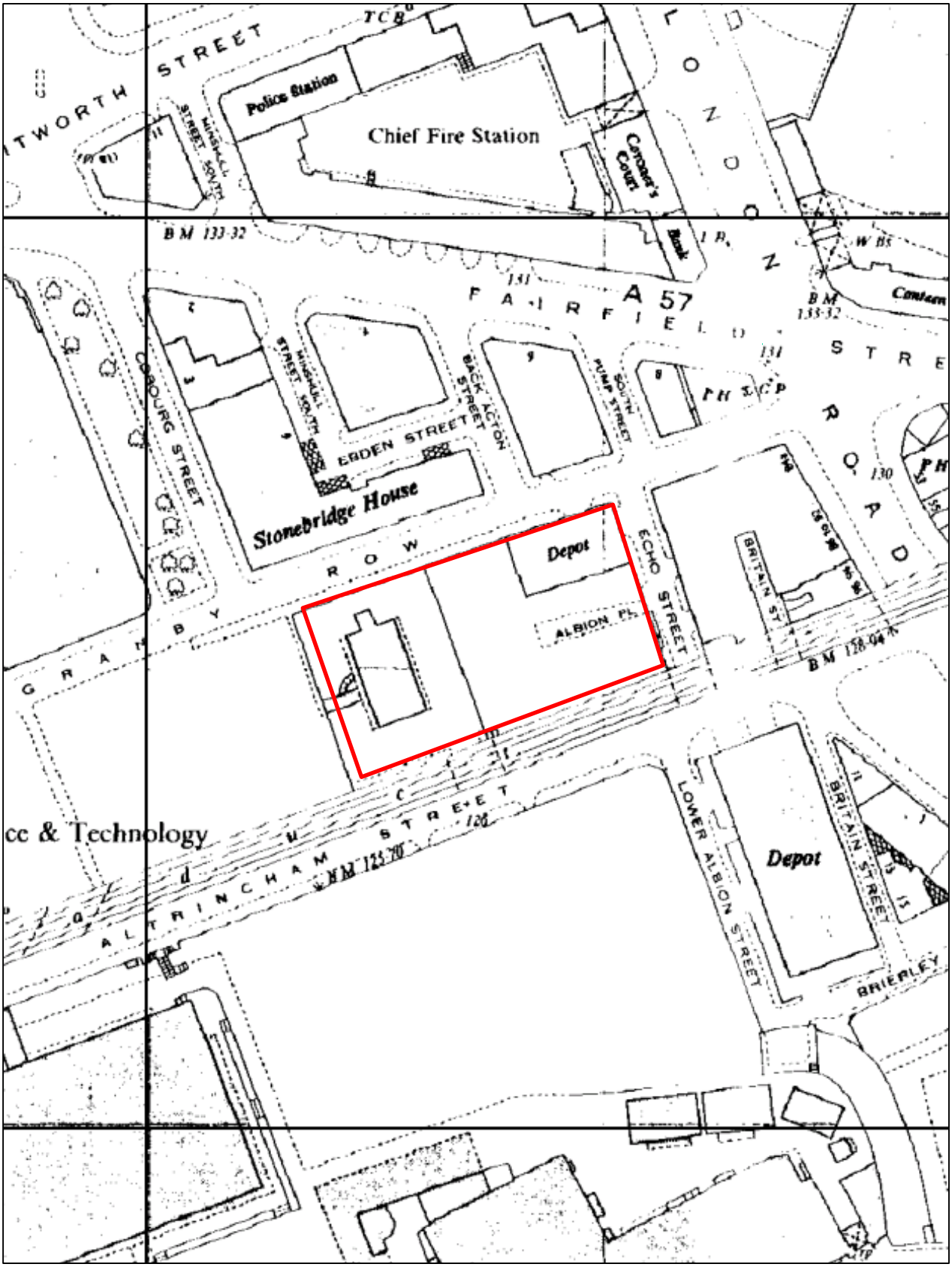
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1965 Historical Map

Annex: **D4**



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1942 GOAD Fire Insurance Mapping

Annex: E1

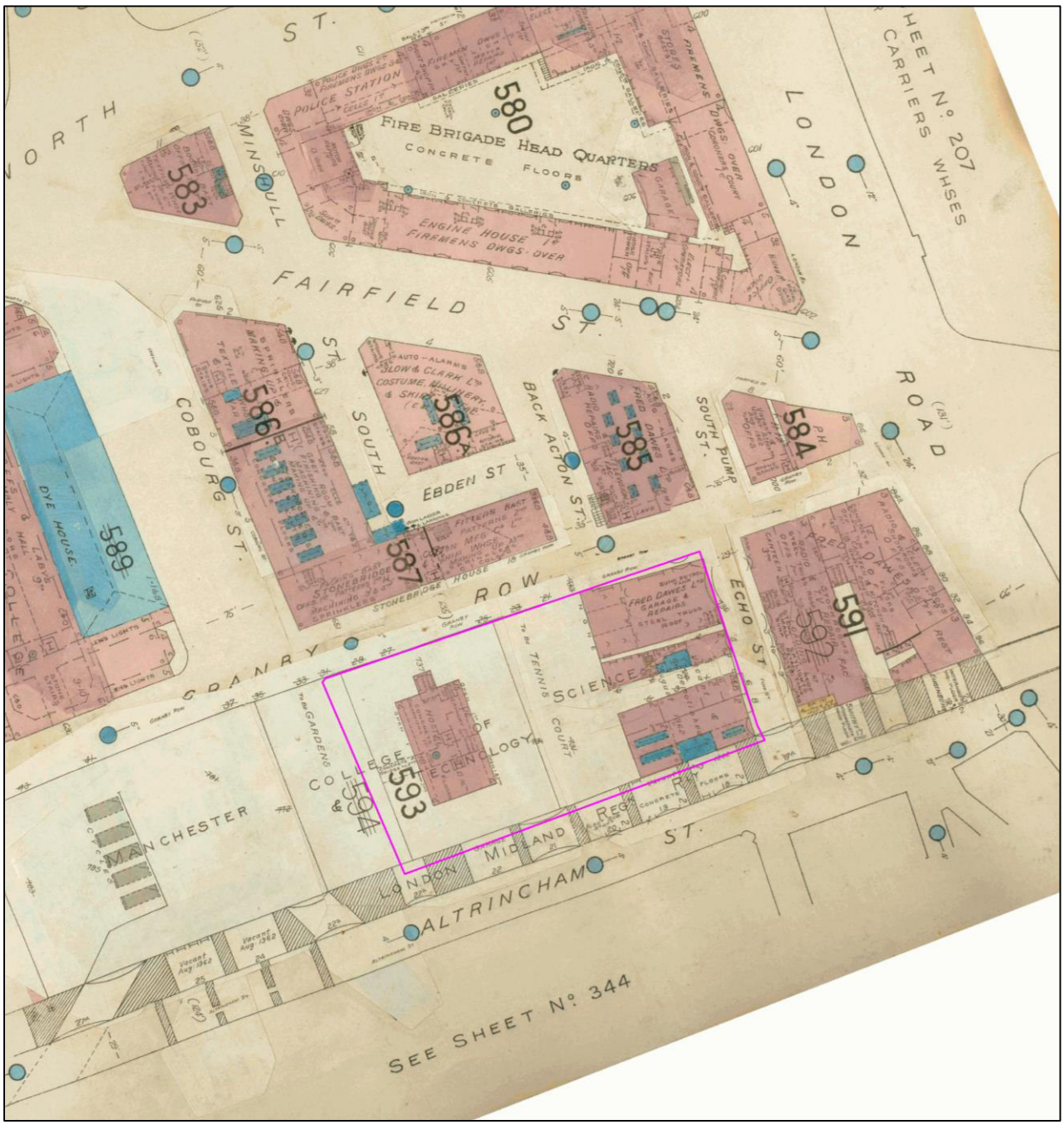


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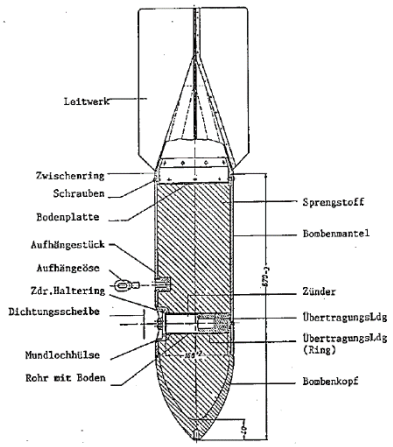
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Examples of German Air-Delivered Ordnance

SC 50kg High Explosive Bomb

Bomb Weight	40-54kg (88-119lb)
Explosive Weight	c25kg (55lb)
Fuze Type	Impact fuze/electro-mechanical time delay fuze
Bomb Dimensions	1,090 x 280mm (42.9 x 11.0in)
Body Diameter	200mm (7.87in)
Use	Against lightly damageable materials, hangars, railway rolling stock, ammunition depots, light bridges and buildings up to three stories.
Remarks	The smallest and most common conventional German bomb. Nearly 70% of bombs dropped on the UK were 50kg.

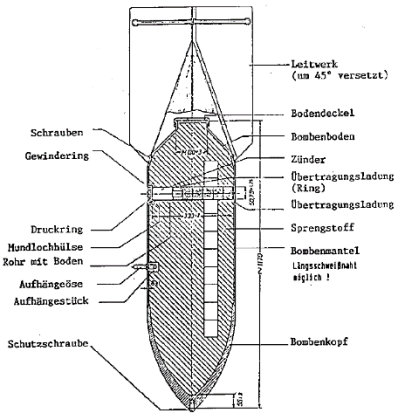






SC 250kg High Explosive Bomb

Bomb Weight	245-256kg (540-564lb)
Explosive Weight	125-130kg (276-287lb)
Fuze Type	Electrical impact/mechanical time delay fuze.
Bomb Dimensions	1640 x 512mm (64.57 x 20.16in)
Body Diameter	368mm (14.5in)
Use	Against railway installations, embankments, flyovers, underpasses, large buildings and below-ground installations.
Remarks	It could be carried by almost all German bomber aircraft, and was used to notable effect by the Junkers Ju-87 Stuka (Sturzkampfflugzeug or dive-bomber).



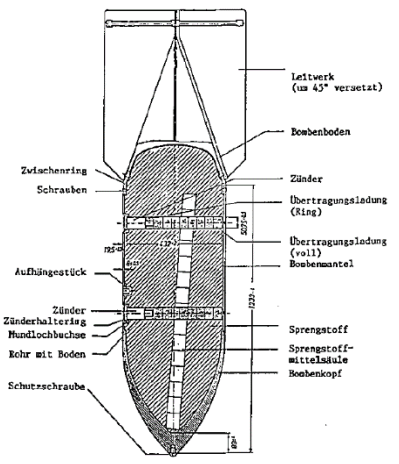


SC250 bomb being loaded onto German bomber

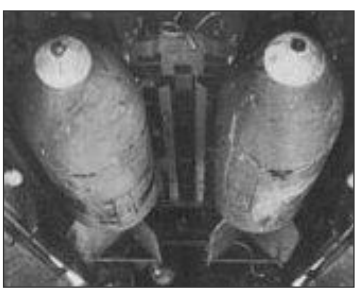


SC 500kg High Explosive Bomb

Bomb Weight	480-520kg (1,058-1,146lb)
Explosive Weight	250-260kg (551-573lb)
Fuze Type	Electrical impact/mechanical time delay fuze.
Bomb Dimensions	1957 x 640mm (77 x 25.2in)
Body Diameter	470mm (18.5in)
Use	Against fixed airfield installations, hangars, assembly halls, flyovers, underpasses, high-rise buildings and below-ground installations.
Remarks	40/60 or 50/50 Amatol TNT, trialene. Bombs recovered with Trialen filling have cylindrical paper wrapped pellets 1-15/16 in. in length and diameter forming







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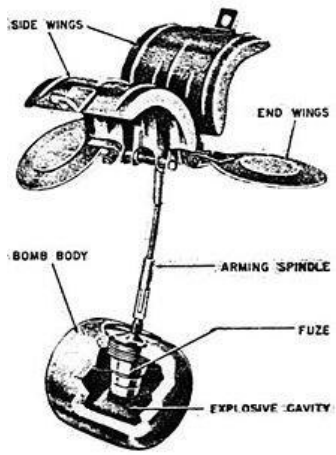
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Examples of German Air-Delivered Ordnance

SD2 Anti-Personnel 'Butterfly Bomb'

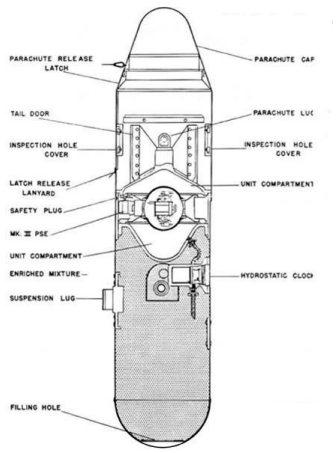
Bomb Weight	2kg (4.41lb)
Explosive Weight	7.5oz (225 grams) of Amatol surrounded by a layer of bituminous composition.
Fuze Type	41 fuze (time) , 67 fuze (clockwork time delay) or 70 fuze (anti-handling device)
Body Diameter	3in (7.62 cm) diameter, 3.1in (7.874) long
Use	Designed as an anti-personnel/ fragmentation weapon. They were delivered by air, being dropped in containers of 23-144 sub-munitions that opened at a predetermined height, thus scattering the bombs.
Remarks	Very rare. First used against Ipswich in 1940, but were also dropped on Kingston upon Hull, Grimsby and Cleethorpes in June 1943, amongst various other targets in UK. As the bombs fell the outer case flicked open by springs which caused four light metal drogues with a protruding 5 inch steel cable to deploy in the form of a parachute & wind vane which armed the device as it span.

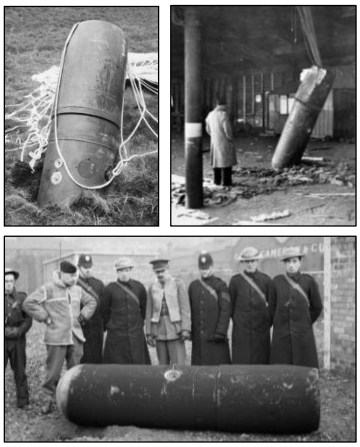




Parachute Mine (Luftmine B / LMB)

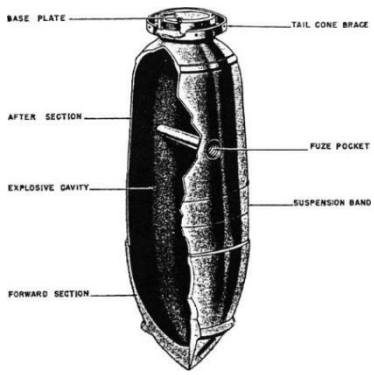
Bomb Weight	Approx. 990kg (2176lb)
Explosive Weight	Approx. 705kg (1,554lb)
Fuze Type	Impact/ Time delay / hydrostatic pressure fuze
Dimensions	2.64m x 0.64m (3.04m with parachute housing)
Use	Against civilian, military and industrial targets. Used as blast bombs and designed to detonate above ground level to maximise damage to a wider area.
Remarks	Deployed a parachute when dropped in order to control its descent. Had the potential to destroy a whole street of housing in a 100m radius.





SC 1000kg

Bomb Weight	993-1027kg (2,189-2,264lb)
Explosive Weight	530-620kg (1168-1367lb)
Fuze Type	Electrical impact/mechanical time delay fuze.
Filling	Mixture of 40% amatol and 60% TNT, but when used as an anti-shipping bomb it was filled with Trialen 105, a mixture of 15% RDX, 70% TNT and 15% aluminium powder.
Bomb Dimensions	2800 x 654mm (110 x 25.8in)
Body Diameter	654mm (18.5in)
Use	SC type bombs are General Purpose Bombs used primarily for general demolition work. Constructed of parallel walls with comparatively heavy noses. They are usually of three piece welded construction





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Project: **Chandos Hall, Manchester**

Ref: **DA4989-00**

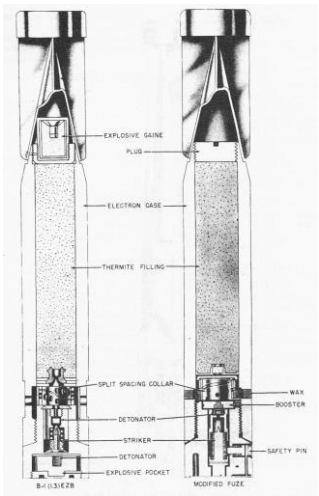
Source: Various sources

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German Incendiary Bombs

1kg Incendiary Bomb

Bomb Weight	1.0 and 1.3kg (2.2 and 2.9lb)
Explosive Weight	680g (1.3lb) Thermite 8-15gm Explosive Nitropenta
Fuze Type	Impact fuze
Bomb Dimensions	350 x 50mm (13.8 x 1.97in)
Body Diameter	50mm (1.97in)
Use	As incendiary – dropped in clusters against towns and industrial complexes
Remarks	Magnesium alloy case. Sometimes fitted with high explosive charge. The body is a cylindrical alloy casting threaded internally at the nose to receive the fuze holder and fuze.

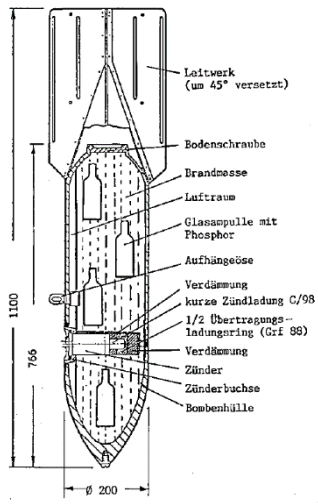


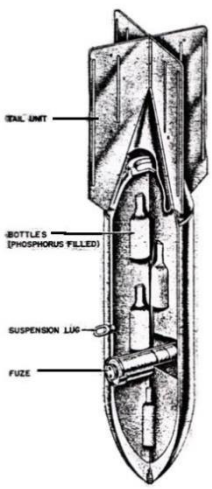




C50 A Incendiary Bomb

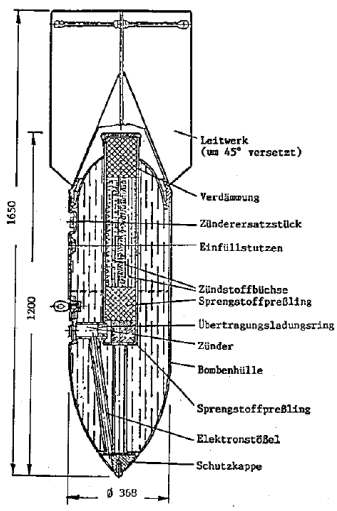
Bomb Weight	c41kg (90.4lb)
Explosive Weight	0.03kg (0.066lb)
Incendiary Filling	12kg (25.5lb) liquid filling with phosphor igniters in glass phials. Benzine 85%; Phosphorus 4%; Pure Rubber 10%
Fuze Type	Electrical impact fuze
Bomb Dimensions	1,100 x 280mm (43.2 x 8in)
Use	Against all targets where an incendiary effect is required
Remarks	Early fill was a phosphorous/carbon disulphide incendiary mixture





Flam C-250 Oil Bomb

Bomb Weight	125kg (276lb)
Explosive Weight	1kg (2.2lb)
Fuze Type	Super-fast electrical impact fuze
Filling	Mixture of 30% petrol and 70% crude oil
Bomb Dimensions	1,650 x 512.2mm (65 x 20.2in)
Body Diameter	368mm (14.5in)
Use	Often used for surprise attacks on ground troops, against troop barracks and industrial installations. Thin casing – not designed for ground penetration





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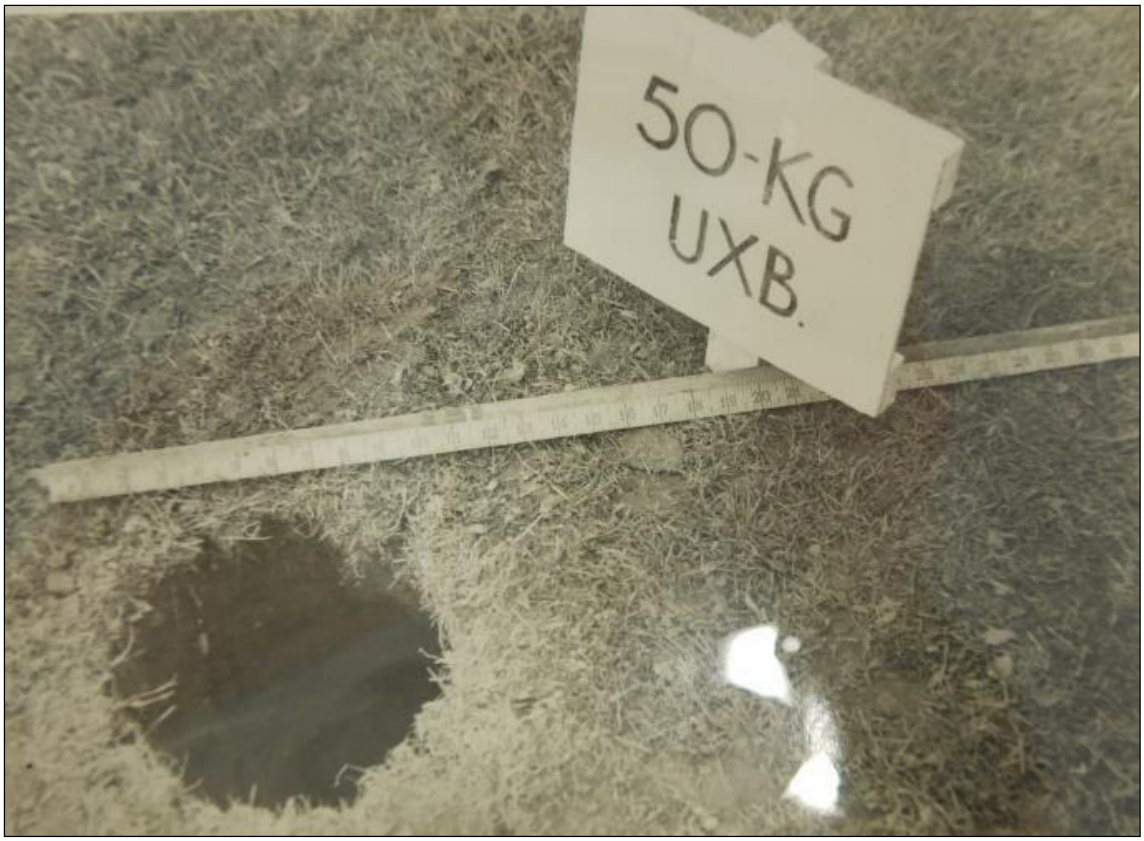
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Unexploded Bomb Entry Hole Example





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Examples of Unexpected Detonation of WWII Bombs

Annex: **H1**

BASF has confirmed that an explosive device, most likely a World War II-era bomb, caused the blast that left one person injured Tuesday at a plant construction site in Germany.

The explosion was reported at BASF's Ludwigshafen toluene diisocyanate (TDI) plant, which recently broke ground for a 300,000 metric tons per year TDI production plant and other construction to expand its facilities.



1st March 2013

BASF is expanding their its Ludwigshafen location by expanding several plants and building a TDI plant, which was the site of an explosion on Tuesday (Feb. 26). One person was injured in the blast, which BASF believes was caused when excavation work detonated a bomb.

Early reports had speculated that excavation work had detonated a bomb from World War II. While the age of the bomb has not been confirmed, BASF has said that an explosive device was detonated.

BASF Provides Some Details

Responding to a request from *PaintSquare News* for more information on Wednesday (Feb. 27), BASF's manager of media relations and corporate communications Europe, Ursula von Stetten, wrote in an email, "So here [are] the facts: The detonation took place at 10:00 a.m. One person was injured; the injury is not serious. He will be kept in the hospital for some days.

"Cause of the detonation was an explosive device, presumably a bomb deriving from the Second World War. The device detonated when grounding work was done. No details on [a] delay [are] available. At the moment, the exact circumstances of the incident are [being] evaluated."

World War II Bomb Explodes on German Motorway

A highway construction worker in Germany accidentally struck an unexploded World War II bomb, causing an explosion which killed him and wrecked several passing cars.

Tweet 0 Recommend 1



23rd October 2006

AP

A cutting machine lies wrecked by the side of the A3 motorway next to a small crater left by the explosion.

A World War II bomb has exploded during construction work on a German highway, killing one worker and injuring several motorists who were driving past, police said.

The worker had been cutting through the road surface near the south-western town of Aschaffenburg when his machine struck the bomb and triggered it. Police said they weren't sure yet what type of bomb it was. "The explosion seems to have been too small for it to have been an aircraft bomb," a police spokesman said.

The A3 Autobahn linking the cities of Frankfurt and Würzburg has been blocked in both directions.

More than 60 years since the end of World War II, construction workers still frequently unearth unexploded bombs and it is not uncommon for whole city districts to be cordoned off and even evacuated while bomb disposal experts defuse them.

Indeed, just last week, some 22,000 people were evacuated from their homes in Hanover when three World War II bombs were discovered.

Allied pilots rained nearly 2 million tons of explosives on Germany during the war. Landmines, hand grenades, mortar bombs and anti-tank devices from the fighting on German soil at the end of the war are also found, and authorities say it will take decades before the country is cleared of duds.

Between 400 and 600 bombs are discovered a year in the state of North Rhine-Westphalia alone, where the heavily industrialized Ruhr region was a major target for Allied bombers.



19th September 2013

WWII bomb injures 17 at Hattingen construction site

Published: 19 Sep 08 16:53 CET

Share +1 0 Tweet 0

Seventeen people were injured on Friday when a construction crew unwittingly detonated a buried World War II-era bomb in Hattingen.

- Liberals grit teeth ahead of May state election (17 Mar 12)
- Nazi death camp guard Demjanjuk dies (17 Mar 12)
- Stupid stunt causes bomb scare chaos (16 Mar 12)

An excavator apparently drove over a 250-kilogramme (550 pound) American bomb, damaging surrounding buildings. Most of the injured suffered auditory trauma from the blast, and the excavator operator suffered injuries to his hands, police in the German state of North Rhine-Westphalia said.

"The hole was astoundingly small for such a large bomb full of so many explosives," Armin Gebhard, head of the Arnsberg department for military ordnance removal, told The Local. "But of course it damaged all the surrounding buildings too. We are really happy it wasn't worse."

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2 June 2010 Last updated at 15:37

Share

World War II bomb kills three in Germany

Three people have been killed and six injured trying to defuse a World War II bomb in central Germany.

Workers building a sports stadium had earlier unearthed the bomb in the town of Goettingen.

It was not immediately clear why the bomb, reportedly weighing 500kg (1,100lb), had detonated.

Unexploded WWII bombs dropped by Allied planes are frequently found in Germany, though it is unusual for them to explode unexpectedly.

A special commission is investigating the causes of the explosion, while prosecutors are considering whether the team leader should face charges of manslaughter through culpable negligence, the BBC's Oana Lungescu reports from Berlin.

The blast happened an hour before the defusing operation was due to start.

Officials said the three men who died were experienced sappers, or combat engineers, who over 20 years had defused up to 700 bombs.

More than 7,000 people were immediately evacuated when the 500kg bomb was found. Several schools, a kindergarten and local companies remain closed.



2nd June 2010

AFP

All the victims were involved in an operation to defuse the bomb



June 2006

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Project: **Chandos Hall, Manchester**

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Source: Various news sources

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Recent Unexploded Bomb Finds, UK

Annex: **H2**

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NEWS

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England Regions London

Bermondsey bomb: World War Two device safely removed

24 March 2015 | London Share



RUPERT FRERE

The bomb measured about 5ft (1.5m) in length

An unexploded World War Two bomb found in south London has been driven away safely under police and Army escort.

The 500lb (250kg) device was found on a building site in Grange Walk, Bermondsey on Monday.

250kg HE bomb found in Bermondsey March 2015

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Bethnal Green WW2 bomb: Experts remove unexploded device

11 August 2015 | London Share



CROWN COPYRIGHT

The MoD said the German WW2 air delivered bomb could have caused "mass destruction" if it had detonated

An unexploded World War Two bomb that prompted the evacuation of 700 people in east London has been made safe and removed by the military.

Families spent the night in a school hall after the 500lb bomb was found in the basement of a building site on Temple Street, in Bethnal Green, on Monday afternoon.

250kg HE bomb found in Bethnal Green, Aug 2016

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England Regions Somerset

Bath WW2 bomb scare: Device defused, police say

13 May 2016 | Somerset Share



EPA

The bomb was found on the site of a former school on Thursday

A 500lb World War Two bomb found on the site of a former school in Bath has been defused and made safe.

250kg HE bomb found in Bath, May 2016

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England Regions London

Wembley WW2 live bomb posed 'risk to life'

22 May 2015 | London Share



SERGEANT RUPERT FRERE RLC

A blast wall was put up around the bomb to minimise damage if it exploded

An unexploded World War Two bomb uncovered by builders near Wembley Stadium posed "a genuine risk to life", the Army has said.

50kg HE bomb found in Wembley, May 2015

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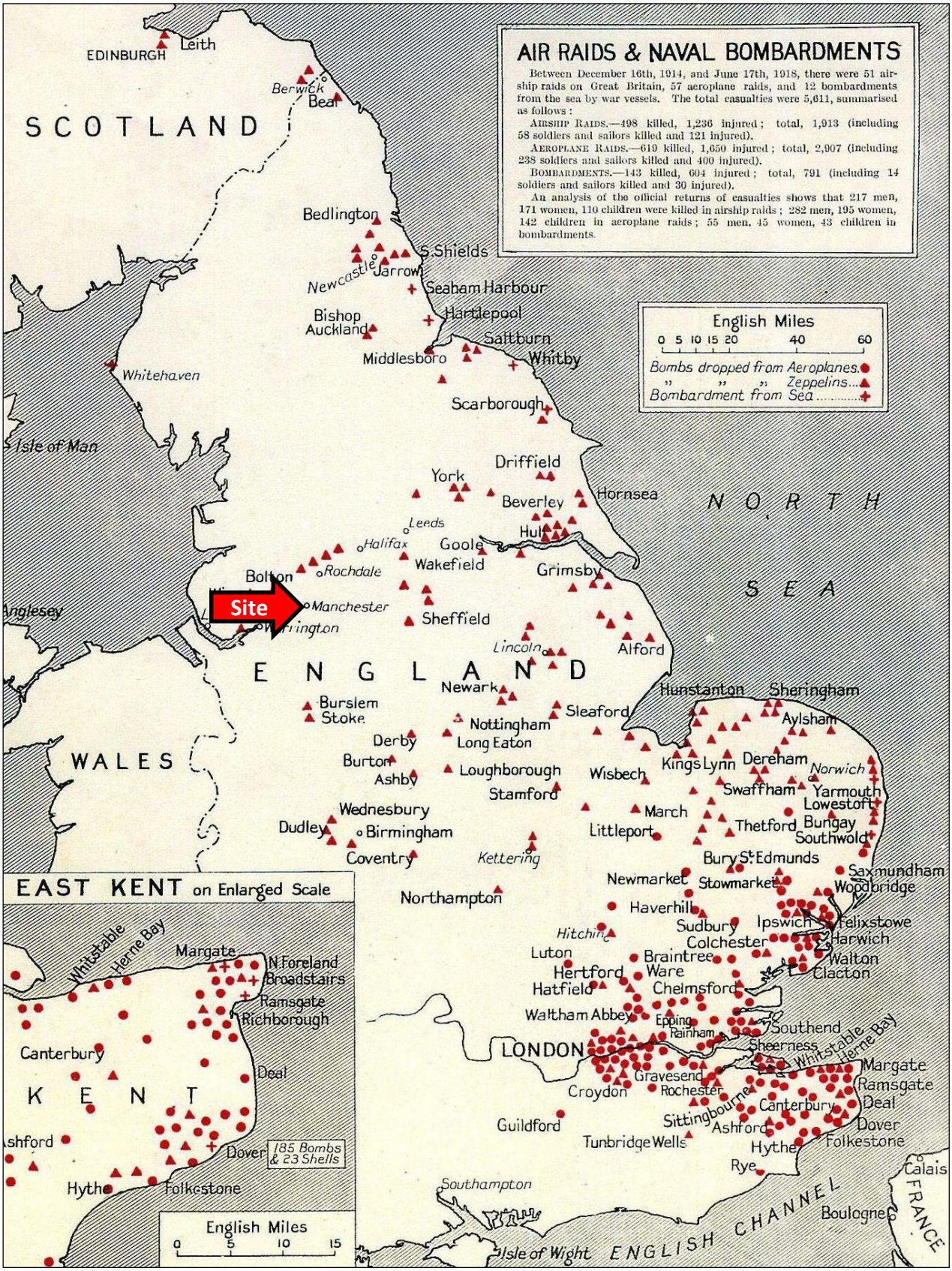
Project: **Chandos Hall, Manchester**

Ref: **DA4989-00** Source: BBC News

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WWI Map of Air Raids and Naval Bombardments

Annex: I



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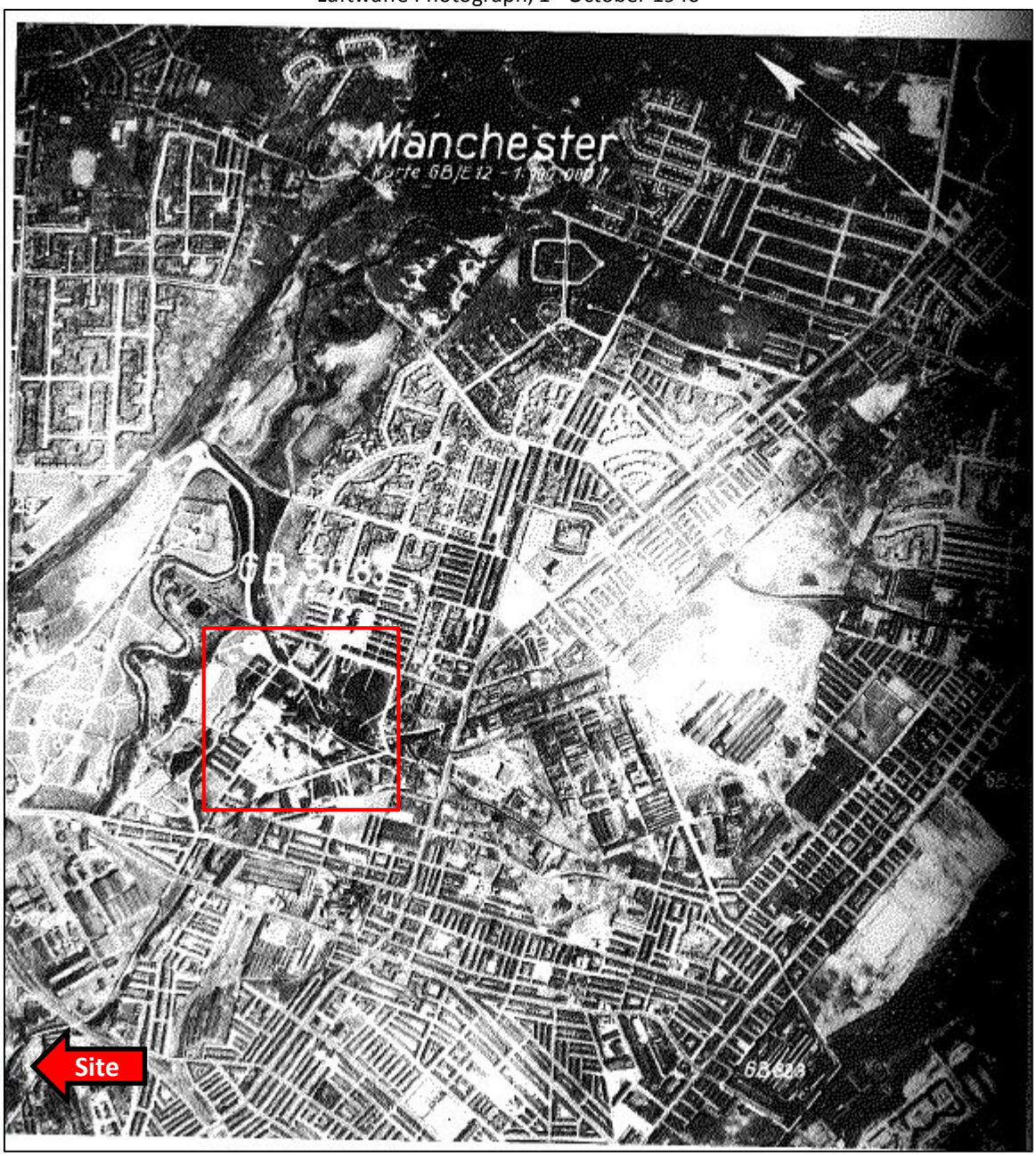
Ref: **DA4989-00**

Source: J. Morris, *German Air Raids on Britain*

N

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Luftwaffe Photograph, 1st October 1940



Manchester - Clayton
Red boxed area – gas works
GB 823 & GB 5083 – Designated Luftwaffe targets

The site located approximately 2.5km north-east of the arrow.

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Source: Nigel J. Clarke, "Adolf Hitler's Home Counties Holiday Snaps"

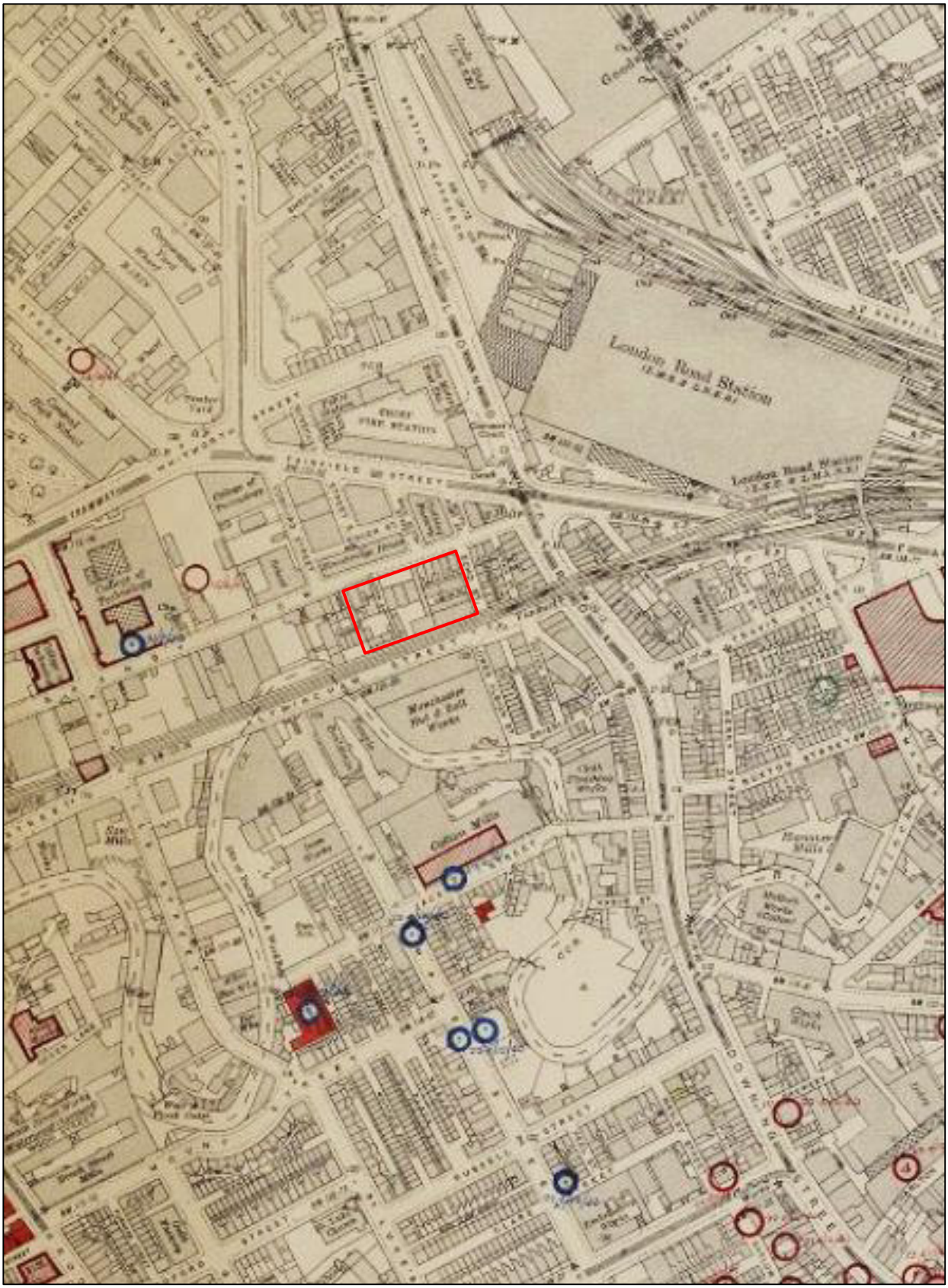
Approximate site boundary

N

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Manchester Blitz Bomb Mapping

Annex: **K**



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Source: The National Archives, Kew

Approximate site boundary

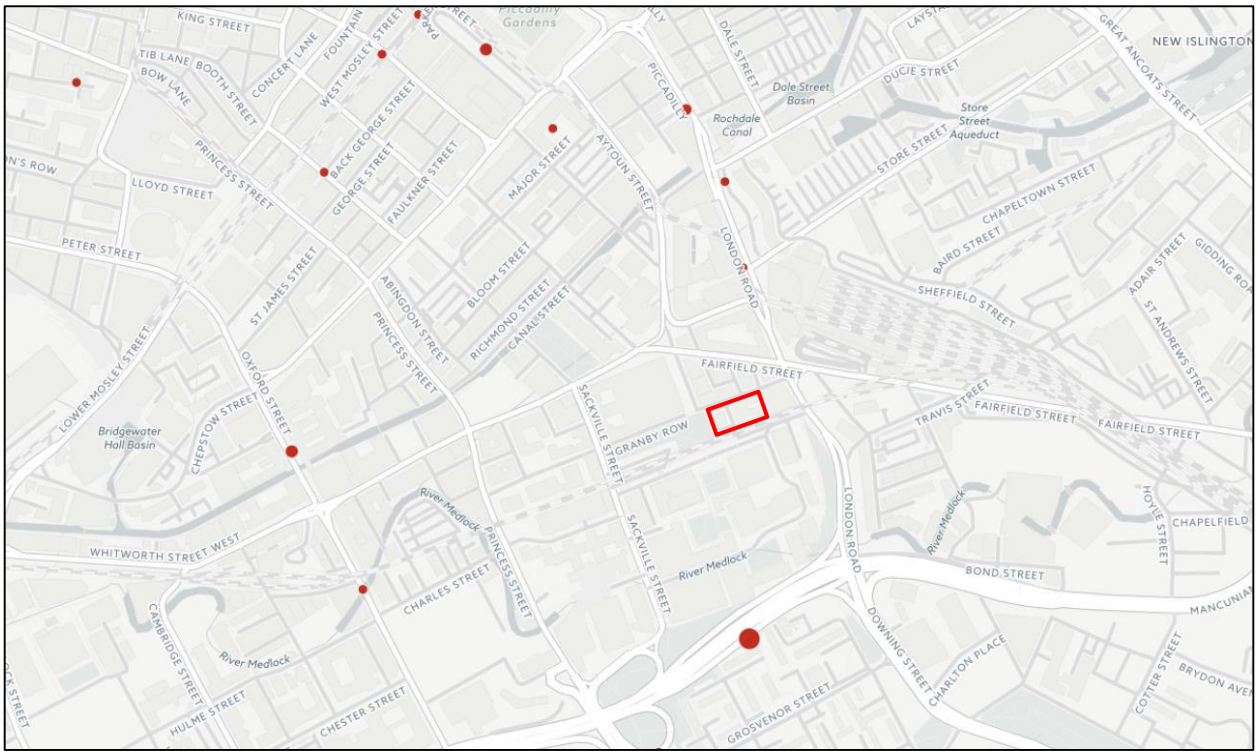
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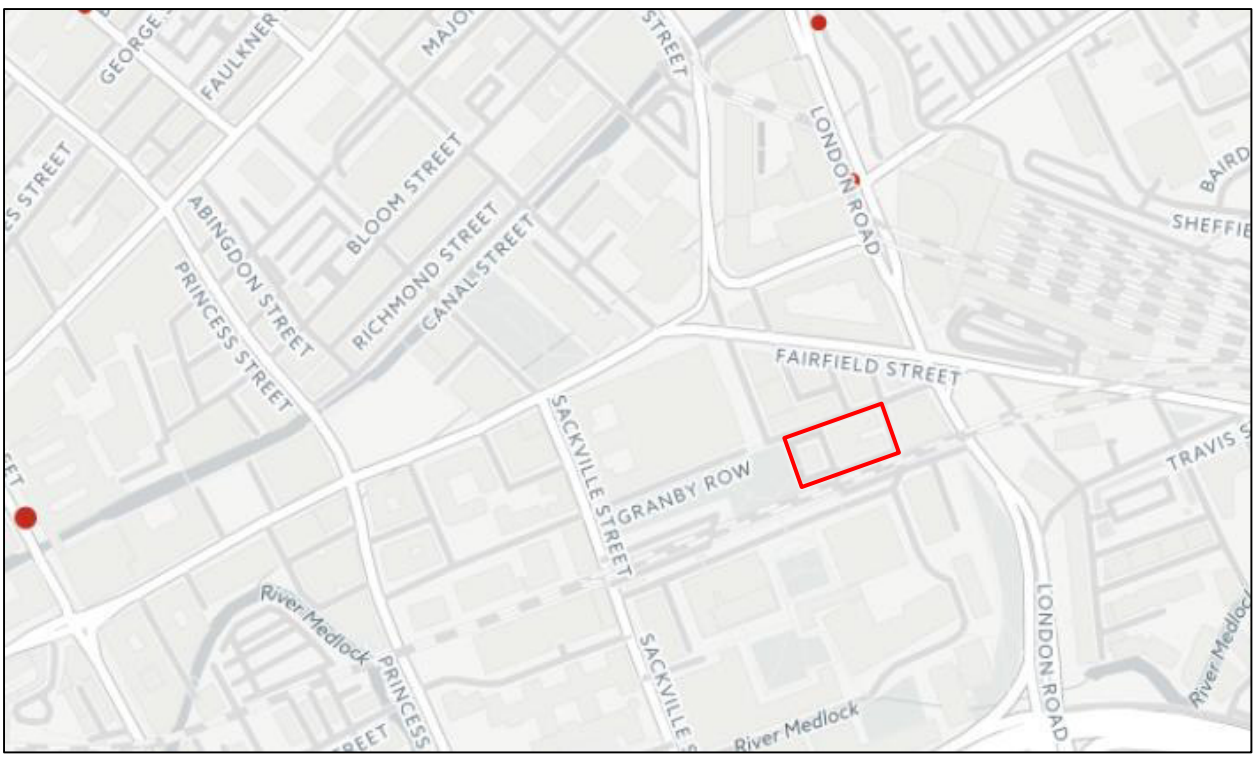
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Interactive Manchester Bomb Map

Annex: **L**

Night Bombing up to 7th October 1940





Recorded HE bomb strike
(colour refers to day of the week)

Recorded UXB strike
(colour refers to day of the week)

Incendiary bomb shower

Oil Bomb

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Source: Manchester Evening News

Approximate site boundary

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RAF Aerial Photography 16th May 1948

Annex: **M1**



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Source: National Monuments Record Office (Historic England)

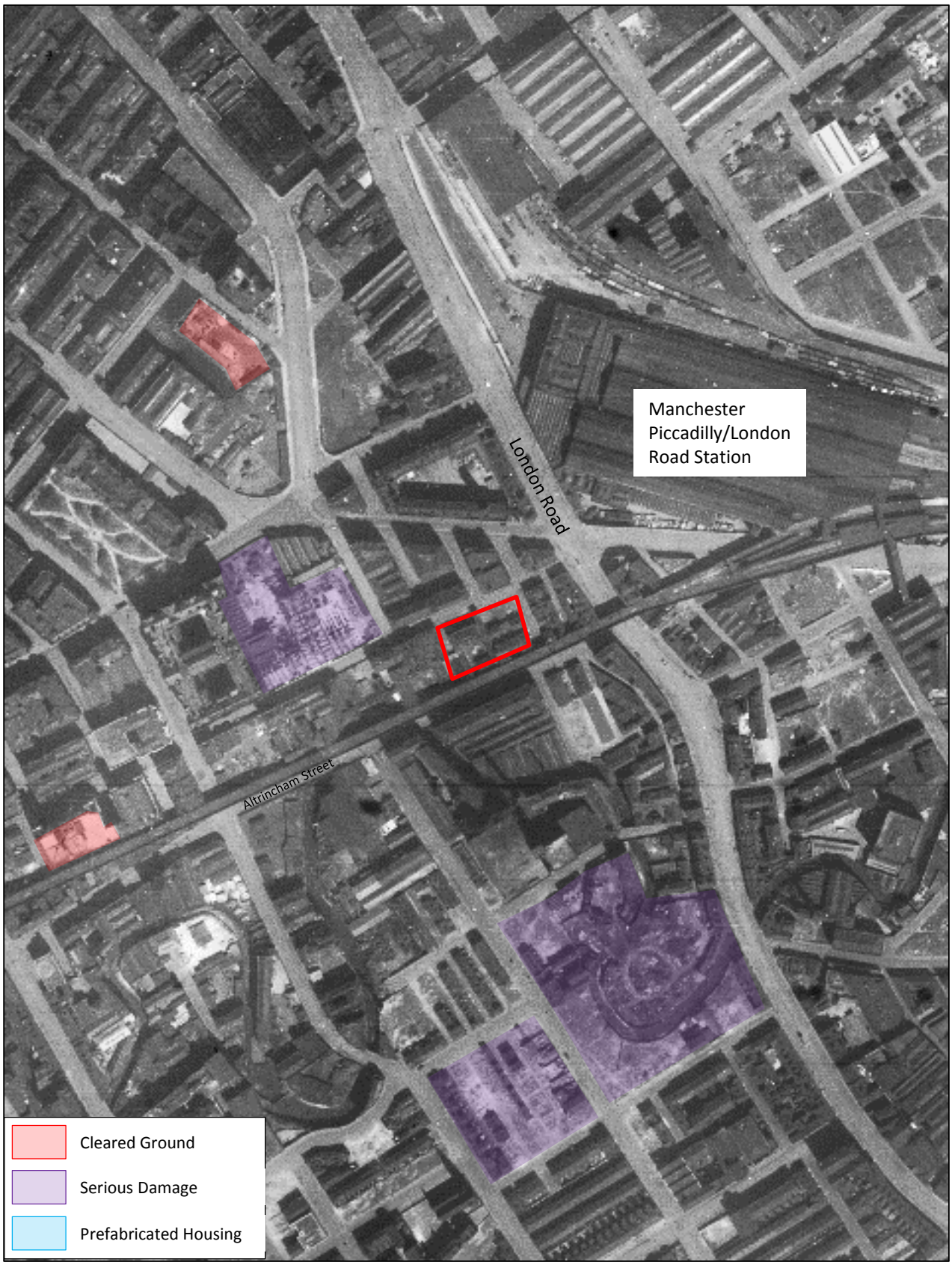
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RAF Aerial Photography 16th May 1948

Annex: **M2**



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Source: National Monuments Record Office (Historic England)

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Examples of Anti-Aircraft Projectiles

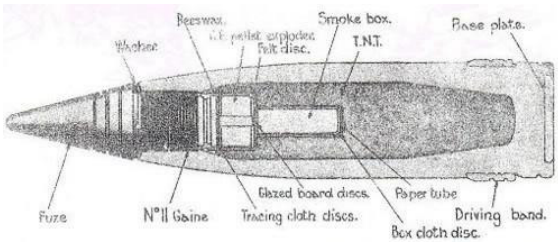
Annex: N

3.7 Inch QF Anti-Aircraft Projectile

Projectile Weight	28lb (12.6 kg)
Explosive Weight	2.52lbs
Fuze Type	Mechanical Time Fuze
Dimensions	3.7in x 14.7in (94mm x 360mm)
Rate of Fire	10 to 20 rounds per minute
Use	The 3.7in AA Mks 1-3 were the standard Heavy Anti-Aircraft guns of the British Army.
Ceiling	30,000ft to 59,000ft





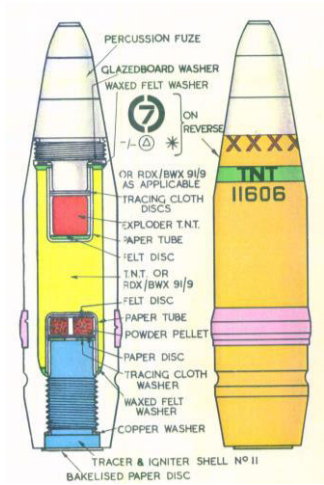


40mm Bofors Projectile

Projectile Weight	1.96lb (0.86kg)
Explosive Weight	300g (0.6lb)
Fuze Type	Impact Fuze
Rate of Fire	120 rounds per minute
Projectile Dimensions	40 x 180mm
Ceiling	23,000ft (7000m)
Remarks	Light quick fire high explosive anti-aircraft projectile. Each projectile fitted with small tracer element. If no target hit, shell would explode when tracer burnt out. Designed to engage aircraft flying below 2,000ft



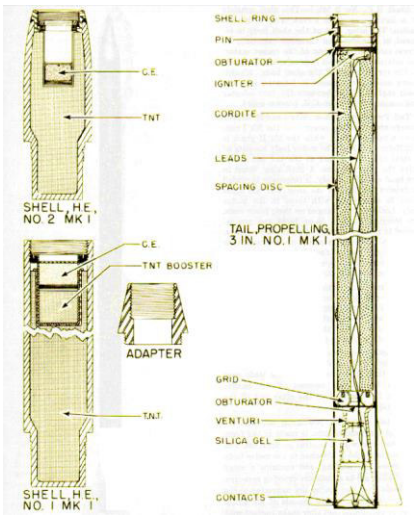




3in Unrotated Projectile (UP) Anti-Aircraft Rocket ("Z" Battery)

HE Projectile Weight	3.4kg (7.6lb)
Explosive Weight	0.96kg (2.13lb)
Filling	High Explosive – TNT. Fitted with aerial burst fuzing
Dimensions of projectile	236 x 83mm (9.29 x 3.25in)
Remarks	As a short range rocket-firing anti-aircraft weapon developed for the Royal Navy. It was used extensively by British ships during the early days of World War II. The UP was also used in ground-based single and 128-round launchers known as Z Batteries. Shell consists of a steel cylinder reduced in diameter at the base and threaded externally to screw into the shell ring of the rocket motor





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Source: Various sources

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Risk Map – 1948 Aerial Photography

Annex: **O**



Medium Risk

Low Risk

Low and Medium Risk Areas:

- Site Specific Unexploded Ordnance Awareness Briefings to all personnel conducting intrusive works

Medium Risk Area:

- Unexploded Ordnance (UXO) Specialist Presence on Site to support shallow intrusive works
- Intrusive Magnetometer Survey of all Borehole and pile locations down to a maximum bomb penetration depth

For indicative purposes – not to scale

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Client: **Curtins**

Approximate site boundary

Project: **Chandos Hall, Manchester**

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Source: 1st Line Defence

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Risk Map – Aerial Photography Overlay

Annex: **P**



Medium Risk

Low Risk

Low and Medium Risk Areas:

- Site Specific Unexploded Ordnance Awareness Briefings to all personnel conducting intrusive works

Medium Risk Area:

- Unexploded Ordnance (UXO) Specialist Presence on Site to support shallow intrusive works
- Intrusive Magnetometer Survey of all Borehole and pile locations down to a maximum bomb penetration depth

For indicative purposes – not to scale

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Appendix C Qualitative Risk Assessment Rationale

The site-specific risk assessment, presented in this report, follows the principle of establishing whether there is a viable linkage between a contaminant source to a potential receptor, via an exposure pathway.

The risk assessment corresponds with the total site area and incorporates both descriptive (qualitative) and, where available, numerical (quantitative) lines of evidence.

Risk assessment is the process of collating known information on a hazard or set of hazards to estimate actual or potential risk to receptors. The receptor may be humans, a water resource, a sensitive local ecosystem or future construction materials. Receptors can be connected to the source by one or several exposure pathways such as direct contact for example. Risks are generally managed by isolating the receptor or intercepting the exposure pathway or by isolating or removing the hazard.

Without the three essential components of a source, pathway and receptor there can be no risk. Therefore, the presence of contaminant source on a site does not necessarily mean there is a risk.

The risk assessment considers the likelihood of an event taking place (accounting for the presence of the source and receptor and the viability of the exposure pathway) in conjunction with the severity of the potential consequence (accounting for the potential severity of the hazard and the sensitivity of the receptor).

In the risk assessment, the consequence of the hazard has been classified as severe or medium or mild or minor and the probability (likelihood) of the circumstances occurring classified as high likelihood or likely or low likelihood or unlikely.

The consequences and probabilities are subsequently cross correlated to give a qualitative estimation of the risk using Department of the Environment risk classifications as detailed in the table below and as referenced in CIRIA C552.

		Consequence			
		Severe	**Medium**	**Mild**	**Minor**
Probability (Likelihood)	**High Likelihood**	Very High Risk	High Risk	Moderate Risk	Moderate/Low Risk
	Likely	High Risk	Moderate Risk	Moderate/Low Risk	Low Risk
	Low Likelihood	Moderate Risk	Moderate/Low Risk	Low Risk	Very Low Risk
	Unlikely	Moderate/Low Risk	Low Risk	Very Low Risk	Very Low Risk

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In accordance with DoE guidance, the following categorisation of **consequence** has been developed.

Classification	Definition	Examples
Severe	Short-term (acute) risk to human health likely to result in "significant harm" as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resource. Catastrophic damage to buildings/property. A short-term risk to an ecosystem or organisation forming part of such ecosystem.	High concentrations of cyanide on the surface of an informal recreation area. Major spillage of contaminants from site into controlled water. Explosion, causing building collapse (can also equate to a short-term human health risk if buildings are occupied).
Medium	Chronic damage to Human Health. Pollution of sensitive water resources. A significant change in an ecosystem or organism forming part of such ecosystem.	Concentration of a contaminant from site exceeds the generic or site-specific assessment criteria. Leaching of contaminants from a site to a Principal or Secondary A aquifer. Death of a species within a designated nature reserve. Lesser toxic and asphyxiate effects
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services. Damage to sensitive buildings/structures/services or the environment.	Pollution of non-classified groundwater (inc. Secondary B aquifers). Damage to building rendering it unsafe to occupy (e.g., foundation damage resulting in instability).
Minor	Harm, although not necessarily significant harm, which may result in a financial loss or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as personal protective clothing, etc). Easily repairable effects of damage to buildings, structures and services.	The presence of contaminants at such concentrations that protective equipment is required during site works. The loss of plants in a landscaping scheme. Discoloration of concrete.

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In accordance with DoE guidance, the following categorisation of **probability** has been developed.

Classification	Definition
High Likelihood	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term or there is evidence at the receptor of harm or pollution.
Likely	There is a pollution linkage, and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low Likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place and is less likely in the shorter term.
Unlikely	There is a pollution linkage, but circumstances are such that it is improbable that an event would occur even in the very long term.

In accordance with DoE guidance, the following categorisation of **risk** has been developed.

Classification	Definition
Very High Risk	There is a *high probability* that *severe harm* could arise to a designated receptor from an identified hazard at the site without appropriate further action.
High Risk	*Harm* is *likely to arise* to a designated receptor from an identified hazard at the site without appropriate further action.
Moderate Risk	*It is possible* that without appropriate further action *harm could arise* to a designated receptor. It is relatively *unlikely* that any such harm would be *severe,* and if any harm were to occur it is *more likely* that such harm would be *relatively mild.*
Low Risk	*It is possible* that *harm could arise* to a designated receptor from an identified hazard. It is *likely* that, at worst, if any harm was realised any effects would be *mild.*
Very Low Risk	The presence of an identified hazard does not give rise to the potential to cause harm to a designated receptor.

The term ‘risk’ in this instance refers to the risk that the source, pathway, receptor linkage for a given source of contamination is complete. It does not refer to immediate risk to individuals or features present on the site from potential contaminants and is intended to be used as a tool to assess the necessity of further investigation.

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Appendix 9.1: Townscape and Visual Assessment Methodology

Turley

Appendix 9.1: Townscape and Visual Assessment Methodology

Assessment Methodology of Effects Likely / Significant

Assessment Approach

1.1 The methodology will be collated into a tabulated format where possible to provide structure for a consistent and methodical approach. Desk based studies will be carried out to collate and map baseline townscape information and carry out a review of policy and guidance to inform the assessment. Potential viewpoints have been identified by inserting a simple massing model into Google Earth Pro to identify key locations where the proposed building may be visible.

1.2 In addition to the desk-based studies, a site photographic survey will be undertaken to confirm viewpoint selection.

1.3 Informed by the desk-based studies 8 viewpoints have been selected to provide a thorough and robust assessment. Viewpoints have been excluded where there was likely to be no significant impact beyond that which was already identified within the selected views.

Table 1.1: Background Surveys/ Studies

Survey / Study / Analysis / Evaluation	Overview	Date of Completion
Completed		
Desk Top Review	Initial review of existing baseline information and preliminary desk-top review.	January 2023
Pending		
Site visit and preliminary photographic and field assessment of 12 potential viewpoints.	Inform viewpoint selection	February 2023

1.4 The Townscape and Visual Impact Assessment will be carried out with reference to the Guidelines for Landscape & Visual Impact Assessment, 3rd Edition, 2013 (referred to

hereafter as "the Guidelines")[1] by Planit-IE Ltd, a registered practice of the Landscape Institute with considerable experience in landscape and visual assessment.

1.5 In line with GLVIA 3, the methodology to be used for this assessment will have three key stages:

- Establishment of the baseline conditions relating to townscape character and views and the quality, value and sensitivity to change of these resources;
- An assessment of the magnitude of change likely to result from the Proposed Scheme; and
- An assessment of the significance of townscape and visual effects considering the sensitivity of resources and the magnitude of change.

Legislation, Policy and Good Practice

1.6 In addition to the GLVIA 3 (referenced above) the assessment will be undertaken having regard to the following relevant legislation, policy and guidance.

- National Planning Policy (The National Planning Policy Framework (NPPF)[2];
- Local Planning Policy – Manchester Core Strategy 2012-2027;[3]
- Saved UDP policies;
- Guidance:
  - Whitworth Street Conservation Area Assessment *(Manchester City Council)[4];*
  - Historic England Advice Note 4: Tall Buildings[5]; and
  - Manchester Residential Quality Guidance[6].

The Study Area

1.7 The study area is shown in **Figure 9.1** and extends to approximately 300m radius from the Site but weighted predominantly to the northwest to incorporate the important heritage and city centre context. This encompasses the Site itself as well as the immediate surrounding context, extending to incorporate key infrastructure, heritage assets, features and character

[1] Landscape Institute and IEMA (2013). Guidelines for Landscape & Visual Impact Assessment, 3rd Edition. Routledge.
[2] National Planning Policy Framework, July, (2021). [Online] accessed via https://www.gov.uk/government/publications/national-planning-policy-framework--2
[3] The Manchester Local Plan. Core Strategy 2012-2027. [Online] accessed via https://secure.manchester.gov.uk/info/200074/planning/6572/local_plan
[4] Whitworth Street Conservation Area. [Online] accessed via https://www.manchester.gov.uk/info/511/conservation_areas/970/whitworth_street_conservation_area
[5] Historic England Advice Note 4 Tall Buildings. [Online] accessed via https://historicengland.org.uk/images-books/publications/tall-buildings-advice-note-4/
[6] Residential Quality Guide. [Online] accessed via https://www.manchester.gov.uk/downloads/download/6682/residential_quality_guide

areas which relate to the Site. The area extends as far as the intersection of London Road and Mancunian Way in the south, the intersection of Princess Street and Canal Street in the west, the intersection of Aytoun Street and Auburn Street in the north and to the rear of Piccadilly Station in the east.

1.8 The study area incorporates a number of key features, including Piccadilly Station in the east, the former UMIST university campus to the south of the railway viaduct, a large part of Whitworth Street Conservation Area and Rochdale Canal. It also incorporates key green spaces including Vimto Park and Sackville Gardens and surrounding heritage assets, notably the Grade II* Listed London Road Fire Station.

1.9 The study area is relatively compact due to the dense nature of the surrounding city centre townscape which limits relationships to and views of the Site, with predicted impacts expected to be localised.

Assessment Criteria

1.10 Based on the likely effects identified, the following scenarios are proposed for assessment:

- Construction stage activities;
- Existing baseline + Proposed Scheme
- Existing baseline + Proposed Scheme + Committed Developments

Defining Significance of Effect

1.11 The assessment of likely significant effects to sensitive receptors will consider the sensitivity of the receptor (on a scale of high, medium, low and negligible) and the magnitude of change (on a scale of large, medium, small and negligible) to determine the level of effect on a scale of major, moderate, minor and negligible. Significant effects will be determined following this through professional judgment.

Townscape: Sensitivity of Receptor

1.12 The sensitivity of a townscape receptor is an expression of its ability to accommodate the Proposed Scheme. Sensitivity is a judgement based on a combination of the susceptibility of the type of change or development proposed and the value attached to the townscape, as set out below.

1.13 Susceptibility indicates the ability of a defined townscape receptor to accommodate the proposed development “without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies.” (GLVIA, 3rd version, para 5.40). A description of how susceptibility would be evaluated for each receptor type is included below:

Susceptibility	Criteria for assessing Impact
High	Little ability to accommodate the Proposed Scheme without undue harm.

Susceptibility	Criteria for assessing Impact
Medium	Some ability to accommodate the Proposed Scheme without undue harm.
Low	Substantial ability to accommodate the Proposed Scheme without undue harm.
Negligible	No harm to the baseline situation.

Landscape Value is 'the relative value that is attached to different landscapes by society' (GLVIA, 3rd version, page 157). It is assessed on the following scale along with assessment of various undesignated townscape attributes:

Value	Description
High	Sites, features or areas of national or international importance with settings of high quality such as World Heritage Site, AONB, National Parks, Grade I and Grade II* Listed buildings or Registered Parks and Gardens.
Medium	Sites, features or areas of local or regional importance with intact character such as Grade II* and Grade II Listed Buildings or Registered Parks and Gardens, Conservation Areas, Scheduled Monuments, local nature site, long distance recreational routes. Tree Preservation Orders (TPO) and local designations that exhibit wider geographic, cultural or townscape significance.
Low	Areas or features of local importance such as Tree Preservation Orders (TPO), Public Right of Way (PROW) and locally listed buildings.
Negligible	No features of value.

The overall sensitivity of each townscape receptor would be rated within the range of High-Medium-Low and Negligible and would be informed by combining the susceptibility and value as described above.

Townscape: Magnitude of Effect

1.14 The magnitude of a townscape effect is assessed in terms of its size or scale, the geographical extent of the area influenced by that effect, and its duration and degree of reversibility and would be rated within the range of Large-Medium-Small-Negligible set out below.

Category	Criteria
Large adverse townscape effect	The proposals will result in a total change in the key characteristics of townscape character; will introduce elements totally uncharacteristic to the attributes of the receiving townscape; and/or will result in a substantial or

Category	Criteria
	total loss, alteration or addition of key elements/features/characteristics.
Medium adverse townscape effect	The proposals will result in a partial change in the key characteristics of townscape character; will introduce elements partially uncharacteristic to the attributes of the receiving townscape; and/or will result in partial loss, alteration or addition of key elements/features/characteristics.
Small adverse townscape effect	The proposals will result in a small change in the key characteristics of townscape character; will introduce elements that are not uncharacteristic to the attributes of the receiving townscape; and/or will result in a minor loss, alteration or addition of elements/features/characteristics.
Negligible townscape effect	The proposals will result in no change or a just discernible change to townscape character/elements/features/characteristics.
Small beneficial townscape	The proposals will achieve a degree of fit with the townscape character/elements/features/characteristics and go some way towards improving the condition or character of the townscape.
Medium beneficial townscape	The proposals will achieve a good fit with the townscape character/elements/features/characteristics, or would noticeably improve the condition or character of the townscape.
Large beneficial townscape	The proposals will totally accord with the townscape character/elements/features/characteristics, or would restore, recreate or permanently benefit the condition or character of the townscape.

1.15 The size and/or scale of change in the townscape takes into consideration the following factors:

- The extent/proportion of townscape elements lost or added;
- The contribution of that element to townscape character and the degree to which aesthetic/perceptual aspects are altered; and
- Whether the effect is likely to change the key characteristics of the townscape, which are critical to its distinctive character.

1.16 The geographical extent of effects relates to:

- The area over which townscape effects are likely to be experienced, i.e. this could be at the site level, the immediate setting of the site, or townscape character type or area; and

- The area over which visual effects are likely to be visible; and duration.

Visual: Sensitivity of Receptor

1.17 In terms of assessing the baseline visual sensitivity, key factors to consider are the type of view and the likely numbers of viewers (the visual receptors). The type of view and the number of viewers are described in the following terms

- Glimpsed (i.e. in passing)/Filtered/Oblique/Framed/Open Views; and

- Few/Moderate/Many Viewers.

1.18 The value attached to views has regard to a number of factors, including:

- Recognition through planning designations or heritage assets; and

- The popularity of the viewpoint, its appearance in guidebooks, literature or art, on tourist maps and the facilities provided for its enjoyment.

1.19 The GLVIA identifies that the susceptibility of visual receptors to changes in views and visual amenity is a function of:

- The occupation or activity of people experiencing the view at a particular location; and

- The extent to which their attention or interest may therefore be focused on the views and visual amenity they experience at particular locations.

1.20 The assessment of receptor sensitivity is rated on the scale High-Medium-Low and Negligible and combines judgements on the susceptibility of the receptor to the specific type of development proposed and the value attributed to that receptor, determined from the criteria below.

Susceptibility	Type of Receptor
High	Users of public space, including users of public rights of way, whose attention is likely to be focussed on the townscape and on particular views; Visitors to heritage assets or other attractions where views of the surroundings are an important part of the experience; Communities where views contribute to the townscape setting enjoyed by residents; and Travellers on scenic routes.
Medium	Travellers on road, rail or other transport routes, where the view is moderately important to the quality of the journey; and

Susceptibility	Type of Receptor
	Users of public space, where the view is part of the wider experience of the place.
Low	People at their place of work, where the setting is not important to the quality of working life; Travellers on road, rail or other transport routes, where the view is fleeting and incidental to the journey; and People engaged in outdoor sport or recreation, or users of a public space, which does not involve appreciation of views.
Negligible	No visual receptors.

Value	Criteria
High	Views from townscapes/viewpoints of national importance, or highly popular visitor attractions where the view forms an important part of the experience, or with important cultural associations. An example may be where the viewpoint features a nationally important designated asset as the main focus of the view.
Medium	Views from townscapes/viewpoints of regional/district importance or moderately popular visitor attractions where the view forms part of the experience, or with local cultural associations. The viewpoint may be a good location to view a designated asset of regional/ local importance, or where a nationally important designated asset is not the main focus of the view.
Low	Views from townscapes/viewpoints with limited designations, not particularly popular as a viewpoint and with minimal or no cultural associations. The viewpoint may include designated assets of regional/local importance which do not form the main focus of the view.
Negligible	No identified visual value criteria.

Visual: Magnitude of Effect

1.21 The magnitude of a visual effect is assessed in terms of its size or scale, the geographical extent of the area influenced and its duration and degree of reversibility and will be rated within the range of Large-Medium-Small-Negligible set out below.

Category	Criteria
Large adverse or beneficial visual effect	The proposals will cause a dominant or complete change or contrast to the view, resulting from the loss or addition of substantial features in the view and will substantially alter the appreciation of the view.

Category	Criteria
Medium adverse or beneficial visual effect	The proposals will cause a clearly noticeable change or contrast to the view, which would have some effect on the composition, resulting from the loss or addition of features in the view and will noticeably alter the appreciation of the view.
Small adverse or beneficial visual effect	The proposals will cause a perceptible change or contrast to the view, but which would not materially affect the composition or the appreciation of the view.
Negligible adverse or beneficial visual effect	The proposals will cause no change or a barely perceptible change or contrast to the view, which would not affect the composition or the appreciation of the view.

1.22 The size or scale of change in the view relates to the degree of contrast or integration likely to result from the Proposed Development and is influenced by the relative time over which a view is experienced and whether it is a full, partial or glimpsed view.

Significance of Effect

1.23 The objective of the assessment process would be to identify and evaluate the likely significant effects arising from the Proposed Scheme. Significance indicates the importance or gravity of the effect.

1.24 Whilst there would be a degree of professional judgement involved in determining the significance of townscape and visual effects, they can broadly be determined by the interaction of the sensitivity of the receptor and the magnitude of change. The resulting significance of effect matrix is set out below:

		Sensitivity (or value/importance)			
		High	Medium	Low	Negligible
Magnitude of change	Large	Major	Moderate to Major	Minor to Moderate	Negligible
	Medium	Moderate to Major	Moderate	Minor	Negligible
	Small	Minor to Moderate	Minor	Negligible to Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

1.25 The likely significance of effects reflects judgements as to the importance or sensitivity of the affected receptor(s) and the nature and magnitude of the predicted changes. For example, a moderate negative effect on a feature or site of low importance will be of lesser significance than the same effect on a feature or site of high importance. Where a range of significance is given (e.g. Moderate to major), this allows for a degree of objectivity to be exercised within

judgments, especially if ranges are recorded for either sensitivity or magnitude within the assessment.

1.26 The following terms have been used to define the significance of the effects identified:

- **Major effect:** where the Proposed Scheme could be expected to have a considerable effect (either positive or negative) on viewers or landscape receptors;
- **Moderate effect:** where the Proposed Scheme could be expected to have a noticeable effect (either positive or negative) on viewers or landscape receptors;
- **Minor effect:** where the Proposed Scheme could be expected to result in a small, noticeable effect (either positive or negative) on viewers or landscape receptors; and
- **Negligible:** where no discernible effect is expected as a result of the Proposed Scheme on viewers or landscape receptors (i.e. the effect is not significant).

1.27 Effects that are deemed to be significant for the purposes of this assessment are those that are described as being moderate to major beneficial / adverse. This approach is consistent with the 2017 TVIA assessment and takes into account the evolving City Edge context of this Site, and the significant city aspirations for change within the adjacent ID Manchester area.

1.28 The nature of effects may be positive or negative (beneficial or adverse) or neutral. Neutral effects recognise that there will be a change to the receptors, however this change is in keeping with the existing characteristics of the receptor. The table has regard to guidance in the Guidelines for Landscape and Visual Impact Assessment, Third Edition, 2013, at paragraph 5.56, page 92 (significance of landscape effects) and paragraph 6.44, page 116 (significance of visual effects). This matrix will be used as a guide to determine significance, along with professional judgement.

Photography and Photomontage

1.29 A Principal Viewpoints plan has been produced as part of this Scoping Report. The viewpoints were selected through a process of desktop survey and site knowledge. A basic 3D block model reflecting the proposed height of the development was put into Google Earth and a basic Zone of Visual Influence was created using Google viewshed **(Figure X.2).** The viewshed highlights areas in green that have the potential for a visual relationship with the Site, taking into consideration factors such as surrounding building heights and topography. The viewshed has been used to inform viewpoint selection, in addition to detailed study of urban form, topography, site knowledge and professional experience. A total of 12 viewpoint have been selected and are considered representative viewpoints from key visual receptors. Viewpoints were excluded where there is likely to be no visual impact.

1.30 Visually verified photomontages will be produced by Virtual Planit, a professional visualization studio with extensive experience in the production of photomontages, in accordance with the Landscape Institute's Technical Guidance Note 06/09 (2019) Visual Representation of Development Proposals[7]. The Photomontages will be fully rendered to

[7] Landscape Institute Technical Guidance Note 06/09 (2019). Visual Representation of Development Proposals. Available at: https://www.landscapeinstitute.org/visualisation/.

accurately reflect building height and massing and architectural detail as well as public realm where relevant. This will represent ‘worst case scenario’, in accordance with the Guidelines.

Appendix 10.1: Principles of Daylight, Sunlight and Overshadowing

Turley

PRINCIPLES OF DAYLIGHT, SUNLIGHT & OVERSHADOWING

The Building Research Establishment (BRE) have set out in their handbook 'Site Layout Planning for Daylight & Sunlight: A Guide to Good Practice 3rd edition (2022)', guidelines and methodology for the measurement and assessment of daylight, sunlight and overshadowing.

1 BACKGROUND & CONTEXT

The quality of daylight and sunlight amenity as well as the overshadowing of open spaces is often stipulated within planning policy for protection or enhancement and a concern for adjoining owners and other interested parties.

The BRE Guidelines provide advice on site layout planning to determine the quality of daylight and sunlight both within buildings and reaching open spaces.

The BRE Guidelines note that the document is intended to be used in conjunction with the interior daylight recommendations found within the British Standard Daylight in buildings, BS EN 17037 and the CIBSE Publication LG 10 Daylighting – a guide for designers.

Whilst the BRE Guidelines are typically referred to for daylight sunlight and overshadowing matters within the planning process, they were not intended to be used as an instrument of planning policy, nor were the figures intended to be fixedly applied to all locations.

In the introduction of 'Site Layout Planning for daylight and sunlight (2022)', section 1.6 (page 7), states that:

"The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and this document should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design (see Section 5). In special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre, or in an area with modern high-rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings".

Paragraph 2.2.3 (page 14) of the document states:

"Note that numerical values given here are purely advisory. Different criteria may be used based on the requirements for daylighting in an area viewed against other site layout constraints".

The numerical criteria suggested by the BRE are therefore designed to provide industry advice/ guidance to plan/design with daylight in mind. Alternative values may be appropriate in certain circumstances such as highly dense urban areas. The BRE approach to creating alternative criteria is detailed within Appendix F of the Document.

Paragraph 2.2.2 (page 14) of the document states:

The BRE Guidelines state that they are:

"intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens, and bedrooms. Windows to bathrooms, toilets, storerooms, circulation areas, and garages need not be analysed."

Although primarily designed to be used for residential properties, the BRE Guidelines continue to state that they may be applied to any existing non-residential buildings where there may be a reasonable expectation of daylight including; schools, hospitals, hotels and hostels, small workshops, and some offices.

Many Local Planning Authorities consider daylight and sunlight an important factor for determining planning applications. Policies refer to both the protection of daylight and sunlight amenity within existing properties and areas of amenity as well as the creation of proposed dwellings and spaces with high levels of daylight and sunlight amenity.

Although Local Authorities will look to the BRE Guide to understand impacts it is their Planning Policies that will determine whether the changes in light should be a reason for refusal at planning.

It is an inevitable consequence of the built-up urban environment that daylight and sunlight will be more limited in dense urban areas. It is well acknowledged that in such situations there may be many other conflicting and potentially more important planning and urban design matters to consider other than just the provision of ideal levels of daylight and sunlight.

The following sections extract relevant sections from the Guide.

2 EFFECTS TO DAYLIGHT

The BRE Guidelines provide two methodologies for daylight impact assessment, namely;

1 The Vertical Sky Component (VSC); and
2 The No Sky Line (NSL).

Vertical Sky Component (VSC)

The Vertical Sky Component (VSC) method is described in the Glossary of BRE Guidelines as the:

"Ratio of that part of illuminance, at a point on a given vertical plane, that is received directly from a CIE standard overcast sky, to illuminance on a horizontal plane due to an unobstructed hemisphere of this sky. Usually the 'given vertical plane' is the outside of a window wall. The VSC does not include reflected light, either from the ground or from other buildings"

Put simply, the VSC provides an assessment of the amount of skylight falling on a vertical plane (generally a window) directly from the sky, in the circumstance of an overcast sky (CIE standard).

The national numerical value target "ideal" for VSC is 27%. The BRE Guidelines advise that upon implementation of a development, a window should retain a VSC value of 27% or at least 0.8 of its former value (i.e. no more than a 20% change) as per paragraph 2.2.23 of the Guide.

This form of assessment does not take account of window size, room use, room size, window number or dual aspect rooms. The assessment also assumes that all obstructions to the sky are 100% non-reflective thereby omitting the consideration of reflection and considering only the light coming directly from the sky.

The VSC calculation is undertaken in both the existing and proposed scenarios so as to make a comparison.

The image in Figure 01 depicts a Waldram Diagram which can be used to calculate the VSC. The existing buildings are solidly pictured with the proposed scheme semi-transparent in the foreground.

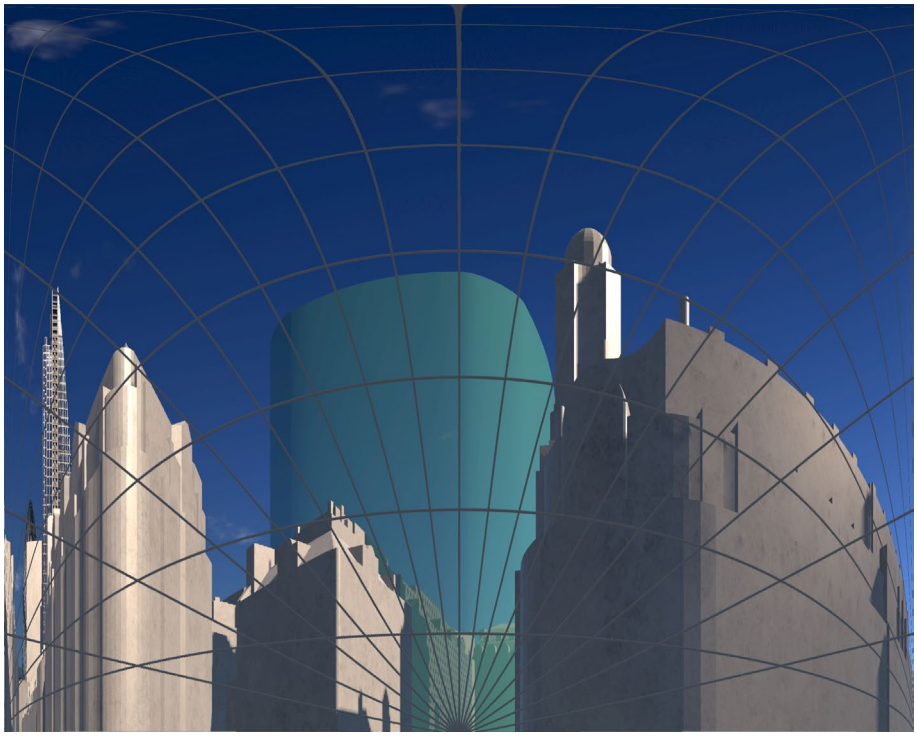


Fig. 01: Waldram diagram

No Sky Line (NSL)

In addition to the VSC, the BRE recommends the NSL method of assessment where internal layouts are known. Whilst the VSC provides information on the quantum of light reaching a window, the NSL seeks to provide information on how well this light is distributed within the room. The NSL is sometimes also referred to as 'Daylight Distribution' for this reason.

The NSL in the Glossary of the Guide as *"the outline on the working plane of the area from which no sky can be seen."* and so the NSL is effectively an assessment of sky visibility within a room. As stated already, the calculation is undertaken across the working plane which in accordance with paragraph 2.2.10 *"in houses [...] is assumed to be horizontal and 0.85m high"*.

Again, both the existing and proposed positions are calculated and presented alongside any change in position of the NSL. The results can then be presented in table format or else illustrated on a contour plot if required, an example of which can be found in Figure 02 below.

The BRE Guidelines state at paragraph 2.211 that:

"If, following construction of a new development, the no sky line moves so that the area of the existing room, which does receive direct skylight, is reduced to less than 0.8 times its former value this will be noticeable to the occupants, and more of the room will appear poorly lit. This is also true if the no sky line encroaches on key areas like kitchen sinks and worktops."

In accordance with the strict application of the national numerical values, therefore the change in daylight would be noticeable to the occupants should the NSL experience a loss of NSL greater than 20%.

It is relevant to note that this assessment takes the number and size of windows serving a room into account as well as the shape of the room but, being concerned only with sky visibility and the distribution of light, does not consider the quantum of light reaching the room.

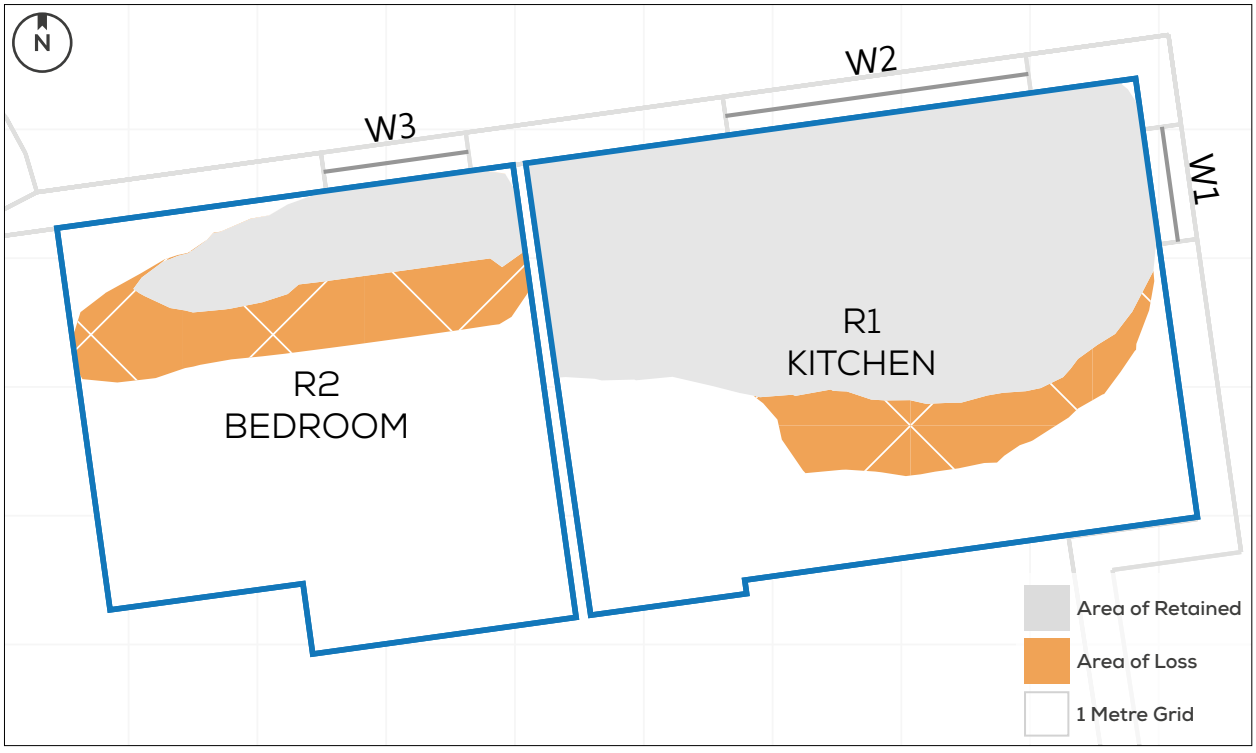


Fig. 02: Example NSL diagram

Decision Chart (Figure 20 of the BRE Guide)

The flowchart in Figure 03 illustrates the steps and criteria outlined within the BRE Guidelines to understand whether the daylighting (VSC and NSL) may be significantly affected.

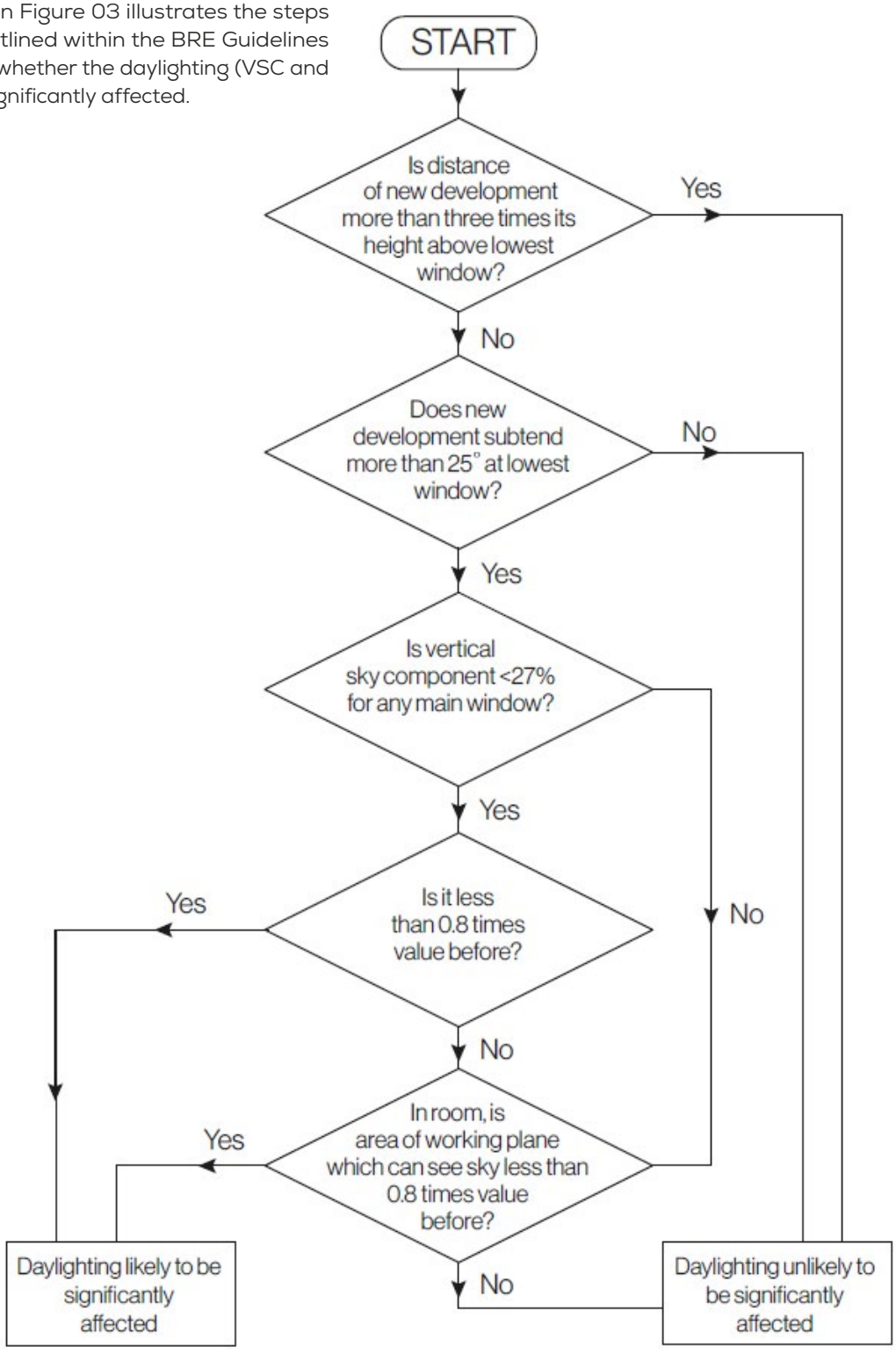


Fig. 03: BRE Decision Chart (Figure 20): *diffuse daylight in existing buildings. This does not include an assessment of rights to light issues, which a developer may need to consider separately*

3 EFFECTS TO SUNLIGHT

Annual Probable Sunlight Hours (APSH)

The BRE Guidance suggests that to understand sunlight impacts to a property, an assessment of Annual Probable Sunlight Hours (APSH) is undertaken. The APSH is defined in the Glossary as:

"the long-term average of the total number of hours during a year in which direct sunlight reaches the unobstructed ground (when clouds are taken into account)"

Expanding on the above, long-term averages were used to position 100 spots in the sky, representative of sunlight over the whole year. Correlating to the probability of the sun to shine, the majority of these (70) are at times to the six-months containing summer (from spring equinox to autumn equinox) which 30 are the 'winter' months from autumn equinox to spring. The APSH is calculated though calculating how many of these 'spots' can be seen from a location (normally a window) both overall and how many of these are during the winter months.

To understand the potential sunlight impacts therefore, all windows facing within 90 degrees of due south and overlooking the development are generally assessed for APSH.

The BRE Guidelines set out the overall methodology and criteria for the assessment of Sunlight in Chapter 3. The BRE Guidelines state in paragraph 3.2.3 and 3.2.5:

"To assess loss of sunlight to an existing building, it is suggested that all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within 90 degrees of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun."

"A point at the centre of the window on the outside face of the window wall may be taken."

In interpreting the results, the BRE Guidance states in summary 3.2.13 that:

"If a living room of an existing dwelling has a main window facing within 90° of due south, and any part of a new development subtends an angle of more than 25° to the horizontal measured from the centre of the window in a vertical section perpendicular to the window, then the sunlighting of the existing dwelling may be adversely affected. This will be the case if the centre of the window:

- *receives less than 25% of annual probable sunlight hours, or less than 5% of annual probable sunlight hours between 21 September and 21 March, and*
- *receives less than 0.8 times its former sunlight hours during either period; and*
- *has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours."*

The image in Figure 04 depicts the APSH sun spots overlaid on a Waldram Diagram. The existing buildings are solidly pictured with the proposed scheme semi-transparent in the foreground. The yellow spots indicate summer sun and the blue spots indicate winter sun.

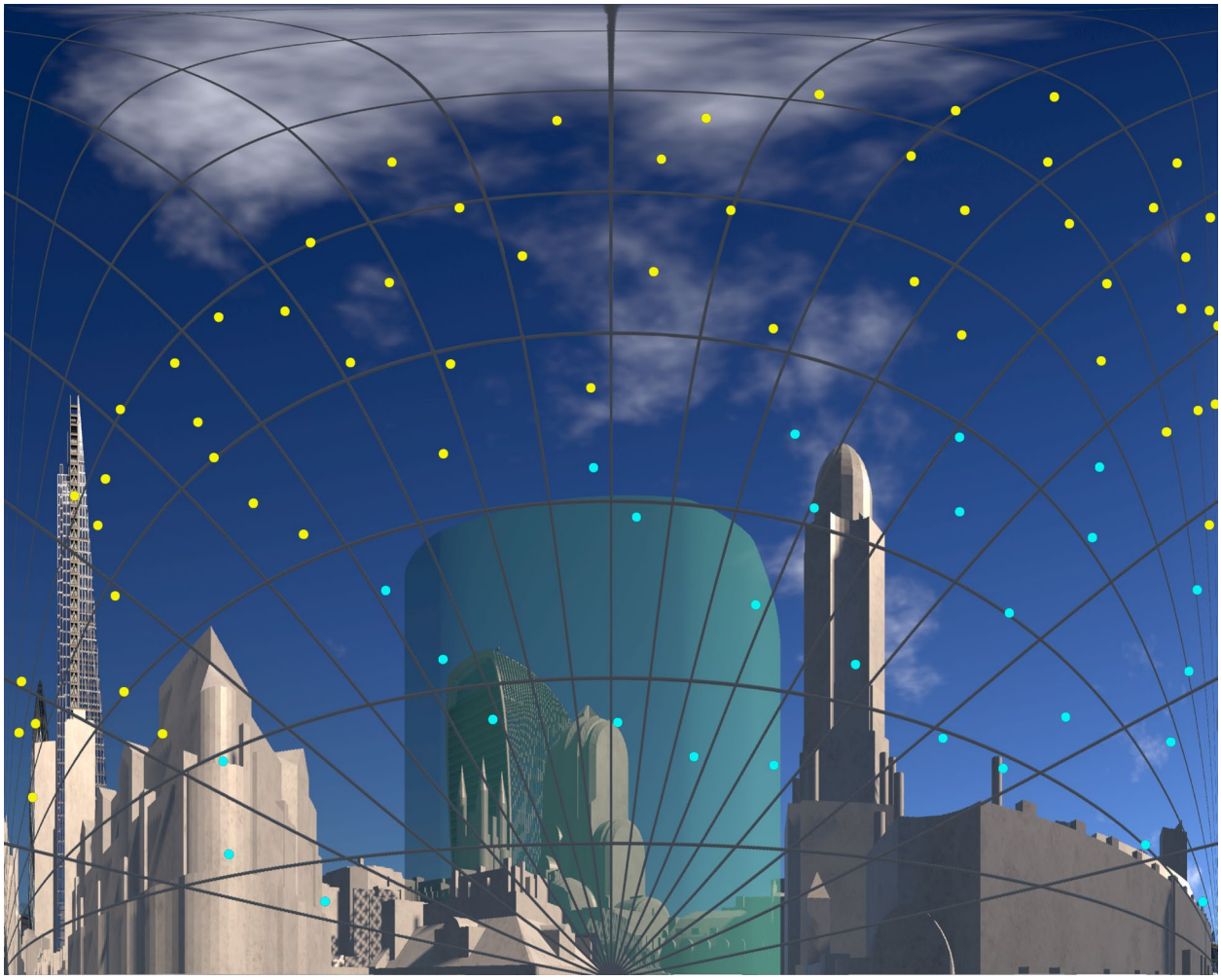


Fig. 04: Waldram diagram

4 EFFECTS TO OVERSHADOWING

The BRE guidance in respect of overshadowing of amenity spaces is set out in section 3.3.1 of the handbook. Here it states as follows:

"Sunlight in the spaces between and around buildings has an important impact on the overall appearance and ambiance of a development. It is valuable for a number of reasons, to:

- *provide attractive sunlit views (all year)*
- *make outdoor activities like sitting out and children's play more pleasant (mainly warmer months)*
- *encourage plant growth (mainly spring and summer)*
- *dry out the ground, reducing moss and slime (mainly in colder months)*
- *melt frost, ice and snow (in winter)*
- *dry clothes (all year)."*

It must be acknowledged that in urban areas the availability of sunlight on the ground is a factor which is significantly controlled by the existing urban fabric around the site in question and so may have very little to do with the form of the development itself. Likewise, there may be many other urban design, planning and site constraints which determine and run contrary to the best form, siting and location of a proposed development in terms of availability of sun on the ground.

Sun Hours on Ground & Transient Overshadowing

The Sun Hours on Ground method of overshadowing assessment uses specialist software to determine the sunlight exposure across an area of amenity.

The BRE Guidelines suggest that the Spring Equinox (21 March), being the year's midpoint, is a suitable date for the assessment. Paragraph 3.3.17 states:

"It is recommended that for it to appear adequately sunlit throughout the year, at least half of a garden or amenity area should receive at least two hours of sunlight on 21 March. If as a result of new development an existing garden or amenity area does not meet the above, and the area which can receive two hours of sun on 21 March is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable."

The Transient Overshadowing study is recommended where large buildings are proposed which may affect a number of gardens or open spaces or where an area is particularly sensitive at certain times of day or year. For the purpose of this assessment, the additional shadow cast is mapped and highlighted at hourly intervals from sunrise to sunset on the following dates:

- 21 March (Spring equinox)
- 21 June (Summer solstice)
- 21 December (Winter solstice)

The BRE guidelines do not provide any suggested criteria for Transient Overshadowing, rather it is a qualitative assessment to aid understanding.

5 BRE GUIDELINES: ADDITIONAL DAYLIGHT AND SUNLIGHT TESTS

Daylight - VSC and APSH to Rooms

As outlined within the BRE Guidelines (paragraph 2.2.6), the VSC value is calculated for each window; however:

"If a room has two or more windows of equal size, the mean of their VSCs may be taken".

Where a room is served by two or more windows of the same or different sizes, the VSC value to the room can be calculated by applying an average weighting calculation to understand the VSC value to the room. The formula used is as follows;

Σ(Vn*An) / ΣAn

Where:

V = window VSC
A = window area
n = the number of windows

The BRE provide a methodology to calculate APSH in relation to the room and window, paragraph 3.1.12 states:

"If a room has multiple windows, the amount of sunlight received by each can be added together provided they occur at different times and sunlight hours are not double counted."

The above extract of the BRE is in relation to proposed units rather than existing buildings. It does, however, make sense to apply this methodology to existing rooms as well, when room layouts are known as a room served by multiple windows could receive the benefit of sunlight from all windows and not just one.

GIA calculate the APSH room assessment in the following way:

1 The sunlight hours (both winter and annual) are calculated for each window. Instead of simply returning the overall per cent pass rate, i.e. one figure for winter, and one for the whole year, the yes/no result of each of the 100 sun spots is tracked. For this accounting to work, each sun dot needs to be assigned a unique identifier, e.g. from 1 to 100;

2 The sets of 100 sun spots are combined for each room using Boolean logic, i.e. conjunctions of yes/no values. The outcome of this step is a set of 100 yes/no values corresponding to the 100 sun spots, but on a per-room basis. Each per-room dot is counted if it is unobstructed for at least one of its windows; and

3 The unobstructed sun dots for the room are summed up and expressed as a percentage of the total number of annual and winter spots.

Balconies/Overhangs

The BRE recognises that existing architectural features on neighbouring buildings such as balconies and overhangs inherently restrict the quantum of skylight to a window. The BRE Guidelines note on page 11, paragraph 2.1.17 and page 16, paragraph 2.2.13:

"This is a particular problem if there are large obstructions opposite; with the combined effect of the overhang and the obstruction, it may be impossible to see the sky from inside the room, and hence to receive any direct skylight or sunlight at all."

"Existing windows with balconies above them typically receive less daylight. Because the balcony cuts out light from the top part of the sky, even a modest obstruction opposite may result in a large relative impact on the VSC, and on the area receiving direct skylight. One way to demonstrate this would be to carry out an additional calculation of the VSC and the area receiving direct skylight, for both the existing and proposed situations, without the balcony in place."

As noted by the BRE Guidelines, where there are existing overhanging features, larger reductions in skylight and sunlight may be unavoidable and alternative criteria can be used. The guidance suggests that in such situations a calculation is carried out that excludes the balcony or the obstruction.

6 DAYLIGHT - MIRROR MASSING & ADJOINING DEVELOPMENT LAND

Alternative target Values for Skylight and Sunlight Access "Mirror Massing"

The BRE Guidelines provide a calculation for the VSC and APSH analysis to quantify an appropriate alternative value based on the context of an environment. This approach is known as the 'mirror image' analysis (see Figure 05).

The BRE notes in paragraph F5:

"where an existing building has windows that are unusually close to the site boundary and taking more than their fair share of light. Figure F3 shows an example where side windows of an existing building are close to the boundary. To ensure that new development matches the height and proportions of existing buildings, the VSC and APSH targets for these windows could be set to those for a 'mirror-image' building of the same height and size, an equal distance away on the other side of the boundary."

This analysis is used to understand the levels of Daylight (VSC) and Sunlight (APSH) that would be experienced by an extant neighbouring property if there were a building of the same height and extent opposite.

The mirror image assessment is fairly simplistic and is not, therefore, easily applied to large and complex site footprints which are not all built at equal distances from the site boundary or of the same footprint.

Adjoining Development Land

The "Adjoining Development Land" analysis provided within the BRE Guidelines is a simple test to ensure that a proposal is a reasonable distance from the boundary so as to "enable future nearby developments to enjoy a similar access to daylight." (2.3.1)

The BRE comments in paragraphs 2.3.3, 2.3.6 and 2.3.7 that:

"The diffuse daylight coming over the boundary may be quantified in the following way. As a first check, draw a section in a plane perpendicular to the boundary (Figure 21). If a road separates the two sites then the centre line of the road

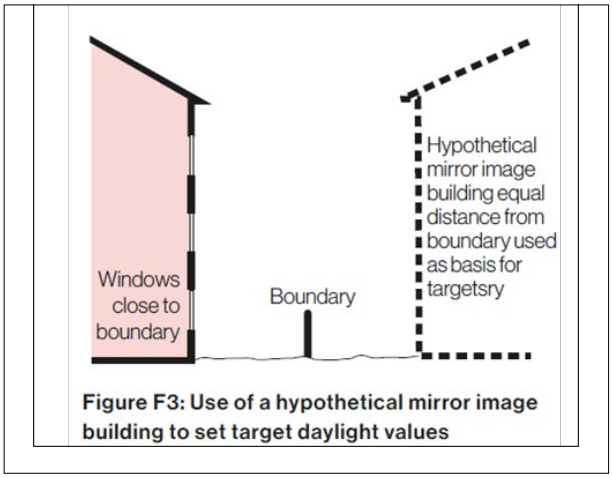


Image © BRE Guidelines

Fig. 05: Littlefair, P. (2022). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: HIS BRE Press p 87 Figure F3

should be taken. Measure the angle to the horizontal subtended at a point 1.6 metres above the boundary by the proposed new buildings. If this angle is less than 43 ° then there will normally still be the potential for good daylighting on the adjoining development site (but see Sections 2.3.6 and 2.3.7)."

"The guidelines above should not be applied too rigidly. A particularly important exception occurs when the two sites are very unequal in size and the proposed new building is larger in scale than the likely future development nearby. This is because the numerical values above are derived by assuming the future development will be exactly the same size as the ·proposed new building (Figure 22). If the adjoining sites for development are a lot smaller, a better approach is to make a rough prediction of where the nearest window wall of the future development may be; then to carry out the 'new building' analysis in Section 2.1 for this window wall."

"The 43° angle should not be used as a form generator, to produce a building which slopes or steps down towards the boundary. Compare Figure 23 with Figure 22 to see how this can result in a higher than anticipated obstruction to daylight. In Figure 23 the proposed building subtends 34° at its mirror image, rather than the maximum of 25° suggested here. In cases of doubt, the best approach is again to carry out a new building analysis for the most likely location of a window wall of a future development."

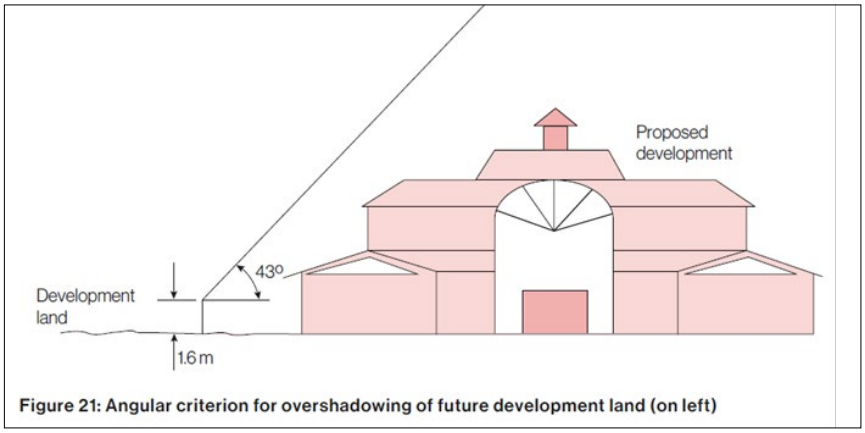


Image © BRE Guidelines

Figure 21: Angular criterion for overshadowing of future development land (on left)

Fig. 06: Littlefair, P. (2022). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: HIS BRE Press p 19 Figure 21

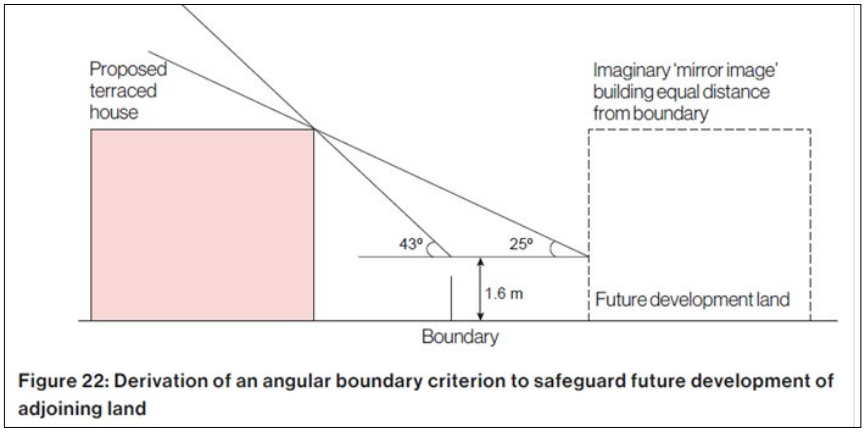


Image © BRE Guidelines

Figure 22: Derivation of an angular boundary criterion to safeguard future development of adjoining land

Fig. 07: Littlefair, P. (2022). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: HIS BRE Press p 20 Figure 22

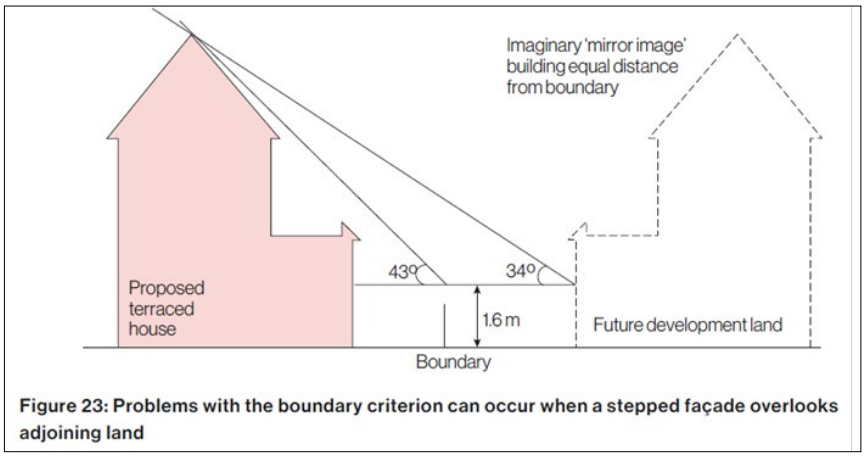


Image © BRE Guidelines

Figure 23: Problems with the boundary criterion can occur when a stepped façade overlooks adjoining land

Fig. 08: Littlefair, P. (2022). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: HIS BRE Press p 20 Figure 23

As outlined above, the Adjoining Development Land analysis is predicated on ensuring that a proposal next to future development land is not negatively impacting the ability to develop in consideration of light matters.

7 PHOTOVOLTAICS

Paragraph 4.5.2 states that *"where a proposed development may result in loss of radiation to existing solar panels (either photovoltaic or solar thermal), an assessment should be carried out."*

Paragraph 4.5.8 states that *"Where the annual probable sunlight hours received by a solar panel with the new development in place is less than 0.90 times the value before, a more detailed calculation of the loss of solar radiation should be undertaken. This is a specialist type of assessment and expert advice should be sought. The assessment should include both direct solar and diffuse sky radiation; over a whole year, around 60% of the radiation received on a horizontal roof comes from the sky. However, reflected radiation from the ground and obstructions need not be included. The modelling should take account of the effects of cloud in reducing direct solar radiation at different times of year, and include a realistic simulation of the way that incoming solar radiation varies from different parts of the sky."*

Paragraph 4.5.9 states that *"if over the whole year the ratio of total solar radiation received with the new development, to the existing value is less than the values given in Table 2, then the loss of radiation is significant."*

Table 2. Recommended minimum ratios of solar radiation received.

Slope of solar panel in degrees to horizontal	Recommended minimum ratio of radiation received after/before
0-30	0.90
30.01-59.99	0.85
60-90	0.80

Image © BRE Guidelines

Fig. 09: Table 2 from BRE Guidance Section 4, page 36

Finally, paragraph 4.5.10 notes that *"numerical values given are purely advisory. Different criteria may be used based on the requirements for solar energy in an area viewed against other site layout constraints. Another important issue is whether the existing solar panels are reasonably sited, at a sensible height and distance from the boundary. A greater loss of solar radiation may be inevitable if panels are mounted close to the ground and near to the site boundary."*

8

9 OTHER AMENITY CONSIDERATIONS

Daylight and sunlight is one factor among many under the heading of residential amenity considerations for any given development design or planning application; others include:

- View;
- Privacy;
- Security;
- Access;
- Enclosure;
- Microclimate;
- Solar Dazzle; and
- Solar Convergence.

MANCHESTER CITY COUNCIL

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Director of Planning, Building Control and Licensing

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Manchester M60 2LA

Ms Olivia Carr
Turley

Contact: Miss Jennifer Atkinson
Tel: 0161 234 4517
Fax: 0161 274 0014
Email: jennifer.atkinson@manchester.gov.uk

28 March 2023

Our reference: JA/DMN

Dear Ms Carr

TOWN AND COUNTRY PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2017 ("THE EIA REGULATIONS")

SCOPING REQUEST UNDER PART 4 REGULATION 15(1)

'ECHO STREET' MANCHESTER ("THE PROPOSED DEVELOPMENT")

SCOPING OPINION OF MANCHESTER CITY COUNCIL PURSUANT TO REGULATION 15

Thank you for your request dated 17 February 2023 for a Scoping Opinion at the above site.

In coming to a formal opinion on the scope of the Environmental Statement ("ES"), Manchester City Council, as Local Planning Authority, has considered the supporting information contained within your *'Echo Street Manchester - Environmental Impact Assessment Scoping Report'* prepared by yourselves, on behalf of the Applicant FEC, and the comments from statutory consultees.

I have now had a chance to consider your scoping request and I outline my response below.

The Proposed Development is considered an EIA development as it falls within the description and thresholds in Schedule 2 10(b) of the EIA Regulations as an 'Infrastructure Project - Urban Development Project' which has the potential to have significant effects on the environment. In accordance with Schedule 2, Categories 10(b) (urban development projects) of the EIA Regulations and owing to the location, scale and nature and of the Proposed Development, I note that you recognise the need for an EIA and have therefore submitted the Scoping Report for consideration to the City Council, as Local Planning Authority.

Before adopting a Scoping Opinion the City Council, as Local Planning Authority, must take into account the information specified in Regulation 15(6) of the EIA Regulations.

(a) any information provided by the applicant about the proposed development;

(b) the specific characteristics of the particular development;

(c) the specific characteristics of development of the type concerned; and

(d) the environmental features likely to be significantly affected by the development.

This Scoping Opinion sets out the information that the City Council, as Local Planning Authority, considers should be included in the ES that will be submitted with the subsequent planning application made in respect of the Proposed Development.

In formulating this Scoping Opinion the City Council, as Local Planning Authority, has taken account of, the requirements of the EIA Regulations, the nature and scale of the Proposed Development, the nature of the receiving environment, current best practice in the preparation of environmental statements, and the views expressed by the organisations and bodies that responded to the consultation.

This Scoping Opinion should not be construed as implying that the City Council, as Local Planning Authority, agrees with the conclusions set out in the Scoping Request regrading impacts of the proposal. This Scoping Opinion is without prejudice to any decisions subsequently taken in respect of any planning application submitted in respect of the Proposed Development.

Your report of the 17 February 2023 sets out the proposed chapters that the ES will cover, and the disciplines which you believe should be scoped into and out of the the EIA.

These are as follows:

Scoped In

- Socio-Economics and Human Health;
- Climate Change;
- Built Heritage;
- Townscape and Visual;
- Daylight, Sunlight, Overshadowing and Solar Glare;
- Wind Microclimate;
-Noise and Vibration.

Scoped Out

- Archaeology;
- Biodiversity;
- Traffic and Access;
- Air Quality;
- Ground Conditions;
- Flood Risk, Drainage and Water Environment;
- Lighting;
- Waste;
- Major Accidents and/or Disasters; and
- TV Reception.

Below is a consideration of the Scoping Report for the Proposed Development and comments on the approach which you have outlined.

CONSULTATIONS

Regulation 15 (4) of the EIA Regulations require the City Council, as Local Planning Authority, to consult consultation bodies prior to adopting a Scoping Opinion.

Having regard to Regulation 2 of the EIA Regulations, the following consultees were consulted who have specific environmental responsibilities and which the City Council, as Local Planning Authority, considers are likely to have an interest in the development proposal.

- Natural England;
- Environment Agency;
- Greater Manchester Ecology Unit (GMEU);
- Greater Manchester Archaeology Advisory Service (GMAAS);
- Transport for Greater Manchester (TfGM);
- United Utilities;
- City Council Highway Services;
- City Council Environmental Health;
- City Council Flood Risk Management;
- City Council works and skills;
- Aerodrome Safeguarding;
- Design for Security at Greater Manchester Police.

All responses of the consultees contacted by the City Council, as Local Planning Authority, during the EIA scoping process are appended to this letter.

You are strongly recommended to consult further with consultees as appropriate throughout the EIA process as the development proposal evolves. It is thereby recommended all consultee responses are reviewed by you and the applicant in full.

Any subsequent ES submitted with a planning application should reflect the points raised by the consultation bodies where this reflects the requirements of the Regulations. It is recommended that the ES summarises the scoping responses from the consultation bodies and how they are, or are not, addressed in this regard. Any consultation responses received after the date of this letter, that have not been taken into account within this Scoping Opinion, will be forwarded to you and should be given due consideration in the planning application and EIA process.

CONTEXT

The development site is approximately 0.5 hectares and is bounded by Vimto Park to the west, the Manchester Oxford Road-Manchester Piccadilly railway line to the south, the A6 London Road to the east and Lambert House, Fairfield Hall and the Bulls head public house to the north. Access to the site is via Echo Street and Granby Row.

The site is currently vacant following removal of previous buildings and trees which once occupied the site. Pilling works associated with a previous planning permission are also present at the development site. Archaeological works and ground investigations have also taken place at the site.

The surrounding area is dominated by Manchester Piccadilly railway station and the associated railway infrastructure. There are also residential and commercial developments along with educational buildings associated with the former UMIST university estate.

SENSITIVE RECEPTORS

The development site is located within the Greater Manchester Combined Air Quality Management Area (AQMA).

The site is not within, nor does it contain, any ecological designations including sites of specific interest (SSSI), sites of biological importance (SB1) or special protection areas (SPA).

The site is located in Flood Zones 1 along with being located within the Manchester, Salford and Trafford Critical Drainage Area (CDA).

The development site is not located within a Conservation Area and the site does not contain any listed buildings.

PROPOSED DEVELOPMENT

I note from your Scoping Report that the Proposed Development is based on a number of parameters which are evolving as part of the design process. Should these parameters change, then a further scoping assessment should be undertaken if the scope of the ES needs to reflect this.

The proposed development would see up to 1,225 purpose built student accommodation units (Use Class Sui Generis) being built across three buildings. The maximum building height would be 28 storeys (excluding basement and platforms).

Vehicular access would be from Echo Street. Pedestrians and cyclist access would be from Echo Street/Granby Row and Vimto Gardens.

Public realm works would be proposed together with 8 on street parking spaces along Granby Row (including two disabled bays). 610 cycle spaces would be provided.

ASSESSMENT OF THE SCOPING REPORT

I can confirm that the approach outlined within the Scoping Report is considered to be generally acceptable, appropriate and proportionate. This is also reflected in the nature of the consultation responses.

You should note the specific points I have made below within the specific discipline areas which reflect the comments of the consultees and those of the City Council, as Local Planning Authority. These matters should also be included and addressed within the relevant chapters of ES.

Discussion of alternatives

Paragraph (3)(d) of Regulation 18, and paragraph 2 of Schedule 4 of the EIA Regulations, require that environmental statements include discussion description of the reasonable alternatives to the Proposed Development and an indication of the main reasons for the option chosen, that have been considered by the applicant.

I note within section 3 of your Scoping Request that you intend to provide a discussion on alternatives within the ES. This will focus on alternatives considered and project design evolution

Presentation and content of the Environmental Statement

The purpose of an ES is to enable significant environmental impacts of a proposed development to be fully considered before an application for planning consent is determined.

The ES provides environmental information to aid the decision making process. The ES should be laid out clearly, with minimum use of technical terms (where appropriate) and should provide an objective and realistic description of the likely significant impacts of the proposed development.

The information should be presented so as to be comprehensible to the specialist and non-specialist alike. The ES should be concise with supporting technical information placed in appendices

Mitigation

Paragraph 7 of Schedule 4 of the EIA Regulations states that mitigation measures may fall into a range of categories namely:

- avoidance of impacts;
- reduction in the magnitude of impacts; or
- compensation for losses incurred through unavoidable impacts;

These should identified as such in the technical chapters of the ES.

Mitigation measures should not be developed in isolation, as they may relate to more than one aspect of the environment (e.g. mitigation to address issues of landscaping, surface water management, air quality and biodiversity).

The ES should set out the mitigation measures required to prevent, reduce and where possible offset any significant adverse effects. The ES should also identify any residual effects that could be expected to persist even with mitigation in place.

The anticipated effectiveness of any mitigation measures proposed should be addressed within the ES. Only mitigation measures that can be shown to be deliverable (i.e. technically and financially viable), and for which the applicant can deliver and implement as part of any planning permission granted, should be taken into account as part of the assessment.

It is further recommended that a section is included in the ES in which the mitigation measures proposed across all the technical chapters are collated, and presented as an integrated package.

It is considered best practice to outline in the ES, the structure of the environmental management and monitoring plan.

Cumulative effects

The committed developments summarised appears to be acceptable.

Cross references and summarising of the findings

All specialist chapters should be cross-referenced to other relevant disciplines (for example traffic impacts on air quality). Consideration of the potential for interactions between the different aspects of the environment is essential to the production of a robust assessment.

The ES should not be a collection of separate specialist chapters, but a comprehensive assessment of the environmental impacts of the proposed components of the wider scheme, and should account for how the identified impacts could be mitigated or avoided, or how suitable compensation could be provided to offset those effects.

In accordance with the requirements of paragraph 6 of Schedule 4 of the EIA Regulations, each technical chapter should include a description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of any difficulties (e.g. technical deficiencies, lack of know-how, etc.) encountered by the applicant during the preparation of the ES and the main uncertainties involved.

ENVIRONMENTAL MATTERS TO BE SCOPED OUT OF THE ES

The City Council comments as follows, based on the information provided, on the matters proposed to be scoped out of the ES.

Archaeology

The Scoping Report concludes that although there is evidence of surviving 18th-century building fragments, this would be of local significance only. Accordingly, Archaeological can be scope out of the ES on the basis that a detailed archaeological desk based assessment is submitted with the planning application.

Biodiversity

I accept that biodiversity is capable of being scoped out of the ES and can instead form part of the supporting documents to the planning application and should include measure to improve the nature conservation value of the this urban area including biodiversity net gain.

Traffic and Access

Further details are required to determine if Traffic and Access can be scoped out of the ES.

The Scoping Report states that Traffic and Access and Waste has been identified as to not have significant impacts and therefore are to be scoped out of the ES.

I require further details that the construction of the development would not cause impacts on the local highway. This should include information on trip generation but also traffic redistribution impacts associated with any traffic management during the construction phase. Information should also be provide on proposed/potential road closures, diversions, temporary signals and traffic management. Once this information has been provided, further detailed comments can be provided on whether this can be scoped out of the ES.

Air Quality

The Scoping Report concludes that although the site is located within the AQMA, the nature of the proposal and site context, there would be no significant effects which

would require consideration by an EIA. I confirm that air quality can be scoped out of the ES provided the planning application is supported by an appropriate report which supports these conclusions.

Ground Conditions

The Scoping Report concludes that although there is evidence of previous contamination, there is nothing unusual or complex about the ground conditions at the proposed development site. As a result, there will be no significant effects which would require consideration by an EIA. I confirm that ground conditions can be scoped out of the ES provided the planning application is supported by an appropriate report which supports these conclusions.

Flood Risk, Drainage and Water Environment

The Scoping Report concludes that the main risk of flooding site the site would be from surface water run off and that no significant risks are likely. I can confirm that Water Resources can be scoped out of the ES provided that the planning application is supported by an appropriate report which support these conclusions.

The following details must be covered appropriately within the document including mitigation.

The Flood Risk Assessment and Surface Water Drainage Strategy should demonstrate design compliance with national and local policy.

The scheme's masterplan should consider the Shooters Brook culverted ordinary watercourse which is indicated to be beneath Granby Row in the LLFA Asset Register.

The supporting reports should also demonstrate that any contamination at the site should not have an adverse impact on the water environment and mitigation measures should be proposed to ensure this.

There is also evidence of a critical sewer and pressurised water mains within the site boundary. The precise location of these assets (and their associated easement strips) will need to be confirmed and any future development must not encroach on these assets or the associated maintenance strips.

Lighting

The Scoping Report notes that a baseline any lighting would be localised in nature and proportionate for the proposed scheme and therefore no more than local significance. I can confirm that Lighting can be scoped out of the ES provided that the planning application is supported by an appropriate report which support these conclusions.

Waste

The Scoping Report concludes that there would be appropriate waste management arrangements during both construction and when the development becomes operational. I confirm that waste can be scoped out of the ES provided the planning application is supported by an appropriate report which supports these conclusions.

Major Accidents and/or Disasters

The Scoping Report concludes that the site does not fall within an consultation zones for the Health and Safety Executive. I confirm that waste can be scoped out of the ES

TV Reception

The Scoping Report notes that a baseline of the local conditions would be established which would allow reassessment once the development is complete and mitigation devised if necessary. I can confirm that Telecommunications can be scoped out of the ES provided that the planning application is supported by an appropriate report which support these conclusions.

S**ummary**

I agree that some of the matters you have identified to be scoped out of the ES are appropriate. I am of the opinion, however, that further information would be required to determine if traffic and access can be scoped out of the ES.

The planning application must be supported by appropriate documentation, including any mitigation, to minimise any effects as a result of the Proposed Development from the matters capable of being scoped out. The City Council reserves the right to re-consider this position following a more detailed consideration of the reports which will accompany the planning application.

ENVIRONMENTAL STATEMENT CHAPTERS - SPECIFIC COMMENTS ON THE TECHNICAL CONTENTS

The ES should be proportionate in its consideration of the aspects of the environment listed under Paragraph 2 of Regulation 4 of the EIA Regulations. Those aspects of the environment that are subject to the most significant impacts from the Proposed Development should be the primary focus of the ES.

Your Scoping Report advises that the ES will cover the following topic areas.

- Socio-Economics and Human Health;
- Climate Change;
- Built Heritage;
- Townscape and Visual;
- Daylight, Sunlight, Overshadowing and Solar Glare;
- Wind Microclimate;
- Noise and Vibration.

Socio-Economics and Human Health

The comments within your Scoping Report are noted and are acceptable in terms of their consideration in the ES

Climate Change

The comments within your Scoping Report are noted and are acceptable in terms of their consideration in the ES

Built Heritage

The comments within your Scoping Report are noted and are acceptable in terms of their consideration in the ES

Townscape and Visual

The comments within your Scoping Report are noted and are acceptable in terms of their consideration in the ES

Daylight, Sunlight, Overshadowing and Solar Glare

The comments within your Scoping Report are noted and are acceptable in terms of their consideration in the ES.

I would welcome clarification on the list and location of the properties to be considered to ensure we have captured all relevant site. For instance, is Cedar House covered within the assessment but under a different name? Please could you provide a plan identifying the relevant properties to be considered.

Wind Microclimate

The comments within your Scoping Report are noted and are acceptable in terms of their consideration in the ES

Noise and Vibration

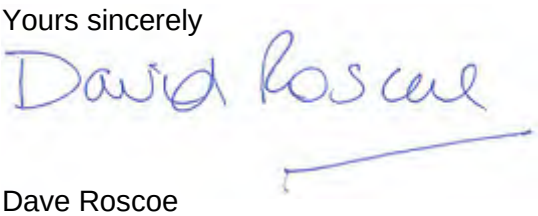
The comments within your Scoping Report are noted and are acceptable in terms of their consideration in the ES

FURTHER INFORMATION

The City Council, as Local Planning Authority, has undertaken a thorough consideration of the information contained within your Scoping Report together with providing comments from relevant statutory consultees. The issuing of this Scoping Opinion does not preclude the City Council, as Local Planning Authority, from requesting further information at a later stage as the development proposals evolve or whilst a future planning application is being formally considered.

I trust this information is of some assistance to you. Should you require anything further please do not hesitate to contact myself or Jennifer Atkinson.

Yours sincerely



Dave Roscoe
Assistant Director of Planning

APPENDIX – CONSULTEE RESPONSES

Date: 06 March 2023
Our ref: 423167
Your ref: N/A

Manchester City Council
BY EMAIL ONLY

Consultations
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

T 0300 060 900

Dear Sir or Madam,

Environmental Impact Assessment Scoping consultation (Regulation 15 (4) of the Town and Country Planning EIA Regulations 2017): Full planning permission for the demolition of existing buildings on site and their replacement with a mixed use (sui generis) development comprising 3 towers ranging in height (from 14, 20 and to 25 storeys (including lower ground floor level) and intermediary link buildings and providing: 403 units of Co-Living residential accommodation with associated shared amenity spaces; 94 units of purpose built student accommodation with associated shared amenity spaces; ground floor commercial floor space and children's day nursery together with cycle parking, recycling and refuse bin storage, associated plant and public realm enhancements to Granby Row, Echo Street, Cobourg Street and Back Acton Street
Location: Land At Chandos Hall Between Echo Street, Granby Row, Vimto Gardens And Manchester South Junction And Altrincham Railway Viaduct Manchester M1 3QJ

Thank you for seeking our advice on the scope of the Environmental Statement (ES) in the consultation dated 23 February 2023**,** received on 23 February 2023.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

A robust assessment of environmental impacts and opportunities based on relevant and up to date environmental information should be undertaken prior to a decision on whether to grant planning permission. Annex A to this letter provides Natural England's advice on the scope of the Environmental Impact Assessment (EIA) for the proposed development.

Further guidance is set out in Planning Practice Guidance on environmental assessment, natural environment and climate change.

Should the proposal be amended in a way which significantly affects its impact on the natural environment then, in accordance with Section 4 of the Natural Environment and Rural Communities Act 2006, Natural England should be consulted again.

Please note that Natural England must be consulted on Environmental Statements.

Please send any new consultations or further information on this consultation to consultations@naturalengland.org.uk.

Yours faithfully

Loz Burridge
Consultations Team

Annex A – Natural England Advice on EIA Scoping

General Principles

Schedule 4 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017, sets out the information that should be included in an Environmental Statement (ES) to assess impacts on the natural environment. This includes:

- A description of the development – including physical characteristics and the full land use requirements of the site during construction and operational phases
- Expected residues and emissions (water, air and soil pollution, noise, vibration, light, heat, radiation etc.) resulting from the operation of the proposed development
- An assessment of alternatives and clear reasoning as to why the preferred option has been chosen
- A description of the aspects of the environment likely to be significantly affected by the development including biodiversity (for example fauna and flora), land, including land take, soil, water, air, climate (for example greenhouse gas emissions, impacts relevant to adaptation, cultural heritage and landscape and the interrelationship between the above factors
- A description of the likely significant effects of the development on the environment – this should cover direct effects but also any indirect, secondary, cumulative, short, medium, and long term, permanent and temporary, positive, and negative effects. Effects should relate to the existence of the development, the use of natural resources (in particular land, soil, water and biodiversity) and the emissions from pollutants. This should also include a description of the forecasting methods to predict the likely effects on the environment
- A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment
- A non-technical summary of the information
- An indication of any difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information

Further guidance is set out in Planning Practice Guidance on environmental assessment and natural environment.

Cumulative and in-combination effects

The ES should fully consider the implications of the whole development proposal. This should include an assessment of all supporting infrastructure.

An impact assessment should identify, describe, and evaluate the effects that are likely to result from the project in combination with other projects and activities that are being, have been or will be carried out. The following types of projects should be included in such an assessment (subject to available information):

a. existing completed projects;
b. approved but uncompleted projects;
c. ongoing activities;
d. plans or projects for which an application has been made and which are under consideration by the consenting authorities; and
e. plans and projects which are reasonably foreseeable, i.e. projects for which an application has not yet been submitted, but which are likely to progress before completion of the development and for which sufficient information is available to assess the likelihood of cumulative and in-combination effects.

Environmental data

Natural England is required to make available information it holds where requested to do so. National datasets held by Natural England are available at http://www.naturalengland.org.uk/publications/data/default.aspx.

Detailed information on the natural environment is available at www.magic.gov.uk.

Natural England's SSSI Impact Risk Zones are a GIS dataset which can be used to help identify the potential for the development to impact on a SSSI. The dataset and user guidance can be accessed from the Natural England Open Data Geoportal.

Natural England does not hold local information on local sites, local landscape character, priority habitats and species or protected species. Local environmental data should be obtained from the appropriate local bodies. This may include the local environmental records centre, the local wildlife trust, local geo-conservation group or other recording society.

Biodiversity and Geodiversity

General principles

The National Planning Policy Framework (paragraphs174-175 and 179-182) sets out how to take account of biodiversity and geodiversity interests in planning decisions. Further guidance is set out in Planning Practice Guidance on the natural environment.

The potential impact of the proposal upon sites and features of nature conservation interest and opportunities for nature recovery and biodiversity net gain should be included in the assessment.

Ecological Impact Assessment (EcIA) is the process of identifying, quantifying, and evaluating the potential impacts of defined actions on ecosystems or their components. EcIA may be carried out as part of the EIA process or to support other forms of environmental assessment or appraisal. Guidelines have been developed by the Chartered Institute of Ecology and Environmental Management (CIEEM).

Local planning authorities have a duty to have regard to conserving biodiversity as part of their decision making. Conserving biodiversity can include habitat restoration or enhancement. Further information is available here.

Designated nature conservation sites

The proposal is unlikely to adversely impact any European or internationally designated nature conservation sites (including 'habitats sites' under the NPPF) or nationally designated sites (Sites of Special Scientific Interest, National Nature Reserves or Marine Conservation Zones).

Regionally and Locally Important Sites

The ES should consider any impacts upon local wildlife and geological sites, including local nature reserves. Local Sites are identified by the local wildlife trust, geoconservation group or other local group and protected under the NPPF (paragraph 174 and 175). The ES should set out proposals for mitigation of any impacts and if appropriate, compensation measures and opportunities for enhancement and improving connectivity with wider ecological networks. Contact the relevant local body for further information.

Protected Species

The conservation of species protected under the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2017
is explained in Part IV and Annex A of Government Circular 06/2005 *Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System*.

The ES should assess the impact of all phases of the proposal on protected species (including, for example, great crested newts, reptiles, birds, water voles, badgers and bats). Natural England does not hold comprehensive information regarding the locations of species protected by law. Records of protected species should be obtained from appropriate local biological record centres, nature conservation organisations and local groups. Consideration should be given to the wider context of the site, for example in terms of habitat linkages and protected species populations in the wider area.

The area likely to be affected by the development should be thoroughly surveyed by competent ecologists at appropriate times of year for relevant species and the survey results, impact assessments and appropriate accompanying mitigation strategies included as part of the ES. Surveys should always be carried out in optimal survey time periods and to current guidance by suitably qualified and, where necessary, licensed, consultants.

Natural England has adopted standing advice for protected species, which includes guidance on survey and mitigation measures . A separate protected species licence from Natural England or Defra may also be required.

District Level Licensing for Great Crested Newts

District level licensing (DLL) is a type of strategic mitigation licence for great crested newts (GCN) granted in certain areas at a local authority or wider scale. A DLL scheme for GCN may be in place at the location of the development site. If a DLL scheme is in place, developers can make a financial contribution to strategic, off-site habitat compensation instead of applying for a separate licence or carrying out individual detailed surveys. By demonstrating that DLL will be used, impacts on GCN can be scoped out of detailed assessment in the Environmental Statement.

Priority Habitats and Species

Priority Habitats and Species are of particular importance for nature conservation and included in the England Biodiversity List published under section 41 of the Natural Environment and Rural Communities Act 2006. Most priority habitats will be mapped either as Sites of Special Scientific Interest, on the Magic website or as Local Wildlife Sites. Lists of priority habitats and species can be found here. Natural England does not routinely hold species data. Such data should be collected when impacts on priority habitats or species are considered likely.

Consideration should also be given to the potential environmental value of brownfield sites, often found in urban areas and former industrial land. Sites can be checked against the (draft) national Open Mosaic Habitat (OMH) inventory published by Natural England and freely available to download. Further information is also available here.

An appropriate level habitat survey should be carried out on the site, to identify any important habitats present. In addition, ornithological, botanical, and invertebrate surveys should be carried out at appropriate times in the year, to establish whether any scarce or priority species are present.

The Environmental Statement should include details of:

- Any historical data for the site affected by the proposal (e.g. from previous surveys)

- Additional surveys carried out as part of this proposal
- The habitats and species present
- The status of these habitats and species (e.g. whether priority species or habitat)
- The direct and indirect effects of the development upon those habitats and species
- Full details of any mitigation or compensation measures
- Opportunities for biodiversity net gain or other environmental enhancement

Ancient Woodland, ancient and veteran trees

The ES should assess the impacts of the proposal on any ancient woodland, ancient and veteran trees, and the scope to avoid and mitigate for adverse impacts. It should also consider opportunities for enhancement.

Natural England maintains the Ancient Woodland Inventory which can help identify ancient woodland. The wood pasture and parkland inventory sets out information on wood pasture and parkland.

The ancient tree inventory provides information on the location of ancient and veteran trees.

Natural England and the Forestry Commission have prepared standing advice on ancient woodland, ancient and veteran trees.

Biodiversity net gain

Paragraph 174 of the NPPF states that decisions should contribute to and enhance the natural and local environment by minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

Biodiversity Net Gain is additional to statutory requirements relating to designated nature conservation sites and protected species.

The ES should use an appropriate biodiversity metric such as Biodiversity Metric 3.0 together with ecological advice to calculate the change in biodiversity resulting from proposed development and demonstrate how proposals can achieve a net gain.
The metric should be used to:
• assess or audit the biodiversity unit value of land within the application area
• calculate the losses and gains in biodiversity unit value resulting from proposed development
• demonstrate that the required percentage biodiversity net gain will be achieved

Biodiversity Net Gain outcomes can be achieved on site, off-site or through a combination of both. On-site provision should be considered first. Delivery should create or enhance habitats of equal or higher value. When delivering net gain, opportunities should be sought to link delivery to relevant plans or strategies e.g. Green Infrastructure Strategies or Local Nature Recovery Strategies.

Opportunities for wider environmental gains should also be considered.

Landscape

Landscape and visual impacts

The environmental assessment should refer to the relevant National Character Areas. Character area profiles set out descriptions of each landscape area and statements of environmental opportunity.

The ES should include a full assessment of the potential impacts of the development on local landscape character using landscape assessment methodologies. We encourage the use of Landscape Character Assessment (LCA), based on the good practice guidelines produced jointly by the Landscape Institute and Institute of Environmental Assessment in 2013. LCA provides a sound basis for guiding, informing, and understanding the ability of any location to accommodate change and to make positive proposals for conserving, enhancing or regenerating character.

A landscape and visual impact assessment should also be carried out for the proposed development and surrounding area. Natural England recommends use of the methodology set out in *Guidelines for Landscape and Visual Impact Assessment 2013 (*(3rd edition) produced by the Landscape Institute and the Institute of Environmental Assessment and Management. For National Parks and AONBs, we advise that the assessment also includes effects on the 'special qualities' of the designated landscape, as set out in the statutory management plan for the area. These identify the particular landscape and related characteristics which underpin the natural beauty of the area and its designation status.

The assessment should also include the cumulative effect of the development with other relevant existing or proposed developments in the area. This should include an assessment of the impacts of other proposals currently at scoping stage.

To ensure high quality development that responds to and enhances local landscape character and distinctiveness, the siting and design of the proposed development should reflect local characteristics and, wherever possible, use local materials. Account should be taken of local design policies, design codes and guides as well as guidance in the National Design Guide and National Model Design Code. The ES should set out the measures to be taken to ensure the development will deliver high standards of design and green infrastructure. It should also set out detail of layout alternatives, where appropriate, with a justification of the selected option in terms of landscape impact and benefit.

Heritage Landscapes

The ES should include an assessment of the impacts on any land in the area affected by the development which qualifies for conditional exemption from capital taxes on the grounds of outstanding scenic, scientific, or historic interest. An up-to-date list is available at www.hmrc.gov.uk/heritage/lbsearch.htm.

Connecting People with nature

The ES should consider potential impacts on access land, common land, public rights of way and, where appropriate, the England Coast Path and coastal access routes and coastal margin in the vicinity of the development, in line with NPPF paragraph 100. It should assess the scope to mitigate for any adverse impacts. Rights of Way Improvement Plans (ROWIP) can be used to identify public rights of way within or adjacent to the proposed site that should be maintained or enhanced.

Measures to help people to better access the countryside for quiet enjoyment and opportunities to connect with nature should be considered. Such measures could include reinstating existing footpaths or the creation of new footpaths, cycleways, and bridleways. Links to other green networks and, where appropriate, urban fringe areas should also be explored to help promote the creation of wider green infrastructure. Access to nature within the development site should also be considered, including the role that natural links have in connecting habitats and providing potential pathways for movements of species.

Relevant aspects of local authority green infrastructure strategies should be incorporated where

appropriate.

Soils and Agricultural Land Quality

Soils are a valuable, finite natural resource and should also be considered for the ecosystem services they provide, including for food production, water storage and flood mitigation, as a carbon store, reservoir of biodiversity and buffer against pollution. It is therefore important that the soil resources are protected and sustainably managed. Impacts from the development on soils and best and most versatile (BMV) agricultural land should be considered in line with paragraphs 174 and 175 of the NPPF. Further guidance is set out in the Natural England Guide to assessing development proposals on agricultural land.

As set out in paragraph 211 of the NPPF, new sites or extensions to sites for peat extraction should not be granted planning permission.

The following issues should be considered and, where appropriate, included as part of the Environmental Statement (ES):

- The degree to which soils would be disturbed or damaged as part of the development
- The extent to which agricultural land would be disturbed or lost as part of this development, including whether any best and most versatile (BMV) agricultural land would be impacted.

This may require a detailed Agricultural Land Classification (ALC) survey if one is not already available. For information on the availability of existing ALC information see www.magic.gov.uk.

- Where an ALC and soil survey of the land is required, this should normally be at a detailed level, e.g. one auger boring per hectare, (or more detailed for a small site) supported by pits dug in each main soil type to confirm the physical characteristics of the full depth of the soil resource, i.e. 1.2 metres. The survey data can inform suitable soil handling methods and appropriate reuse of the soil resource where required (e.g. agricultural reinstatement, habitat creation, landscaping, allotments and public open space).
- The ES should set out details of how any adverse impacts on BMV agricultural land can be minimised through site design/masterplan.
- The ES should set out details of how any adverse impacts on soils can be avoided or minimised and demonstrate how soils will be sustainably used and managed, including consideration in site design and master planning, and areas for green infrastructure or biodiversity net gain. The aim will be to minimise soil handling and maximise the sustainable use and management of the available soil to achieve successful after-uses and minimise off-site impacts.

Further information is available in the Defra Construction Code of Practice for the Sustainable Use of Soil on Development Sites and
The British Society of Soil Science Guidance Note Benefitting from Soil Management in Development and Construction.

Air Quality

Air quality in the UK has improved over recent decades but air pollution remains a significant issue. For example, approximately 85% of protected nature conservation sites are currently in exceedance of nitrogen levels where harm is expected (critical load) and approximately 87% of sites exceed the

level of ammonia where harm is expected for lower plants (critical level of 1µg) [1].A priority action in the England Biodiversity Strategy is to reduce air pollution impacts on biodiversity. The Government's Clean Air Strategy also has a number of targets to reduce emissions including to reduce damaging deposition of reactive forms of nitrogen by 17% over England's protected priority sensitive habitats by 2030, to reduce emissions of ammonia against the 2005 baseline by 16% by 2030 and to reduce emissions of NOx and SO_2 against a 2005 baseline of 73% and 88% respectively by 2030. Shared Nitrogen Action Plans (SNAPs) have also been identified as a tool to reduce environmental damage from air pollution.

The planning system plays a key role in determining the location of developments which may give rise to pollution, either directly, or from traffic generation, and hence planning decisions can have a significant impact on the quality of air, water and land. The ES should take account of the risks of air pollution and how these can be managed or reduced. This should include taking account of any strategic solutions or SNAPs, which may be being developed or implemented to mitigate the impacts on air quality. Further information on air pollution impacts and the sensitivity of different habitats/designated sites can be found on the Air Pollution Information System (www.apis.ac.uk).

Information on air pollution modelling, screening and assessment can be found on the following websites:

- SCAIL Combustion and SCAIL Agriculture - http://www.scail.ceh.ac.uk/
- Ammonia assessment for agricultural development https://www.gov.uk/guidance/intensive-farming-risk-assessment-for-your-environmental-permit
- Environment Agency Screening Tool for industrial emissions https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit
- Defra Local Air Quality Management Area Tool (Industrial Emission Screening Tool) – England http://www.airqualityengland.co.uk/laqm

Water Quality

The planning system plays a key role in determining the location of developments which may give rise to water pollution, and hence planning decisions can have a significant impact on water quality, and land. The assessment should take account of the risks of water pollution and how these can be managed or reduced. A number of water dependent protected nature conservation sites have been identified as failing condition due to elevated nutrient levels and nutrient neutrality is consequently required to enable development to proceed without causing further damage to these sites. The ES needs to take account of any strategic solutions for nutrient neutrality or Diffuse Water Pollution Plans, which may be being developed or implemented to mitigate and address the impacts of elevated nutrient levels. Further information can be obtained from the Local Planning Authority.

Climate Change

The ES should identify how the development affects the ability of the natural environment (including habitats, species, and natural processes) to adapt to climate change, including its ability to provide adaptation for people. This should include impacts on the vulnerability or resilience of a natural feature (i.e. what's already there and affected) as well as impacts on how the environment can accommodate change for both nature and people, for example whether the development affects species ability to move and adapt. Nature-based solutions, such as providing green infrastructure on-site and in the surrounding area (e.g. to adapt to flooding, drought and heatwave events), habitat creation and peatland restoration, should be considered. The ES should set out the measures that will be adopted to address impacts.

Further information is available from the Committee on Climate Change's (CCC) Independent

[1] Report: Trends Report 2020: Trends in critical load and critical level exceedances in the UK - Defra, UK

Assessment of UK Climate Risk, the National Adaptation Programme (NAP), the Climate Change Impacts Report Cards (biodiversity, infrastructure, water etc.) and the UKCP18 climate projections.

The Natural England and RSPB Climate Change Adaptation Manual (2020) provides extensive information on climate change impacts and adaptation for the natural environment and adaptation focussed nature-based solutions for people. It includes the Landscape Scale Climate Change Assessment Method that can help assess impacts and vulnerabilities on natural environment features and identify adaptation actions. Natural England's Nature Networks Evidence Handbook (2020) also provides extensive information on planning and delivering nature networks for people and biodiversity.

The ES should also identify how the development impacts the natural environment's ability to store and sequester greenhouse gases, in relation to climate change mitigation and the natural environment's contribution to achieving net zero by 2050. Natural England's Carbon Storage and Sequestration by Habitat report (2021) and the British Ecological Society's nature-based solutions report (2021) provide further information.

Contribution to local environmental initiatives and priorities

The ES should consider the contribution the development could make to relevant local environmental initiatives and priorities to enhance the environmental quality of the development and deliver wider environmental gains. This should include considering proposals set out in relevant local strategies or supplementary planning documents including landscape strategies, green infrastructure strategies, tree and woodland strategies, biodiversity strategies or biodiversity opportunity areas.

Jennifer Atkinson
Manchester City Council
PO Box 532
Manchester
Lancashire
M60 2LA

Our ref: SO/2023/122948/01-L01
Your ref: IQSM3015

Date: 16 March 2023

Dear Jennifer Atkinson

UP TO 1,225 PURPOSE BUILT STUDENT ACCOMMODATION UNITS (USE CLASS SUI GENERIS).
ECHO STREET, MANCHESTER

Thank you for consulting us on the above Environmental Impact Assessment Scoping report.

We expect the Environmental Impact Assessment to consider the impacts the development may have in relation to contamination at the site and detail any required mitigation measures to prevent an adverse impact on the water environment.

In addition, where historic uses have led to contamination of the soils and/or groundwater beneath the site, the developer should address risks posed to controlled waters by referring to the published Environment Agency land contamination technical guidance available on the direct.gov website.

Should you require any further information or advice, please do not hesitate to contact me on the details below.

Yours sincerely

Mr Jake Newby
Planning Specialist

Direct e-mail [redacted]
Team e-mail SPPlanning.RFH@environment-agency.gov.uk

End

Echo Street - Scoping Opinion

David Dutton [redacted]

Mon 13/03/2023 11:19

To: Jennifer Atkinson <jennifer.atkinson@manchester.gov.uk>

Hi Jennifer

Thank you for consulting the GMEU

I agree that biodiversity can be scoped out of any Environment Assessment that may be required for this development.

David Dutton
Ecologist
Planning
Planning and Transportation
Place

Tameside MBC | Twitter | Facebook | Instagram | TikTok | LinkedIn
Dukinfield Town Hall | King Street | Dukinfield | Tameside | SK16 4LA

Tel. [redacted]
Mobile. [redacted]

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exemptions in the Act.

EIA Scoping Request - Echo Street, Manchester - Archaeology

Ian Miller [redacted]

Mon 27/02/2023 11:09

To: Jennifer Atkinson <jennifer.atkinson@manchester.gov.uk>

Good morning Jen

RE: EIA Scoping Request - Echo Street, Manchester - Archaeology

Thank you for consulting GMAAS on an EIA Scoping Opinion and the archaeological considerations associated with the proposed development on Echo Street in Manchester city centre.

The applicant has submitted an EIA Scoping Report, prepared by Turley in February 2023, which identifies that the proposed development falls within Schedule 2 (10b) of the EIA Regulations. The Scoping Report includes a section on archaeology (paragraphs 5.6 – 5.21) that summarises the baseline conditions, assesses the potential impact of development on archaeological remains and considers the significance of any such impact. The report concludes that 'the impact on archaeological remains to the surviving 18th-century building fragments is not considered to be significant and will not be considered further in the EIA or reported in the ES. These impacts (which are not considered to be significant) will be set out in a desk-based assessment to be submitted as part of the Application'.

GMAAS concurs with this conclusion, and is satisfied that archaeology can be scoped out of the EIA.

Kind regards

Ian

Ian Miller BA FSA
Heritage Management Director
Greater Manchester Archaeological Advisory Service
Centre for Applied Archaeology, Peel Building
School of Science, Engineering & Environment
University of Salford, Manchester M5 4WT, UK
T: [redacted] / M: [redacted]

EIA scoping request - Echo Street

Leamey, Helen [redacted]

Tue 28/02/2023 10:45

To: Jennifer Atkinson <jennifer.atkinson@manchester.gov.uk>

You don't often get email from helen.leamey@uuplc.co.uk. Learn why this is important

The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (the "EIA" Regulations) - Request for Scoping Opinion

Echo Street

Dear Planning team

United Utilities wish to make the following comments regarding the proposal detailed above.

Whilst we have no specific comments to make on the scoping report, we would be grateful if you could advise the applicant of the following comments:

According to our records there is a critical sewer and pressurised water mains within the site boundary. The precise location of these assets (and their associated easement strips) will need to be confirmed by the applicant and any future development must not encroach on these assets or the associated maintenance strips.

If the applicant hasn't already done so, they can take advantage of our free pre-development service by visiting our website https://www.unitedutilities.com/builders-developers/your-development/planning/pre-development-guidance/

Please feel free to contact me should you have any further queries.

Kind regards

Helen Leamey
Town Planner
Planning, Landscape and Ecology
M: [redacted]
unitedutilities.com

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www.unitedutilities.com/subsidiaries

Manchester EIA scoping request - Echo Street 28 storeys-1225 student accommodation

Diane Clarke [redacted]

Thu 02/03/2023 11:04

To: Jennifer Atkinson <jennifer.atkinson@manchester.gov.uk>

1 attachments (416 KB)

Network Rail dev form Asset-Protection-Initial-Enquiry-Questionnaire.docx;

OFFICIAL

Network Rail Asset Protection interfaced with the previous developer when the building on the site was demolished. Asset Protection and Optimisation does not have a current interface with the developer who wish to develop the site so NR would ask that a questionnaire be completed to facilitate more detailed discussions. It is noted that ArchCo now tenant the arches so they will also have an interest and should be consulted.

We have attached some outline Network Rail comments with respect to the location of proposed development, which you may find useful. Also see plans indicating Network Rail ownership below. Indicative plans for the development would also be appreciated to assist with identifying the required interface with Network Rail. Depending on the level of involvement and complexity of the scheme a Basic Asset Protection Agreement may be required as a vehicle for recovery of Network Rail costs on a time and expenses basis to facilitate detailed discussions, desktop study and site surveys prior to planning application.

1)
Network Rail would require further information so that we have an understanding of the proximity of the proposed buildings/foundations to the railway viaduct with respect to Construction/CDM aspects will be consideration depending on the proximity. In terms of application of CDM principles you need to demonstrate how the building can be constructed and maintained without impacting on the railway. Please note that the provision of night time possessions and isolations of the railway are very limited in availability and can cost in the region of £6,000 per night shift.

(2)
The developer will need to seek an agreement with the Archco team prior to any works commencing on site regarding use of the arches for access. Network Rail / Archco must have unblocked, unrestricted access to and from the arches around the clock (24/7, 365) including for users of the arches, Network Rail staff and vehicles and emergency vehicles.

(3)
Network Rail would comment that the railway line adjacent to the proposed development area is electrified with 25,000 volt AC overhead lines. Induced voltages from overhead lines can impact distances of up to 20m from the overhead lines themselves, which would need to be considered in the proposed layout as well as with respect to CDM aspects.

(4)
Network Rail requests that the developer submit a risk assessment and method statement (RAMS) for the proposal to Network Rail Asset Protection, once the proposal has entered the development and construction phase. The RAMS should consider all works to be undertaken where there is a risk to the railway including demolition, works involving construction of the new building and access requirements via the Network Rail arch structure. We require reviewing the RAMS to ensure that works on site follow safe methods of working and have taken into consideration any potential impact on Network Rail land and the operational railway. The developer should contact Network Rail Asset Protection prior to works commencing at AssetProtectionLNWNorth@networkrail.co.uk to discuss the proposal and RAMS requirements in more detail.

(5)

The developer/applicant must ensure that their proposal, both during construction, and after completion of works on site, does not affect the safety, operation or integrity of the operational railway, Network Rail land and its infrastructure or undermine or damage or adversely affect any railway land and structures. There must be no physical encroachment of the proposal onto Network Rail land, no over-sailing into Network Rail air-space and no encroachment of foundations onto Network Rail land and soil. Any future maintenance must be conducted solely within the applicant's land ownership.

(6)
Any scaffold which is to be constructed adjacent to the Network Rail / railway boundary must be erected in such a manner that at no time will any poles over-sail the railway and protective netting around such scaffold must be installed. The applicant / applicant's contractor must consider if they can undertake the works and associated scaffold / access for working at height within the footprint of their property boundary.

(7)
If vibro-compaction machinery / piling machinery or piling and ground treatment works are to be undertaken as part of the development, details of the use of such machinery and a method statement should be submitted for the approval of the Network Rail Asset Protection Engineer.

- All works shall only be carried out in accordance with the approved method statement and the works must be reviewed and approved by Network Rail. The Network Rail Asset Protection Engineer will need to review such works in order to determine the type of soil (e.g. sand, rock) that the works are being carried out upon and also to determine the level of vibration that will occur as a result of the piling.
- The impact upon the railway is dependant upon the distance from the railway boundary of the piling equipment, the type of soil the development is being constructed upon and the level of vibration. Each proposal is therefore different and thence the need for Network Rail to review the piling details / method statement.

(8)
All surface water is to be directed away from the railway.
Soakaways, as a means of storm/surface water disposal must not be constructed near/within 20 metres of Network Rail's boundary or at any point which could adversely affect the stability of Network Rail's property.

· Storm/surface water must not be discharged onto Network Rail's property or into Network Rail's culverts or drains.
· Suitable drainage or other works must be provided and maintained by the Developer to prevent surface water flows or run-off onto Network Rail's property.
· Proper provision must be made to accept and continue drainage discharging from Network Rail's property.
· Suitable foul drainage must be provided separate from Network Rail's existing drainage.
· Once water enters a pipe it becomes a controlled source and as such no water should be discharged in the direction of the railway.
· Drainage works could also impact upon culverts on developers land.

(9)
Network Rail will need to review all excavation works to determine if they impact upon the support zone of our land and infrastructure as well as determining relative levels in relation to the railway. We would need to be informed of any alterations to ground levels, de-watering or ground stabilisation. When undertaking ground works, developers should take all necessary measurements from the boundary with Network Rail land and not the distance from their works to the nearest railway tracks.

(10)
Network Rail requests that the LPA and the developer (along with their chosen acoustic contractor) engage in discussions to determine the most appropriate measures to mitigate noise and vibration from the existing railway to ensure that there will be no future issues for residents once they take up occupation of the dwellings. Network Rail is aware that residents of dwellings adjacent to the railway have in the past discovered issues upon occupation of dwellings with noise and vibration from the existing operational railway, as a consequence of inadequate mitigation measures for the site, and

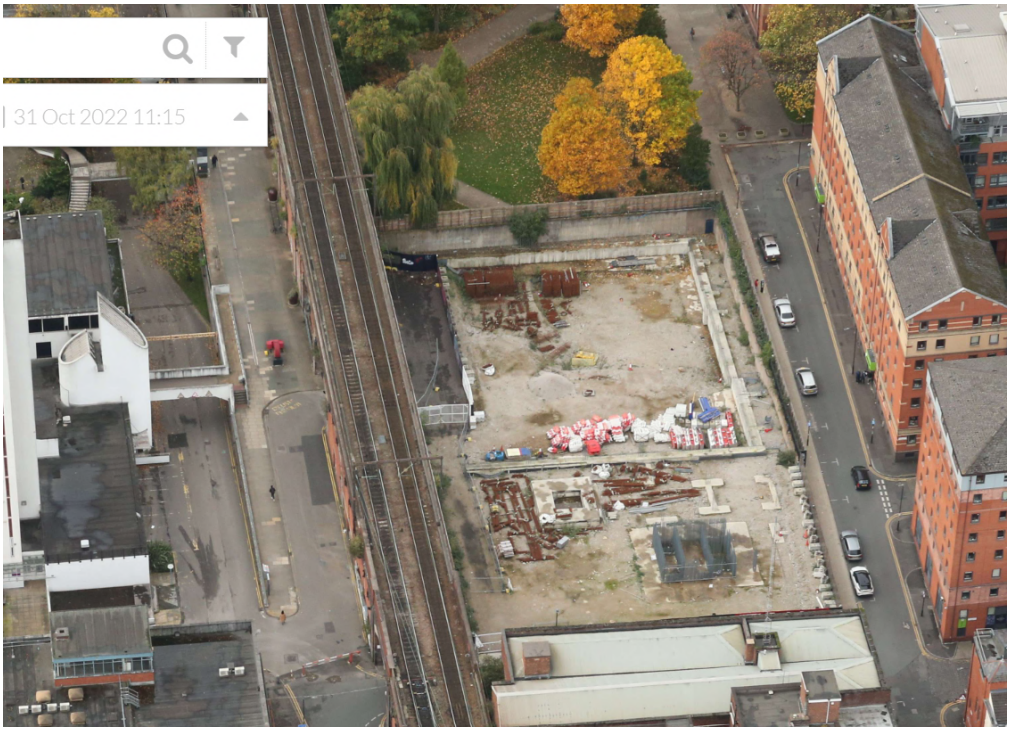
therefore it is a matter for the developer and the LPA via mitigation measures and conditions to ensure that these issues are mitigated appropriately prior to construction.

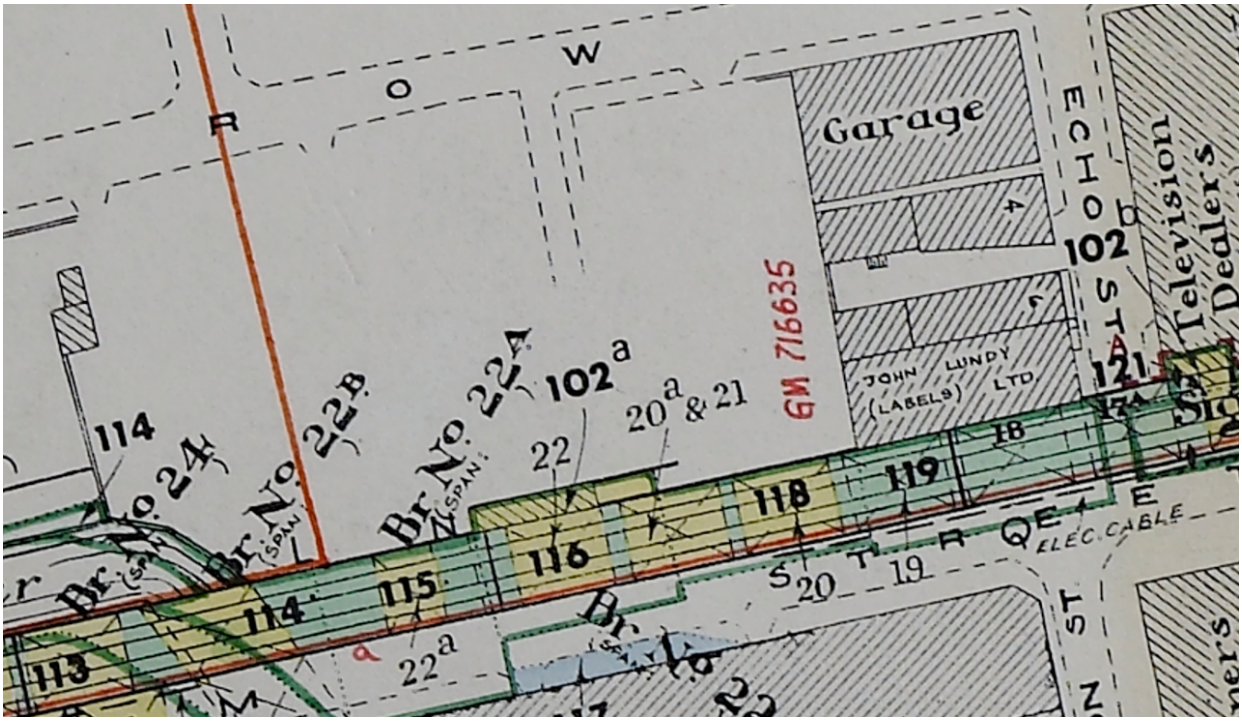
- The current level of railway usage may be subject to change at any time without prior notification including increased frequency of trains, night time train running and heavy freight trains.
- Network Rail also often carry out works at night on the operational railway when normal rail traffic is suspended and often these works can be noisy and cause vibration.
- Network Rail may need to conduct emergency works on the railway line and equipment and these would not be notified to residents in advance due to their safety critical nature.

(11)
Tower crane usage adjacent to railway infrastructure is subject to stipulations on size, capacity etc. which needs to be agreed by the Asset Protection Engineer prior to implementation. Tower cranes have the potential to topple over onto the railway; the arms of the cranes could over-sail onto Network Rail air-space and potentially impact any over-head lines, or drop materials accidentally onto the operational railway Please refer to CPA requirements attached including section 2.3.2., which outlines the requirement to downrate cranes adjacent to Network Rail infrastructure. The CV of the temporary works designer would also need to be submitted with the temporary works design. An oversailing licence may be required with Network Rail Business Space team depending on the crane design.

(12)
As the proposal includes works which may impact the existing operational railway and in order to facilitate the above, a **BAPA** (Basic Asset Protection Agreement) will need to be agreed between the developer and Network Rail. The developer will be liable for all costs incurred by Network Rail in facilitating this proposal, including any railway site safety costs, possession costs, asset protection costs / presence, site visits, review and agreement of proposal documents and any buried services searches. The BAPA will be in addition to any planning consent.
The applicant / developer should liaise directly with Asset Protection to set up the BAPA.
AssetProtectionLNWNorth@networkrail.co.uk







From

Diane Clarke
Town Planning Technician NW&C
AssocRTPI
Network Rail
Email: TownPlanningLNW@networkrail.co.uk

From: Planning <Planning@manchester.gov.uk>
Sent: 23 February 2023 14:50
To: Jennifer Atkinson <jennifer.atkinson@manchester.gov.uk>
Subject: EIA scoping request - Echo Street

The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (the "EIA" Regulations) - Request for Scoping Opinion

Echo Street

Under Part 4, Regulation 15 of the above regulations, I am informing you of a request made to Manchester City Council for a Scoping Opinion regarding the above development. A copy of the developer's Scoping request is attached, which sets out what they believe the scope of the Environmental Impact Assessment (EIA) should be. Further appendices to the report can be downloaded from the following link: https://we.tl/t-ThWbQ0wqnV

The purpose of the request is to enable the City Council to make clear to the developer what it considers the main effects of the proposed development are likely to be and therefore the topics on which the proposed EIA should focus.

I am required, under the Regulations, to remind you of your obligation to make available, if requested, any relevant information in your possession. However, you are only required to provide information that is in your possession and there is no obligation to undertake research or otherwise to take steps to obtain information that you do not already have.

The City Council has five weeks from the date of the request to provide a formal Scoping Opinion. If you wish to make any comments to aid the Council in the formulation of a Scoping Opinion, please can you respond to jennifer.atkinson@manchester.gov.uk no later than 16 March 2023.

Regards
Anthony Moore
Team Lead

Information, Delivery & Support Team
Planning, Building Control & Licensing
Growth & Development Directorate
Postal address: Manchester City Council, P O Box 532, Town Hall, Manchester M60 2LA
Location address: Level 6 Town Hall Extension, Manchester M2 5DB
Tel: 0161 234 4516

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Network Rail Infrastructure Limited registered in England and Wales No. 2904587, registered office Network Rail, 2nd Floor, One Eversholt Street, London, NW1 2DN.
****

RE: EIA Scoping Request - Echo Street

Laura Wareing

Thu 16/03/2023 14:43

To: Jennifer Atkinson <jennifer.atkinson@manchester.gov.uk>;Planning <Planning@manchester.gov.uk>
Cc: Richard Thomas <Richard.Thomas1@manchester.gov.uk>

Hi Jen,

Highways would need to see more evidence that the Construction of the site will not cause considerable impact on the local highway before we can be fully satisfied that construction is scoped out. This should include information on trip generation but also traffic redistribution impacts associated with any traffic management during the construction phase. Information should also be provide on proposed/potential road closures, diversions, temporary signals and traffic management.

Thanks,

Laura

Laura Wareing (BSc Hons, MSc)
Development Control Engineer
Highways Development Control
Growth and Neighbourhoods Directorate

Please Note my Working Hours: Mon - Fri 08:00 - 16:00

Email: [redacted]
Mobile: [redacted]
Web: http://www.manchester.gov.uk
POSTAL ADDRESS: Manchester City Council, The Highways Service, PO Box 532, Town Hall, Manchester, M60 2LA



_____

Upcoming Leave: Friday 17th March – Thursday 23rd March. Out of Office with limited access to emails on Friday the 24th March.

From: Jennifer Atkinson <jennifer.atkinson@manchester.gov.uk>
Sent: 16 March 2023 14:28
To: Laura Wareing [redacted]; Planning <Planning@manchester.gov.uk>
Cc: Richard Thomas [redacted]
Subject: Re: EIA Scoping Request - Echo Street

Laura

Thanks for this. Can you confirm you are happy that it is scoped out of the ES?

Thanks Jen

_____

Jennifer Atkinson
Principal Planning Manager

Development Management Central Core

Planning Building Control and Licensing - Growth and Development
Manchester City Council

Tel: 0161 234 4517
Email: jennifer.atkinson@manchester.gov.uk
www.manchester.gov.uk

Location address: Manchester City Council Town Hall Extension Lloyd Street Manchester M2 5DB.
Postal Address: Manchester City Council P.O. Box 532 Town Hall Manchester M60 2LA

From: Laura Wareing [redacted]
Sent: 16 March 2023 14:26
To: Planning <Planning@manchester.gov.uk>; Jennifer Atkinson <jennifer.atkinson@manchester.gov.uk>
Cc: Richard Thomas [redacted]
Subject: RE: EIA Scoping Request - Echo Street

Afternoon,

Please find below Highways and TfGMs comments in relation to the EIA Scoping request at Echo Street.

Context:

Vectos are advising iQ Student Accommodation in relation to a forthcoming planning application for a student accommodation development at Echo Street, Manchester. The scheme will offer 1,200 student accommodation units.

A similar scheme on the site was approved in 2018 (planning reference 118267/FO/2017) to provide 403 units of Co-Living residential accommodation with associated shared amenity spaces and 94 units of purpose-built student accommodation. Vectos also supported on that scheme.

Works has already been undertaken at the development site in clearing the site.

Pre-app meeting was held with Vectos on the 8th of February 2023.

As part of this pre-app meeting the EIA was discussed and MCC states that a transport chapter wouldn't be expected for the operational phase of the development, due to the car free nature of the site, but one would be required for the construction phase.

An EIA scoping request was sent to MCC.

EIA Scoping Response:

The EIA Scoping confirms that a Waste Management Strategy, Construction Management Plan, Transport Assessment and Framework Travel Plan (with the commitment to convert this into a Travel Plan) will be submitted as part of the planning application.

Site Preparation and Construction:

The EIA provides an examination into the proposed impacts the site preparation and construction will have. This reflects conversations MCC had with Vectos during a pre-application meeting in February 2023.

The summary states that access during the construction stage will be from Echo Street and Granby Row, where road closures will be required.

The proposed construction work will be carried out by a contractor that will comply with current legislation. The work will be captures within a Construction Environmental Plan. It is requested that the developer gets in

touch with The Events and Management Team during the early stages to discuss proposed construction details.

'Scoped Out' Environmental Topics:

The EIA Scoping report states that traffic and access and waste will be 'scoped out' of the ES.

The report states that Traffic and Access and Waste has been identified as to not have significant impacts and therefore they will not be reported within the ES. However, as detailed above a waste management strategy, transport assessment and travel plan will be undertaken as part of the planning submission process, which is acceptable to Highways.

The EIA Scoping states that the proposed scheme will provide no new on-site car parking and is located in a sustainable location. A TRICS assessment has been undertaken that suggests the proposed development could generate a total of 60-70 vehicles per day, including one HGV. It was also acknowledged that there may be additional movements on specific days of the year associated with student arrival/department at the start and end of term. The applicant has confirmed that a management plan will be in place to reduce the impact of this activity on the local highway network. This is welcomed by Highways and was discussed with the transport consultant at pre-app stage.

TfGM did note at pre-plan that a multi-modal trip generation impact should be undertaken that include a review of pick-up/drop off activity. This should be undertaken as part of a Transport Assessment.

Construction

The EIA confirms that construction traffic has been forecasted and it is anticipated that vehicle movements will be below 100 per day. The daily movement of HGVs could be expected to vary between 2 and 6 per day.

It is acknowledged that the construction traffic forecasts are preliminary as the contractor has not been appointed and a robust assessment cannot be undertaken until that point. The EIA summarises that they anticipate the levels of construction traffic to have a negligible impact to the surrounding highway network. Therefore, construction was not further assessed within the EIA and will not be reported in the ES.

Whilst the Briefing Note scopes out Traffic and Transport impacts during the construction phase and states the CEMP will ensure that there are no significant impacts on the local highway network, MCC Highways require further data (including both daily trip generation and baseline traffic flows) which demonstrates that vehicle/HGV movements on the surrounding highway links do not meet the following IEMA assessment thresholds:

- Rule 1 - Include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%); and
- Rule 2 - Include any other specifically sensitive areas where traffic flows have increased by 10% or more.

Assessment should not only consider trip generation but also traffic redistribution impacts associated with any traffic management during the construction phase. Information should also be provide on proposed/potential road closures, diversions, temporary signals and traffic management.

TfGM Comments:

HFAS (Highway Forecasting and Analytical Services) and UTC (Urban Traffic Control) were consulted in relation to the trip generation and junction capacity assessments and provided the following comments.

- It was noted that no strategic model flowers are to be used for assessment, only counted flows.
- It is noted that a parking strategy to be described fully. The strategy should explore if existing car parks are catering for the development and what happens to displaced trips i.e. those trips that are additional to existing trips to car park? Additional trips may be those from the development or those

existing trips that are displaced as a result of development rips originating and ending at the existing car park.
- It is noted that if the development is car free then the above may be less relevant but predicted trips should still be assessed via TRICS or other method.

General Comments:

Car free development

The development will be a car free development and therefore no parking spaces will be provided. Given the nature and location of this development, this is deemed to be acceptable to Highways.

Disabled Bays

It is requested that the development provide some on-site/on-street disabled parking.

Cycle Parking

MCC confirmed at the pre-app meeting that 25% cycle parking was acceptable as a minimum level for the proposed site. This is what has been agreed on other student resi sites.
It should be ensured that the cycle parking is secure and sheltered.

Cycle parking demand across the development should be monitored as part of the Travel Plan with additional cycle parking provision provided if necessary.

Servicing

The EIA Scoping confirms that waste and servicing will be included within the submitted documents.

Swept path analysis should be provided of a 11.5m refuse vehicles within the development site. The swept path should demonstrate that the refuse vehicle can enter and exit in forward gear and manoeuvre around the site safely. If the development site proposes private waste collection then it is requested that details of this are provided.

It is requested that servicing is undertaken outside of the network AM and PM peak periods. It is also requested that a Service Management Strategy is in place.

Swept path analysis should be provided for the largest expected service/delivery vehicle within the development boundary. The number of deliveries and location of the delivery points should also be provided.

It is requested that a service management strategy is submitted as part of the planning application.

It is also noted that student residential sites are likely to have other trips such as drop-off/pick-up, taxi, uber eats/just eats and deliveries associated with them. Therefore, it is requested that the submitted documents consider these movements and how they will be managed at the site.

Off-Site Highways Works

It is anticipate that the proposed off-site highways works will be similar to those that were put forwards in the previous planning application:

- Loading bay on Echo Street and additional No Waiting at Anytime TROs;
- Public Realm works and materials on Granby Row;
- Parking bays and accessible bays on Granby Row; and
- Potential formalised cycling route along Echo Street and Granby Row.

A S278 agreement is required for works to the adopted highway – a deposit is required to begin the S278 application, additional costs will be payable and are to be agreed with S278 Statutory Approvals team.

Following an assessment of the scope of works, all additional estimated costs are required to be paid in full prior to the expenditure of the initial deposit, or work on the technical approval process will cease and can delay the programme for the start of works on site. The minimum standard S278 technical approval timescale is between 4-6 months and, if TRO's are included, can take 12 months so please programme this into your timetable. Please note: you will not be able to start works on the highway until technical approval has been given by the S278 Engineer and the relevant highways permits granted.
Any modifications / improvements to the public highway or footpath will require agreement with MCC's Highways Applications and Network Resilience teams. This will be funded at the applicant's expense. The following link provides access:
https://www.manchester.gov.uk/directory_record/287709/permission_to_work_on_the_highways_-_section_278_agreements/category/355/highways_and_pavements

For the avoidance of doubt the loss of on-street parking spaces on Granby Row would incur a commuted cost of £50,00 per space.

For any projects that require a S278 and/or S38 highway agreement a Stage 1 Road Safety Audit (RSA 1) is requested to inform the preliminary design at the pre-planning stage - prior to planning approval being granted. This ensures that any underlying highway safety issues have been identified and mitigation is proposed accordingly. The scope and study area of the RSA1 will be agreed on a site by site basis however, as a minimum, it is expected to include the following:

- 5 years of accident history
- Audit of key pedestrian routes (crossing points, footway widths, condition etc.)
- Audit of key cycling routes (ASLs, cycle lanes etc.)
- Highway layout including, but not limited to (visibility assessments, speed limits, TROs, traffic calming etc.)

A copy of the report (with Designer's Response) is to be made available to the Statutory Approvals Team upon request.

Public Realm

It is recommended that all public realm designs and materials are agreed with MCC's Capital Programmes and Property team prior to site works beginning. The MCC Flood Risk Management and Street Lighting teams will need to be consulted to discuss lighting and drainage associated with the site public realm.

For the avoidance of doubt, all non-standard materials to be used on the adopted highway will be subject to applicable commuted sums, likewise for the implementation of street trees on the highway.
It is expected that all modifications / improvements to the public highway are achieved with a maximum carbon footprint of 40%. Materials used during this process must also be a minimum of 40% recycled and fully recyclable. Developers will be expected to demonstrate that these standards can be met prior to planning conditions being discharged. The developer is to agree the above with MCC's Statutory Approvals and Network Resilience Teams post planning approval and prior to construction taking place.

It is recommended that footways are 2.0m minimum (clear of street furniture and other obstructions) in width to accommodate double buggies and other residents/visitors with restricted mobility.

CMP

A construction management plan is required prior to any demolition or construction works commencing on the site which may impact on highway operations. This plan should provide details of the proposed construction traffic routes to and from the site, the site compound details, the controls to ensure deliveries and loading do not block the highway, traffic estimates and the measures for on-site / off-site car parking. A planning condition setting out the requirement for a construction management plan is therefore recommended.

The applicant is advised that access arrangements and any requirements for licensing, hoarding / scaffolding and any associated temporary traffic management arrangements will require discussion and agreement with

MCC Highways Applications and Network Resilience teams via Contact Manchester (Tel. 0161 234 5004).

A Dilapidation surveys is also requested and the applicant should include photographs and commentary on the condition of carriageway / footways on construction vehicle routes surrounding the site.
This is to protect MCC and the contractors to verify (prior to construction) the condition of the carriageway.

Travel Plan

If the Travel Plans are to be successful, they will be dependent on establishing a culture of sustainable travel behaviour at the outset, rather than on changing already established travel practices. The success of Travel Plan measures will depend on their effective delivery and commitment from the occupiers and therefore robust arrangements for the implementation and running of the Travel Plan need to be included in the Framework Travel Plan from the outset. These include:

- A travel plan budget and resources for the implementation and day to day management of travel plan measures;
- Appropriate management structures;
- Detailed time frames for the delivery;
- Handover arrangements for the travel plan or its components when the developer's responsibility ceases; and
- Targets and monitoring arrangements.

Ideally the full Travel Plan should include tailored measures to overcome specific barriers, or take advantage of opportunities, presented by the site.
The development, submission, implementation and monitoring of full Travel Plans should be included in the conditions of any planning consent.

Many thanks,

Laura

Laura Wareing (BSc Hons, MSc)
Development Control Engineer
Highways Development Control
Growth and Neighbourhoods Directorate

Please Note my Working Hours: Mon - Fri 08:00 - 16:00

Email: [redacted]
Mobile: [redacted]
Web: http://www.manchester.gov.uk
POSTAL ADDRESS: Manchester City Council, The Highways Service, PO Box 532, Town Hall, Manchester, M60 2LA



_____

Upcoming Leave: Friday 17th March – Thursday 23rd March. Out of Office with limited access to emails on Friday the 24th March.

From: Planning <Planning@manchester.gov.uk>
Sent: 23 February 2023 14:53
To: Jennifer Atkinson <jennifer.atkinson@manchester.gov.uk>
Subject: EIA Scoping Request - Echo Street

The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (the "EIA" Regulations) - Request for Scoping Opinion

Echo Street

Under Part 4, Regulation 15 of the above regulations, I am informing you of a request made to Manchester City Council for a Scoping Opinion regarding the above development. A copy of the developer's Scoping report and appendices are attached, which sets out what they believe the scope of the Environmental Impact Assessment (EIA) should be.

IQSM3015_Echo Street_ Manchester_EIA Scoping Report_Final Issue 170223.pdf
IQSM3015_Echo Street_Figure 9.2_Google Viewshed - Viewpoint Selection.pdf
IQSM3015_Echo Street_Appendix 5.3_Phase 1 Preliminary Risk Assessment.pdf
IQSM3015_Echo Street_Figure 8.1_Hertiage Asset Plan.pdf
IQSM3015_Echo Street_Figure 9.1_Townscape and Visual Impact Assessment Study Area.pdf
IQSM3015_Echo Street_Figure 5.2_AQMA and MCC Monitoring.pdf
IQSM3015_Echo Street_Figure 5.1_Link Network Map.pdf
IQSM3015_Echo Street_Figure 1.1_EIA Study Area Boundary.pdf
IQSM3015_Echo Street_Appendix 10.1_Principles of Daylight, Sunlight and Overshadowing.pdf
IQSM3015_Echo Street_Appendix 5.1_ Archaeological Evaluation Report.pdf
IQSM3015_Echo Street_Appendix 5.2_Extended Phase 1 Habitat Survey.pdf
IQSM3015_Echo Street_Appendix 9.1_Townscape and Visual Assessment Methodology.pdf

The purpose of the request is to enable the City Council to make clear to the developer what it considers the main effects of the proposed development are likely to be and therefore the topics on which the proposed EIA should focus.

I am required, under the Regulations, to remind you of your obligation to make available, if requested, any relevant information in your possession. However, you are only required to provide information that is in your possession and there is no obligation to undertake research or otherwise to take steps to obtain information that you do not already have.

The City Council has five weeks from the date of the request to provide a formal Scoping Opinion. If you wish to make any comments to aid the Council in the formulation of a Scoping Opinion, please can you respond to jennifer.atkinson@manchester.gov.uk no later than 16 March 2023.

Regards
Anthony Moore
Team Lead

Information, Delivery & Support Team
Planning, Building Control & Licensing
Growth & Development Directorate
Postal address: Manchester City Council, P O Box 532, Town Hall, Manchester M60 2LA
Location address: Level 6 Town Hall Extension, Manchester M2 5DB
Tel: 0161 234 4516

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Scoping Opinion - Echo Street

Laura Miller [redacted]

Mon 13/03/2023 13:57

To: Jennifer Atkinson <jennifer.atkinson@manchester.gov.uk>

Hi Jennifer,

I have looked at the updated scoping report for this one and agree with their proposals for ground conditions, air quality and noise.

Kind Regards

Laura

Laura Miller (MRes, MA, BSc(Hons))

Please note that due to working compressed hours Wednesdays are a non-working day for me, I will respond to your email when I return to the office

Environmental Protection Officer
Environmental Protection Section
Environmental Health
Neighbourhoods Directorate
Manchester City Council

email: [redacted]
website: www.manchester.gov.uk
Telephone: [redacted]
Internal: [redacted]

We are now on Twitter, for latest news and updates follow us @EnvHealthMcr

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The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (the "EIA" Regulations) - Request for Scoping Opinion

Echo Street

LLFA Comments 28 March 2023

The proposed ES scope is accepted on the basis of the project commitments as-defined in the following sections of the scoping statement:

- 2.54 (provision of a standalone Flood Risk Assessment and a standalone Surface Water Drainage Strategy)

A Flood Risk Assessment and Surface Water Drainage Strategy must be submitted to support the Planning Application.

The Flood Risk Assessment and Surface Water Drainage Strategy should demonstrate design compliance with national and local policy.

The scheme's masterplan should consider the Shooters Brook culverted ordinary watercourse which is indicated to be beneath Granby Row in the LLFA Asset Register.

Where required, pre-application consultation with the LLFA can be arranged via the Planning Officer.

Fw: EIA Scoping Request - Echo Street

Ian Mulligan [redacted]
Wed 08/03/2023 10:08
To: Jennifer Atkinson <jennifer.atkinson@manchester.gov.uk>

Hi Jen

"No comments from Work and Skills in relation to Local Labour, assuming we will be consulted on Local Labour conditional requirements as and when progressing to full planning application(s). "

Thank you,

Kind Regards

Ian Mulligan
Work & Skills Officer
Work & Skills Team | Growth and Development | Manchester City Council
[redacted]

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manchester.gov.uk/work

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From: Work Skills Admin [redacted]
Sent: 23 February 2023 14:56
To: Ian Mulligan [redacted]; Westley Robinson [redacted]
Subject: Fw: EIA Scoping Request - Echo Street

Kind Regards

Work and Skills Team
Growth and Development Directorate
Manchester City Council
Town Hall Extension, Albert Square,
Manchester, PO Box 532,
M60 2LA

Sign up for The Work and Skills Bulletin here https://public.govdelivery.com/accounts/UKMANCHESTER/signup/19569

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Direct Number [redacted]
Follow us on Twitter- @MCCWorkSkills

Email: [redacted]
Web: http://www.manchester.gov.uk

From: Planning <Planning@manchester.gov.uk>
Sent: 23 February 2023 14:53
To: Jennifer Atkinson <jennifer.atkinson@manchester.gov.uk>
Subject: EIA Scoping Request - Echo Street

The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (the "EIA" Regulations) - Request for Scoping Opinion

Echo Street

Under Part 4, Regulation 15 of the above regulations, I am informing you of a request made to Manchester City Council for a Scoping Opinion regarding the above development. A copy of the developer's Scoping report and appendices are attached, which sets out what they believe the scope of the Environmental Impact Assessment (EIA) should be.

IQSM3015_Echo Street_ Manchester_EIA Scoping Report_Final Issue 170223.pdf
IQSM3015_Echo Street_Figure 9.2_Google Viewshed - Viewpoint Selection.pdf
IQSM3015_Echo Street_Appendix 5.3_Phase 1 Preliminary Risk Assessment.pdf
IQSM3015_Echo Street_Figure 8.1_Hertiage Asset Plan.pdf
IQSM3015_Echo Street_Figure 9.1_Townscape and Visual Impact Assessment Study Area.pdf
IQSM3015_Echo Street_Figure 5.2_AQMA and MCC Monitoring.pdf
IQSM3015_Echo Street_Figure 5.1_Link Network Map.pdf
IQSM3015_Echo Street_Figure 1.1_EIA Study Area Boundary.pdf
IQSM3015_Echo Street_Appendix 10.1_Principles of Daylight, Sunlight and Overshadowing.pdf
IQSM3015_Echo Street_Appendix 5.1_ Archaeological Evaluation Report.pdf
IQSM3015_Echo Street_Appendix 5.2_Extended Phase 1 Habitat Survey.pdf
IQSM3015_Echo Street_Appendix 9.1_Townscape and Visual Assessment Methodology.pdf

The purpose of the request is to enable the City Council to make clear to the developer what it considers the main effects of the proposed development are likely to be and therefore the topics on which the proposed EIA should focus.

I am required, under the Regulations, to remind you of your obligation to make available, if requested, any relevant information in your possession. However, you are only required to provide information that is in your possession and there is no obligation to undertake research or otherwise to take steps to obtain information that you do not already have.

The City Council has five weeks from the date of the request to provide a formal Scoping Opinion. If you wish to make any comments to aid the Council in the formulation of a Scoping Opinion, please can you respond to jennifer.atkinson@manchester.gov.uk no later than 16 March 2023.

Regards
Anthony Moore
Team Lead

Information, Delivery & Support Team
Planning, Building Control & Licensing
Growth & Development Directorate
Postal address: Manchester City Council, P O Box 532, Town Hall, Manchester M60 2LA

Location address: Level 6 Town Hall Extension, Manchester M2 5DB
Tel: 0161 234 4516

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Echo Street – Construction Logistics Plan

CUMMING
Building Value Through Expertise

1.0 Introduction 3
2.0 Purpose of the Construction Logistics Plan 3
3.0 Name of the Site 3
4.0 Construction Logistics Plan 3
5.0 Considerations 3
6.0 Site location 4
7.0 Surrounding Area & Traffic Flow 5
8.0 Traffic Survey 6
9.0 Parking Provision Near The Site 8
10.0 Details of Site Access & Deliveries 8
11.0 Signage & Marshalling 10
12.0 The Project 'Close-Up' 11
13.0 Original Logistics Proposal 12
14.0 Development of Logistics Proposal 12
15.0 Interim Logistics Proposal 13
16.0 Lifting Zone & Safety Concerns 14
17.0 Proposed Logistics Proposal 14
18.0 Management of Lane Closures 14
19.0 Programme for Single Lane & Periodic Full Closures 14
20.0 Redistribution of Traffic During Road Closures 15
21.0 Estimated Number of Deliveries 15
22.0 Numbers and types of construction vehicles 16
23.0 Communication to Immediate 3rd Parties 16
24.0 General Logistics 16
25.0 Construction Environmental Management Commitments 19

1.0 Introduction

This document is the Construction Logistics Plan for new build of Echo Street student accommodation in Manchester. The plan outlines the implementation and management of project logistics by the contractor for the delivery of the works.

2.0 Purpose of the Construction Logistics Plan

This document specifically details the management of logistics and traffic on the roads in particular Granby Row & Echo Street adjacent to the development during the construction of the new student accommodation.

During the construction works, the principle purposes and benefits arising from this CLP are to:

- Manage vehicle journeys and minimise traffic congestion and disruption on the public roads;
- Improve the security, efficiency and reliability of deliveries by utilising a managed delivery system;
- Ensure the safety of all public road users within and near the redevelopment;
- Optimise the efficiency of deliveries and waste removal;
- Rationalise unnecessary journeys; and
- Minimise environmental impacts, including traffic noise and visual intrusion.

This CLP does not consider traffic management within the construction site after off-load in the delivery zone.

3.0 Name of the Site

The site is known as ‘Echo Street Manchester’ and is located to the south of Manchester city centre close to Manchester Piccadilly railway station.

4.0 Construction Logistics Plan

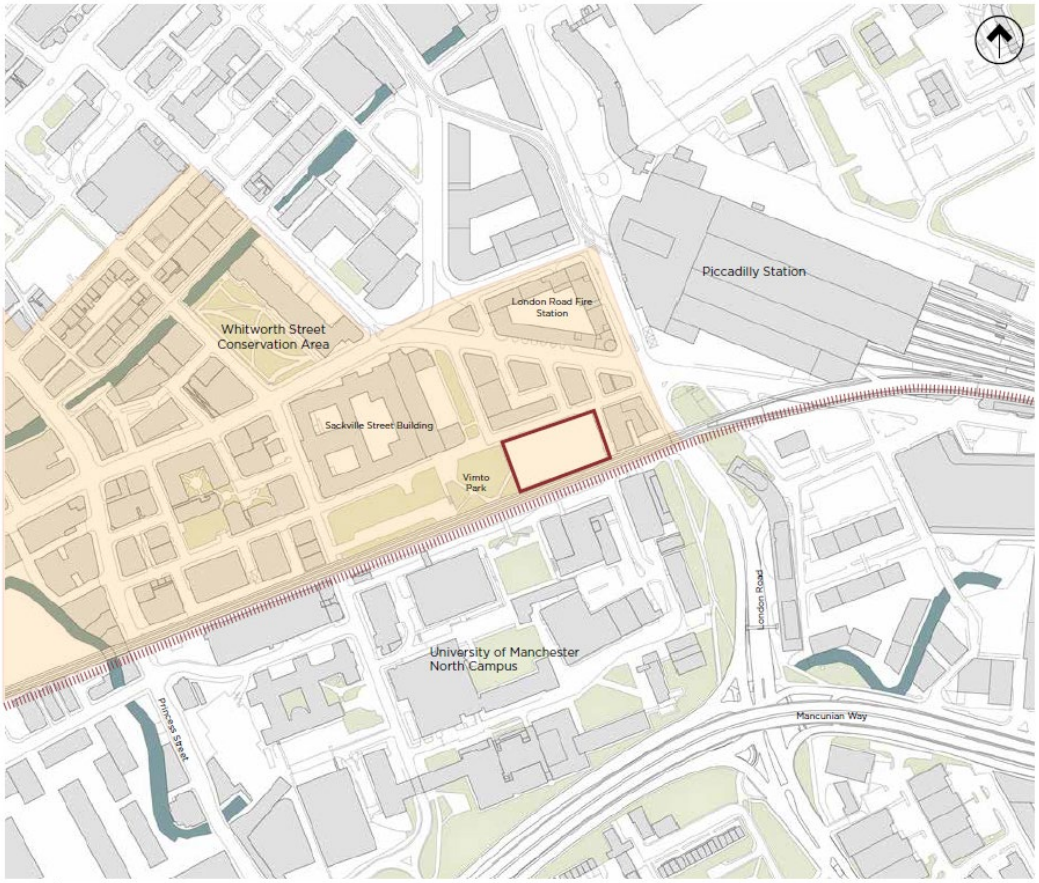
This document has been prepared to provide Manchester City Council (MCC) with the detail of the logistics activity expected during the construction phase of the project, in as much as it interacts with the surrounding roads and neighbourhood.

5.0 Considerations

- Management and co-ordination of the construction operations with the adjacent roads and public areas
- Managing deliveries and co-ordinating delivery times by promoting & utilising a delivery management and booking system
- Considering the interface and co-ordination of construction logistics activities with vehicles and pedestrians on the adjacent land

- Notification of third parties regarding construction logistics activities

6.0 Site location



Site and Surroundings

The site is an enclosed area and is not on any major roadways. Whilst the roads around the site are subject to through vehicular traffic, they are more commonly used by vehicles approaching the station from the south as a right turn off London Road towards the station for taxi & private hire/drop off area is not permitted. Vehicles therefore utilise the roads around the site to facilitate a route to the station from the south via the west.

The site is enclosed by:

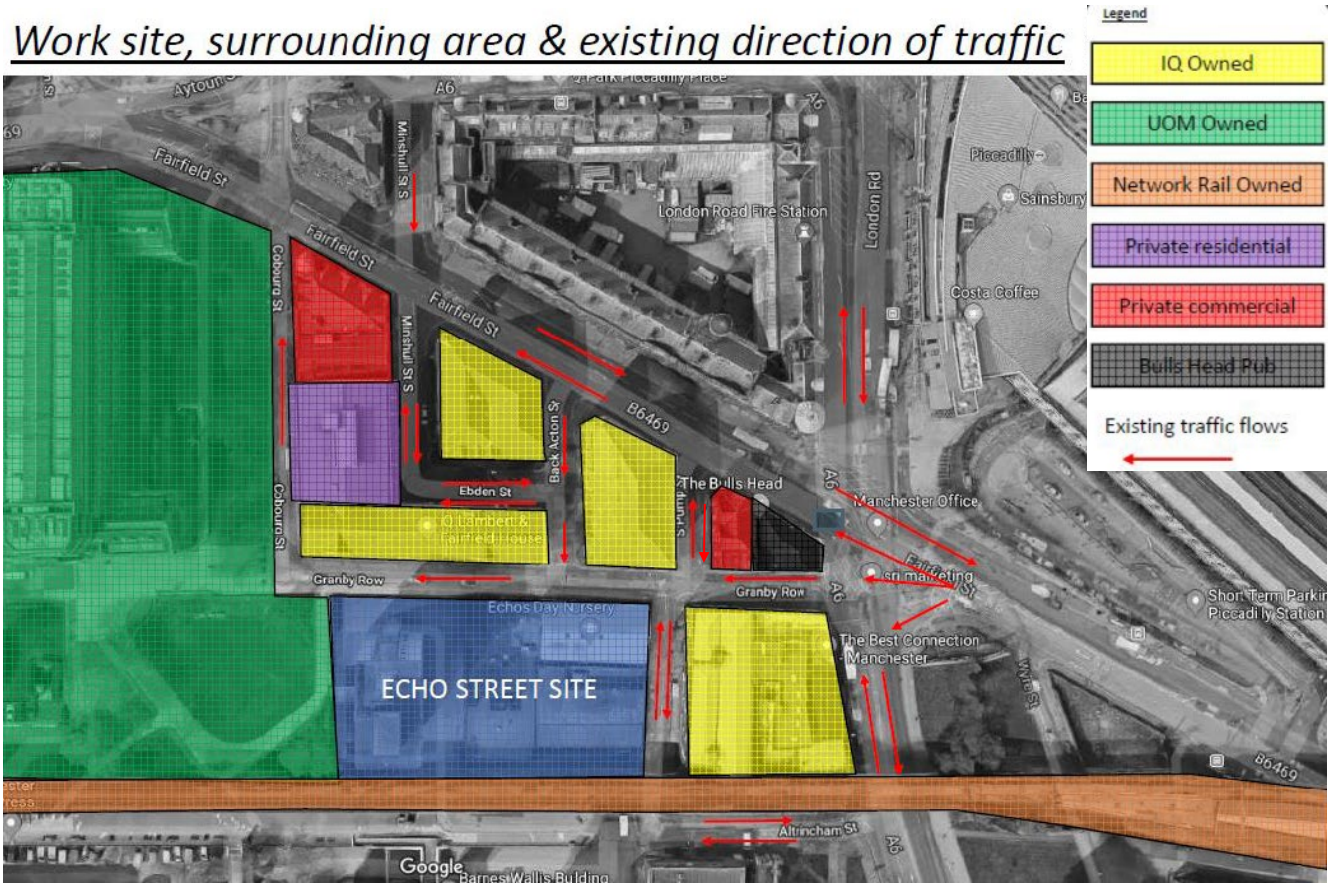
- Echo Street to the east,
- Granby Row to the north
- A Network Rail owned viaduct - Manchester/Liverpool main line to the south
- A conservation area owned by University of Manchester – Vimto Park to the west

Vehicle access for construction will be via Granby Row for larger deliveries and Altrincham St/Echo

Street for smaller deliveries (no larger than a concrete wagon) due to access and vehicle tracking restrictions.

The redevelopment of the site will take place over a 3 year period and the anticipated commencement date for the main contract is Q1 2024.

7.0 Surrounding Area & Traffic Flow



As noted earlier the site is surrounded by two side streets in Echo Street and Granby Row, traffic flow being two and one way respectively, linking to the South Pump, Altrincham, Back Acton & Cobourg streets which junction with London Road & Fairfield Street.

Traffic entering the area from London Road & Fairfield Street must exit out on to Fairfield St due to flow restrictions. Access to the west end of Granby Row from the east is prevented at the junction with Cobourg Street as a pedestrianised area has been constructed to halfway down Granby Row. Traffic must therefore utilise Cobourg Street to exit Granby Row beyond South Pump St.

Immediate neighbours to the construction project are 2no. existing iQ (the Client & Developer) student accommodation blocks to the north, an iQ office facility to the east. There are no immediate 'neighbours' to the south and west.

Private, small business premises and a pub are located close by in Cobourg St and at the junction of

London Road/Fairfield St respectively as indicated on the above plan.

Access and egress to the local properties has been considered in conjunction the project requirements to establish a co-ordinated plan for the immediate area. The plan below indicates all known 3rd party access and egress requirements used to inform the CLP.

8.0 Traffic Survey

In addition to the traffic assessments undertaken as part of the planning process, a further traffic survey was carried out in February 2019 to provide a further indication of traffic flows in Echo Street and Granby Row to assist the logistical appraisal. The outputs of this survey are indicated below.

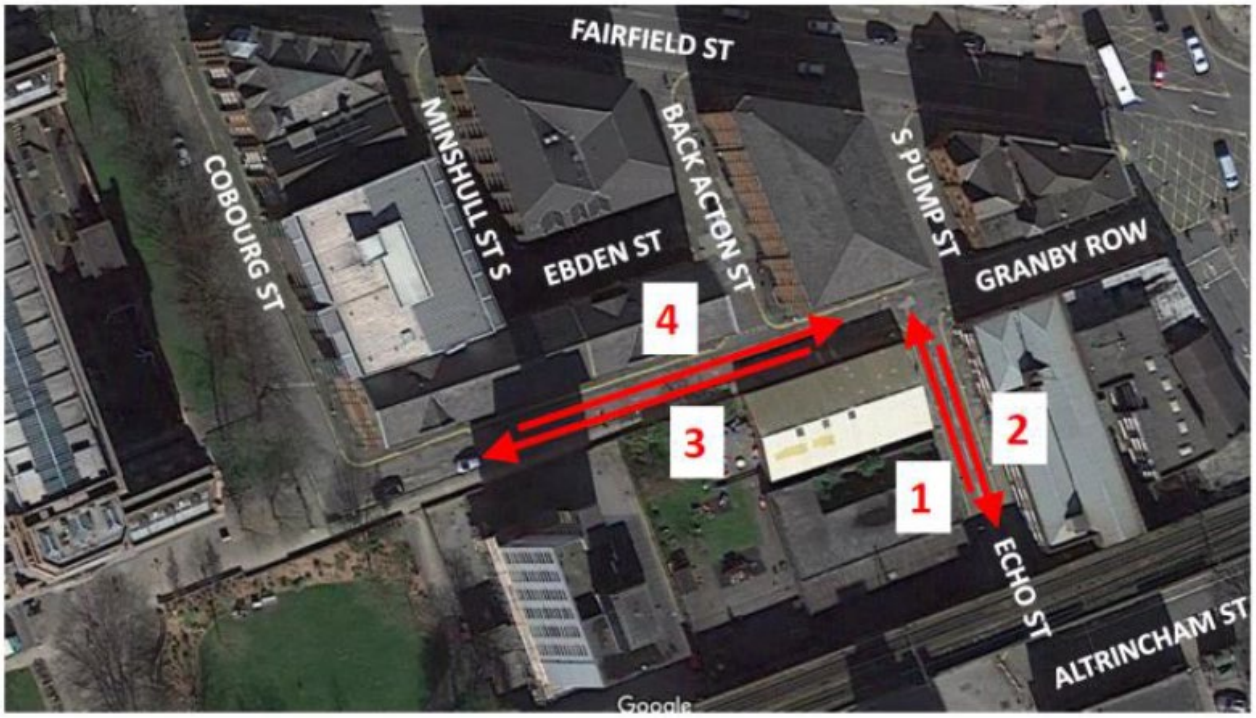
The survey was undertaken on the one-way street Granby Row (although two-way was witnessed) from London Road to Cobourg St and on the two-way Echo Street from Altrincham St to Granby Row.

It was noted that the traffic travelling against the flow of Granby Row were predominantly private hire vehicles traversing from Echo Street to South Pump St.

Also at the time of the survey the children's nursery on the corner of Echo Street and Granby Row was open. It has subsequently been relocated to Sackville St in March 2019 and the premises has now been demolished.

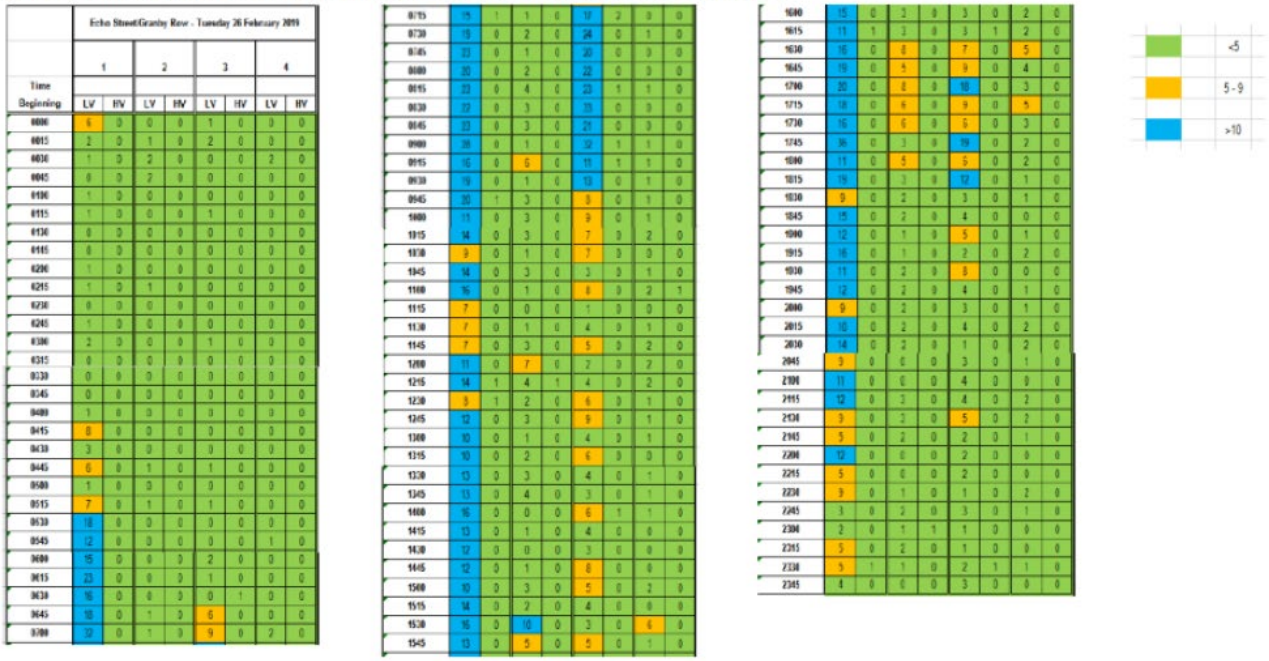
Traffic Flow Analysis

Traffic flows were monitored for the following routes, over a 24hr period (Tue 26/02/2019)



Traffic Flow Analysis

Traffic flows were monitored for the following routes, over a 24hr period (Tue 26/02/2019)



The results of the survey indicate that the number of vehicles using the street relatively low and that the peak flows generally reflect the rush hours. It is visible on viewing that the majority of road usage is by traffic requiring to approach the station, utilising Echo St and South Pump & Back Acton (although flow restricted) and to a lesser extent Cobourg Street in order to access Fairfield St to traverse across London Road to the station and the east end of Fairfield Street (as a right turn into Fairfield Street from London Road to travel towards the station) isn't permitted).

The survey recorded around 90-100 two-way vehicle movements on Echo Street in each of the morning and evening peak hours, averaging at around 1-2 vehicles per minute. Outside of the peaks, the flows were generally much lower e.g. between midday and 1pm the two-way flow was 56 vehicles averaging at less than 1 per minute. Along Granby Row, the flows are at a similar level with around 1-2 vehicles per minute in the morning peak hour but much lower outside of this timeframe e.g. around 1 vehicle every 2 minutes between midday and 1pm.

Given the above there were limited traffic movements from Echo Street to Cobourg St.

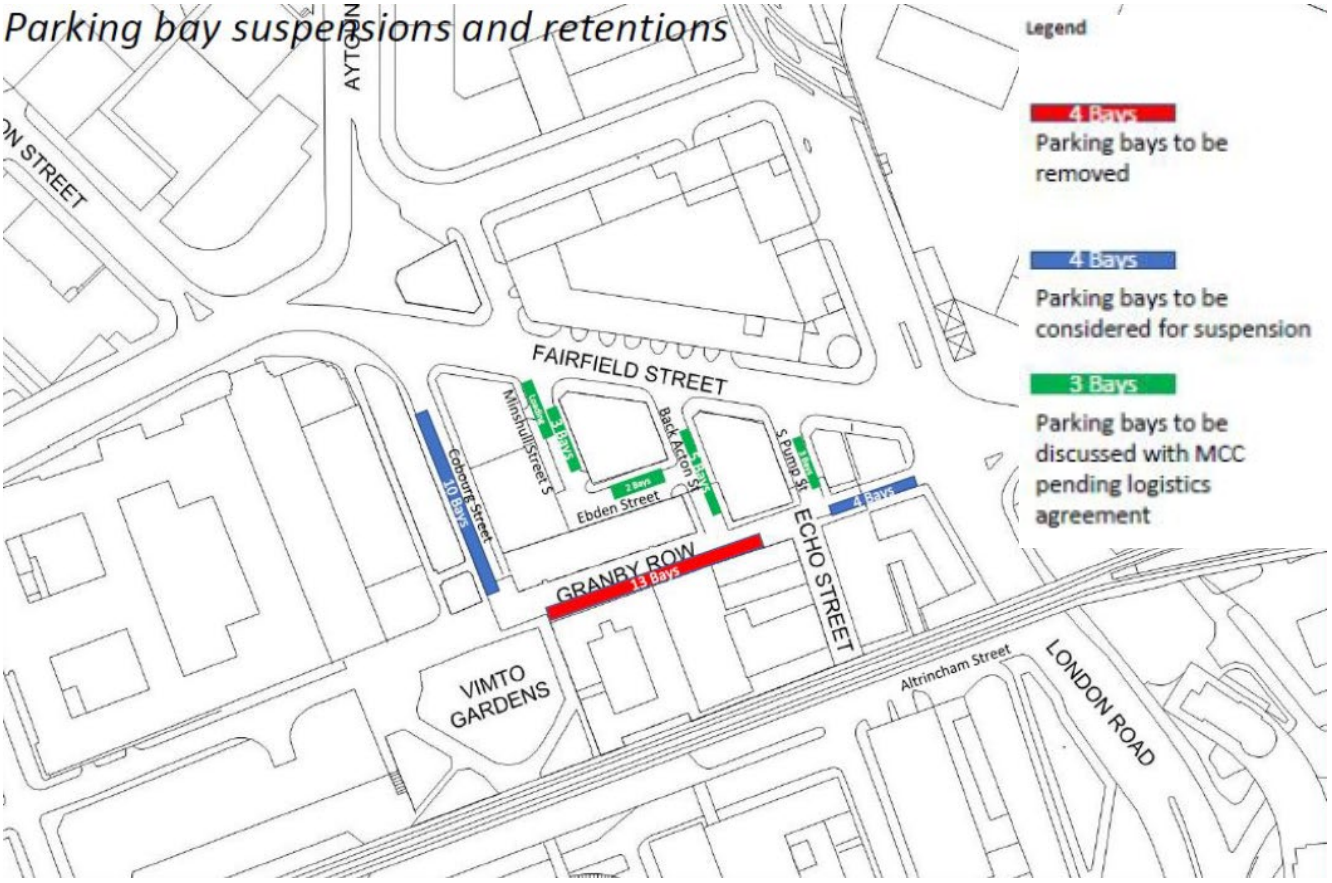
The survey was undertaken in 2019 pre-Covid and therefore traffic levels are likely to have reduced since then due to the change in work patterns etc. Furthermore, at the time of the survey, the children's nursery on the corner of Echo Street and Granby Row was in operation and this will have generated some of the traffic recorded in the survey. Now that this nursery has relocated, this traffic will no longer be on this local network and flows are likely to be lower now as a result.

It should be noted that if Echo Street and the section of Granby Row from Back Acton Street to Cobourg St were not available then traffic from London Road would still be able to utilise Granby Row, South Pump & Back Acton to facilitate access to the station prevented by the no right turn from

London Road into Fairfield St and the taxi/private hire & pick-up zone.

9.0 Parking Provision Near The Site

In accordance with a revised external Section 278 scheme several parking bays will be replaced by a hard landscaping scheme. It will also be necessary to suspend a number of additional car parking bays adjacent to the development in order to facilitate safe construction traffic movements and we would look to develop this further with MCC. The consideration of this is indicated below:



10.0 Details of Site Access & Deliveries

Construction deliveries will be managed via an electronic Delivery Management System and delivery routes will be re-affirmed as part of this process.

There will be two principal entries/gates to access the project; the primary route being via Granby Row and secondary route restricted to smaller vehicles up to a concrete wagon via Altrincham Street.

Site specific directional signage will be fixed in close proximity to the site to provide improved visibility of the project.

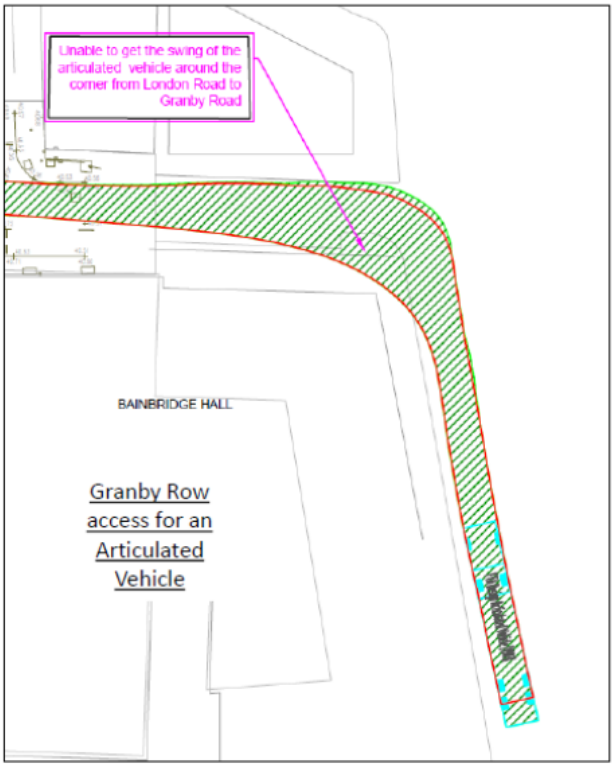
Delivery Access to the Site

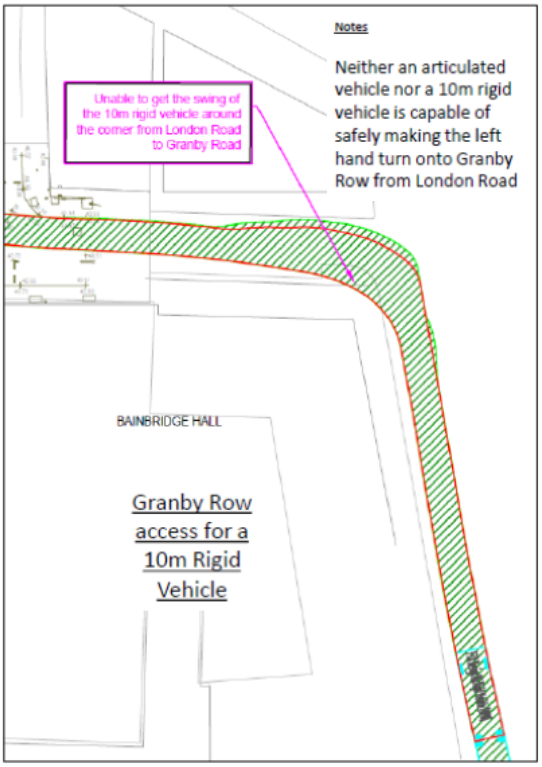
Primary Gate/Access – Granby Row: Larger construction vehicles will be advised to access the site via

Granby Row and will exit the site via Cobourg Street.

Swept Path Analyses – Access to site via London Road

The tracking for the proposed left-hand turn onto Granby Row from London Road has also been checked:

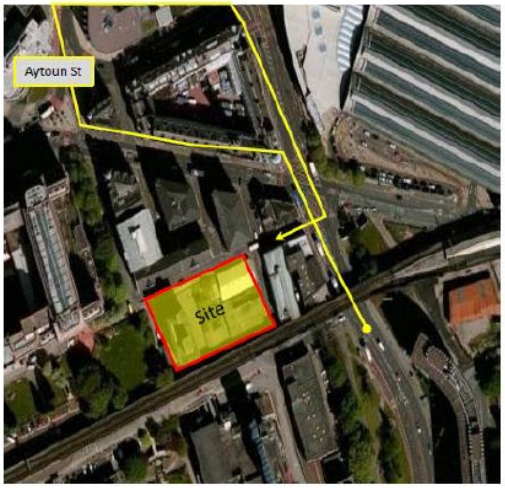


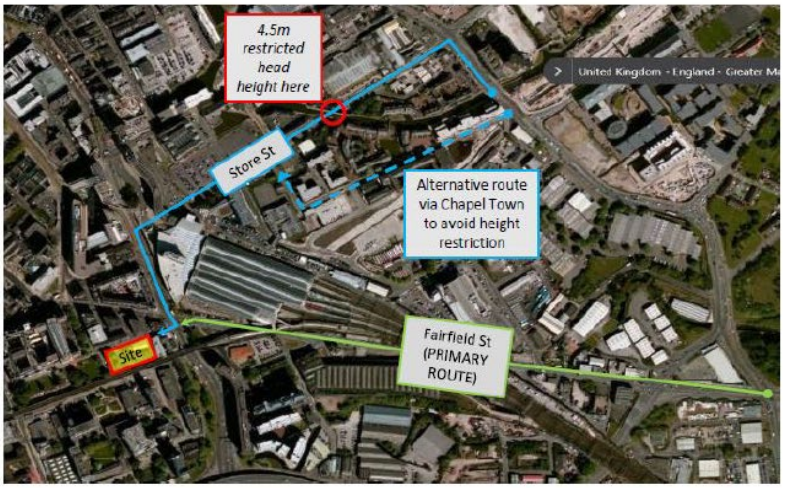


Alternative approaches to the primary gate/access have been discussed with MCC Highways and the approach from Fairfield Street west side is the preferred option for the project. Other options have also been provided.

Primary & Alternative Delivery Routes to Site

To avoid the left-hand turn into Granby Row from London Road, the following alternative routes are proposed.





- Approach from London Road (A6)
- Turn Left toward Whitworth St
- Turn Right onto Aytoun St
- Turn Right onto Auburn Street
- Turn Right onto London Road (A6)
- Turn Right onto Granby Row

- Approach from Ashton Old Road or Mancunian Way
- Turn Left onto Great Ancoats Street
- Turn Left onto Store Street
- Turn Left onto London Road
- Turn Right onto Granby Row

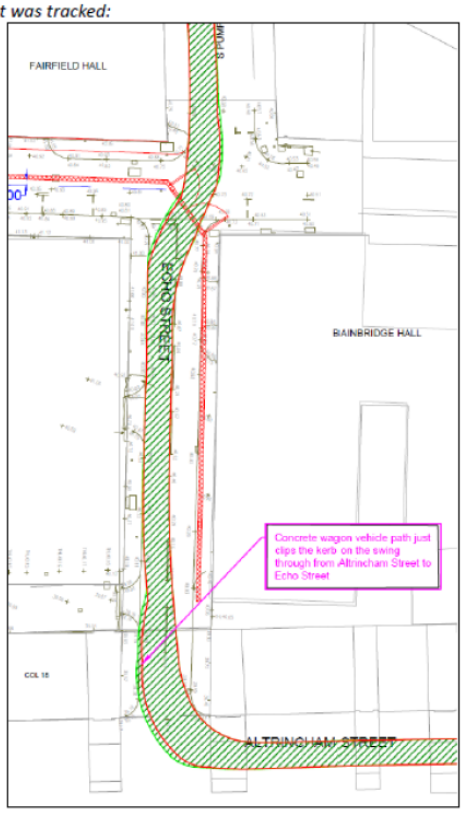
- Approach from Ashton Old Road or Mancunian Way
- Enter Fairfield Street
- Cross London Road (A6)
- Enter Granby Row

There are several alternative routes for traffic to access the taxi / private hire pick up zone at the station and drivers would quickly adapt their routes to the station accordingly. It is likely that the displaced traffic would be distributed across several alternative routes and the overall number of vehicles re-routed will be low, as shown by the traffic survey results.

Secondary Gate/Access – Echo Street: Construction vehicles limited to a concrete wagon will be permitted to access the site from Altrincham St via the arch beneath the viaduct and into Echo Street. Larger vehicles will be prevented from undertaking this approach by appropriate traffic management.

Swept Path Analyses – Altrincham Street

The route to Echo Street from Altrincham Street was tracked:



Notes

Only concrete wagons and small delivery vehicles are able to make the turn onto Echo Street from Altrincham Street; the route is unsuitable for an articulated or a 10m rigid vehicle.

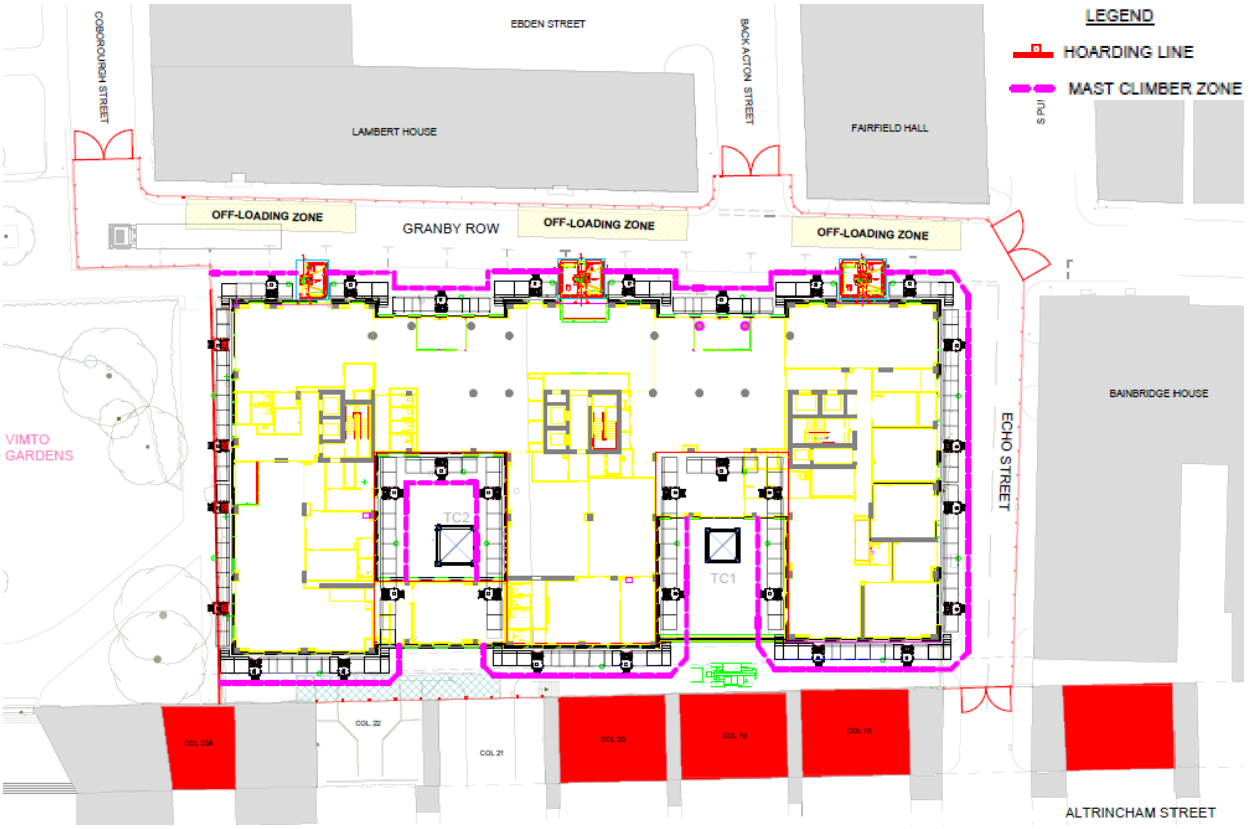
Note: The wider route to the project from the motorway network will be clarified during the further development of this plan.

11.0 Signage & Marshalling

Signage will identify the route to and from the construction site on the approach to Granby row from London Road and Altrincham Street.

The contractor will provide clearly identifiable uniformed traffic marshals to guide and manage all construction vehicles and deliveries.

12.0 The Project 'Close-Up'



The overall logistics approach and strategy has been developed in consideration of health & safety requirements, the footprint of the site, proximity to adjacent properties and 3rd parties, construction design and construction methodology.

The directional sections of the building provide the perspective of the height and location of the new building to adjacent properties and highways.

The proximity of adjacent properties and 3rd parties are significant in respect of the construction works and the health & safety and interface risk needs to be considered and managed in particular during all lifting operations around the site.

Detailed lifting plans, risk assessments & method statements will be produced in advance of the works and the operations will be managed by appropriately trained and competent personnel to ensure that a safe environment is maintained at all times and operations are controlled to satisfy this requirement.

In conjunction with the above considerations the design in respect of structural dependency between the blocks and construction programme is also a factor in the consideration of the logistical approach.

The build-up of the external envelope, materials and installation thereof is also a factor in the consideration of the logistics strategy.

13.0 Original Logistics Proposal

Given the constraints detailed above the contractor will be looking to seek approval for the closure of Echo Street and Granby Row as detailed below.

This logistics strategy included:

- Full closure of Echo St and Granby Row as a single option for HGV's
- Fixed perimeter hoarding and associated gates
- 3no. off-loading zones within the footprint of Granby Row; positions defined by limits of tower crane capacity & lifting radius
- Tower crane located in courtyards; position fixed by foundations and drainage and de-rated 25% to meet with Network Rail requirements
- 5no. hoists located on the Granby Row elevation; reducing interface with the building and limiting distribution routes
- Suitable space for telehandler offloading movements along Granby Row
- Mast climbers to all elevations to be founded at ground level

MCC Highways have advised that the full closure to Granby Row requested for the duration of the works would not be possible due to the existing traffic flows, movements and the impact on adjacent roads and the local community/area.

Consequently, a single lane closure has been discussed with MCC Highways as the preferred option to maintain traffic flows through Granby Row whilst the closure of Echo Street would be permitted for the duration of the works.

14.0 Development of Logistics Proposal

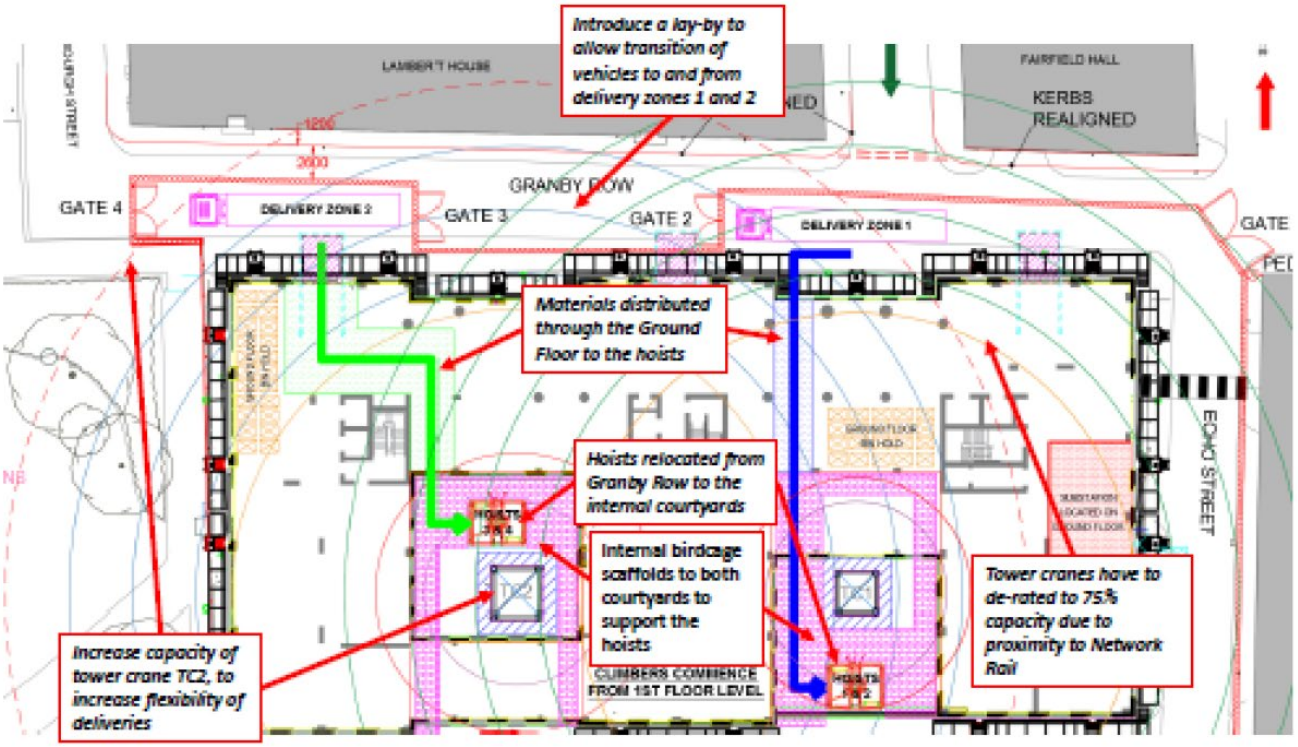
In order to maintain through traffic in Granby Row and meet with MCC Highways requirements the above the following amendments to the logistics approach have been undertaken:

- Tower cranes have been uprated to facilitate an increased lifting radius
- To generate space on Granby Row all hoists have had to be relocated into the courtyards
- Space constraints require that the hoists are tied to full height scaffolding in the courtyards (replacing the mast climbers within the courtyards)
- Due to limited space the hoists have had to be reduced in number from 5No. to 4No. hoists
- To generate space at ground floor level all mast climbers must be suspended from 1st floor level to accommodate FLT movements below
- Forklifts changed to smaller three wheeled 'moffet' style due to limited turning circles and the requirement to distribute materials through the building at ground floor to the hoists in the courtyard
- Three wheeled forklifts to be customised to permit off-loading of vehicles from one side only
- Additional forklifts are required to distribute materials to 1st floor
- Additional traffic marshalls and delivery managers are required to manage increased gate numbers and material distribution

- Enhanced traffic management scheme to facilitate delivery options
- Limited and just in time deliveries will be required
- Off-site storage of some elements will be required
- Ground floor will be utilised as a storage area so fit-out and overall programme impacted

Despite the above the positions of the off-loading areas have had to be re-considered as the locations (see below diagram) proved too close to the building to facilitate the required forklift movements.

Consideration of a single lane option



15.0 Interim Logistics Proposal

The following scheme has therefore been developed whereby the unloading bays are located at the building recesses to facilitate 'moffet' forklift turning circle.

The 'Moffet' style forklift is a three wheeled smaller and more compact forklift with tighter turning circles and swept paths. This style of forklift does however have restricted vertical lift capabilities and lifts to the 1st floor will have to be undertaken by a telescopic forklift.

As a consequence of the revised location of the unloading areas a bespoke retractable hoarding system has had to be developed to facilitate access and egress to the unloading zones. Vehicle manoeuvres in and out of the unloading areas will require additional management within the hoarded area to facilitate the swept path.

16.0 Lifting Zone & Safety Concerns

Notwithstanding the provision of the above logistics strategy which provides a solution to offloading deliveries by forklift, many deliveries will be off-loaded by the tower cranes due to the need to lift larger elements of the structure directly to the operational area/workface.

For health and safety reasons in proximity of the live highway the contractor will require a full closure of Granby Row periodically during the external envelope works and fit-out period.

This would allow the 'hoarding line' to be moved out on a temporary basis creating a safer wider zone in which to undertake tower crane lifts therefore increasing the 'lifting chimney' zone.

These periodic closures during the external envelope & fit-out periods would be during the standard working day and limited in time. Through traffic would be maintained outside of these hours and at weekends.

17.0 Proposed Logistics Proposal

The proposed logistics solution for the project is therefore a permanent single lane closure with temporary full closure during the envelope and fit-out periods would be as detailed below depending on the off-loading position.

18.0 Management of Lane Closures

This would be achieved by:

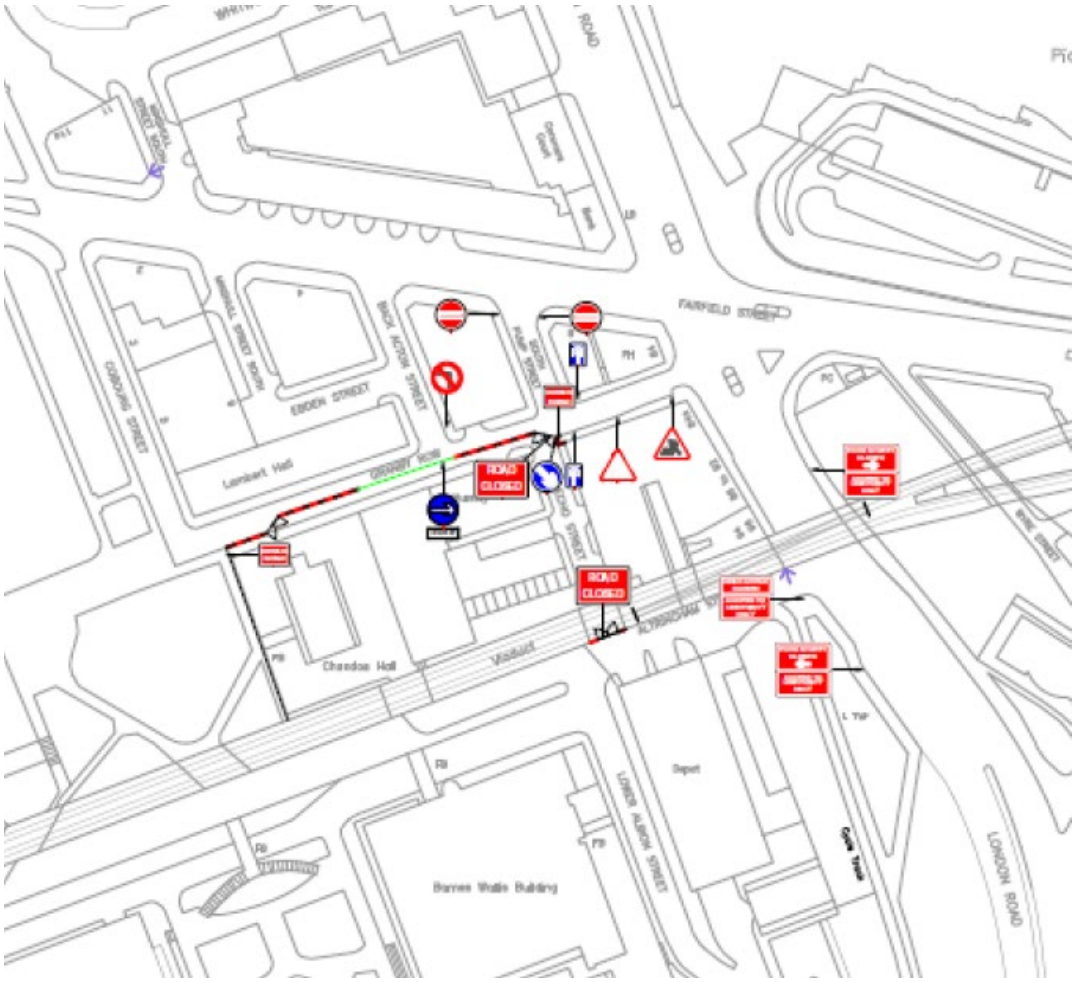
- Traffic management - utilising a Chapter 8 system designed to facilitate an expedient changeover from single lane closure to full closure and vice-versa.
- Local traffic marshal management to expedite closure of Granby Row with an accordion barrier system and pedestrian & traffic management.
- Permanent robust mesh fencing to the footpath north of Granby Row

In the event of an emergency the closure could be removed immediately and the traffic marshal team would assist the transition of emergency vehicles past the site.

19.0 Programme for Single Lane & Periodic Full Closures

During the external envelope and fit-out periods periodic full closures will be required during the working day. The periodic closures during the external envelope & fit-out periods would be during the standard working day and limited in time. Through traffic would be maintained outside of these hours and at weekends.

20.0 Redistribution of Traffic During Road Closures



During the periods when Echo Street / Granby Row are closed, there are several alternative routes for traffic to access the taxi / private hire pick up zone at the station and drivers would quickly adapt their routes to the station accordingly. It is likely that the displaced traffic would be distributed across several alternative routes and the overall number of vehicles re-routed will be low, as shown by the traffic survey results. It is therefore considered that the closures would not result in any adverse effect upon the efficient operation of the surrounding highway network.

21.0 Estimated Number of Deliveries

An estimated number of 15 – 80 LGV and HGV construction/delivery vehicles are projected to be arriving per week.

Hours of site operation

The site hours of operations agreed with the Manchester City Council are:

- 07:30 – 18:00 Monday to Friday

- 08:00 – 14:00 on Saturday
- No work on Sundays or Bank Holidays unless agreed in advance with MCC

Logistics operations that may occur outside these hours with the prior agreement of MCC, for example, deliveries of large items of construction plant.

22.0 Numbers and types of construction vehicles

The contractor will ensure appropriate road safety measures, will deliver preventative measures throughout the construction and operation of the project and will request contractors and suppliers to be registered on the Fleet Operator Recognition Scheme (FORS).

Wherever possible, construction vehicles will include sidebars, blind spot mirrors and detection equipment to reduce the risk and impact of collisions with cyclists and other road users including pedestrians.

The types of construction vehicles accessing the site will include:

- Articulated four to six axle 40T HGV trucks and low loader trailer
- Articulated 25T to 40T four to six axle HGV trucks & trailers
- Articulated and rigid chassis 25T to 40T four to six axle waste removal trucks
- Rigid chassis 20T to 40T mobile cranes
- Rigid chassis 25T to 35T three and four axle tipper trucks
- Rigid chassis 25T to 35T three and four axle ready mix concrete trucks
- Rigid chassis 30T capacity three and four axle flatbed trucks
- Rigid chassis 5T to 20T two to four axle Road Sweepers trucks
- Rigid chassis 3T to 7.5T capacity 2 axle panel and box vans

23.0 Communication to Immediate 3rd Parties

The contractor will maintain liaison with all appropriate 3rd parties to communicate any changes to the road network around the site via a project electronic communication board which will be made available to all appropriate 3rd parties.

In the event a 3rd party requiring to enter Cobourg Street during a full closure marshals will be available to escort vehicles to the intended location.

The contractor considers that the following amendment could be made to Cobourg Street to provide a temporary solution during full closure of Granby Row.

24.0 General Logistics

Parking, loading and unloading arrangements

All loading and unloading will take place within the construction area hoardings for each work area.

The construction areas will have gated manned entrances and exits and will contain vehicle loading and unloading areas.

Construction Vehicle Wheel Washing Facilities

All the construction areas for the new build are accessed from public highways.

Th contractor will organise road sweeping of the roads adjacent to the site used by construction traffic daily or as required by the works. The contractor will also undertake road sweeping of any local surrounding roads as required should they deposit any mud and debris beyond the project demise.

A jet wash will be utilised at the site entrance as necessary to mitigate the spread of site materials outside the footprint of the site. The delivery area will also receive a temporary tarmac layer to mitigate deposits outside the footprint of the site.

These wheel-washing facilities together with the gatemen and traffic marshalls will prevent the spread of any mud and debris onto market roads and the public roads.

Details of how traffic will be managed at each phase of development

The contractor will employ logistics management and manage a delivery management system on the project. It will be a requirement that all construction delivery vehicles book their arrival time in advance to prevent any backlog of vehicles causing disruption to the surrounding area. Delivery booking will be an electronic Delivery Booking & Management System.

Signage will clearly identify the vehicle routes to the construction project.

Clearly identifiable appointed trained traffic marshals/gatemen located at the construction area gates will ensure the management of the delivery process.

Plant deliveries will be requested whenever practical for delivery out of peak traffic times.

Site Liaison

The contractor will appoint a Site Liaison Manager to manage liaison with 3rd parties.

Materials storage and unloading arrangements on site

Materials storage will be limited on site and therefore most deliveries will be unloaded within the hoarded construction areas and either taken directly to their area of work or temporary storage location.

Materials distribution around the site will generally be by means of a mobile telehandler.

All loading and unloading will be undertaken within the site curtilage and controlled by trained banksmen.

Parking for construction operatives' vehicles

There will be no car parking provided for construction operatives or sub-contractors vehicles on the site. Both site operatives and visitors will primarily be encouraged to use public transport (bus, rail etc) to reach the site or directed to local parking facilities.

Minimisation of noise, dust and particulate emissions

All construction vehicles on the site will be maintained in good and efficient working order and operated in such a manner as to minimise noise, vibration emissions and particulate emissions.

The contractor will not permit vehicles and construction plant that are not in good working order or producing excessive noise or emissions to operate on the site.

CLP Management

The contractor will appoint a CLP co-ordinator who will have responsibility for the day-to-day management of the CLP.

The CLP co-ordinator will prepare any updates required of the CLP.

The contractor will name the CLP Co-ordinator in the CLP and will advise MCC if there is a change.

The contractor will publicise the CLP to their supply chain as a policy document applicable equally to all suppliers and sub-contractors.

Contractor's Handbook

The contractor will produce and issue a 'Delivery Management Plan' to ensure that all their sub-contractors and suppliers are aware of their obligations under this CLP.

Drivers Handbook

The contractor will produce and issue a 'Summary Delivery Management Plan' to ensure that delivery drivers are aware of their obligations under this CLP.

25.0 Construction Environmental Management Commitments

In line with the Environmental Statement there are several mitigation measures as shown below to ameliorate effects. The below table illustrates how these will be undertaken.

4.1 A summary of the CEMP measures which are integral to the description of the Proposed Scheme are provided in **Table 4.2**.

Table 4.1: Construction Environmental Management Commitments

Construction Environmental Management Commitments	
General	
(a)	The proposed construction works will be carried out by a competent contractor that will comply with current legislation[1].
(b)	The site security arrangements for the Proposed Scheme during the construction stage will be in line with the requirements set out in the Construction (Design and Management) Regulations 2015 and appropriate levels of security (personnel / CCTV) will be provided.
(c)	Construction working hours[2] (noisy work) will be 07:30 to 18:00 Monday to Friday; 08:30 to 14:00 on Saturday; and no noisy work on Sundays and Bank Holidays. Operations outside of these hours will be agreed with MCC.
(d)	Climate change adaptation measures will be set out to reduce risks to human health from overheating such as provision of shaded refuges to reduce overheating risks, and potable water supplies to avoid dehydration.
(e)	3m high Site hoarding lines.
Dust Management / Air Quality	
(f)	The CEMP will be informed by Institute of Air Quality Management (IAQM) guidance[3] and would include prevention measures, such as screening stockpiles of materials, deployment of windbreak netting and dampening exposed soils as appropriate and set out requirements for ongoing monitoring and liaison with the local community, and MCC.
(g)	Measures to control emissions from non-road mobile machinery, such as the use of emission standards for NRMM based on engine size.
Greenhouse Gas Emissions	

[1] This includes the Health and Safety at Work etc. Act 1974; the Control of Pollution Act 1974; and Construction (Design and Management) Regulations 2015.
[2] Manchester City Council. Tackle a noise problem – Noise from building sites. Available at: Noise from building sites | Tackle a noise problem | Manchester City Council [Accessed: 14/12/2022].
[3] IAQM (2014). Assessment of dust from demolition and construction v1.1 Available at construction-dust-2014.pdf (iaqm.co.uk) [Accessed 17/1/2023].

Construction Environmental Management Commitments	
(h)	A range of measures will be implemented which will reduce construction and embodied carbon. These measures are set out in the BREEAM Life Cycle Assessment (LCA) report and include:
(i)	25% GGBS within concrete for the ground floor slab, ground beams, pilecaps and core bases;
(j)	98% recycled steel for the rebar.
Ground	
(k)	All earthworks and foundation design will be in accordance with relevant industry guidance, including but not limited to CIRIA Report C572: Treated ground engineering properties and performance[4], British Research Establishment document FB75: Building on Fill - Geotechnical Aspects[5] and British Standard 6031:2009: Code of Practice for Earthworks[6].
(l)	Measures to protect construction workers, neighbours and general public passing by from exposure to any contaminated material which is encountered including (but not be limited to); dust suppression methods, ensuring covered wagons transport material and ensuring suitable PPE is provided and worn on site.
(m)	Fuels, oils and hazardous substances used in construction will need to be suitably stored and bunded containers with spill kits easily accessible.
(n)	A Piling Risk Assessment will be undertaken for any further piling works that are required.
(o)	Site Specific Unexploded Ordnance Awareness Briefings to all personnel conducting intrusive works.
(p)	In medium risk area of UXO the following will be undertaken: • Open Intrusive Works (trial pits, service pits, open excavations, shallow foundations etc.); • UXO Specialist On-site Support and Site Specific Unexploded Ordnance Awareness Briefings to all personnel conducting intrusive works; and • Boreholes – Intrusive Magnetometer Survey of all borehole and pile locations/clusters down to maximum bomb penetration depth
Lighting	

[4] CIRIA (2002). Report C572: Treated ground engineering properties and performance.
[5] British Research Establishment (2015). FB75: Building on Fill - Geotechnical Aspects. 3rd Edition.
[6] British Standard (2009). 6031:2009: Code of Practice for Earthworks.

Construction Environmental Management Commitments	
(q)	Lighting will be controlled through a series of best practice measures, in line with lighting industry standards and guidance including the CIE publication 'Technical Report Document 129[7] and BS EN 12464-2:2014[8].
(r)	The following measures are proposed in order to control Light Spill, Glare and Sky Glow effects and thus manage light pollution: • Where practicable, construction lighting in the Site would be designed to comply with Environmental Zone E4 in accordance with the ILP Guidance Note GN01[9]; • Illuminance levels arising from temporary lighting to be designed in accordance with BS EN 12464-2: 2014 and CIE 129; • Placement of temporary lighting required to ensure safe working conditions and to maintain security, to have due regard of sensitive receptors (i.e. occupied residential premises); • Lighting to be directed so as avoid unnecessary Light Spill outside of construction areas and to ensure that the light distribution is toward the task area; • Lighting to be switched off when not required for safe working conditions and Site security; • Use of light shields/baffles to control upward light to within the maximum 15% set out in the ILP Guidance Note GN01, where possible; • Lighting to be kept at 0° tilt to avoid Sky Glow, where practicable; and • Light dimming and automatic switch off would be used (where appropriate).
Noise and Vibration	
(s)	Controls implemented in accordance with BS5288-1:2014[10], including site hoardings, hours of operation, and the use of practicable measures to control noise at source.

[7] CIE - Technical Report Document 129 (1998) Guide for Lighting Exterior Work Areas.
[8] British Standards (2014) BS EN 12464-2 – Lighting of Work Places – Part 2: Outdoor Work Places.
[9] Institute of Lighting Professionals (ILP) (2021) Guidance Notes for the Reduction of Obtrusive Light (GN01).
[10] BSI Standards Publications (2014). BS5228-1:A1:2014: available at https://knowledge.bsigroup.com/products/code-of-practice-for-noise-and-vibration-control-on-construction-and-open-sites-vibration/standard [Accessed 13/1/2023].

Construction Environmental Management Commitments	
(t)	Controls implemented in accordance with BS5288-2:2014[11], including the use of low-vibration working methods, such as continuous flight auger (CFA) and reasonable hours of working (see hours above, under General Measures).
(u)	Maintain good road surfaces.
Traffic Management	
(v)	The CEMP will manage construction traffic in the area, seeking to minimise the potential for disruption to other road users through measures such as vehicle booking systems.
(w)	Safe pedestrian routes maintained along Granby Row.
(x)	Site exit managed to keep clear of debris, mud and materials.
(y)	Reuse of materials on site to avoid traffic movements.
(z)	Most traffic and deliveries to the Site will arrive from the A6 and Fairfield Street, with access via the main entrance at Back Acton Street and egress via the main exit at Cobourg Street ie there will be a one-way system in place close to the Site.
Water	
(aa)	The monitoring and setting of targets to reduce water use.
(bb)	A Surface Water Management Plan (in accordance with best practice guidance such as The SuDS Manual (C753)[12] and BS8582:2013 Code of practice for surface water management for development sites[13]) will be established. This will include the installation of a temporary drainage system to collect and contain run-off including any discharge agreements with the local sewer authority and measures to protect the Site from increased risk of flooding during construction, for example compounds storage compounds with raised levels and temporary drainage; and drainage and pollution prevention systems.
(cc)	Introduction of perimeter cut off drains to prevent overland run-off and additional interceptors for pollution and debris collection if required.
(dd)	Bowsers to be in place for potable water requirements until a permeant solution is in place.

[11] BSI Standards Publications (2014) BS5228-2:A1:2014: available at https://knowledge.bsigroup.com/product./code-of-practice-for-noise-and-vibration-control-on-construction-and-open-sites-vibration/standard [Accessed on 13/1/2023].
[12] CIRIA (2015). The SuDS Manual (C753).
[13] BSI (2013). BS8582:2013 Code of practice for surface water management for development sites. Available at: BS 8582:2013 | 30 Nov 2013 | BSI Knowledge (bsigroup.com)

Construction Environmental Management Commitments	
(ee)	Measures to limit the amount of silt and other pollutants that are able to reach the existing sewer infrastructure. Silt will be controlled using traps and measures implemented to reduce the amount of material that could be washed into the Watercourse via overland flows. The use of cut off trenches to intercept the overland flow routes will also prevent pollution.
(ff)	Designation of specific areas where refuelling and maintenance occurs.
(gg)	Storage of materials will be located an appropriate distance away from the watercourse to ensure there is limited flow routes for contamination to use to get the existing sewer infrastructure.
Waste Management	
(hh)	The CEMP will be informed by the waste provisions of the Environmental Protection Act 1990[14] and the Environmental Protection (Duty of Care) Regulations 1991[15] and will set out the principles and legal requirements relating to waste, including any hazardous waste that is encountered and required to be exported off-site for disposal.
(ii)	Hazardous waste will be handled, processed and removed from Site by suitability qualified contractors, all being undertaken in line with The Hazardous Waste (England and Wales) Regulations 2005.

[14] Environmental Protection Act 1990 No. 43 Available at: https://www.legislation.gov.uk/ukpga/1990/43/contents [Accessed: 18/01/2023].
[15] Environmental Protection (Duty of Care) Regulations 1991 No. 2839. Available at: https://www.legislation.gov.uk/uksi/1991/2839/made#:~:text=The%20duty%20requires%20such%20persons,person%20or%20to%20a%20person [Accessed: 18/01/2023].

STUDENT NEED ASSESSMENT
ECHO STREET, MANCHESTER

iQ Student Accommodation

MARCH 2023



CUSHMAN & WAKEFIELD

Introduction	2
Executive Summary	3
Site Location	5
Demand	8
University Investment & Performance	16
Supply	21
Rental Analysis	29
Private Rented Sector	34
Development Pipeline	36
Demand & Supply Dynamics	39



INTRODUCTION

This Student Accommodation Need Assessment has been prepared for iQ Student Accommodation in relation to the proposed development of 1,224 purpose-built student accommodation (PBSA) bed spaces at Echo Street in Manchester. It assesses the following areas:

Manchester Student Accommodation Need

1	Site Location
2	Demand
3	Investment & Performance
4	Supply
5	Private Rented Sector
6	Development Pipeline
7	Demand & Supply



EXECUTIVE SUMMARY



EXECUTIVE **SUMMARY**

Demand Manchester is the UK's fourth largest student market. The University of Manchester is the UK's largest single institution and attracted 42,260 full-time students in 2021/22, a 14% increase since 2016/17. Growth is being driven by the University's international population, which has grown by 34% over the last five years. Manchester Metropolitan University (MMU) has enjoyed positive growth of 13% over the past five years. The University has performed well in its recruitment of postgraduate students, which have seen strong growth of 49% over the same period.

Supply In 2022/23 there are 26,830 purpose-built student accommodation bed spaces available to students in Manchester, making it the fourth largest student accommodation market in terms of beds the UK behind London, Liverpool and Sheffield. The market is currently characterised by a legacy of older bed spaces due to limited development over the last decade. Over the last 10 years, the City has seen the second fewest number of new deliveries of any major market, and the lowest net increase in beds of any major market. Consequently, Manchester is home to a significantly larger percentage of standard, shared bathroom bed spaces than the national average, and a considerably lower percentage of modern en-suite rooms.

Pipeline The development pipeline in Manchester currently stands at 3,814 beds with just over 1,400 beds approved (37%) - a small number for a market of this size. Student Castle, Fusion and Vita all have proposed schemes in the city. Modelling of the impacts of the development pipeline on the demand supply balance indicates that more students are likely to be forced into HMO accommodation without additional beds being delivered to the market.

Student to Bed Ratio The City-wide student to bed ratio (SBR) stands at 2.04:1, meaning that 27,895 students with a requirement for a bed are currently unable to access one in PBSA. The demand-supply imbalance in Manchester continues into 2023, as more students are being forced into the HMO market as demand continues to outstrip supply in the City. Cushman & Wakefield's modelling shows that without significant additional development, more students will be forced into the private housing market as demand for accommodation continues to grow.

Location The proposed development site sits in an established area of PBSA in Manchester, with existing successful developments from the likes of iQ student and Unite Students adjacent. World-class university facilities are located nearby. Including the University of Manchester's Graphene Engineering Innovation Centre. Key campus buildings, including the University's Engineering Building, can be reached in five minutes by bicycle, or in just over 10 minutes on foot.

Development Opportunity iQ Student is an established and high quality operator in the Manchester market, with a proven track record of delivery. The proposed 1,224-bed development will deliver an extremely high quality of facilities for students seeking a high-quality student experience, with sector-leading amenity spaces for a large development. Given wider pressures on the Manchester housing market development of sites such as Echo Street can play a crucial role in delivering the need for modern, fit-for-purpose student accommodation in the City.

01

SITE LOCATION

LOCATION & AREA CHARACTERISTICS



PROPOSED DEVELOPMENT

The proposed Echo Street development site is located on a prominent gateway site within Manchester City Centre, between Granby Row, Echo Street, The Altrincham railway viaduct and Vimto Gardens. The scheme will provide 1,224 bed spaces, with 589 studio units and 635 cluster beds.

Over 1.1m² of amenity will be provided per student which is an extremely high proportion for a large development. The amenity is designed to provide an outstanding student experience. The development will comprise three blocks, with two “link blocks” connecting the buildings. All will benefit from social and amenity space.

The University of Manchester now operates from three main campuses, all of which are accessible within a 16 minute walk of the site (with the exception of Fallowfield, which is accessible via a 26 minute bus route). Manchester Piccadilly Railway Station (5 minutes by foot) offers onward travel to London and Edinburgh (and the rest of the UK). Manchester Metropolitan University’s All Saints Campus is also a short 13 minute walk away. The amenities of the city centre and the Arndale Shopping Centre (and other City Centre amenities) are also easily accessible within 16 minutes via foot.

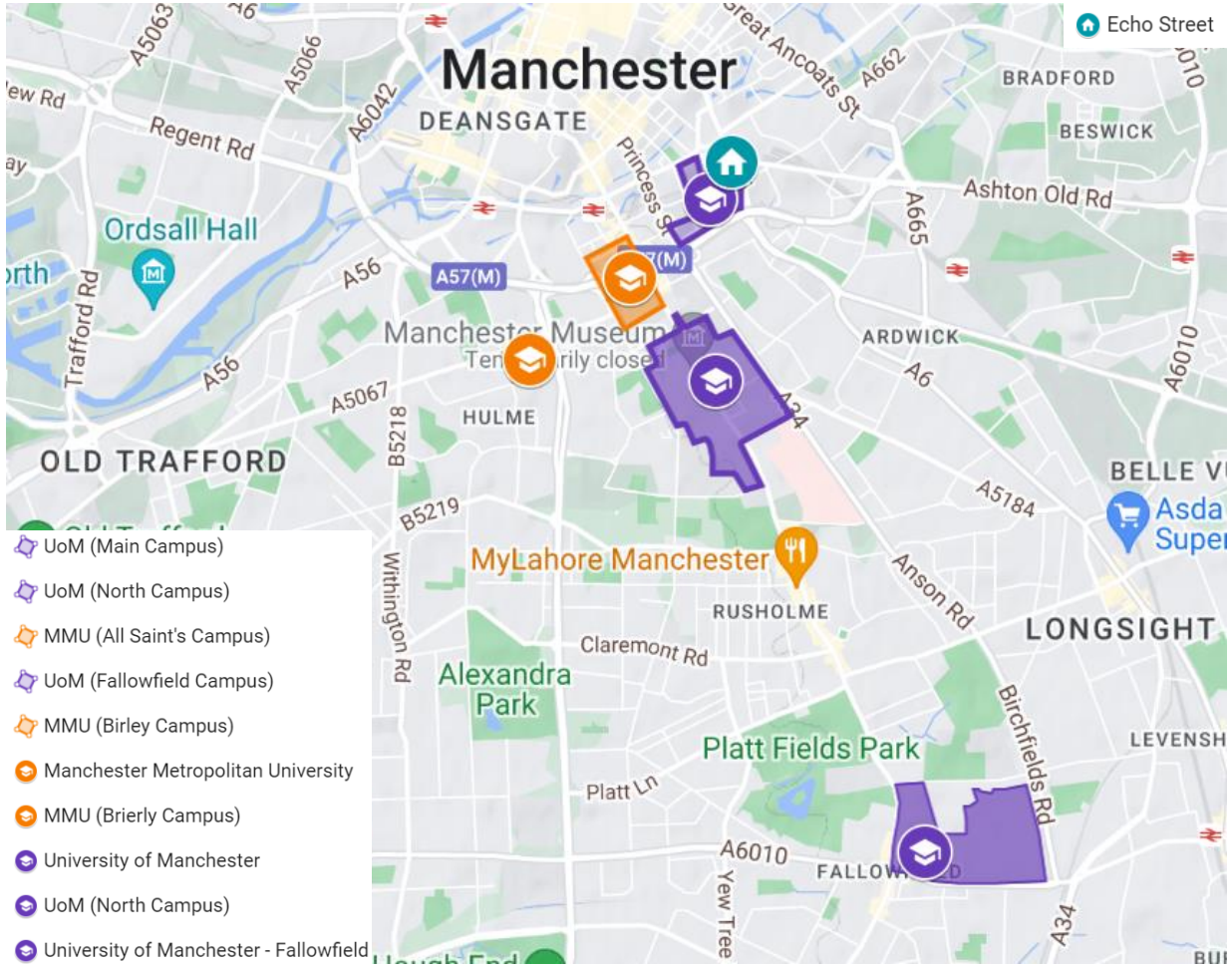
Echo Street, Manchester



Source: iQ Student

Amenity	Travel time	Method
Fallowfield Campus	26 minutes	Bus
UoM South Campus	16 minutes	Walking
UoM North Campus	6 minutes	Walking
MMU All Saints Campus	13 minutes	Walking
City Centre	16 minutes	Walking
Arndale Shopping Centre	15 minutes	Walking
Piccadilly Railway station	2 minutes	Walking

SITE LOCATION



Source: Cushman & Wakefield adapted Google Maps

The map adjacent highlights the location of the proposed development in the context of the wider Manchester campus environment. As can be seen, the site is well located for both institutions – the University of Manchester and Manchester Metropolitan University. The site is particularly close to UoM's North Campus and MMU's All Saint's Campus.

The student central location is likely to have significant appeal to students, as it sits minutes from numerous bars, restaurants, and shops, whilst also being within a short walk of Manchester Piccadilly, Oxford Road and Deansgate Railway Stations.

02

DEMAND
MANCHESTER ANALYSIS



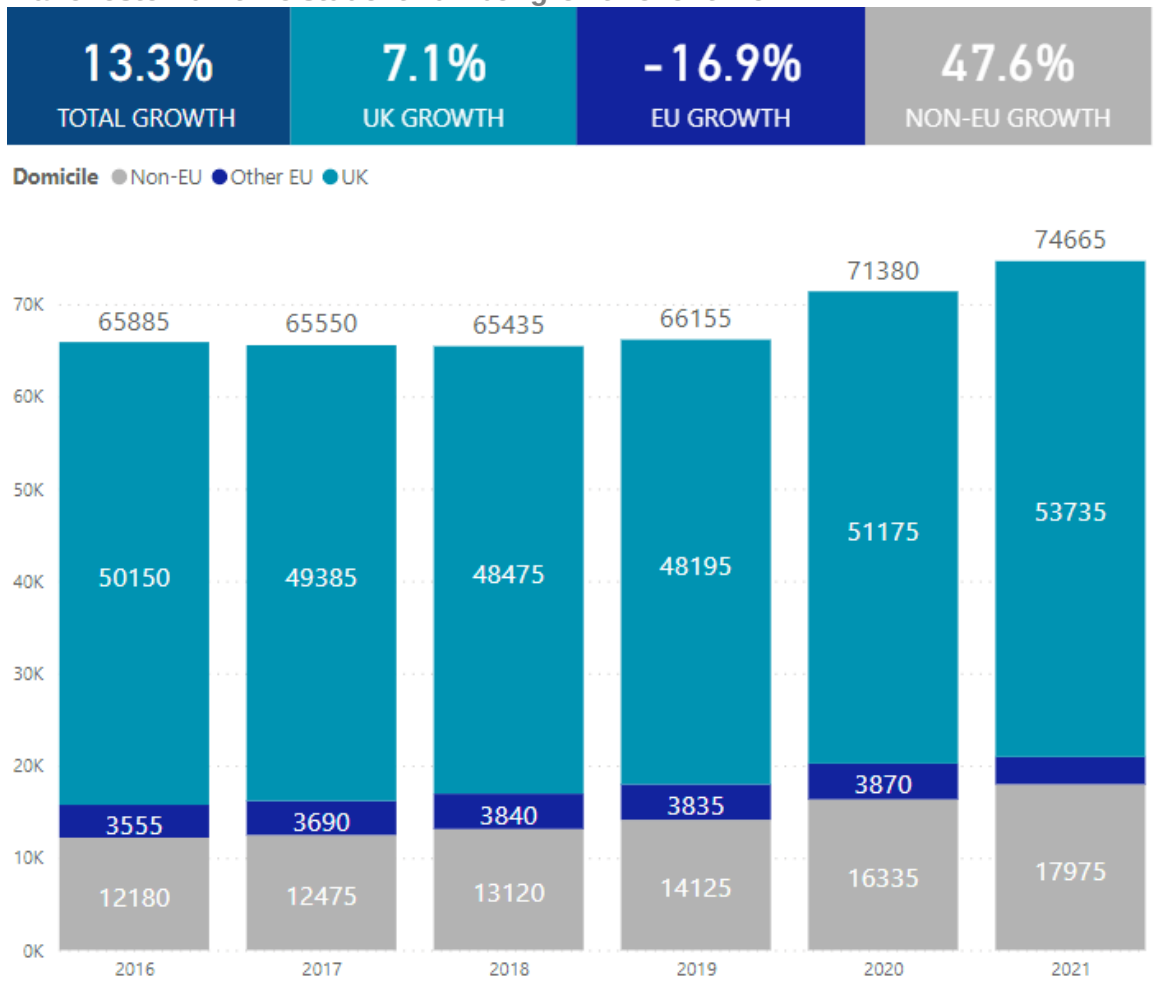
OVERVIEW

Manchester is the UK's fourth largest student market by full-time population after London, Birmingham and Glasgow and was home to 74,665 full-time students in 2021/22 across its three main institutions: The University of Manchester, Manchester Metropolitan University and the Royal Northern College of Music. 100s more students are studying on a full-time basis at the University Campus of Football Business, as well as 395 full-time students University Academy 92 (UA92) Limited.

Student number growth across the City has been significant over recent years, with full-time students growing by 13.3% between 2016/17 and 2021/22. Much growth has come from the non-EU international student population, which has grown by a significant 47.6% over the same period.

There were 8,780 more full-time students studying at the three main Manchester institutions in 2021/22 than was the case in 2016/17. The University of Manchester and Manchester Metropolitan University are explored in more detail overleaf.

Manchester full-time student number growth over time



Source::HESA 2016/17 to 2021/22

UNIVERSITY OF MANCHESTER

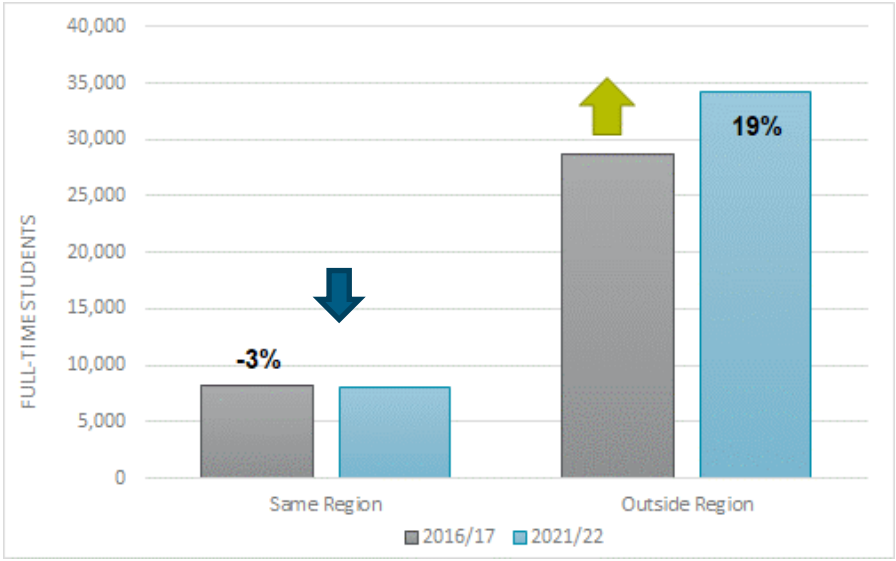
The University of Manchester has grown student numbers gradually since 2016/17, at an overall 14% increase in the student population. Whilst growth has been steady, it has been below the nationally observed average across all levels of study. The largest increase in student numbers comes from the postgraduate population, which has grown by 24% across the five year period. For 2021/22, the University of Manchester attracted a total of 42,260 students, making it the largest single institution in the UK. The postgraduate population accounts for 27% of the student body, slightly above the nationally observed average of 24%.

Full-time student number growth 2016/17 to 2021/22

Level of Study	2021/22			2016/17			Manchester Uni	UK
FT &SW	Student numbers	%	UK Comparator (%)	Student numbers	%	UK Comparator (%)	Growth 2016/17 to 2021/22	Growth 2016/17 to 2021/22
UG	30,735	73%	76%	27,590	75%	82%	11%	12%
PG	11,530	27%	24%	9,320	25%	18%	24%	60%
Total	42,260	100%	100%	36,910	100%	100%	14%	21%

Source: HESA 2016/17-2021/22

Student domicile 2016/17 to 2021/22



Source: HESA 2016/17-2021/22

The University of Manchester has seen strong growth in students domiciled outside of the region at 19% since 2016/17. This is a testament to the institution's reputation as a global research, international University and a member of the prestigious Russell Group. This increase in student numbers totals 5,555 students.

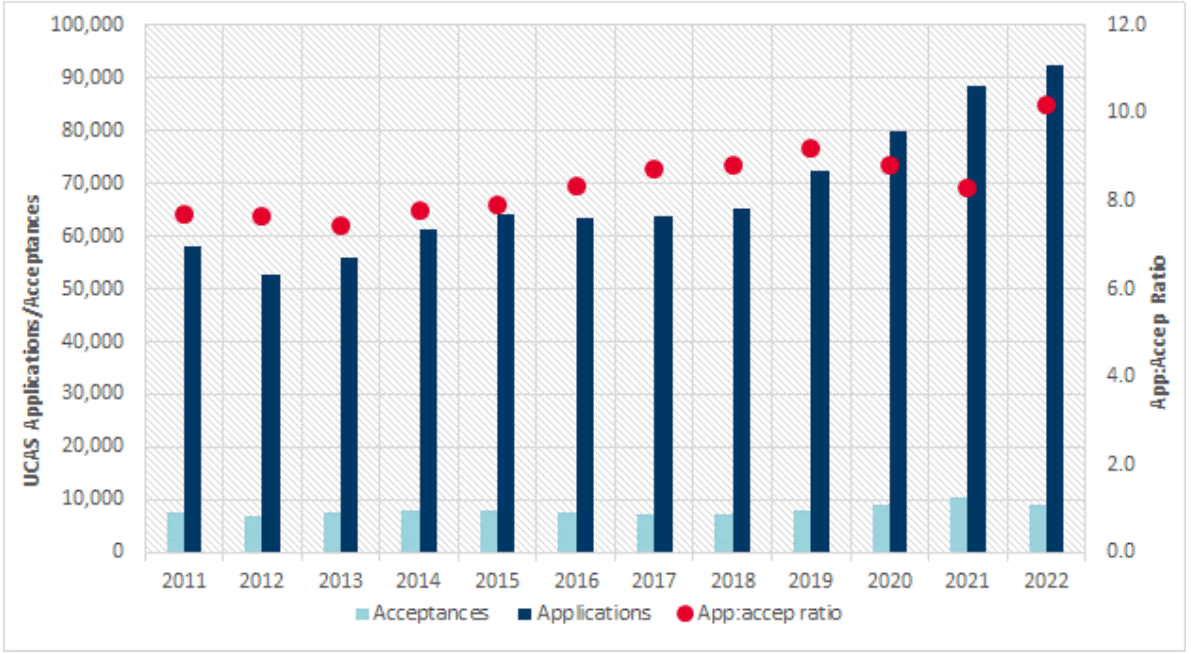
Students from the region have fallen by 3% since 2016/17, totalling a loss of 205 students. This domicile accounts for 19% of the student body, aa significantly smaller percentage when compared to the UK average of 37%.

UNIVERSITY OF MANCHESTER

In 2022, the University of Manchester received a total of 92,310 applications. Out of these, 9,060 students were accepted to study at the institution. Since 2016, applications have been gradually increasing and grew by a total of 28,740 students by 2022. Following the increase in tuition fees in 2012, unlike many UK institutions, the University of Manchester did not struggle to maintain student numbers as applications increased by 6% in a single year from 2012 to 2013. Applications then continued to increase up until 2015.

In 2022, acceptances stood at 9,060 students, a 15% fall on the previous year where the number of acceptances totalled 10,655. This is in line with the Russell Group trend to reduce undergraduate intakes in the post-COVID environment. The applications to acceptances ratio at the institution has consistently been significantly above the nationally observed UK average, and for 2022 stands at 10.2:1, much higher than the UK average of 6.5:1 for the same year. In 2021 and 2022, the institution has accepted a small percentage of students through non-main scheme acceptance routes, at 4% and 6% respectively. It should be noted that the applications and acceptances outlined above are representative of those who have applied through the UCAS system only – i.e. undergraduate students, and excludes the significant and growing postgraduate population.

Undergraduate applications and acceptances over time (2011-2022)



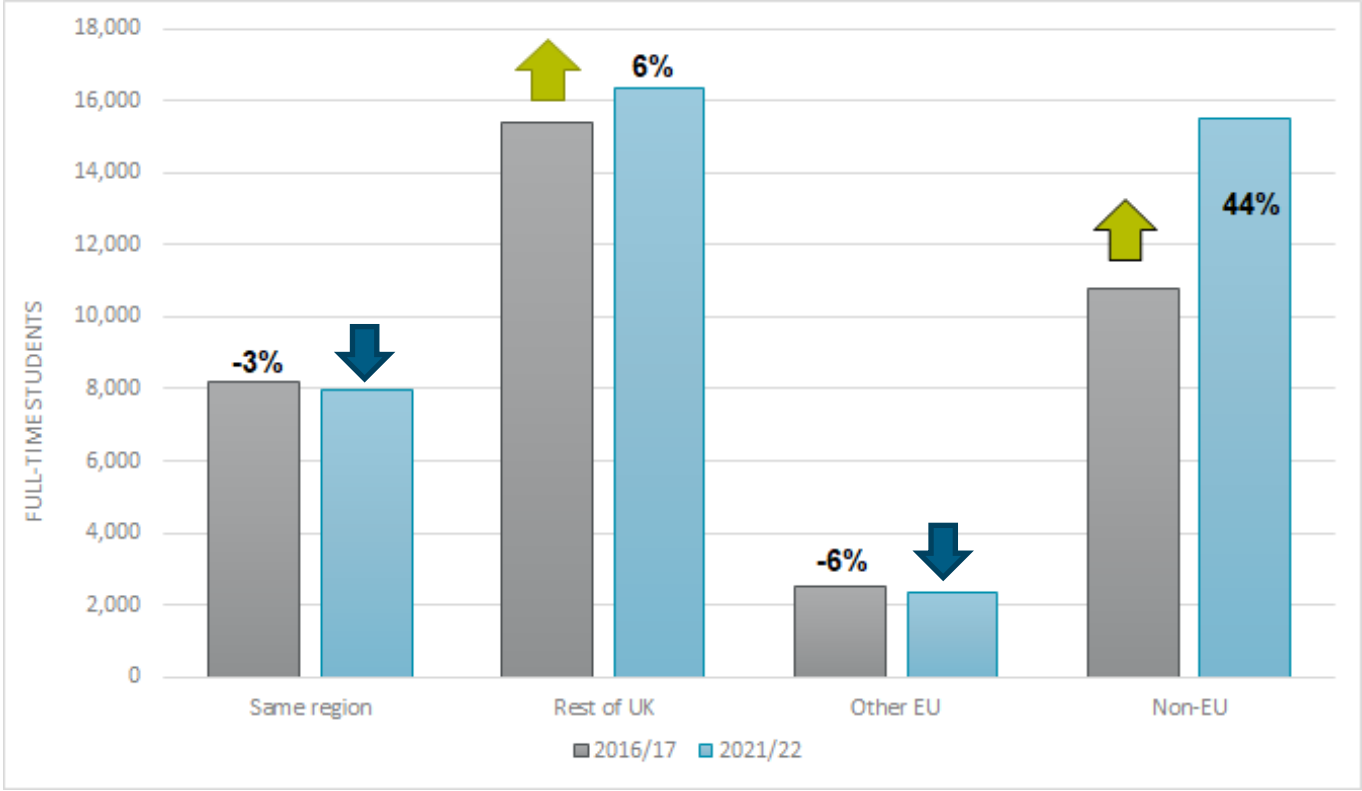
Source: UCAS 2011-2022

UNIVERSITY OF MANCHESTER

The largest growth at the University of Manchester over the last five years has come from students outside of the EU, as this cohort has grown by 44%. This increase in students equates to 4,740 students, bringing the total non-EU population to 15,525 for 2021/22. Students from other EU Countries and regional students have fallen by 6% and 3% respectively. As students from other EU Countries accounts for a smaller percentage of the student body, this equates to a small loss of 155 students. Students from the same region have fallen by 205 students. Students from the rest of the UK have grown by 6%, totalling an increase of 970 students.

These trends are extremely positive in terms of demand for student accommodation.

University of Manchester students by domicile 2016/17 to 2021/22



Source: HESA 2016/17 to2021/111

MANCHESTER METROPOLITAN UNIVERSITY

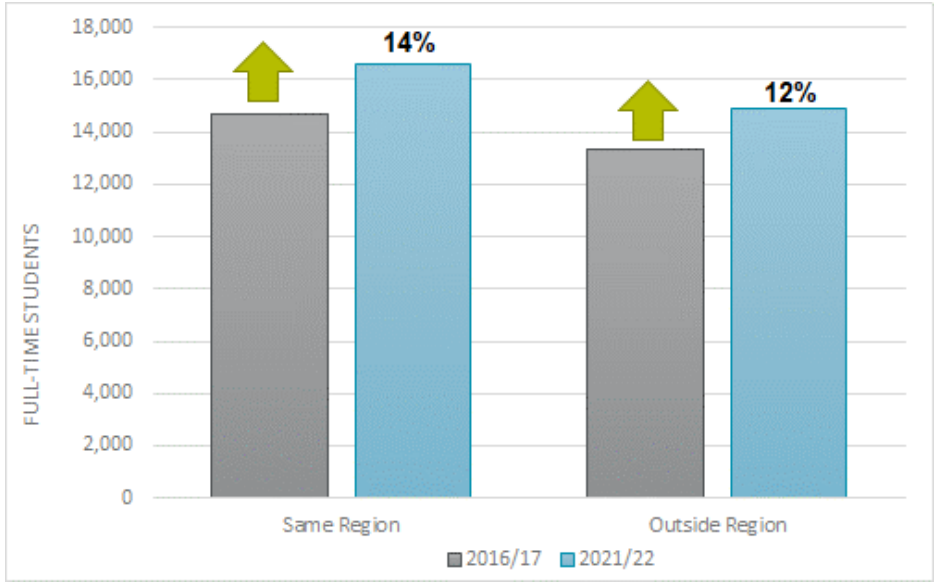
Whilst student numbers at Manchester Metropolitan University have grown since 2016/17, this growth has been at a slower rate than the nationally observed UK average. For 2021/22, overall student numbers at the institution total 31,555, a 13% increase since 2016/17. A huge amount of this growth has come from postgraduates, as this cohort increased by 49%, equating to 1,465 students over the five year period examined. Undergraduate growth has been steady at 8%, and despite this growth being below that of the UK average, this cohort accounts for 86% of the student body, a figure 10% above the nationally observed UK average.

Full-time student number growth 2016/17 to 2021/22

Level of Study	2021/22			2016/17			Manchester Met	UK
FT &SW	Student numbers	%	UK Comparator (%)	Student numbers	%	UK Comparator (%)	Growth 2016/17 to 2021/22	Growth 2016/17 to 2021/22
UG	27,075	86%	76%	25,020	89%	82%	8%	12%
PG	4,475	14%	24%	3,010	11%	18%	49%	60%
Total	31,555	100%	100%	28,025	100%	100%	13%	21%

Source: HESA 2016/17-2021/22

Student domicile 2016/17 to 2021/22



Source: HESA 2016/17-2021/22

Students from both outside the region and from within the North West have grown steadily since 2016/17, with the largest increase being from regional students at 14%.

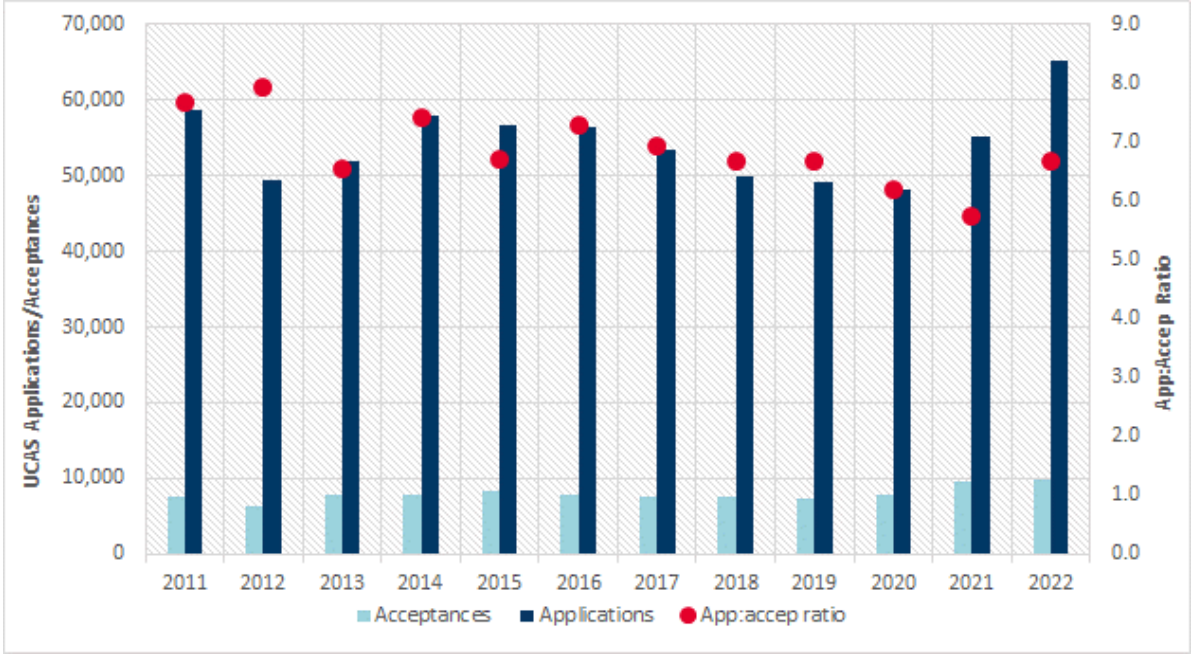
Students from outside of the region have increased by 12% across the past five years – a total of 1,545 students. The majority of this growth comes from non-EU students which have increased by 88% since 2016/17, equating to 1,035 students.

MANCHESTER METROPOLITAN UNIVERSITY

Manchester Metropolitan University have seen a surge in applications over the last year, increasing by 18% or 10,055 students for 2022. Historically, this is the largest single year increase in applications that the institution has ever seen. Similar to the University of Manchester, Manchester Metropolitan University continued to increase the number of applicants following the rise of tuition fees in 2012. From 2012 up until 2014, applications were up by 17%, or 8,525 students.

Acceptances for 2022 totalled 9,770 students, a figure which has increased by 33% since 2019, alongside the large increase in applications. The applications to acceptances ratio at MMU has consistently been relatively in line with the nationally observed UK averages, and for 2022 stands at 6.7:1. Since accepting 20% of students through clearing in 2020, this percentage has continued to fall since and for 2022, MMU accepted 9% of students through clearing. Again, it should be noted that the applications and acceptances outlined above are representative of those who have applied through the UCAS system only, and exclude the large number of postgraduate students now studying at the University.

Undergraduate applications and acceptances over time (2011-2022)

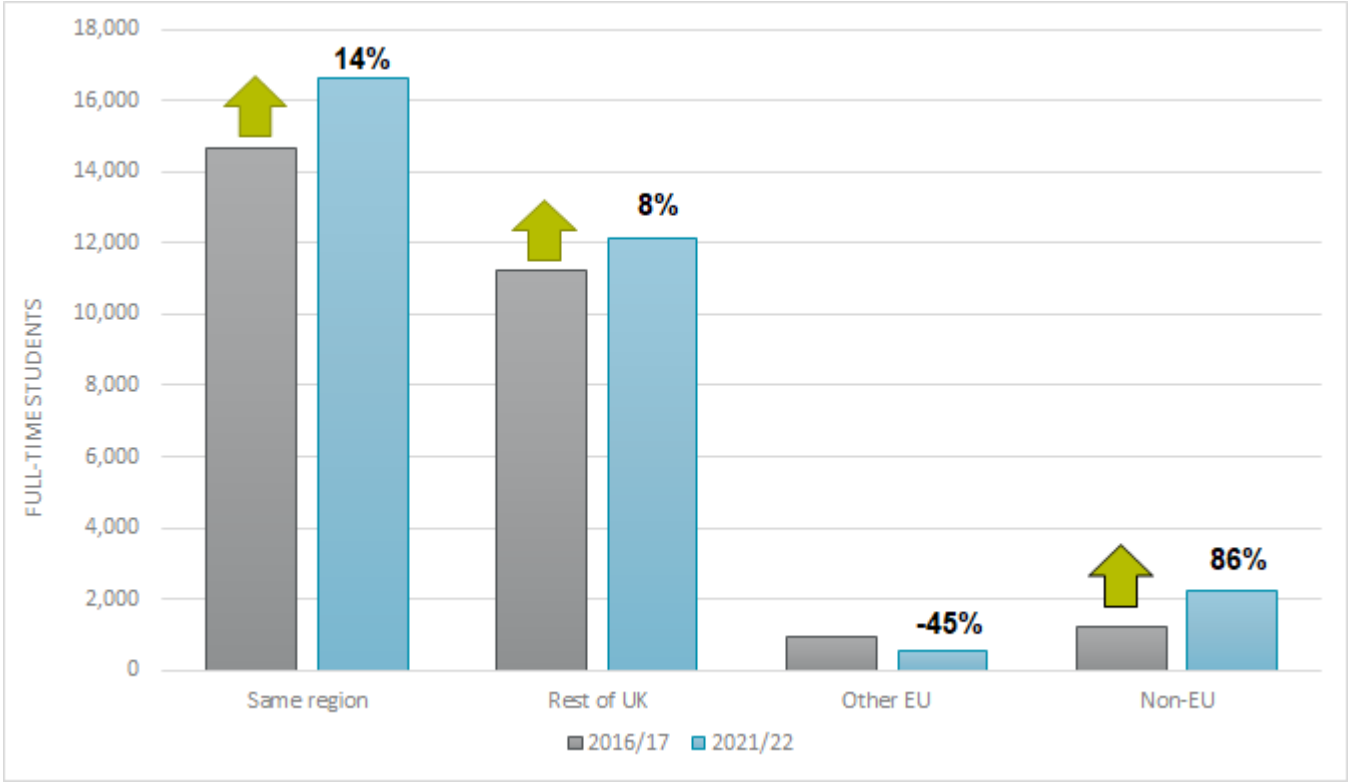


Source: UCAS 2011-2022

MANCHESTER METROPOLITAN UNIVERSITY

Manchester Metropolitan University has increased student numbers in all domiciles except for students from other EU Countries. This cohort has fallen by 45%. Albeit, student numbers have fallen from a smaller base, however this equates to a loss of 430 students since 2016/17. Despite this, the growth in students from outside of the EU has been strong at 86% or 1,035 students. Behind non-EU growth are regional students, which have increased by 14%, totalling 1,980 students. Finally, students from the rest of the UK have increased by 8% and now account for 12,150 students for 2021/22.

Manchester Metropolitan students by domicile 2016/17 to 2021/22



Source: HESA 2016/17 to2021/111

03

UNIVERSITIES
INVESTMENT & PERFORMANCE



UNIVERSITY OF MANCHESTER



Manchester Engineering Campus

Completed in 2021, the Manchester engineering campus development (MECD) is a £400+ million investment which houses the faculty of engineering at the University of Manchester. It is now home to almost 7,000 students and 1,300 staff and has a variety of flexible teaching and learning spaces.



Henry Royce Institute Hub

Opened in 2020, the Manchester hub for the Henry Royce Institute, the national body promoting research and applications in advanced materials. The building is a prominent new landmark on the Manchester skyline at 46 meters high.

The Manchester building enables a wide array of ground-breaking research to be undertaken including investigations into biomedical materials which are at the cutting-edge of regenerative medicine and prosthetics and nuclear materials to support the energy sector.



Innovation District

This 50/50 joint venture between the University of Manchester and Bruntwood SciTec will create a £1.5 billion innovation district. Which will be home to a global community that will play a vital role in the future of the UK science and technology sector, with the potential to create over 10,000 new jobs in the 10-15 years.

Place design and placemaking will be central to the development of ID Manchester, which when complete will provide over 4 million square feet of new commercial workspace.

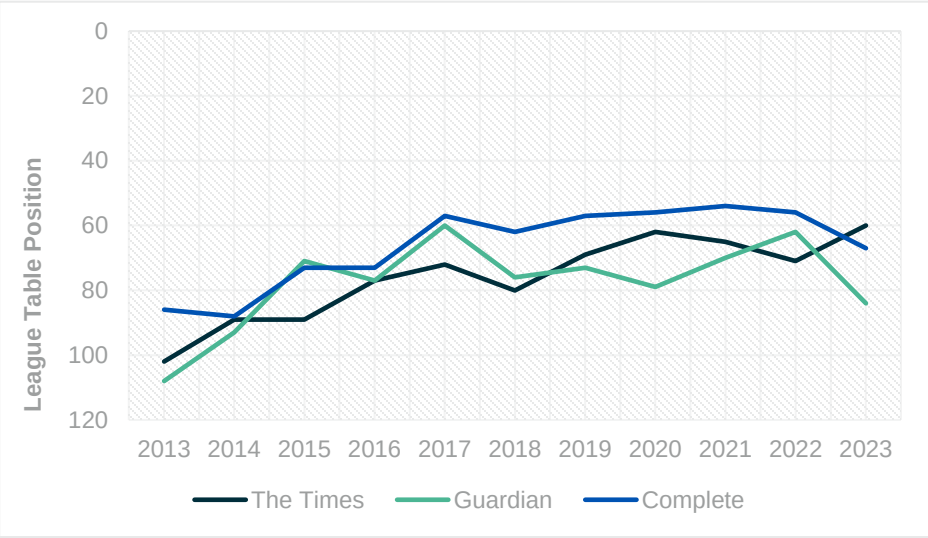
Source: University of Manchester

LEAGUE TABLE PERFORMANCE

The University of Manchester has been consistently ranked in the top 40 UK institutions over the last decade in all three major UK national league tables. In 2023, the University was ranked in 17th place by The Complete University, 24th by The Times and 30th place by the Guardian.

The institution was also ranked in 8th place in the 2021 REF (the same position as in the 2014 edition), with 93% of all research classed as world-leading or internationally excellent, and received a silver award in the recent 2017 Teaching Excellence Framework (TEF).

National League Table Performance 2013-2023



Source: The Guardian, The Complete University Guide, The Times 2013-2023

MANCHESTER METROPOLITAN UNIVERSITY



Arts & Humanities Building

Completed in 2020, the new flagship Arts & Humanities building, offers 12,500sqm of space, and provides an inspirational venue on the Oxford Road corridor for high-quality teaching by award-winning writers, artists and journalists, and further link MMU to the wider city through shared cultural projects.



New Science and Engineering Campus

The University has outlined plans to demolish the John Dalton buildings and replace them with a new-build science and engineering campus. The 1970's built 33,000 sq. ft John Dalton West building and the larger 135,000 sq. ft John Dalton East buildings sit together North of the MMU Campus. The University has now set out its plans for a £65m redevelopment of the site, which will see both buildings demolished and replaced with a new-build home for the faculty. The build is set to contain a range of flexible and adaptable state of the art amenities that respond to both modern teaching and research needs.



School of Digital Arts

Opened in 2021, Fielden Clegg Bradley Studios' £35 million digital arts building at MMU features a 22m-tall vertical LED light wall. The development also includes a five-storey building at MMU's All Saints Campus. The 5,600 sqm building provides a new home for the School of Digital Arts (SODA), the facility has been designed to support Greater Manchester's creative and digital industries and create a 'digital skills powerhouse' in the city.

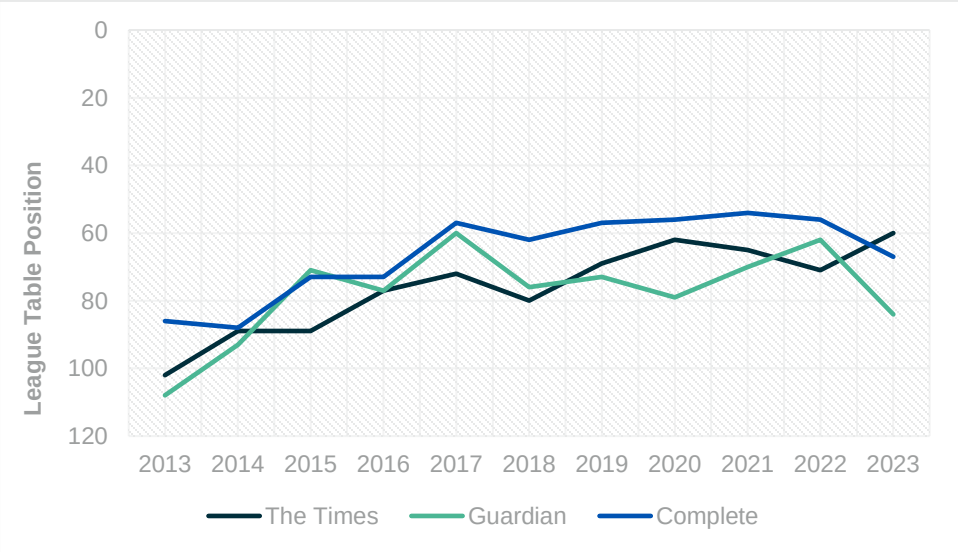
Source: Manchester Metropolitan University

LEAGUE TABLE PERFORMANCE

In 2023 Manchester Metropolitan University was ranked in 67th place by the Complete University Guide, 60th place by The Times and 84th by The Guardian.

MMU was ranked in 51st place in the Research Excellence Framework 2014, and was awarded a Silver in the Teaching Excellence Framework 2017.

National League Table Performance 2013-2023



Source: The Guardian, The Complete University Guide, The Times 2013-2023

04

SUPPLY

STUDENT ACCOMMODATION IN MANCHESTER

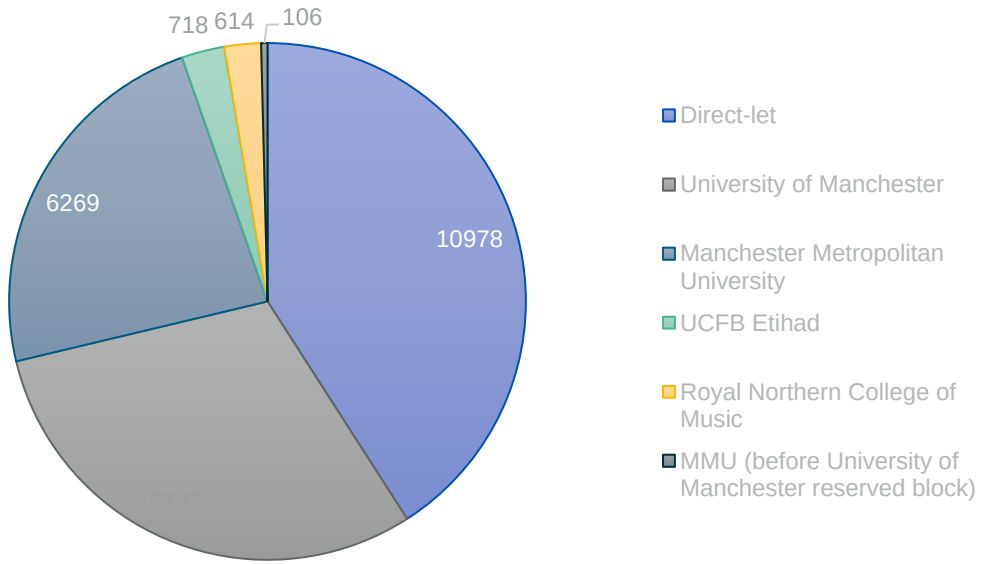


SUPPLY OVERVIEW

In 2022/23 there are 26,830 purpose-built student accommodation bed spaces available to students in the City of Manchester, making it the fourth largest student accommodation market in the UK. Direct let beds make up the largest offering in Manchester (10,978), followed by beds offered by the University of Manchester (8,145), Manchester Metropolitan University (6,269).

Just under 2,500 new bed spaces have been delivered to the market since 2018 (examined in more detail later in this section), including the 1,184 bed University of Manchester Fallowfield Campus schemes, MMU's 484 bed Archway development, the Canvas Student-operated River Street development (792 beds), Vita Circle Square (383 beds), Unite's Artisan Heights (603 beds, currently nominated by MMU), and Mansion Students' Mansion Point (206 beds). However, over this period a large number of beds have also left the market, including the University of Manchester's 1,075 bed Owens Park development.

Manchester Stock Profile 2022/23



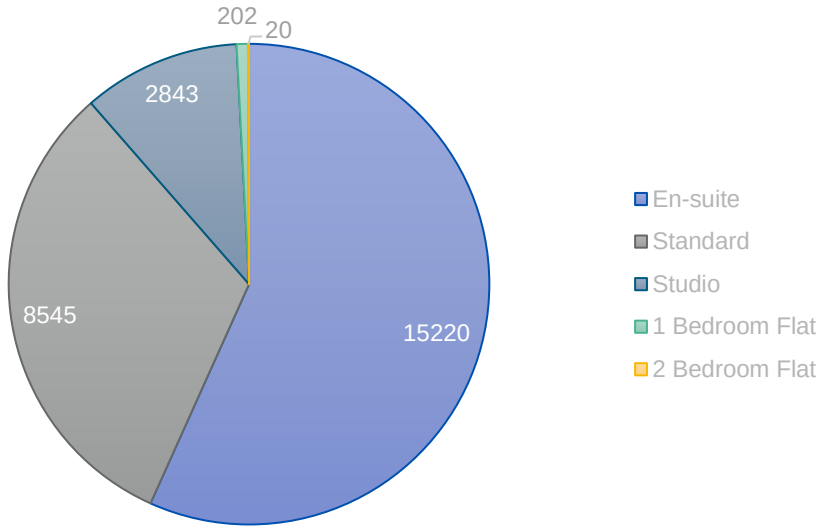
Source: C&W Student Accommodation Tracker 2022/23

SUPPLY OVERVIEW

PBSA in Manchester is largely located in and around the “Oxford Road Corridor”, an area just to the south of the City Centre which is bisected by Oxford Road and which is home to the two major institutions in the city (see map overleaf). Some accommodation is based within the City Centre, with roughly 8,000 located largely in the south and south east of this area of the city. Located just under two miles to the south of the two universities, Fallowfield is one of the most populous student areas in the UK with a small number of private sector PBSA schemes, 4,000 university beds and a vast private rented market.

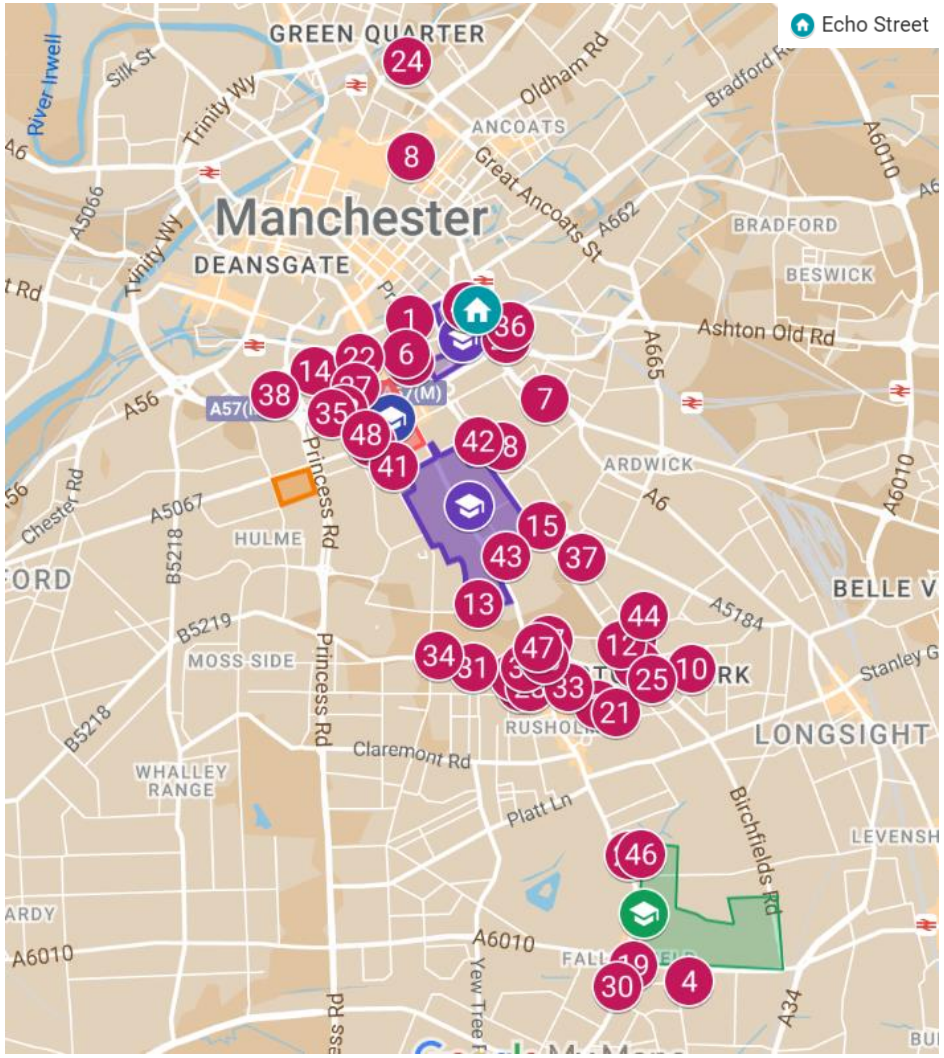
Due to the older nature of much of the University’s stock, standard bed spaces make up a little over a third of the market, 8,545 bed spaces, while studios represent just 11% of beds available, equivalent to 2,843 bed spaces.

Manchester PBSA by Room Type 2021/22



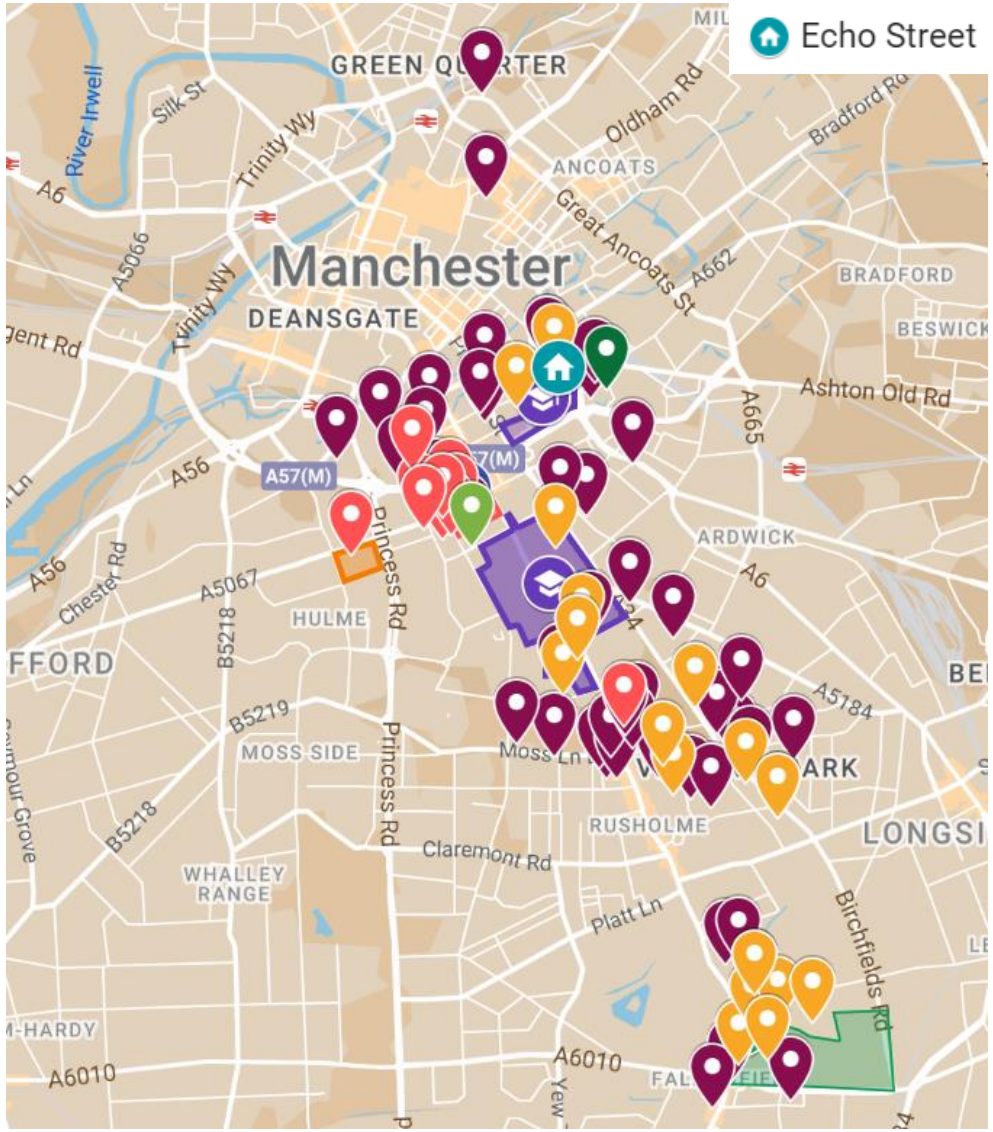
Source: C&W Student Accommodation Tracker 2022/23

SUPPLY LOCATIONS



- UoM (Main Campus)
- UoM (North Campus)
- MMU (All Saint's Campus)
- UoM (Fallowfield Campus)
- MMU (Birley Campus)
- Manchester Metropolitan University
- MMU (Brierly Campus)
- University of Manchester
- UoM (North Campus)
- Fallowfield Campus
- 1 121 Princess Street
- 2 Atlas Court
- 3 Carfax Court
- 4 Chancellors Court
- 5 Circle Square (Building 10 & 11)
- 6 Circle Square (Building 9)
- 7 City Edge Apartments
- 8 Clydesdale House
- 9 Coniston Hall
- 10 Daisy Bank
- 11 Daisybank Villas
- 12 Darbishire House
- 13 Denmark Road
- 14 First Street
- 15 Grafton Street
- 16 Heald Court
- 17 Kerria Apartments
- 18 Kincardine Court
- 19 Ladybarn House
- 20 Lambert and Fairfield
- 21 Langdale Hall
- 22 Bridgewater Heights
- 23 Mill Point
- 24 Manchester Court
- 25 Manchester Gardens
- 26 Manchester House
- 27 Manchester Student Village
- 28 MSV South
- 29 Mansion Point
- 30 Mayfair Court
- 31 Moss Court
- 32 New Medlock House
- 33 Oxney House & Gardens
- 34 Park View
- 35 Parkway Gate
- 36 Piccadilly Point
- 37 Q3 Apartments
- 38 River Street Tower
- 39 Ropemaker Court
- 40 Rusholme Place
- 41 Sir Charles Groves Halls
- 42 The Chapel
- 43 The Grafton
- 44 Victoria Point
- 45 Warehouse One & Two
- 46 Weston Court
- 47 Wilmslow Park House
- 48 Element Manchester

SUPPLY BY PROVIDER



- Direct Let Schemes
- Manchester Metropolitan University
- University College Football
- University of Manchester.
- Royal Northern College of Music

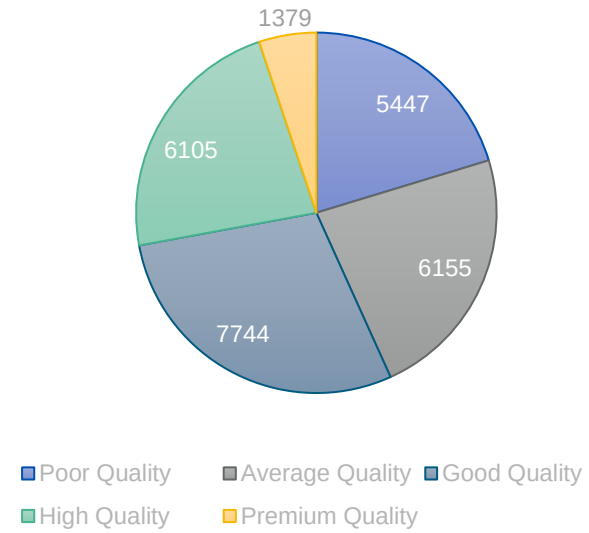
Much of the Manchester PBSA market is extremely well located, with over 14,000 beds within a 10-minute walk of the University of Manchester available to students.

As can be seen from the map, there are a large number of schemes in and around the Manchester Metropolitan University All Saints campus.

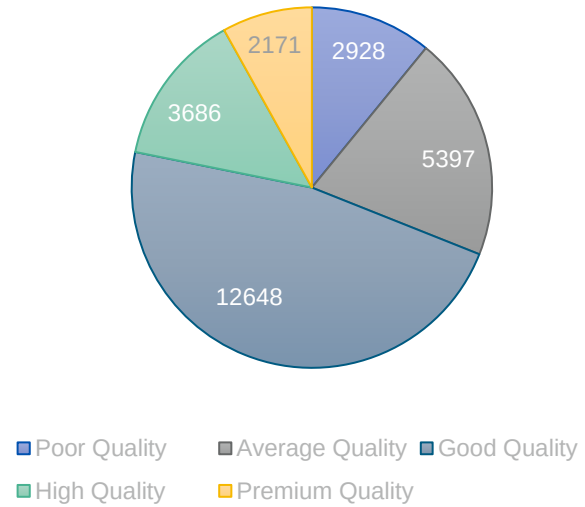
There are 6,475 beds in the “M15 6” postcode area which encompasses Hulme and Castlefield, with a little over 5,000 of these within five minutes of the campus. Over 5,000 beds are located in the city centre, mainly in the south of the city, capturing demand from both universities. Schemes in Ardwick/Rusholme/Victoria Park/ Didsbury/ Whalley Range just to the south of the University are all relatively spread out, but there are also significant beds in this area of Manchester, representing under a third of the total number of beds in the market.

ACCOMMODATION QUALITY

Manchester Room Quality 2022/23



Manchester Amenity Quality 2022/23



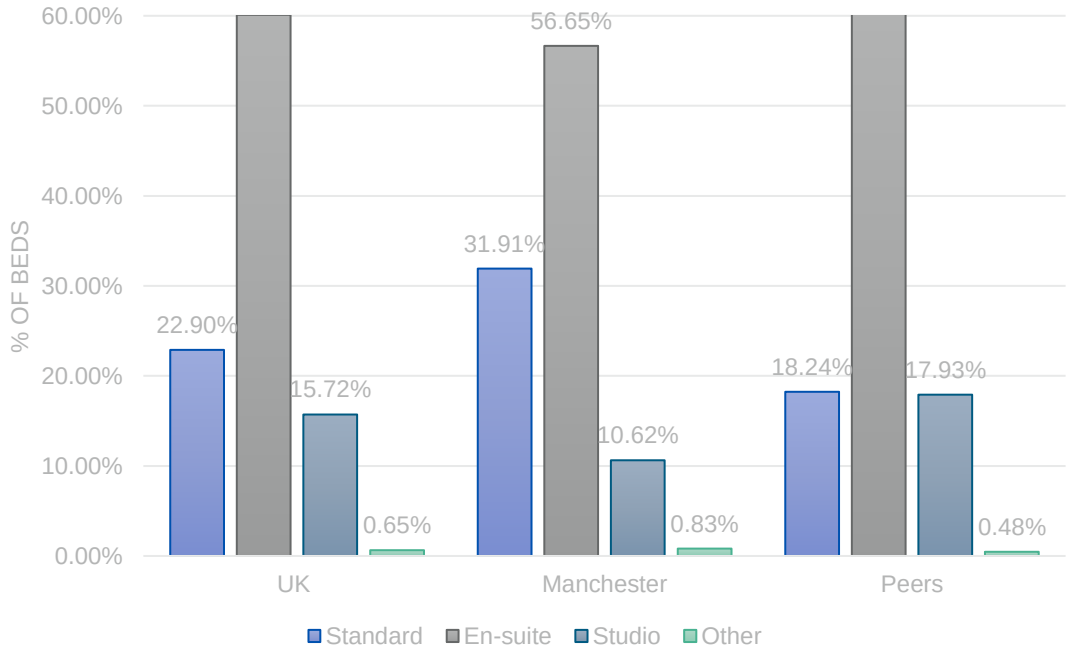
The quality of the accommodation on offer is a key factor for students deciding where they want to live. Lack of development in Manchester has meant that there are very few high quality schemes available to students in the city. Of the 26,830 beds in Manchester, only 6,105 score highly for room quality; and even fewer (c. 3,000) score highly for the quality of facilities and amenities.

Source: Cushman & Wakefield Accommodation Tracker 2021/22. Note: the Cushman & Wakefield Student Accommodation Tracker ranks every bed space in the UK from 1-5 in terms of room quality and 1-5 in terms of the quality of social and amenity spaces.

QUALITY AND RENEWAL

As can be seen, Manchester's supply of en-suite beds is lower than the national and peer group average, with a large number of standard shared bathroom bed spaces available. It should also be noted that the COVID-19 pandemic has the potential to change the demand for student accommodation, with anecdotal evidence of reduced demand for shared bathroom facilities. Nationally, only 5.4% of all new beds delivered over the last five years feature shared bathrooms.

Bed Space Supply by Room Type, Manchester vs Peers vs UK



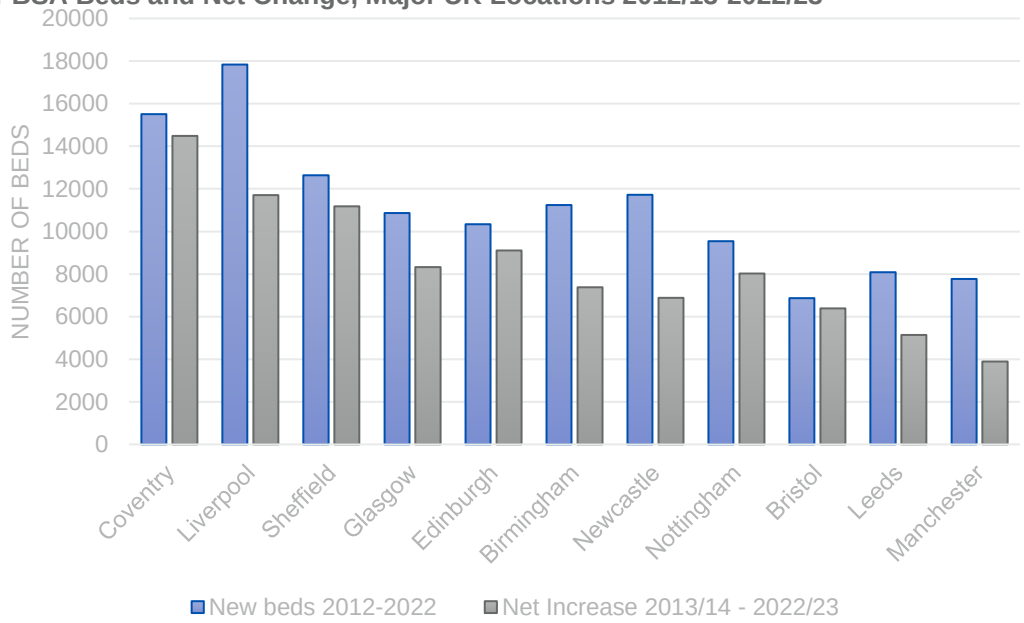
Source: C&W Student Accommodation Tracker 2022/23

QUALITY AND RENEWAL

The chart opposite shows the scale of new PBSA bed spaces delivery over time in Manchester (total and net excluding beds that have left the market over the same period).

As can be seen from the chart, Manchester has seen the lowest net increase in PBSA beds delivered between 2012 and 2022 (3,889) compared to the comparator average of 8,860, and the second fewest number of new bed spaces delivered over this period after Bristol. A lack of change and renewal in the market is arguably impacting the student experience of those living in PBSA as highlighted by Manchester's larger share of older bed spaces analysed below. Manchester is home to a larger percentage of older, shared bathroom bedrooms than the national average. This can be seen overleaf.

New PBSA Beds and Net Change, Major UK Locations 2012/13-2022/23



Source: C&W Student Accommodation Tracker 2022/23.

05

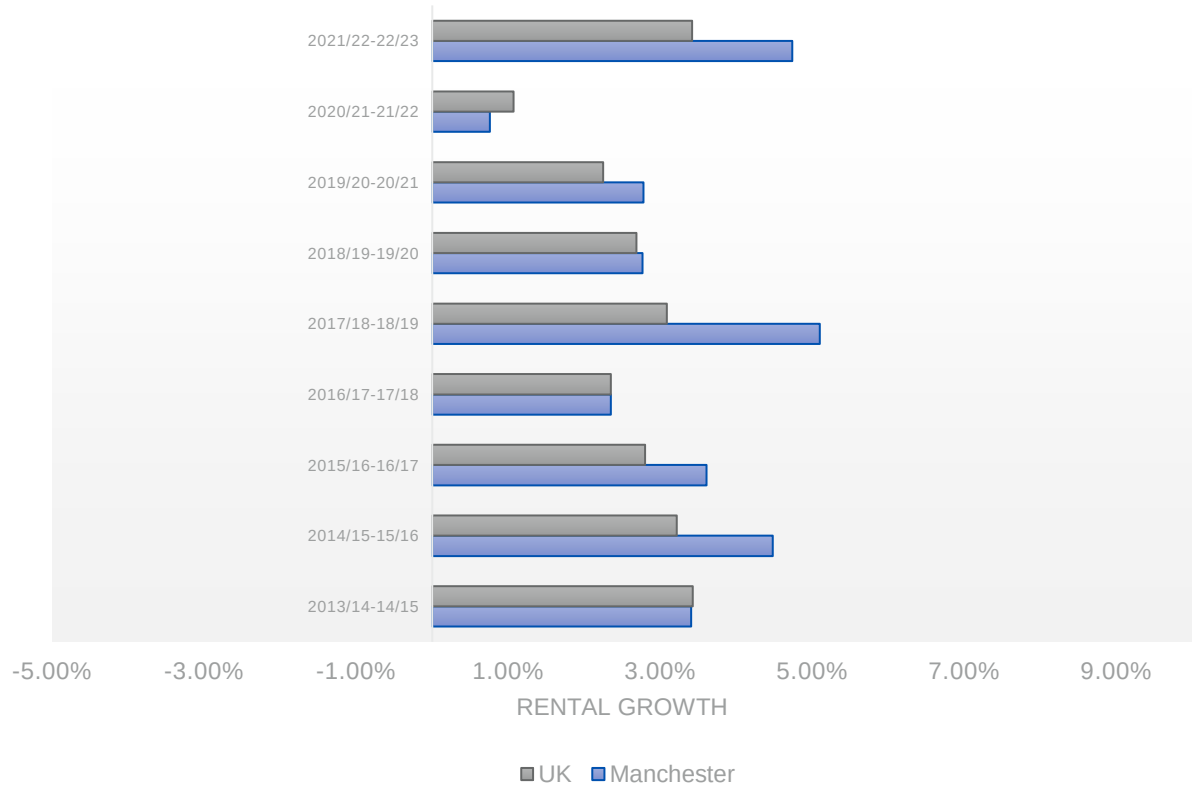
RENTAL ANALYSIS
MANCHESTER



RENTAL GROWTH (ALL)

As can be seen from the chart, at 30% since 2013/14, rental growth in Manchester has outstripped the national average of 24.3% over the same period. This is indicative of the strength of demand in the market and competition for bed spaces.

Rental Growth Over Time vs UK (all beds) 2013-2022



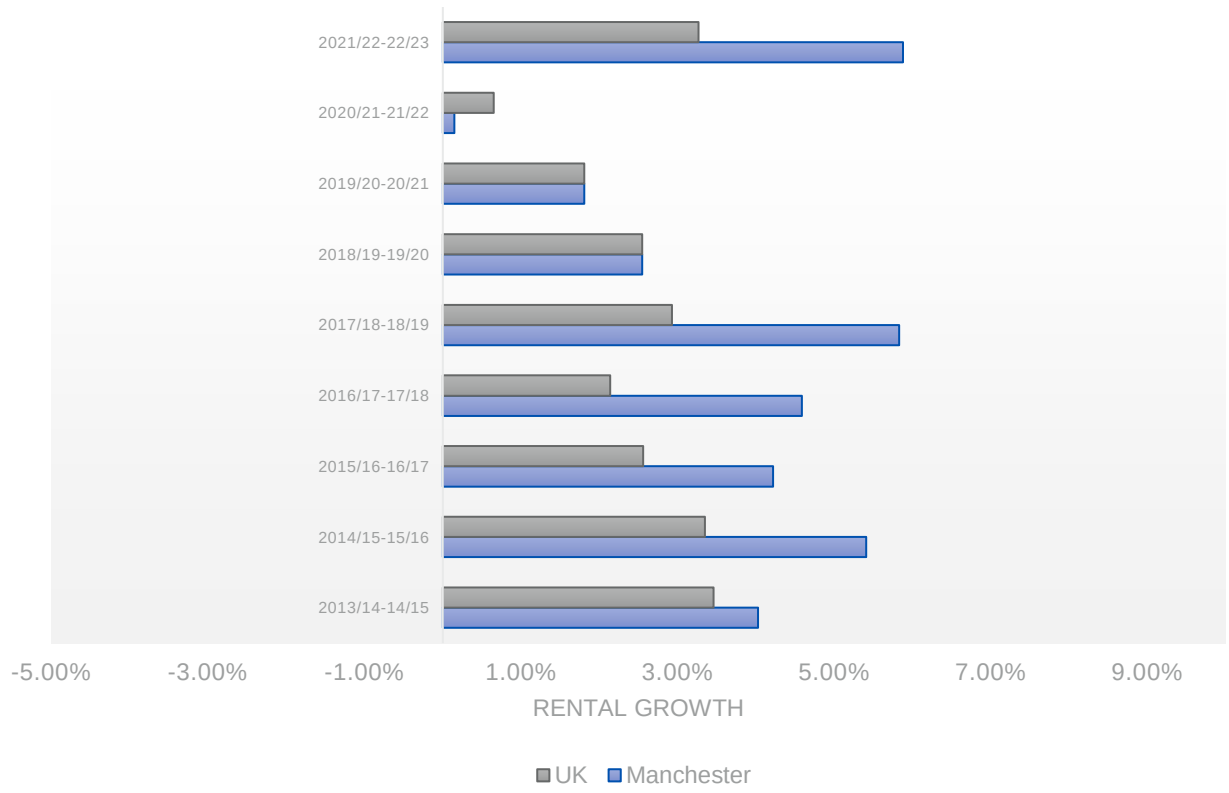
Source: Cushman & Wakefield Student Accommodation Tracker 2022/23

RENTAL GROWTH (PRIVATE)

Private rental growth in Manchester has outstripped national averages over time, with rents across all stock (university and private sector) growing by 24.5% since 2013/14. This is higher than the national average of 22.7% over the same period and is again indicative of the strength of demand in the market.

Growth from 2021 to 2022 in particular has sky rocketed in Manchester, growing at 5.9% (almost double that of the UK's growth at 3.3%).

Rental Growth Over Time vs UK (private sector beds) 2013-2022

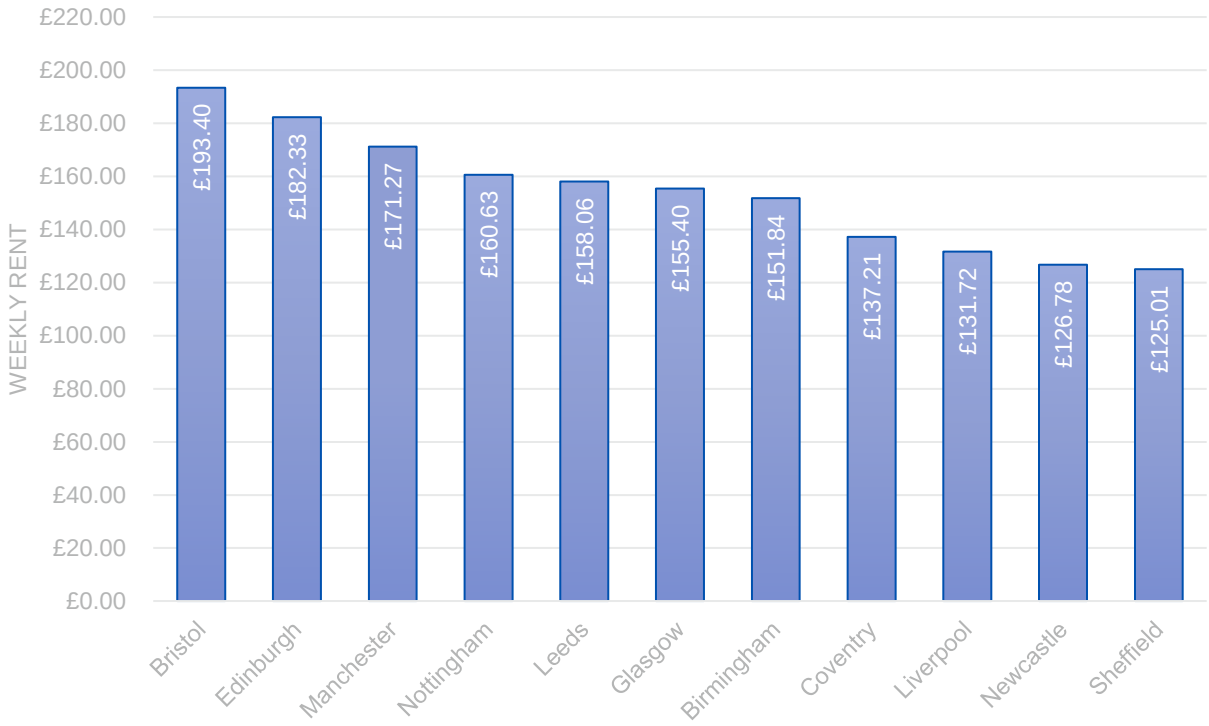


Source: Cushman & Wakefield Student Accommodation Tracker 2022/23

MANCHESTER VS THE MARKET

The average price of a private sector en-suite bed in Manchester is £171.27 per week (2022/23), making Manchester one of the most expensive major markets in the UK, behind Bristol and Edinburgh. This average price is 37.01% higher than in Sheffield, which benefits from a considerably higher standard of overall product than Manchester. Arguably, restricted competition and lack of innovation through new products has meant that strong rental growth could be maintained without major investment in communal facilities and amenities on site.

Average Private Sector En-suite Rents vs Peers (2022/23)

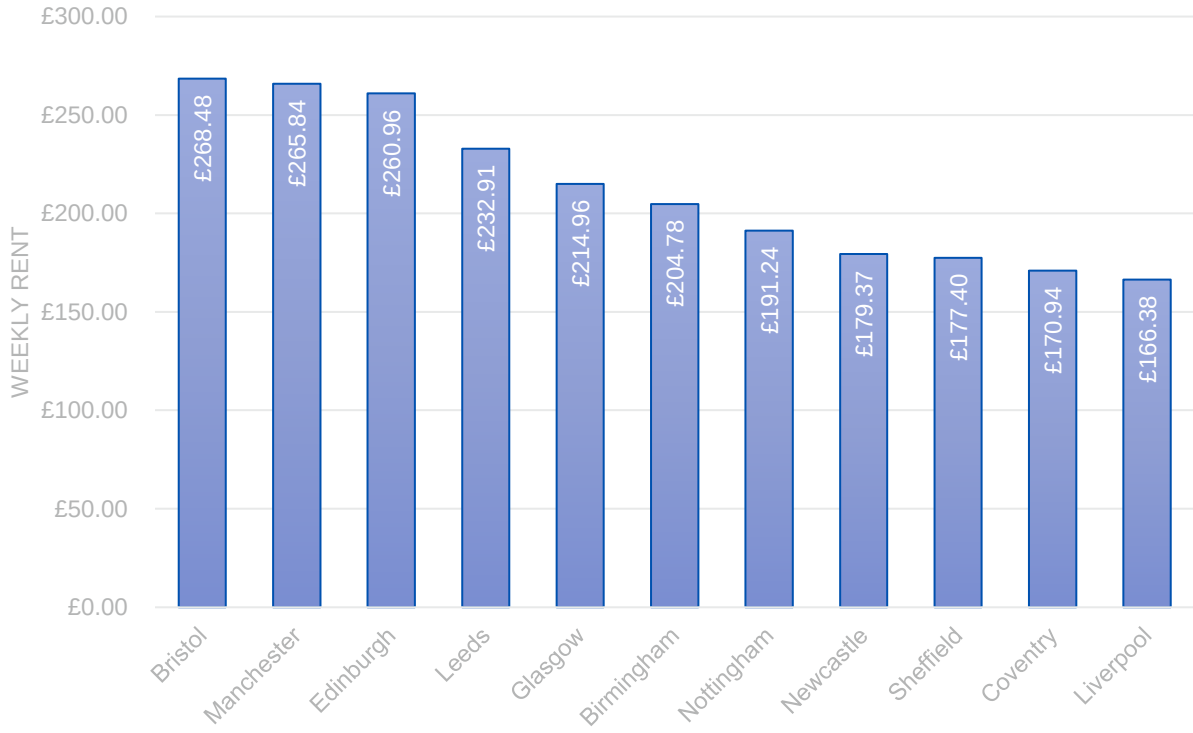


Source: Cushman & Wakefield Accommodation Tracker 2022/23

MANCHESTER VS THE MARKET

The average price of a private sector studio bed in Manchester is £265.84 per week (2022/23), one of the most expensive weekly studio rents in the UK. This average price is 59.8% higher than in Liverpool. Although studios in Manchester are of a higher quality than those available in Liverpool, there is not a striking difference.

Average Private Sector Studio Rents vs Peers (2022/23)



Source: Cushman & Wakefield Accommodation Tracker 2022/23

06

PRIVATE RENTED SECTOR

MANCHESTER

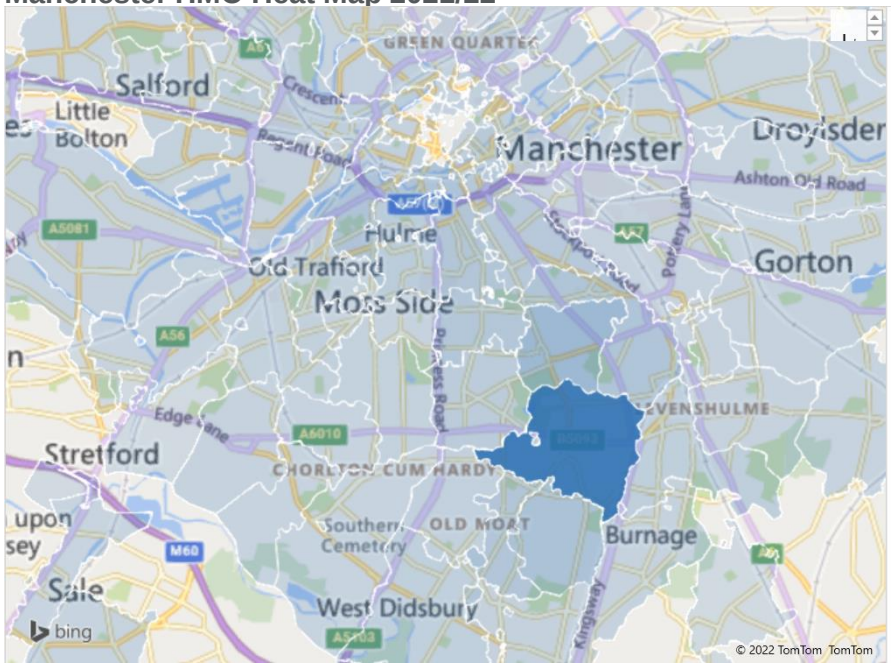


PRIVATE RENTED SECTOR

Cushman & Wakefield has analysed students living in the private rented sector in Manchester according to 2021/22 HESA data. This is the most recent data which has been released since 2020/21, data which was not used due to differences in the collection of data during the COVID-19 pandemic.

In 2021/22, there were 25,940 students living in HMOs across Manchester. Just over 10,000 students live in the four postcode areas highlighted in the table below. A large proportion of students live in South Manchester, with over 6,000 students in the popular student area of Fallowfield.

Manchester HMO Heat Map 2021/22



Source: HESA 2021/22

Key postcode areas 2021/22

Area	Postcode	Number of Students
City Centre	M1 5	1,105
Withington	M20 4	1,215
Rusholme/Victoria Park	M14 5	1,930
Fallowfield	M14 6	6,640

Fallowfield is the most populous HMO area of Manchester and is home to over 4,700 more students than the next most popular area. This postcode area is over 30 minutes walk to the University of Manchester's South Campus but is usually reached by bus, due to the extensive services available on Wilmslow Road/Oxford Road.

07

DEVELOPMENT PIPELINE

PLANNED BEDS



DEVELOPMENT PIPELINE

Manchester PBSA Development Pipeline, March 2023

Address	Postcode	Planning Reference	Application date	Status	Number of beds	Studios	Clusters	Applicant	Anticipated opening
Hulme Street	M1 5GL	121252/FO/2018	Sep-18	Approved	853	853	0	Student Castle	Jan-24
Harry Lord House, 120 Humphrey Road	M16 9DF	101155/OUT/20	Jul-20	Outline Approved	66	66	0	QP2 Ltd	Jul-24
Land At Chester Road(A56), Deansgate, /Bridgewater Viaduct	M3 4LB	129406/FO/2021	Feb-21	Approved	534	289	245	Fusion Students	May-25
New Medlock House	M15 6JX	132707/FO/2022	Jan-22	Approved	19	0	19	UNITE Group Plc	Aug-23
88 - 90 Carmoor Road	M13 0FB	135576/FO/2022	Nov-22	Submitted	172	35	137	Tiger Developments	Oct-26
St. Gabriel's Hall, 1 Oxford Place	M14 5RP	135278/FO/2022	Nov-22	Submitted	319	199	120	McLaren Property	Nov-24
Medlock Street/River Street &, Mancunian Way	M15 5FJ	135419/FO/2022	Nov-22	Submitted	1,014	272	742	Dominvs Group	May-27
466 - 472 Moss Lane East	M14 4PJ	135544/FO/2022	Nov-22	Submitted	261	36	225	CS Moss Lane East Ltd	Dec-24
The River Medlock, Cambridge Street, To The East, Hulme Street	M1 5GG	136170/FO/2023	Mar-23	Submitted	576	476	100	Vita Student	Mar-25

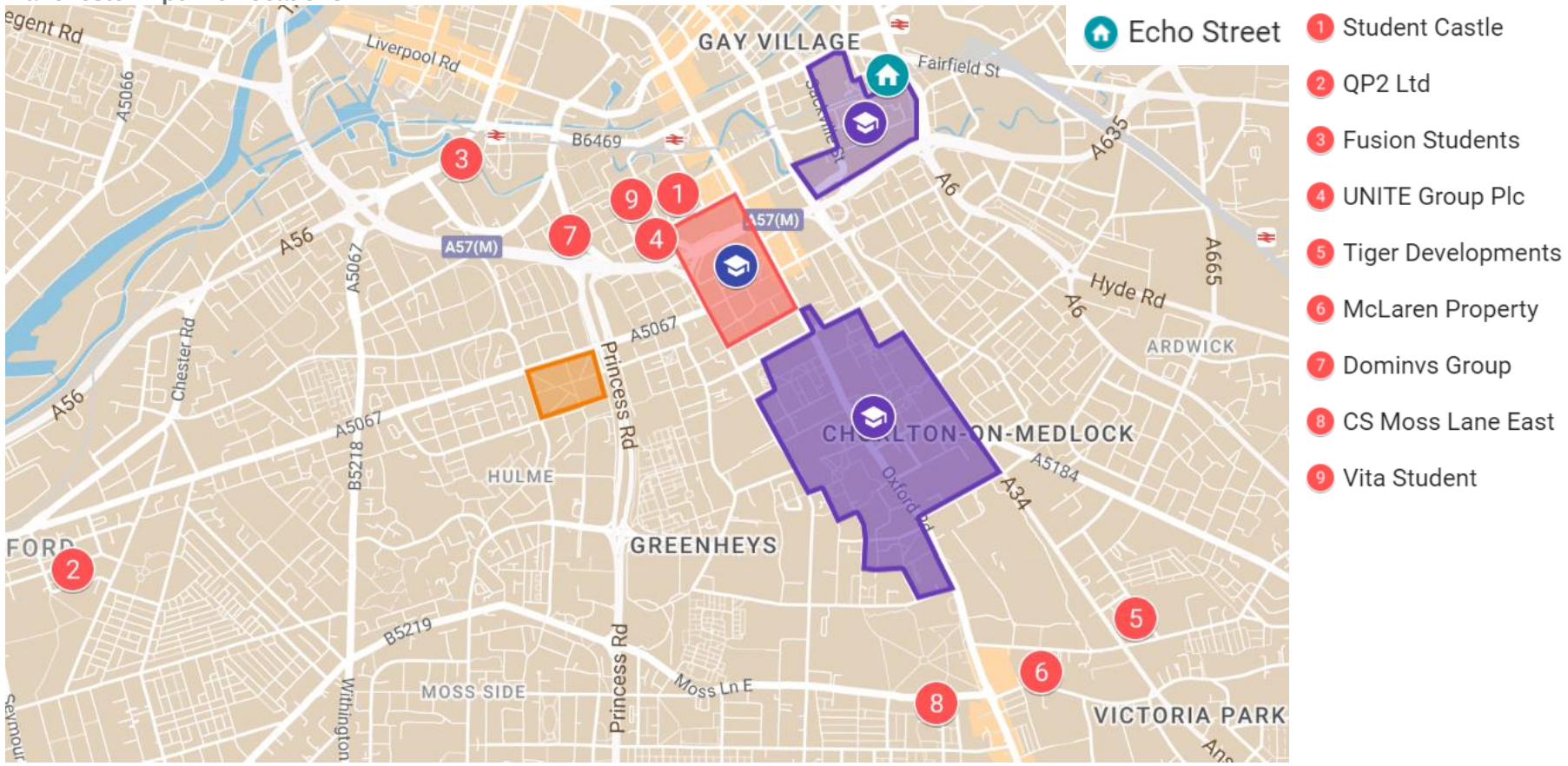
Source: Manchester City Council

The development pipeline currently stands at 3,814 beds with just over 1,400 beds approved (37%) - a small number for a market of this size. Student Castle, Fusion and Vita all have proposed schemes in the city, due for delivery in January 2024, May 2025 and March 2025 respectively. The majority of the developments are located to the north of the Oxford Corridor, near Manchester Metropolitan University and 5-10 minutes from the northern end of the University of Manchester's main campus.

A map of proposed developments can be seen overleaf.

DEVELOPMENT PIPELINE (LOCATION)

Manchester Pipeline Locations



Source: Manchester City Council March 2023

08

DEMAND & SUPPLY

STUDENT TO BED RATIO



DEMAND AND SUPPLY

The pool calculation below sets out our assumptions of demand for student accommodation in Manchester taking into account students studying at the University of Manchester and Manchester Metropolitan University. In arriving at our demand pool, Cushman & Wakefield have excluded a number of students who are unlikely to demand a bed in the city. This includes a number of students from nearby counties which are in commuting distance of the institutions. Note that the table below includes latest demand information (2021/22) and latest supply data (2022/23).

The student to bed ratio in Manchester currently stands at 2.04:1, with 27,895 students unable to access a PBSA bed space in the City. The demand-supply imbalance in Manchester and the implications of future development are examined in more detail overleaf.

Demand-Supply Dynamics, Manchester

MANCHESTER CITY-WIDE	2021/22
Total Full-time & Sandwich Students	**73,200**
From which:	
Deductions from the pool of students	
Students from the region who do not require accommodation	**17,195**
Sandwich students currently on a placement year and unlikely to demand a room	**1,280**
TOTAL POOL	**54,725**
Number of beds (university & private)	**26,830**
Student:Bed ratio	**2.04**

Source: HESA 2021/22, Cushman & Wakefield Student Accommodation Tracker 2022/23

DEMAND AND SUPPLY (IN-DEPTH)

As part of our analysis, we have modelled the impact of development on the Manchester market over time. For completeness, two different scenarios have been considered, along with a range of sensitivities. These are outlined below.

- **Scenario 1** The first model considers a scenario where the demand pool for accommodation in Manchester grows at a rate of 1.5% per annum from 2022/23 – i.e. a level considerably below recent market performance: **The Conservative Scenario.** The Scenario assumes that all 3,814 bed spaces in the development pipeline are delivered, based on our currently assumed year of delivery to the market for each. The scenario considers the following:

  - The student to bed ratio over time

  - The number of students unable to access PBSA over time

  - The number of beds required in the market each year to maintain the current number of students unable to access PBSA (i.e. to avoid pressures on the housing market worsening

  - The difference between anticipated deliveries and the number of beds needed to avoid pressure increasing on the housing market

- **Scenario 2** The second model considers a scenario where the demand pool for accommodation in Manchester grows at a rate of 3.5% per annum from 2022/23 – i.e. a level consistent with performance over recent years: **The Realistic Scenario.** Given the strong appeal of the City's universities and the growing non-local demographic – combined with a Higher Education funding model that encourages growth – this scenario can currently be considered realistic. The Realistic Scenario also considers the four key analysis areas above.

Both scenarios also consider an environment where an additional 500 bed spaces are delivered per annum over and above bed spaces in the development pipeline – i.e. 3,500 additional beds to 2029/30.

DEMAND AND SUPPLY (CONSERVATIVE SCENARIO)

Modelled Demand Supply Dynamics Over Time (modelled Conservative 1.5% demand pool growth)

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Conservative Demand Pool Growth (1.5% growth p/a post 2021/22)	42,765	43,365	46,025	46,200	46,915	47,495	47,405	51,220	54,725	55,545	56,380	57,225	58,085	58,955	59,840	60,740	61,650
Number of Beds (all pipeline post-2022/23)	22,893	23,256	23,119	23,180	23,975	24,113	25,740	26,800	27,118	26,782	26,801	27,447	28,557	29,582	30,596	30,596	30,596
Student to bed ratio	**1.87**	**1.86**	**1.99**	**1.99**	**1.96**	**1.97**	**1.84**	**1.91**	**2.02**	**2.07**	**2.10**	**2.08**	**2.03**	**1.99**	**1.96**	**1.99**	**2.01**
Students unable to access PBSA	**19,872**	**20,109**	**22,906**	**23,020**	**22,940**	**23,382**	**21,665**	**24,420**	**27,607**	**28,763**	**29,579**	**29,778**	**29,528**	**29,373**	**29,244**	**30,144**	**31,054**
Beds Needed to Maintain 2021/22 HMO numbers										27,938	28,773	29,618	30,478	31,348	32,233	33,133	34,043
Difference between maintaining 2021/22 HMO numbers and bed delivery										-1,156	-1,972	-2,171	-1,921	-1,766	-1,637	-2,537	-3,447
Additional delivery scenario = all pipeline + 500 additional per annum										*27,282*	*27,301*	*27,947*	*29,057*	*29,557*	*30,057*	*30,557*	*31,057*
SBR										*2.04*	*2.07*	*2.05*	*2.00*	*1.99*	*1.99*	*1.99*	*1.99*
Students unable to access PBSA										*28,263*	*29,079*	*29,278*	*29,028*	*29,398*	*29,783*	*30,183*	*30,593*
Beds Needed to Maintain 2021/22 HMO numbers										*27,938*	*28,773*	*29,618*	*30,478*	*31,348*	*32,233*	*33,133*	*34,043*
Difference between maintaining 2021/22 HMO numbers and bed delivery										*-656*	*-1,472*	*-1,671*	*-1,421*	*-1,791*	*-2,176*	*-2,576*	*-2,986*

Source: HESA/Cushman & Wakefield/Cushman & Wakefield Student Accommodation Tracker/Manchester City Council Planning

DEMAND AND SUPPLY (CONSERVATIVE SCENARIO)

Under The Conservative Scenario the demand pool for accommodation in Manchester grows from 54,725 in 2021/22 to 61,650 by 2029/30. The number of bed spaces rises from 26,782 in 2022/23 to 30,596 in 2029/30 (assuming no beds leave the market over this period).

- **Student to bed ratio –** under this scenario, the student to bed ratio moves from 2.02:1 in 2021/22 to 2.01:1 in 2029/30
- **Students unable to access PBSA –** the number of students unable to access PBSA moves from 27,607 in 2021/22 to 31,054 in 2029/30
- **Implications for the housing market –** under this scenario, 3,447 additional beds would be required over and above all bed spaces currently in the development pipeline just to maintain to the number of students currently living in the private rented sector
- **Additional sensitivity –** considering an additional 500 beds delivered to the market each year to 2029/30, the student to bed ratio would move from 2.02:1 in 2021/22 to 1.99:1 in 2029/30. However, the number of students unable to access PBSA would continue to rise, with almost an additional 3,000 bed spaces required to maintain the current number of students in the private rented sector

As can be seen, even under a Conservative Scenario, additional bed spaces are required to meet demand, over and above those already in the development pipeline. The proposed iQ Student development at Echo Street is deliverable and able to meet this growing need.

The Realistic Scenario is considered overleaf.

DEMAND AND SUPPLY (REALISTIC SCENARIO)

Modelled Demand Supply Dynamics Over Time (modelled Realistic 3.5% demand pool growth)

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Consistent Demand Pool Growth (pool continues to grow at 3.5% p/a in line with performance 2013/14 to 2021/22)	42,765	43,365	46,025	46,200	46,915	47,495	47,405	51,220	54,725	56,640	58,623	60,675	62,798	64,996	67,271	69,625	72,062
Student to bed ratio	**1.87**	**1.86**	**1.99**	**1.99**	**1.96**	**1.97**	**1.84**	**1.91**	**2.02**	**2.11**	**2.19**	**2.21**	**2.20**	**2.20**	**2.20**	**2.28**	**2.36**
Students unable to access PBSA	**19,872**	**20,109**	**22,906**	**23,020**	**22,940**	**23,382**	**21,665**	**24,420**	**27,607**	**29,858**	**31,822**	**33,228**	**34,241**	**35,414**	**36,675**	**39,029**	**41,466**
Beds Needed to Maintain 2021/22 HMO numbers										*29,033*	*31,016*	*33,068*	*35,191*	*37,389*	*39,664*	*42,018*	*44,455*
Difference to bed delivery										*-2,251*	*-4,215*	*-5,621*	*-6,634*	*-7,807*	*-9,068*	*-11,422*	*-13,859*
Additional delivery scenario = all pipeline + 500 additional per annum										*26,782*	*27,301*	*27,947*	*29,057*	*29,557*	*30,057*	*30,557*	*31,057*
SBR										*2.11*	*2.15*	*2.17*	*2.16*	*2.20*	*2.24*	*2.28*	*2.32*
Students unable to access PBSA										*29,858*	*31,322*	*32,728*	*33,741*	*35,439*	*37,214*	*39,068*	*41,005*
Beds Needed to Maintain 20/21 HMO numbers										*29,033*	*31,016*	*33,068*	*35,191*	*37,389*	*39,664*	*42,018*	*44,455*
Difference between maintaining 20/21 HMO numbers and bed delivery										*-2,251*	*-3,715*	*-5,121*	*-6,134*	*-7,832*	*-9,607*	*-11,461*	*-13,398*

Source: HESA/Cushman & Wakefield/Cushman & Wakefield Student Accommodation Tracker/Manchester City Council Planning

DEMAND AND SUPPLY (REALISTIC SCENARIO)

Under The Realistic Scenario the demand pool for accommodation in Manchester grows from 54,725 in 2021/22 to 72,062 by 2029/30. The number of bed spaces rises from 26,782 in 2022/23 to 30,596 in 2029/30 (assuming no beds leave the market over this period).

- **Student to bed ratio –** under this scenario, the student to bed ratio moves from 2.02:1 in 2021/22 to 2.36:1 in 2029/30
- **Students unable to access PBSA –** the number of students unable to access PBSA moves from 27,607 in 2021/22 to 41,466 in 2029/30
- **Implications for the housing market –** under this scenario, 13,859 additional beds would be required over and above all bed spaces currently in the development pipeline just to maintain to the number of students currently living in the private rented sector
- **Additional sensitivity –** considering an additional 500 beds delivered to the market each year to 2029/30, the student to bed ratio would move from 2.02:1 in 2021/22 to 2.32:1 in 2029/30. However, the number of students unable to access PBSA would continue to rise, with almost an additional 13,400 bed spaces required to maintain the current number of students in the private rented sector

As can be seen, even under a Conservative Scenario, a significant number of additional bed spaces are required to meet demand, over and above those already in the development pipeline. The proposed iQ Student development is deliverable and well placed to meet this growing need.

Without significant additional development, a growing number of students will be forced into the private rented sector, placing additional pressure on the housing market, with a large number of students potentially living in unsuitable accommodation.



CUSHMAN & WAKEFIELD

Heritage Statement

Land at Echo Street, Manchester

April 2023

Turley
Heritage

Contents

1.	Introduction	3
2.	The Heritage Assets	5
3.	The Proposed Scheme Site and Historic Development	8
4.	Heritage Significance	14
5.	Impact Assessment	46
6.	Conclusions	74
Appendix 1:	Legislative and Policy Framework	76
Appendix 2:	Heritage Asset Plan	85

Our reference
IQSM3015

April 2023

1. Introduction

1.1 This Heritage Statement has been prepared by Turley Heritage on behalf of IQ Student Accommodation to support a full planning application for or the construction of a purpose built student accommodation (PBSA) development at Echo Street, Manchester (the Site).

1.2 The formal description of development is as follows:

'Development of purpose-built student accommodation (sui generis) comprising 3 interlinked towers with intermediary link buildings, associated amenity space and external landscaping.'

1.3 The requirement for this report stems from Section 66 of the Planning (Listed Buildings and Conservation Areas) Act 1990, which requires that special regard be given to the desirability of preserving the special interest of listed buildings or their settings. Section 72 of the Act also places a duty upon the local planning authority in determining applications for development affecting conservation areas to pay special attention to the desirability of preserving or enhancing the character or appearance of that area.

1.4 The National Planning Policy Framework (NPPF) 2021 provides the Government's national planning policy for the conservation of the historic environment. In respect of information requirements, Paragraph 194 sets out that:

'In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance.'[1]

1.5 Paragraph 195 then sets out that local planning authorities should identify and assess the particular significance of heritage assets that might be affected by proposals, including by development affecting the setting of a heritage asset. They should take this assessment into account when considering the impact of proposals to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.

1.6 To comply with these requirements, Section 2 of this statement identifies the relevant designated and non-designated heritage assets with potential to be affected by the Proposed Scheme. Section 3 provides an overview of the history and development of the Proposed Scheme Site and the surrounding area. Section 4 provides a summary of the significance and setting of the identified designated assets. An assessment of the impact of the Proposed Scheme on the significance of the identified heritage assets is set out in Section 5, in light of the statutory duty of the 1990 Act, national planning policy set out in the NPPF, and local planning policy for the historic environment (set out in detail at Appendix 1).

[1] National Planning Policy Framework (NPPF) 2021– para. 194.

1.7 The assessment of significance is based on desk based and formal archive research, a detailed knowledge of the historic environment of central Manchester and a number of site inspections.

2. The Heritage Assets

Introduction

2.1 The NPPF 2021 defines a heritage asset within Annex 2 (Glossary) as:

> *'A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. It includes designated heritage assets and assets identified by the local planning authority (including local listing)'*.[2]

Designated Heritage Assets

2.2 Designated heritage assets are those that possess a level of heritage interest that justifies designation and are then subject to particular procedures in planning decisions that involve them. A designated heritage asset is also defined within NPPF 2021, Annex 2 (Glossary) as:

> *'A World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area designated under the relevant legislation'*.[3]

Conservation Areas

2.3 Conservation areas are designated on the basis of their special architectural and historic interest, the character and appearance of which it is desirable to preserve or enhance.

2.4 The Site is located in the eastern part of the Whitworth Street Conservation Area. The conservation area was first designated in September 1974 and was extended to include an area bounded by Whitworth Street, London Road and the Oxford Road Railway Viaduct, which includes the Proposed Scheme Site, in June 1985. The southern boundary of the conservation area is formed by the railway viaduct that connects Piccadilly and Oxford Road Stations. A plan of the conservation area boundary is provided in the Heritage Asset Plan at Appendix 2 and a series of distinctive character areas are identified and described in Section 4, below.

Listed Buildings

2.5 The following listed buildings (**Table 2.1**) are located close to the Site and have potential to be affected by the Proposed Scheme. They are identified on the Heritage Asset Plan in Appendix 2:

[2] National Planning Policy Framework (NPPF) 2021 - Annex 2: Glossary
[3] National Planning Policy Framework (NPPF) 2021 - Annex 2: Glossary

Table 2.1: Listed Buildings within the Study Area

Listed Buildings	Date of Original Designation:	Grade:
London Road Police and Fire Station, London Road	03 October 1974	II*
The Shena Simon 6th Form College, Whitworth Street	06 June 1994	II
Institute of Science and Technology (University of Manchester), Sackville Street / Whitworth Street	03 October 1974	II
Manchester South Junction and Altrincham Railway Viaduct	06 June 1994	II
Granby House, 61-63 Granby Row	03 October 1974	II
Orient House, 65-67 Granby Row	20 June 1988	II
Sculptural Wall, London Road	10 June 2011	II
Former Goods Yard Offices to Piccadilly Station, London Road	06 June 1994	II
Train Shed and Undercroft at Manchester Piccadilly Station, London Road	06 June 1994	II
Mintierna House	06 June 1994	II
46 Sackville Street	06 June 1994	II
42 and 44 Sackville Street	06 June 1974	II
Regency House with Barclays Bank	6 June 1994	II
Minshull House	8 May 1990	II
Rochdale Canal Lock Number 86, to east of Chorlton Street	06-Jun-1994	II
Rochdale Canal Boundary Wall to Canal Between Sackville Street and Chorlton Street	06-Jun-1994	II
Rochdale Canal Boundary Wall to Canal Between Chorlton Street and Minshull Street	06-Jun-1994	II

Non-Designated Heritage Assets

2.6 The NPPF identifies that heritage assets include not only designated heritage assets, such as listed buildings and conservation areas, but also assets that may be identified by the local planning authority during the plan making and or application process (including through the Council-led process of local listing). These are described for the purposes of the NPPF as 'non-designated heritage assets' and are a material planning consideration.

2.7 Manchester City Council does not maintain a published list of 'locally listed' buildings. However, in accordance with Historic England Good Practice Advice Note 2[4], a HER search was conducted on 27th January 2023 for an area extending 250 metres from the boundary of the Site. The following non-designated heritage assets have been identified:

Table 2.2: Non-designated Heritage Assets located within the Study Area

Property Details:	HER Record Number:
The Monroe Public House, 36 London Road	12347.1.0
Jackson Street Mills (UMIST Campus) (now university of Manchester)	2078.1.0
Rochdale Canal	1386.2.0

2.8 The Monroe Public House is a three storey pub which wraps round the corner of Whitworth Street and London Road. It is rendered to the ground floor with decorative brick upper floors, including stone dressings and dentilled eaves. The HER search confirms that it can be identified on the 1888 OS Map. The building is screened from the Proposed Scheme Site by the mass of the London Road Police and Fire Station (LRPFS) and also the properties that enclose the southern side of Fairfield Street. The building will not be affected by the Proposed Scheme and is not considered further within this application.

2.9 The Rochdale Canal includes a number of designated listed buildings such as the boundary walls and locks. Those within our study area are listed above in Table 2.1. The Proposed Scheme is unlikely to be visible from the Rochdale Canal due to the distances involved and scale and mass of intervening built form and topography. If partially visible, it would be legible as a modern addition to the mixed urban townscape in which the asset and canal is already experienced. There will be no change to the appreciation of the architectural and historic special interest and its significance would be sustained. The building will not be affected by the Proposed Scheme and is not considered further within this application.

2.10 The Jackson Street Mills forms part of the UMIST Campus (now university of Manchester). The extant buildings dates from the 19th century but are now incorporated into the university campus which forms a contained site, separated from the Site by the Manchester South Junction and Altrincham Railway Viaduct. The Proposed Scheme is unlikely to be visible due to the distances involved and scale and mass of intervening built form and topography. The buildings will not be affected by the Proposed Scheme and are not considered further within this application.

[4] Historic England (2015). Good Practice Advice Note 2: Managing Significance in Decision Taking in the Historic Environment.

3. The Proposed Scheme Site and Historic Development

Introduction

3.1 The Proposed Scheme is located on the southern side of Granby Row. The Oxford Road Railway Viaduct runs immediately to the south of the Site and beyond is the UMIST campus. Although the viaduct provides a strong physical edge between the UMIST campus and the Site, the railway arches provide a series of permeable links between Granby Row and the area to the south of the viaduct.

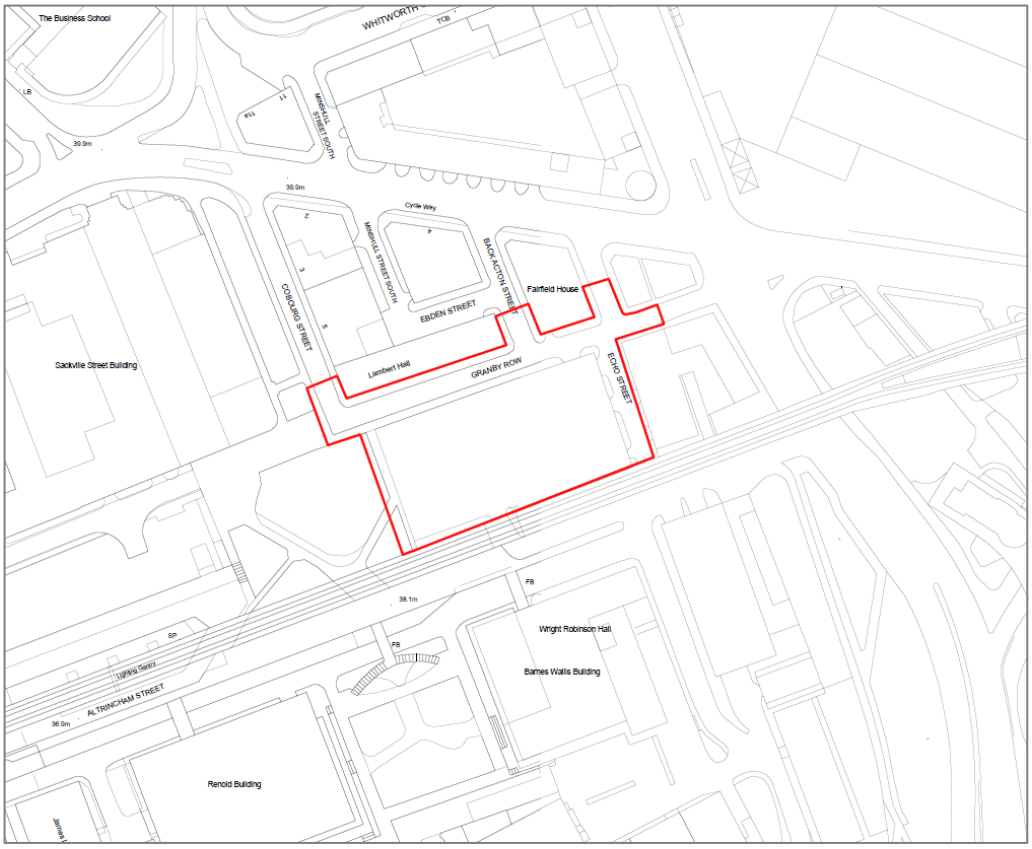


Figure 3.1: Proposed Scheme Site

3.2 The northern side of Granby Row, opposite the Proposed Scheme Site, maintains a sense of enclosure that is characteristic of the wider Whitworth Street Conservation Area. In contrast the southern side of Granby Row is more fragmented and open in character, including Vimto Gardens and the low level nursery building to the corner of Echo Street.

3.3 The Proposed Scheme immediately adjoins the boundary of the North Campus Strategic Regeneration Framework that was adopted by Manchester City Council in February 2017.

3.4 The Site is currently a vacant plot. The Site formerly contained the 15 storey Chandos Hall which was demolished under the consented application for a mixed use development comprising three towers ranging in height from 14, 20 and to 25 storeys (including lower ground floor level) and intermediary link buildings (Reference: 118267/FO/2017). This application was approved in 2018 but only partially implemented. To the east side of the Site is a group of 20th century buildings which enclose Echo Street and Granby Row.

Historic Development

3.5 The lower density fragmented townscape on the south side of Granby Row reflects a relatively recent pattern of development. Following the development of the Institute of Science and Technology, between 1895 and 1912, the southern side of Granby Row retained a series of large, narrow, footprints extending back from the Granby Row frontage. The scale of the properties suggests a series of warehouses, several of which were accessed from archways that entered courtyards behind the Granby Row frontage. The 1922 Ordnance Survey Map (**Figure: 3.2**) illustrates a more diverse townscape within the Proposed Scheme Site at that time, with both commercial and domestic scale properties in close proximity, while Granby Row gradually become more residential in grain towards Echo Street.

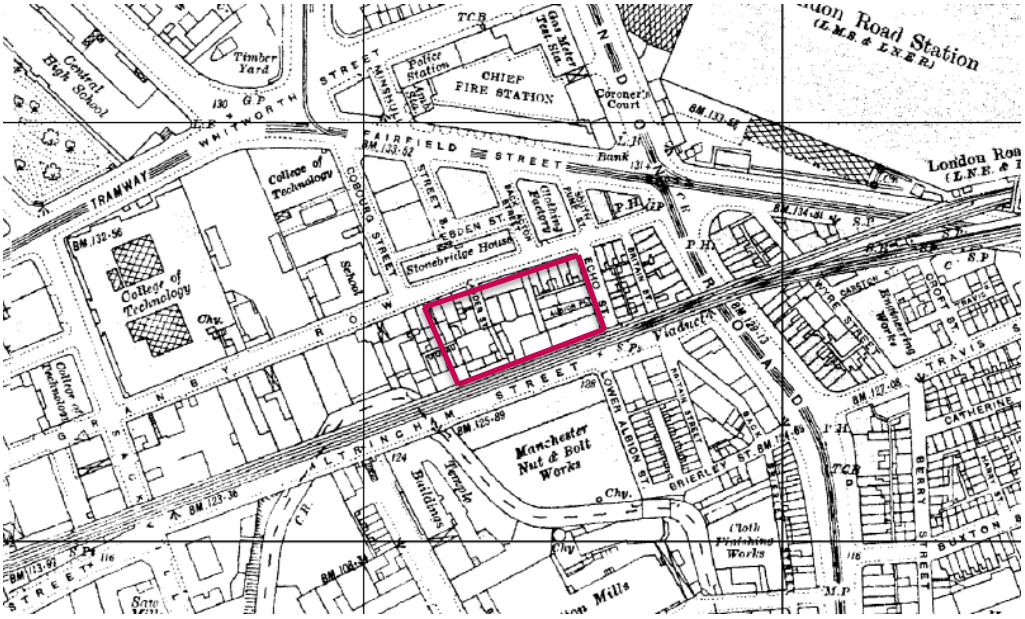


Figure 3.2: 1922 Ordnance Survey Map

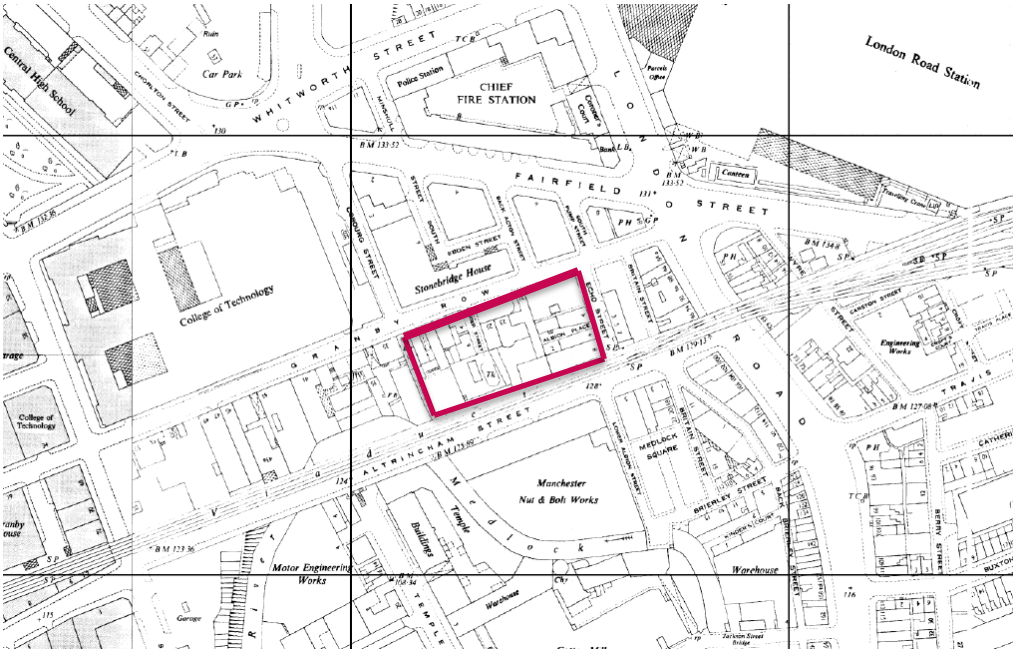


Figure 3.3: 1951-1964 Ordnance Survey Map

3.6 The 1951-1964 Ordnance Survey Map (**Figure: 3.3**) confirms that the buildings enclosing Granby Row maintained an intense sense of enclosure. The residential properties within the Proposed Scheme Site and Echo Street area had been replaced with larger commercial units and the Institute of Science and Technology had been extended significantly to the east. The railway viaduct would have been largely obscured from Granby Row by the density of the intervening buildings. The larger warehouse units and internal courtyards to the western end of Granby Row remained unaltered.

3.7 The 1969-1970 Ordnance Survey Map illustrates a series of dramatic changes that transformed the character of the southern side of Granby Row. Chandos Hall had been constructed by this time and the other buildings within the Proposed Scheme Site had been cleared. The principal building line was set back from the street frontage, contrary to the established character of the area, and the main entrance was accessed from a bridge link across a large void / light well that was formed behind a concrete retaining wall. The small footprint of Chandos Hall contrasted with the proportions and mass of the warehouse and university buildings that were established in the area prior to the construction of the residential tower.

3.8 The aerial image (**Figure 3.4**) and 1969-1970 Ordnance Survey Map (**Figure 3.5**) also confirms that the sequence of warehouses to the western end of the street had been cleared and replaced with the College of Science and Technology that comprises a single rectangular footprint with a long elevation providing a continuous sense of enclosure to Granby Row. A small landscaped area was located between Chandos Hall and the new College building. The rear service area between the College building and railway viaduct appears to correspond to the existing low retaining wall along the southern edge of Vimto Gardens. The existing park therefore appears to have been designed in two phases, retaining the levels of the former College building, rather than as a single designed landscape. The process of replacing the intense sense of enclosure

along Granby Row, that had existed until the mid C20th, with an open space, was complete and the railway viaduct gained a degree of prominence that had not been intended.

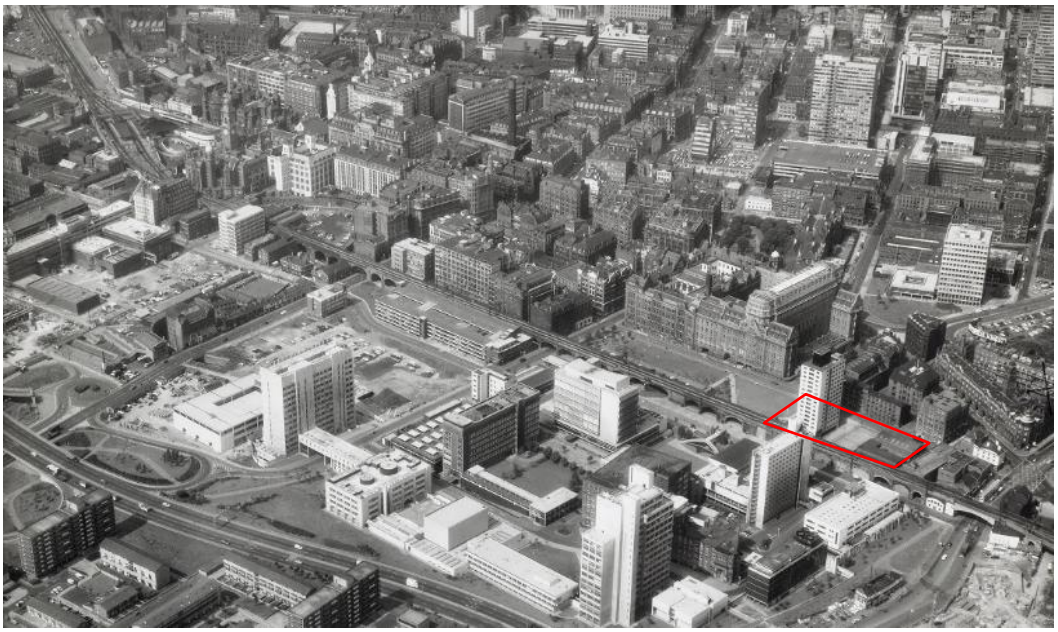


Figure 3.4: 1973 Aerial image

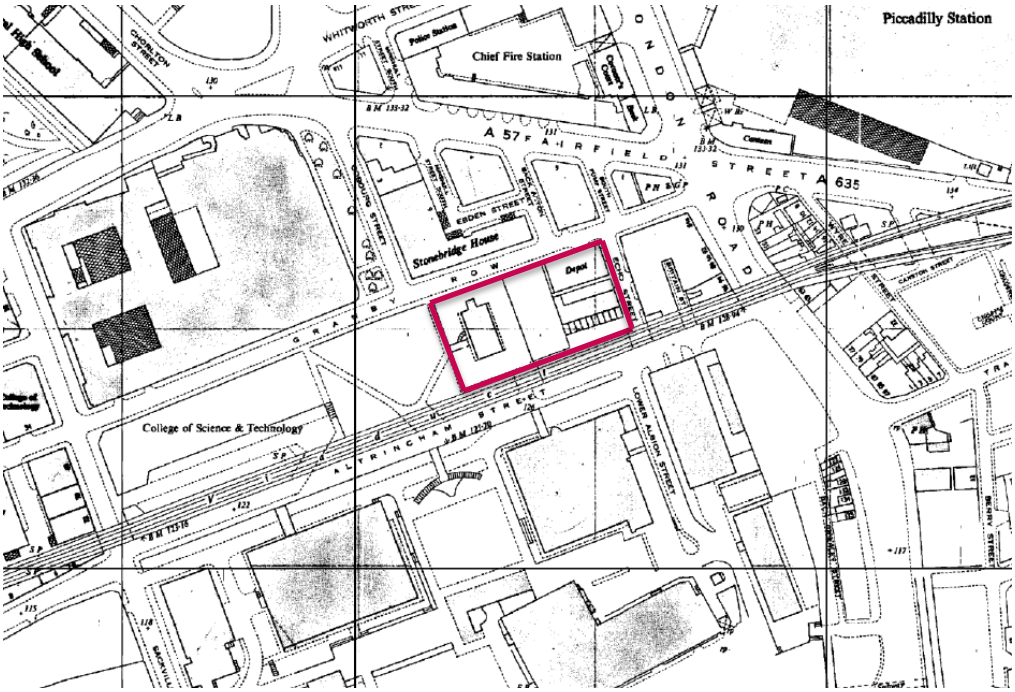


Figure 3.5: 1969-1970 Ordnance Survey Map

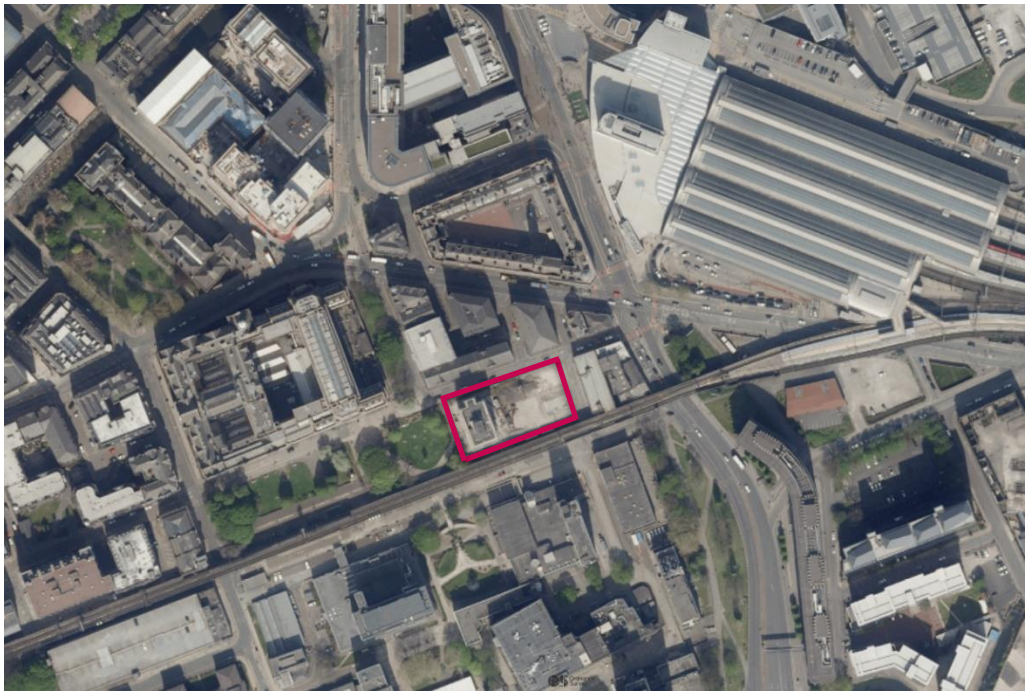


Figure 3.6: Aerial Image from 2022 (Ordnance Survey)



Figure 3.7: View from junction of Granby Row and Echo Street facing south west towards the Site, 2023.

3.9 Chandos Hall was demolished following consent for development in 2018 (Reference: 118267/FO/2017). **Figure 3.7** illustrates the existing vacant plot which is now surrounded by hoarding.

Summary of Historic Development

3.10 The lower density fragmented townscape on the south side of Granby Row reflects a relatively recent pattern of development. Historically the Proposed Scheme Site was densely developed with commercial and domestic scale properties. During the mid-20th century the land was cleared and Chandos Hall was constructed between 1962-1964. Change in the wider area also resulted in the clearance of much of the dense small scale development in the surrounding and its replacement with larger footprint buildings. This is particularly marked in the UMIST campus to the south. The full open character of Vimto gardens wasn't established until the late 20th century when the building covering the west side of the area was demolished. Chandos House was demolished following consent for the redevelopment of the Site in 2018. The Site is currently a vacant plot surrounded by hoarding.

4. Heritage Significance

Introduction

4.1 The NPPF 2021 defines the significance of a heritage asset as:

"The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting."[5]

4.2 The NPPF defines the setting of a heritage asset as:

"The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral."[6]

4.3 Historic England has published general guidance regarding the preparation of statements of heritage significance, and how the proper analysis of the significance of heritage assets should be used to inform an assessment of impacts on that significance because of proposed change / applications.[7]

4.4 Historic England also provides guidance[8] in respect of the setting and views of heritage assets, providing detail on understanding setting and views and the associated assessment of the impact of any changes. This presents a series of attributes of a setting which can be used to help assess its contribution to the significance of a heritage asset. These can comprise the asset's physical surroundings; the experience of the asset; and the asset's associative attributes.

Whitworth Street Conservation Area

Introduction

4.5 Whitworth Street Conservation Area was originally designed in 1974 and was enlarged in 1985 to include an area bounded by Whitworth Street, London Road and the railway viaduct. The Proposed Scheme Site is assessed to make an adverse contribution to the character and appearance of the conservation area and appears to have been included because the railway viaduct has been used as a consistent southern boundary to the conservation area.

4.6 Manchester City Council describes the conservation area as "*uniquely Mancunian in character".* Its character results from the concentration of textile warehouses erected between 1850 and 1920; the distinctive architecture of which arose from their function and the expression of the owners' wealth.

[5] National Planning Policy Framework (NPPF) 2021 – Annex 2: Glossary
[6] National Planning Policy Framework (NPPF) 2021 – Annex 2: Glossary
[7] Historic England: Advice Note 12: Statements of Heritage Significance 2019
[8] Historic England, Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets, 2017 (2nd Ed.)

4.7 The development of the Whitworth Street Conservation Area is closely linked to the Ancoats area of Manchester. The cotton mills provided a need for warehouses to store their products which led to specially designed buildings being built nearer the centre of the city. By the mid-19th century, 'Manchester had become the largest textile centre in the world' which increased the demand for warehousing larger than ever before. This led to the development of warehouses along Princess Street, Whitworth Street and Oxford Road.

4.8 The City Council (web based conservation area summary) confirms that:

"The great height of the warehouses along Princess Street, and especially on Whitworth Street, give the area its most obvious physical character of a canyon like atmosphere…. By the time Whitworth Street warehouses were built, the Edwardian penchant for decoration was at its height and the technology for constructing buildings with a steel frame or reinforced concrete frames enabled them to be taller than before. There later buildings also tended to abandon the use of traditional brick as a wall material, and instead favoured the then fashionable faience or glazed terracotta, which lends itself to rich decoration."

4.9 The Pevsner architectural guide for the city agrees with the City Council's assessment, describing Princess Street as "*the most impressive Victorian street of the city.*"

Character and Appearance

4.10 The character and appearance of the conservation area appears generally consistent in respect to the street pattern and sense of enclosure formed by the dense pattern of former warehouses. The grain of the street pattern is largely defined by Whitworth Street and Princess Street that form the principal east-west and north-south routes respectively. Sackville Street forms a further important north-south route. A series of secondary grids form a key part of the street hierarchy and incorporate narrow service lanes that provided access to the warehouses. The access arrangements, often based on an internal loading bay forms an important part of the circulation system, particularly in the area south of Whitworth Street.

4.11 The Rochdale Canal crosses through the conservation area on a broadly east- west alignment that is broadly parallel to Whitworth Street, however between Oxford Road and Princess Street the canal is enclosed to such a degree as to make little impact on the appearance of the conservation area. The Whitworth Street and Princess Street area experienced a rapidly development of warehouses during the mid to late C19th. The warehouses were typically of a grand scale with the distinctive architecture expressing the wealth of the owners. The conservation area reflects the historic importance of the textile industry in Manchester and the area became the focus for packing and shipping warehouses, combining offices, making-up, inspection and packing facilities, showrooms and rooms to entertain clients.

4.12 The earliest mills in Manchester were in Ancoats but by the mid-19th century the need had developed for warehouses to store products in specially developed buildings. To meet these needs, the Whitworth Street area was developed with commercial warehouses built by manufacturers, wholesalers, independent merchants and packing companies. As demand grew, with Manchester becoming the largest textile centre in

the world, the area developed and buildings became increasingly large and distinctive in style.

4.13 The majority of the blocks formed by the street pattern are occupied by a single orthogonal building. Front elevations tend to maintain a very clear formal relationship with the street frontage with secondary elevations to the side and rear. This pattern is particularly pronounced with the later, Edwardian warehouses, but is less discernible amongst the earlier building. The sense of enclosure throughout most of the conservation area is particularly high due to the height of the warehouses and narrow width of the grid like street pattern.

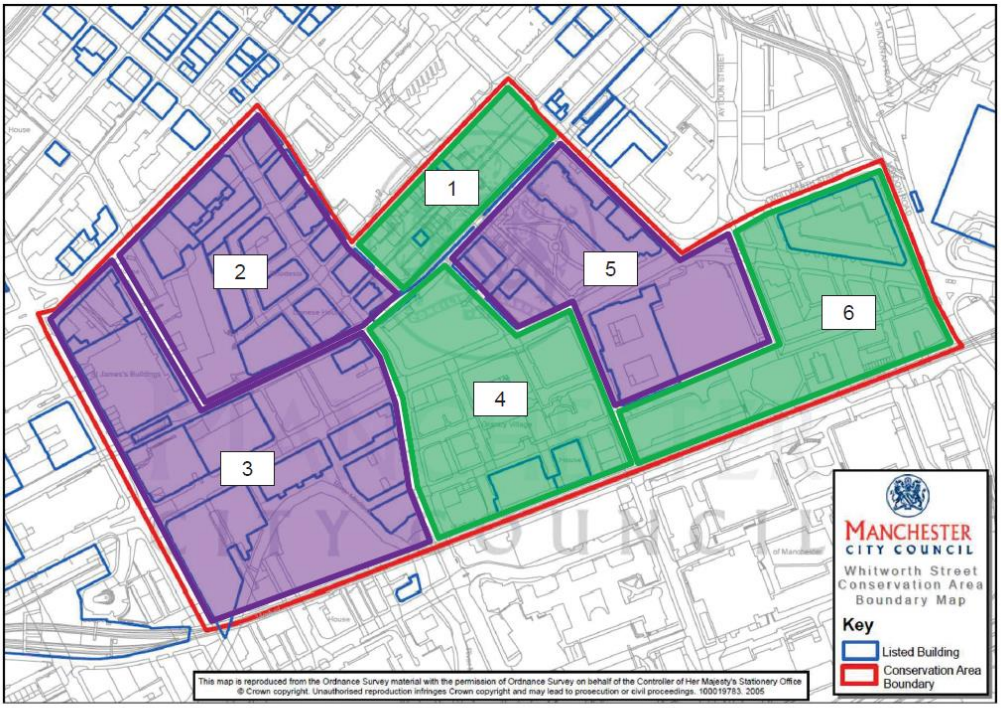
4.14 Most of the buildings in the conservation area originated as warehouses, which have subsequently been converted in to business or residential uses. The quality of architecture is high and there are very few buildings within the conservation area that make an adverse contribution to its character and appearance. The architectural language is generally classical, rather than Venetian Gothic as in other parts of the city centre. However, the style and degree of decoration varies considerably from the mid to late Victorian buildings to the later more flamboyant Edwardian additions. Changes in the use of elevational materials contribute to the distinctiveness of the different phases of warehouse construction.

4.15 The longer east-west routes, including Whitworth Street and Granby Row, provide long vistas through the conservation area, the view west along Granby Row emphasising the landmark qualities of the tower of the Palace Hotel. North-south views tend to be restricted by the more informal alignment of key streets. The height and mass of key buildings, such as the Palace Hotel and Institute of Science and Technology, create important landmarks that can be appreciated from outside of the conservation area.

4.16 The topography is relatively consistent, with subtle changes, such as that associated with the River Medlock on Oxford Road, providing expansive views to the prominent rear elevations of the sequence of warehouses that enclose the southern side of Whitworth Street.

4.17 The overwhelming density of the conservation area is a function of the narrow streets, complex street pattern, massing of the buildings and limited open space. Sackville Gardens and Vimto Gardens are the only two landscaped spaces within the conservation area.

4.18 The Site is currently a vacant plot surrounded by hoarding. The former Chandos House was demolished following consent for the redevelopment of the Site in 2018. In the context of the above analysis, the Site is not considered to be in keeping with the character with the conservation area and, as a vacant plot, it is considered a negative feature to the character and appearance of the conservation area.



1. Canal Street
2. Princess Street
3. Whitworth Street and Oxford Road
4. Princess Street and Sackville Street
5. Sackville Gardens
6. Granby Row and London Road

Figure 4.1: Whitworth Street Conservation Area Character Areas

Character Areas

4.19 Despite the apparent consistency within the broad framework, summarised above, there are subtle changes in character, for example related to building style or materiality, or distinctive changes in the street pattern that enable a series of character areas to be identified. The following character areas have been identified for the purposes of this statement and are shown in **Figure 4.1**.

Character Area: Canal Street

4.20 The Canal Street character area is formed by three parallel north east south-west linear streets the alignment of which is dictated by the Rochdale Canal. Richmond Street and Bloom Street, set back behind the Canal Street frontage are slightly narrower and secondary streets in the linear street pattern. The grain is tighter than elsewhere in the conservation area, with frontages formed by an eclectic combination of narrow frontages and buildings of greater diversity at eaves level relative to other parts of the conservation area. The rear streets of Richmond Street and Bloom Street are extremely narrow service streets, predominantly enclosed by rear elevations.

4.21 Subtle differences are discernible even within this one character area, for example to the south-west of Sackville Street, which cuts across the parallel street pattern, the buildings are of a more domestic scale and include several rendered and painted elevations that contrast with the otherwise predominant brickwork, however to the north-east of Sackville Street the linear streets are more typically enclosed with consistent frontages of four storey brick warehouses. The warehouses in this character area are smaller than those elsewhere in the conservation area and tend to form continuous linear frontages rather than occupying single blocks.

Character Area 2: Princess Street

4.22 The Princess Street Character Area is bounded by Portland Street to the north, the Rochdale Canal to the south, the rear elevations of the Oxford Road properties to the west and both sides of Princess Street to the east.

4.23 The Princess Street frontages are interrupted by numerous junctions formed with narrow side streets. The multiple blocks each accommodate a single warehouse, typically of four storeys with an attic. The massing of the blocks combines with the slight deflection in alignment to reinforce the sense of enclosure.

4.24 The eastern side of Princess Street forms a shallow frontage, a single block deep, however a second row of warehouses is aligned behind the principal frontage on the western side of the street, giving further depth and enclosure to the Princess Street frontage.

4.25 Subtleties in architectural language are consistent with the phasing of the street. The eastern side of Princess Street is largely enclosed with Italian palazzo style warehouses from the 1860s and 70s, only pre-dated by the Mechanics Institute of 1854. In comparison the western side of the street is enclosed by more eclectic forms of architecture from the 1880s. However, a sense of unity is derived from the consistent use of red brick and stone dressings. The exception that proves the rule is the yellow brick warehouse at nos. 105-107 Princess Street.



Figure 4.2: **The contrast in scale and grain between Princess Street and Canal Street**



Figure 4.3: **The western frontage of Princess Street**

4.26 The well-proportioned front elevation of the more eclectic style warehouses incorporate restrained corner details and continue the architectural detailing of string courses, arches and piers into the side and rear elevations, in contrast with other parts of the conservation area where white glazed bricks and larger widow openings contrast with the solidity of the brick and faience clad front elevations. The principal entrances to the warehouses in this part of the conservation area tend to be treated as restrained elements of the elevation rather than being celebrated.

4.27 The warehouses on the eastern side of Princess Street are exclusively shipping warehouses whereas a greater mix of uses on the western side of the street includes shipping, packing and textile warehouses. The massive former electricity power station, with its tall octagonal chimney, forms a considerable landmark with the Princess Street Character Area.

Character Area 3: Whitworth Street and Oxford Road

4.28 The Whitworth Street and Oxford Road character is bounded by the River Medlock to the south, Princess Street to the east, Oxford Road to the west and Whitworth Street to the north. This character area is renowned for the series of massive warehouses that create a canyon-like sense of enclosure along the western end of Whitworth Street. The formality of the Whitworth Street frontage contrasts sharply with the open aspect over the meandering route of the River Medlock and the cleared site between the railway viaduct and river that provides a dramatic aspect to the mass of rear warehouses with their distinctive white glazed brick cladding.

4.29 The Palace Hotel to the corner of Oxford Road and Whitworth Street pre-dated the warehouses and is of a similar scale and mass and incorporates one of Manchester's most notable landmarks with the tower over the main entrance.

4.30 The side streets that provide the access and egress into the internal loading bays of the warehouses form an off-set grid pattern, which is interrupted by the informality of the river. The side streets are extremely narrow single lane spaces that accentuate the height and mass of the warehouses and still retain historic street surfaces and curb details.

4.31 The mix of architectural styles is more diverse than the Princess Street Character Area, including. The materiality and form of steel frame construction also contribute to the distinctiveness of the Whitworth Street and Oxford Road Character Area. For example, India House, designed in 1906 in the Edwardian Baroque style, combines red brick with buff terracotta, Lancaster House, also Edwardian Baroque from 1906, combines brown and buff terracotta with some red brick and turning the corner into Princess Street Asia House introduces brown ashlar sandstone with buff brick and polished granite in the Free Baroque elevations. There is a widespread use of materials such as terracotta and faience, representing innovative fashionable materials at the time of construction.



Figure 4.4: **The Whitworth Street frontage**



Figure 4.5: **Functional side and rear elevations to the narrow warehouse passageways**

4.32 The architectural language of the side and rear elevations contrasts with the formality of the imposing front elevations. The approach is purely functional, with larger areas of glazing and white glazed bricks enhancing levels of natural light.

4.33 The roof scape is more dynamic than other parts of the conservation area, including for example the tower of the Palace Hotel and the Baroque turret of Lancaster House at the corner of Princess Street and Whitworth Street.

Character Area 4: Princess Street to Granville Street

4.34 The street pattern comprises a relatively consistent grid of principal north-south streets punctuated by narrower secondary east-west streets between Sackville Street and Princess Street. The height and mass of the warehouses, and later residential blocks, and narrow proportions of the side streets form an intense sense of enclosure that is consistent with other parts of the conservation area.

4.35 The alignment of east-west streets of Granby Row and Bombay Street is slightly off-set from the grid pattern of character area 3 immediately to the west. Views to the west, from character area 4 are therefore terminated by the mass of the warehouses on the western side of Princess Street, which further accentuates the sense of enclosure.

4.36 The architectural style of the former warehouses is at its most eclectic between Princess Street and Sackville Street. For example, the classical style of Orient House, incorporating the giant colonnade of fluted Ionic columns to the upper floors, clad in white and matt glazed terracotta, stands next to the red brick and white stone dressing of Granby House, which includes Art Nouveau decoration to the upper floors. The detailing of the two buildings stands in sharp contrast, however the height and mass and sense of enclosure maintains a sense of continuity.

4.37 Character area 4 also includes some recent development including the Garratt public house on the corner of Granby Row and Princess Street and the Manchester New Square development located on land at the junction of Princess Street and Whitworth Street. This development increases the scale and height of development whilst maintaining the grid pattern, and robust mass and form, characteristic of the area.



Figure 4.6: Eclectic architectural style in Character Area 4



Figure 4.7: Manchester New Square development

Character Area 5: Sackville Gardens

4.38 The Sackville Gardens character area is essentially derived from two large institutional buildings comprising the Shena Simon 6th Form College and the Institute of Science and Technology, located on the northern and southern sides of Whitworth Street respectively, and the open space of Sackville Gardens.

4.39 Sackville Gardens is enclosed to the Whitworth Street and Sackville Street frontages by a low red brick plinth wall with a simply stepped stone coping. The cluster of mature trees provides relief from the intensity of the adjoining warehouses and enclosed streets.

4.40 The eastern side of the Gardens is enclosed by the rear elevation of the Shena Simon 6th Form College, which was originally designed as a school between 1897–1901. The long range of buildings was extended in 1911 and the different phases of the building can be appreciated from Sackville Gardens. The front elevation to Chorlton Street is constructed in red brick with terracotta dressings in the French Renaissance style. However, the rear elevation appears more functional despite its prominence overlooking Sackville Gardens.



Figure 4.8: The prominent corner turret of the Shena Simon Sixth Form College

4.41 The Institute of Science and Technology was constructed between 1895-1912 as a five storey French Renaissance style university institute with a grand entrance on Sackville Street. The building steps back from the Whitworth Street frontage with a series of gables that emphasise the vertical proportions of the building. The vast extension, designed in 1927 and completed in 1957, presents a central projecting bay incorporating the main entrance to Whitworth Street and rises above with a much

taller element that projects back above the full width of the building at right-angles to Whitworth Street.

4.42 The combined mass of the two phases of the Institute of Science and Technology completes a whole city-block, with the tallest part of the extension providing one of the most distinctive landmarks to the west of Piccadilly Station. The scale and height of the Institute could be considered to constitute a specific character area in its own right and provides a significant backdrop to the Site and the wider Character Area 6.

Character Area 6: Granby Row and London Road

4.43 Character Area 6 is bounded by the railway viaduct to the south, London Road to the east and Whitworth Street to the north. It comprises the most diverse part of the conservation area, the character and appearance of which has been weakened by the clearance that took place during the mid C20th and the eclectic mix of buildings that have been developed since that time.

4.44 The street pattern is influenced by the linear form of the railway viaduct that runs parallel with Granby Row and the significant change of alignment on the northern side of the character area as Whitworth Street enters Fairfield Street. A series of short streets project at right-angles north from Granby Row in the triangular area created by Fairfield Street and replicate the intensity of enclosure found elsewhere in the conservation area.

4.45 The northern part of the character area is occupied by the LRPFS that is defined by the triangular site formed by London Road, Whitworth Street and Fairfield Street. The Edwardian Baroque style and materiality of red brick and yellow terracotta has a resonance with the warehouses to the western end of Whitworth Street but appears isolated from the conservation area by the open character of the Whitworth Street and Fairfield Street junction and the opportunity of developing a dialogue with buildings of a similar style is interrupted by the scale of the Institute of Science and Technology extension and the more fragmented townscape to the eastern end of Granby Row.

4.46 The eastern part of Granby Row is characterised by the open aspect of Vimto Gardens, which lends the railway viaduct a level of prominence that only became possible following the clearance of the warehouses and subsequent college building that previously enclosed the eastern side of the street.

Contribution of the Site to the Character and Appearance of the Whitworth Street Conservation Area

4.47 The Site is currently a vacant plot located where the former Chandos Hall (a 20th century tower block) was demolished following the consented redevelopment of the Site in 2018. This Site is surrounded by hoardings and creates an unoccupied space. This contrasts with the larger scale of warehouses and later 20th century development that are located within this area.

4.48 Overall, the Site is not considered to be in keeping with the character with the conservation area and, as a vacant plot, it is considered to make a negative contribution to the character and appearance of the conservation area. Without built development, it creates fragmentation and does not contribute to the street pattern, enclosure and definition that is characteristic of the conservation area.



Figure 4.9: View of Site from Echo Street facing towards Granby Row



Figure 4.10: View facing south east towards the Site from the junction of Granby Row and Cobourg Street

Summary of Character and Appearance of Whitworth Street Conservation Area

4.49 The character and appearance of the Whitworth Street Conservation Area can be summarised as follow:

- A series of small pockets of off-set grid street patterns that combine to form a dense and consistent townscape.
- An area dominated by former warehouses that reflect changes in style towards the end of the C19th and early part of the C20th.
- A high level of enclosure dominated by the scale and mass of the warehouses with few open spaces.
- Buildings are high quality and high status, often individually distinctive.
- There is a highly decorative quality to many of the structures, interesting textures and use of materials such as terracotta and faience, often in innovative ways.
- The pre-dominance of brick and terracotta that provides continuity despite the diversity of architectural styles.

Listed Buildings

London Road Police and Fire Station (grade II*)

Special Architectural and Historic Interest

4.50 The London Road Police and Fire Station (LRPFS) to the north east of the Site, was grade II* listed in 1974. It dates from 1901-06 and was designed by Woodhouse, Willoughby and Langham, who won a competition judged by Waterhouse.[9] The building occupies a large triangular site, arranged around a central courtyard, used for drill.

4.51 The eye-catching Edwardian Baroque style, constructed with red brick, terracotta and brown faience, creates an impressive landmark next to Piccadilly station, with a complex roofscape of turrets, cupolas and an off-central main tower. The plan is large and irregular on a quadrilateral plan arranged around a central courtyard. The list description describes the building as '*ebullient Edwardian baroque*[10]' in style. The four storey main range has a giant round headed archway with banded surround and inner lintel lettered 'Fire and Police Station'. To the ground floor are large square windows and to the second and third floor a giant colonnaded screen. To the roofline is a balustraded parapet and end turrets are finished with baroque cupolas. The long returns to Fairfield Street and Whitworth Street are in generally in similar style.

4.52 The inner courtyard has iron balconies to three levels providing views over the central courtyard space.

9 Pevsner Architectural Guides Manchester (Clare Hartwell, 2001)

10 Historic England List Description: Police and Fire Station

4.53 The four storey complex was designed to accommodate thirty two firemen and their families and six single men as well as ancillary functions to the police and fire station, including a coroner's court and gymnasium.

4.54 The significance of the building is attributed to both its aesthetic value and also the historic value as a complete example of a combined police and fire complex that accommodated the families of the staff. The list description describes the building as '*an ambitious building with much good detail of the period, in unusually complete condition*'[11].



Figure 4.11: London Road Police and Fire Station, viewed from London Road

Contribution of Setting to Significance

Description of Surroundings

4.55 The building fills an entire triangular city block, enclosed by London Road to the east, Fairfield Street to the south and Whitworth Street to the north. It is surrounded by the complex urban environment of Manchester City Centre which includes the broad mass of Piccadilly Station to the east. To the north is a single amalgamated block which has been developed with tall modern developments including Motel One during the 20th and 21st century. To the south and east are some smaller blocks which were developed with lower brick buildings during the late 20th century and some surviving traditional buildings. The Proposed Scheme Site is to the south of these buildings.

Experience of the Asset

4.56 The long and robust elevations of the Police and Fire Station are principally viewed from the immediately surrounding streets; in close-up views the mass and scale of the building and its decorative elevations are best experienced. In particular it is best

11 Historic England List Description: Police and Fire Station

viewed from London Road, from the north and south where the principal main entrance range is experienced. The main side elevations are visible from Whitworth and Fairfield Streets. When viewed from Fairfield Street travelling west past Piccadilly Station into the city centre the tall off-centre tower on the southern elevation forms a prominent landmark and rises above the skyline. Street clutter and trees screen views of much of the lower elevations from this vantage point, until the junction; the building is a striking landmark feature at the Fairfield Street/Whitworth Street junction.

4.57 Some glimpsed views are available of the building from the middle distance; in which views of the building terminates views along narrow streets. The finer grain of junctions along the south side of Fairfield Street contrasts with the long elevation of the Police and Fire Station, contributing to the perceived scale of the building. Views of this nature include those along Pump Street and Back Acton Street.

4.58 The scale, architectural style and triangular plan form enable the police and fire station to command its immediate setting, although it now defers in scale to the recent residential development immediately to the north on Whitworth Street. The building provides an intense level of enclosure to Whitworth Street, Fairfield Street and London Road and contributes to the sense of arrival next to the main entrance to Piccadilly station. The form is strong and assertive in the streetscape and forms a confident feature.

4.59 The decorative form and profile of the building is striking and an important aspect of the experience. The curved forms of the cupolas and distinctive colours and textures of the decoration emphasise the quality and individuality of the building in the streetscape, ensuring its individuality.

4.60 The building is experienced in the context of its position in central Manchester and is surrounded by a complex and variable urban cityscape including traditional and modern buildings. The urban position of the structure is integral to its functionality. There is a dialogue between the building and other traditional examples to the south resulting from height, and materiality, though the scale and mass of the PFS is markedly greater, and its emphasis is horizontal. To the east is the bulk of Piccadilly Station and to the west the Institute of Science and Technology Building.

4.61 The volume of traffic and scale of the Fairfield Road and London Road junction affect the current setting of the building, by virtue of their noise and visual clutter.

Contribution of the Site to Significance

4.62 The Site is a vacant plot located to the south of the former police and fire station. Due to the intervening buildings the Site is not visible from the listed building. There is no historical relationship or development association between the listed building and the Site. Accordingly, the Site is not considered to make a contribution to the heritage significance or setting of the Grade II* listed former police and fire station.

The Shena Simon 6th Form College, Whitworth Street (grade II)

Special Architectural and Historic Interest

4.63 The former Manchester Central School is located to the north west of the Proposed Scheme Site and dates to 1900. It was designed by Potts and Pickup in a French

Renaissance style comprising four storeys of red brick and terracotta dressings. The corner turret provides a landmark to the corner of Whitworth Street and Chorlton Street. The building encloses Sackville Gardens (daring to 1900) to the rear, although with limited success as Pevsner describes it as *"straggly and unimaginative"*.

4.64 The building is of historic interest as a purpose built 1900 educational building. The building was re-named in the 1970's after Shena Simon who was a politician and educationalist and who founded the Women's Citizens Association in Manchester and, along with her husband Ernest Simon donated Wythenshawe Park to the city of Manchester.



Figure 4.12: Shena Simon Sixth Form College

Contribution of Setting to Significance

Description of Surroundings

4.65 The school is elongated and encloses Chorlton Street to the east. On the opposing side of Sackville Street is a varied street frontage. To the north are warehouses including Mintierna and Minshull which enclose the street frontage; however to the south of them is a mid-20th century concrete tower on a podium which is set back from the street frontage. Beyond is the MMU library building, built in 1994 which follows the curve of Chorlton Street. The varied buildings and building line results in a disparate urban grain. To the west (rear) of the building is Sackville Gardens. To the north is the Rochdale Canal and Canal Street beyond.

Experience of the Asset

4.66 The building is best experienced from Chorlton Street, where the length and quality of the principal elevations can be viewed, although as aforementioned the building is experienced in a context of change and an inconsistent urban grain. The Sackville

Gardens to the rear provide a space from which the building can be viewed; the open character of the gardens in unusual in the otherwise dense cityscape.

4.67 The setting of the former school is dominated by the scale of the 1950s extension (designed in 1927) to the Institute of Science and Technology building.

Contribution of the Proposed Scheme Site to Significance

4.68 The Site is a vacant plot located to the south of the Shena Simon Sixth Form College. Due to intervening built form the Site is not visible from the listed building. There is no historical relationship or development association between the listed building and the Site. Accordingly, the Site is not considered to make a contribution to the heritage significance or setting of the Grade II listed building.

Granby House, 61-63 Granby Row (grade II)

Special Architectural and Historic Interest

4.69 Granby House to the west of the Proposed Scheme Site was designed by Goldsmith and Son, originally as a packing warehouse (c. 1908) and subsequently converted to residential apartments. It is six storeys high, with an attic, and is constructed in red brick with Portland Stone dressings, a distinctive detail in the Whitworth Street area due to the very pale nature of the stone. The lunettes and Art Nouveau details and polygonal corner piers add to the aesthetic value of the building.



Figure 4.13: Granby House

Contribution of Setting to Significance

Description of Surroundings

4.70 Granby House is located to the south side of Granby Row. To the west is Orient House, a warehouse of similar scale and mass, and to the east is a further unlisted brick warehouse. These structures abut the street frontage and contribute towards a strong enclosure of the south side of Granby Row. The north side of Granby Row is developed with a 20th century building, which is partially set back from the road frontage, resulting in a somewhat more fragmentary appearance. The enclosure of Granby Row is stronger at the east end of the road: the west end of Granby Row, in the vicinity of the Proposed Scheme Site is increasingly fragmentary, principally as a result of the open space created by Vimto Gardens and the set-back position of Chandos Hall.

Experience of the Asset

4.71 Granby Row is relatively narrow, as a secondary street in the off-centred grid of streets that form the Whitworth Street area and the height and back of pavement building line of Granby House emphasises a sense of enclosure. The building is best experienced from Granby Street, with only glimpsed views available above the railway viaduct to the rear. Despite the contrasting styles and materials the building combines with the adjoining grade II listed Orient House to create a strong presence on Granby Row.

Contribution of the Proposed Scheme Site to Significance

4.72 The Site is a vacant plot located to the east of Granby House. It forms a continuation of the open space formed by Vimto Gardens however, it is not discernible as a distinct area or visible from the listed building. There is no historical relationship or development association between the listed building and the Site. Accordingly, the Site is not considered to make a contribution to the heritage significance or setting of the Grade II listed building.

Orient House, 65-67 Granby Row (grade II)

Special Architectural and Historic Interest

4.73 Orient House, to the west of the Proposed Scheme Site was also designed by Goldsmith as a packaging warehouse, for Barlows Ltd and opened in 1914.

4.74 It is a steel frame construction, clad in white faience. At nine storeys, over a basement, the building contributes to an intense sense of enclosure to the western end of Granby Row. The front elevation is symmetrical, with two outer projecting bays framing seven central bays articulated with a large scale colonnade of fluted ionic columns. Pevsner describes the effect as "*One of the most extravagant*". The rear and side elevations are more utilitarian in appearance and contract with the frontage.



Figure 4.14: Orient House

Contribution of Setting to significance

Description of surroundings

4.75 Orient House is located to the south side of Granby Row. To the east is Granby House, a warehouse of similar scale and mass, and to the west is a mid-20th century building set back from the street frontage. The set back position of this structure reduces the enclosure of the street. The north side of Granby Row is developed with a 20th century building, which is partially set back from the road frontage, and which contributes to a fragmentary appearance. As aforementioned, the enclosure of Granby Row is stronger at the east end of the road, principally resulting from the position of Orient House and Granby House: the west end of Granby Row, in the vicinity of the Proposed Scheme Site is increasingly fragmentary.

Experience of the Asset

4.76 As aforementioned, Orient House is experienced alongside Granby House and in the surrounding area Granby Row is relatively narrow. The height and back of pavement building line of the buildings emphasise the sense of enclosure, although change in the surrounding area has diminished the overall sense of enclosure. The building is best experienced from Granby Street, with only glimpsed views available above the railway viaduct to the rear. Despite the contrasting styles and materials, the building combines with the adjoining grade II listed Granby House to create a strong presence on Granby Row.

4.77 The scale of the building, pale colour of the faience and use of classical motifs can only be appreciated from Granby Row itself due to the high degree of enclosure and density

of the grid street pattern. The massive upper floor colonnade reinforces the scale of the building and sense of enclosure in Granby Row.

Contribution of the Proposed Scheme Site to Significance

4.78 The Site is a vacant plot located to the east of Orient House. It forms a continuation of the open space formed by Vimto Gardens however, it is not discernible as a distinct area or visible from the listed building. There is no historical relationship or development association between the listed building and the Site. Accordingly, the Site is not considered to make a contribution to the heritage significance or setting of the Grade II listed building.

Sculptural Wall, London Road (grade II)

Special Architectural and Historic Interest

4.79 The Sculptural Wall and Sound Buffer to the south east of the Proposed Scheme Site was designed in 1968 by Anthony Hollaway. The list description confirms that the reasons for designation include the design quality that combines both special artistic and architectural interest. "*It was designed by the highly successful artist Anthony Hollaway in collaboration with the notable regional architect Harry M Fairhurst.*"

4.80 The sculpture is approximately 68 metres long and 5 metres high, and forms a buffer zone of prefabricated concrete panels, slotted into concrete columns, along the side of London Road.

4.81 The sculpture is of architectural and historic interest as a good and rare example of a sound buffer illustrating a concept introduced in the 1950's as 60's of separating people from the noise and visual intrusion of vehicles.

4.82 The Corridor Manchester: North Campus Strategic Regeneration Framework (December 2017 Draft) suggests options for the wall as part of the wider redevelopment of the UMIST campus. Options include its incorporation and integration into a new building, or the removal/ relocation of parts of the structure to create a new opening[12].

Contribution of Setting to significance

Description of Surroundings

4.83 The wall is positioned to the west of London Road, enclosing the east side of the UMIST buildings. To the north is Altrincham Street.

Experience of the Asset

4.84 The artistic and architectural quality of the structure can only be appreciated from London Road itself, the rear of the structure is largely screened by UMIST buildings, including Cruickshank and Seward's Chemical Engineering Pilot Plant. The listed structure is located someway to the east of the Proposed Scheme Site, with inter-visibility obscured by several key UMIST buildings, including the Barnes Wallace Building. The Oxford Road Railway Viaduct also creates a physical edge defining

12 Bennets Associates, Corridor Manchester: North Campus Strategic Regeneration Framework Draft Version (December 2016)

distinctive character areas, with UMIST to the south and Chandos Hall as being within the Whitworth Street corridor to the north of the railway.

4.85 The wall is now enclosed by a wire mesh fence which limits access to the structure and reduces the ability to appreciate it.



Figure 4.15: Sculptural Wall

Contribution of Proposed Scheme Site to Significance

4.86 The Site is a vacant plot located to the north the Sculptural Wall and is separated by the UMIST buildings and railway viaduct. There is no historical relationship or development association between the listed building and the Site. Accordingly, the Site is not considered to make a contribution to the heritage significance or setting of the Grade II listed building.

Former Goods Yard Office to Piccadilly Station (grade II)

Special Architectural and Historic Interest

4.87 The former Goods Yard offices to the north east of the Proposed Scheme Site were listed grade II in 1994 and were constructed c.1850-60. The structure largely consists of the remaining principal elevation which is constructed of sandstone ashlar in a renaissance style with pilasters and a pedimented doorway. It effectively forms the elevation of the station basement and undercroft and encloses the eastern side of London Road.

Contribution of Setting to Significance

Description of surroundings

4.88 The stone elevation of the former Goods Yard Office is now encompassed within the modern late 20th century elevation of the station enclosing the east side of London Road. London Road is a broad dual carriageway. To the west side of London Road is the LRPFS.

Experience of the asset

4.89 The elevation of the Former Goods Yard Office is experienced from London Road as a continuous part of the consistent elevation of Piccadilly Station. It is a relatively small section of the overall station complex and surrounded by the variable modern streetscape of central Manchester which includes a variety of traditional and modern buildings.

4.90 The façade forms part of the Manchester Piccadilly Station complex and the station building is integral to its form and the legibility of its historic function. This aspect of setting therefore makes a contribution to significance.

Contribution of the Proposed Scheme Site to Significance

4.91 The Proposed Scheme Site is screened from the listed elevation by intervening development including the Police and Fire Station and buildings that enclose the southern side of Fairhurst Street, although both buildings can be experienced form the junction of Fairfield Street and London Road. Chandos Hall forms part of the complex urban surroundings of the Former Goods Yard Office but it is not an aspect of setting that contributes to significance.

Train Shed to Piccadilly Station (grade II)

Special Architectural and Historic Interest

4.92 The Train Shed (also to the north east of the Proposed Scheme Site) structure dates from 1881 and consists of the principal shed to the railway station. It was the second remodelling of the former Store Street Station, built in 1842. The Train Shed is constructed with cast-iron columns, supporting a very large glazed roof, above a brick under-croft. The roof is glazed (modern) and includes semi-circular arched spans. It is rectangular in plan form and includes large round-headed windows in the side walls. The scale of the station complex lends the structure a landmark status on the eastern edge of the City Centre.



Figure 4.16: Train Shed to Piccadilly Station

4.93 The structure is of historic interest as a train shed dating from the mid to late 19th century. The structure is also of interest as being the second remodelling of the former Store Street / London Road Station built in the early to mid-19th century.

Contribution of Setting to Significance

Description of surroundings

4.94 The Train Shed at Piccadilly Station occupies a large portion of the present railway station and is bounded to its north by Sheffield Street and Fairfield Street to its south. The structure is largely concealed behind the modern extension to the railway station to its west. The principal entrance is to the west where a large scale ramp raises up from London Road.

Experience of the Asset

4.95 The structure is principally experienced from the south along Fairfield Street, allowing for the cast iron columns, brick arches and supporting glass roof to be clearly appreciated. The structure is also visible in views along Sheffield Street and Broad Street to its north. There are also distant views of the structure from Baird Street to its north east and other vantage points around the city centre. The building is experienced as part of a complex, high density, cityscape of many periods and forms of building.

Contribution of the Proposed Scheme Site to significance

4.96 The Site is a vacant plot located to the west of the Former Goods Yard Office and separated by the busy junction of Fairfield Street and London Road and the intervening built form. The Site is not visible from the listed building. There is no historical

relationship or development association between the listed building and the Site. Accordingly, the Site is not considered to make a contribution to the heritage significance or setting of the Grade II Former Goods Yard Office.

Institute of Science and Technology (grade II)

Special Architectural and Historic Interest

4.97 The original Institute building to the north west of the Proposed Scheme Site was first listed grade II in 1974. The building dates from 1895-1912 and was designed by Spalding and Cross, who also designed Victoria Square, the large scale tenement housing in Ancoats. Pevsner enthuses over the Institute building, describing it as *"a splendid expression of municipal; pride and confidence"*.[13] The building is designed in a French Renaissance style over five floors and is constructed of red brick with red sandstone and terracotta dressings. The main entrance on Sackville Street is emphasised with a large projecting bay, finished with an elaborate gable and framed with polygonal corner piers. The list description confirms that the interior of the building was not inspected at the time of listing.

4.98 The large extension to the rear, designed in 1927, but not complete until 1957, is described by Pevsner as *"a gross anachronism by then"*. The scale of the building dominates the enclosing streets, particularly Sackville Street, which is narrower than Whitworth Street, emphasising the scale of the main entrance bay.



Figure 4.17: Institute of Science and Technology

13 Pevsner Architectural Guides Hartwell 2001

Contribution of Setting to Significance

Description of surroundings

4.99 The Institute building is large scale and encloses an entire block which is defined by Granby Row to the south, Coburg Street to the east, Fairfield Street/Whitworth Street to the north and Sackville Street to the west.

4.100 The height and mass of the extension dominates views into the eastern end of the Conservation Area and terminates views along streets in the vicinity including Aytoun Street, Chorlton Street and Sackville Street.

Experience of the Asset

4.101 The use of brick and terracotta has a resonance with the warehouses that define the character of the area. The intense enclosure and mass of the building to Sackville Street is also consistent with key character areas within the conservation area. Those aspects of setting contribute positively to the significance of the building. In other respects the building is a specific architectural form that was designed for an institutional use. The setting to the south, enclosing Granby Row, has been eroded by the removal of the warehouses that once created an intense sense of enclosure to the street, lending the rear elevation of the Institute a far greater prominence than was originally envisaged; this elevation is viewed from Vimto Gardens.

Contribution of Proposed Scheme Site to Significance

4.102 The Site is a vacant plot located to the south of the Institute of Science and Technology. Due to intervening built form the Site is not visible from the listed building. There is no historical relationship or development association between the listed building and the Site. Accordingly, the Site is not considered to make a contribution to the heritage significance or setting of the Grade II listed building.

Manchester South Junction and Altrincham Railway Viaduct (grade II)

Special Architectural Interest

4.103 The viaduct is an impressive 1 ¾ mile long urban viaduct with a series of well-detailed bridges, some including highly decorative Gothic-style ironwork. The 224 brick arches include a skew arch adjoining Vimto Gardens and connect Piccadilly Station to Liverpool Road following approximately the route of the Medlock. It was constructed in 1845 by David Bellhouse Junior and several of the cast iron bridges were built by his son the engineer and iron founder Edward Taylor Bellhouse.

4.104 The tallest arches are located between Piccadilly and Oxford Road Stations, including the part of the viaduct that encloses the southern edge of the Proposed Scheme Site. The parapet has been reconstructed in places and following electrification a series of gantries have been incorporated into the deck and parapet of the structure.



Figure 4.18: Manchester South Junction and Altrincham Railway Junction

4.105 The viaduct is an early example of a railway viaduct from the second phase of railway development between 1841-1850 known as 'railway mania'. It was constructed between 1846-9 by David Bellhouse Jnr as the earliest suburban railway in Manchester. The viaduct was designed to link the Sheffield, Ashton-under-Lyme and Manchester Railway and the Manchester to Birmingham Railway with the Liverpool and Manchester Railway.

Contribution of Setting to Significance

Description of surroundings

4.106 The course of the viaduct follows a dense and highly complex urban setting through the city centre of Manchester, comprising a mixed commercial, educational and residential townscape that has continued to evolve since the construction of the railway.

Experience of the Asset

4.107 The viaduct forms an impressive structure that wraps around the southern edge of the city centre. There are many glimpses views of the viaduct with dramatic contrasts in scale in comparison with many of the buildings adjoining the structure and longer vistas at key bridges, for example those over Oxford Road and Deansgate.

Contribution of Proposed Scheme Site to significance

4.108 The Site creates an artificially open aspect to the northern side of the viaduct, which was caused by the clearance of the dense townscape of warehouses and ancillary development from the southern side of Granby Row. The open aspect of Vimto

Gardens provides an opportunity to appreciate the scale and design of the viaduct, however given the extent and complexity of its setting the Site is considered to make no contribution to its significance.

Mintierna House

Special Architectural and Historic Interest

4.109 Mintierna House is former shipping warehouse, dating to the mid-late 19th century. It is in red brick with a façade of coursed sandstone rubble. The plan is long and rectangular being parallel to the Rochdale Canal and perpendicular to the street. The building has four storeys plus a basement. The principal façade has rusticated quoins and sill-bands to the upper floors, with a moulded cornice and low parapet. All windows are two-light casements with moulded architraves except those at the top floor, which have been altered. The building forms a group with the canal lock No 86 and Minshull House.

4.110 Mintierna House has been converted to residential use as part of the Kampus development (115570/FO/2017).



Figure 4.19: Mintierna House (photo 2018)

Contribution of Setting to Significance

Description of surroundings

4.111 Mintierna House is linear and extends back from Chorlton Street along the southern bank of the Grand Union Canal. To the south is Minshull House, beyond a narrow alleyway. To the rear is a surface car park created by the demolition of other structures

during the 20th century. Beyond Chorlton Street to the west is the Shena Simon College building.

Experience of the Asset

4.112 The warehouse is hard up against the canal and Lock No 86 and has an integral functional relationship with this structure. The appreciation of the two together along with Minshull House allows understanding of the former function of the building and character of the area and comprises an important aspect of setting.

4.113 The asset is located in a mixed area characterised by the intense commercial development to the south associated with Whitworth Street and Sackville Street, but to the north clearance and redevelopment of sites has resulted in a mixed context.

Contribution of Proposed Scheme Site to Significance

4.114 The Proposed Scheme Site is located to the south-east of the asset and there is no direct visibility to it, as a result of the intervening distance and development. It is not considered that the Site makes any contribution to the significance of the listed building.

Minshull House

Special Architectural and Historic Interest

4.115 Minshull House is a canal warehouse which dates to the early mid-19th century, and was later altered and enlarged. It is in red brick with English garden wall bond. Dressings are sandstone and the building is three storeys over a basement and 5x13 bays. The centre breaks forward slightly with a wide elliptical arched former wagon entrance, now blocked with a 20th century doorway. The rear has a full width cantilevered jetty over the former basin with a mooring ring and remains of a wooden crane.

4.116 The building has historic interest as a 19th century canal warehouse and group value with the canal lock No 86 and Mintierna House.

4.117 Mintierna House has been converted to residential use as part of the Kampus development which was approved in 2017 (115570/FO/2017).



Figure 4.20: Minshull House (photo 2018)

Contribution of Setting to Significance

Description of surroundings

4.118 Minshull House is enclosed by Mintierna House to the north and the Manchester Metropolitan University Business School to the south. Chorlton Street is to the east, with the Shena Simon College building opposite.

Experience of the Asset

4.119 The building is principally experienced from its frontage, in the context of these other traditional buildings. From Chorlton Street the building is principally experienced alongside Mintierna House, with which it has a dialogue as a result.

4.120 The warehouse is hard up against the canal and Lock No 86 and has an integral functional relationship with this structure. The appreciation of the two together along with Minshull House allows understanding of the former function of the building and character of the area and comprises an important aspect of setting.

4.121 The asset is located in a mixed area characterised by the intense commercial development to the south associated with Whitworth Street and Sackville Street, but to the north clearance and redevelopment of sites has resulted in a mixed context.

Contribution of Proposed Scheme Site to Significance

4.122 The mass of the Institute of Science and Technology prevent the Proposed Scheme Site being appreciated from the principal elevations to Chorlton Street. It represents part of the complexity of the mixed urban setting but makes no contribution to significance.

Regency House with Barclays Bank and 46 Sackville Street

Special Architectural and Historic Interest

4.123 A former shipping or packing warehouse, now a bank, offices and residential, which dates to 1880-90. The building has an iron frame with sandstone ashlar and red brick dressings. The plan is trapeziform on an island site with a loading bay to the west side. The list description describes the design as 'functional and almost a-stylar'. The building is five storeys over a basement and has a massive punch-dressed plinth forming piers to the ground floor with a frieze above and banded brick piers to the upper floors. A large octagonal lantern is above the corner, and the doorway in the right corner has a segmental couplet on coupled brackets. The Sackville Street side has 6 bays in a matching style with segmental archways to the 3rd 4th and 6th bay.

4.124 46 Sackville Street is a shipping warehouse which dates to 1860-70. It is listed for group value and is contiguous with Regency House with Barclays Bank. It is constructed in red brick with Flemish bond with sandstone dressings and a slate roof. It has a rectangular plan on a corner site and is eclectic in style with Romanesque features. The building is four storeys with a plinth, Lombard frieze dividing floors and brick pilasters and sill bands. The corner has a segmental headed doorway with stilted moulded surround and panelled divided doors.

Contribution of Setting and the Proposed Scheme Site to Significance

Description of surroundings

4.125 The building is located on the corner of Whitworth Street and Sackville Street. To the east is Sackville Gardens and the Shena Simon Sixth Form College beyond. To the south is a row of consistent brick warehouses. To the rear is a vacant site which is being developed for the Manchester New Square residential development.

4.126 46 Sackville Street is enclosed to the south and east by Regency House and this results in a strong building line beyond the immediate elevations of 46 Sackville Street.

Experience of the Asset

4.127 The building's expansive scale and mass is best viewed from Whitworth Street and Sackville Street. The use of brick and sandstone has a resonance with the warehouses that define the character of the area. The intense enclosure and mass of the building to Sackville Street and Whitworth Street is also consistent with key character areas within the conservation area. Those aspects of setting contribute positively to the significance of the building. The open character of Sackville Gardens to the east allows for an appreciation of the Sackville Street elevation which is uncharacteristic of the usually tightly enclosed urban grain on Sackville Street.



Figure 4.21: Regency House

Contribution of Proposed Scheme Site to Significance

4.128 The Proposed Scheme Site cannot be experienced directly from the listed building, due to the density and mass of development in the intervening area. It is not considered to make a contribution to the setting and significance of the listed building.

5. Impact Assessment

Introduction

5.1 In accordance with the requirements of the NPPF 2021, the significance (and the contribution of the Site) of the identified heritage assets (**Section 2**), has been proportionately described in **Section 4**. This has been based on a review of published sources, site visits, desktop and archival research.

5.2 The relevant heritage legislative, policy and guidance framework for the Proposed Scheme is set out in full at **Appendix 1**. This includes the statutory duties of the Planning (Listed Buildings and Conservation Areas) Act 1990, national policy set out in the NPPF 2021 and supported by the NPPG, and other local policy and guidance for development within the historic environment.

5.3 Together these sections and appendices of this report provide the appropriate context for the consideration of these application proposals.

Planning History

5.4 The Proposed Scheme incorporates a range of revisions to a previously consented scheme. Planning Permission was granted in June 2018 for the demolition of existing buildings on site and their replacement with a mixed-use development comprising three blocks, with intermediary link buildings, providing 642 beds of co-living residential accommodation and 242 beds of purpose-built student accommodation (PBSA) and associated facilities (LPA ref. 18267/FO/2017). Subsequent minor amendments were approved under LPA ref. 122732/JO/2019 in May 2019 and LPA ref. 125537/JO/2019 in March 2020. The Planning Permission was implemented through the demolition of the existing buildings on-site and associated groundworks.

5.5 The planning officers report to the planning committee on the previous application provided the following conclusions regarding design issues, relationship to context and impact on the historic context:

'The assessment demonstrates that having taken into consideration the significance of nearby listed buildings, including their contribution of setting, the relative distance between them and the Site, the extent and character of intervening development and the nature of the application proposals, there would be no impact on the setting or significance of the identified listed buildings. Overall the development is considered to have a neutral impact on the setting and significance of nearby listed buildings.

The reinstatement of the historic building line to Granby Row, the positive relationship of the new building with the Granby Row street frontage and with Vimto Gardens, and the high quality of the proposal which responds to the detailing and materials of buildings in the conservation area would result in a benefit to the character and appearance of the Whitworth Street conservation area.

Therefore, on balance, the proposal would preserve the character and appearance of the conservation area and the setting of the nearby listed buildings, and thus complies

with Section 66 and Section 72 of the Planning (Listed Buildings and Conservation Areas) Act 1990. It does not lead to 'substantial' harm or any meaningful level of 'less than substantial' harm to the setting of the conservation areas, or any other heritage assets. The proposals form part of the high quality regeneration of the city centre and meet the requirements set out in paragraphs 132 and 134 of the NPPF.

Notwithstanding the considerable weight that must be given to preserving the character and appearance of the nearby listed buildings and the character of the Whitworth Street Conservation Areas, the proposal would sustain and enhancing the significance of adjacent heritage assets and would make a positive contribution to local character and distinctiveness and therefore meets with the requirements of paragraph 131 of the NPPF.

For these reasons the Proposed Scheme is considered to comply with Manchester Core Strategy (MCS) policies CC9 and EN3 and with Unitary Development Plan policies DC18.1 and 19.1.' [14]

5.6 Historic England's formal consultation response to the 2018 application stated:

'*The character of the surroundings and its location next to the Railway viaduct support development of some scale. The enclosed nature of many streets within the conservation area means minimal impact on the setting of other, more significant parts of the historic environment. Some impact on incidental and kinetic views of the London Road Fire Station, but it is a robust building that is already set within a highly urban context and it is not considered that the impact of the revised proposals on its setting would be harmful.*

The architectural approach is informed by an analysis of the local character. This has helped to give the proposal a sense of place appropriate to its location. Support the activation of the street and park frontage with appropriate uses, front doors and windows, creating a safe and secure environment - a quality missing within some parts of this conservation area. Double height architectural form at ground floor reflects the character of historic buildings in the local area.

The innovation in terms of the architectural design and details, combined with the use of sympathetic materials to help anchor the scheme within its wider historic context is welcomed. The unifying use of an appropriate red/purple brick tile has the potential to relate well to the conservation area and give the development an appropriate degree of robustness into the future.'[15]

[14] MCC Planning and Highways Committee Report, Application No. 118267/FO/2017, 31 May 2018

[15] Ibid

Proposed Scheme

5.7 Approximately 36 months have now passed, since the construction works of the original scheme were stopped, as a direct consequence of the Covid 19 pandemic and the economic uncertainty that ensued. In the current context, three key factors have been considered as driving the opportunity to revisit the scheme: a change in land use; new fire safety requirements; a sensible adjustment in height to enhance deliverability. Full details of the key drivers for the revised proposals can be found in the accompanying Design and Access Statement produced by Sheppard Robson Architects.

5.8 The Proposed Scheme has been revised to comprise 100% purpose built student accommodation. The Proposed Scheme seeks to retain the majority of the previous scheme principles in massing, aesthetics and public realm interactions. In particular, the scheme still comprises the visual aesthetic of three blocks stepping up in height towards Piccadilly Station, joined together by two intermediate linking blocks at lower heights. The mass was developed in response to site constraints and the Conservation Area, with the three main blocks stepping up in height, from Vimto Gardens on the west towards London Road and Piccadilly Station on the east.

5.9 The main blocks are faced in red/purple-brick cladding to root them in the conservation area context, with intermediate linking blocks in glass reinforced concrete to provide visual contrast and break up the mass (**Figure 5.1** to **Figure 5.3**). The proposals include perforated panel metalwork within window openings. The perforated panels adopt a decorative pattern inspired by themes and motifs in the surrounding area.



Figure 5.1: Proposed west elevation (left) and east elevation (right)



Figure 5.2: Proposed north elevation.



Figure 5.3: Proposed south elevation.

5.10 The Proposed Scheme would increase the height for each block, compared to the original scheme. The total number of storeys is increased by three across all blocks. In comparison with the heights originally consented are as follows (**Figure 5.4**):

- Block A height increase: +5.4m
- Block B height increase: +4.1m
- Block C height increase: +2.9m

5.11 The overall increase in height is off-set and mitigated by several measures:

- Reduction in height of Ground Floor (from 4500mm to 3900mm).
- Reduction of typical floor-to-floor heights (from 3015mm to 2940mm) without sacrificing internal floor to-ceiling height.
- Setting-back top floors in link blocks to diminish impact on Granby Row.

5.12 A more detailed explanation of the Proposed Scheme is provided in the Design and Access Statement prepared by Sheppard Robson Architects and the Planning Statement prepared by Turley Planning.

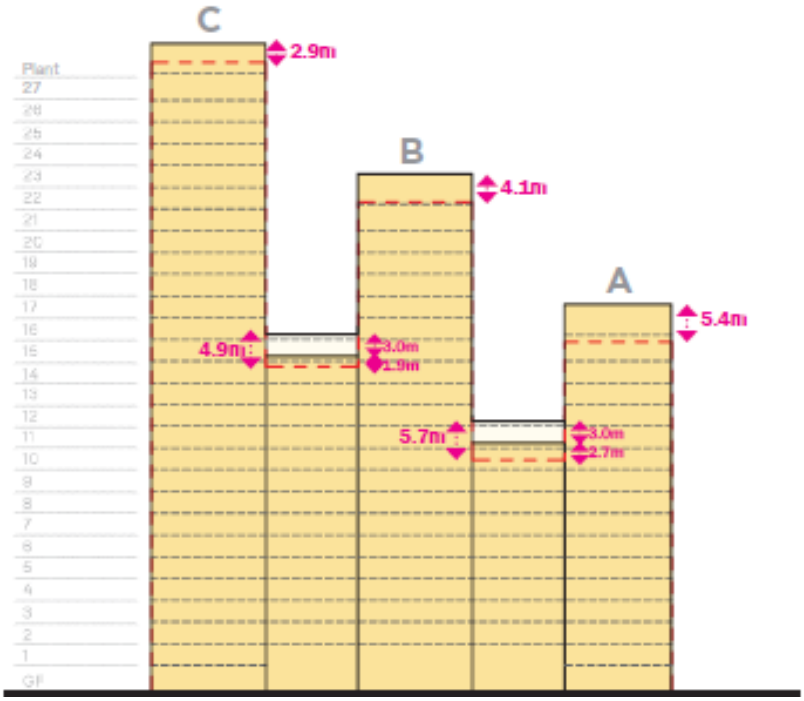


Figure 5.4: Illustration of the adjustment to height compared to the 2018 planning approval.

Built Heritage Impact Assessment

Introduction

5.13 This section focusses on describing the likely effect of the Proposed Scheme on the particular significance of built heritage assets. At the end of this section the heritage impacts of the Proposed Scheme, are reviewed in light of the relevant statutory duties of the Planning Act 1990, national policy within the NPPF 2021 and supporting NPPG, and local planning policy and guidance to be applied with regard to change within the historic environment.

Whitworth Street Conservation Area

5.14 It has been concluded in Section 4 of this report that the Site has a negative impact on the character and appearance of the conservation area. The Proposed Scheme provides an opportunity to enhance the character and appearance of the conservation area though addressing the fragmentation of the area, reinstating the historic building line to Granby Row and creating a positive relationship with Granby Row street frontage and with Vimto Gardens. This would also enhance the Sites relationship with the listed buildings identified in the local area.

5.15 The Proposed Scheme will not be visible from the majority of the conservation area, due to the height and mass of the Institute of Science and Technology, which blocks views of the Site from the principal streets of Whitworth Street and Princess Street. The key attributes of the conservation area, comprising the late Victorian palazzo warehouses of Princess Street and the Edwardian Baroque warehouses of Whitworth Street will not be affected.



Figure 5.5: View south east on Chorlton Street

5.16 The Proposed Scheme will be visible from Chorlton Street facing south east (**Figure 5.5**). This view includes the following listed buildings which contribute to the character of the conservation area: Shena Simon Sixth Form building (grade II), Institute of Science and Technology (grade II), Minshull House (grade II). The scheme will form a backdrop to these buildings, forming part of the contemporary element that is also characterised by the recent Kampus development, located south of Minshull House. The three listed buildings remain prominent in this view, whilst the simple form and complementary material palette of the proposals ensure that it remains as a backdrop. Whilst it will represent change to the view, the mixed character in this location and the robust architecture of the listed buildings will mean that the character and appearance of the conservation area remains coherent and robust.

5.17 The Proposed Scheme will be positioned at the back of pavement on Granby Row and Echo Street, reflecting the historic position of buildings at the Site and ensuring that the development is more consistent with the urban grain and street layout in the surrounding area. This restores the regular grid pattern which is characteristic of the area. This represents a positive benefit of the proposal, reversing the fragmentary appearance of the Site which results from the set-back of the building and vacant spaces around it (see **Viewpoint 5** below).

5.18 At present Granby Row has a secondary character which results from the dominance of the secondary elevation of the Institute of Science and Technology. The new building will create an active street frontage, forming a stronger edge to Granby Row and engaging the street with new entrances. Additionally, the Proposed Scheme will incorporate a double height opening to Vimto Gardens which will ensure an inviting and positive connection between the building and surrounding area. This is a positive benefit to the conservation area.

5.19 The Proposed Scheme provides an opportunity to enhance the appreciation of the conservation area when viewed from the west around the Piccadilly Station gateway to the city. The new development will be a landmark gateway structure, enhancing the east end of the conservation area, and marking an arrival point into the conservation area itself. The east part of the conservation area will be enhanced by the inclusion of this high quality development.

5.20 The character area surrounding the Site is developed with a complex mix of buildings of differing scale, height and mass and experienced in a context of change, including open spaces and the substantial scale and mass of the railway viaduct. As aforementioned, the east part of the conservation area is more fragmentary and inconsistent as a result of this. The listed assets within the eastern part of the conservation area are largely robust landmark structures already experienced in a context of mixed urban development. The development of a building of some height is not considered to be inappropriate. This position was supported by Historic England's consultation response to the 2018 consented application, stating that the location supported development of some scale.[16] Despite the increase in height the building will not be experienced from the much larger western part of the conservation area. The building will form a termination of views to the east from Vimto Gardens. It will create a dialogue with the

[16] MCC Planning and Highways Committee Report, Application No. 118267/FO/2017, 31 May 2018

tower of the Kimpton (formerly Palace) Hotel, creating a landmark connection through the streetscape although distance and the simplicity of the architecture will ensure that the new building does not compete with the prominence of the historic tower.

5.21 The design of the building has been borne out of an understanding of the key characteristics of the conservation area, considering scale, height, mass, and individuality and quality of building design and the use of innovative materials. The three tower arrangement is inspired by the traditional buildings within the Whitworth Street Conservation Area, where expressed bays are often separated by a distinctive roofline.

5.22 The height of the building refers directly to the transitional status of the Site at the edge of the Whitworth Street Conservation Area and bordering the Piccadilly Station area. The tallest part of the building is located to the east, closest to Piccadilly Station and the height of the towers steps down towards the conservation area to the west. This ensures that the building defers to the robust status of the conservation area buildings and does not appear over-dominant.

5.23 The Proposed Scheme has been designed with a simple balanced pattern to the fenestration. This ordered and calm form ensures that the building defers to the more decorative and elaborate buildings in the wider conservation area. A balance is achieved between the verticality of the tower and the horizontal arrangement of window openings. The building is articulated with subtle detailing which will resonate with the decorative aspects of the traditional buildings within the conservation area. This includes chamfered window openings with a solid brick reveals and a perforated metal between windows. These features add depth, shade and visual interest to the elevations and resonate with the architecture in the conservation area which is often characterised by elaborate detailing.

5.24 Proposed materials include red brick to the tower elements and a simple white GRC to the secondary connecting elements. These materials and colour choices respond to the use of brick and terracotta within the conservation area and also the use of lighter colours materials to the rear aspects of buildings. The proposals will therefore resonate with the conservation area. A key characteristic of the area is the quality of the materials, which exemplify the wealth of the building owners and were often fashionable, expensive and used in an innovative way. Additionally, the use of a white colour will connect the building to the more modern buildings and materials found in the Piccadilly Station area to the east and to the UMIST buildings to the south. In this way the building responds to its transitional context.

5.25 Due to the Proposed Scheme reinstating the historic building line to Granby Row, its positive dialogue with the street frontage and with Vimto gardens, the high quality of the building which resonates with the detailing and materials in the conservation area, the Proposed Scheme is considered to preserve and enhance the character and appearance of the Whitworth Street Conservation Area.

Impact upon Listed Buildings

London Road Police and Fire Station (Grade II*)

5.26 The Assessment of the LRPFS in section 4 identified that the scale, expressive architectural style and triangular plan form enable the LRPFS to dominate its immediate setting. The massing of the building, enclosing an entire city block, results in a robust structure with a strong horizontal emphasis, which is balanced by the verticality of the low turrets and cupolas. The significance of the building lies in its high quality and expressive baroque architectural style and associated aesthetic value as well as its historic interest as a complete example of a combined police and fire complex.

5.27 The Proposed Scheme will be visible above the LRPFS when viewed from London Road/Store Street junction and from the raised area around Piccadilly Approach. Views of the Proposed Scheme will also be available from Fairfield Street when looking west along the side of Manchester Piccadilly Station. In this view the building will appear to the west of the prominent corner to the Fire Station structure. The Proposed Scheme will also be visible when looking south from Aytoun Street where it will appear in the context of the LRPFS and the adjacent traditional building.

5.28 The LRPFS is a robust and prominent structure, which, as aforementioned, has a setting characterised by mixed urban development. The Proposed Scheme will integrate with the existing urban setting forming a backdrop that is partially visible. The simple design of the proposals, with stepped blocks and a regular pattern of fenestration, will contrast with the decorative expression of the LRPFS. The material palette of the proposals is complementary and results in a background building that does not compete with the architectural interests of the LRPFS and its expressive detailing.

5.29 Whilst contemporary finishes are proposed which will emphasise the modernity of the structure, the colour palette will incorporate warm tones of red brick which will harmonise with those found in the listed building and provide a subtle reference to the decoration of the fire station and other buildings in the conservation area.

5.30 The LRPFS is experienced in the highly urbanised and complex context of Manchester City Centre. This includes a variety of modern developments including some of substantial scale and height. The Proposed Scheme will be seen as part of this context.

5.31 As aforementioned, the LRPFS is experienced from 360° due to its position occupying an entire city block. It is therefore viewed and experienced from a wide variety of positions and the Proposed Scheme will be visible only from comparatively limited parts of its setting. The new building will be experienced as a backdrop to the LRPFS; it will not conceal or impede views of it.

5.32 Historic England confirmed within their consultation response to the 2018 application, stating that '*Some impact on incidental and kinetic views of the London Road Fire Station, but it is a robust building that is already set within a highly urban context and it*

is not considered that the impact of the revised proposals on its setting would be harmful.' [17]

5.33 Overall, whilst the Proposed Scheme results in change to the setting of the LRPFS it is considered that the significance of the building will be sustained.

The Shena Simon 6th Form College (Grade II)

5.34 The Shena Simon Sixth Form College dates to 1897-1901 and is of significance for its robust French Renaissance façade. A notable feature is the corner turret which provides a landmark to the corner of Whitworth Street and Chorlton Street.

5.35 The Site is obscured from the front of the former school by the mass of the Institute of Science and Technology extension and the change of alignment between Whitworth Street and Fairhurst Street.

5.36 The Proposed Scheme will be visible from Chorlton Street when looking south in the context of the Shena Simon Sixth Form College building (**Figure 5.5** above). In these views it will be partially visible in the background above existing buildings. The building will be legible as a modern addition to the streetscape. The Shena Simon Sixth Form College is however already experienced in a context of a mixed urban setting which includes modern buildings.

5.37 There will be no change to the appreciation of the architectural and historic special interest of the building or the way in which it is principally appreciated. Overall, the significance of the building will be sustained.

Institute of Science and Technology (Grade II)

5.38 As discussed in Chapter Four of this report, the Institute of Science and Technology building is large and robust and encloses an entire city block. It is of historic and architectural interest as a purpose built educational building. The use of red brick and white GRC as well as the scale and mass of the structure contributes to a visual consistency with the traditional warehouse structures to the east.

5.39 The Proposed Scheme will be located to the south-east of the Institute of Science and Technology. As discussed in Chapter Four of this report, there is an intervening visibility between the Proposed Scheme Site and the Cobourg Street and Granby Row streets and the Institute building. The Proposed Scheme will be visible principally from Granby Row and Cobourg Street, in the context of the rear elevations of the Institute building. However, the principal elevation of the building faces towards Sackville Street and the Proposed Scheme will not be visible in views of this elevation.

5.40 The Proposed Scheme will bring built form to the street frontage on Granby Row. The historic character of the streetscape to Granby Row will therefore be partially reinstated. This will be beneficial change that reinstates the urban setting of the Institute building.

5.41 The Proposed Scheme will contrast with the Institute, it will be a simple contemporary form which will emphasise the modernity of the structure and will ensure that it is read

[17] MCC Planning and Highways Committee Report, Application No. 118267/FO/2017, 31 May 2018

as a modern addition to the streetscape. The simple grid structure of the elevations will provide a contrast with the more elaborate decoration of the Institute of Science and Technology and the colour palette will incorporate warm tones to harmonise with those found to the listed building and other traditional buildings in the area.

5.42 The Institute is a robust structure, with a substantial mass and scale. The building has high levels of architectural interest which is derived from its bold French Renaissance style. The Proposed Scheme will not compete with the scale and solidity of the Institute building and will not affect the ability to appreciate its architectural quality; it will also have no effect on the ability to appreciate its historic interest.

5.43 The Institute is experienced in the highly urbanised and complex context of modern and traditional developments associated with its position in central Manchester. The Proposed Scheme will be seen within this context.

5.44 The Proposed Scheme will not alter the appreciation or experience of the building and its significance will be sustained.

Manchester South Junction and Altrincham Railway Viaduct (Grade II)

5.45 The Proposed Scheme will be positioned immediately to the north of the Manchester South Junction and Altrincham Railway Viaduct. The significance of the viaduct is principally ascribed to its historic interest and functional use as rail infrastructure.

5.46 The viaduct is experienced in the mixed and complex environment of Manchester City Centre; it is a very large asset and has an extensive and varied setting. The Proposed Scheme will not change the nature or character of this experience.

5.47 The Proposed Scheme will replace an empty plot with a building consistent and sympathetic to the character and qualities of the surrounding area. The proposals will be consistent with the variety of buildings already experienced in the broad context of the viaduct. The use of a red brick will resonate with the brick used in the viaduct (see **Viewpoint 4** below). The proposals will not alter or diminish the experience of the structure of the ability to appreciation its architectural and historic interest. It will continue to be appreciable alongside the Proposed Scheme.

5.48 The significance of the Manchester South Junction and Altrincham Railway Viaduct will be sustained.

Orient House (Grade II) and Granby House (Grade II)

5.49 Orient House dates to 1914 and is positioned to the south-west of the Proposed Scheme Site on Granby Row. The building is of historic interest as a 1914 packing warehouse and architectural interest for its high quality construction and detailing. The features of the building include white faience cladding and a steel frame construction. The scale of the building, pale colour of the faience and use of classical motifs can only be appreciated from Granby Row itself due to the high degree of enclosure and density of the grid street pattern.

5.50 Granby House dates to 1911 and is of historic interest as a shipping or packing warehouse. It has architectural interest for its composition and materiality including striking brick and stone bands and art nouveau decoration. As with Orient House, the

scale of the building and decorative front elevation is principally experienced from close proximity on Granby Row.

5.51 The Site is currently an empty plot and formerly included the modern built form of Chandos Hall. Overall, it is concluded in Chapter Four of this report that the Proposed Scheme Site makes a neutral contribution to the significance of Orient House and Granby House. The Proposed Scheme will terminate long distance views from Granby Row when looking east across Vimto Gardens (see **Viewpoint 8** below). This will be consistent with the historic urban grain and sense of enclosure that characterises the existing setting of the buildings.

5.52 Orient House and Granby House are experienced in a mixed context; whilst the south side of Granby Row is characterised by enclosure resulting from the row of warehouses, to the north side has a more fragmentary character and modern developments have contributed to a mixed urban grain. The Proposed Scheme will be consistent with the mixed urban surroundings of the buildings. The proposed materiality will be red brick and this will be consistent and harmonious with the materiality and tone of the majority of buildings in the Granby Row area.

5.53 The Proposed Scheme will not affect the ability to appreciate the architectural qualities of the buildings or the legibility of the historic functions and associations with other traditional buildings in the streetscape. Overall, the significance of Orient House and Granby House and their setting will be sustained.

Sculptural Wall, London Road (Grade II)

5.54 The Sculptural Wall at London Road is of interest for its imposing and striking Brutalist design which combines both artistic and architectural interests. The structure has historic interest for its functional role as a sound barrier, built in the 60s at the advent of a rapid increase in car ownership. The wall is positioned adjacent to London Road and is experienced in the context of the busy road frontage and large scale buildings associated with UMIST to the west, and Manchester Piccadilly and the Macdonald Manchester Hotel to the east. The functional interest of the asset is characterised and emphasised by the surrounding buildings and infrastructure.

5.55 The Proposed Scheme will be partially visible as part of the wider urban setting of the Sculptural Wall, separated by the Manchester South Junction and Altrincham Railway Viaduct. The new built form will be consistent with the existing urban setting and will have no impact upon the appreciation of it as a functional asset.

5.56 It is noted that the North Campus Strategic Regeneration Framework document (February 2017) proposes significant alteration to the wall.

5.57 The Proposed Scheme comprises change within the setting of the wall however there will be no change to the appreciation of the architectural or historic interest of the wall or the legibility of it as a functional asset. Its significance will be sustained.

Former Goods Yard Office to Piccadilly Station (Grade II)

5.58 The former Goods Yard offices are to the north east of the Site. The building is of interest for its architectural and historic interest as the train shed to Piccadilly Station, constructed in 1850-60. The principal elevation is constructed of sandstone ashlar in

renaissance style with a lettered frieze and pedimented doorway; it effectively forms the elevation of the station basement and undercroft and encloses the eastern side of London Road. The building is also of interest for its strong functionality and association with Piccadilly Station itself.

5.59 The Proposed Scheme will be visible in the context of the Former Goods Yard office when looking west across the LRPFS. It will form part of the mixed urban context of the city centre which includes modern and traditional buildings; moreover the context of the goods yard office has been changed by its incorporation into the modern west wall of Piccadilly Station. The Proposed Scheme will integrate with the existing urban setting of the listed building adding a high quality and complementary element into views.

5.60 The Proposed Scheme will have no impact on the ability to appreciate the architectural or historic interest of the Former Goods Yard Office. Overall, its significance will be sustained.

Train Shed to Piccadilly Station (Grade II)

5.61 The Train Shed to Piccadilly Station dates to 1881 and is ascribed historic and architectural interest as the second remodelling of the former Store Street Station. The building is a functional infrastructure asset and its setting, whilst comprising an integrated urban environment, makes a limited overall contribution to significance. The building is very large and robust and dominates the urban grain in the London Road/Fairfield Street area of Manchester City Centre. It is experienced as part of a complex, high density cityscape of many periods and forms of building.

5.62 The Proposed Scheme will be visible from the upper pedestrian entrance to the station, where it will appear behind the towers and cupolas of the LRPFS when looking south. Views in this direction already encompass tall structures including the Motel One building to the right and other UMIST structures, and the train shed is experienced more widely in a heavily urban context. Views of the Proposed Scheme will also be possible from Fairfield Street when looking west along the side of the train shed. In this view the building will rise to the left side of the view. Again, this will be seen in the context of the variable and mixed urban setting of the station building. The Proposed Scheme will also be visible from Platform 13 &14 of Piccadilly Station. This is a relatively restricted view which is available only to ticket holding passengers. The building is seen in the context of a variety of traditional and more modern buildings, including some tall residential towers in the distance.

5.63 As aforementioned, the train shed is experienced as part of a complex, high density cityscape of many periods and forms of building; the new building will be visible in this context from a number of positions in and around the station building. Whilst this will result in a change in the setting of the train shed, this will have no impact upon the legibility of the architectural and historic interest of the structure or the appreciation of its functional nature. Overall, there is no impact upon the significance of the Train Shed to Piccadilly Station.

Mintierna House (Grade II) and Minshull House (Grade II)

5.64 Mintierna House and Minshull House form a group to the west of Chorlton Street. Both have historic and architectural interest as former warehouses. Mintierna is a former

shipping warehouse dating to the mid-late 19th century. It is in red brick with a façade of coursed sandstone rubble. Minshull House is a canal warehouse which dates to the early mid-19th century, and was later altered and enlarged. It is in red brick with English garden wall bond, with the front elevation being rendered.

5.65 The two buildings are contrasting in style and materiality but have group value along with the canal to the west. The appreciation of the two together along with Minshull House allows understanding of the former function of the buildings and character of the area and comprises an important aspect of their setting.

5.66 The proposed new building will be partially visible when looking south, rising above the roofline of the Institute of Science and Technology. The Proposed Scheme therefore results in a change to the character of the view. In these views it will however be seen alongside existing modern buildings and will form part of the existing mixed context.

5.67 Whilst there will be some limited visibility of the Proposed Scheme, this will be seen within the existing urban setting of the listed building. There will be no impact upon the appreciation of their architectural or historic interest or on the appreciation of their group value. The significance of the two assets will be sustained.

46 Sackville Street (Grade II) and Regency House with Barclays Bank (Grade II)

5.68 Regency House with Barclays Bank is a former shipping or packing warehouse, now a bank and offices, which dates to 1880-90. As set out in Section 4 it has architectural interest for its iron frame with sandstone ashlar and red brick dressings. Features include large punch-dressed plinths forming piers to the ground floor with a frieze above and banded brick piers to the upper floors. 46 Sackville Street is a shipping warehouse dating to 1860-70 which is listed for group value. Both are constructed in red brick and have a resonance with the warehouses that define the character of the area to the west. The groupings of warehouses on Whitworth Street and Princess Street are aspects of setting that contribute to significance.

5.69 The Site is not visible from the listed buildings due to the distances involved and scale and mass of intervening development particularly the Institute of Science and Technology. There will be no views of the Proposed Scheme, and it will not be visible from the open area of Sackville Gardens to the east.

5.70 The Proposed Scheme will not affect appreciation of the robust architectural qualities of the buildings or the legibility of their historic interest. There will be no change to the appreciation of their group value or their dialogue with the surrounding warehouse buildings. The significance of the two assets will be sustained.

Views Assessment

5.71 A comprehensive Townscape Visual Impact Assessment (TVIA) has been prepared by Planit-IE. This includes the assessment of eight views. A number of these are relevant to consideration of the heritage impacts of the Proposed Scheme. The below table includes these views and provides a commentary on the effects. It should be read in conjunction with the assessment and judgements set out earlier in this section.

View 1: From Piccadilly Station forecourt (Existing)	View 1: From Piccadilly Station forecourt (Proposed)
	
This view is taken from the forecourt of Piccadilly Station looking south west towards the Proposed Scheme Site. To the left of the image is the glass frontage of the station building and to the right is Motel One. Motel One has a striking vertical emphasis and is dominant in the middle ground. The backdrop of the image contains a complex skyline consisting of the towers and cupolas of the LRPFS and other tall buildings at the UMIST campus, which rise above the LRPFS roofline. Due to the arrangement of infrastructure outside the station including bus stop shelters, fencing and lighting views of the roofline of the LRPFS are partially obscured and the view appears cluttered.	The Proposed Scheme will be prominent in the backdrop of this view with the three towers rising above and behind the roofline of the LRPFS in the centre of the frame. Due to their complementary colour, form and fenestration, the new building will have a dialogue with the Motel One building to the right of the frame. The Proposed Scheme has a simple ordered and regular grid pattern to its elevations and this will contrast with the exuberant decorative expression of the LRPFS roofline. Additionally the building has a marked vertical form which contrasts with the horizontal character of the roofline of the LRPFS. Due to these differences the listed building remains clearly legible in the view, contrasting with the new building which appears as part of the urban

setting.

The proposed use of red brick and ensures the building is tonal with the colour of the LRPFS and does not over-dominate. Similarly the traditional quality of the material ensures that the building has a resonance with traditional buildings in this view. The subtle decoration in the elevations will add interest and break up the elevations in the view, reducing the perceived mass of the towers and ensuring a dialogue with the decorative aspects of traditional buildings in the view. Similarly the stepped form of the building ensures that the building does not dominate in the view.

The new building will result in a marked change to this view however the view is already experienced in the context of the complex urban character of Manchester City Centre with large scale modern buildings already visible.

View 2: From Piccadilly Station taxi rank	View 2: From Piccadilly Station taxi rank
	
View 2 is taken from the London Road entrance to Piccadilly Station looking west towards the Proposed Scheme Site. The present view contains a complex mix of built developments including modern and historic buildings. The foreground of the view is cluttered by street furniture including railings, bike storage and bollards. Framing the view to the right is the glazed frontage of Piccadilly Station. Beyond London Road a partial view of the far corner elevation of the LRPFS is visible. The central part of the view is comprised of a group of contrasting buildings including a late 20th century residential block, a traditional 18th century public house and an early-mid 20th century building; these buildings form an irregular building line and roofscape above which buildings within the	The Proposed Scheme will be clearly visible in the view and is larger than the existing buildings. It will however be seen as a part of the complex mix of built development already experienced in this view. The use of red brick ensures that the building will be in keeping with traditional buildings which are visible in this view and will have a visual dialogue with them. The tallest tower is most prominent in this view, however this is appropriate to the mixed character of the area and adds an landmark building to the visible at the exit from Piccadilly Station. The lower towers are visible stepping away from the central part of the view and the use of white materials to the connecting blocks ensure that the mass of the building is broken down and that it harmonises with the mixed materials and

UMIST campus are visible.	built form found in the foreground.
View 3: From Piccadilly Station Platform 13/14 (Existing)	View 3: From Piccadilly Station Platform 13/14 (Proposed)
	
View 3 is taken from the far east side of Platform 13 and 14 of Piccadilly Railway Station. The platform and associated infrastructure comprises the frontage of the view. A backdrop of large scale buildings is visible, with a partial view of the roofline of the Institute of Science and Technology and the LRPFS to the right.	The new development will be prominent in the centre of the view with a strong verticality in the centre of the image. The building will partially screen the roofline of the Institute of Science and Technology however this view is incidental, already partially screened by trees and buildings and not a key view of the building. The LRPFS remains fully appreciable to the right of the view.

View 4: London Road/ Altrincham Street (Existing)	View 4: London Road/ Altrincham Street (Proposed)
	
View 4 is taken from London Road looking west towards the Manchester South Junction and Altrincham Railway Viaduct (grade II) which encloses the right of the image. The Sculptural Wall (grade II) to the left side of the image is partially screened by trees and the modern fence which encloses it.	The Proposed Scheme will be visible rising above the viaduct to the right side of the view. This will alter the experience of the viaduct which is in the foreground however it will remain legible as a robust functional structure with a clear horizontal emphasis; the scale of the viaduct remains clear in this image. The massing of the proposals is broken up by the stepped height and separation of the three blocks, which reduces the impact of new built form. The proposed material palette is also complementary to the viaduct. The visibility of the new building has no impact on the appreciation of the sculptural wall in this view.

View 5: Granby Row facing west (Existing)	View 5: Granby Row facing west (Proposed)
	
View 5 is taken from Granby Row facing west from the junction of South Pump Street. The vacant plot of the Site with hoarding is visible in the centre of the view. The rear elevation of the Institute of Science and Technology is partially visible fronting onto Granby Row to the right.	The Proposed Scheme will reinstate a historic block creating a sense of enclosure to Granby Row which is typical of the urban character locally and defined in the Whitworth Street Conservation Area. The high-quality architecture of the Proposed Scheme, including the materiality and detailing, complement the existing built form on Granby Row and the double height ground floor level with active frontages contribute positively to the character of the area. The Institute of Science and Technology remains visible as a landmark on

Granby Row.

View 6: Vimto Gardens (Existing)	View 6: Vimto Gardens (Proposed)
	
View 6 is taken from the pavement to the side of Vimto Gardens looking east towards the Site. The open area of Vimto Gardens is visible to the right enlosed by the Manchester South Junction and Altrincham Railway Viaduct (grade II) which is partially visible. To the left side of the image is the rear elevation of the Institute of Science and Technology (grade II) which encloses the road frontage. As a vacant plot, the Site forms an uncharacteristic extension to the open area of Vimto Gardens.	The Proposed Scheme will be visible within this view and will terminate Vimto Gardens in the forground. The built form is stepped back from the park to avoid becoming overly dominant. The architecture would be complementary to the existing built form within the Whitworth Street Conservation Area. The Institute of Science and Technology to the left side of the view retains its dominance. The height of the towers step down towards viewpoint, ensuring

that the new building defers to the dominance of the Institute of Science and Technology and the use of a muted red brick ensures that the building is tonal.

View 7: University of Manchester, Altrincham Street (Existing)	View 9: University of Manchester, Altrincham Street (Proposed)
	
View 7 is taken from within the University of Manchester campus where the landform drops below the street level at Altrincham Street and the Manchester South Junction and Altrincham Railway Viaduct. The university buildings to the right and open space in the foreground contrast with the railway viaduct which forms a boundary to the north of the	The Proposed Scheme will form a prominent built form to the north of the viaduct. The Manchester South Junction and Altrincham Railway Viaduct remains a clear boundary, separating the urban built form to the north and university buildings to the south. The viaduct will remain legible as a robust functional structure with a clear

university campus.	horizontal emphasis. The massing of the proposals is broken up by the stepped height and separation of the three blocks, which reduces the impact of new built form. The proposed material palette is also complementary to the viaduct. The visibility of the new building will not detract from the significance of the listed building.
View 8: Granby Row (Existing)	View 8: Granby Row (Proposed)
	
View 8 is taken from Granby Row looking east towards the Proposed Scheme Site . Granby Row itself is central in this image and to the right is	The Porposed Scheme will provide a positive termination to Vimto Gardens in long discance views of the street. The building is assertive and will be

Orient House (Grade II) which was covered by scaffolding, and Granby House, 61-63 Granby Row (grade II) and a further non-listed building beyond. These buildings create a strong and continuous building line which is broken by trees within Vimto gardens. The left side of the image is characterised by modern developments including a solid wall to the frontage and a 20th century apartment building beyond.	clearly legible in the backdrop of the image however it will not detract from the clear dominance and group value of the listed buildings in the foreground.

Summary

5.72 The existing character of the area surrounding the Site is fragmentary and does not contribute to the overall character and appearance of the Whitworth Street Conservation Area. Due to the Proposed Scheme reinstating the historic building line to Granby Row, its positive dialogue with the street frontage and with Vimto gardens, and the high quality building which resonates with the detailing and materials of buildings in the conservation area, the Proposed Scheme is considered to preserve and enhance the character and appearance of the Whitworth Street Conservation Area.

5.73 Having assessed the listed buildings near the Site and the elements of setting which contribute to their setting, it is considered that the Proposed Scheme would not diminish or harm their significance. The urban character of the area with a mix of modern and traditional buildings close to Piccadilly Station form a suitable location for a tall building. The acceptability of a tall building in this location was established in the 2018 consented planning application and it is considered that the Proposed Scheme does not materially alter that conclusion.

5.74 The composition of the new development has been designed to reflect the built form of the area, with the building stepping up to the north, closer to Piccadilly Station and the southern section stepping down towards the more traditional buildings in the heart of the Whitworth Street Conservation Area. Due to the regular rhythm of the articulation the building does not appear dominant and defers to the more decorative aspects of the traditional buildings in the area. Subtle decorative details to the window openings resonate with the decorative elevations of traditional buildings within the conservation area. Overall, the Proposed Scheme sustains the significance of the identified listed buildings and the character and appearance of the Whitworth Street Conservation Area.

Review of Heritage Legislation, Policy and Guidance

Statutory Duty of the Planning (Listed Buildings and Conservation Areas) Act 1990 and the NPPF

5.75 The statutory duties of the Planning (Listed Buildings and Conservation Areas) Act 1990 to have special regard to the desirability of preserving the special interest and setting of a listed building (s.66) and to preserve or enhance the character and appearance of conservation areas (s.72) are matters which should be accorded considerable importance and weight. The presumption is therefore that development proposals should not give rise to harm to the special interest of a listed building or the character or appearance of a conservation area.

5.76 Having regard to the significance of identified designated assets and the contribution made by setting to that significance (including the Proposed Scheme Site) and having given great weight to the conservation of these assets, it is concluded that the Proposed Scheme would not be harmful to their significance. The Proposed Scheme will preserve and enhance the character and appearance of the Whitworth Street Conservation Area.

5.77 The Proposed Scheme accords with the relevant heritage policy requirements of the NPPF and satisfies s.66 and s.72 of the Planning (Listed Buildings and Conservation Area Act) 1990.

5.78 The NPPF requires that great weight is given to the conservation of designated heritage assets. Importantly, Annex 2 of the NPPF defines the term “conservation” as the process of maintaining and managing change to a heritage asset in a way that sustains and, where appropriate, enhances its significance. In our view this is not intended by national planning policy to be a process that looks to prevent change or arrest development, particularly where new development has been shown to be well-considered and well-designed in light of its particular context, and also has the potential to deliver wider public benefits.

5.79 With respect to the core planning principle of the NPPF in relation to the historic environment, the Proposed Scheme would sustain, and thereby conserve, the significance of the identified assets. Accordingly, the Proposed Scheme meets the objectives of paragraph 199 of the NPPF.

5.80 The NPPF sets out at paragraph 200 that any harm to, or loss of, the significance of a designated heritage asset should require clear and convincing justification. However, it is our assessment of heritage impacts in this section that harm would not arise as a result of the scheme development overall. The further policy provisions or tests with regard to heritage harm (as set out in paragraphs 201-202) would therefore not apply.

Local Planning Policy Considerations

5.81 Policy EN3 of the Manchester Core Strategy relates to Heritage. The Proposed Scheme accords with this policy. As described above, the building is designed to complement and accord with the distinct character of the Whitworth Street Conservation Area. The height, form, scale and proposed materials and detailing of the building have been designed to respond to and reflect the prevailing character of the buildings within the conservation area. As set out above the Proposed Building enhances the Whitworth

Street conservation area by reinstating the historic building line and introducing a high quality new building in a transitional location. The significance of the relevant listed buildings is sustained.

5.82 Policy DC18.1 of the Manchester UDP relates conservation areas. The Proposed Scheme accords with this policy and as aforementioned, it will preserve and enhance the character and appearance of the conservation area. The Proposed Scheme also fully accords with Policy DC19 of the UDP. The new development comprises a high quality addition to the setting of the proximate listed buildings. The above assessment and views assessment confirms that the Proposed Scheme will preserve the setting of the listed buildings and sustain their overall significance.

6. Conclusions

6.1 This Heritage Statement has been prepared by Turley Heritage on behalf of IQ Student Accommodation to support a planning application for the development of a purpose built student accommodation (PBSA) development at Echo Street, Manchester. The Proposed Scheme has been developed as a change to an existing consented scheme (Application No. 118267/FO/2017). Planning Permission was granted in June 2018 for the demolition of existing buildings on site and their replacement with a mixed-use development comprising 3 blocks, with intermediary link buildings.

6.2 The Proposed Scheme includes an increase in height for each block, compared to the original scheme, the total number of storeys is increased by three, across all blocks. In comparison with the heights originally consented are as follows:

- Block A height increase: +5.4m
- Block B height increase: +4.1m
- Block C height increase: +2.9m

6.3 The increase in height is proposed to achieve the quantum of beds that make the scheme feasible. The overall increase in height is off-set and mitigated by several measures:

- Reduction in height of Ground Floor (from 4500mm to 3900mm).
- Reduction of typical floor-to-floor heights (from 3015mm to 2940mm) without sacrificing internal floor to-ceiling height.
- Setting-back top floors in link blocks to diminish impact on Granby Row.

6.4 The Proposed Scheme Site is located within the Whitworth Street Conservation Area and is proximate to a number of listed buildings including the grade II* listed London Road Police and Fire Station. Manchester City Council has a statutory duty under the Planning (Listed Buildings and Conservation Areas) Act 1990 to have special regard to the desirability of preserving the special interest and setting of a listed building (S.66) and to preserve or enhance the character and appearance of conservation areas (S.72).

6.5 The present lower density fragmented townscape on the south side of Granby Row reflects a relatively recent pattern of development. Formerly the southern side of Granby Row was developed with a series narrow, footprints extending back from the Granby Row frontage. This dense development was cleared during the mid-20th century and Chandos Hall was constructed in 1962-4, designed by the local architects Cruickshank and Seward. The Site now comprises an empty plot of land surrounded by hoarding.

6.6 The Site and the collection of lower rise buildings in the immediate surroundings have a negative effect on the character and appearance of the conservation area in respect

to site planning, lack of enclosure to Granby Row and materiality, which conflicts with the established character of the area.

6.7 The Proposed Scheme is considered to be visually and architecturally consistent with the proposals consented in the 2018 planning application, where the development was considered acceptable in scale, mass and design. The minimal increase in height has been mitigated where possible and is not considered to alter that conclusion.

6.8 Having assessed the listed buildings near the Proposed Scheme Site and the elements of setting which contribute to their setting, it is considered that the Proposed Scheme would not diminish or harm their significance. A tall building is proposed but located within an area already characterised by a mix of modern and traditional buildings, and close to Piccadilly Station. The composition of the new development has been designed to reflect the built form of the area, with the taller sections being to the north, closer to Piccadilly Station and the southern section stepping down towards the more traditional buildings in the heart of the Whitworth Street Conservation Area. Due to the ordered and calm grid pattern of the articulation the building does not appear dominant and defers to the more decorative aspects of the traditional buildings in the area. Subtle decorative details to the window openings resonate with the decorative elevations of traditional buildings within the conservation area. Overall, the Proposed Scheme sustains the significance of the identified designated assets.

6.9 Due to the Proposed Scheme reinstating the historic building line to Granby Row, its positive dialogue with the street frontage and with Vimto gardens, and the high quality building which resonates with the detailing and materials of buildings in the conservation area, the Proposed Scheme is considered to preserve and enhance the character and appearance of the Whitworth Street Conservation Area.

6.10 The Proposed Scheme accords with the relevant heritage policy requirements of the NPPF and the requirements of s.66 and s.72 of the Planning (Listed Buildings and Conservation Areas) Act can be satisfied if Manchester City Council grants planning permission. The Proposed Scheme also accords with Policy EN3 of the Manchester Core Strategy and DC18.1 and DC19 of the Manchester UDP.

Appendix 1: Legislative and Policy Framework

Statutory Duties

The Planning (Listed Buildings and Conservation Areas) Act 1990

Section 66 (1) of the Planning (Listed Buildings and Conservation Areas) Act 1990 states that:

> *"In considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses".*
>
> *Section 72 of the Planning (Listed Buildings and Conservation Areas) Act 1990 requires that in the exercise of planning functions with respect to any buildings or land in a conservation area that special attention shall be paid to the desirability of preserving or enhancing the character or appearance of that area.*
>
> *The concept of 'preserve' has been interpreted through case law to mean 'to cause no harm."*

Recent case law[18] has confirmed that Parliament's intention in enacting section 66(1) of the 1990 Act was that decision-makers should give 'considerable importance and weight' to the desirability of preserving the setting of listed buildings, where 'preserve' means to 'to do no harm'. This duty must be borne in mind when considering any harm that may accrue and the balancing of such harm against public benefits as required by national planning policy. Case law has confirmed that this weight can also be applied to the statutory tests in respect of conservation areas.[19] The Secretary of State has confirmed[20] that 'considerable importance andweight' is not synonymous with 'overriding importance and weight'.

Importantly, the meaning of preservation in this context, and for both listed buildings and conservation areas, as informed by case law, is taken to be the avoidance of harm.

It has been demonstrated that section 72 requires attention to be directed to the effect on the conservation area as a whole rather than on particular parts of it.[21]

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[18] Barnwell Manor Wind Energy Limited and (1) East Northamptonshire District Council (2) English Heritage (3) National Trust (4) The Secretary of State for Communities and Local Governments, Case No: C1/2013/0843, 18th February 2014.

[19] The Forge Field Society v Sevenoaks District Council [2014] EWHC 1895 (Admin); North Norfolk District Council vSecretary of State for Communities and Local Government [2014] EWHC 279 (Admin).

[20] Appeal by Crudance Strategic Ltd: Land at Razor's Farm, Chineham, Basingtstoke (ref. APP/H1705/A/13/2205929), 2014.

[21] South Oxfordshire DC v SSE & J Donaldson [1991] CO/1440/89.

National Policy

National Planning Policy Framework (NPPF) 2021

The National Planning Policy Framework (NPPF) was introduced in March 2012 as the full statement of Government planning policies covering all aspects of the planning process. A revised National Planning Policy Framework was published in July 2018. A revision was issued in July 2021, which replaced the previous versions published in March 2012, revised in July 2018 and updated in February 2019. Chapter 16 of the NPPF outlines the Government's guidance regarding conserving and enhancing the historic environment in more detail.

The glossary of the NPPF (Annex 2) defines conservation as the process of maintaining and managing change to a heritage asset in a way that sustains and, where appropriate, enhances its significance.

Paragraph 194 requires the significance of the heritage assets, which may be affected by the proposals to be described as part of any submission, ideally as part of a Heritage Statement report. The level of detail should be proportionate to the importance of the assets and sufficient to understand the potential impact of the proposals on their significance.

Paragraph 195 sets out that local planning authorities should also identify and assess the particular significance of heritage assets that may be affected by proposals. They should take this assessment into account when considering the impact of proposals in order to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.

Paragraph 197 states that local planning authorities should take account of the desirability of sustaining and enhancing the significance of all heritage assets and putting them into viable uses consistent with their conservation; the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and the desirability of new development making a positive contribution to local character and distinctiveness.

Paragraph 199 further outlines that local planning authorities should give great weight to the asset's conservation when considering the impact on a Proposed Scheme on the significance of a designated heritage asset. The more important the heritage asset, the greater the weight should be.

Paragraph 200 specifies that any harm to, or loss of, significance of a designated heritage asset should require clear and convincing justification.

Paragraph 201 outlines that local planning authorities should refuse consent where a proposal will lead to substantial harm or total loss of significance, unless it can be demonstrated that this is necessary to deliver substantial public benefits that outweigh such harm or loss, or a number of other tests can be satisfied.

Paragraph 202 concerns proposals which will lead to less than substantial harm to the significance of a designated heritage asset. Here harm should be weighed against the public benefits, including securing the optimum viable use.

Paragraph 206 states that proposals that preserve those elements of the setting that make a positive contribution to the asset (or which better reveal its significance), should be treated favourably. It outlines that local planning authorities should also look for opportunities for new

development within conservations areas and the setting of heritage assets to enhance or better reveal their significance.

Manchester Core Strategy (2012-2027)

Manchester Local Plan
The Manchester Local Plan is formed of the Core Strategy 2012-2027 and Proposals Map, the extant Unitary Development Plan (UDP) Policies and relevant Development Plan Documents (DPDs).

Policy EN 2 of the Core Strategy relates to tall buildings, which are defined as 'buildings which are substantially taller than their neighbourhoods and/or which significantly change the skyline'. It further states that proposals for tall buildings will be supported where it is demonstrated that they:

- *"Are of excellent design quality,*
- *Are appropriately located,*
- *Contribute positively to sustainability,*
- *Contribute positively to place making, for example as a landmark, terminating a view, or by signposting a facility of significance, and*
- *Will bring significant regeneration benefits."*

Policy EN 3 (Heritage) of the Core Strategy states that:

> *'Throughout the City, the Council will encourage development that complements and takes advantage of the distinct historic and heritage features of its districts and neighbourhoods, including those of the City Centre.*
>
> *New developments must be designed so as to support the Council in preserving or, where possible, enhancing the historic environment, the character, setting and accessibility of areas and buildings of acknowledged importance, including scheduled ancient monuments, listed buildings, registered parks and gardens, conservation areas and archaeological remains…'*
>
> *Policy DC6.2 states that in the case of development within a Conservation Area, development will not be permitted unless the built form and surrounding spaces maintain or enhance the character of the area.*
>
> *Policy DC18.1 confirms that the Council will give particularly careful consideration to development proposals within Conservation Areas. It states the following:*
>
> *"a) The Council will seek to preserve and enhance the character of its designated conservation areas by carefully considering the following issues:*
>
> *i) the relationship of new structures to neighbouring buildings and spaces;*
>
> *ii) the effect of major changes to the appearance of existing buildings;*

iii) the desirability of retaining existing features, such as boundary walls, gardens, trees, (including street trees);

iv) the effect of signs and advertisements;

v) any further guidance on specific areas which has been approved by the Council.

b) The Council will not normally grant outline planning permission for development within Conservation Areas.

c) Consent to demolish a building in a conservation area will be granted only where it can be shown that it is wholly beyond repair, incapable of reasonably beneficial use, or where its removal or replacement would benefit the appearance of character of the area.

d) Where demolition is to be followed by redevelopment, demolition will be permitted only where there are approved detailed plans for that redevelopment and where the Council has been furnished with evidence that the development will be undertaken.

e) Development proposals adjacent to Conservation Areas will be granted only where it can be shown that they will not harm the appearance or character of the area. This will include the protection of views into and out of Conservation Areas."

Policy DC19 of the UDP relates to the determination of planning applications for development which involve or have an impact on buildings of Special Architectural or Historic Interest. It states that the Council will have regard to protecting their general setting. In giving effect to this policy, the Council will:

seek to preserve and enhance the settings of listed buildings by appropriate control over the design of new development in their vicinity, control over the use of adjacent land, and where appropriate, by the preservation of trees and landscape features…"

Other Guidance and Material Considerations

National Planning Practice Guidance (NPPG)
National Planning Practice Guidance (NNPG) was first issued by the Government in 2014 as a living web resource, including a category on conserving and enhancing the historic environment. This is intended to provide more detailed guidance and information with regard to the implementation of national policy set out in the NPPF, and has been updated most recently in 2019 to reflect policy and case law changes.

National Design Guide: Planning practice guidance for beautiful, enduring and successful places 2019
The government has published the National Design Guidance to underpin the NPPF design policies. The purpose of this document is to set out how well-designed places are recognised, and to assist policy makers, decision takers and applicants preparing applications.

The document outlines and illustrates the Government's priorities for well-designed places in the form of ten characteristics which form an overarching framework.

"Well-designed places have individual characteristics which work together to create its physical Character. The ten characteristics help to nurture and sustain a sense of Community. They work to positively address environmental issues affecting Climate. They all contribute towards the cross-cutting themes for good design set out in the National Planning Policy Framework."

The ten characteristics are summarised as follows:

Context – enhances the surroundings;

Identity – attractive and distinctive;

Built form – a coherent pattern of development;

Movement – accessible and easy to move around;

Nature – enhanced and optimised;

Public spaces – safe, social and inclusive;

Uses – mixed and integrated;

Homes and buildings – functional, healthy and sustainable;

Resources – efficient and resilient; and

Lifespan – made to last.

A National Model Design Code will be published and consulted on in due course and will form part of this guidance. This will set standards for key elements of successful design.

Department of Culture, Media and Sport Circular: Principles of Selection for Listing Buildings 2018

The Principles of Selection for listing buildings sets out the general criteria for assessing the special interest of a building in paragraph 16, as below:

"Architectural Interest. To be of special architectural interest a building must be of importance in its architectural design, decoration or craftsmanship; special interest may also apply to nationally important examples of particular building types and techniques (e.g. buildings displaying technological innovation or virtuosity) and significant plan forms;

Historic Interest. To be of special historic interest a building must illustrate important aspects of the nation's social, economic, cultural, or military history and/or have close historical associations with nationally important people. There should normally be some quality of interest in the physical fabric of the building itself to justify the statutory protection afforded by listing."

When making a listing decision, paragraph 17 sets out that the Secretary of State may also take into account:

"Group value: The extent to which the exterior of the building contributes to the architectural or historic interest of any group of buildings of which it forms part, generally known as group

value. The Secretary of State will take this into account particularly where buildings comprise an important architectural or historic unity or a fine example of planning (e.g. squares, terraces or model villages) or where there is a historical functional relationship between the buildings. Sometimes group value will be achieved through a co-location of diverse buildings of different types and dates.

Fixtures and features of a building and curtilage buildings: The desirability of preserving, on the grounds of its architectural or historic interest, any feature of the building consisting of a man-made object or structure fixed to the building or forming part of the land and comprised within the curtilage of the building.

The character or appearance of conservation areas: In accordance with the terms of section 72 of the 1990 Act, when making listing decisions in respect of a building in a conservation area, the Secretary of State will pay special attention to the desirability of preserving or enhancing the character or appearance of that area."

General principles for selection are also set out in this advice, in paragraphs 18-23. These include: Age and rarity; Buildings less than 30 years old; Aesthetic merits; Selectivity; and National interest, although State of repair will not usually be a relevant consideration.

In addition to the criteria and general principles set out in the guidance, a number of Selection Guides for different building types have been published by Historic England, first in 2011 and then later updated. These Selection Guides provide further information regarding each building type, and demonstrate what features are considered significant and likely to make a building of special architectural or historic interest when assessing each building type.

Equivalent Selection Guides for registered parks and gardens of historic interest have also been published by Historic England regarding each landscape type.

Historic England, Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment 2015
This document provides advice on the implementation of historic environment policy in the Framework and the related guidance given in the PPG. For the purposes of this report, the advice includes: assessing the significance of heritage assets; using appropriate expertise; and also historic environment records.

It provides a suggested staged approach to decision-making where there may be a potential impact on the historic environment:

> *"1. Understand the significance of the affected assets;*
>
> *2. Understand the impact of the proposal on that significance;*
>
> *3. Avoid, minimise and mitigate impact in a way that meets the objectives of the Framework;*
>
> *4. Look for opportunities to better reveal or enhance significance;*
>
> *5. Justify any harmful impacts in terms of the sustainable development objective of conserving significance and the need for change;*

6. Offset negative impacts on aspects of significance by enhancing others through recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected."

With particular regard to design and local distinctiveness, advice sets out that both the With regard to design and local distinctiveness, advice sets out that both the NPPF (section 7) and NPPG (section ID26) contain detail on why good design is important and how it can be achieved. In terms of the historic environment, some or all of the following factors may influence what will make the scale, height, massing, alignment, materials and proposed use of new development successful in its context:

(a) The history of the place

(b) The relationship of the proposal to its specific site

(c) The significance of nearby assets and the contribution of their setting, recognising that this is a dynamic concept

(d) The general character and distinctiveness of the area in its widest sense, including the general character of local buildings, spaces, public realm and the landscape, the grain of the surroundings, which includes, for example the street pattern and plot size

(e) The size and density of the proposal related to that of the existing and neighbouring uses

(f) Landmarks and other built or landscape features which are key to a sense of place

(g) The diversity or uniformity in style, construction, materials, colour, detailing, decoration and period of existing buildings and spaces

(h) The topography

(i) Views into, through and from the Site and its surroundings

(j) Landscape design

(k) The current and historic uses in the area and the urban grain

(l) The quality of the materials

Historic England: Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets 2017 (2nd Edition)

GPA Note 3 provides information to assist in implementing historic environment policy with regard to the managing change within the setting of heritage assets, and also now views analysis. This also provides a toolkit for assessing the implications of development proposals affecting setting and views. A series of stages are recommended for assessment, these are:

(m) Step 1: identifying the heritage assets affected and their settings

(n) *Step 2: assessing whether, how and to what degree these settings make a contribution to the significance of the heritage asset(s)*

(o) *Step 3: assessing the effect of the Proposed Scheme*

(p) *Step 4: maximising enhancement and minimising harm*

(q) *Step 5: making and documenting the decision and monitoring outcomes.*

Historic England: Advice Note 1: Conservation Area Designation, Appraisal and Management 2019 (2nd Edition)

This Historic England Advice Note supports the NPPF and NPPG, and is intended to set out ways to manage change in a way that conserves and enhances historic areas through conservation area designation, appraisal and management. It seeks to offer advice to all those involved in managing conservation areas so that the potential of historic areas worthy of protection is fully realised, the need for community and owner consultation examined, and the benefits of management plans to manage change, and achieve regeneration and enhancement, fully exploited. Advice on appraisal of conservation areas is also given, as assistance in demonstrating special interest and articulating character, guiding investment, and in developing a management plan.

Historic England: Advice Note 12: Statements of Heritage Significance 2019

This Historic England Advice Note provides general advice regarding preparation of statements of heritage significance and analysing of significance for the full range of heritage assets. This is designed primarily for applicants proposing changes to heritage assets, and accords with the Framework as revised.

Appendix 2: Heritage Asset Plan

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Turley
Heritage

Appendix 9.1: Townscape Baseline and Sensitivity

Townscape Elements	Baseline Description	Townscape Value ►	Susceptibility to Change ►	Overall Sensitivity of Receptor
Townscape Character	Townscape character is illustrated in **Figure 9.4 of Appendix 9.3**. Site character is illustrated in **Figure 9.10 of Appendix 9.3**. **North Campus** The Site lies within the North Campus Character Area within Manchester City Centre, as set out within Manchester City Centre Strategic Plan. The area is currently characterised by a mix of building typologies and public spaces of varying quality. Modern development sits alongside historic industrial buildings at the interface created by the railway viaduct, with predominantly historic townscape to the north and contemporary university buildings to the south. Mayfield and Piccadilly areas to the east are also subject to large scale regeneration proposals as well as the recent redevelopment within the Kampus character area to the north of the Proposed Scheme which incorporates uses such as residential, restaurant and commercial space. The recent redevelopment of London Road fire station includes mixed uses; hotel, retail/leisure space, live/work spaces, office space and an events space. **Components which contribute to defining townscape character are described in more detail below.** <u>Historical Development & Heritage Designations</u> The historical development and heritage within the Site and surrounding context is illustrated in **Figure 9.2** and **9.3** of **Appendix 9.3**. Historic mapping shows how the Site has been a component of the tight urban grain of the City Centre, although this does not continue into the site itself. The Site is located within Whitworth Street Conservation Area which is characterised by textile warehouses reflecting the industrial Victorian and Edwardian heritage. There are a number of listed buildings in the vicinity of the Site, notably the Grade II Listed Manchester South Junction and Altrincham Railway Viaduct and Grade II* Listed London Road Fire Station, which contribute a significant heritage element to the overall townscape appearance and character/ in contrast to more modern development to the north and south. <u>Urban Grain</u> Urban grain within the Site and surrounding site context is illustrated in **Figure 9.5** of **Appendix 9.3**. There is a clear grain and historic street pattern throughout the wider area, although this is absent in the Proposed Scheme, which consists of a cleared site since the demolition of the buildings. There is significant capacity to respond and integrate better to the general pattern of urban grain in the surrounding area. <u>Land Uses</u> Land use within the Site and surrounding site context is illustrated in **Figure 9.6** of **Appendix 9.3.** At present, there are no existing uses on the site as it is currently cleared for construction. A number of other residential / student residential blocks are located in the immediate vicinity. The Proposed Scheme is surrounded on the south and west by higher education uses. Within the university campus are a number of open green spaces, including Vimto Park immediately to the west of the Proposed Scheme. To the north east is Piccadilly Station (a major public transport hub for trains and trams) and city centre commercial / retail, entertainment and hotel uses in the wider area. <u>Building Heights</u> Building heights within the Site and surrounding site context are illustrated in **Figure 9.7** of **Appendix 9.3.** There is an established general height of approximately 6 storeys throughout the historic parts of the study area, reflecting the prevalence of large warehouse buildings. Taller blocks of contemporary city centre development are located close to Piccadilly station, including the newly completed 16 storey high Kampus development. The station itself is raised up, providing a dominant presence on its western edge, but also a degree of severance. The viaduct also creates a physical separation along the southern edge of the Proposed Scheme due to its height and limited permeability. The general moderate height of the university campus is frequently punctuated by taller towers. <u>Movement and Linkages</u> Movement and linkages within the Site and surrounding site context are illustrated in **Figure 9.8** of **Appendix 9.3.** Pedestrian Bus services run on most of the primary and secondary routes surrounding the Proposed Scheme. The Proposed Scheme is close to London Road, a key primary route and approach to the city from the south, connecting to the Mancunian Way	Low/ Medium	Medium	**Medium**

Terminology for Townscape Effect:

Townscape Value:	High, Medium, Low	Duration:	Long-term, Medium-term, Short-term
Susceptibility to Change:	High, Medium, Low	Reversibility:	Temporary/ Irreversible
Overall Sensitivity of Receptor:	High, Medium, Low	Overall Magnitude of Effect:	Major, Moderate, Minor, Negligible.
Size/Scale of Effect:	Major, Moderate, Minor, Negligible.	Nature of Effect:	Adverse, Beneficial, Neutral, Not Applicable, Direct, Indirect
Geographical Extent of Effect:	Site, Local, Neighbourhood, City	Significance:	Significant, Moderate Significance, Minor Significance, Not Significant

	(ring road). North east of the Proposed Scheme, London Road links to Whitworth Street, a primary east-west route through the city centre. Granby Road and Echo Street which bound the Proposed Scheme on the northern and eastern edges respectively are minor local access roads. <u>Public Open Space</u> Public open space within the Site and surrounding site context is illustrated in **Figure 9.9** of **Appendix 9.3.** There are no formal designations affecting the Proposed Scheme. Adjacent is Vimto Gardens, primarily serving university students, along with a number of other open spaces within the campus. Sackville Gardens is also within the vicinity and is an important strategic green space in the city centre. The receptor value is considered to be **Low/Medium** reflecting the cleared nature of the Site itself but the presence of higher quality townscape surrounding it. It is considered that the receptor has **'medium'** ability to incorporate change given the large-scale regeneration proposed in the immediate context and the current condition of the site. The resulting sensitivity of this receptor is **Medium**.			
Topography & Site Levels	The topography of the Proposed Scheme and surrounding area is shown in **Figure 9.11** of **Appendix 9.3**. The underlying topography of the study area is generally flat with small level changes. The periphery of the Proposed Scheme lies approximately 40m AOD. The university campus is set at a lower level, approximately 35m AOD, to the south of the rail viaduct and Altrincham Street. The buildings on the eastern edge of the Site are at street level. The previous clearance of the Site for construction has levelled the ground to level a uniform platform. The townscape value is Low, with a Low susceptibility to change, given the previous localised level changes. The overall sensitivity is **Low**.	Low	Low	**Low**

Terminology for Townscape Effect:

Townscape Value:	High, Medium, Low	Duration:	Long-term, Medium-term, Short-term
Susceptibility to Change:	High, Medium, Low	Reversibility:	Temporary/ Irreversible
Overall Sensitivity of Receptor:	High, Medium, Low	Overall Magnitude of Effect:	Major, Moderate, Minor, Negligible.
Size/Scale of Effect:	Major, Moderate, Minor, Negligible.	Nature of Effect:	Adverse, Beneficial, Neutral, Not Applicable, Direct, Indirect
Geographical Extent of Effect:	Site, Local, Neighbourhood, City	Significance:	Significant, Moderate Significance, Minor Significance, Not Significant

Appendix 9.1: Townscape Effects Table: Description of Change, Magnitude and Significance

Townscape Resources	Description of Change	Embedded Mitigation	Summary of Effect	Overall Sensitivity of Receptor	Size/Scale of Effect	Geographical Extent of Effect	Duration/ Reversibility	Overall Magnitude of Effect	Nature of Effect	Significance	Confidence
Townscape Character – North Campus	Operational Phase: The Proposed Scheme will introduce a new scale and massing to the Site which is not currently present due to previous demolition. The Proposed Scheme will infill the existing gap in development in this key part of the city. The pattern and containment of the streets next to the site will be improved due to new street frontage and public realm areas, with new residential uses bringing life and activity at street level. The proposals will bring new uses to a cleared site and be consistent with change happening within the wider area. At the site level, the proposals will completely change the character of the plot, moving from cleared site and hoardings through to new residential neighbourhood that will link into the wider changes in North Campus.	The proposal represents a high quality contemporary addition to the cityscape in line with aspirations to transform the North Campus townscape character area. Key Design considerations include: • The scale and architectural design of the building reflect its status as a landmark development at a gateway site to the city. • Materials take reference from the surrounding context, with red brick cladding which respects the conservation area setting. • New areas of public realm and roof gardens enhance biodiversity and provide sustainable drainage as well as amenity benefits for residents. • At street level new Yorkstone flags, quality concrete paving and resurfaced asphalt, replaces and enhances the existing palette of poor-quality materials. • New tree planting to form green beacons visible from each connecting street corner along Granby Row.	The proposal introduces new elements that achieve a good fit with the North Campus townscape character area, reflecting the wider plans to transform the area. The scale of the new buildings will result in a partial change to the wider City skyline.The potential impacts at the local level are balanced by the substantial improvement to the street condition and strengthened relationship to the adjacent park. The magnitude of effect is considered to be Medium which is Beneficial in nature. This would have **Moderate Effect** which is **Beneficial** in nature and is considered **Significant.**	**Medium**	Moderate	Neighbourhood	Long Term Irreversible	**Medium**	Beneficial Direct	**Moderate Effect. Significant**	High

Terminology for Townscape Effect:

Townscape Value:	High, Medium, Low	Duration:	Long-term, Medium-term, Short-term
Susceptibility to Change:	High, Medium, Low	Reversibility:	Temporary/ Irreversible
Overall Sensitivity of Receptor:	High, Medium, Low	Overall Magnitude of Effect:	Major, Moderate, Minor, Negligible.
Size/Scale of Effect:	Major, Moderate, Minor, Negligible.	Nature of Effect:	Adverse, Beneficial, Neutral, Not Applicable, Direct, Indirect
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Topography & Site Levels	Operational Phase: The proposed development will work with the existing levels, including a lower ground floor utilising the sunken part of the Proposed Scheme. The new building will address the level change adjacent to Granby Row and Vimto Park – reducing the severance and improving pedestrian environment.	No additional mitigation proposed over that embedded into the proposed development.	The proposed development makes use of the existing level changes around the site and contributes to a good fit within the wider street scene. Access to the lower ground floor level is provided via a ramp down into a servicing yard which is located along the edge of the existing railway viaduct. As such the effect is considered to be **Negligible Effect** which is **Beneficial** in nature and therefore would be **Not Significant**.	**Low**	Minor	Site	Long Term Irreversible	**Small**	Beneficial Direct	**Negligible Effect. Not Significant**	High

Terminology for Townscape Effect:

Townscape Value:	High, Medium, Low	Duration:	Long-term, Medium-term, Short-term
Susceptibility to Change:	High, Medium, Low	Reversibility:	Temporary/ Irreversible
Overall Sensitivity of Receptor:	High, Medium, Low	Overall Magnitude of Effect:	Major, Moderate, Minor, Negligible.
Size/Scale of Effect:	Major, Moderate, Minor, Negligible.	Nature of Effect:	Adverse, Beneficial, Neutral, Not Applicable, Direct, Indirect
Geographical Extent of Effect:	Site, Local, Neighbourhood, City	Significance:	Significant, Moderate Significance, Minor Significance, Not Significant

Appendix 9.2: Visual Baseline and Sensitivity

Viewpoint No. and Location	Designation, Approx. Distance to Site Boundary	Description of Baseline View	Type of View and Number of Users	Value of View	Susceptibility to Change	Overall Sensitivity of Receptor
1: Piccadilly Station Main Entrance	Designation: Grade II* Listed London Road Fire Station Distance: Approx. 200m north east of the Site	The viewpoint faces south from the elevated main entrance to Piccadilly Station. The view is experienced by a high number of viewers, including people arriving at, and leaving Piccadilly Station on foot, by bike or on buses. The view towards the site is framed by the station building on the left hand side and a hotel building on the right hand side. The viewpoint is at a key arrival point and gateway to Manchester city centre. The station forecourt and associated signage and infrastructure dominates the foreground of the view. The viewpoint looks towards the Grade II* Listed London Road Fire Station and Whitworth Street Conservation Area. University buildings to the south of the Site are visible above the roofline. The sensitivity is assessed as **Medium** as the view forms part of the arrival experience to the city and features the Grade II* Listed London Road Fire Station. Existing contemporary buildings and the foreground concourse disrupt the appreciation of the London Road Fire Station.	Framed High	Medium	Medium	**Medium**
2. Piccadilly Station Taxi Rank	Designation: Grade II* Listed London Road Fire Station Distance: Approx. 85m north east of the Site	The viewpoint faces south west from outside the Fairfield Street entrance to Piccadilly Station, which forms a arrival point and gateway to the city. The station building to the right hand side partially frames and directs views towards the Site. A mixed collection of buildings at the centre of the view on the corner of Fairfield Street and the A6/London Road form the focus to the view in the foreground. The street furniture and temporary fencing and works form temporary visual clutter within the foreground of the view. The view would be experienced by a high number of people arriving and leaving Piccadilly Station on foot and some using taxis and cycles. The existing Grade II* Listed London Road Fire Station is seen within the right hand side of the view, and forms a subtle landmark. The sensitivity is assessed as **Medium** as the view forms part of the arrival experience to the city and the Grade II* Listed London Road Fire Station is partially visible in the view.	Framed High	Medium	Medium	**Medium**
3: Piccadilly Station Platform 13 and 14	Designation: Grade II* Listed London Road Fire Station Grade II Listed Manchester South Junction and Altrincham Railway Viaduct Distance: Approx. 145m east of the Site	The viewpoint faces west from Platforms 13 and 14 at Piccadilly Station, which forms a major transport hub within the city and key arrival point. The view looks along the railway line towards the Grade II Listed railway viaduct and beyond to the city backdrop. The viewpoint is elevated and provides wide, open city skyline views within the townscape context . The distinctive Grade II* London Road Fire Station is visible to the right hand side of the view, and the cupola forms a prominent landmark feature in the sky. The view is considered semi private as only those with tickets would have access to the platforms. The sensitivity is assessed as **Medium** as the view forms part of the arrival experience to the city and heritage assets feature in the view, including the distinctive roofline of the Grade II* Listed London Road Fire Station which is prominent from this vantage point.	Open Moderate/High	Medium	Medium	**Medium**

Terminology for Visual Effect:

Type of View:	Glimpsed, Open, Oblique, Framed, Filtered	Geographical Extent of Effect:	Site-wide, Immediate Locality, Neighbourhood, City-scale
Number of Viewers:	Few, Moderate, High	Duration:	Long-term, Medium-term, Short-term,
Value of Views:	High, Medium, Low	Reversibility:	Temporary, Irreversible
Susceptibility to Change:	High, Medium, Low	Overall Magnitude of Effect:	Major, Moderate, Minor, Negligible.
Overall Sensitivity of Receptor:	High, Medium, Low	Nature of Effect:	Adverse, Beneficial, Neutral, Not Applicable, Direct, Indirect
Size/Scale of Effect:	Major, Moderate, Minor, Negligible.	Significance:	Significant, Moderately Significant, Minor Significance, Not Significant

Appendix 9.2: Visual Baseline and Sensitivity

Viewpoint No. and Location	Designation, Approx. Distance to Site Boundary	Description of Baseline View	Type of View and Number of Users	Value of View	Susceptibility to Change	Overall Sensitivity of Receptor
4: Sculptural Wall, London Road	Designation: Grade II Listed sculptural wall (Hollaway Wall) Grade II Listed Manchester South Junction and Altrincham Railway Viaduct Distance: Approx. 58m east of the Site	The viewpoint looks west along Altrincham Street/railway viaduct from London Road. The Grade II Listed sculptural wall is visible in the foreground to the left of the view, partially obscured by wire fencing and a foreground semi-mature tree. The Grade II Listed Manchester South Junction and Altrincham Railway Viaduct, which forms the southern boundary of the Whitworth Street Conservation Area, is visible to the right of the view, extending into the centre of the view. The view forms an oblique view from the A6/London Road and would be experienced by a high number of viewers who would be vehicle occupants or pedestrians. The view would be experienced fleetingly by viewers whilst travelling past. The sensitivity is assessed as **Medium** due to the moderate / high number of viewers and the presence of Grade II Listed features, particularly the viaduct which influences the character of the view as people arrive at the university or the city centre from the south.	Oblique Moderate/High	Medium	Low/Medium	**Medium**
5: View West Along Granby Row	Designation: Whitworth Street Conservation Area Grade II Listed Sackville Street building Distance: Approx. 8m east of the Site	View looking south west along Granby Row along the eastern boundary of the Site. The Viewpoint is within the Whitworth Street Conservation Area. The Grade II Listed Sackville Street building is visible in the distant right hand side of the view, partially obscured by trees and the angle of view. Viewers would be pedestrians and also some vehicle occupants travelling on local roads. The view is framed on the right hand side by existing contemporary buildings on Echo Street. Existing site hoarding and surrounding poorly maintained public realm dominate the view in the foreground of the view. The existing Renold Building is visible in the centre of the view, along with the prominent Circle Square Apartments building seen in the background. The sensitivity is assessed as **Low** due to poor quality built form dominating the view, with limited evidence of the Conservation Area character, and the incidental nature of the view.	Framed Low/Moderate	Low	Low	**Low**
6: Vimto Park	Designation: Whitworth Street Conservation Area Grade II Listed Sackville Street building Grade II Listed Manchester South Junction and Altrincham Railway Viaduct Distance: Approx. 120m west of the Site	The viewpoint looks east from the northern edge of Vimto Park, within the Whitworth Street Conservation Area. The view is framed by the Grade II Listed Sackville Street building in the far left of the view, channelling the view along Granby Row. The views is directed towards the Site but currently lacks focus due to the demolition of existing development within the Site. Vimto Park and the Vimto public artwork are a key feature of the foreground and landscape setting, with local cultural associations. Temporary fencing and infrastructure create visual clutter within the view. The Grade II Listed MSJAR viaduct is partially visible to the right of the view. The view would be experienced by a moderate number of viewers who are likely to be users of the public space and sensitive to change. Others viewers would include pedestrians and also some vehicle occupants travelling on local roads, however the road is within the University of Manchester campus and is barrier controlled. The sensitivity is assessed as **Medium** due to the view forming part of the experience of the public space and the local cultural value associated with the Vimto sculpture and listed building.	Oblique Moderate/High	Medium	Medium	**Medium**

Terminology for Visual Effect:

Type of View:	Glimpsed, Open, Oblique, Framed, Filtered	Geographical Extent of Effect:	Site-wide, Immediate Locality, Neighbourhood, City-scale
Number of Viewers:	Few, Moderate, High	Duration:	Long-term, Medium-term, Short-term,
Value of Views:	High, Medium, Low	Reversibility:	Temporary, Irreversible
Susceptibility to Change:	High, Medium, Low	Overall Magnitude of Effect:	Major, Moderate, Minor, Negligible.
Overall Sensitivity of Receptor:	High, Medium, Low	Nature of Effect:	Adverse, Beneficial, Neutral, Not Applicable, Direct, Indirect
Size/Scale of Effect:	Major, Moderate, Minor, Negligible.	Significance:	Significant, Moderately Significant, Minor Significance, Not Significant

Appendix 9.2: Visual Baseline and Sensitivity

Viewpoint No. and Location	Designation, Approx. Distance to Site Boundary	Description of Baseline View	Type of View and Number of Users	Value of View	Susceptibility to Change	Overall Sensitivity of Receptor
7: University of Manchester, Altrincham Street	Designation: Grade II Listed Manchester South Junction and Altrincham Railway Viaduct Distance: Approx. 80m south west of the Site	The viewpoint looks north east from a public square within the University of Manchester North Campus. The viewpoint is close to the southern boundary of Whitworth Street Conservation Area, whose edge is defined by Manchester South Junction and Altrincham Railway Viaduct which is visible through the trees at the boundary of the square. The view is framed by the university building fronting the square to the right hand side and by vegetation on the left hand side. The foreground is dominated by landscape / public realm within the square. The view is well enclosed with little to in the view to indicate the city context beyond. Viewers would be users of the public space and pedestrians who may be sensitive to a change in the view. Viewers may also include people visiting buildings associated with the University of Manchester or at their place of work, who may be less sensitive to a change in the view. The sensitivity is assessed as **Low** due to limited visibility of heritage designations and the nature of the public space as it is relatively contained and inward looking, not specifically involving appreciation of the view.	Framed Moderate/High	Low	Low	**Low**
8: Granby Row / Samuel Ogden Street	Designation: Whitworth Street Conservation Area Grade II Listed Orient House Grade II Listed Granby House Distance: Approx. 270m west of the Site	View looking east along Granby Row from the junction with Samuel Ogden Street. The viewpoint is within the Whitworth Street Conservation Area. The view is framed and channelled by the Grade II Listed Orient and Grade II Listed Granby House on the right hand side of the street, as well as contemporary buildings on the left. In the background and terminus of the building line along the southern edge of Granby Row the site is obscured by existing built form and trees within Vimto Park. Viewers would be pedestrians and vehicle occupants travelling on local roads. The sensitivity is assessed as **Medium** due to the presence of Grade II Listed assets in the view and the evident character of the Conservation Area and its cultural associations. The view has a strong composition and forms part of the experience of the place.	Framed / Channelled Low	Low/Medium	Medium	**Medium**

Terminology for Visual Effect:

Type of View:	Glimpsed, Open, Oblique, Framed, Filtered	Geographical Extent of Effect:	Site-wide, Immediate Locality, Neighbourhood, City-scale
Number of Viewers:	Few, Moderate, High	Duration:	Long-term, Medium-term, Short-term,
Value of Views:	High, Medium, Low	Reversibility:	Temporary, Irreversible
Susceptibility to Change:	High, Medium, Low	Overall Magnitude of Effect:	Major, Moderate, Minor, Negligible.
Overall Sensitivity of Receptor:	High, Medium, Low	Nature of Effect:	Adverse, Beneficial, Neutral, Not Applicable, Direct, Indirect
Size/Scale of Effect:	Major, Moderate, Minor, Negligible.	Significance:	Significant, Moderately Significant, Minor Significance, Not Significant

Appendix 9.2 Visual Effects Table: Description of Change, Magnitude and Significance

Viewpoint No. and Location	Description of Change	Mitigation	Summary of Effect	Overall Sensitivity of Receptor (from table above)	Size/Scale of Effect	Geographical Extent of Effect	Duration/ Reversibility	Overall Magnitude of Effect	Nature of Effect	Significance	Confidence
1: Piccadilly Station Main Entrance	Operational Phase: The proposed development will be clearly noticeable in the centre of the view, presenting the slender aspect of the tall blocks. The upper portion of all three of the tall blocks are visible, stepping up from right to left. The intermediate blocks are also partially visible, obscured by the London Road Fire Station. The lower storeys of the building are hidden by London Road Fire Station in the middle ground and the station concourse in the foreground. The variety of materials and architectural styles within the view accommodates the contemporary design and city scale of the proposal within the overall character. However, the proposal affects the visual distinction of the Fire Station cupola on the skyline. The two taller blocks exceed the height of the cupola in this view. The taller intermediate block sits directly behind the cupola. The presence of the proposed building alters the backdrop and the silhouette of the roofline of the Fire Station, notably the cupola as it is no longer viewed against the sky.	The proposal represents a high quality contemporary addition to the cityscape at a key arrival point to the city. The tone and texture of the brick façade is designed to be sensitive to the conservation area character. The paler tone of the concrete clad intermediate blocks helps to break up the mass of the proposed building and in this view provides a contrasting backdrop behind the cupola of the Fire Station. The crown of the building continues the façade rhythm with a series of brick piers and apertures around the top of each block, providing an elegant solution to concealing the rooftop plant.	The effect is considered Medium Beneficial due to the clearly noticeable addition to the view and the complementary characteristics that the proposal brings to a diverse cityscape. Overall the effect is **Moderate** and **Significant**.	**Medium**	Moderate	Neighbourhood	Long Term Irreversible	Medium	Beneficial Direct	**Moderate Effect. Significant**	Medium
2. Piccadilly Station Taxi Rank, Fairfield Street	Operational Phase: The proposal creates a new imposing feature in the view, due to the proximity of the viewpoint to the Proposed Development Site. The proposal affects the townscape context of the London Road Fire Station, but retains separation and is viewed in the wider context of a selection of incongruent buildings of varying quality. The variety of materials and styles within the view accommodates the contemporary design and city scale of the proposal.	The proposal represents a high quality contemporary addition to the city scape at a key arrival point to the city.	The effect is considered Medium Beneficial due to the clearly noticeable addition to the view which is not out of place within the existing varied character in this view. Overall the effect is **Moderate** and **Significant**.	**Medium**	Moderate	Neighbourhood	Long Term Irreversible	Medium	Beneficial Direct	**Moderate Effect. Significant**	Medium

Terminology for Visual Effect:

Type of View:	Glimpsed, Open, Oblique, Framed, Filtered	Geographical Extent of Effect:	Site-wide, Immediate Locality, Neighbourhood, City-scale
Number of Viewers:	Few, Moderate, High	Duration:	Long-term, Medium-term, Short-term,
Value of Views:	High, Medium, Low	Reversibility:	Temporary, Irreversible
Susceptibility to Change:	High, Medium, Low	Overall Magnitude of Effect:	Major, Moderate, Minor, Negligible.
Overall Sensitivity of Receptor:	High, Medium, Low	Nature of Effect:	Adverse, Beneficial, Neutral, Not Applicable, Direct, Indirect
Size/Scale of Effect:	Major, Moderate, Minor, Negligible.	Significance:	Significant, Moderately Significant, Minor Significance, Not Significant

Appendix 9.2 Visual Effects Table: Description of Change, Magnitude and Significance

Viewpoint No. and Location	Description of Change	Mitigation	Summary of Effect	Overall Sensitivity of Receptor (from table above)	Size/Scale of Effect	Geographical Extent of Effect	Duration/ Reversibility	Overall Magnitude of Effect	Nature of Effect	Significance	Confidence
3: Piccadilly Station Platform 13 & 14	Operational Phase: The proposal is clearly the tallest element in the view and creates a new imposing feature in the view due to the proximity of the viewpoint to the Site and the elevated nature of the viewpoint. The lower storeys of the building are hidden behind existing rail infrastructure in the foreground and mid ground. The proposal affects the townscape context of the London Road Fire Station, but retains separation and is viewed in the context of a wider cityscape containing buildings of varying age and architectural style.	The proposal represents a high quality contemporary addition to the cityscape. The tone and texture of the brick façade is designed to be sensitive to the character of the historic context.	The effect is considered Medium Beneficial due to the clearly noticeable addition to the view and the complementary characteristics that the proposal brings to a diverse cityscape. Overall the effect is **Moderate** and **Significant**.	**Medium**	Moderate	Neighbourhood	Long Term Irreversible	Medium	Beneficial Direct	**Moderate Effect. Significant**	Medium
4: Sculptural Wall, London Road	Operational Phase: The Proposed Scheme will result in a clearly noticeable change to the view and will help to overcome the visual barrier effect of the viaduct by forming a strong visual connection. The materials are complementary to the viaduct and the Proposed Scheme forms a strong vertical accent. The three distinct blocks visually 'break up' the overall massing of development. The Grade II Listed sculptural wall (Hollaway Wall) does not experience a direct effect but its townscape context will take on a more built up character. The building forms a new backdrop, obscured at ground / lower levels by the Grade II Listed railway viaduct and partially filtered by the foreground tree (this will be most evident in the summer months when the trees are in full leaf).	The tone and texture of the brick façade is designed to be sensitive to the historic character.	The magnitude of effect is Medium as the building creates a noticeable new backdrop to the view. The effect is considered Beneficial due to improved quality of built form through use of materials and detailing which respond better to the historic character, enhancing the overall character within the view. Overall the effect is **Moderate** and **Significant**.	**Medium**	Moderate	Immediate locality	Long Term Irreversible	Medium	Beneficial Direct	**Moderate Effect. Significant**	High

Terminology for Visual Effect:

Type of View:	Glimpsed, Open, Oblique, Framed, Filtered	Geographical Extent of Effect:	Site-wide, Immediate Locality, Neighbourhood, City-scale
Number of Viewers:	Few, Moderate, High	Duration:	Long-term, Medium-term, Short-term,
Value of Views:	High, Medium, Low	Reversibility:	Temporary, Irreversible
Susceptibility to Change:	High, Medium, Low	Overall Magnitude of Effect:	Major, Moderate, Minor, Negligible.
Overall Sensitivity of Receptor:	High, Medium, Low	Nature of Effect:	Adverse, Beneficial, Neutral, Not Applicable, Direct, Indirect
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Appendix 9.2 Visual Effects Table: Description of Change, Magnitude and Significance											
Viewpoint No. and Location	**Description of Change**	**Mitigation**	**Summary of Effect**	**Overall Sensitivity of Receptor** (from table above)	**Size/Scale of Effect**	**Geographical Extent of Effect**	**Duration/ Reversibility**	**Overall Magnitude of Effect**	**Nature of Effect**	**Significance**	**Confidence**
5: View West Along Granby Row	Operational Phase: The proposal constitutes a substantial change to the streetscene within this view, introducing a large new element which dominates the view. The massing of the proposed building creates a strong building line and presence on the southern edge of Granby Row and positively encloses the street. As part of the proposals, the public realm along Granby Row will be enhanced, which will change the appearance and character of the foreground area.	The proposal represents a high quality contemporary addition to the streetscene. The tone and texture of the brick façade is designed to be sensitive to the historic context within the locality and brings a new character to this view. The improved interface and visibility between the building and the surrounding public realm, particularly at street level will greatly improve natural surveillance and help to increase activity and security of the street. The public realm is enhanced by a new clean and simple palette of materials, with street trees introduced along Granby Row and higher quality pedestrian footways.	The change to this view is substantial due to the proximity of the viewpoint to the Proposed Scheme, resulting in a Large magnitude of effect. The change is considered Beneficial due to the improved quality of the built form and street scene, and use of contextual materials. Overall the effect is **Moderate** and **Significant**.	**Low**	Major	Immediate Locality	Long Term Irreversible	Large	Beneficial Direct	**Moderate Effect. Significant**	High

Terminology for Visual Effect:

Type of View:	Glimpsed, Open, Oblique, Framed, Filtered	Geographical Extent of Effect:	Site-wide, Immediate Locality, Neighbourhood, City-scale
Number of Viewers:	Few, Moderate, High	Duration:	Long-term, Medium-term, Short-term,
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Appendix 9.2 Visual Effects Table: Description of Change, Magnitude and Significance

Viewpoint No. and Location	Description of Change	Mitigation	Summary of Effect	Overall Sensitivity of Receptor (from table above)	Size/Scale of Effect	Geographical Extent of Effect	Duration/ Reversibility	Overall Magnitude of Effect	Nature of Effect	Significance	Confidence
6: Vimto Park	Operational Phase: The proposed building is clearly visible and creates a focal point at the centre of the view, channelled by existing buildings fronting Granby Row. Therefore, although it stands as an individual/stand alone element, the proposal conforms with and enhances the overall composition. The upper portion of each of the three blocks is visible due to the stepping up of the building from the park. The increased scale and mass creates a more dominant edge to the eastern boundary of Vimto Park, creating a positive sense of enclosure for users of the public space.	Complementary materials help the building to synthesize with its context. The façade detail and brick slip façade create subtle tonal variations and texture, allowing the proposed building to be read as contemporary and separate from existing without it conflicting with the historic character evident in the conservation area. The materials and design details portray a high quality contemporary design, enhancing the character of this view. The three blocks of the building are able to be read as separate elements due to the differentiation of the crown of each block, making the stepped form evident from this viewpoint. The crown of the building continues the façade rhythm with a series of apertures around the top of each block, providing an elegant solution to concealing the rooftop plant.	The scale of change is considered perceptible as the Proposed Scheme will be clearly noticeable in this view. However, the overall magnitude is Small as the addition of the proposal would not materially alter the appreciation of the view. Overall the effect is **Minor** and **Not Significant**.	**Medium**	Moderate	Immediate Locality	Long Term Irreversible	Small	Beneficial Direct	**Minor Effect. Not Significant**	High
7: University of Manchester, Altrincham Street	Operational Phase: The proposal causes a clearly noticeable change to the view. The building appears in the backdrop of the view, beyond the railway viaduct. However, its scale and proximity to the viewpoint make it dominant in the view, increasing the sense of enclosure. This alters the composition due to the reduction in visible sky and enclosing the northern edge of the square to a much greater degree than the existing built form. The brick façade will contrast with the materials of the existing university building bounding the square but represents a high quality and relates more to the historic character which is evident in the railway viaduct.	The façade detail and brick slip façade create subtle tonal variations and texture, which differs from the established character of this view. The materials and design details portray a high quality contemporary design, adding a positive new feature to the view.	The magnitude of effect is Medium as the proposals will cause a clearly noticeable contrast to the view, with a Beneficial nature of effect. Overall the effect is **Minor** and **Not Significant**.	**Low**	Moderate	Immediate Locality	Long Term Irreversible	Medium	Beneficial Direct	**Minor Effect. Not Significant**	High

Terminology for Visual Effect:

Type of View:	Glimpsed, Open, Oblique, Framed, Filtered	Geographical Extent of Effect:	Site-wide, Immediate Locality, Neighbourhood, City-scale
Number of Viewers:	Few, Moderate, High	Duration:	Long-term, Medium-term, Short-term,
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Appendix 9.2 Visual Effects Table: Description of Change, Magnitude and Significance

Viewpoint No. and Location	Description of Change	Mitigation	Summary of Effect	Overall Sensitivity of Receptor (from table above)	Size/Scale of Effect	Geographical Extent of Effect	Duration/ Reversibility	Overall Magnitude of Effect	Nature of Effect	Significance	Confidence
8: Granby Row / Samuel Ogden Street	Operational Phase: The proposed scheme is not considered to materially alter the overall composition or appreciation of a channelled view with a strong building line along Granby Row. The distance from the viewpoint minimises the scale of effect. The increased punctuation of the street is considered to be appropriate for this type of view. A small glimpse remains between the proposed building and the left hand side of the street, which maintains some visibility beyond the proposed building to Piccadilly Station. The designated heritage assets continue to contribute to the composition of the view and are not directly altered as a result of the proposal.	Complementary materials help the building to synthesize with its context. The façade detail and brick slip façade create subtle tonal variations and texture, allowing the proposed building to be read as contemporary and separate from existing without it conflicting with the historic character evident in the conservation area. The crown of the building continues the façade rhythm with a series of apertures around the top of each block, providing an elegant solution to concealing the rooftop plant.	The magnitude is Small as the proposal does not materially affect the composition or appreciation of the streetscene, partly due to the distance from the viewpoint. The form and materiality of the proposed building enhances the existing character and cohesion in this view, creating a Beneficial effect. Overall the effect is **Minor** and **Not Significant**.	**Medium**	Moderate	Immediate Locality	Long Term Irreversible	Small	Beneficial Direct	**Minor Effect. Not Significant**	High

Terminology for Visual Effect:

Type of View:	Glimpsed, Open, Oblique, Framed, Filtered	Geographical Extent of Effect:	Site-wide, Immediate Locality, Neighbourhood, City-scale
Number of Viewers:	Few, Moderate, High	Duration:	Long-term, Medium-term, Short-term,
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Echo Street, Manchester

Townscape Visual Impact Assessment -
Appendix 9.3: Figures

Document Control

File Name	Prepared by	Checked by	Planning	Architect
3113-ID-001-02-Echo Street TVIA Figures	LH EO AGB	JW GW	Turleys	Sheppard Robson

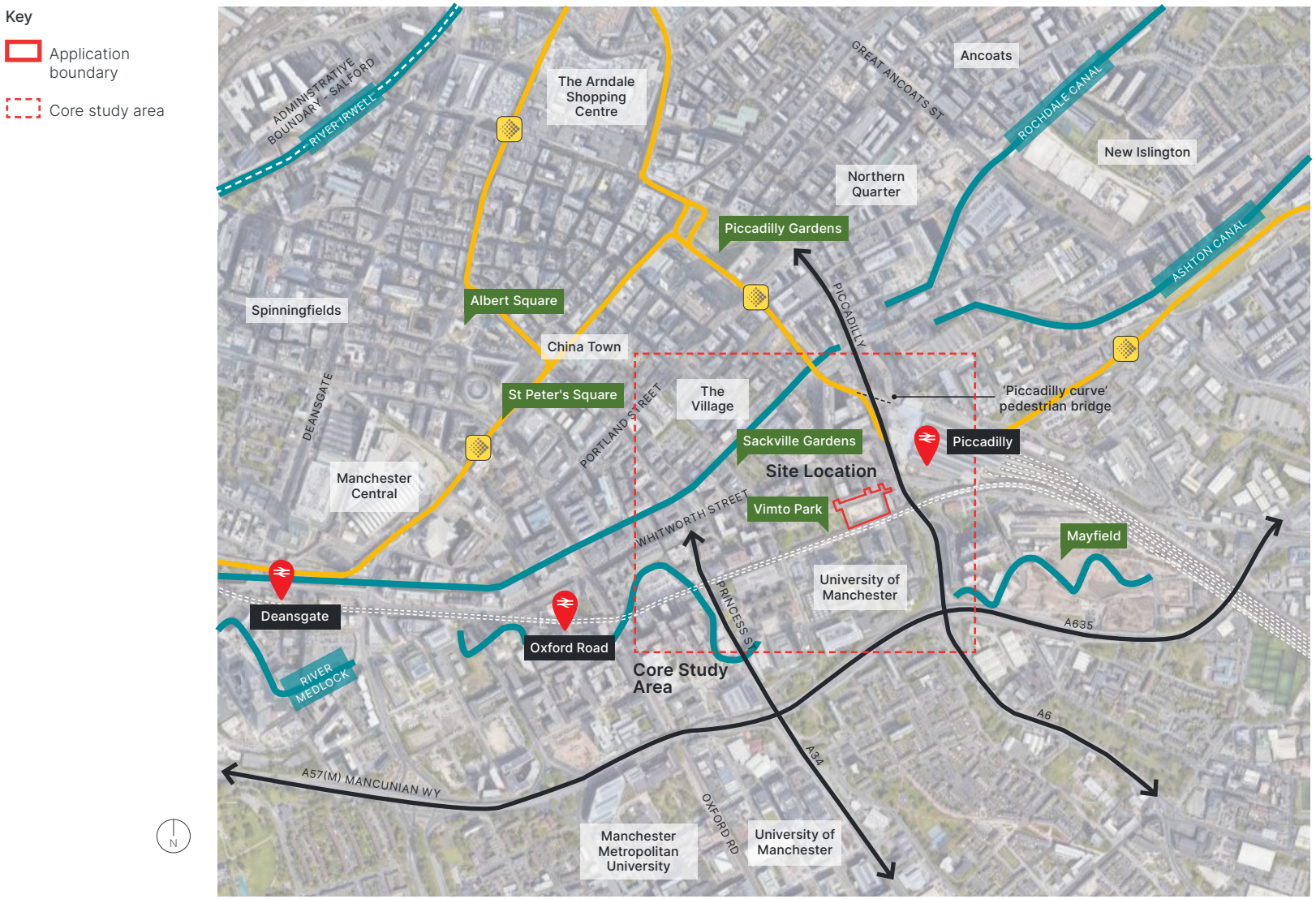
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Contents

9.1 Site location and study area
9.2 Historical development
9.3 Heritage designations
9.4 Townscape character areas
9.5 Urban grain
9.6 Land use
9.7 Building heights
9.8 Movement and linkages
9.9 Public Open Space
9.10 Site character
9.11 Topography
9.12 Cumulative developments

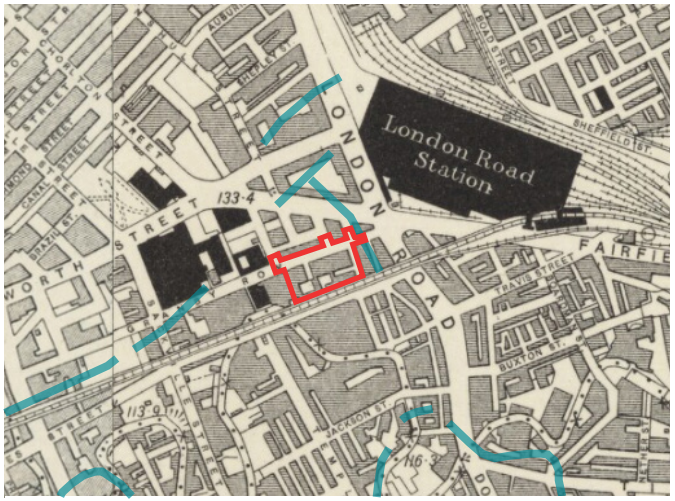
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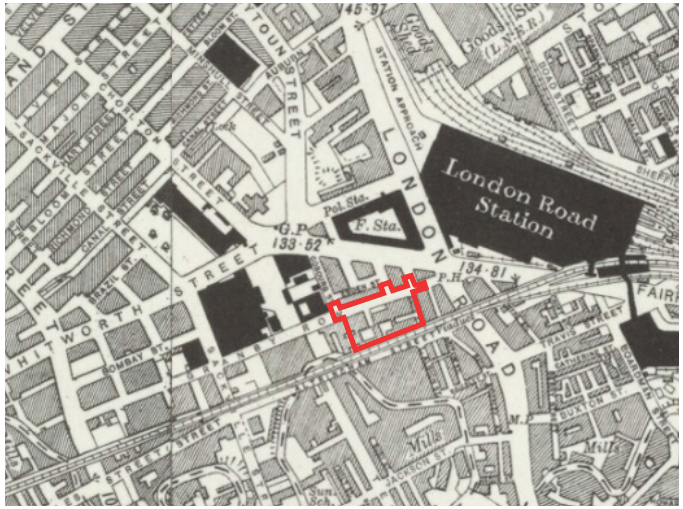
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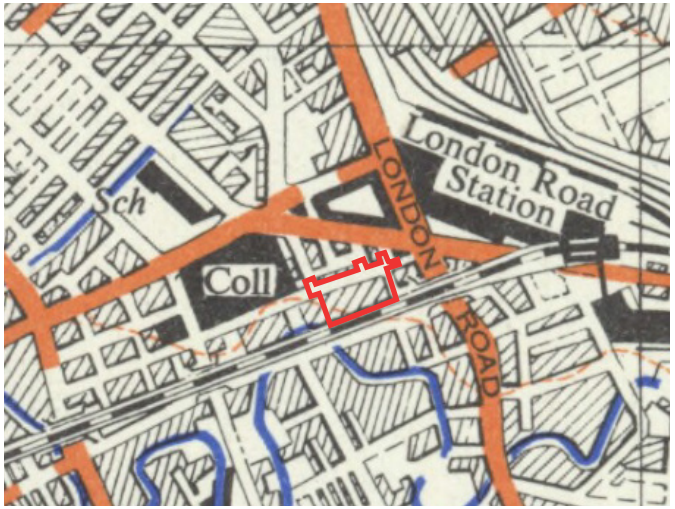
1848



1909



1938

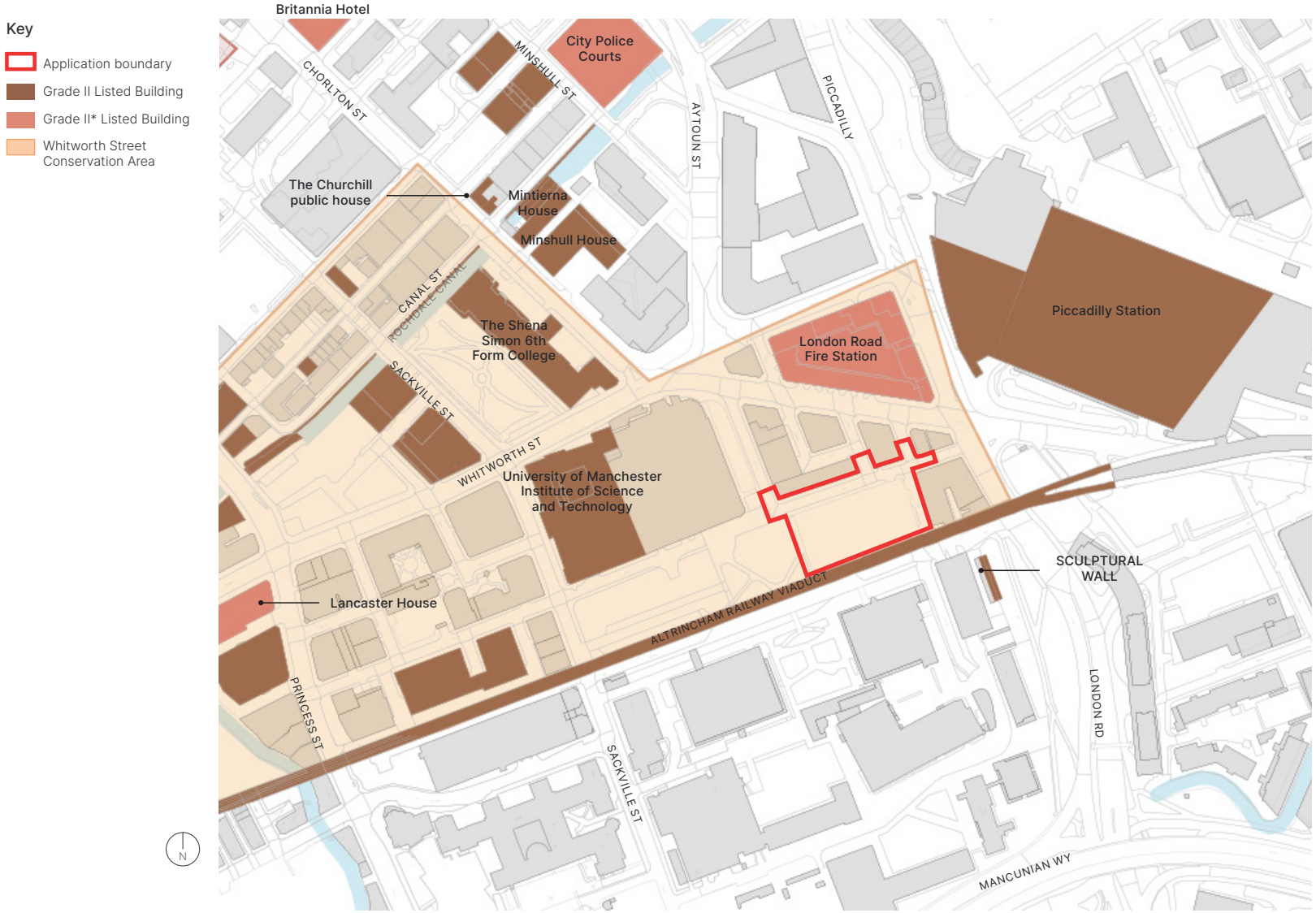


1959

Key

Application boundary

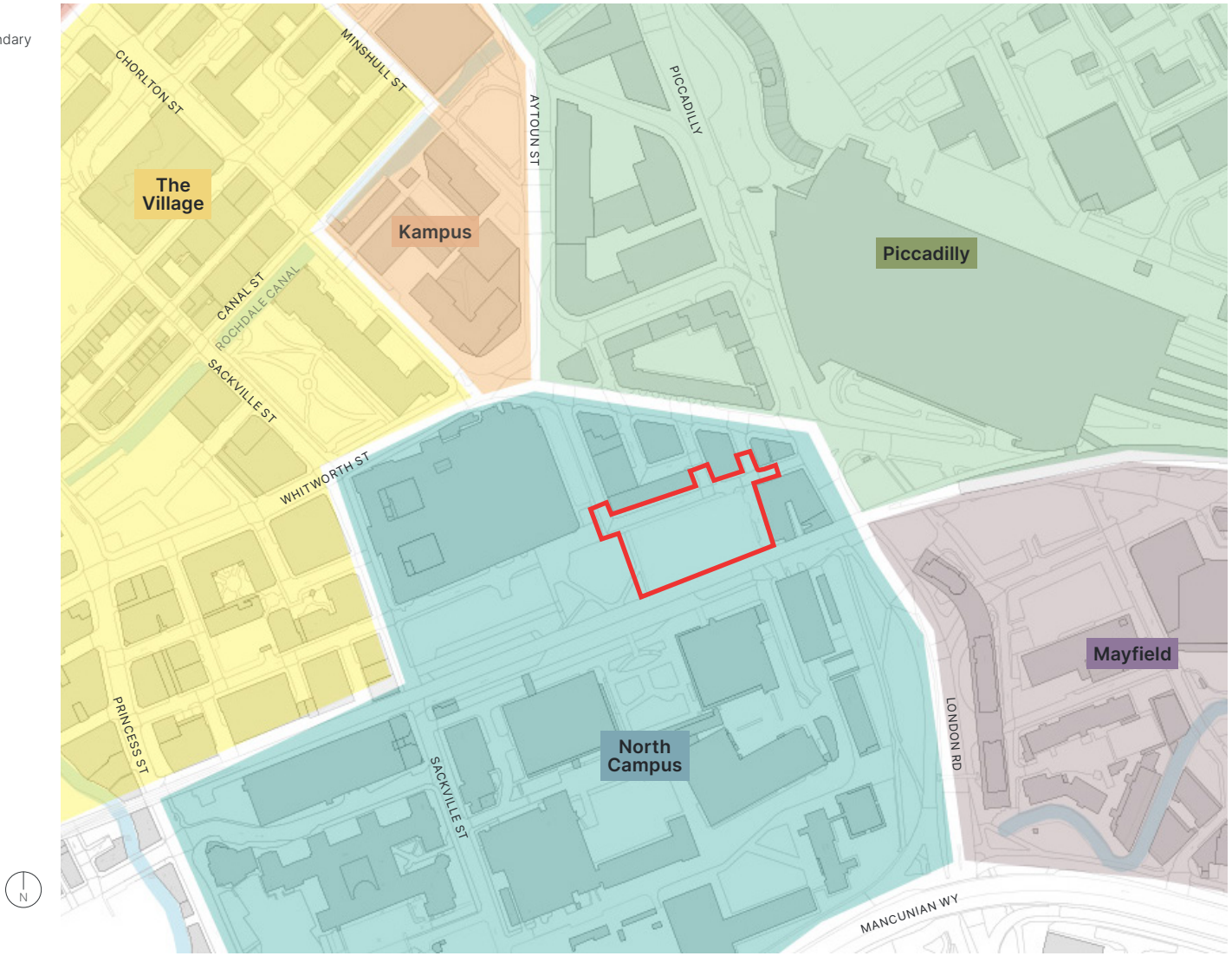
9.3 Heritage designations



9.4 Townscape Character Areas

Key

Application boundary



9.5 Urban grain

Key
Application boundary

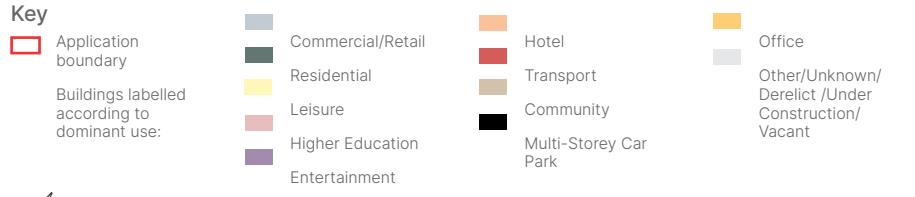


Figure 9.5a - Existing urban grain



Figure 9.5b - Proposed urban grain

9.6 Land use



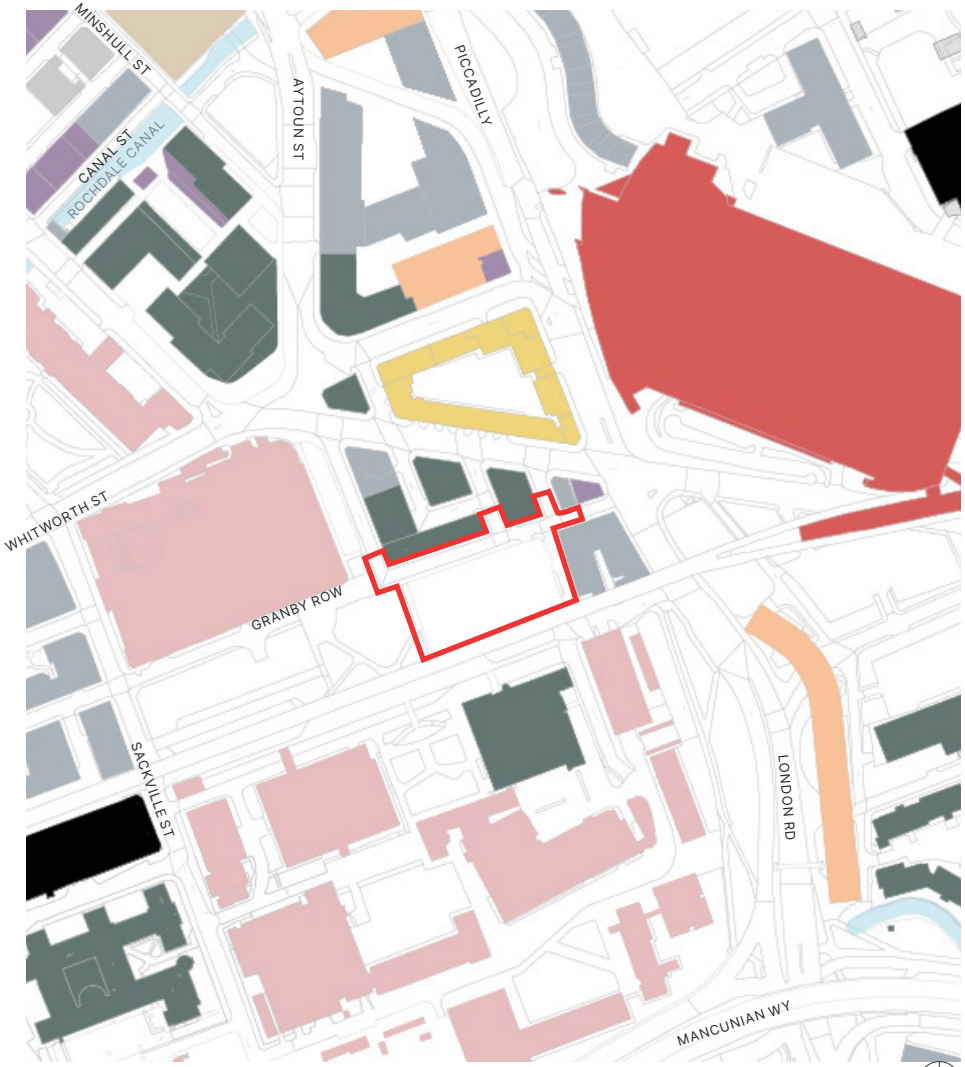


Figure 9.5a - Existing land use



Figure 9.5b - Proposed land use

9.7 Building heights



Figure 9.6a- Existing building heights



Figure 9.6b - Proposed building heights

9.8 Movement and linkages

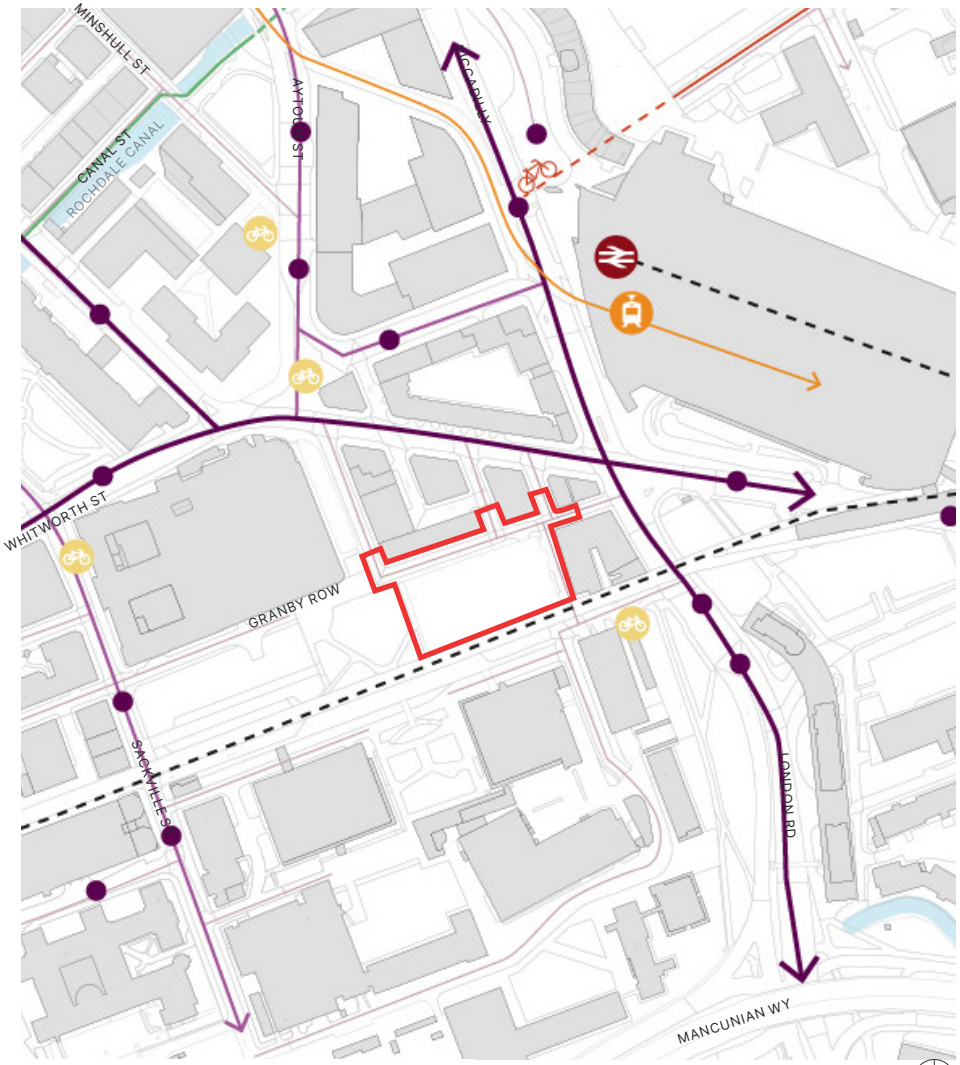


Figure 15- Existing movement and linkages

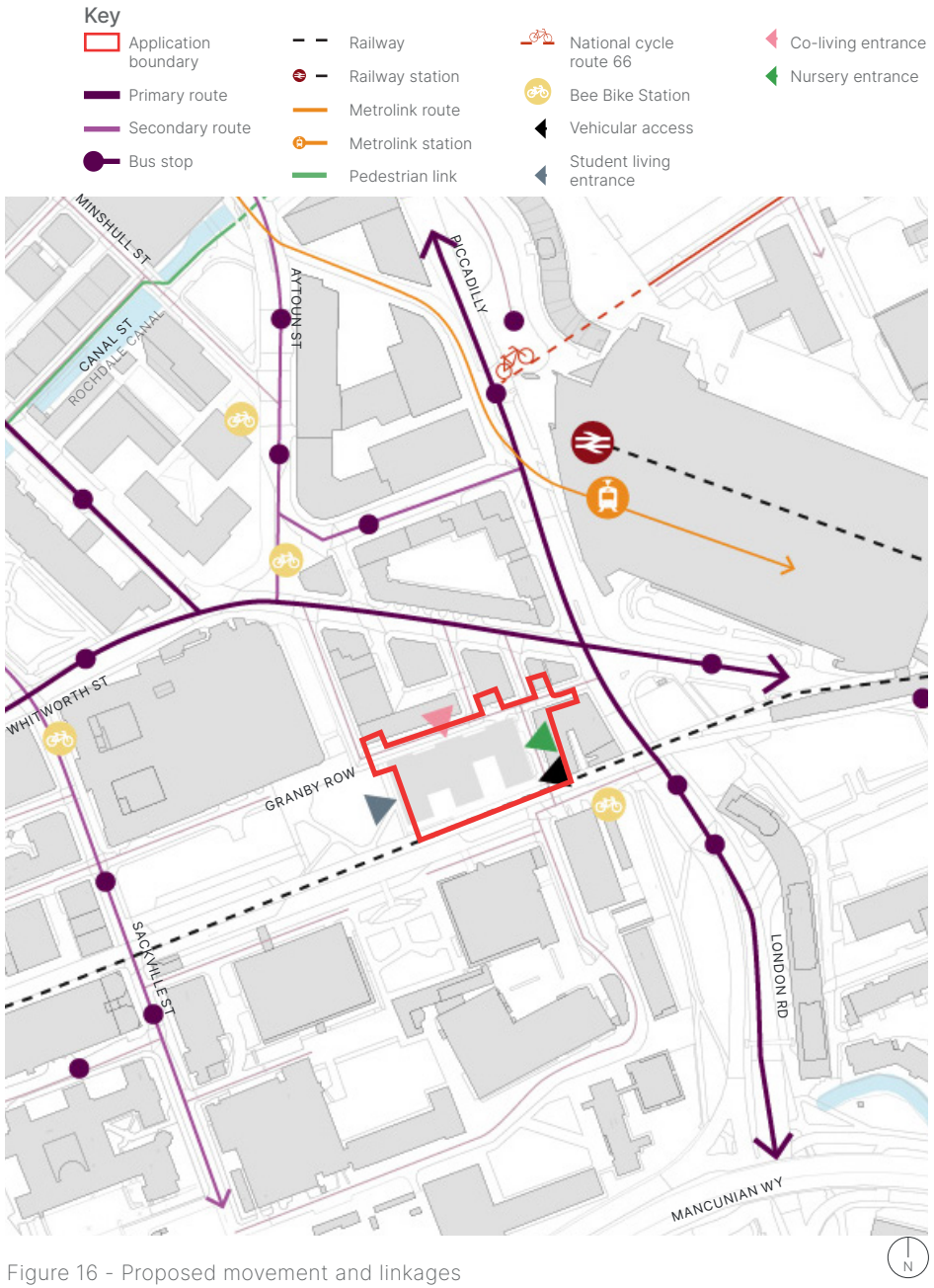


Figure 16 - Proposed movement and linkages

9.9 Public Open Space

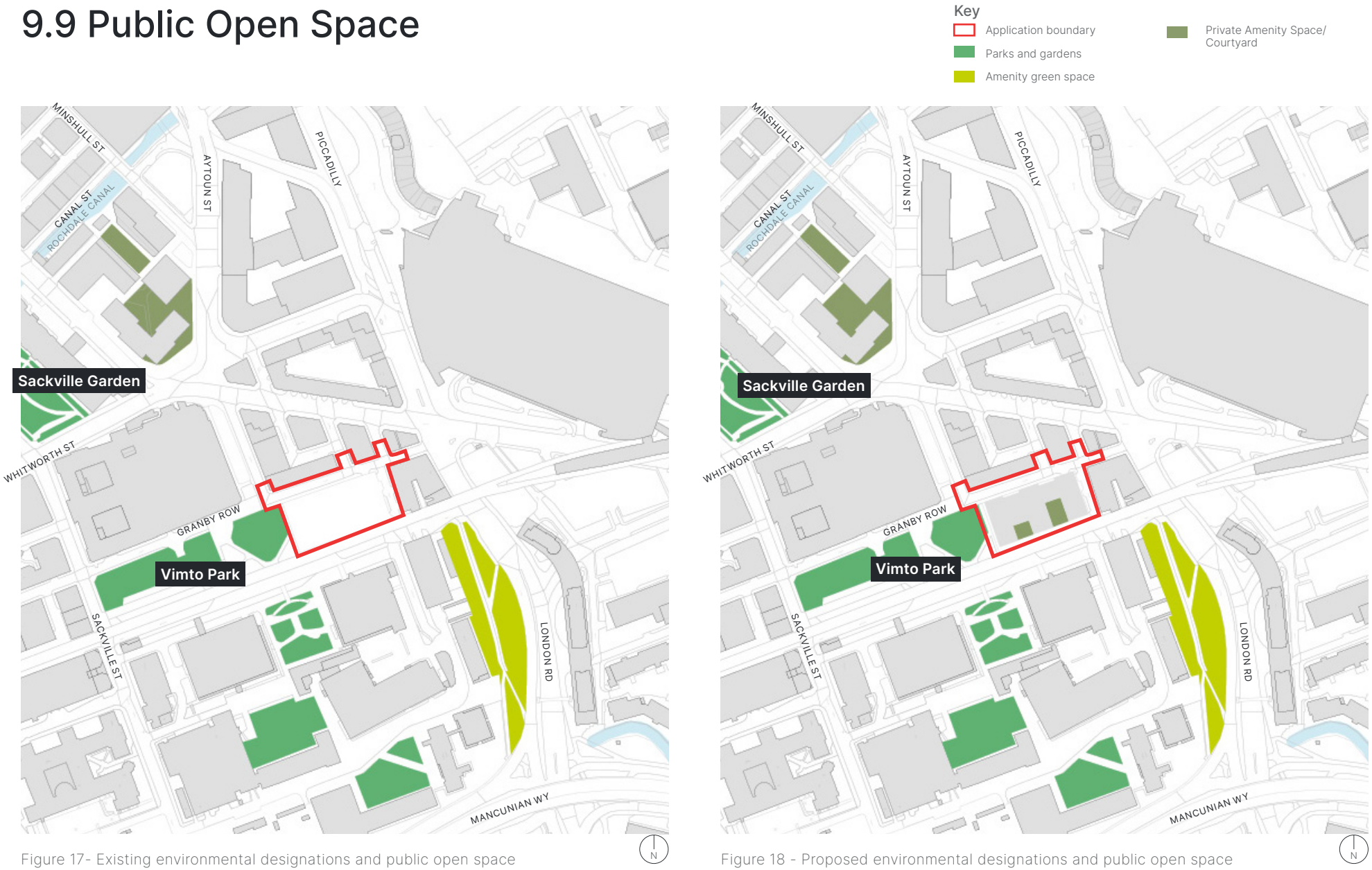


Figure 17- Existing environmental designations and public open space

Figure 18 - Proposed environmental designations and public open space

9.10 Site character

Key

- Application boundary
- Pedestrian routes
- Primary vehicle route
- Secondary vehicle route
- Tertiary vehicle route
- Physical barrier
- Poor quality surface/ rubble from demolition
- Poor street interface with existing hoarding creating a blank and unattractive frontage to Granby Row
- Railway viaduct



Figure 9.10a- Existing site character

Key

- Application boundary
- Pedestrian access
- Vehicle/maintenance access
- Pedestrian routes
- Primary vehicle route
- Secondary vehicle route
- Tertiary vehicle route
- Active frontage
- Positive street interface
- Proposed building
- Overlooking public space
- Nursery space
- Cafe space
- Proposed car parking bays
- Proposed trees
- Proposed cycle parking
- Proposed pedestrian crossings
- Private amenity space



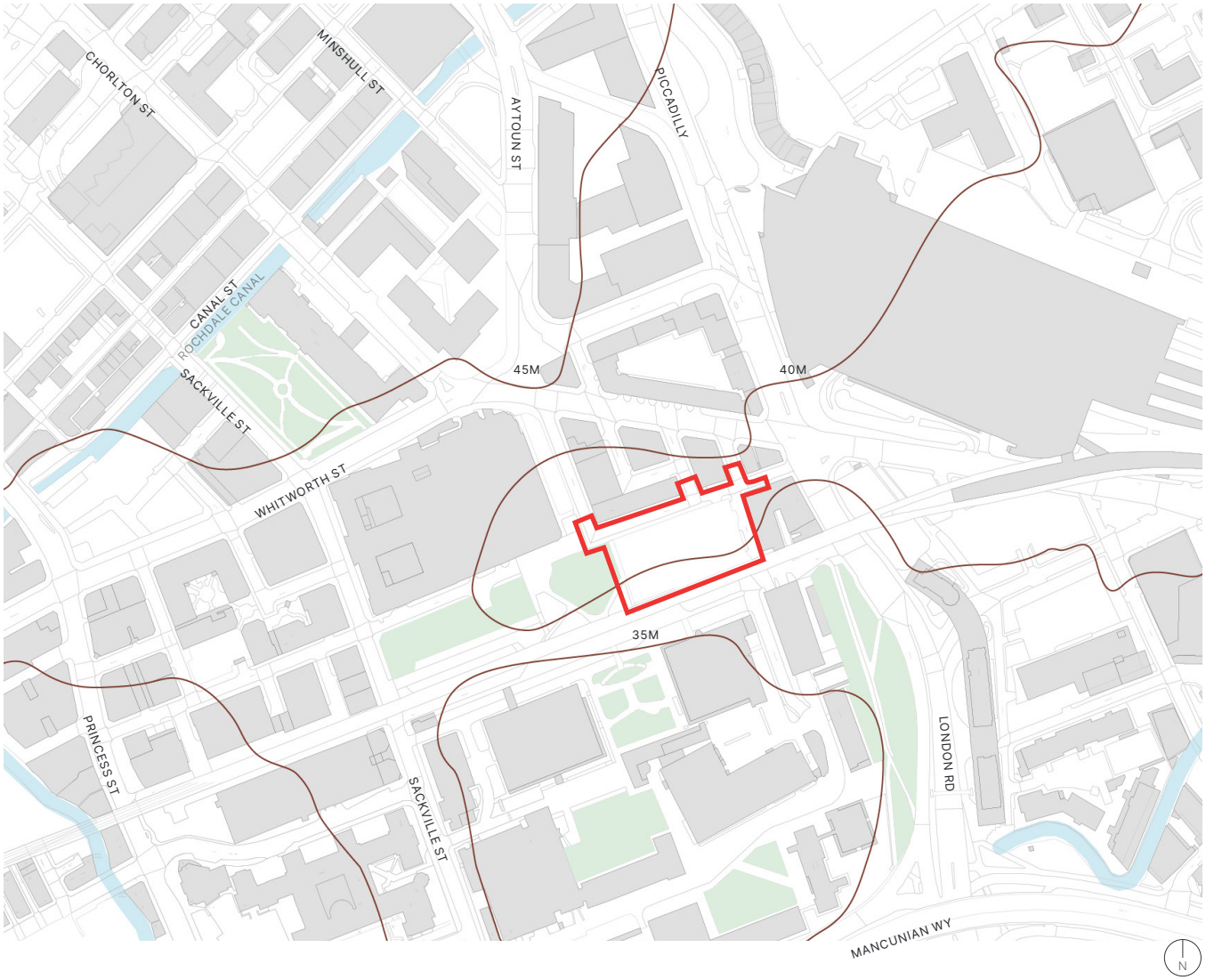
Figure 9.10b - Proposed site character

9.11 Topography

Key

Application boundary

Contours

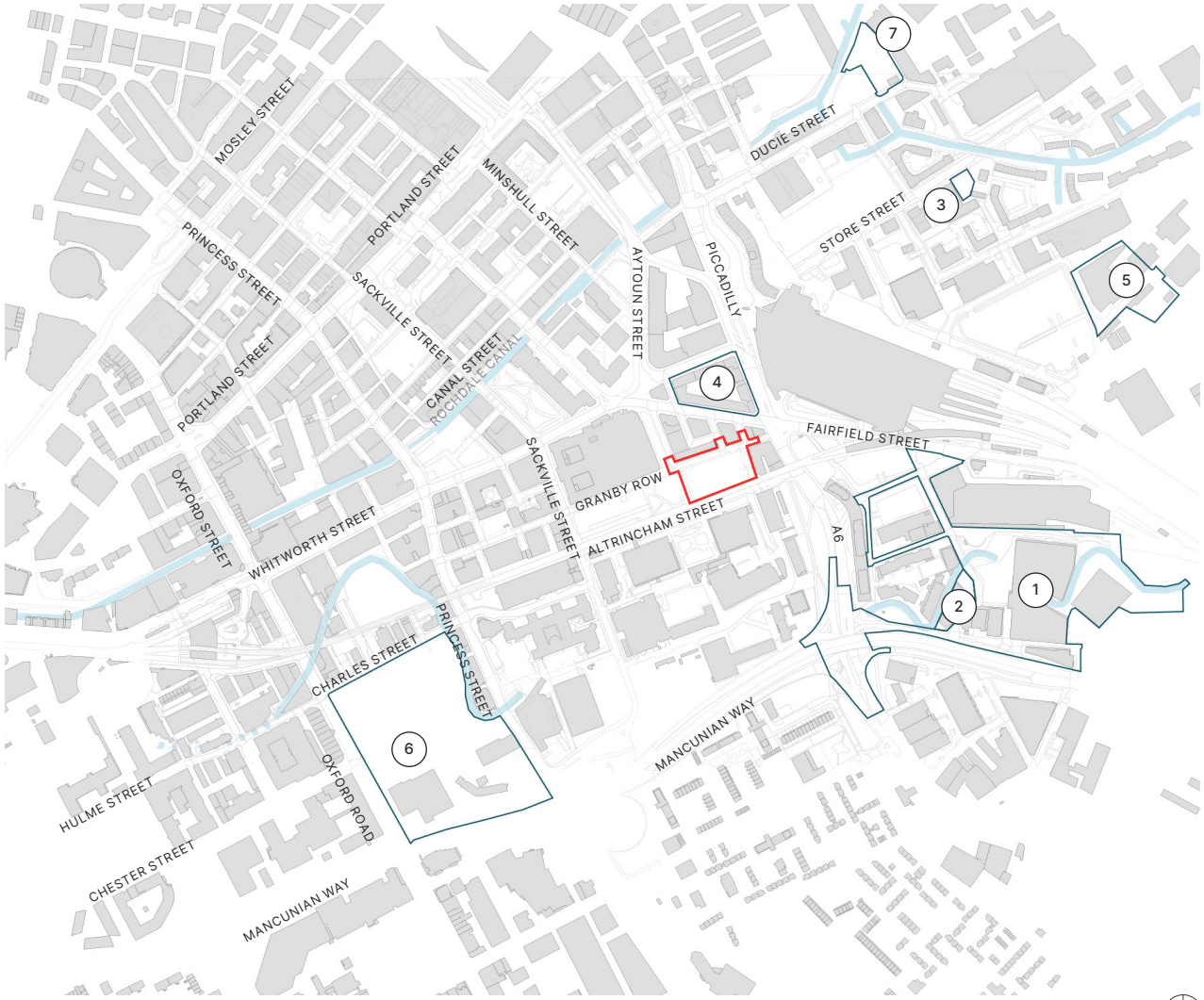


9.12 Cumulative development

Key

Application boundary

1. Mayfield [124972/FO/2019]
2. Baring Street, Office 2 [125248/FO/2019]
3. M1 Piccadilly, Store Street [132626/FO/2022]
4. London Road Fire Station [125712/FO/2019]
5. The Fairfax [121099/FO/2018]
6. Number 3, Circle Square [134288/FO/2022]
7. Ducie Street [115178/FO/2017]



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Echo Street, Manchester

Townscape Visual Impact Assessment -
Appendix 9.4: Key Views and Photomontages

Document Control

File Name	Prepared by	Checked by	Planning	Architect
3113-ID-002-02-Echo Street TVIA Views	EO AGB	JW GW	Turleys	Sheppard Robson

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Contents

9.1 Google Viewshed and Key Viewpoints

9.2 Baseline Photography and Photomontages

9.1 Google Viewshed and Key Viewpoints

Diagram indicates a 89.55m tall structure located in the site - which represents the tallest proposed building.

Green shading indicates potential visibility of the structure in the surrounding context.

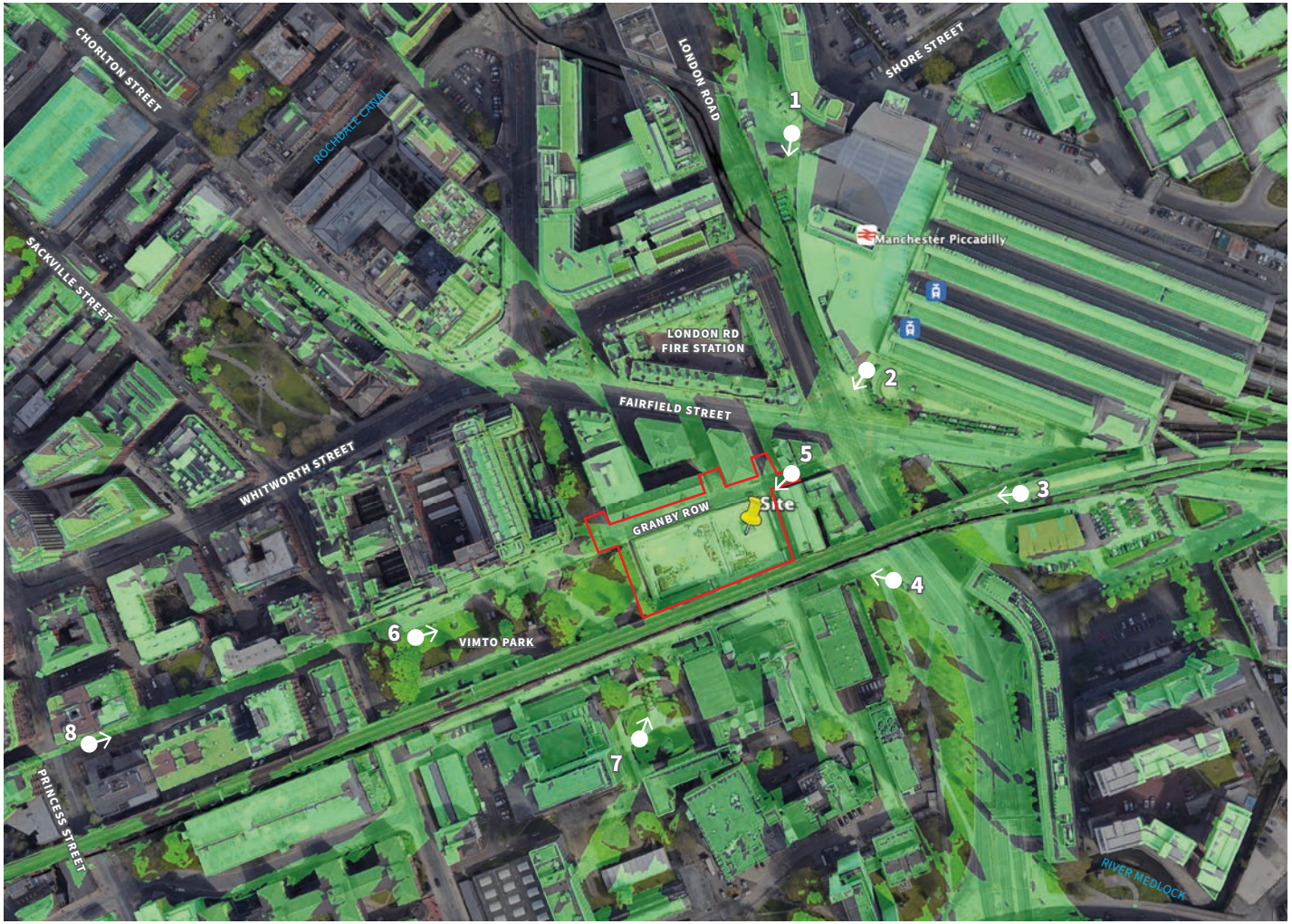
KEY

Site Boundary

Key Viewpoint

Key Viewpoints

1. Piccadilly Station main entrance
2. Piccadilly Station taxi rank, Fairfield Street
3. Piccadilly Station platform 13 and 14
4. Sculptural wall, London Road
5. View west along Granby Row
6. Vimto Park
7. University of Manchester, Altrincham Street
8. Granby Row / Samuel Ogden Street



9.2 Baseline Photography and Photomontages

Viewpoint 1: Baseline photograph | Piccadilly Station main entrance



Viewpoint 1: Photomontage | Piccadilly Station main entrance



Viewpoint 2: Baseline photograph | Piccadilly Station taxi rank, Fairfield Street



Viewpoint 2: Photomontage | Piccadilly Station taxi rank, Fairfield Street



Viewpoint 3: Baseline photograph | Piccadilly Station platform 13 and 14



Viewpoint 3: Photomontage | Piccadilly Station platform 13 and 14



Viewpoint 4: Baseline photograph | Sculptural wall, London Road



Viewpoint 4: Photomontage | Sculptural wall, London Road



Viewpoint 5: Baseline photograph | View west along Granby Row



Viewpoint 5: Photomontage | View west along Granby Row



Viewpoint 6: Baseline photograph | Vimto Park



Viewpoint 6: Photomontage | Vimto Park



Viewpoint 6: Photomontage + Cumulative Development | Vimto Park



Viewpoint 7: Baseline photograph | University of Manchester, Altrincham Street



Viewpoint 7: Photomontage | University of Manchester, Altrincham Street



Viewpoint 8: Baseline photograph | Granby Row / Samuel Ogden Street



Viewpoint 8: Photomontage | Granby Row / Samuel Ogden Street



Viewpoint 8: Photomontage + Cumulative Development | Granby Row / Samuel Ogden Street



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Appendix 1.11

Legislative Framework, Policy and Guidance

Appendix 11.1 - Legislative Framework, Policy and Guidance

Legislation and technical standards relevant to this Chapter are summarised in this section.

LEGISLATIVE FRAMEWORK

There is no specific national legislation or planning policy guidance dealing with wind microclimate in terms of pedestrian comfort. However, the Lawson Comfort Criteria (2001) are commonly used nationally to benchmark the pedestrian wind microclimate.

NATIONAL POLICY

National Planning Policy Framework

The National Planning Policy Framework was revised in July 2021 by the Department of Communities and Local Government. Paragraph 130 of the National Planning Policy Framework states that:

> *"Planning policies and decisions should ensure that developments:*
>
> *a) will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development.*
> *b) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping.*
> *c) are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);*
> *d) establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit.*
> *e) optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and*
> *f) create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience." In addition, this Chapter has been prepared in accordance with the Government's National Planning Practice Guidance."*

LOCAL POLICY

Core Strategy 2012-2027

The Core Strategy Development Plan Document, which is part of the Manchester's Local Development Framework adopted on 11th July 2012 by the Manchester City Council in Policy EN 2 on Tall Buildings in Paragraph 12.14 states that:

> *"Tall buildings by their very nature can dominate the street scene and be highly visible over long distances. They can also have an impact on the local micro-climatic condi-*

tions, for example, by creating wind tunnels. It is for these reasons that it is considered particularly important that they are designed to the highest quality, both in terms of appearance and their impact on the functioning of surrounding space."

GUIDANCE

The following guidance documents have been used during the preparation of this Chapter.

The Lawson Criteria

The Lawson Criteria (Building aerodynamics, T. Lawson, Imperial College Press, 2001) are well-established in the UK for quantifying wind conditions in relation to build developments and, although not a UK 'standard', the criteria are recognised by local authorities as a suitable benchmark for wind assessments. The Lawson Criteria have been adopted for this assessment.
This assessment is based on the London Docklands Development Corporation (LDDC) version of the Lawson criteria which represents industry best practice in the UK.

Best Practice Guidelines for Computational Fluid Dynamics Simulation of Flows in the Urban Environment

The Best Practice Guidelines for Computational Fluids Dynamics (CFD) Simulation of Flows in the Urban Environment (COST, 2007) have been used as a technical reference for this assessment. This is the most comprehensive set of technical guidance for the application of computer fluid dynamics for wind flows in the urban environment.

Historic England Advice Note 4, Tall Buildings (2015)

The Guidance on Tall Buildings (Historic England, 2015) updates previous guidance by English Heritage and the Commission for Architecture and Built Environment (CABE), produced in 2007. It seeks to guide people involved in planning for and designing tall buildings so that they may be delivered in a sustainable and successful way through the development plan and development management process.

4.7 "Planning applications for tall buildings are likely to require an environmental impact assessment (EIA), which would be expected to address matters in respect of both the proposed building and its cumulative impact, including: …
e. Other relevant environmental issues, particularly sustainability and environmental performance, e.g. the street level wind environment"
4.10 "…Consideration of the impact on the local environment is also important, including microclimate, overshadowing, night-time appearance, light pollution, vehicle movements, the environment and amenity of those in the vicinity of the building, and the impact on the pedestrian experience."

Appendix 11.2

Contour Wind Plots - Pedestrian Safety Assessment

Results for Annual safety

Baseline



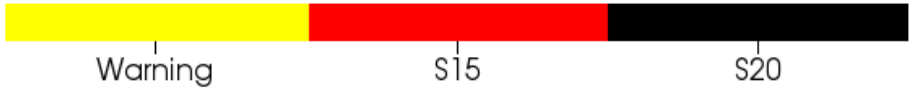
Proposed



Cumulative



Project:
Echo Street, Manchester



Created by: georgequixley
Date: 2023-04-20

Appendix 11.3

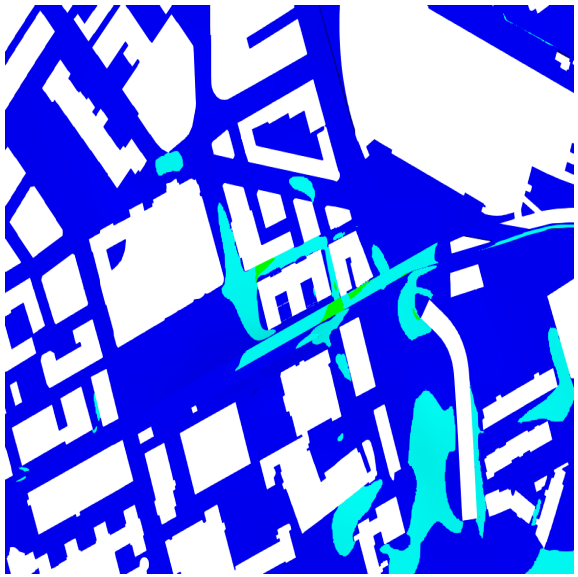
Contour Wind Plots - Pedestrian Comfort Assessment

Results for Allyear comfort

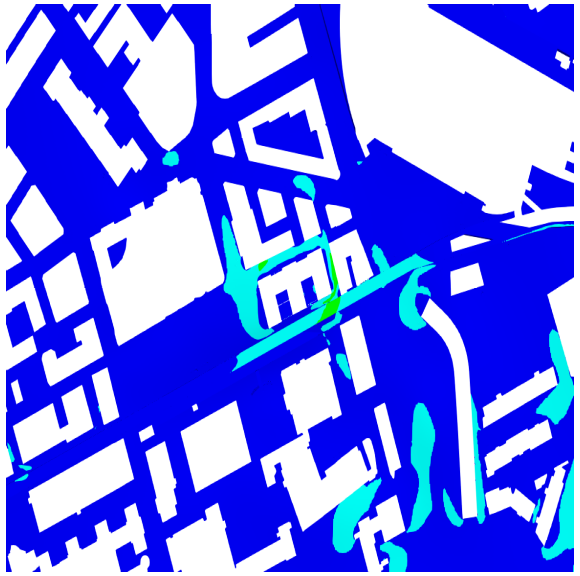
Baseline



Proposed



Cumulative



Project:
Echo Street, Manchester



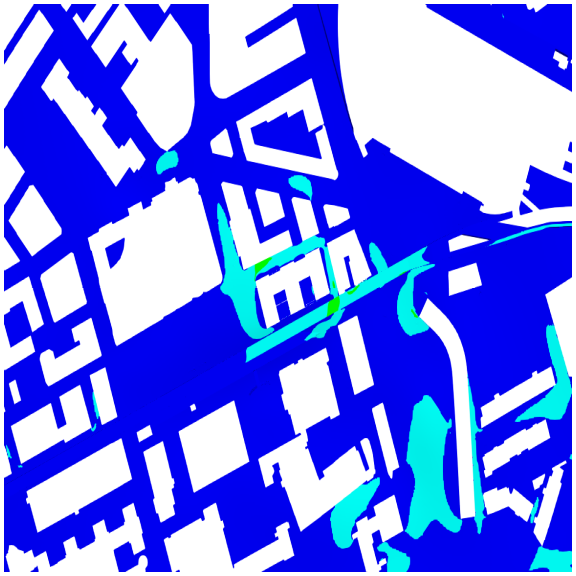
Created by: georgequixley
Date: 2023-04-20

Results for Autumn comfort

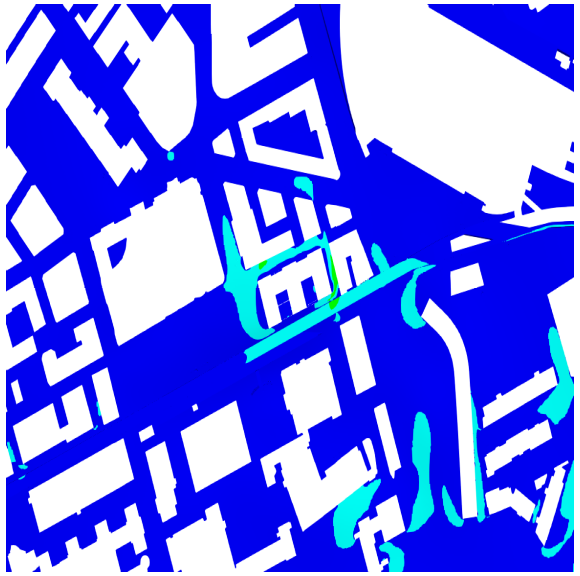
Baseline



Proposed



Cumulative



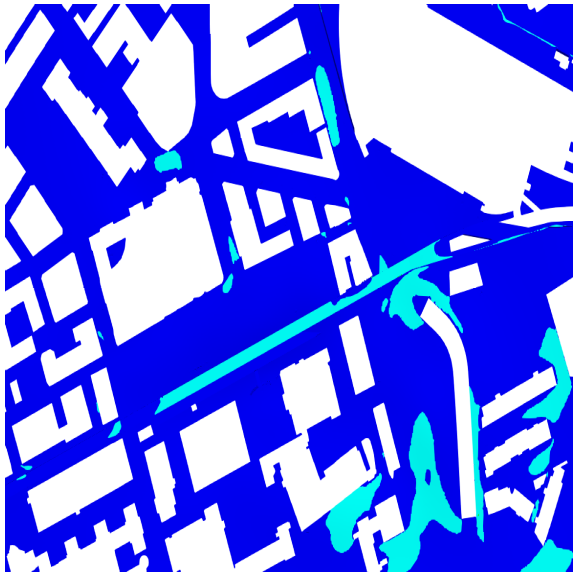
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Echo Street, Manchester



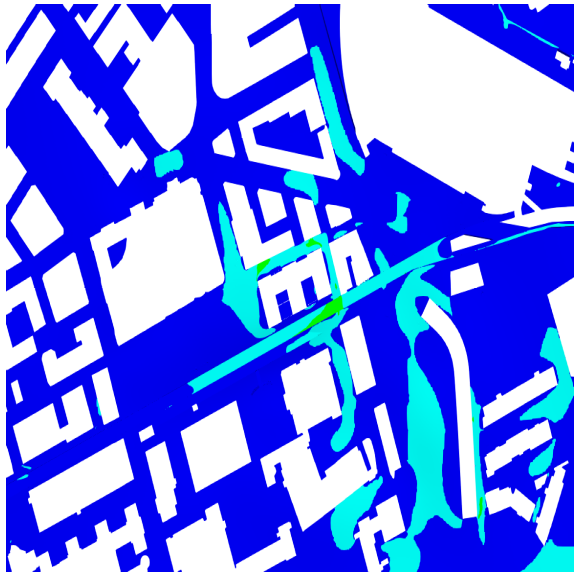
Created by: georgequixley
Date: 2023-04-20

Results for Spring comfort

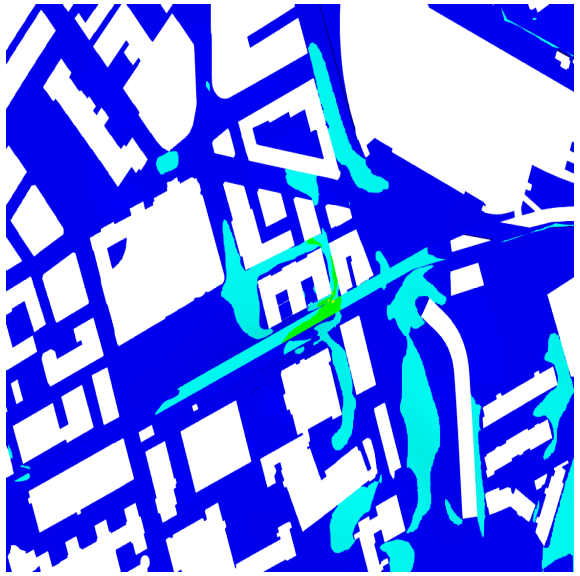
Baseline



Proposed



Cumulative



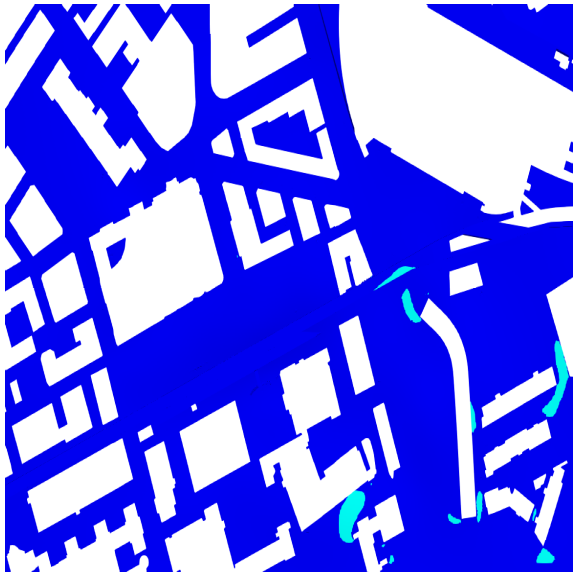
Project:
Echo Street, Manchester



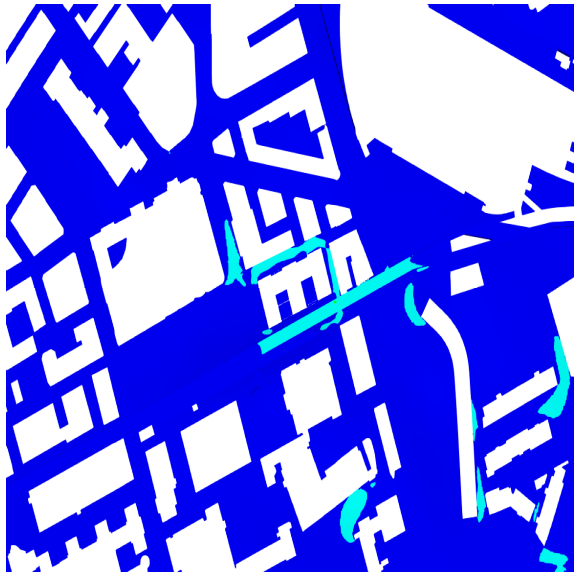
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Results for Summer comfort

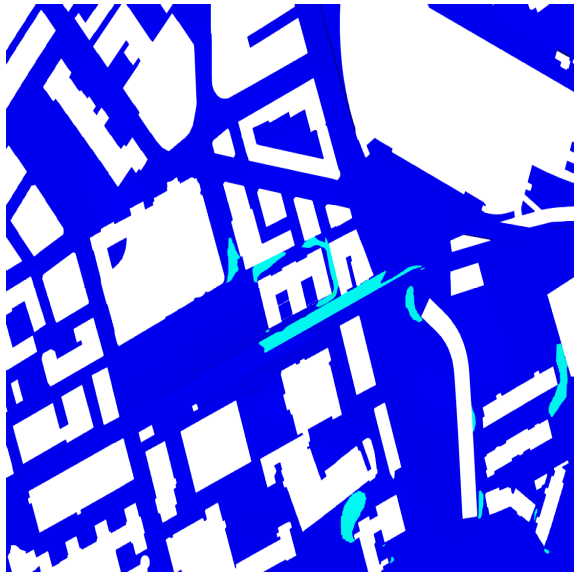
Baseline



Proposed



Cumulative



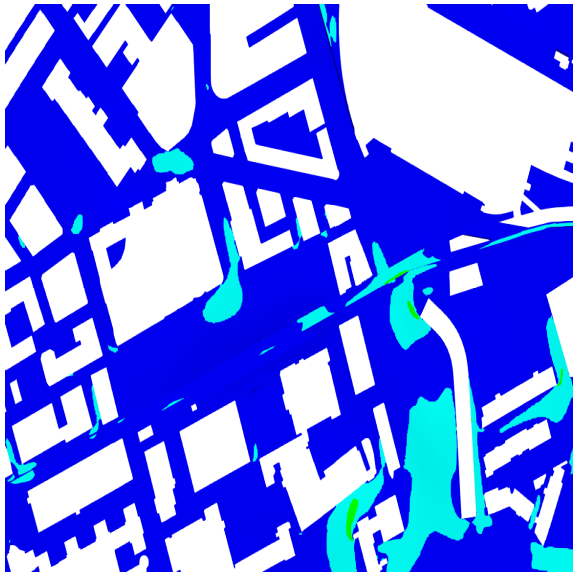
Project:
Echo Street, Manchester



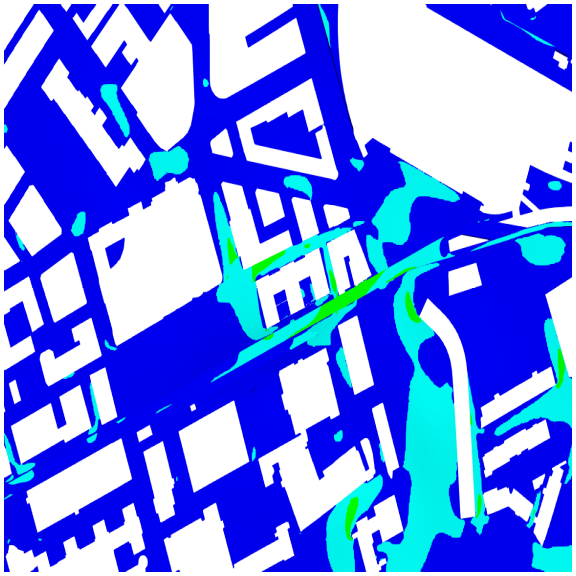
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Results for Winter comfort

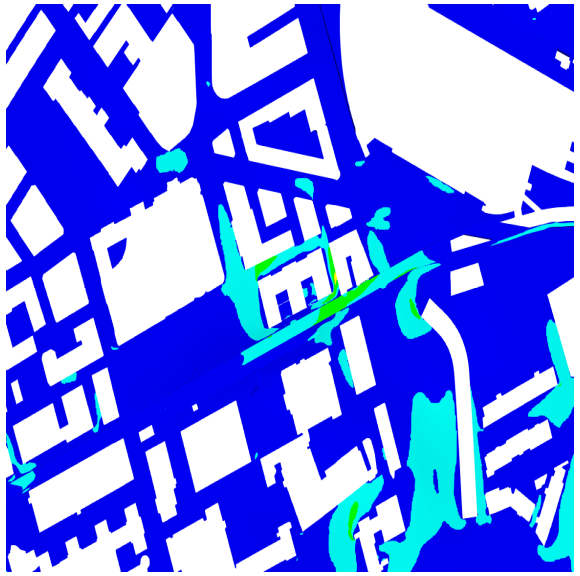
Baseline



Proposed



Cumulative



Project:
Echo Street, Manchester



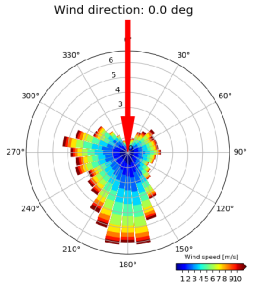
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Date: 2023-04-20

Appendix 11.4

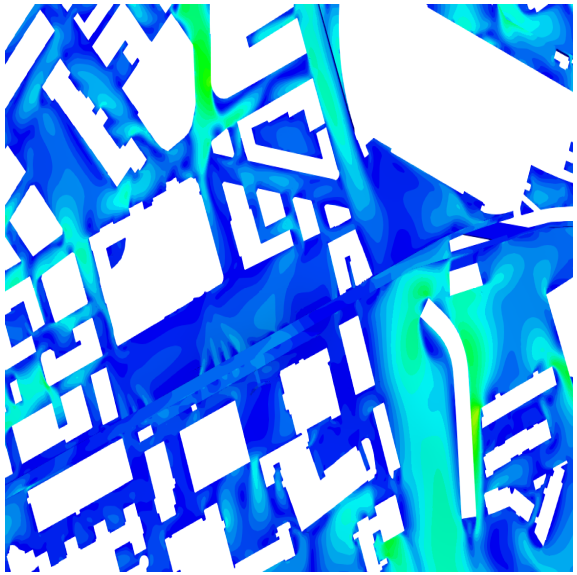
Contour Plots for Individual Wind Directions

0deg: Velocity contours at 1.5m above ground

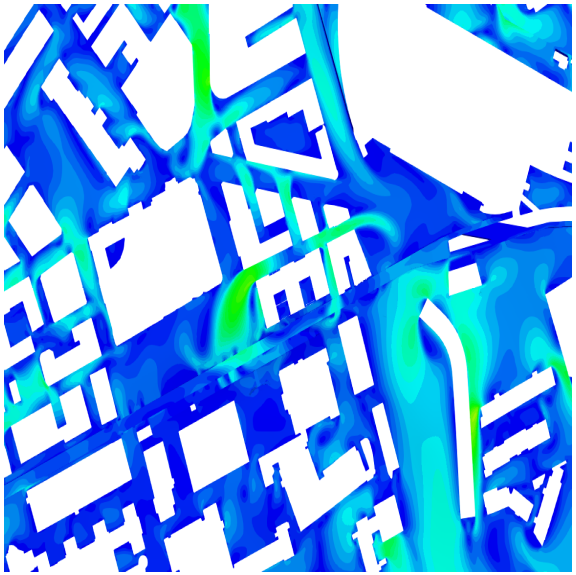
U_ref = 10m/s at 90m height



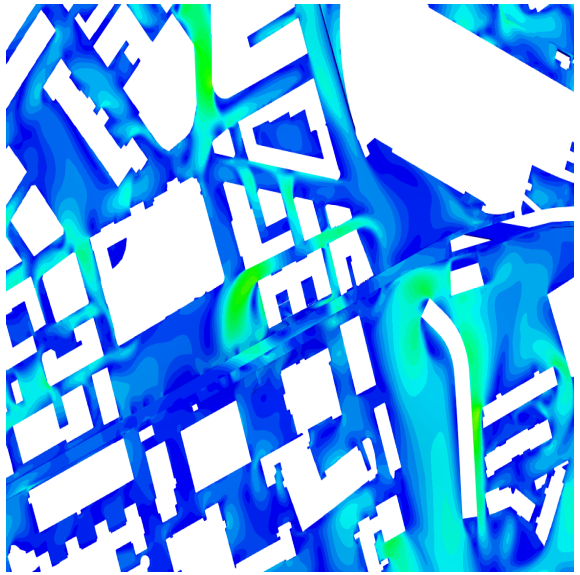
Baseline



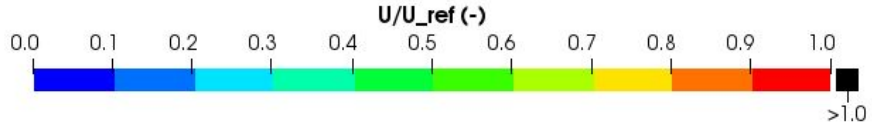
Proposed



Cumulative



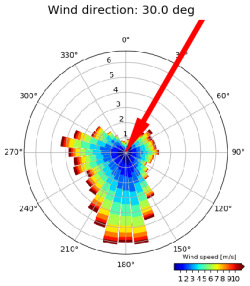
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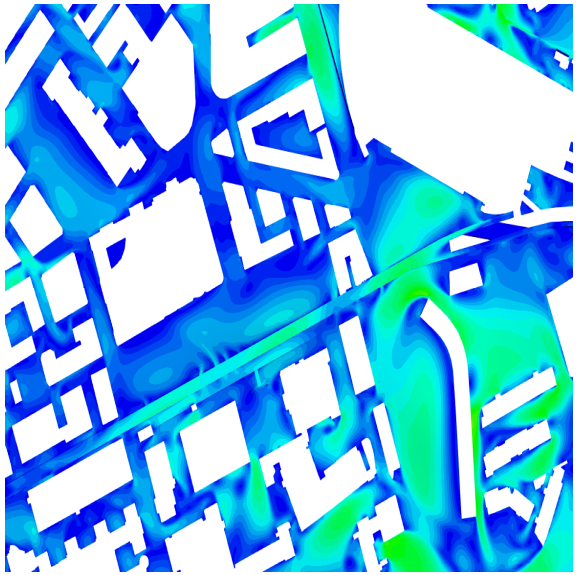
Created by: georgequixley
Date: 2023-04-20

30deg: Velocity contours at 1.5m above ground

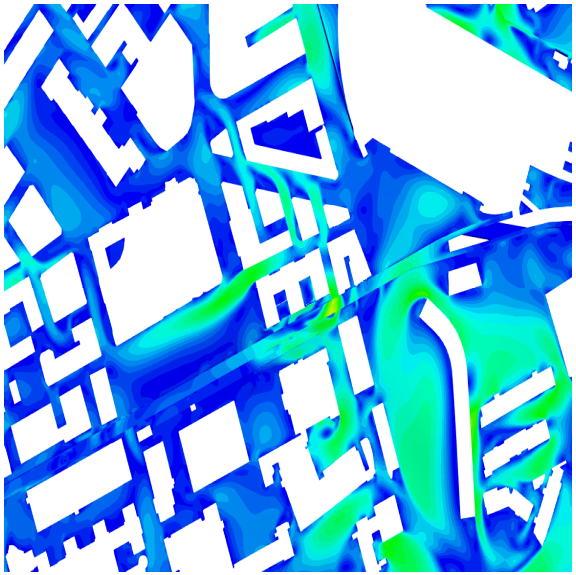
U_ref = 10m/s at 90m height



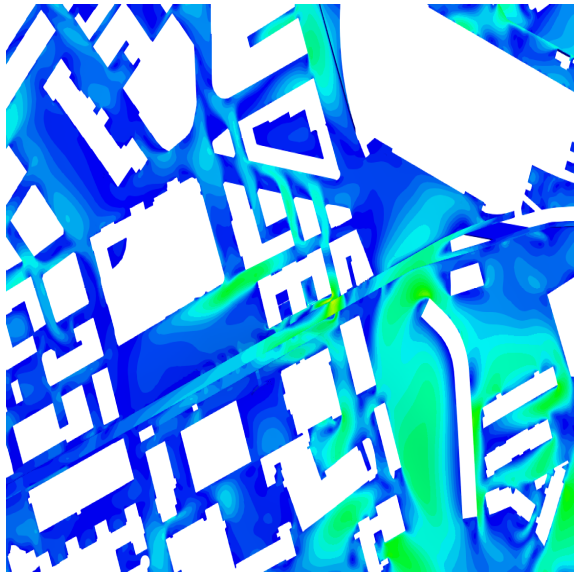
Baseline



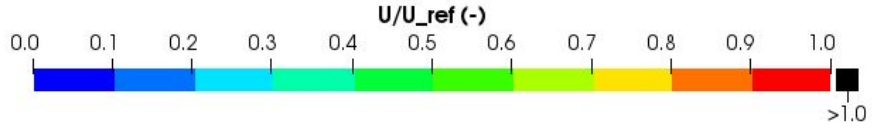
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Cumulative



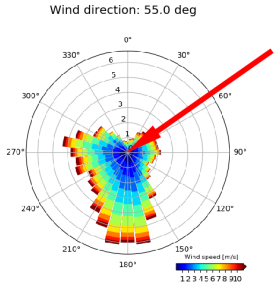
Project:
Echo Street, Manchester



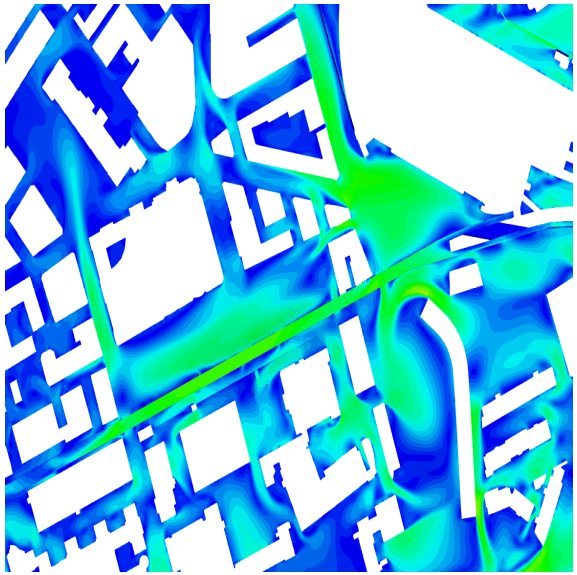
Created by: georgequixley
Date: 2023-04-20

55deg: Velocity contours at 1.5m above ground

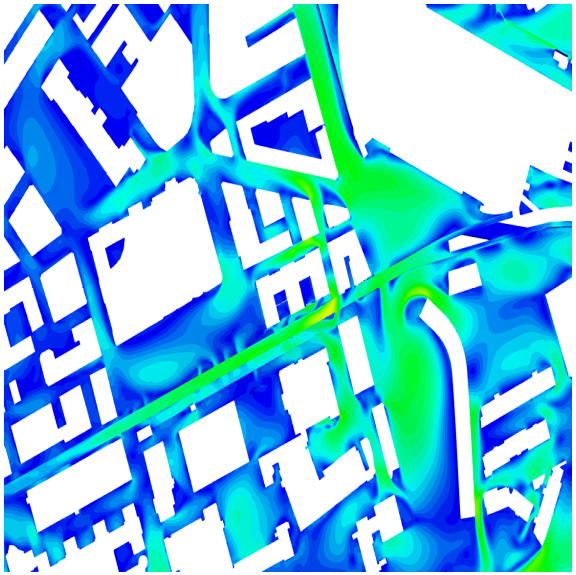
U_ref = 10m/s at 90m height



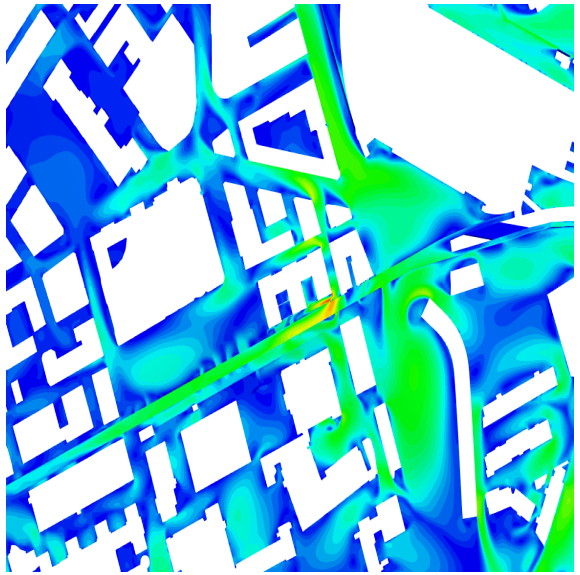
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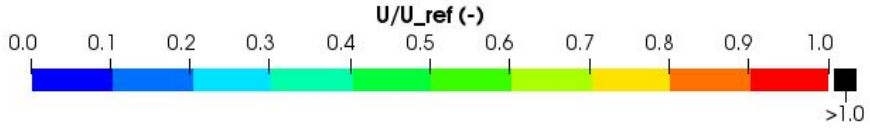
Proposed



Cumulative



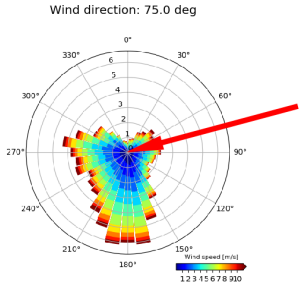
Project:
Echo Street, Manchester



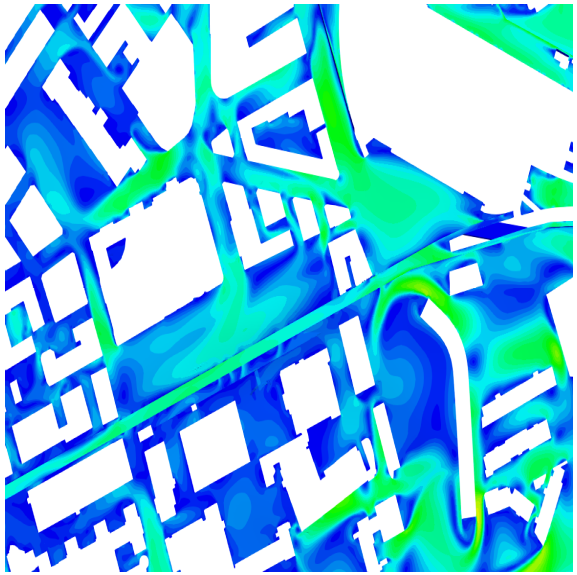
Created by: georgequixley
Date: 2023-04-20

75deg: Velocity contours at 1.5m above ground

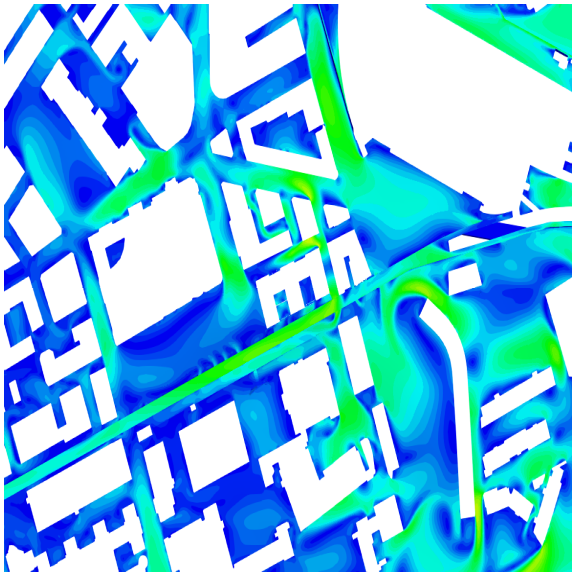
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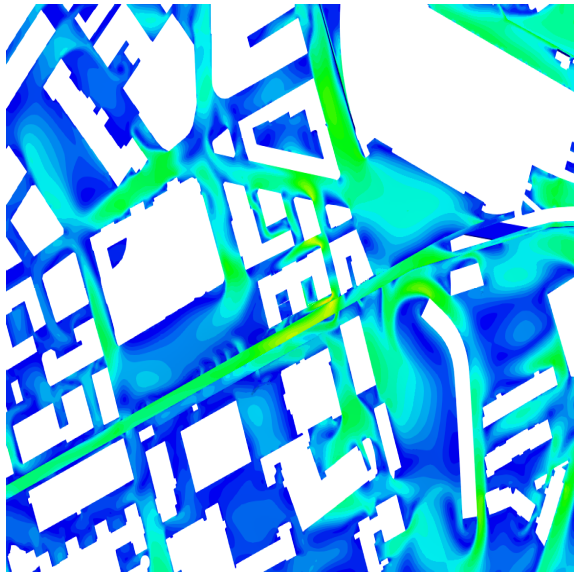
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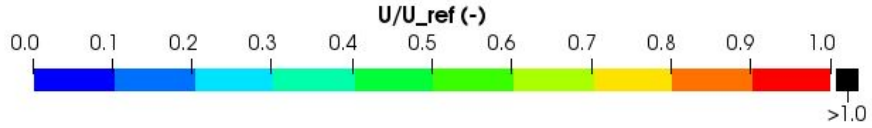
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Cumulative



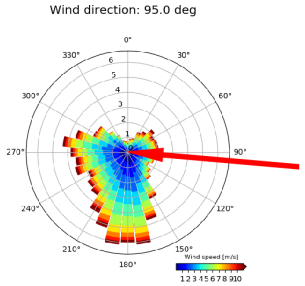
Project:
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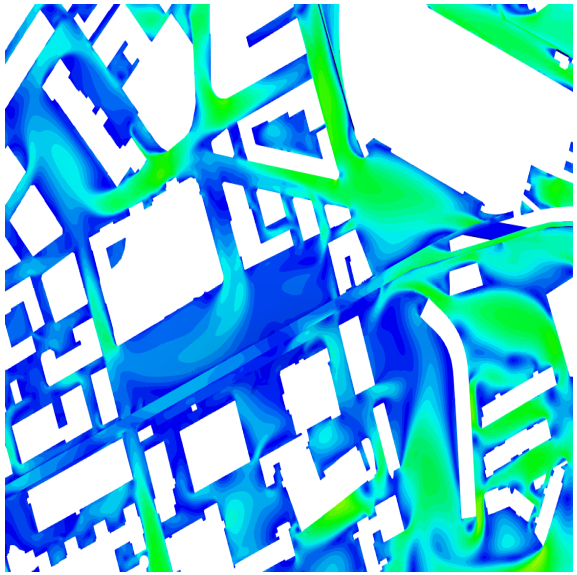
Created by: georgequixley
Date: 2023-04-20

95deg: Velocity contours at 1.5m above ground

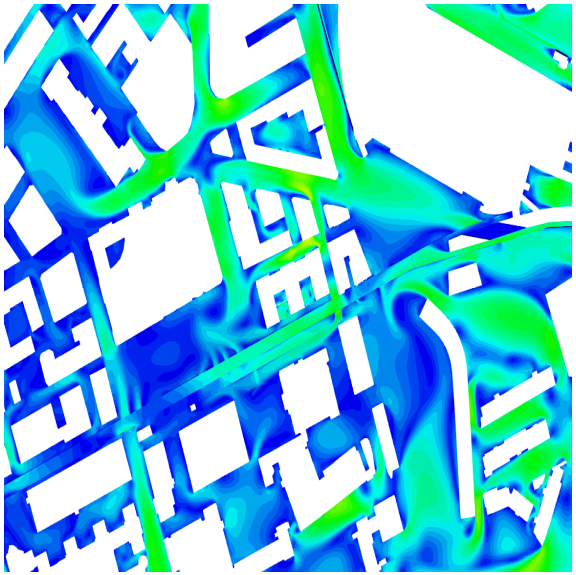
U_ref = 10m/s at 90m height



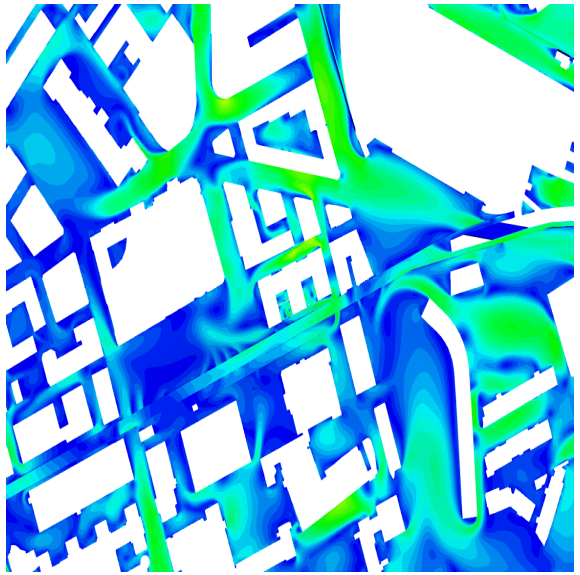
Baseline



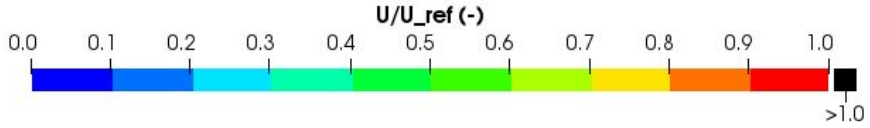
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Cumulative



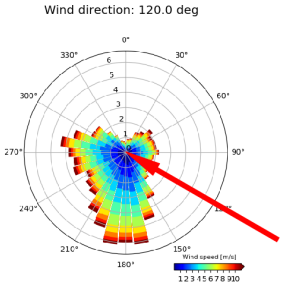
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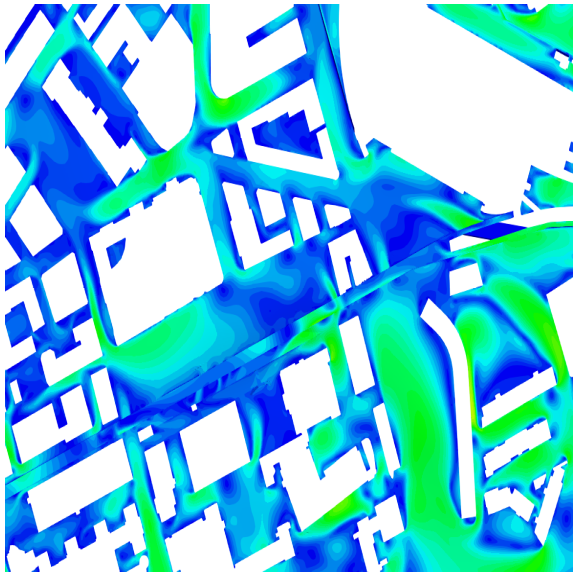
Created by: georgequixley
Date: 2023-04-20

120deg: Velocity contours at 1.5m above ground

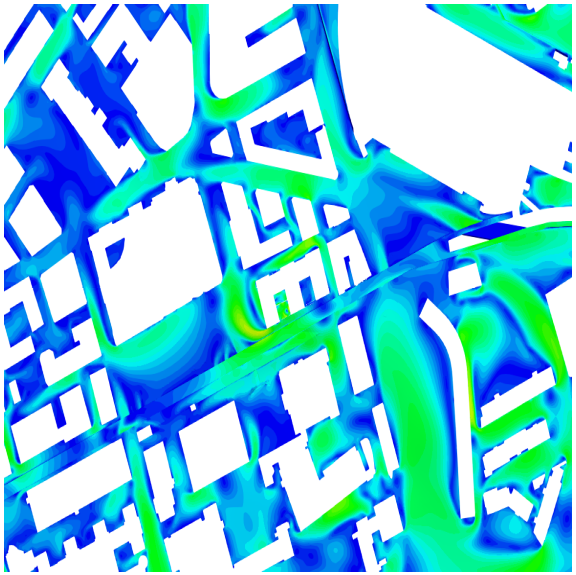
U_ref = 10m/s at 90m height



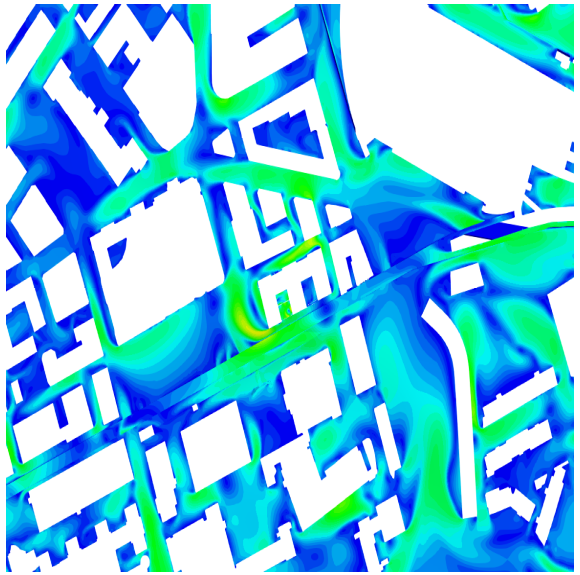
Baseline



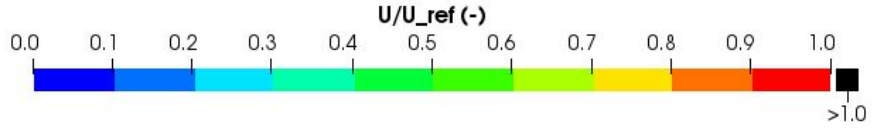
Proposed



Cumulative



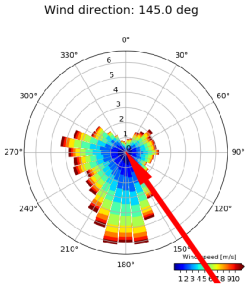
Project:
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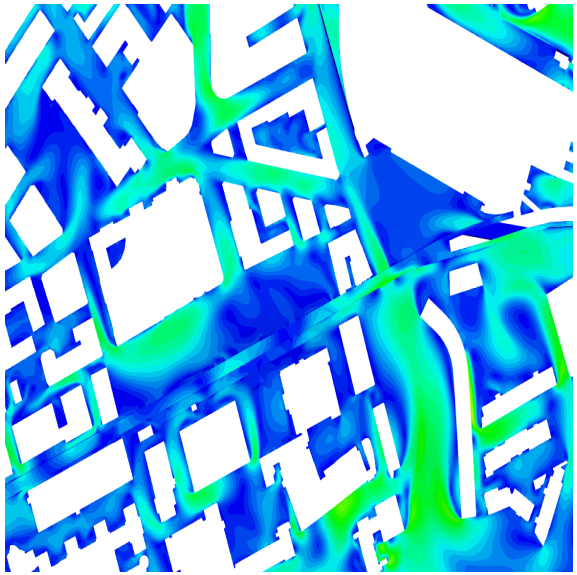
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Date: 2023-04-20

145deg: Velocity contours at 1.5m above ground

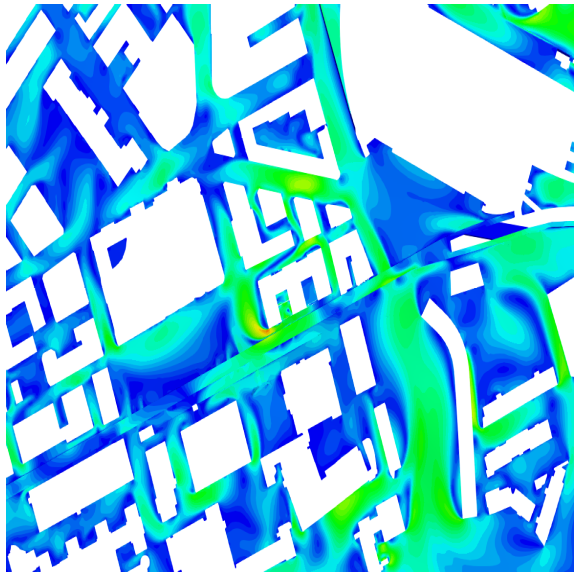
U_ref = 10m/s at 90m height



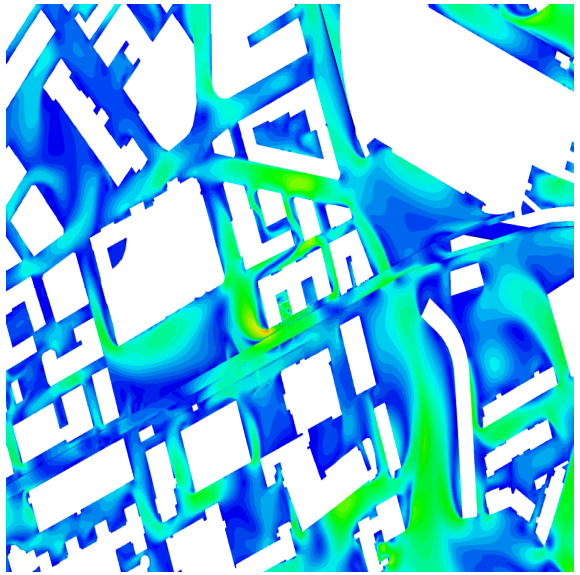
Baseline



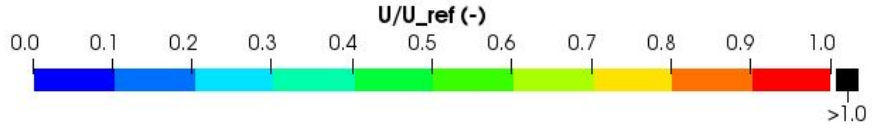
Proposed



Cumulative



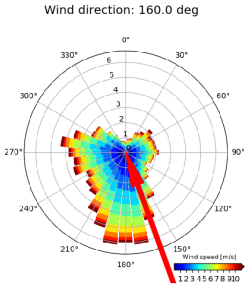
Project:
Echo Street, Manchester



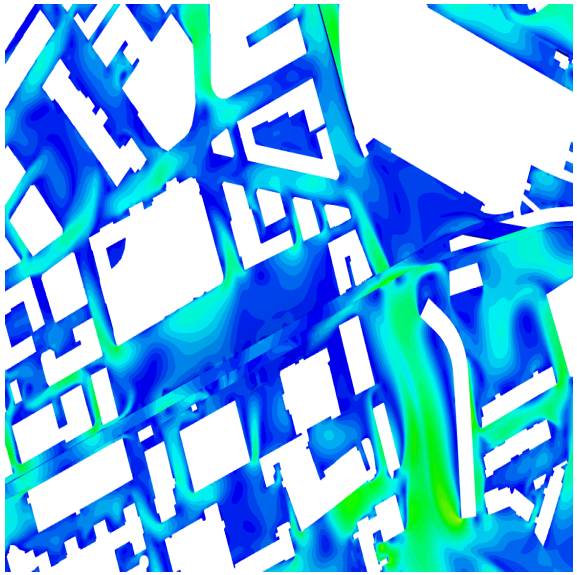
Created by: georgequixley
Date: 2023-04-20

160deg: Velocity contours at 1.5m above ground

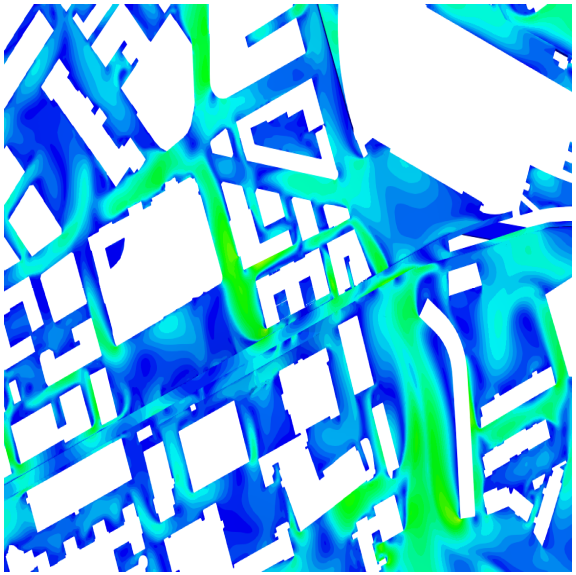
U_ref = 10m/s at 90m height



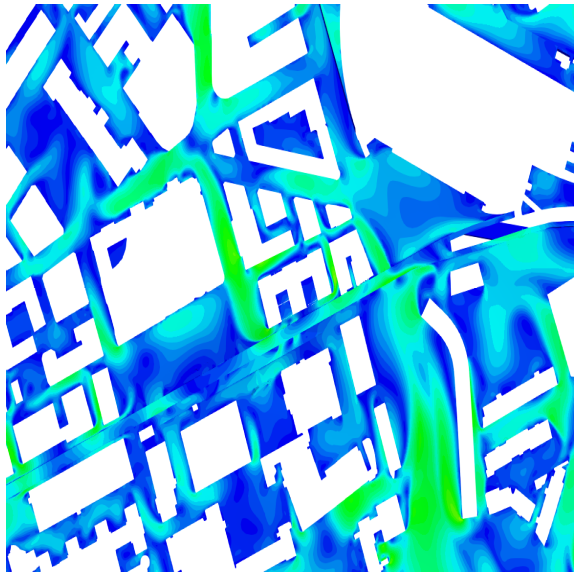
Baseline



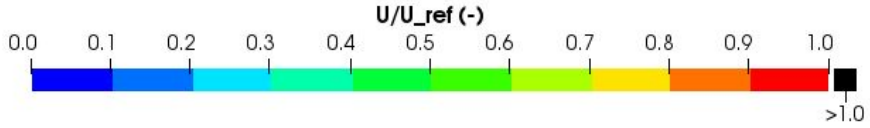
Proposed



Cumulative



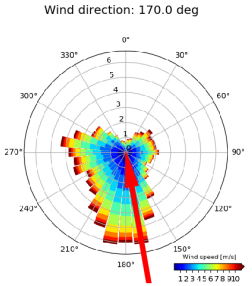
Project:
Echo Street, Manchester



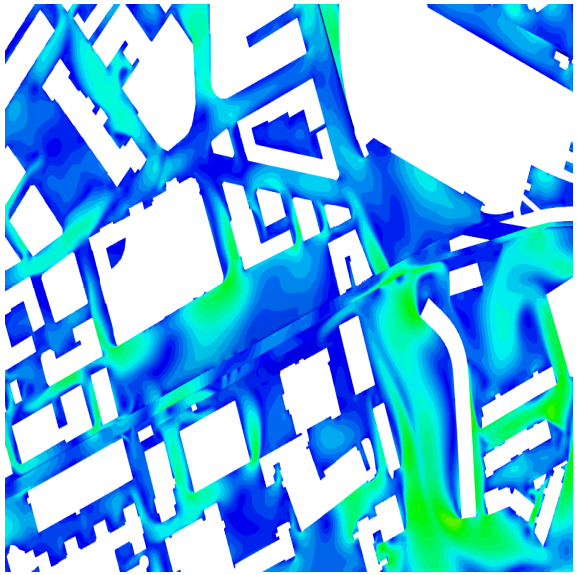
Created by: georgequixley
Date: 2023-04-20

170deg: Velocity contours at 1.5m above ground

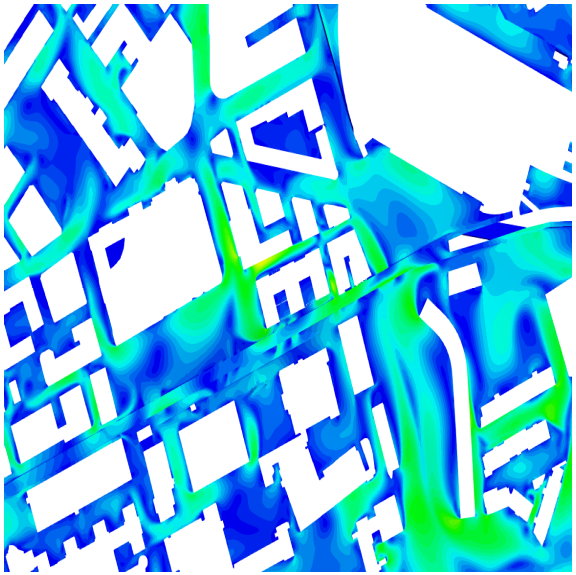
U_ref = 10m/s at 90m height



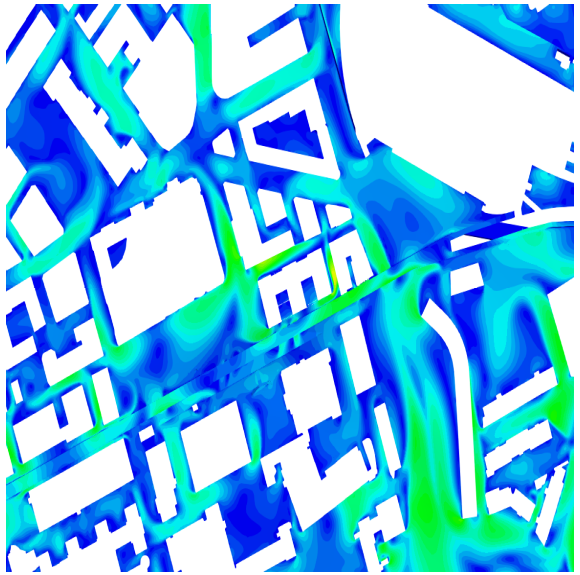
Baseline



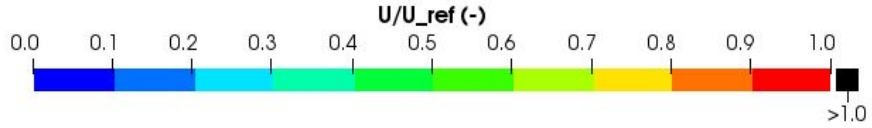
Proposed



Cumulative



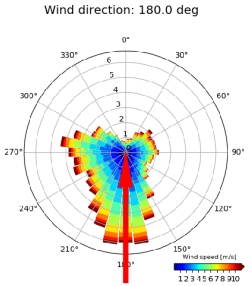
Project:
Echo Street, Manchester



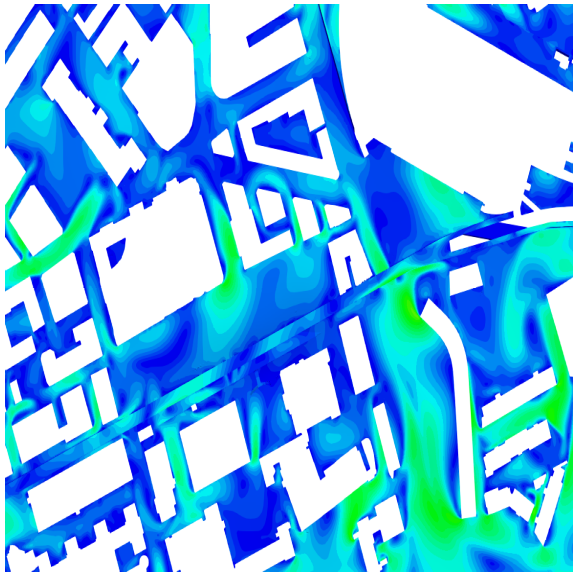
Created by: georgequixley
Date: 2023-04-20

180deg: Velocity contours at 1.5m above ground

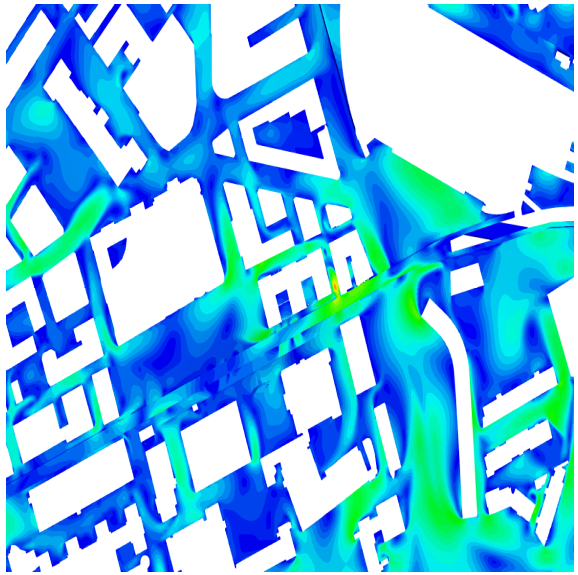
U_ref = 10m/s at 90m height



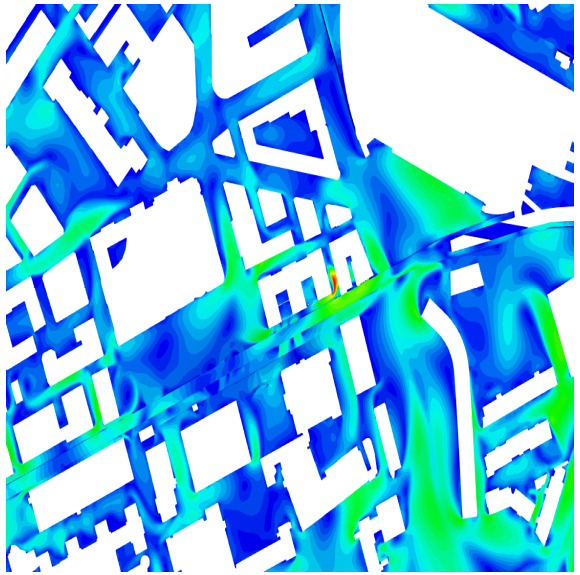
Baseline



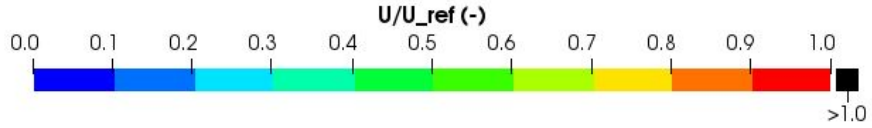
Proposed



Cumulative



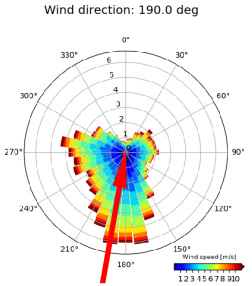
Project:
Echo Street, Manchester



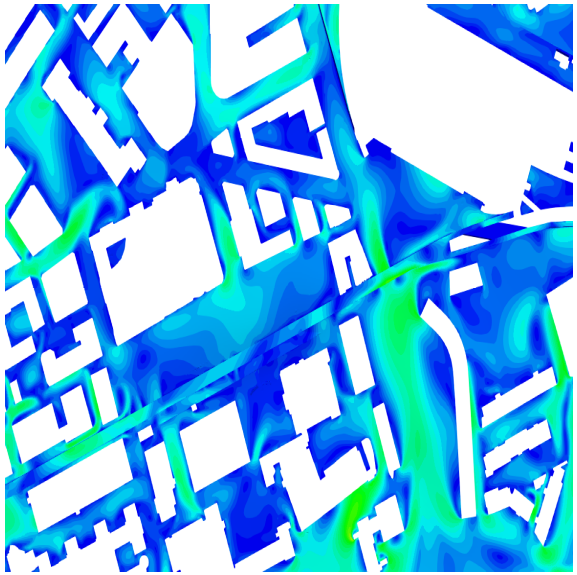
Created by: georgequixley
Date: 2023-04-20

190deg: Velocity contours at 1.5m above ground

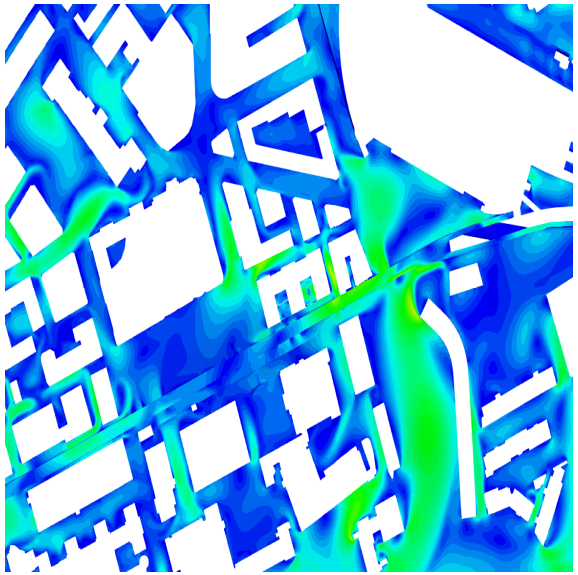
U_ref = 10m/s at 90m height



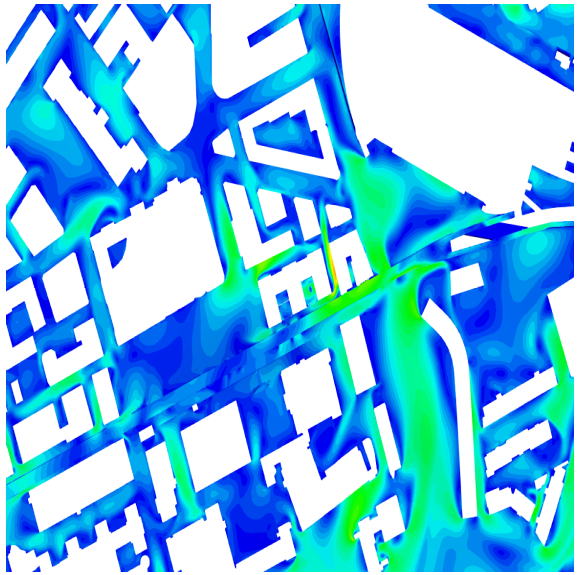
Baseline



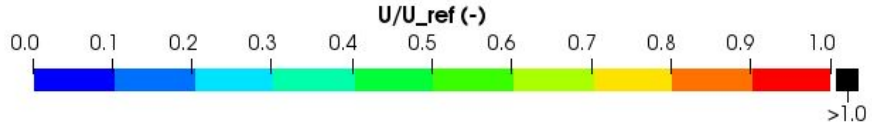
Proposed



Cumulative



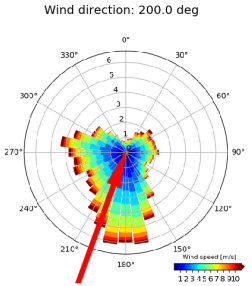
Project:
Echo Street, Manchester



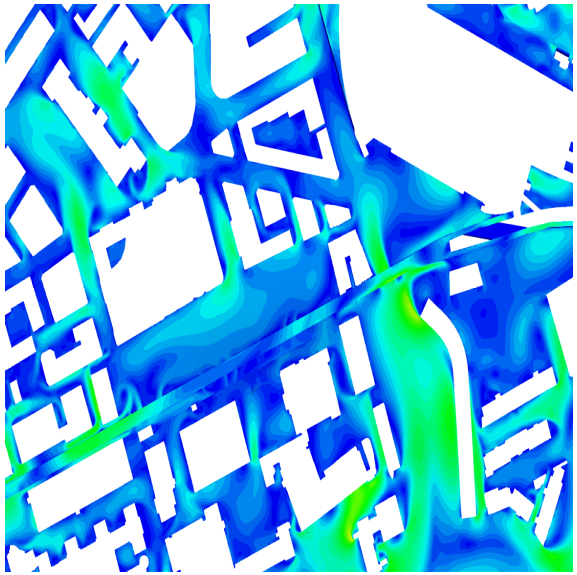
Created by: georgequixley
Date: 2023-04-20

200deg: Velocity contours at 1.5m above ground

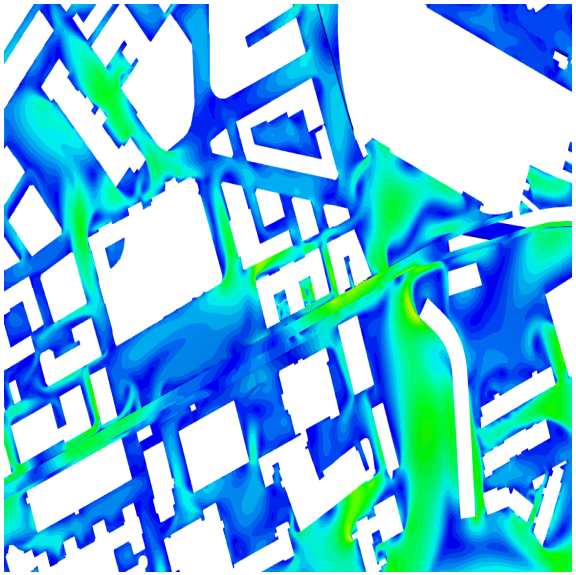
U_ref = 10m/s at 90m height



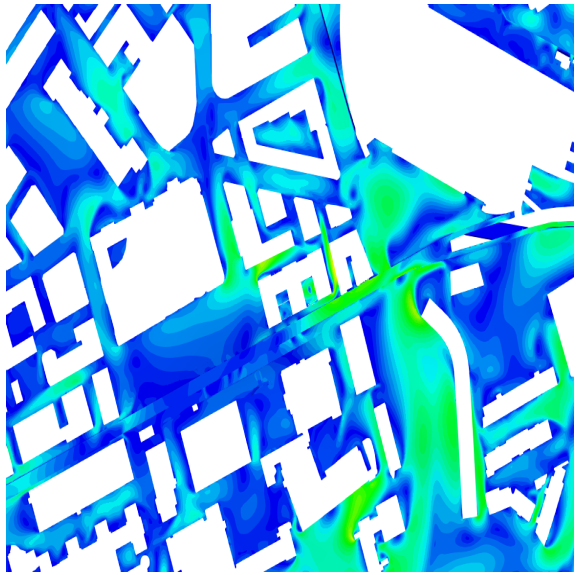
Baseline



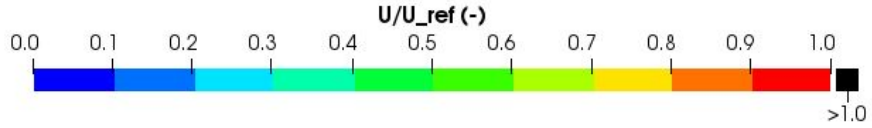
Proposed



Cumulative



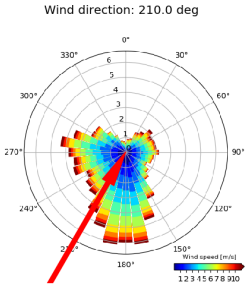
Project:
Echo Street, Manchester



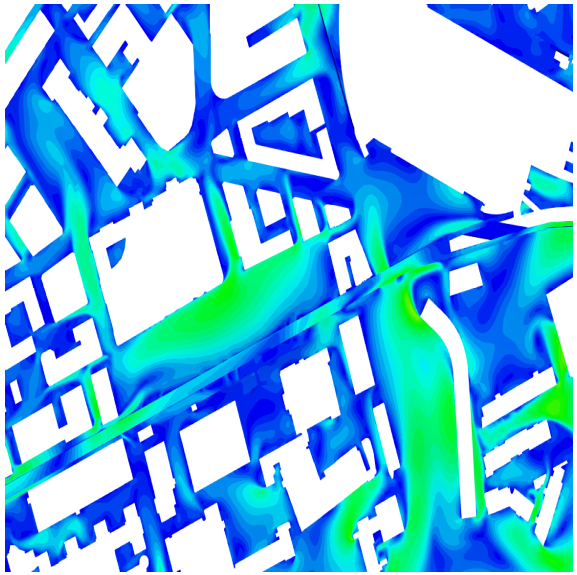
Created by: georgequixley
Date: 2023-04-20

210deg: Velocity contours at 1.5m above ground

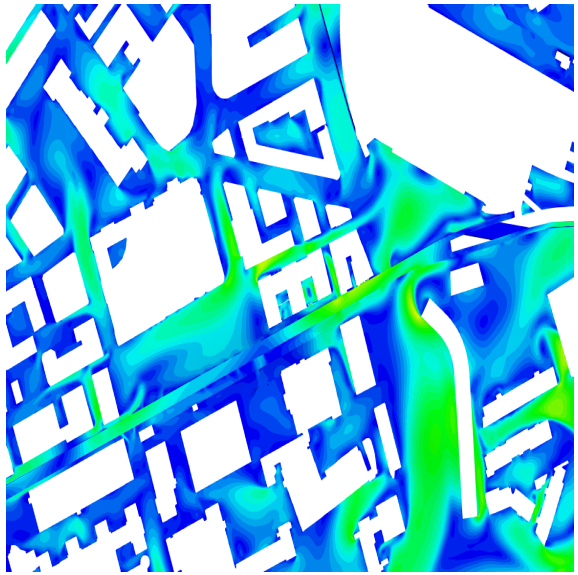
U_ref = 10m/s at 90m height



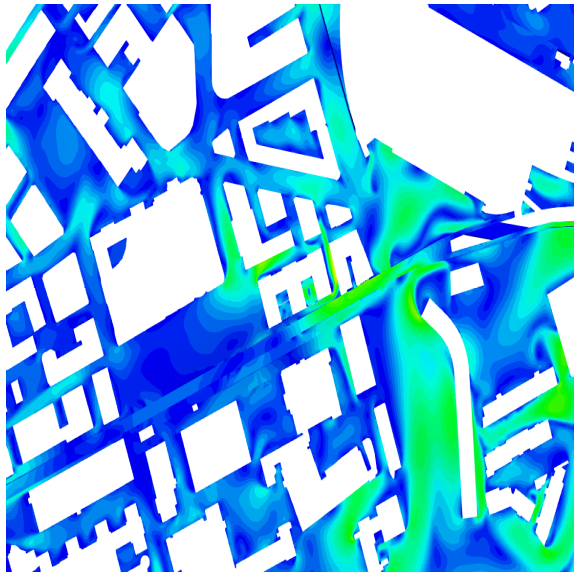
Baseline



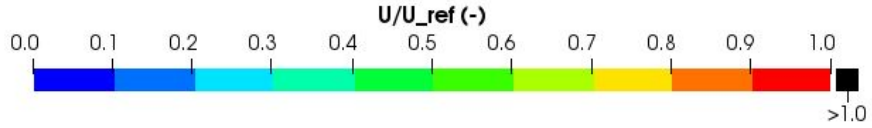
Proposed



Cumulative



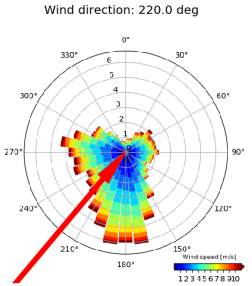
Project:
Echo Street, Manchester



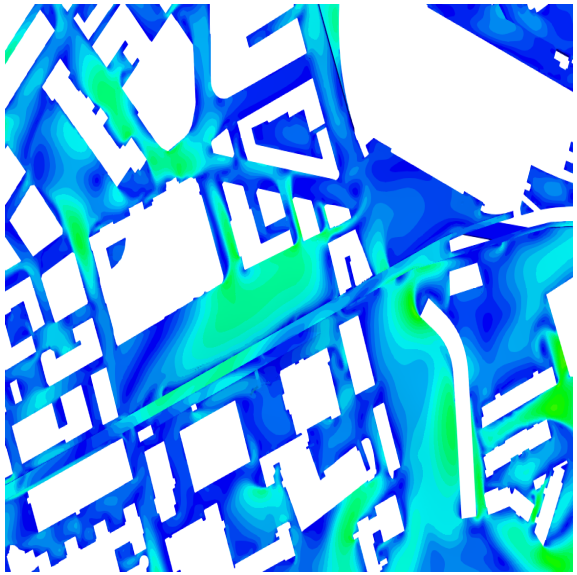
Created by: georgequixley
Date: 2023-04-20

220deg: Velocity contours at 1.5m above ground

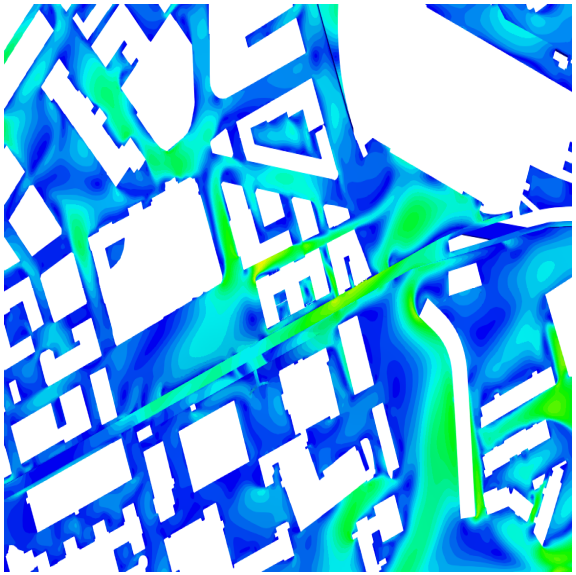
U_ref = 10m/s at 90m height



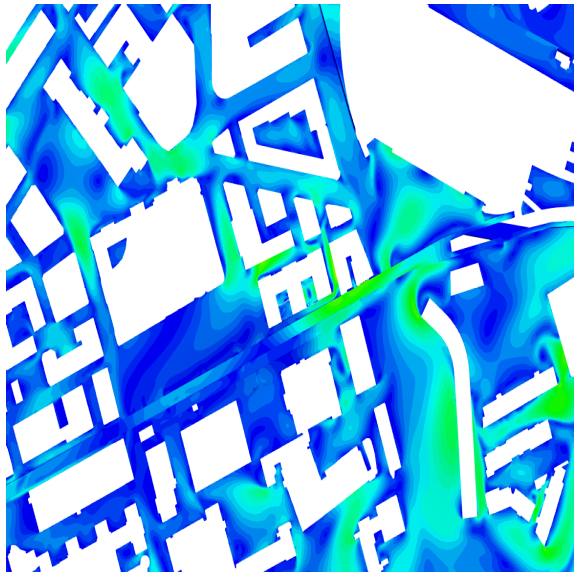
Baseline



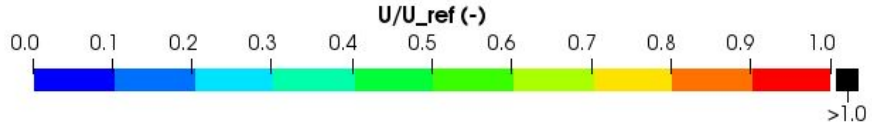
Proposed



Cumulative



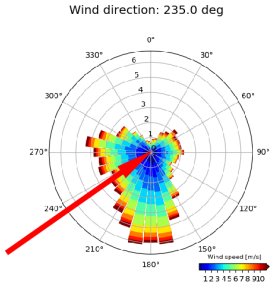
Project:
Echo Street, Manchester



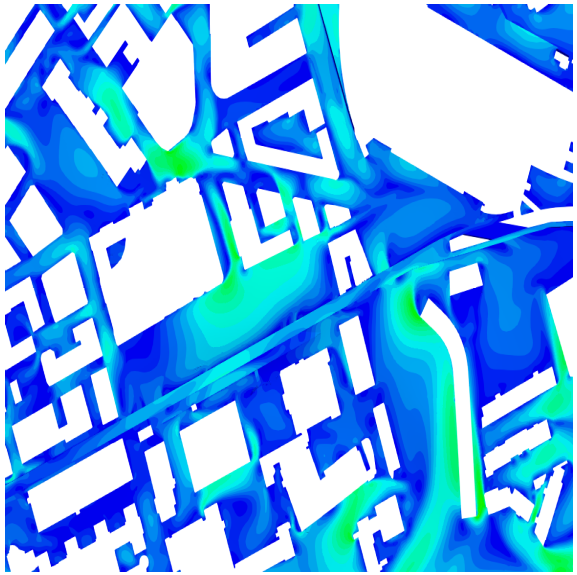
Created by: georgequixley
Date: 2023-04-20

235deg: Velocity contours at 1.5m above ground

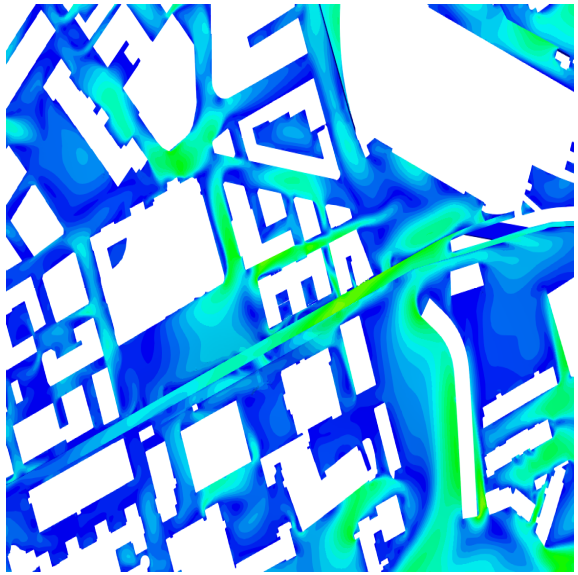
U_ref = 10m/s at 90m height



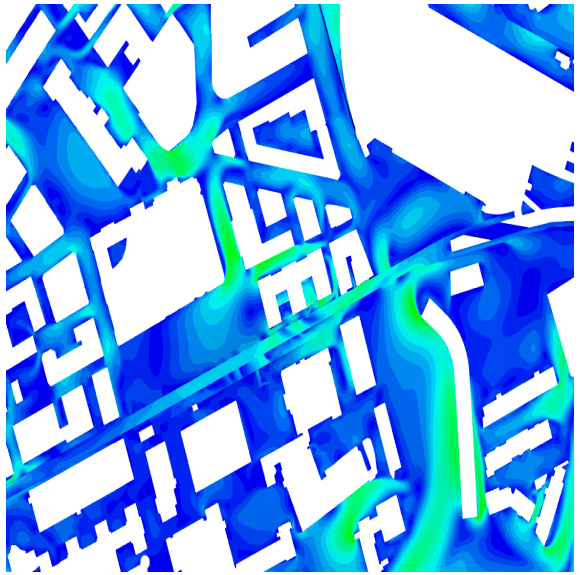
Baseline



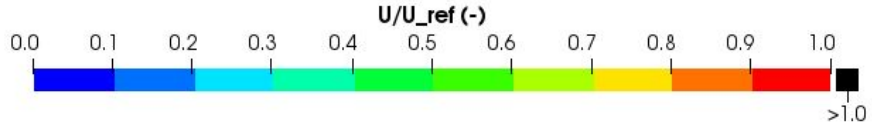
Proposed



Cumulative



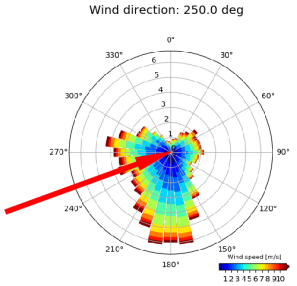
Project:
Echo Street, Manchester



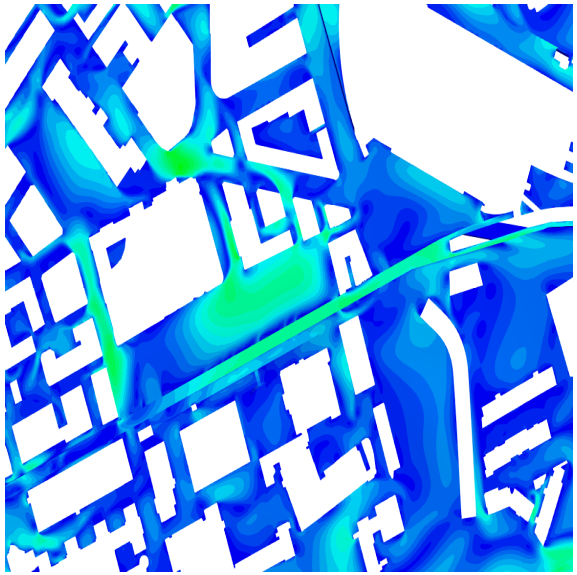
Created by: georgequixley
Date: 2023-04-20

250deg: Velocity contours at 1.5m above ground

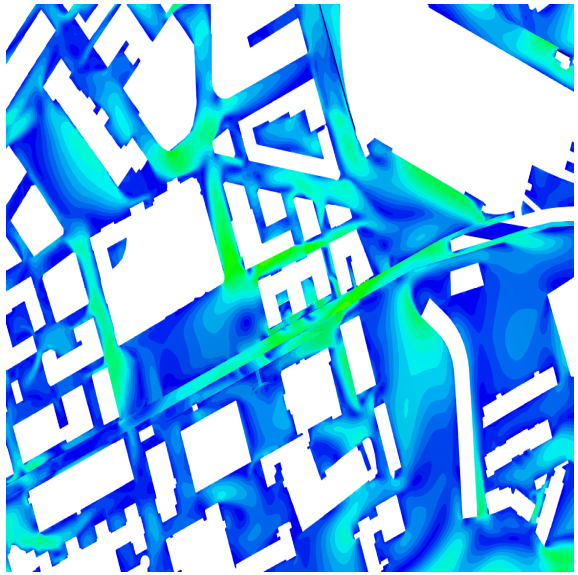
U_ref = 10m/s at 90m height



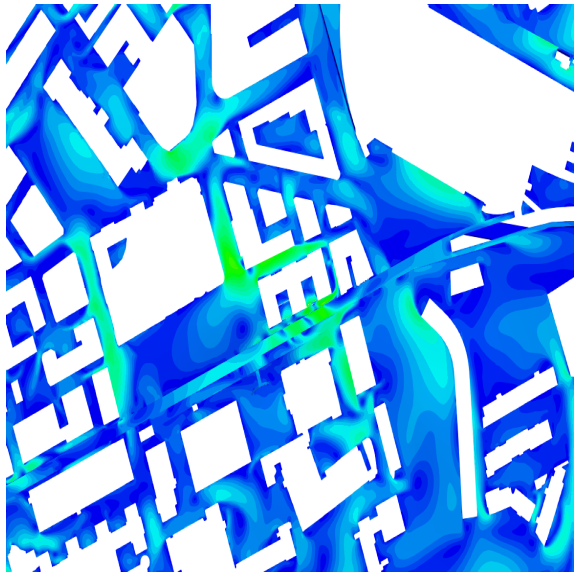
Baseline



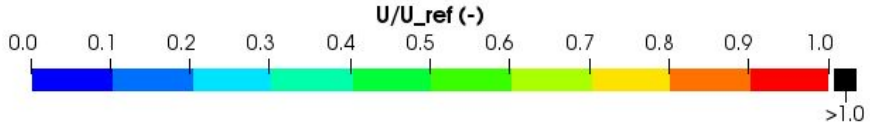
Proposed



Cumulative



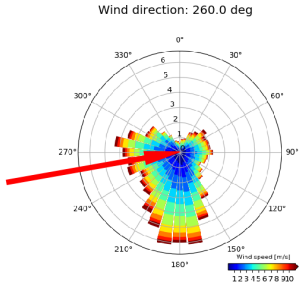
Project:
Echo Street, Manchester



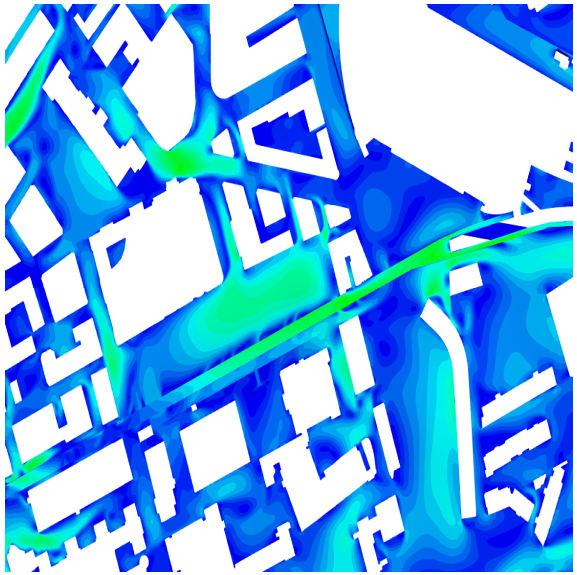
Created by: georgequixley
Date: 2023-04-20

260deg: Velocity contours at 1.5m above ground

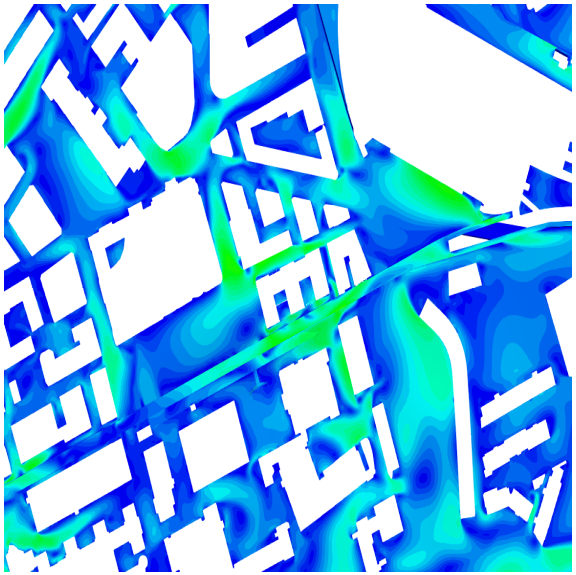
U_ref = 10m/s at 90m height



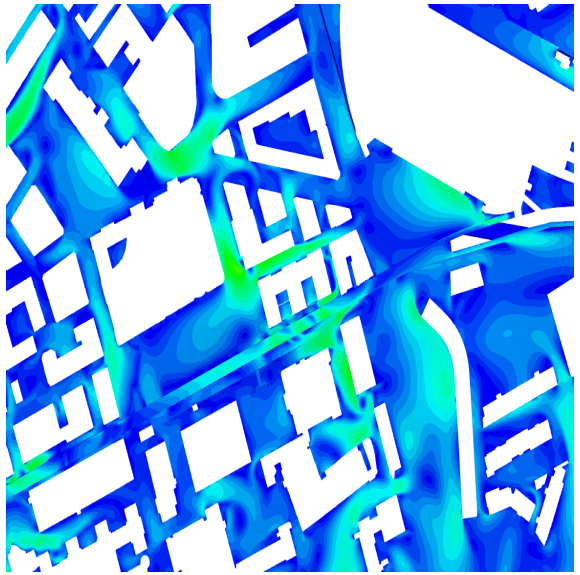
Baseline



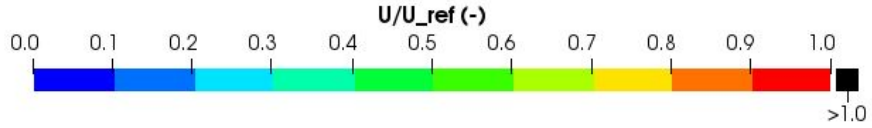
Proposed



Cumulative



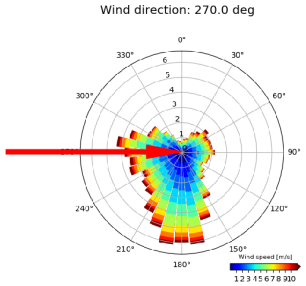
Project:
Echo Street, Manchester



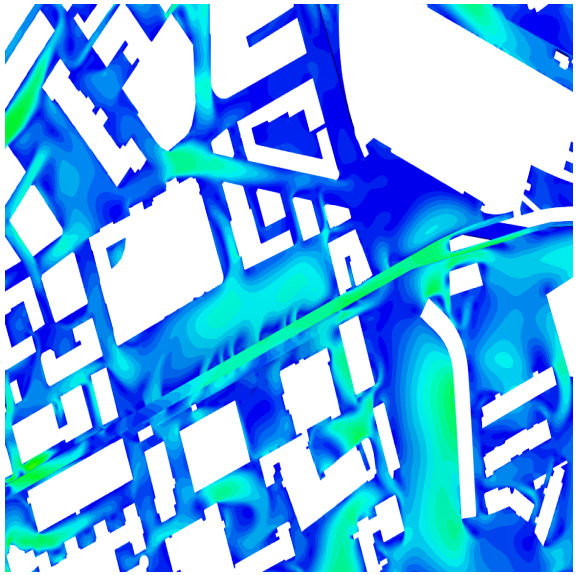
Created by: georgequixley
Date: 2023-04-20

270deg: Velocity contours at 1.5m above ground

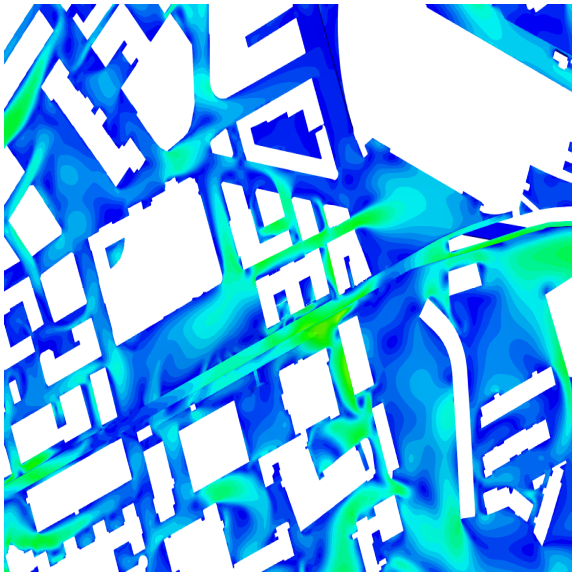
U_ref = 10m/s at 90m height



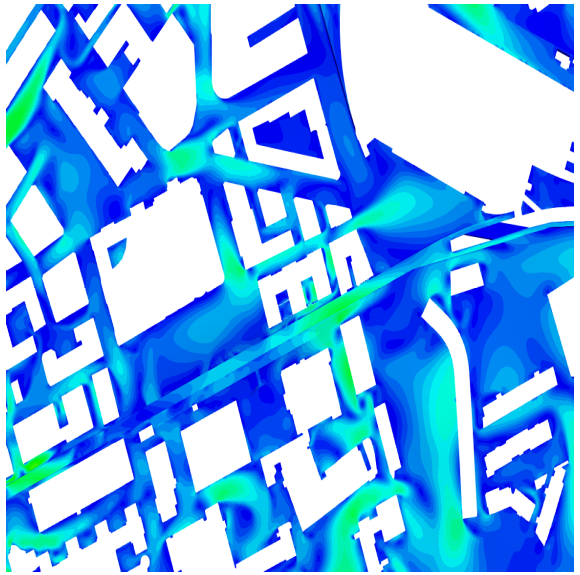
Baseline



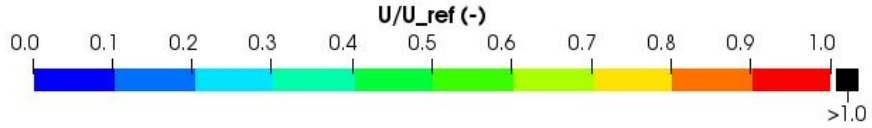
Proposed



Cumulative



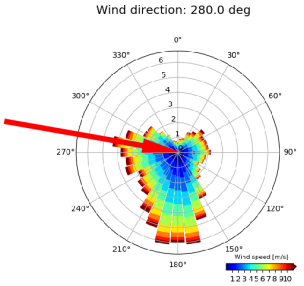
Project:
Echo Street, Manchester



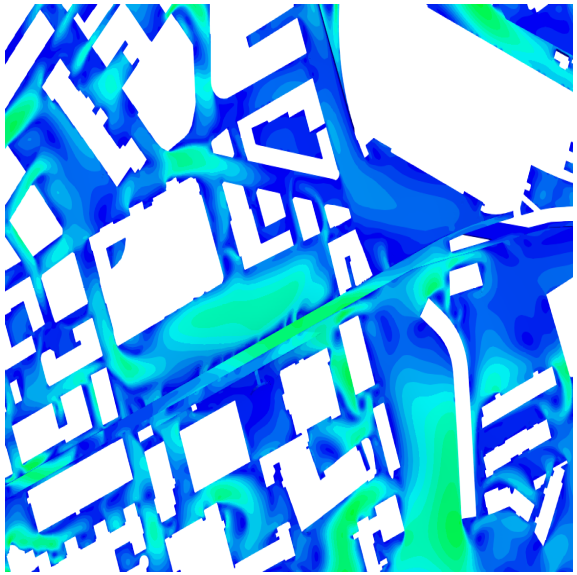
Created by: georgequixley
Date: 2023-04-20

280deg: Velocity contours at 1.5m above ground

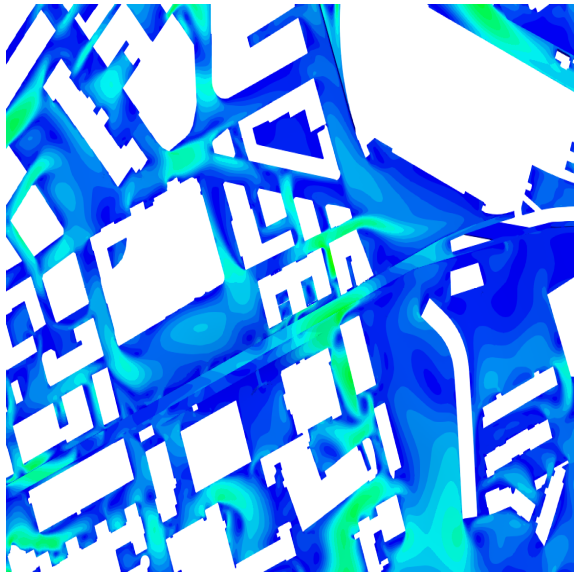
U_ref = 10m/s at 90m height



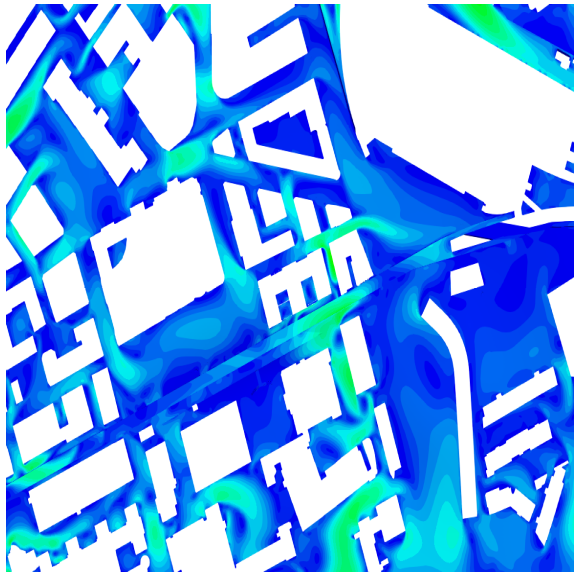
Baseline



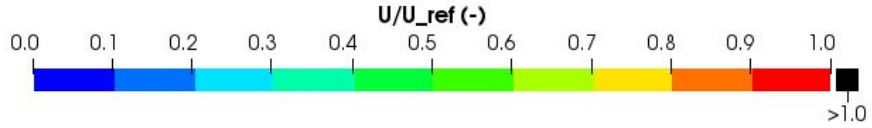
Proposed



Cumulative



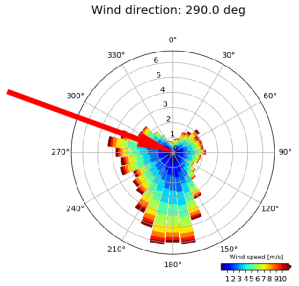
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Echo Street, Manchester



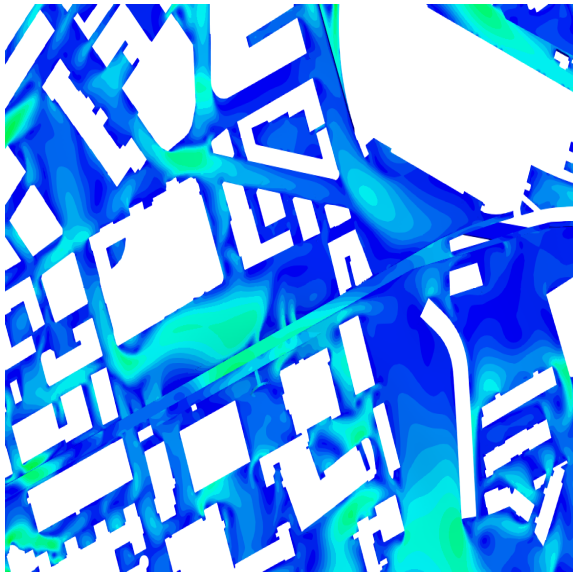
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Date: 2023-04-20

290deg: Velocity contours at 1.5m above ground

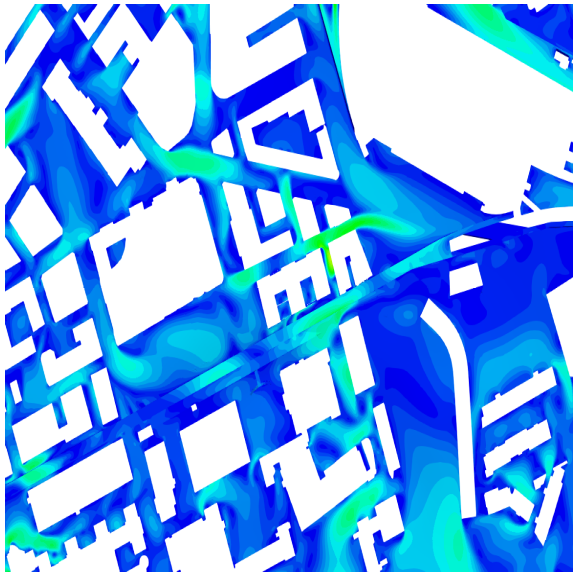
U_ref = 10m/s at 90m height



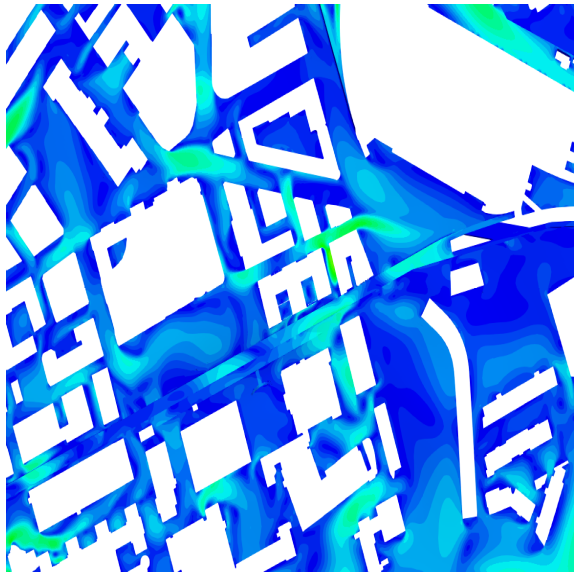
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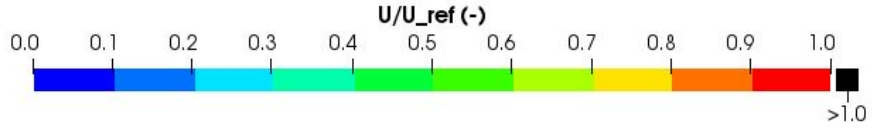


Proposed



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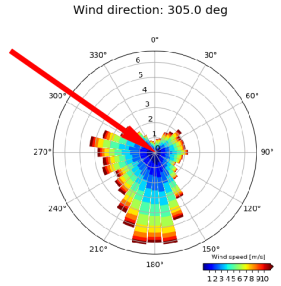


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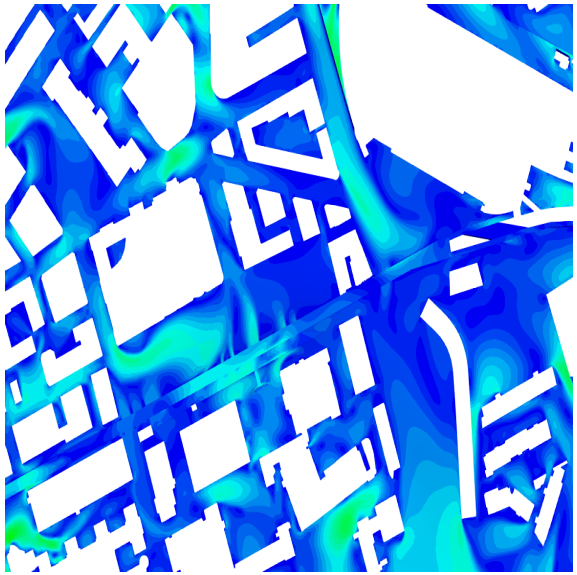
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305deg: Velocity contours at 1.5m above ground

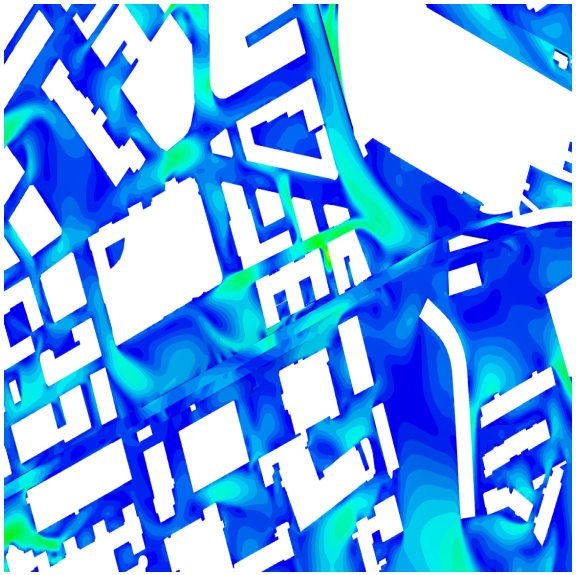
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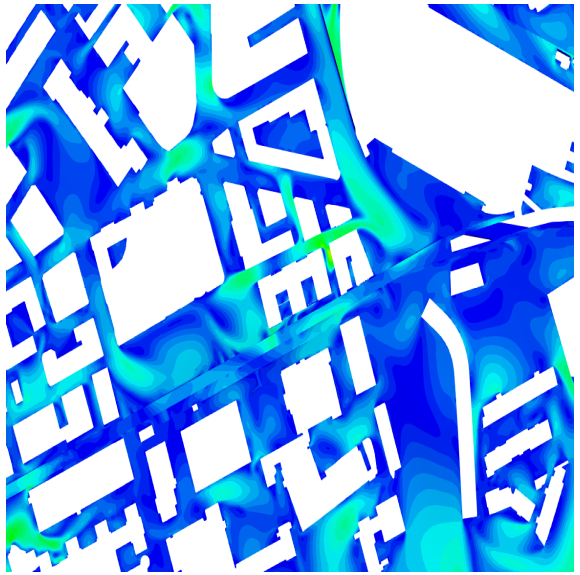
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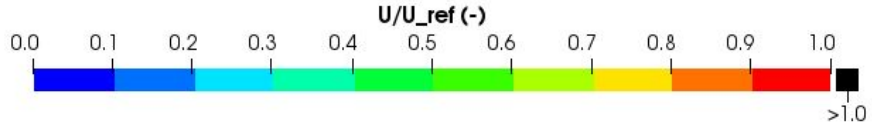
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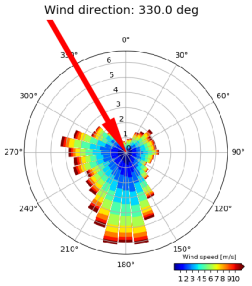
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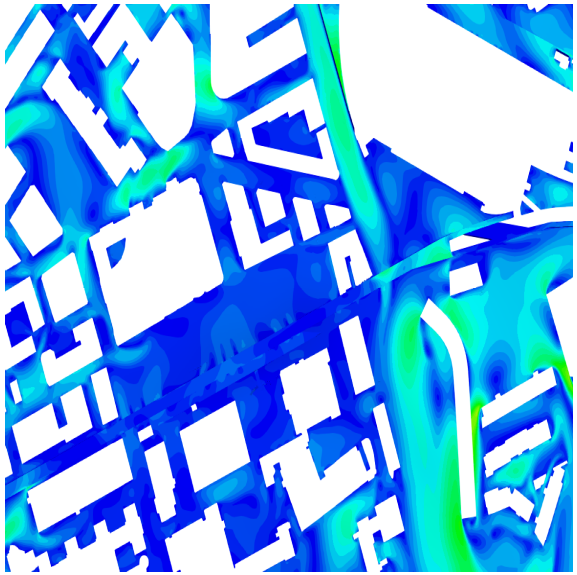
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330deg: Velocity contours at 1.5m above ground

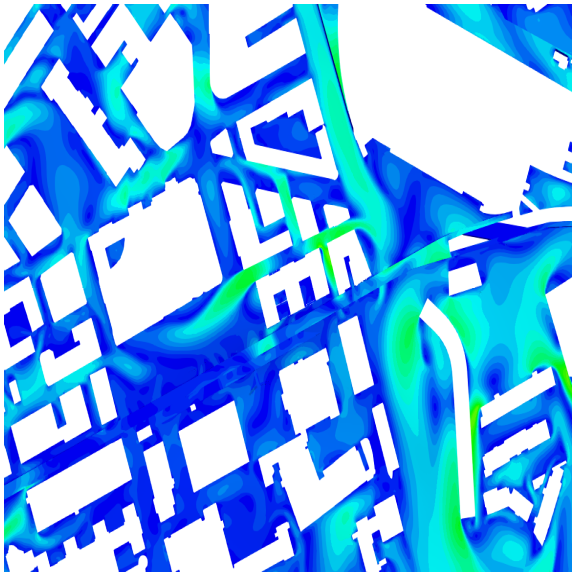
U_ref = 10m/s at 90m height



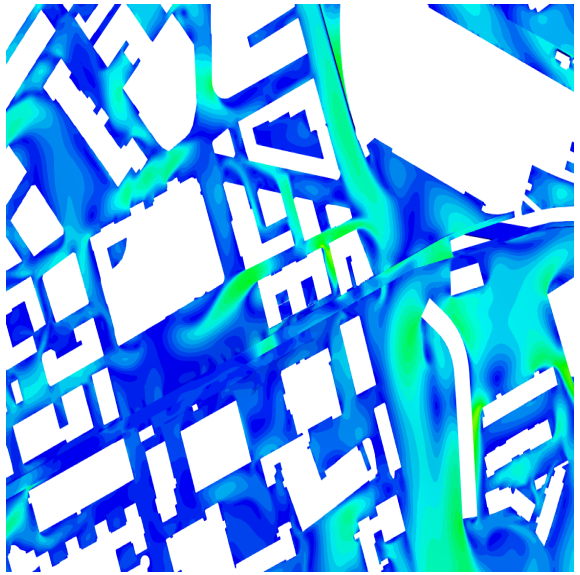
Baseline



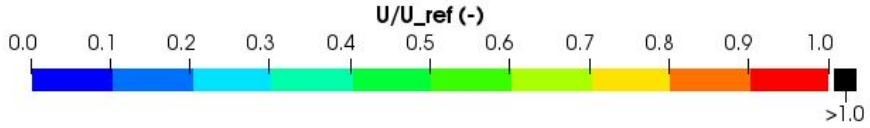
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Project:
Echo Street, Manchester



Created by: georgequixley
Date: 2023-04-20



MILLER GOODALL
ACOUSTICS - AIR QUALITY - LIGHTING

APPENDIX 12.1_NOISE AND VIBRATION ASSESSMENT

on behalf of

IQ STUDENT ACCOMMODATION LTD

for the site at

ECHO STREET, MANCHESTER

REPORT DATE: **MARCH 2023**

Miller Goodall Ltd
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ANC | ACOUSTICS & NOISE CONSULTANTS

Summary

A noise assessment has been undertaken to determine the impact of existing noise on the future residents of the proposed development.

The assessment has identified that noise from the existing railway line to the south of the site requires mitigation. The impact of the future improvements has also been assessed, however, the changes have not been assessed to require additional mitigation measures beyond those proposed. Mitigation in the form of acoustic glazing and ventilation strategies have been proposed for the site, with different facades requiring different extents of acoustic mitigation.

Surveyed vibration levels indicate that there is less than a low probability of adverse comment from vibration due to the railway.

This standalone assessment supports EQSM3015_ES_V1_Chapter 12_Noise and Vibration Assessment.

Record of changes

Prepared By	Joanne Miller MIOA,	Reviewed By	Michael Rickard MIOA
Signed		Signed	
Date	March 2023	Date	March 2023

Version	Date	Change	Initials
1	March 2023	-	JM

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Contents

Summary 1

Contents 3

1 Introduction 4

2 Site Description 4

3 Site ..... Error! Bookmark not defined.

4 Policy Context 5

5 Measurement of Existing Background Noise Sources 5

6 Monitoring Results 9

7 Determination of the Background Sound Levels 13

8 Vibration Measurements 16

9 Impact of Existing and Future Noise Sources on the Development 18

9.1 Introduction 18

9.2 Computer Modelling 20

9.3 Proposed Ventilation Strategy 20

9.4 Predicted Internal Noise Levels Assessed to BS 8233 Criteria 21

9.5 Conclusion 23

Glossary of Terms 35

1 Introduction

1.1 Miller Goodall Ltd has, on behalf of iQ Student Accommodation Ltd, undertaken a noise assessment in respect of the impact of noise from a variety of transport sources around the Site, including road and rail traffic. This document provides a stand-alone assessment of the impact of the existing noise and vibration sources on future receptors on the Site. The full Environmental Impact Assessment (EIA) and Environmental Statement (ES), Chapter 12 includes a noise assessment for the impact of the development on existing residents around the site.

2 Site Description

2.1 The Site is located within Manchester City Centre. Student accommodation and commercial premises are located to the north of the Site. The A6 is the closest A-road to the Site and is located approximately 50 m east of the Site. The railway line between Manchester Piccadilly and Manchester Oxford Road stations is located to the south of the Site. Vimto Park is located to the west of the Site. Full details of the site are provided within the ES.

2.2 In relation to noise the key issue is the close proximity of a variety of transport sources to the Site, including the Manchester, South Junction and Altrincham railway viaduct. The site is also in close proximity to Piccadilly Railway Station, London Road (A6) and Mancunian Way (A57).

3 Proposed Development

3.1 The Proposed Scheme is the development of purpose-built student accommodation (sui generis) comprising 3 interlinked tower blocks with intermediary linking block buildings, associated amenity space and external landscaping. There will be 1,224 student accommodation units and the Proposed Scheme will be car-free and provide no on-site car parking. As part of improvements to the public realm, there will be a reconfiguration of the existing on-street public parking bays on Granby Row and their number will reduce from thirteen to eight. Two of the spaces will be wheelchair-accessible spaces. The spaces will remain as pay and display. Cycle parking for the Proposed Scheme will be provided within a secure and covered cycle store. 313 long-stay cycle spaces will be provided. Short-stay cycle spaces will also be provided with Sheffield stands within the public realm.

3.2 The building is being proposed as an all-electric building, with wall mounted electric panel heaters and high levels of insulation. The communal areas at ground floor level will be served by an air source heat pump simultaneous heating and cooling Variable Refrigerant Volume system. The escape lobby and corridor areas will be served by a wet heating system to be compliant with BS7671 Requirements for Electrical Installations. The heat for the wet system will be generated via an air source heat pump technology with distribution pipework.

3.3 The only combustion equipment as part of the Proposed Scheme will be the diesel generator and pumps located within the basement. This will be for emergency use and tested on a monthly basis (exhausts will terminate at basement level).

3.4 Full details of the proposed development are provided within the ES Chapter.

4 Policy Context

4.1 All the policy context has been provided within **Appendix 12.2_Standards and Guidance**. The key policy documents are:

- Noise Policy Statement for England
- National Planning Policy Framework
- Planning Practice Guidance – Noise

4.2 The key acoustic standards and guidance are also detailed in **IQSM3015_ES_V1_Appendix 12.2_Standards and Guidance_V1_09032023**, the key acoustic standards and guidance are:

- BS 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings
- BS 4142: 2014 'Methods for rating and assessing industrial and commercial sound'
- World Health Organisation (WHO) Guidelines for Community Noise 1999
- ProPG – Noise and Planning.

5 Measurement of Existing Background Noise Sources

5.1 Several noise surveys have been completed, as summarised below.

- 11th May 2017: Attended measurements of individual train pass-bys at different heights on the south elevation and 30 minute attended measurements of weekday, daytime ambient noise levels at different heights on west and east facing elevations of the now demolished Chandos Hall building.

- 11th – 15th May 2017: Continuous unattended noise logging at 2 heights (5th and 11th floors) on the south facing elevation of the now demolished Chandos Hall building. Included weekday and weekend periods.
- 6th – 10th July 2017: Continuous unattended noise logging 1 m from the east and west facing elevations of the now demolished Chandos Hall building. Included weekday and weekend periods.
- 2nd – 8th February 2023: Continuous unattended noise logging 1 m from the north east and south facing boundaries of the Site. Included weekday and weekend periods.

5.2 Noise measurements were undertaken in accordance with BS 7445-1: 2003 by Colin Foster and Michael Rickard, Jo Miller and James Sharpe of Miller Goodall Ltd.

5.3 All instrumentation used during the surveys was fully calibrated and traceable to UKAS standards and satisfy the requirements for Class 1 instruments described in BS EN 61672-1:2013. Details of the equipment used are shown in Table 12.1.1, below. The calibration of the sound level meters was checked before and after measurements with negligible deviation (<0.1 dB).

Table 12.1.1: Noise monitoring equipment

Equipment Description	Type Number	Manufacturer	Serial No.	Date Calibrated	Calibration Certification Number
Class 1[1],[2] Integrating Real Time 1/3 Octave Sound Analyser	NOR 140	Norsonic	1406815	12/01/17	474629844
Class 1[1],[2] Integrating Real Time 1/3 Octave Sound Analyser	NOR 140	Norsonic	1406017	22/05/15 23/05/17	U18820 03238/2
Class 1 Calibrator[3]	Type 4231	Brüel & Kjær	2478249	25/07/16 18/05/17	02817/1 03238/1
Class 1 Calibrator[3]	NOR 1251	Norsonic	34123	05/07/17	02777/1

[1] IEC 61672-1 (2002) Electroacoustics – Sound level meters Part 1: Specifications

[2] IEC 61260 (1995) Electroacoustics – Octave-band and fractional-octave-band filters

[3] IEC 60942 (2003) Electroacoustics – Sound calibrators

Outdoor microphone housing	NOR 1217	Norsonic	12175738	N/a	N/a
Outdoor microphone housing	NOR 1217	Norsonic	12175146	N/a	N/a
Class 1[1],[2]Integrating Real Time 1/3 Octave Sound Analyser	NTi XL2-TA	NTi Audio	A2A-11111-E0	01/09/2022	UK-22-087
Microphone	NTi MC230A	NTi Audio	A14423	01/09/2022	UK-22-087
Class 1 Calibrator[3]	CAL 200	Larson Davies	14154	10/10/2023	05964/1
Class 1[1],[2] Integrating Real Time 1/3 Octave Sound Analyser	NTi XL2-TA	NTi Audio	A2A-15860-E0	01/03/2021	05145/1
Microphone	NTi MC230A	NTi Audio	A16445	01/03/2021	05145/1

5.4 The meteorological conditions at the time of the attended noise measurements on 11th May 2017 and 2nd February 2023 were noted by the engineers and were considered suitable for reliable noise readings, with no rain and low wind speeds.

5.5 During the unattended long term noise logging in May and July (2017) and February 2023, the meteorological conditions were determined by reviewing data from nearby met stations, as published on the Weather Underground website (www.wunderground.com). Full details of the weather during the surveys are held on record and may be supplied on request.

5.6 There were periods during the unattended measurements taken between 11th – 15th May when adverse meteorological weather conditions may have influenced the results. In particular, the possible influence due to rainfall was determined as follows:

- 10:00 - 14:30 on 12/07/2017: approx. 0.5 - 2 mm/hr; Data still considered useable
- 02:30 - 06:00 on 14/07/2017 approx. 0.5 - 4.5 mm/hr; Data still considered useable
- 07:00 onwards on 15/07/2017 approx. >3 mm/hr; Data excluded from analysis

5.7 The weather for the 6 - 10 July 2017 and 2 – 8 February 2023 monitoring periods were considered suitable for reliable readings. There was no rainfall for the whole period and wind speeds remained light throughout, generally from a west/south westerly direction.

5.8 The noise sources which were audible at the measurement locations are summarised in Table 12.1.2.

Table 12.1.2: Description of noise sources affecting the site

Measurement Locations	Noise Sources
South facing elevation (overlooking railway)	Railway noise dominant. Train pass-bys are all quite slow, due to proximity of Piccadilly Station. Mixture of diesel (louder) and electric (quieter) trains. Occasional diesel freight trains during day and night. Occasional horns. Rail squeal often audible, due to track curve near Piccadilly, though not directly adjacent to Chandos Hall. Distant general road traffic hum dominant in between train movements. At upper levels the rail noise reduces a little and traffic hum becomes more noticeable. Some noise at higher floors from fixed M&E plant on rooftops of University buildings.
East facing elevation (facing towards Piccadilly station)	Distant general road traffic hum dominant. Ambient noise levels are higher at the upper floors of the existing building where there is a direct line of sight to Piccadilly station taxi drop off/ interchange area. Some playground noise from existing nursery audible at lowest floors. Rail noise audible but not significant.
West facing elevation (facing towards Vimto Park)	Distant general road traffic hum dominant. Louder at higher floors of the existing building. Subjectively lower noise levels than east facing elevation. Rail noise audible but not significant.
MP1 facing railway line	Railway noise dominant. Train pass-bys are all quite slow, due to proximity of Piccadilly Station. Mixture of diesel (louder) and electric (quieter) trains. Occasional diesel freight trains during day and night. Horns from railway occasionally. Occasional rail noise squeal, due to track curve near Piccadilly, though not directly adjacent to Chandos Hall. Distant general road traffic hum dominant in between train movements.
MP2	Railway noise evident at this position but not always dominant. Noise from general road traffic on Granby Row and the A6 and surrounding road network more dominant.

5.9 The noise loggers were set up to make audio recordings whenever a certain threshold value was exceeded and these recordings were then replayed during the analysis stage to establish the source of the higher noise events.

5.10 There was no noise, including amplified music, from entertainment premises such as pubs or clubs audible on any of the loggers. We understand that there are no pubs or clubs near enough to the site to have any influence on the ambient, maximum or background noise levels.

6 Monitoring Results

6.1 The results of the attended measurements undertaken on 11th May 2017 are given in Tables A1 – A3 of Appendix 1. Spectral data is held on file and may be supplied on request.

6.2 Time history charts for the unattended noise monitoring undertaken 1 m from the 5th and 13th floors of the southern facing elevation are provided in Figures A1 and A2 of Appendix 2 of this respectively.

6.3 Time history charts for the unattended noise monitoring undertaken 1 m from the 6th floors of the east and west facing elevations are provide in Figures A3 and A4 of Appendix 2, of this document respectively.

6.4 Time history charts for the unattended noise monitoring undertaken at location MP1 in 2023 are provide in Figure A5 of Appendix 2.

6.5 Time history charts for the unattended noise monitoring undertaken at location MP2 in 2023 are provide in Figure A6 of Appendix 2.

6.6 Based on the survey work undertaken, as summarised above, the 2017 day and night time L_{Aeq} environmental noise levels at different locations around the exterior of the now demolished Chandos Hall, and subsequently, at ground level after Chandos Hall was demolished (2023), have been derived and are presented in Table 12.1.4 and 12.1.5 below.

6.7 Each measurement period consisted of sequential 1 second samples which therefore allowed the variation in noise level over time to be assessed. This data was subsequently used to determine a 'typical' L_{AFmax} noise level and octave band spectrum based on the 98th percentile of individual 1 minute L_{AFmax} measurements. The typical night time L_{AFmax} time are also presented in Tables 12.1.4. and 12.1.5 below.

6.8 The following observations may be made by inspection of the measurement data:

- The highest maximum noise levels occur during train pass-bys on lower floors of the south facing elevation. The maximum noise levels on this elevation reduce with height, being approximately 6 dB lower at 15th floor than at 2nd floor.
- On the south facing elevation, the L_{Aeq} remains reasonably constant irrespective of changes in height.
- Environmental noise levels are slightly higher on the east facing elevation (facing Piccadilly) than the west (facing Vimto Park)
- The measurements taken at MP1 and MP2 in 2023 are fairly consistent with the previous measurements taken in 2017.

Table 12.1.4: External noise levels derived from unattended measurements at existing Chandos Hall (2017)

Location	Descriptor	Sound Pressure Level, dB in Octave Band Centre Frequency, Hz								dBA
		63	125	250	500	1k	2k	4k	8k	
Southern elevation 2nd Floor	Day L_{eq}	73.4	64.5	64.2	62.1	61.8	58.3	58.7	53.7	**66.8**
	Night L_{eq}	68.3	61.1	61.6	59.1	58.3	54.5	58.5	52.9	**64.4**
	*Typical Night L_{Max}	91.6	79.7	81.7	78.4	77.5	74.3	75.6	73.4	**83.3**
Southern elevation 5th Floor	Day L_{eq}	72.4	63.5	63.2	61.1	60.8	57.3	57.7	52.7	**65.8**
	Night L_{eq}	67.3	60.1	60.6	58.1	57.3	53.5	57.5	51.9	**63.4**
	*Typical Night L_{Max}	90.6	78.7	80.7	77.4	76.5	73.3	74.6	72.4	**82.3**
Southern elevation 13th Floor	Day L_{eq}	71.5	64.7	62.3	60.9	62.1	56.3	51.2	45.3	**65.2**
	Night L_{eq}	67.0	60.8	59.2	57.9	59.1	53.7	51.4	44.8	**62.5**
	*Typical Night L_{Max}	88.6	78.5	74.6	74.8	72.5	70.1	68.0	62.8	**77.9**
Eastern elevation 5th Floor	Day L_{eq}	68.8	61.4	59.0	58.1	58.4	54.0	51.0	46.2	**62.3**
	Night L_{eq}	63.8	57.9	56.1	55.6	55.3	49.8	47.1	42.4	**59.0**
	*Typical Night L_{Max}	84.6	75.3	72.9	74.1	71.9	68.6	66.7	60.1	**76.8**
Western elevation 5th Floor	Day L_{eq}	67.6	61.9	56.8	56.1	55.9	51.6	48.0	44.6	**60.0**
	Night L_{eq}	61.8	57.7	52.9	52.6	51.6	46.3	41.2	36.3	**55.5**
	*Typical Night LMax	81.9	74.5	70.3	71.5	69.6	66.4	62.2	57.3	**74.3**

Table 12.1.5: External noise levels derived from unattended measurements at MP1 and MP2 (2023)

Location	Descriptor	Sound Pressure Level, dB in Octave Band Centre Frequency, Hz								dBA
		63	125	250	500	1k	2k	4k	8k	
MP1 – Southern elevation 3.8m from ground level (37m)	Day L_{eq}	65.9	60.1	57.5	57.1	53.9	48.3	41.4	34.6	**58.4**
	Night L_{eq}	63.2	58.3	54.5	51.6	50.7	45.1	38.4	32.8	**54.7**
	*Typical Night L_{Max}	80.7	73.8	73.2	69.4	68.1	65	60.6	53.6	**72.4**
MP2 - north eastern elevation – 2.5m from ground level (39m)	Day L_{eq}	65.7	61.7	59.2	59.4	55.2	50.4	44.1	36.5	**74.4**
	Night L_{eq}	61.8	58	55.3	55.1	51.5	46.2	39.9	32.3	**69.6**
	*Typical Night L_{Max}	81.3	73.8	74.7	70.1	68	64.4	61	53.7	**74.3**

- *Typical Night L_{Max} is the 98th percentile of the $L_{Max,1min}$ measurements for the whole night time period (23:00 – 07:00)
- All values are façade reflected sound pressure levels in dB re 20 µPa for 2017 and free-field for 2023.

7 Determination of the Background Sound Levels

7.1 The results obtained during the noise survey were further analysed in order to determine the typical background sound levels at surrounding noise sensitive receptors.

7.2 It is considered reasonable to assume that the measurements taken at the 6th floor of the east and west facing elevations of the now demolished Chandos Hall building are representative of the background sound levels immediately outside the existing student residences within Lambert House on Granby Row, located approximately 20 m to the north.

7.3 Representative Background Sound Levels were derived for two time periods of interest, as follows.

- Day time 07:00hrs to 23:00hrs; and
- Night time 23:00hrs to 07:00hrs.

7.4 The background sound levels for the day time assessment periods were derived using statistical analysis of the measured $L_{A90,1hour}$ levels, whereas for the night time a statistical analysis of the measured $L_{A90,15minute}$ levels was undertaken. This is in line with BS4142:2014 which recommends a 15 minute assessment period for the night time and a 1 hour assessment period for the day time.

7.5 The results of the analysis are presented in **Figures 12.1.1 and 12.1.2** below. The values were as measured 1 m from the existing east and west facades of Chandos Hall therefore include a façade reflection, therefore 3 dB has been removed to obtain free field measurements.

7.6 The results of the analysis for MP1 and MP2 from 2023 are presented in **Figures 12.1.3 and 12.1.4** below. The values were as measured free-field and therefore no correction has been made.

Figure 12.1.1: Day time Background Sound Level Histogram - 07:00hrs to 23:00hrs

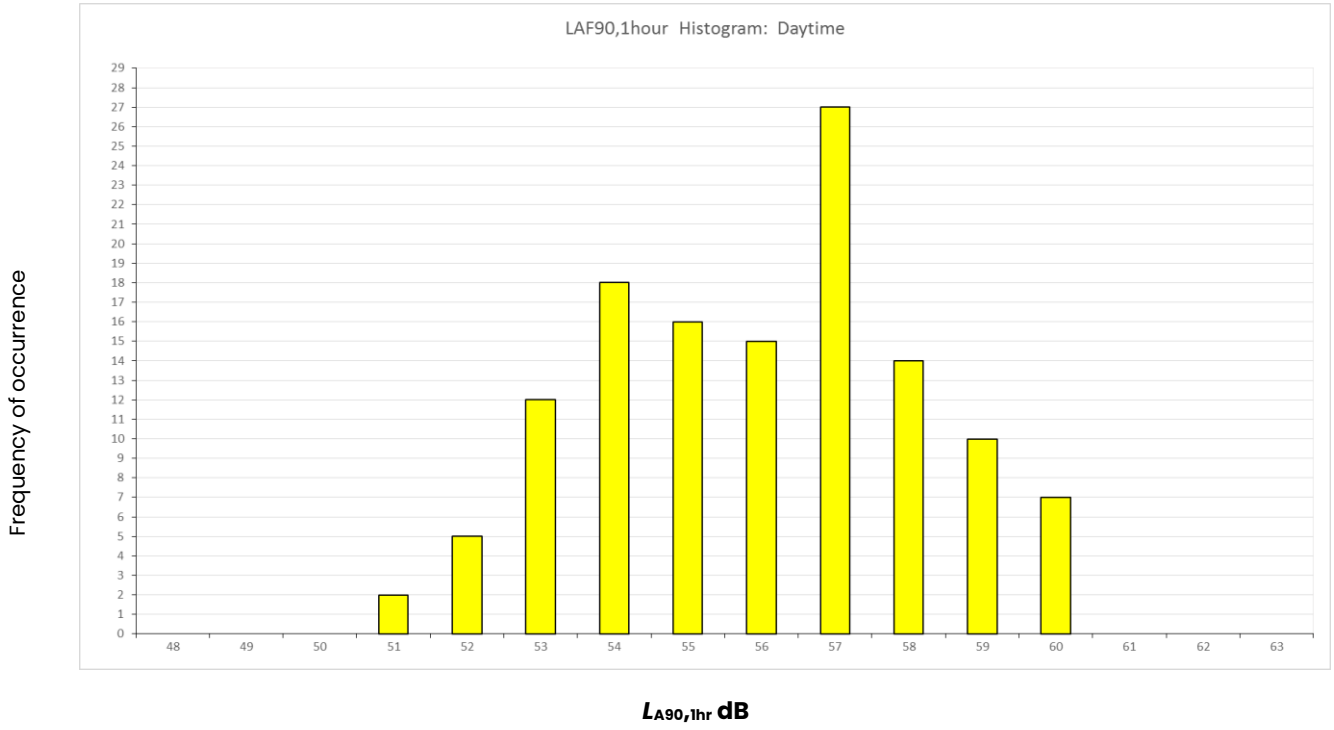


Figure 12.1.2: Night time Background Sound Level Histogram - 23:00hrs to 07:00hrs

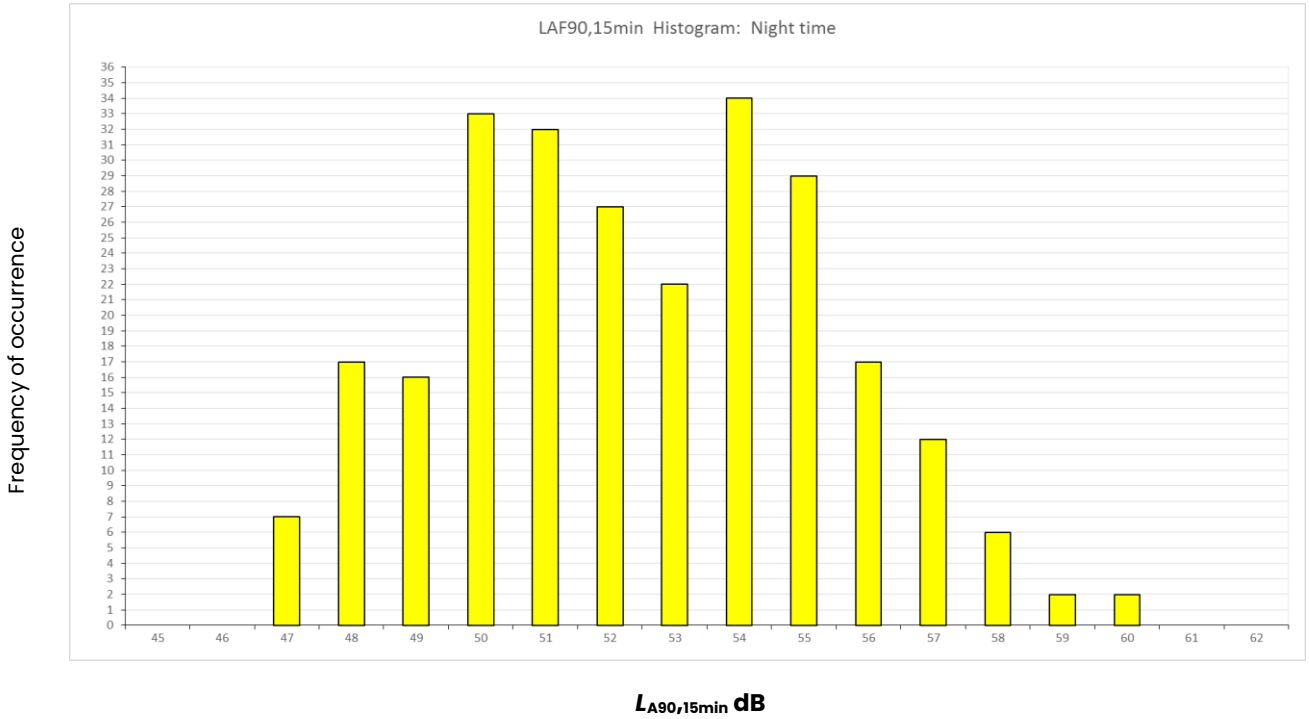


Figure 12.1.3: Day time Background Sound Level Histogram - 07:00hrs to 23:00hrs – MP2 (2023)

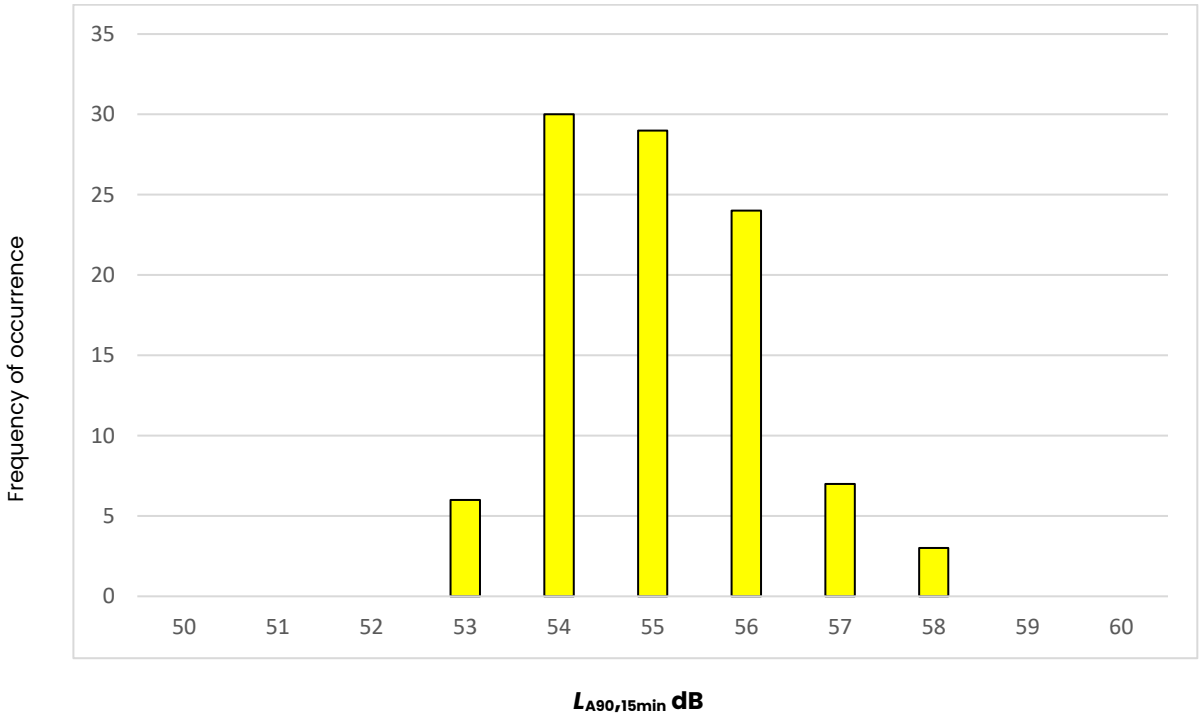
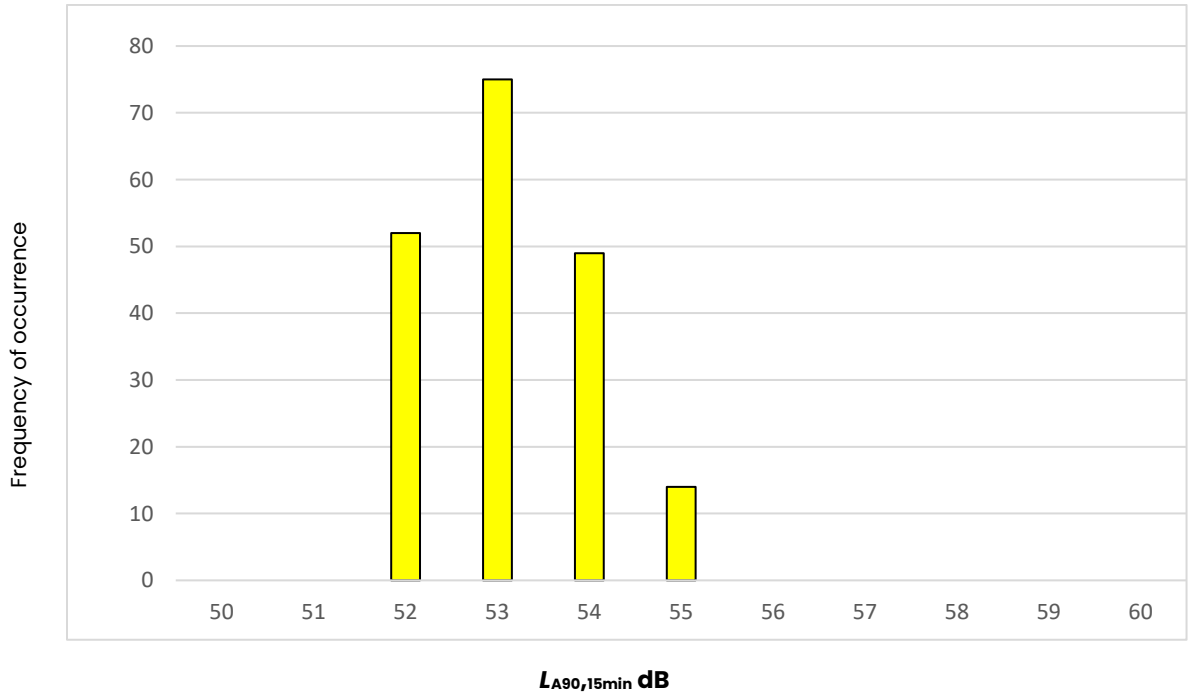


Figure 12.1.3: Night time Background Sound Level Histogram - 23:00hrs to 07:00hrs



7.7 The typical representative background sound level for the daytime period was taken to be the most frequently occurring (modal) value of the measured background sound levels for the period of interest.

7.8 The free-field representative background sound levels (-3 dB for façade correction) for the nearest residences, which are currently those student dwellings located on Granby Row are as follows:

- Day time 54 dB $L_{A90,1hour}$
- Night time 47 dB $L_{A90,15\ mins}$

7.9 The free-field representative background sound levels from the 2023 survey for the nearest residences, which are currently those student dwellings located on Granby Row are as follows:

- Day time 54 dB $L_{A90,1hour}$
- Night time 53 dB $L_{A90,15\ mins}$

7.10 As a result of the differences in the night-time background surveys, the lower background sound levels will be used within assessment.

8 Vibration Measurements

8.1 Vibration measurements were undertaken in August 2018 and February 2023. The surveys were undertaken within the basement of the now demolished Chandos Hall building over a 72-hour period (2018) and at MP1 on the base of the foundation for the new Site (2023). As the vibration is considered to primarily affect the vertical (z-axis), the results for this axis only have been reported. The results of the measurements are provided in **Table 12.1.6** below.

Table 12.1.6: Summary of Vibration Measurements

Date	Day (0700 – 2300) VDV (m.s-1.75); z-axis	Night (2300 – 0700) VDV (m.s-1.75); z-axis
17th August 2018	0.010*	0.010
18th August 2018	0.007	0.004
19th August 2018	0.007	0.016
20th August 2018	0.012*	N/A
10th February 2023	NA	0.037

11th February 2023	0.039	0.023
12th February 2023	0.026	0.030
13th February 2023	0.039	0.037
14th February 2023	0.040	0.039
15th February 2023	0.041	0.038

** Data for daytime calculated for 16-hour assessment period from partial measurement.*

8.2 The measured vibration levels within the now demolished Chandos Hall building show that vibration levels are below the threshold for 'low probability of adverse comment' according to criteria set down in BS6472-1[4.], determined as 0.2 to 0.4 $m.s^{-1.75}$ for the daytime and 0.1 to 0.2 $m.s^{-1.75}$ for the night-time. Measured levels in 2023 are slightly higher than the 2017 survey, however, they are still below the threshold for 'low probability of adverse comment'.

[4] BSI Standards Publications (2008). BS6472: 2008. Available at https://vdocument.in/bs-6472-1-2008-vibration-sources.html?page=1 [Accessed:06/03/2023].

9 Impact of Existing and Future Noise Sources on the Development

9.1 Introduction

9.1.1 Detailed calculations have been undertaken in order to determine the sound insulation performances required of the external building envelope (glazing and solid elements) in order to ensure that dwellings within the Site will satisfy relevant acoustic criteria.

9.1.2 It is proposed that noise from the development is controlled to 30 dB L_{Aeq} in bedrooms at night and 35 dB L_{Aeq} in habitable rooms during the day. This is in line with the recommended levels advised in BS 8233 for both daytime and night-time noise and the recommended night-time noise level within bedrooms suggested by WHO. It is also proposed that noise from individual events such as vehicle pass-bys does not regularly exceed an indoor level of 45 dB L_{AFmax}.

9.1.3 The external noise levels impacting upon the proposed building have been predicted by using a combination of measured data and data obtained from a computer modelling exercise, utilising CadnaA.

9.1.4 It was assumed that the noise levels which will impact on the east and west facing elevations of the new building will be identical to the noise levels derived from the measurements on the east and west facing elevations of the now demolished Chandos Hall building (See **Table 12.1.3**).

9.1.5 It was not possible to undertake measurements on the north facing elevation of the now demolished Chandos Hall building. However, it has been assumed that the noise levels on this elevation were no higher than those measured on the east and west facing elevations of the existing building. Measurements from 2023 at MP2 have supplemented with the 2017 data for the predictions of internal noise ingress.

9.1.6 The new building is significantly different to the now demolished Chandos Hall building in its extent along Granby Row and the railway line and therefore a computer model was used to predict the maximum noise levels impacting upon the extended south elevation, caused by the railway.

9.1.7 The main impact to the future noise levels will be as a result of the Northern Hub rail alterations. Network Rail (NR) have prepared an EIA for the improvement of the section of railway to the south of the PDS. This improvement includes the extension and electrification of the railway line. The EIA, dated December 2014 has detailed predictions of operation noise associated with the modification of the line. The scope of the assessment was:

- Effects of change in airborne noise levels (day and night time $L_{Aeq,T}$ and L_{AMax}) arising from changes in railway traffic flows, speeds and revised alignment.
- Effects from a change in level of perceptible vibration arising from changes in railway traffic flows speeds and the revised alignment.
- Effects of airborne noise from idling trains; and
- Effects of structure borne noise arising from changes in railway traffic flows, speeds and the revised alignment.

9.1.8 The assessment concluded that for buildings located close to the railway line the dominant internal noise would result from the high external airborne noise levels and therefore the transfer or structure borne noise from the railway was not a significant issue.

9.1.9 The assessment provided predicted levels of noise for 3 facades of the Site, south, west and east, for floors 1 to 6. This data has been assessed in relation to the future noise sources impacting on the Site. The only perceptible change in noise levels are as a result of daytime L_{Aeq} levels, which are predicted to increase by up to 3.5 dB on the east elevation. The increases of the L_{Amax} levels however are around 3 dB. The main noise index which is 'driving' the glazing specification is the L_{Amax} levels, changes to the railway line have not impacted on the L_{Amax} for the Site and therefore future assessments of the line are assumed to be as measured during the assessment.

9.2 Computer Modelling

9.2.1 The external noise levels from maximum noise events associated with the railway were predicted using the CadnaA noise modelling package. The specific modelling parameters are provided with **IQSM3015_ES_V1_Appendix 12.4 Modelling of Existing Noise Sources**

9.2.2 Noise level receptor points were incorporated into the CadnaA model at the noise survey measurement locations of the now demolished Chandos Hall building (2017 survey) and MP1 (2023 survey) to calibrate the model using the measured octave band L_{Fmax} noise levels. The modelled results agreed with the measured results to within around ± 3 dB $L_{AFmax,}$ with the exception of floor 2 of the West elevations, which predicts 5 dB higher..

9.2.3 Screen shots from the model have not been provided, but are available on request.

9.2.4 The noise modelling indicates that the proposed units which will be located within the recesses where the building outline steps in on the southern elevations will benefit from self-shielding from the building itself, which will reduce the external noise levels. The north elevation has been based on the measured values from the east and west elevations.

9.3 Proposed Ventilation Strategy

9.3.1 The proposed strategy will utilise mechanical ventilation for Building Regulations Part F compliance. A detailed study has been carried out to assess the internal temperatures against CIBSE Technical Memorandum 59 (TM59) design methodology for the assessment of overheating risk in domestic buildings.

9.3.2 The assessment factors in thermal sources from occupants, lighting and small power, as well as from external sources, with solar gains and external air temperatures. This method of assessment is referred to as the Dynamic Simulation Method (DSM). The assessment indicated that the spaces required mechanical ventilation to mitigate the risk of overheating. This is due to the window not being open due to the noise levels in the surrounding area. All of the space will be ventilated using highly efficient heat recovery mechanical ventilation units in each accommodation space with local control.

9.3.3 Mechanical ventilation with heat recovery (MVHR) with ducted supply and extract to each apartment will provide the background ventilation (as opposed to trickle vents) and the enhanced 'boost' ventilation in excess of the Building Regulations Part F Whole Dwelling Ventilation Rates.

9.3.4 The proposed strategy is to run the MVHR units continuously at the enhanced 'boost' rates to assist with summertime overheating control and therefore limit the window opening times required throughout the daytime.

9.3.5 Thermal comfort analysis will be carried out to assess what elevated ventilation rates will be required (within the limits of a residential MVHR unit) to meet the summertime overheating criteria on the assumption that windows will be shut overnight (between 11pm and 7am) to maintain internal noise levels within each bedroom. As part of the thermal comfort analysis, solar control glazing requirements (glazing G-values) will be determined to further assist with reducing heat gains within each apartment.

9.4 Predicted Internal Noise Levels Assessed to BS 8233 Criteria

9.4.1 In order to assess the sound insulation requirements of the glazing, noise ingress calculations were undertaken based on the methodology in BS EN 12354-3.

9.4.2 The dimensions of the solid and glazed façade elements and internal room volumes were taken from the latest floor plans. It is assumed that the rooms will have 'normal' internal surface finishes e.g. carpeted with curtains etc.

9.4.3 The sound insulation performance of the solid part of the façade were determined by using specialist acoustic modelling software (Insul), based on the following construction detail, as supplied by the Architect:

- The large majority of the solid (non-glazed) parts of the external walls will be Type EXT-TYPE01 (Brick Tile Rainscreen Cladding). The link sections will be Type EXT-TYPE05 (Cladding System – Glass Reinforced Concrete Panels). As shown on the architectural drawings, both types are essentially triple cavity walls incorporating a weather defence sheathing board and 2x12.5 mm plasterboard internal linings. The cavity between sheathing board and internal plasterboard lining is 100 mm, fully filled with mineral wool insulation. The cavity between sheathing board and external finish is at least 295 mm, filled with 200 mm mineral wool insulation.

9.4.4 The sound insulation requirements of the external building envelope are shown graphically in Figure A7 in Appendix 3. The sound insulation performances required of the solid and glazed elements on the south facing elevations are detailed in Table 12.1.7.

Table 12.1.4: Minimum acoustic performance of solid and glazed elements

	Sound Reduction Index, dB at Octave Band Centre Frequency, Hz								R_w dB	C_{tr} dB	$R_w + C_{tr}$ dB	Typical glazing type
	63	125	250	500	1k	2k	4k	8k				
Solid element	24	46	51	56	60	57	60	60	58	-3	55	n/a
Glazing Type 1	18	24	22	29	39	33	38	38	32	-3	29	6 / 12 / 6
Glazing Type 2	33	26	33	36	42	45	52	52	41	-5	36	Glazing to be confirmed

9.4.5 It can be seen that the majority of the façade, including all of the north, west and east elevations may utilise glazing with a relatively low acoustic performance. However, the southern elevation is impacted significantly by the railway line and particularly the occasional L_{Amax} values caused by heavy diesel movements during the night-time which have resulted in higher acoustic requirements for a small number of flats.

9.4.6 The requirements have been derived for the fifth floor. On the south elevation the acoustic requirements become less onerous with height, as the distance to the railway line increases. It may therefore be possible to downgrade the stated acoustic performances at the upper storeys of the south elevation. Further modelling and calculation work will be needed to establish the full extent of the glazing specifications for all floors. The final detail would form part of a reserved matters application and Stage 3/4 design.

9.5 Conclusion

9.5.1 A noise assessment has been undertaken to determine the impact of existing noise on the future residents of the proposed development, this assessment forms a technical appendix to the full IQSM3015_ES_Chapter 12.

9.5.2 The assessment has assessed the existing noise sources and with a combination of measurement and prediction, identified the impact of noise and identified the necessary mitigation measures required to achieve internal noise criteria for the development.

9.5.3 The assessment has identified that noise from the existing railway line to the south of the site requires mitigation. The impact of the future improvements has also been assessed, however, the changes have not been assessed to require additional mitigation measures beyond those proposed. Mitigation in the form of acoustic glazing and ventilation strategies have been proposed for the site, with different facades requiring different extents of acoustic mitigation.

9.5.4 Surveyed vibration levels indicate that there is less than a low probability of adverse comment from vibration due to the railway.

9.5.5 Internal sound insulation measures will be finalised to control the internal noise impact from internal commercial and amenity space uses.

Appendices

Appendix 1: Measurement Data: Attended Measurements, 11th May 2017

Table A1: Attended Train Measurements, 5th Floor South Facing Elevation, 11th May 2017

Description	Start Time	Elapsed Time (min:sec)	L_{Aeq} (dB)	L_{AFmax} (dB)	L_{AFmin} (dB)	L_{AE} (dB)	L_{AF1} (dB)	L_{AF10} (dB)	L_{AF90} (dB)	L_{AF99} (dB)
3 carriage modern diesel, from Picc, simultaneous 2 car to Picc	11:53	0:21	74.5	80.6	58.5	87.9	80.3	79.8	59.5	58.8
2 carriage to Picc, inc horn	12:08	0:10	68.6	75.5	61.3	78.6	75.2	73	62.1	61.5
3 car, from Picc, Diesel	12:11	0:20	71.4	76.7	60.9	84.4	76.4	75.4	61.8	61
4 car, from Picc, diesel, Edinburgh train	12:16	0:12	70.5	73.7	61.1	81.3	73.4	73	62.9	61.3
2 car, pacer, to Picc, diesel	12:19	0:11	70.9	76.1	59.7	81.7	75.9	75.2	60.5	59.8
4 car, pacer, from Picc	12:22	0:23	73.1	78.6	60.9	86.8	78.5	77.8	61.8	61.3
diesel freight engine, no car, from Picc	12:25	0:21	64.9	70.2	61.1	78.3	69.5	68	61.8	61.2
4 car, electric, to Picc, transpennine express	12:26	0:14	67.2	72.5	59.7	78.8	72.3	70.6	60.7	59.9
3 car, diesel, to Picc	12:54	0:18	69.5	73.4	59.6	82.1	73	72.5	61.2	59.8
2 car, diesel, from Picc	13:02	0:13	70.7	73.1	66	82	73	72.5	66.6	66.1
6 car, diesel, to Picc	13:05	0:25	75.4	79.1	64.3	89.5	78.9	78.5	67.4	65.1
2 car, pacer, diesel, from Picc	13:09	0:22	75	82.4	59.9	88.5	82.4	81	61.2	60.2
3 car, diesel, from Picc	13:14	0:17	70.8	74.6	61.5	83.1	74.4	73.8	63.2	61.7
3 car, diesel, to Picc, Scarborough	13:15	0:16	71.4	74.9	62.1	83.7	74.7	74.1	63.3	62.2
4 car, electric, from Picc	13:18	0:16	70	74.4	61.5	82.3	73.9	73.2	62.1	61.7
4 car, diesel, to Picc	13:26	0:15	75	81.1	60.3	87	81	80.1	62.4	60.9

freight train, 33 car, diesel, to Picc	13:33	2:18	71.5	80.7	62.3	92.9	79.7	74.8	65.8	62.9
4 car, electric, to Picc simultaneous 4 car, diesel, from Picc	13:39	0:32	76.2	83.6	59.6	91.3	83.3	82.6	61.5	60.2
4 car diesel, to Picc, E.Midlands train	13:43	0:15	76.3	81.9	60.9	88.1	81.7	80.2	62.1	61.1
6 car diesel, from Picc	13:46	0:25	71.5	75.4	60.5	85.5	74.8	74.2	62.4	60.7
4 car, diesel, from Picc	13:49	0:17	72.3	75.8	63.9	84.6	75.6	75.1	65	64.2
4 car, electric, from Picc	14:03	0:10	75.6	85.8	60.2	86	84.8	82	61.1	60.6

All values are façade reflected sound pressure levels in dB re 20 µPa

Table A2: Attended Train Measurements, 2nd Floor South Facing Elevation, 11th May 2017

Description	Start Time	Elapsed Time (min:sec)	L_{Aeq} (dB)	L_{AFmax} (dB)	L_{AFmin} (dB)	L_{AE} (dB)	L_{AF1} (dB)	L_{AF10} (dB)	L_{AF90} (dB)	L_{AF99} (dB)
3 car, diesel, from Picc	14:10	0:10	77	82.9	58.6	87.1	82.8	81.9	60.7	59
4 car, electric, from Picc, Edinburgh	14:18	0:11	66.1	70.6	57.9	76.7	70	68.3	59.4	58.1
2 car, pacer, diesel, to Picc	14:19	0:14	70.5	76.5	58.3	82.1	76.4	75.3	59.2	58.4
diesel, freight engine, slow, no car	14:20	0:23	65	70.2	58.1	78.8	68.9	68.1	60.4	58.6
4 car, electric, to Picc	14:26	0:17	63.2	66.5	57.7	75.6	66	65.3	58.7	58.1
33 car, freight, diesel, to Picc	14:31	2:16	71.5	86.6	58.4	92.9	85.1	72.7	61.1	60.3
2 car, diesel, from Picc	14:38	0:16	70.9	76.7	60	83.1	76.5	75.9	60.6	60.2
3 car, diesel, to Picc	14:51	0:13	69.6	75.2	58.6	80.8	74.2	73.6	59.5	58.7
2 car, diesel, from Picc	14:54	0:15	76.8	84.1	61.3	88.8	83.1	82.2	62.6	61.5
4 car, diesel, to Picc, pacer	14:57	0:21	70	81.7	60.5	83.3	75.2	72.3	61.3	60.7
4 car, electric, from Picc	14:58	0:17	70.1	78.2	59.2	82.4	77.3	75.3	60.2	59.4

2 car, diesel, to Picc	15:01	0:17	76	83.2	60.4	88.3	83	80.3	62.2	60.7
4 car, diesel, from Picc	15:03	0:20	71.6	84.5	59.2	84.8	81.4	74.5	60.9	59.4
2 car, diesel, to Picc (missed most of it)	15:06	0:8	63.2	71.8	58.8	72.8	-	64.9	60.3	58.8
4 car, diesel, from Picc	15:08	0:9	72	81.8	59.8	81.8	-	74.1	61.3	60.1
3 car, diesel (Scarborough) to Picc	15:09	0:28	71.1	79.1	58.1	85.7	77.6	75.3	60.5	58.3
4 car, electric, from Picc	15:15	0:18	64.6	68.9	58.7	77.2	68.2	67	59.4	58.9
4 car, diesel, to Picc	15:17	0:12	73.4	77.1	63.1	84.3	77	76.5	64.7	63.2

All values are façade reflected sound pressure levels in dB re 20 µPa

Table A3: Attended Measurements, East and West Facing Elevations, 11th May 2017

Description	Start Time	Elapsed Time (min:sec)	L_{Aeq} (dB)	L_{AFmax} (dB)	L_{AFmin} (dB)	L_{AE} (dB)	L_{AF1} (dB)	L_{AF10} (dB)	L_{AF90} (dB)	L_{AF99} (dB)
13th floor, West facing	11:31	30:0	63.1	78.4	56.3	95.6	72.7	65.0	59.3	58.3
13th floor, East facing	12:04	30:0	65.3	81.4	60.6	97.8	70.5	66.6	63.2	62.0
5th floor, West facing	12:48	30:0	61.1	77.5	55.2	93.6	70.1	62.7	57.4	56.4
5th floor, East facing	13:23	30:0	65.6	84.5	58.2	98.1	75.5	67.6	60.9	59.6
2nd floor, West facing	13:58	30:0	58.7	76.4	53.6	91.3	67.4	60.3	55.5	54.5
2nd floor, East facing	14:34	30:0	61.9	82.6	55.7	94.5	70.9	63.7	58.1	56.8

All values are façade reflected sound pressure levels in dB re 20 µPa

Appendix 2: Time History Charts

Figure A1: Time History, Unattended Noise Monitoring, 5th Floor South Facing Elevation (2017)

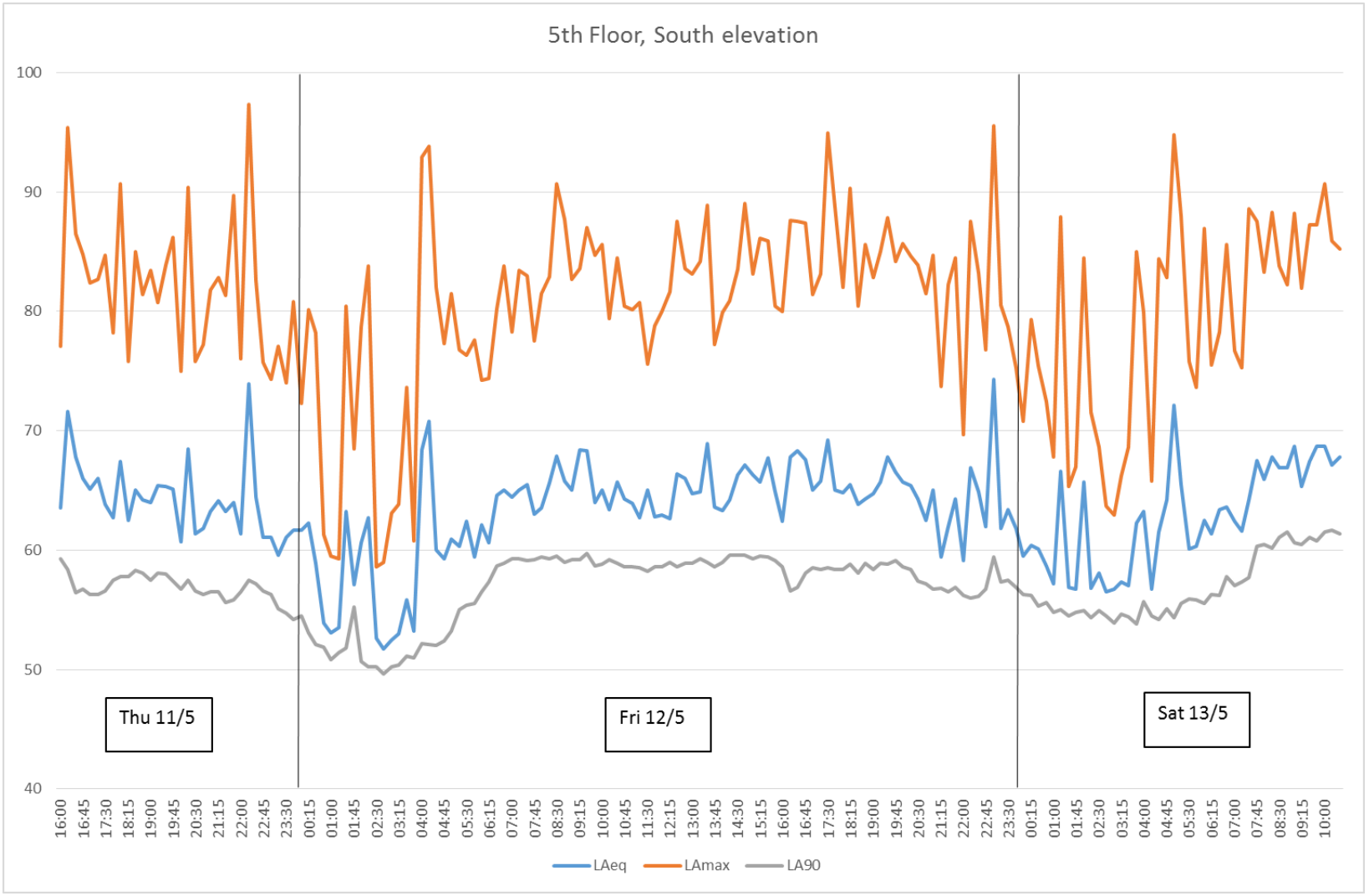


Figure A2: Time History, Unattended Noise Monitoring, 13th Floor South Facing Elevation (2017)

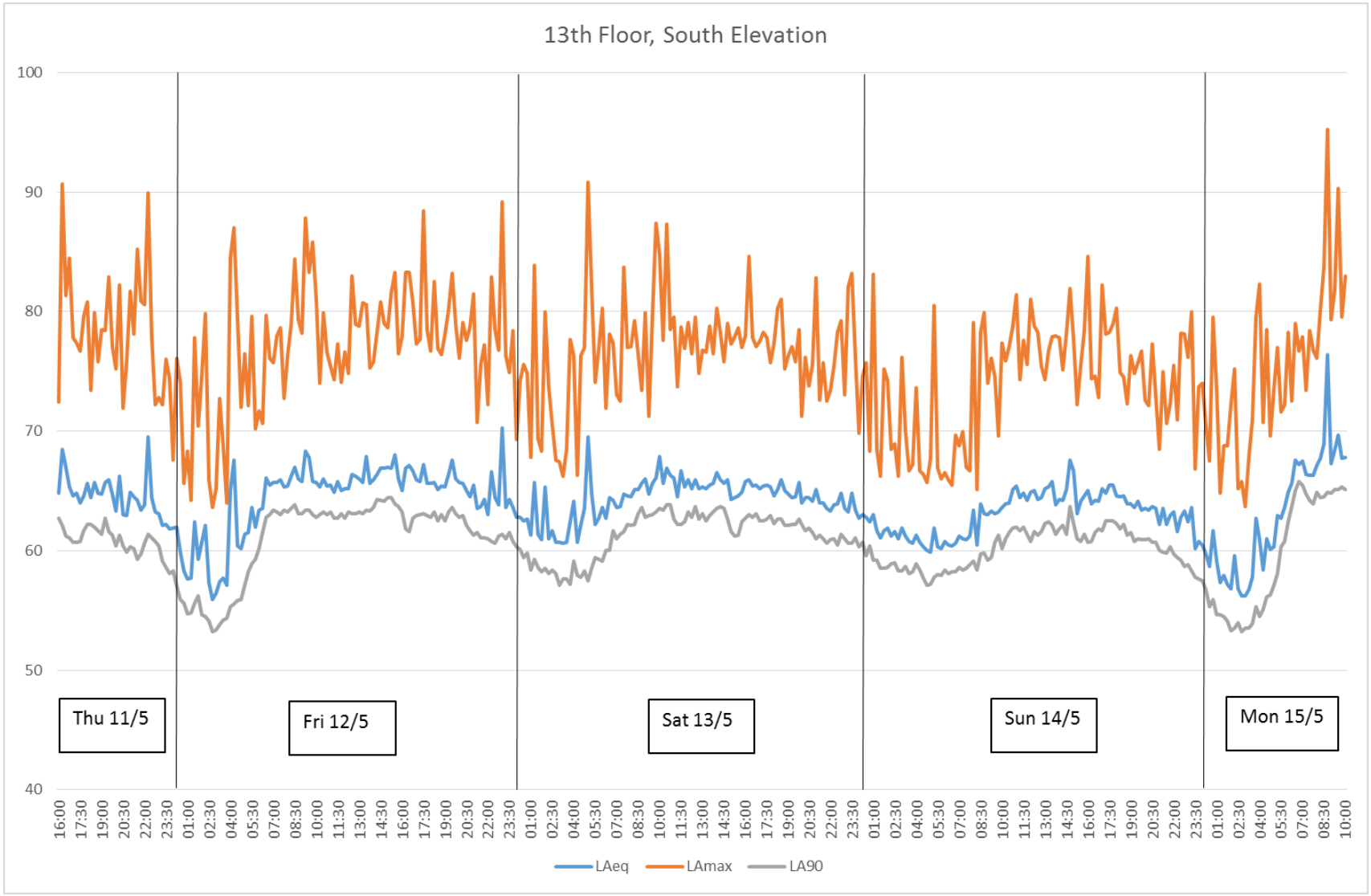


Figure A3: Time History, Unattended Noise Monitoring, 6th Floor West Facing Elevation (2017)

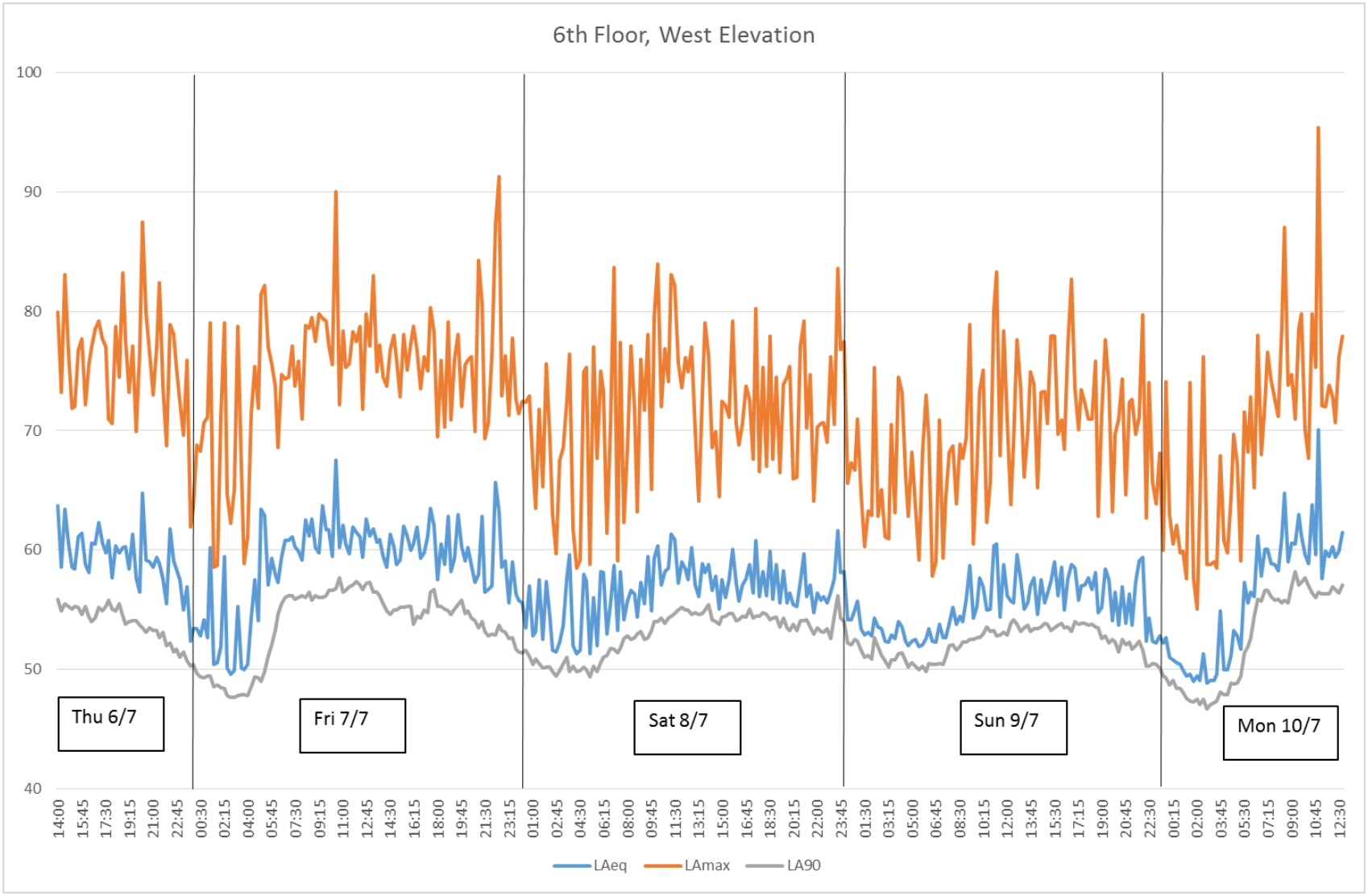


Figure A4: Time History, Unattended Noise Monitoring, 6th Floor East Facing Elevation (2017)

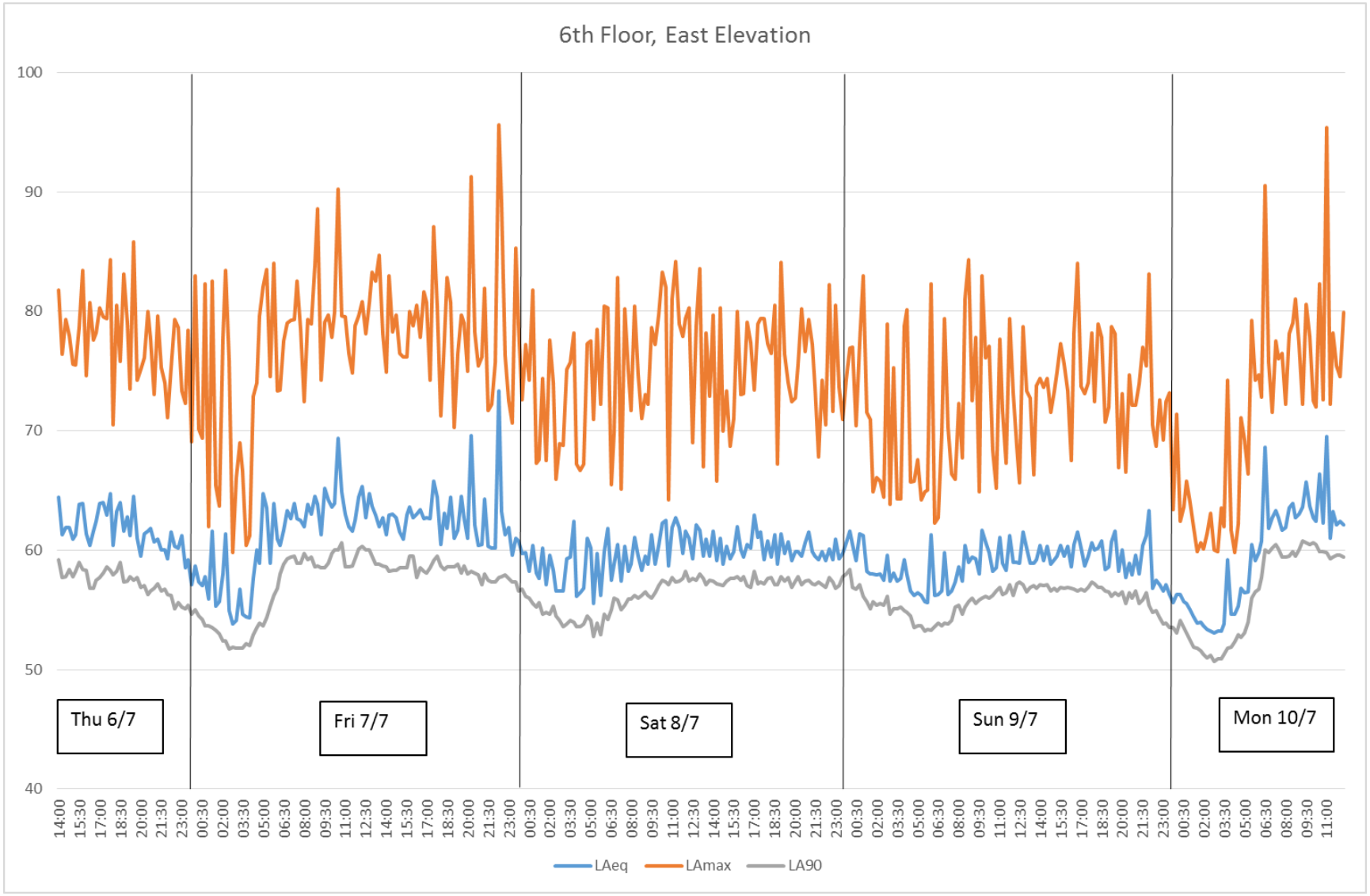


Figure A5: Time History, Unattended Noise Monitoring, MP1 (2023)

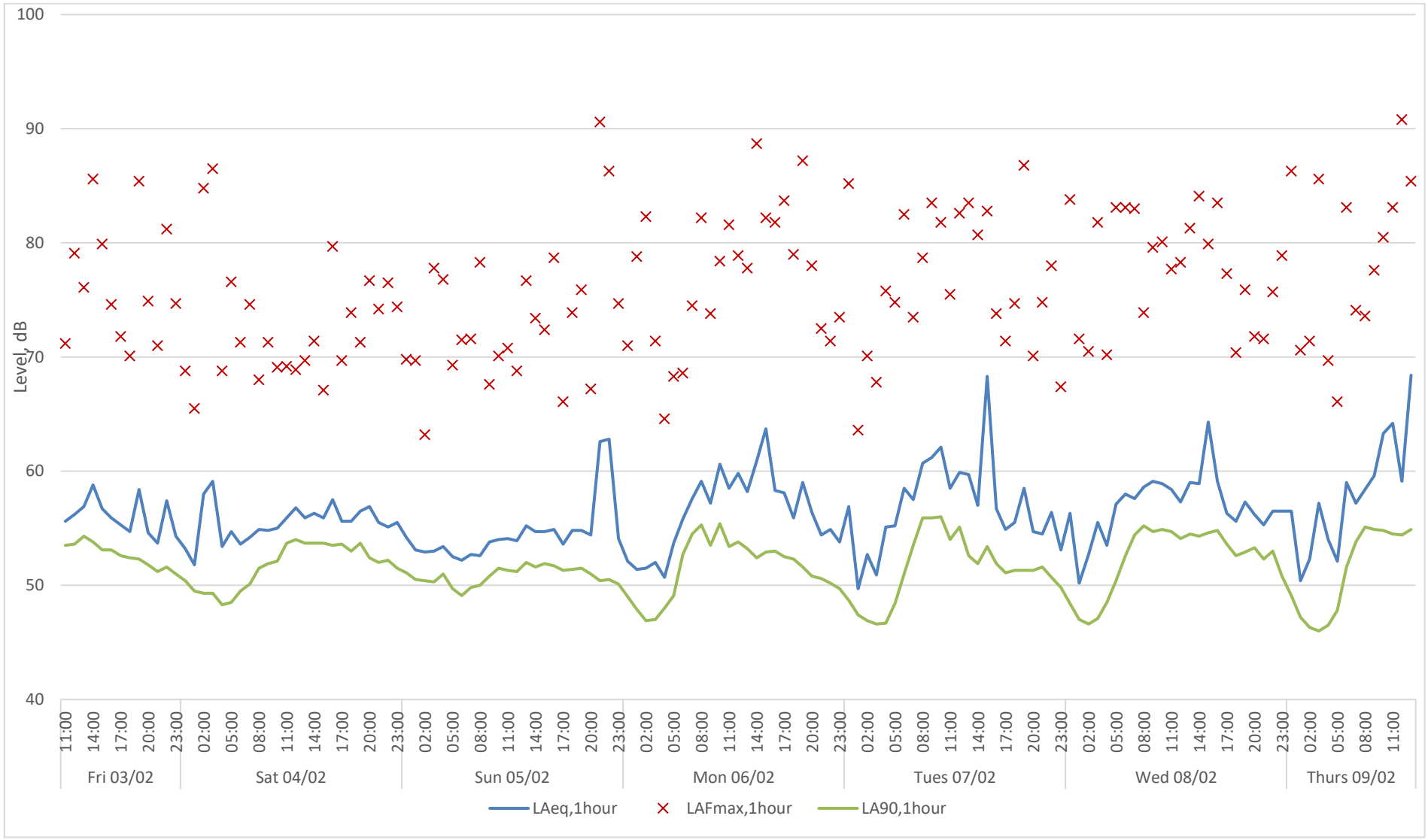
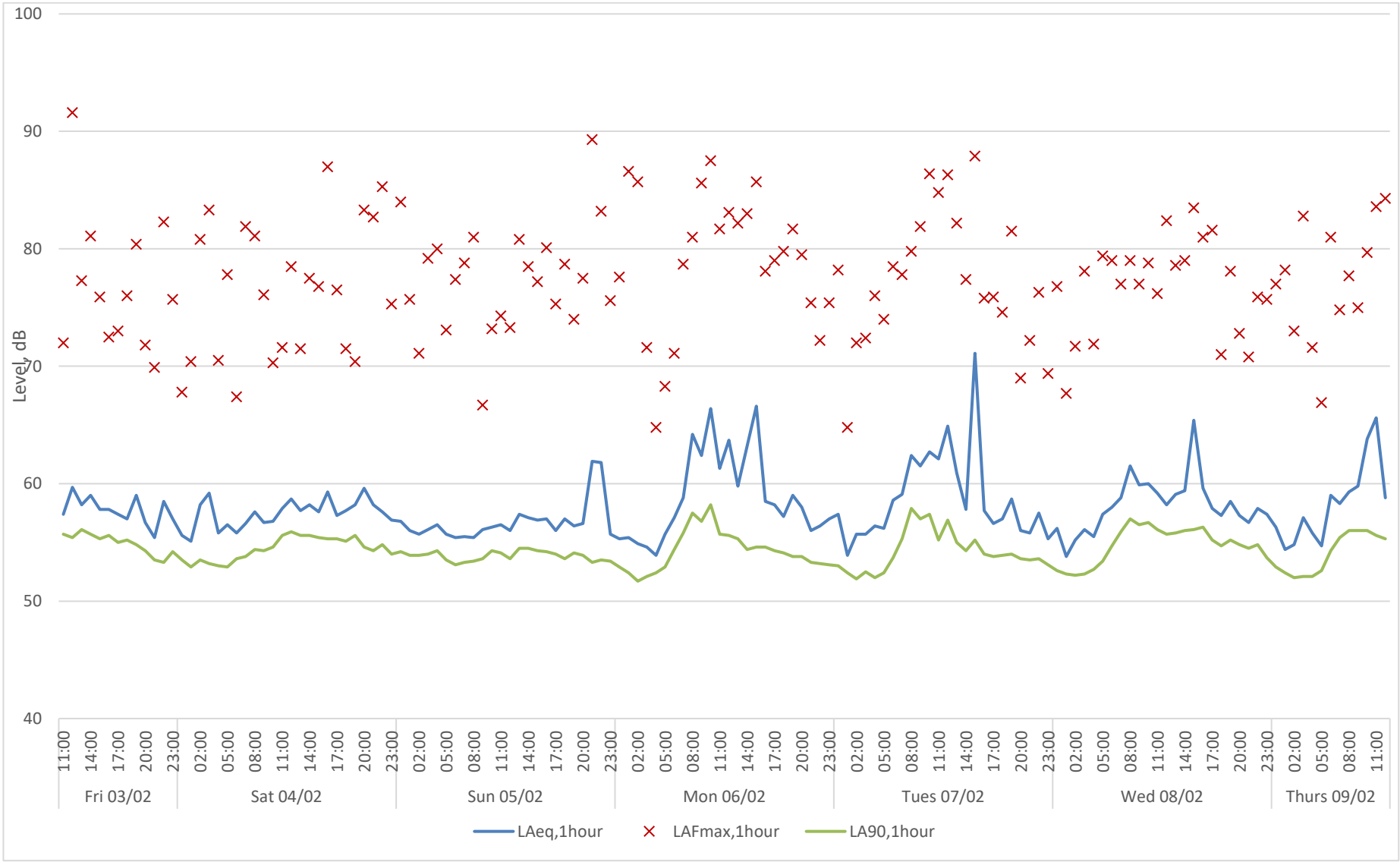
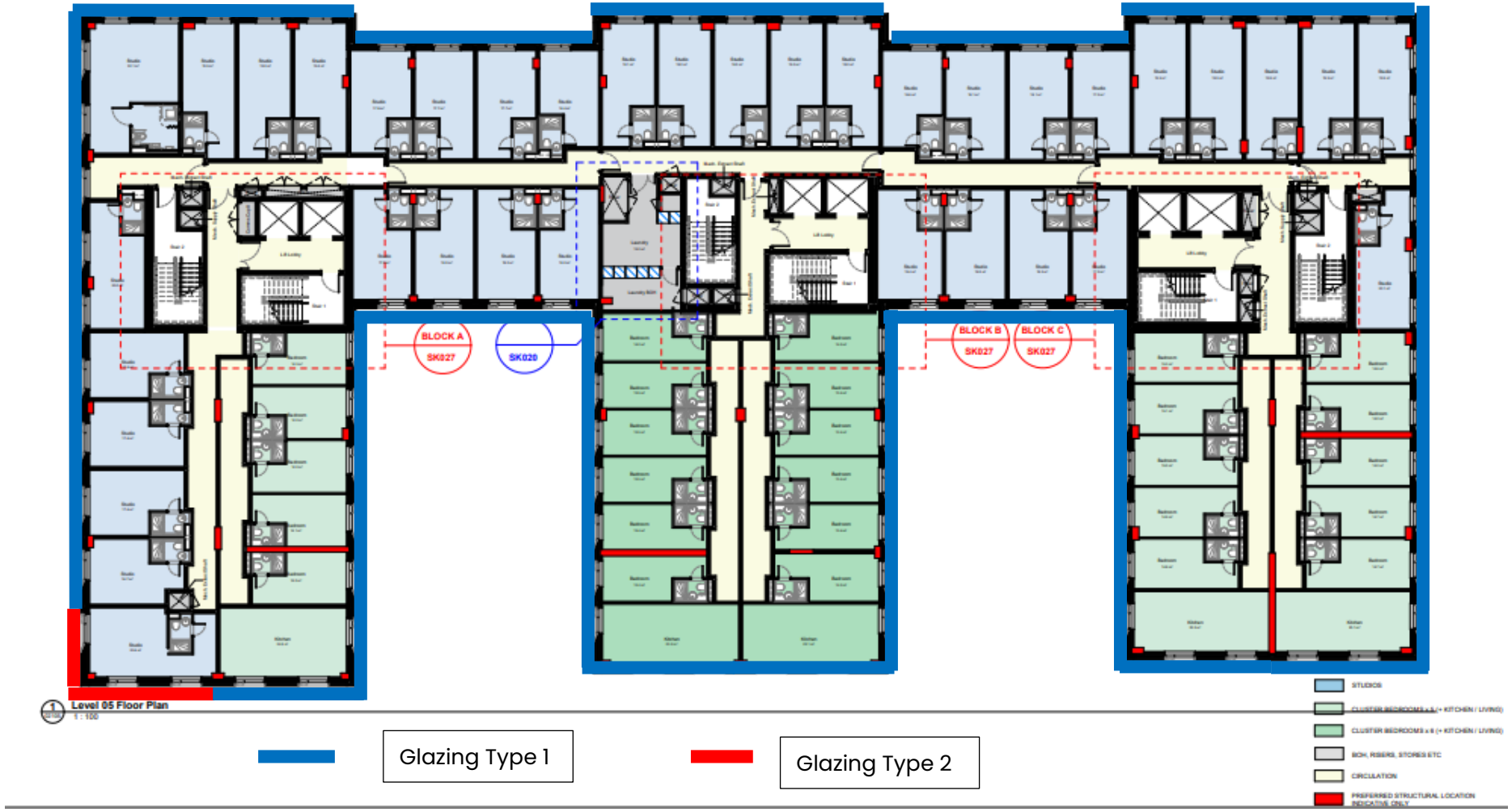


Figure A6: Time History, Unattended Noise Monitoring, MP2 (2023)



Appendix 3: Sound Insulation Requirements

Figure A7: Sound Insulation Requirements of Glazing (5th Floor)



Glossary of Terms

Decibel (dB) The unit used to quantify sound pressure levels; it is derived from the logarithm of the ratio between the value of a quantity and a reference value. It is used to describe the level of many different quantities. For sound pressure level the reference quantity is 20 μPa, the threshold of normal hearing is in the region of 0 dB, and 140 dB is the threshold of pain. A change of 1 dB is usually only perceptible under controlled conditions.

dB L_A Decibels measured on a sound level meter incorporating a frequency weighting (A weighting) which differentiates between sounds of different frequency (pitch) in a similar way to the human ear. Measurements in dB L_A broadly agree with an individual's assessment of loudness. A change of 3 dB L_A is the minimum perceptible under normal conditions, and a change of 10 dB L_A corresponds roughly to halving or doubling the loudness of a sound. The background noise level in a living room may be about 30 dB L_A; normal conversation about 60 dB L_A at 1 meter; heavy road traffic about 80 dB L_A at 10 meters; the level near a pneumatic drill about 100 dB L_A.

$L_{A90,T}$ The A weighted noise level exceeded for 90% of the specified measurement period (T). In BS 4142: 1997 it is used to define background noise level.

$L_{Aeq,T}$ The equivalent continuous sound level. The sound level of a notionally steady sound having the same energy as a fluctuating sound over a specified measurement period (T). $L_{Aeq,T}$ is used to describe many types of noise and can be measured directly with an integrating sound level meter.

R_w Single number rating used to describe the sound insulation of building elements and is defined in BS EN ISO 10140-2: 2010 (formerly BSEN ISO 140-3:1995). It is derived by measurement under laboratory conditions and does not take into account the effects of flanking transmissions.

$D_{nT,w}$ The weighted standardized level difference is a single figure rating used to describe the sound insulation of a construction separating two rooms, for example a wall or floor, and is defined in BS EN ISO 16283-1:2014 (formerly BSEN ISO 140-4:1998). It is derived by measurement of an in-situ construction and therefore takes into account the effects of flanking transmissions, workmanship etc.

C_{tr} A single-number spectrum adaptation term used to characterise the sound insulation rating with respect to urban traffic. It is defined in ISO 717-1:20-13.


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APPENDIX 12.2_STANDARDS AND GUIDANCE

on behalf of

IQ STUDENT ACCOMMODATION LTD

for the site at

ECHO STREET, MANCHESTER

REPORT DATE: **MARCH 2023**

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Appendix 12.2: Standards and Guidance

Noise Policy Statement for England

The Noise Policy Statement for England (NPSE1), published in March 2010, sets out the long-term vision of Government noise policy. The Noise Policy aims, as presented in this document, are:

"Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- avoid significant adverse effects on health and quality of life;
- mitigate and minimise adverse effects on health and quality of life; and
- where possible, contribute to the improvement of health and quality of life."

The NPSE makes reference to the concepts of NOEL (No Observed Effect Level) and LOAEL (Lowest Observed Adverse Effect Level) as used in toxicology but applied to noise impacts. It also introduces the concept of SOAEL (Significant Observed Adverse Effect Level) which is described as the level above which significant adverse effects on health and the quality of life occur.

The first aim of the NPSE is to avoid significant adverse effects, taking into account the guiding principles of sustainable development (as referenced in Section 1.8 of the Statement). The second aim seeks to provide guidance on the situation that exists when the potential noise impact falls between the LOAEL and the SOAEL, in which case:

"…all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development".

Importantly, the NPSE goes on to state:

"This does not mean that such adverse effects cannot occur".

The Statement does not provide a noise-based measure to define SOAEL, acknowledging that the SOAEL is likely to vary depending on the noise source, the receptor and the time in question. NPSE advises that:

"Not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available"

[1] Noise Policy Statement for England, Defra, March 2010

It is therefore likely that other guidance will need to be referenced when applying objective standards for the assessment of noise, particularly in reference to the SOAEL, whilst also taking into account the specific circumstances of a proposed development.

National Planning Policy Framework

The National Planning Policy Framework (NPPF) states that the planning system should contribute to and enhance the natural and local environment by, (amongst others) *"preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, water or noise pollution or land stability"*.

The NPPF also advises that;

> *"planning policies and decisions should aim to:*
>
> - *Avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;*
> - *Mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including thorough use of conditions;*
> - *Recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land use since they were established, and*
> - *Identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value".*

The NPPF document does not refer to any other documents regarding noise other than NPSE.

Planning Practice Guidance – Noise

Planning Practice Guidance - Noise (PPG) provides additional guidance and elaboration on the NPPF. It advises that when plan-making and decision-taking, the Local Planning Authority should consider the acoustic environment in relation to:

- Whether or not a significant adverse effect is occurring or likely to occur;
- Whether or not an adverse effect is occurring or likely to occur; and
- Whether or not a good standard of amenity can be achieved.

In line with the Explanatory Note of the NPSE, the PPG goes on to reference the LOAEL and SOAEL in relation to noise impact. It also provides examples of outcomes that could be expected for a given perception level of noise, plus actions that may be required to bring about a desired outcome. However, in line with the NPSE, no objective noise levels are provided for LOAEL or SOAEL although the PPG acknowledges that:

"…the subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation".

Examples of these factors include:

- The source and absolute noise level of the source along with the time of day that it occurs;
- Where the noise is non-continuous, the number of noise events and pattern of occurrence;
- The frequency content and acoustic characteristics of the noise;
- The effect of noise on wildlife;
- The acoustic environment of external amenity areas provided as an intrinsic part of the overall design;
- The impact of noise from certain commercial developments such as night clubs and pubs where activities are often at their peak during the evening and night.

The PPG also provides general advice on the typical options available for mitigating noise. It goes on to suggest that Local Plans may include noise standards applicable to proposed developments within the Local Authority's administrative boundary, although it states that *"Care should be taken, however, to avoid these being implemented as fixed thresholds as specific circumstances may justify some variation being allowed"*.

The PPG was amended in December 2014 to clarify guidance on the potential effect of noise from existing businesses on proposed new residential accommodation. Even if existing noise levels are intermittent (for example, from a live music venue), noise will need to be carefully considered and appropriate mitigation measures employed to control noise at the proposed accommodation.

ProPG: Planning and Noise Professional Practice Guidance on Planning & Noise – New Residential Development

This is new guidance with the overall aim of delivering sustainable development by promoting good health and well-being through the effective management of noise. The guidance aims to complement the national planning policy and encourages the use of good acoustic design at the earliest phase of the planning process.

The ProPG guidance is relevant to assess the impact of noise on the proposed residential development rather than determining the assessment of the impact of noise from the development upon the existing area.

The guidance is applicable to new residential development which would be exposed predominantly to noise from existing transport sources. The ProPG advocates a risk based approach to noise with a two stage sequential approach, which is:

- Stage 1 – an initial noise risk assessment of the proposed development site; and

- Stage 2 – a systematic consideration of four key elements –
  - Element 1 – demonstrating a 'Good Acoustic Design Process;
  - Element 2 – observing internal 'Noise Level Guidelines';
  - Element 3 – undertaking an 'External Amenity Area Noise Assessment' and
  - Element 4 – consideration of 'Other Relevant Issues'.

The ProPG approach is underpinned by the preparation and delivery of an 'Acoustic Design Statement' (ADS), whereby the higher the risk the site, the more detailed the ADS. The ADS should address the following issues:

- Present the initial site noise risk assessment, including the pre-development acoustic conditions prior to development;
- Describe the external noise levels that occur across the site both before and after mitigation measures. The external post mitigation noise assessment should use an informed judgement of typical worst case conditions;
- Demonstrate how good acoustic design is integrated into the overall design and how the proposed acoustic design responds to specific circumstances of the site;
- Confirm how the internal noise level guidelines will be achieved, including full details of the design measures and building envelope specifications;
- A detailed assessment of the potential impact on occupants should be undertaken where individual noise events are expected to exceed 45 dB LAFmax more than 10 times a night inside bedrooms;
- Priority should be given to enable the use of openable windows where practical across the development. Where this is not practical to achieve the internal noise level guidelines with windows open, then full details of the proposed ventilation and thermal comfort arrangements must be provided;
- Present the findings of the external amenity area noise assessment;
- Present findings of the assessment of other relevant issues;
- Confirm for a low risk site, however adverse impacts of noise will be mitigated and minimised;
- Confirm for a medium or high noise risk site how adverse impacts of noise will be mitigated and minimised and clearly demonstrate that a significant adverse noise impact has been avoided.

Standards

BS 7445-1: 2003 Description and measurement of environmental noise - Part 1: Guide to quantities and procedures

This part of British Standard (BS) 7445 defines the basic quantities to be used for the description of noise in community environments and describes basic procedures for the determination of these quantities. The methods and procedures described in this British Standard are intended to be applicable to sounds from all sources, individually and in combination, which contribute to the total noise at a site.

BS 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings

This standard provides recommended guideline values for internal noise levels within dwellings which are similar in scope to guideline values contained within the World Health Organisation (WHO) document, Guidelines for Community Noise (1999). These guideline noise levels are shown in **Table A12.2.1**.

Table A12.2.1: BS 8233: 2014 guideline indoor ambient noise levels for dwellings

Location	Activity	07:00 to 23:00	23:00 to 07:00
Living Room	Resting	35 dB $L_{Aeq,16hr}$	-
Dining room/area	Dining	40 dB $L_{Aeq,16hr}$	-
Bedroom	Sleeping (daytime resting)	35 dB $L_{Aeq,16hr}$	30 dB $L_{Aeq,8hr}$

BS 8233:2014 advises that "regular individual noise events can cause sleep disturbance. A guideline value may be set in terms of Single Event Level (SEL) or L_{AFmax} depending on the character and number of events per night. Sporadic noise events could require separate values".

BS 8233:2014 adopts guideline external noise values provided in WHO for external amenity areas such as gardens and patios. The standard states that it is "desirable" that the external noise does not exceed 50 dB L_{AeqT} with an upper guideline value of 55 dB $L_{Aeq,T}$ whilst recognising that development in higher noise areas such as urban areas or those close to the transport network may require a compromise between elevated noise levels and other factors that determine if development in such areas is warranted. In such circumstances, the development should be designed to achieve the lowest practicable noise levels in external amenity areas.

World Health Organisation Guidelines for Community Noise 1999

WHO recommends that to avoid sleep disturbance, indoor night-time guideline noise values of 30 dB $L_{Aeq,T}$ for continuous noise and 45 dB $L_{Amax,F}$ for individual noise events should be applicable. It is to be noted that the WHO Night Noise Guidelines for Europe 2009 makes reference to research that indicates sleep disturbance from noise events at indoor levels as low as 42 dB L_{AFmax}. The number of individual noise events should also be taken into account and the WHO guidelines suggest that

indoor noise levels from such events should not exceed approximately 45 dB L_{AFmax} more than 10 – 15 times per night.

The WHO document recommends that steady, continuous noise levels should not exceed 55 dB $L_{Aeq,T}$ on balconies, terraces and outdoor living areas. It goes on to state that to protect the majority of individuals from moderate annoyance, external noise levels should not exceed 50 dB $L_{Aeq,T}$.

BS 4142:2014+A1:2019 Methods for Rating and Assessing Industrial and Commercial Sound

BS 4142:2014+A1:2019 Methods for Rating and Assessing Industrial and Commercial Sound (BS 4142) provides guidance on the assessment of the likelihood of complaints relating to sound from industrial and manufacturing processes and commercial sources such as; loading and unloading of goods, mobile plant such as forklift trucks and fixed plant and equipment. The standard is not intended for use with recreational activities, music, construction and demolition, public address systems or people noise. The key aspects of the Standard are summarised below.

The Specific Noise Level - the noise level produced by the source in question at the assessment location - is determined and a correction applied for certain undesirable acoustic features such as tonality, impulsivity or intermittency. The corrected Specific Noise Level is referred to as the Rating Level.

The standard presents a method of assessing potential noise impact by comparing the Rating Level with that of the existing background sound level at the nearest noise sensitive receiver in the absence of the source (the Background Sound Level).

The standard states the following:

- Typically, the greater this difference, the greater the magnitude of the impact.
- A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.
- A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context.
- The lower the Rating Level is relative to the measured Background Sound Level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the Rating Level does not exceed the Background Sound Level, this is an indication of the specific sound source having a low impact, depending on the context.
- In addition to the margin by which the Rating Level of the specific sound source exceeds the Background Sound Level, the 2014 edition places emphasis upon an appreciation of the context, as follows:

  "An effective assessment cannot be conducted without an understanding of the reason(s) for the assessment and the context in which the sound occurs/will occur. When making assessments and arriving at decisions, therefore, it is essential to place the sound in context."

Guidance

Institute of Environmental Management and Assessment – Guidelines for Environmental Noise Impact Assessment

The Institute of Environmental Management and Assessment (IEMA) – Guidelines for Environmental Noise Impact Assessment provides a methodology for noise impact assessment which achieves integration with the Environmental Impact Assessment (EIA) process. The guidelines cover:

- how to scope a noise assessment;
- issues to be considered when defining the baseline noise environment;
- prediction of changes in noise levels as a result of implementing development proposals; and
- definition and evaluation of the significance of the effect of changes in noise levels.



MILLER GOODALL
ACOUSTICS - AIR QUALITY - LIGHTING

APPENDIX 12.3_PLANT NOISE ASSESSMENT

on behalf of

IQ STUDENT ACCOMMODATION LTD

for the site at

ECHO STREET, MANCHESTER

REPORT DATE: **MARCH 2023**

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CadnaA Modelling

General Inputs

Predictions of noise from mechanical services plant has been undertaken using CadnaA noise modelling software, and compared to the existing background noise levels measured at the site. This enables a direct comparison of mechanical services noise compared with the existing background level rather than simply observing a change (or lack thereof) in the overall level. Specific model parameters have been applied as follows:

- Propagation of noise has been modelled using algorithms within ISO 9613:1993 Acoustics - Attenuation of sound during propagation outdoors
- Default ground absorption G = 0.0 (equivalent to and consistent with the hard ground cover present at the site)
- Ground attenuation: spectral all sources
- No adverse meteorological effects
- Two orders of reflection
- Buildings are reflecting (smooth, non-structured façade)
- Topographical data was obtained using emapsite 2 m contours for the area surrounding the site and data from site observations and topographical data provided by the client has been used for the site.
- The heights of existing buildings within the noise model have been estimated using Google Earth and site observations.
- Noise levels have been predicted at the most adversely affected façade are incident façade levels i.e. no reflections. Noise levels for sensitive receptors positioned in open spaces are free-field.

Mechanical Services Plant

Mechanical services plant has been modelled using manufacturers data where available, and this data is summarised in **Table A12.3.1** below:

Table A12.3.1 Noise Sensitive Receptors

Unit	No.	Tower	Sound Power Level (dB) at octave band centre frequency (Hz)								Sound Power Level (dBA)
			63	125	250	500	1k	2k	4k	8k	
Mitsubishi QTon	3	A	83	67	64	65	63	58	55	55	68
	5	B	83	67	64	65	63	58	55	55	68
	5	C	83	67	64	65	63	58	55	55	68
Daikin RXYSQ12TY1	1	A	-	79	73	75	72	66	63	55	76
	2	B	-	79	73	75	72	66	63	55	76
	2	C	-	79	73	75	72	66	63	55	76
Exhaust Flue (roof level)	1	C	N/A								54
Other roof mounted equipment*	1	A	77	71	69	63	61	47	38	24	66
Other roof mounted equipment*	1	B	69	72	71	53	52	39	23	9	64
Other roof mounted equipment*	1	C	75	68	59	50	53	40	27	16	58
Basement plant room*	1	A	85	89	88	84	79	69	58	51	85
Basement plant room*	1	C	79	82	79	65	54	43	37	30	72

* Details of assumed equipment is described in detail in the following sections

Noise levels for roof-mounted mechanical services equipment has been based on library data of similar noise sources as specific noise data for these items has not been made available. The noise levels cover the anticipated noise levels from domestic hot water storage cylinders, expansion vessels, circulation pumps, smoke extract fans, laundry supply and extract fans, and any noise from electrical control panels.

In the absence of specific details of these plant items and the noise levels from them, it is not possible to undertake detailed assessment of these noise sources.

Location of Selected Noise Sensitive Receptors

Table A12.3.2 provides details of the noise sensitive receptors including their sensitivity.

Table A12.3.2 Noise Sensitive Receptors

ID	Noise Sensitive Receptor	Sensitivity of Receptor
1	Barnes Wallis Building, North	Medium
2	Barnes Wallis Building, West (Ground Floor)	Medium
3	Barnes Wallis Building, East (Ground Floor)	Medium
4	Barnes Wallis Building, West (Middle Floor)	Medium
5	Barnes Wallis Building, East (Middle Floor)	Medium
6	Barnes Wallis Building, West (Top Floor)	Medium
7	Barnes Wallis Building, East (Top Floor)	Medium
8	Echo Street Office	Low
9	Fairfield Hall (Ground Floor)	High
10	Fairfield Hall (Middle Floor)	High
11	Fairfield Hall (Top Floor)	High
12	Joule Library, East	High
13	Joule Library, South	High
14	Lambert House, East (Ground Floor)	High
15	Lambert House, West (Ground Floor)	High
16	Lambert House, East (Middle Floor)	High
17	Lambert House, West (Middle Floor)	High
18	Lambert House, West (Top Floor)	High
19	Lambert House, East (Top Floor)	High
20	London Road Fire Station	High
21	Macdonald Hotel (Top Floor)	High
22	Maths & Science Building, West (Ground Floor)	Medium
23	Maths & Science Building, East (Ground Floor)	Medium
24	Maths & Science Building, West (Middle Floor)	Medium
25	Maths & Science Building, East (Middle Floor)	Medium
26	Maths & Science Building, West (Top Floor)	Medium
27	Maths & Science Building, East (Top Floor)	Medium
28	Pendulum Hotel	High
29	Renold Building	Medium
30	Staff House	Medium
31	The Bulls Head Pub	High
32	Velvet House	High
33	Vimto Park	Low

BS 4142:2014+A1:2019 Assessment

A BS 4142 noise impact assessment has been undertaken in order to assess the potential noise impact at the nearest and most affected noise sensitive receptors due to the

operational plant noise from the proposed development. The results from the noise modelling are compared against the existing background noise levels at the site (previously measured) to determine the potential for impact.

Table A12.3.3 BS 4142 Noise Impact Assessment Off-site

Results		Relevant Clauses of BS 4142:2014	Commentary
Measured Ambient Noise Level	$L_{Aeq,8hr}$ = 53 dB	7.3.1	Lowest measured overnight ambient level
Lowest Background Sound Level	$L_{A90,15mins}$ = 47 dB	8.1.2 8.3	Lowest level measured
Assessment made during the night-time, so the reference interval is 15 min		7.2	
Specific Sound Level (Receptor 10: Fairfield Hall (Middle Floor))	$L_{Aeq,15mins}$ = 33 dB	7.3.3 eqn. (2)	
Acoustic feature correction	0 dB	9.2	No character
Rating Level	(33 + 0) dB = 33 dB		
Excess of Rating Level over Background Sound Level	(47 – 33) dB = - 14 dB		i.e. rating level is below background sound level
Assessment indicates likelihood of significant adverse impact		11	Initial estimate only
Context		11 8.5	The assessment relates to existing receptors where the environment is dominated by traffic and mechanical services noise sources
Uncertainty of the assessment		10	There is a degree of uncertainty in determining the Background Sound Level at the receptor but this has been mitigated by using the lowest measured background levels over a 7-day period to ensure a representative sample has been measured

It can be seen from Table A12.3.3 above, the highest noise levels predicted at any receptor is expected to be below the existing background noise level and therefore unlikely to be perceptible or have any impact on the existing levels of amenity at the site.

Summary

Provided the noise levels from the mechanical services proposed for the site do not exceed those that are specified in this report, we would not expect any significant impact on existing amenity on the grounds of noise. To ensure, that mechanical services noise is

controlled as details of mechanical services are finalised, appropriate planning conditions should be applied to the site.

Detailed calculations of mechanical services noise should then be carried out to ensure that noise from these services is controlled and mitigation is specified where necessary.



MILLER GOODALL
ACOUSTICS - AIR QUALITY - LIGHTING

APPENDIX 12.4_MODELLING PARAMETERS

on behalf of

IQ STUDENT ACCOMMODATION LTD

for the site at

ECHO STREET, MANCHESTER

REPORT DATE: **MARCH 2023**

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General Inputs

Propagation of noise using algorithms within ISO 9613: 1993 Acoustics - Attenuation of sound during propagation outdoors. Railways were modelled as a continuous line source at a height of 8 m above ground with the source 1 m above this level and calibrated using spectral data measured during the survey, which predicts L_{Amax} comparable with the measured L_{Amax} values at Chandos Hall (2017) and MP1(2023).

Default ground absorption G = 0.0 (hard ground)

Ground attenuation: spectral all sources

No adverse meteorological effects

Two orders of reflection

Topographical data was obtained using emapsite 2 m contours for the area surrounding the site and data from site observations and topographical data provided by the client has been used for the site.

The heights of buildings within the noise model have been estimated using Google Earth and site observations.

Noise levels at sensitive receptors have been predicted at the most adversely affected façade and are therefore façade levels.

Verification of the Model

The baseline scenario for the L_{Amax} noise indices has been utilised to compare against the measured noise data as detailed in **IQSM3015_ES_V1_Chapter 12- Noise.** The L_{Amax} indices has been used since this has been the driver for the internal noise mitigation measures for the site. Results of the verification process are shown in **Table 13.5.1**. below:

Table 13.5.1 Results of Verification of the CadnaA Model

Measurement Position Night time L_{Amax}	Predicted dB L_{AMax} dB	Measured dB L_{AMax}dB	Variation dB L_{Amax} Predicted - Measured
MP1 Survey Position	74	72.4	1.6
Chandos - F13 (P7) West	70.2	67	3.2
Chandos - F13 (P8) East	71.1	70	1.1
Chandos - F2 (D7) West	72.1	67	5.1
Chandos - F2 (D8) East	73.5	70	3.5
Chandos - F5 (G7) West	72.4	74.3	-1.9
Chandos - F5 (G8) East	72.8	76.8	-4
Chandos - Train 13th Floor	74.8	77.9	-3.1
Chandos - Train 2nd Floor	81.4	83.3	-1.9
Chandos - Train 5th Floor	79.7	82.3	-2.6

Differences occur between predicted and measured levels due to variations in conditions on site compared with the predicted values, in the main the predictions compare favourably with the measured data. The east and west facades are predicting slightly higher, since the main source for validation has been the railway line.