

Memo

Date: 19 October 2022

To: Angela Leckie

From: Michael Percival

Subject FRT Comments - CDN/22/0627

Comments have been received from the Flood Risk Team in relation to the above application. The outstanding evidence required:

- *Details of phasing boundaries (see Appendix A)*
- *Photo evidence of flow controls and raingardens (see Appendix B)*
- *Details of how the land drainage beneath the park area connects to the wider site drainage and confirmation that this area has been included within attenuation calculations (see Appendix C)*
- *As built drawings of drainage which has currently been installed (see Appendix D)*
- *Individual manufacturer maintenance details should be provided (see Appendix E)*
- *Confirmation who will be responsible for maintaining the onsite drainage.*

The details of the information requested are provided sequentially appended to this note, which were in the most part submitted with the Condition Discharge application. We would be grateful if this is relayed to FRT to confirm if any other details are outstanding in order to discharge the planning condition.

This note also confirms that the Mayfield Partnership will be responsible for the ongoing management and maintenance of the drainage infrastructure.

Details of phasing boundaries (see Appendix A)

Photo evidence of flow controls and raingardens (see Appendix B)





Excavation for Rain Garden 2



Gravel layer installed in Rain Garden 1

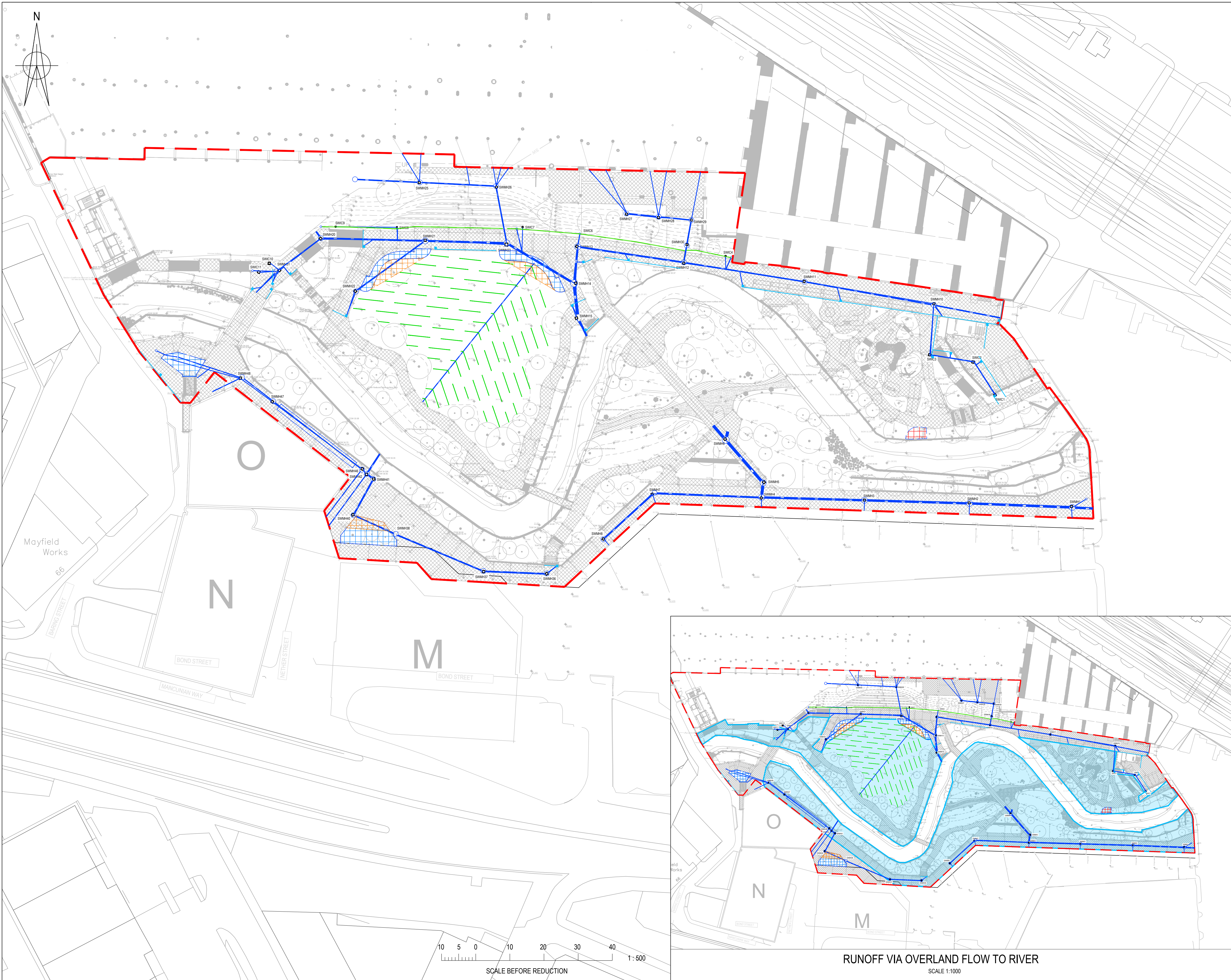


FLOW CONTROL INSTALLED IN
SWMH046

Details of how the land drainage beneath the park area connects to the wider site drainage and confirmation that this area has been included within attenuation calculations (see Appendix C)

The land drainage for the lawn connects in to Rain Gardens 1 & 2. The infiltration rate into the ground has been checked and is sufficient to discharge this flow.

As built drawings of drainage which has currently been installed (see Appendix D)



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HEALTH AND SAFETY INFORMATION

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CONSTRUCTION

- WORKS WITHIN POTENTIAL CONFINED SPACE CONDITIONS
- WORKS IN PROXIMITY TO LIVE SERVICES
- WORKS ADJACENT TO LIVE ROADS
- WORKS IN CONTAMINATED GROUND CONDITIONS
- WORK IN PROXIMITY TO FLOOD ZONE

MAINTENANCE/CLEANING/OPERATION

- WORKS WITHIN POTENTIAL CONFINED SPACE CONDITIONS
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DECOMMISSIONING/DEMOLITION

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Notes

- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH DRAWING MANHOLE SCHEDULE MAY101-WSD-EXT-BUR-DR-7020-3150 AB.
- DRAWING BASED ON:
 - ARCHITECT'S PLAN P20567-00-001-GIL-XR MASTER LANDSCAPE LAYOUT RECEIVED FROM GILLESPIES ON 21/07/2021
 - BELOW GROUND DRAINAGE GA 1076-01-CE-YY-DR-C-001-T02 RECEIVED FROM PLOT ENGINEERS ON 22/09/2020
 - TOPOGRAPHICAL SURVEY RECEIVED SEPT 2020 FROM SURVEY OPERATIONS.

LEGEND

EXISTING DRAINAGE	EXISTING COMBINED WATER SEWER
EXISTING RWP	EXISTING SURFACE WATER PIPE (GPR SURVEY)
AS BUILT DRAINAGE	
375mmØ	SURFACE WATER
	SURFACE WATER MANHOLE
	INSPECTION CHAMBER
	SURFACE WATER BACKDROP
	HYDROBRAKE
	OUTFALL
	GULLY
	FILTER DRAIN
	ACO 'MULTIDRAIN' LINEAR DRAIN (UNLESS OTHERWISE STATED)
	LINEAR DRAIN SUMP
	RAIN GARDEN EXTENTS ON SURFACE
	RAIN GARDEN EXTENTS (GRAVEL) BELOW GROUND
	RAIN GARDEN EXTENTS (GRAVEL) OUTSIDE OF ABOVE GROUND FOOTPRINT
	DRAINAGE VIA OPENINGS IN RETAINING WALL TO SOFT LANDSCAPING
	PARK BOUNDARY
	STONE BELOW PLAY SURFACE

A	AS BUILT DRAWING	09.12.22	EE	CB
Rev	Description	Date	Drm	Ch'd

AS BUILT

Status of drawing

BUROHAPPOLD ENGINEERING

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Architect	GILLESPIES
Project	MAYFIELD DEVELOPMENT PARTNERSHIP
Drig Title	AS BUILT DRAWING SURFACE WATER PLAN

Scales@A1 1:500	Job No. 046688
Drawn by EE	Date DECEMBER 22
Checked by CB	Rev A

Drawing No. 0042912-BHE-XX-XX-DR-C-7060-3120 AB

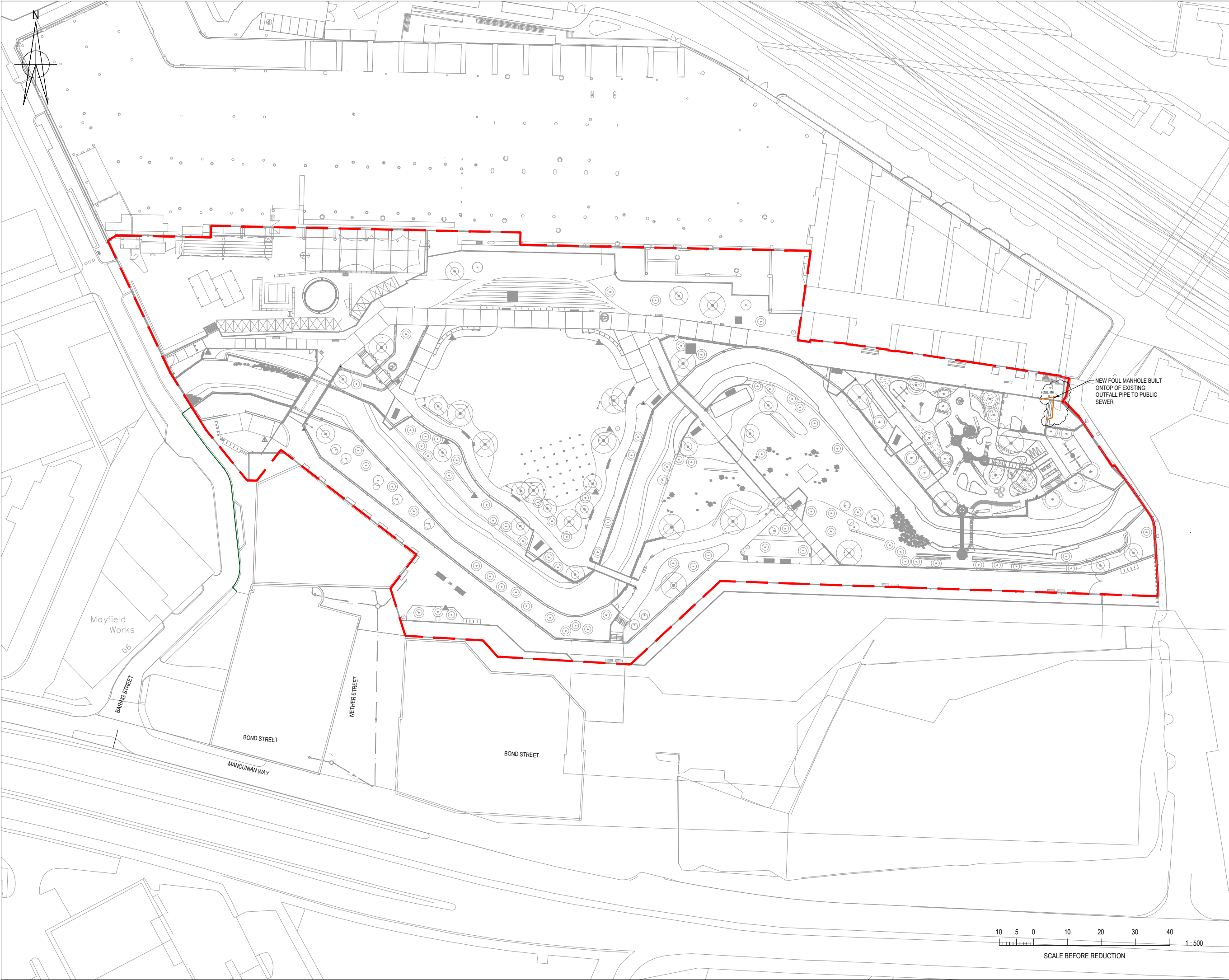
10 5 0 10 20 30 40 1:500

SCALE BEFORE REDUCTION

RUNOFF VIA OVERLAND FLOW TO RIVER

SCALE 1:1000

Filename: D:\asbuilt\2022\12\Mayfield Development Partnership\AS BUILT\AS BUILT SURFACE WATER PLAN.dwg
Date: 09/12/2022
Time: 14:00:00
User: ee



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Notes

1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.
2. DRAWING BASED ON:
 - ARCHITECT'S PLAN P20567-00-001-GIL-XR MASTER LANDSCAPE LAYOUT RECEIVED FROM GILLESPIES ON 21/07/2021
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 - TOPOGRAPHICAL SURVEY RECEIVED SEPT 2020 FROM SURVEY OPERATIONS.

LEGEND

--- PARK BOUNDARY

EXISTING

- C — TFR — EXISTING COMBINED WATER SEWER
- FW — E — EXISTING FOUL WATER

AS BUILT

- FOUL WATER SEWER
- FOUL WATER MH

NEW FOUL MANHOLE BUILT ON TOP OF EXISTING OUTFALL PIPE TO PUBLIC SEWER

Mayfield Works

BARING STREET

NETHER STREET

BOND STREET

MANCUNIAN WAY

10 5 0 10 20 30 40 1 : 500

SCALE BEFORE REDUCTION

A AS BUILT DRAWING 06.08.22 EE CB

Rev Description Date Dm Ch'd

AS BUILT

Status of drawing

BUROHAPPOLD ENGINEERING

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Architect GILLESPIES

Project MAYFIELD DEVELOPMENT PARTNERSHIP

Dwg Title AS BUILT DRAWING
FOUL WATER PLAN

Scales@A1 1:500

Drawn by EE

Checked by CB

Job No. 046688

Date AUGUST 22

Rev A

Drawing No. MAY101-WSD-EXT-BUR-DR-7060-3200 AB

MANHOLE SCHEDULE - As Built SW								
NAME	TYPE	COVER LEVEL [m]	COVER LOADING	DEPTH [m]	INCOMING PIPE DIAMETER [mm]	INCOMING PIPE IL [m]	OUTGOING PIPE DIAMETER [mm]	OUTGOING PIPE IL [m]
SWIC1	SIA Manhole Type 3 Circular (450 Dia)	36.386	C250	1.386	150		150	34.971
SWIC2	SIA Manhole Type 3 Circular (450 Dia)	36.180	C250	1.330	150	34.719	150	34.719
SWIC3	SIA Manhole Type 3 Circular (450 Dia)	35.621	C250	1.971	150	33.516	150	34.516
SWIC4	SIA Manhole Type 3 Circular (450 Dia)	35.380	C250	1.890	150	33.790	150	
SWIC6	SIA Manhole Type 3 Circular (450 Dia)	35.439	C250	2.229	150		150	34.100
SWIC7	SIA Manhole Type 3 Circular (450 Dia)	35.432	C250	2.282	150	33.470	150	33.470
SWIC8	SIA Manhole Type 3 Circular (450 Dia)	35.227	C250	2.127	150	33.260	150	
SWIC9	SIA Manhole Type 3 Circular (450 Dia)	35.400	C250	1.830	150		150	33.990
SWIC10	SIA Manhole Type 3 Circular (450 Dia)	35.687	C250	1.508	150		150	34.687
SWIC11	SIA Manhole Type 3 Circular (450 Dia)	35.702	C250	1.572	150		150	34.702
SWMH1	SIA Manhole Type 2 (1,500 Dia)	38.418	D400	2.222	150		450	36.080
SWMH2	SIA Manhole Type 2 (1,500 Dia)	37.325	D400	1.595	450	35.590	450	35.590
SWMH3	SIA Manhole Type 2 (1,500 Dia)	36.570	D400	1.789	450	34.781	450	34.781
SWMH4	SIA Manhole Type 2 (1,500 Dia)	35.705	D400	1.425	450 450	34.205 34.205	600	34.180
SWMH5	SIA Manhole Type 2 (1,500 Dia)	35.630	D400	1.520	600	34.080	600	34.080
SWMH6	SIA Manhole Type 2 (1,800 Dia)	35.218	C250	1.498	600	33.650	600 600	33.650 33.650
SWMH7	SIA Manhole Type 2 (1,200 Dia)	35.670	D400	1.021	150	34.644	450	34.296
SWMH8	SIA Manhole Type 2 (1,200 Dia)	35.890	D400	0.915			150	34.970
SWMH10	SIA Manhole Type 2 (1,200 Dia)	35.725	D400	2.471	150	34.163	225	34.103
SWMH11	SIA Manhole Type 2 (1,200 Dia)	35.350	D400	1.927	225	33.423	225	33.423
SWMH12	SIA Manhole Type 2 (1,200 Dia)	35.015	D400	1.852	225 225	33.163 33.163	300	33.088
SWMH13	SIA Manhole Type 2 (1,500 Dia)	35.032	D400	2.240	300	32.792	375	32.717
SWMH14	SIA Manhole Type 1A (1,800 Dia)	34.835	C250	2.398	375 450	32.437 32.212	600	32.212
SWMH15	SIA Manhole Type 1A (1,800 Dia)	34.510	C250	2.380	600	32.130	375	32.130
SWMH20	SIA Manhole Type 2 (1,200 Dia)	35.215	D400	2.350	150	33.015	300	32.865
SWMH21	SIA Manhole Type 2 (1,500 Dia)	34.940	D400	2.379	300 150	32.560 32.786	375	32.561
SWMH22	SIA Manhole Type 2 (1,200 Dia)	34.400	C250	1.512			150	33.318
SWMH23	SIA Manhole Type 2 (1,500 Dia)	34.940	D400	2.544	375 225	32.396 32.621	450	32.396
SWMH25	SIA Manhole Type 2 (1,200 Dia)	38.760	C250	1.502			225	36.246
SWMH26	SIA Manhole Type 1A (1,200 Dia)	38.590	C250	2.143	225	35.445	225	35.445
SWMH27	SIA Manhole Type 2 (1,200 Dia)	38.645	D400	2.070			225	36.586
SWMH28	SIA Manhole Type 2 (1,200 Dia)	38.698	D400	2.358	225	36.328	225	36.328
SWMH29	SIA Manhole Type 1A (1,200 Dia)	39.330	C250	3.220	225	36.000	225	34.600
SWMH30	SIA Manhole Type 2 (1,200 Dia)	35.825	D400	2.375	225	33.450	225	33.216
SWMH31	SIA Manhole Type 2 (1,200 Dia)	35.650	D400	2.600	150 150	34.021 34.021	150	34.021
SWMH36	SIA Manhole Type 2 (1,200 Dia)	36.062	D400	1.385			150	34.701
SWMH37	SIA Manhole Type 2 (1,200 Dia)	36.074	D400	1.565	150	34.445	150	34.445
SWMH38	SIA Manhole Type 2 (1,200 Dia)	36.079	D400	1.901	150	34.129	225	34.129
SWMH40	SIA Manhole Type 2 (1,200 Dia)	36.096	D400	3.772	225	32.386	300	32.386

MANHOLE SCHEDULE - As Built SW								
NAME	TYPE	COVER LEVEL [m]	COVER LOADING	DEPTH [m]	INCOMING PIPE DIAMETER [mm]	INCOMING PIPE IL [m]	OUTGOING PIPE DIAMETER [mm]	OUTGOING PIPE IL [m]
SWMH41	SIA Manhole Type 2 (1,200 Dia)	36.076	D400	3.752	300	32.064	300	32.064
SWMH42	SIA Manhole Type 1A (1,200 Dia)	36.077	D400	4.077	300 150	32.034 33.344	150 300	33.450 32.034
SWMH46	SIA Manhole Type 2 (1,200 Dia)	36.072	D400	2.622	150	33.500	150 150	33.400 33.400
SWMH47	SIA Manhole Type 2 (1,200 Dia)	36.077	D400	2.542	150	33.535	150	33.650
SWMH48	SIA Manhole Type 2 (1,200 Dia)	36.117	D400	0.483			150 150	33.714 33.714

MANHOLE SCHEDULE - As Built FW									
NAME	TYPE	COVER LEVEL [m]	COVER LOADING	COVER TYPE	DEPTH [m]	INCOMING PIPE DIAMETER [mm]	INCOMING PIPE IL [m]	OUTGOING PIPE DIAMETER [mm]	OUTGOING PIPE IL [m]
FWMH1	SIA Manhole Type 1A (1,200 Dia)								

COVER TYPE ABBREVIATIONS

RE - RECESSED/ INFILLED
DI - DUCTILE IRON

MANHOLE NAMES

SWIC - ACCESS CHAMBERS
SWMH - PROPOSED MANHOLES
SWMH-AB - AS BUILT MANHOLES

BD - BACKDROP

- * DENOTES LEVEL FROM BASIS OF PPOC SURVEY AND TOPOGRAPHICAL SURVEY. EXACT INVERT IS TO BE CONFIRMED WHEN PROPOSED MANHOLE IS INSTALLED ONLINE OF EXISTING FOUL NETWORK.

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- WORKS IN PROXIMITY TO LIVE SERVICES
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- WORK IN PROXIMITY TO FLOOD ZONE

MAINTENANCE/CLEANING/OPERATION:

- WORKS WITHIN POTENTIAL CONFINED SPACE CONDITIONS
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Notes

- TO BE READ IN CONJUNCTION WITH DRAWINGS 0042912-BHE-XX-XX-DR-C-7060-3120 AB FOR SURFACE WATER DRAINAGE AND DRAWING 0042912-BHE-XX-XX-DR-C-7060-3200 FOR FOUL WATER DRAINAGE AB.
- MANHOLE SIZES ARE TO BE IN ACCORDANCE WITH TABLE BELOW (TAKEN FROM SEWERS FOR ADOPTION)

Nominal Internal diameter of largest pipe in manhole (mm)	Minimum nominal internal dimension of manhole (mm)
Less than 375	1200
375 - 450	1350
500 - 700	1500
750 - 900	1800
Greater than 900	Pipe Diameter + 900

A	AS BUILT DRAWING	06.08.22	EE	CB
Rev	Description	Date	Dn	Ch'd

AS BUILT

Status of drawing

BUROHAPPOLD
ENGINEERING

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Architect	GILLESPIES		
Project	MAYFIELD DEVELOPMENT PARTNERSHIP		
Dwg Title	AS BUILT DRAWING MANHOLE SCHEDULE		
Scales@A1 N.T.S		Job No.	046688
Drawn by	EE	Date	AUGUST 22
Checked by	CB	Rev	A
Drawing No.		MAY101-WSD-EXT-BUR-DR-7020-3150 AB	

Individual manufacturer maintenance details should be provided (see Appendix E)

Hydro Water Management Solutions Maintenance Requirements

Regular inspection and maintenance is required to ensure the effective long term operation of below ground modular storage systems. The following table details the recommended maintenance requirements for modular systems.

Maintenance schedule	Required action	Frequency
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required take remedial action.	Monthly for 3 months then annually
	Debris removal from catchment surface (where may cause risk to performance)	Monthly or as required
	Remove sediment from pre-treatment structures and/or manifold connections	Monthly or as required
Remedial actions	Repair/rehabilitation of inlets/outlets, overflows and vents	Annual inspection or as required
Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually
	Survey inside of tank for sediment build up and remove if necessary	Annually and after large storms

The maintenance plan and schedule should be developed during the design phase. Specific maintenance requirements should be identified based on upstream drainage sedimentation controls and the schedule developed to suit these needs.

Maintenance details should be detailed in the project Health & safety file and a risk assessment should be undertaken and recorded.

Note,

It is generally recommended that the cells be flushed through with large volumes of water under low pressure.

Certain modular units will allow higher pressure jetting to remove larger objects or heavier deposits of sediment. These modules can be accessed via integral access chambers (where applicable) and surveyed/flushed in a linear fashion or alternately water can be flushed/jetted through via the inlet/outlet pipe connections.

Hydro Water Management Solutions Ltd

Randolph House 37-41 Longshut Lane West, Stockport, Cheshire, SK2 6RX

Tel: 01614 563476 Fax: 01614 565820 Email: sales@hydro-wms.co.uk

Confirmation who will be responsible for maintaining the onsite drainage (see Appendix F)

The on site drainage will be maintained by the Mayfield Park operations team. They are present on site seven days a week.