S106 Inspection notice

This form is to confirm a new connection has been made to an existing public sewer under Section 106 of the Water Industry Act 1991.

United Utilities Reference Number:						**E**	**C**	**3**	**4**	**7**	**7**				
Site details: Details of the site or premises that have been connected to the public sewer															
Site/property name *(if applicable)*															
Site/property address *(including postcode)*						Charles Street, Manchester M1 7DB									
Contractor details: Details of the person / company completing the sewer connection															
Contractor name						Oliver Boorman/Paul Reid									
Company name (if applicable)						Utilities Design& Planning Ltd									
Confirm sewer 'log on' & 'log off' procedure followed								Yes		X		No			
Connection details:															
Sewer connection type		Foul		x		Surface water						Combined			
Development type						New property						Existing property			
Number of site inspections conducted by United Utilities															1
Comments															
300mm foul connection to an existing 300mm combined sewer via a new manhole in Charles St. Inspection date 31/01/2017.															
Approval: I confirm the sewer connection detailed above has been satisfactorily completed and inspected															
Development Support Technician						Phil Harper									
Date						07/02/2017									

United Utilities Water Ltd
Developer Services & Planning

Your Reference	EC3828
Our Reference	4200015340
Date	8th September 2017

Dear Sir/Madam

Location:	EC3828 Circle Square Phase 1B Adj to Oxford road Manchester M1 5QA - 4200015340

I am writing to you in reference to your recent sewer connection application. I can confirm that the connection has been inspected by Phil Harper and is deemed as satisfactory.

Please accept this letter as our final approval for this sewer connection.

Should you need to enquire about this application please telephone our Customer Service Centre on 0345 672 3723 and quote the above reference number.

Yours faithfully

Lynne Berry
Developer Services and Planning

United Utilities Water Ltd
Developer Services & Planning
Warrington North WWTW
Gatewarth Street
Warrington
WA5 1DS

Telephone : 01925 679413
Wastewaterdeveloperservices@uuplc.co.uk

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United Utilities
helping life flow smoothly

S106 Inspection notice

This form is to confirm a new connection has been made to an existing public sewer under Section 106 of the Water Industry Act 1991.

United Utilities Reference Number:										
Site details: Details of the site or premises that have been connected to the public sewer										
Site/property name *(if applicable)*										
Site/property address *(including postcode)*	Former BBC Building, Oxford Road, Manchester. M1 7ED									
Contractor details: Details of the person / company completing the sewer connection										
Contractor name	Vinny Rigby									
Company name (if applicable)	Bruntwood									
Confirm sewer 'log on' & 'log off' procedure followed					Yes	X	No			
Connection details:										
Sewer connection type	Foul		Surface water	x	Combined					
Development type			New property	X	Existing property					
Number of site inspections conducted by United Utilities										1
Comments										
375mm surface water connection to an existing 900x520 brick surface water sewer via a saddle on Oxford Road. Inspection date 08/09/2017.										
Approval: I confirm the sewer connection detailed above has been satisfactorily completed and inspected										
Development Support Technician	Phil Harper									
Date	08/09/2017									

United Utilities Water Ltd
Developer Services & Metering

Your Reference	EC4436
Our Reference	4200021893
Date	9TH October2018

Dear Sir/Madam

Location:	Plot 14 Circle Square Upper Brook Street Manchester M1 7DN

PRIVATE CONNECTION

Dear Sirs

Section 106 Water Industry Act 1991

I refer to your recent application to make a connection to the public sewerage system for the purpose of draining the above property. '**Application to connect to a public sewer' (Part 1)** has been approved and you may now appoint your contractor to carry out this work. As you have advised this is a private connection you **do not** need to complete the **'Permission to work on the public sewer form' (Part 2).**

Please Note: - This approval is valid for 12 months from the date of this letter. Should you not complete the connection within this period, you will be required to submit a further connection application and be eligible for the repeat charges, unless you confirm to us in writing that you will not be completing the connection before this deadline.

If the connection is to a lateral or drain only, you will need the approval of the Local Authority Building Inspector following which you may then proceed with this work. If this connection connects a property to the public sewer for the first time, then you must inform United Utilities Domestic Billing 0345 672 2999 once the connection has been made, in order that the property is recorded for sewerage charges.

The attention of the applicant (and his contractor or agent) is directed to the Construction (Health, Safety and Welfare) Regulations 1996 (Excavations), the Health and Safety Executive Guidance Note GS5 (Entry into Confined Spaces) and Chapter 8 of the Traffic Signs Manual (Traffic Safety Measures for Roadworks) published by the Department of Transport.

Should you require further information please call 03456723723

Yours faithfully

Sharon Hitch
For Developer Services and Metering

United Utilities Water Ltd
Developer Services & Metering
Second Floor, Grasmere House,
Lingley Mere Business Park,
Warrington
WA5 3LP

Telephone: 0345 072 6067
Wastewaterdeveloperservices@uuplc.co.uk

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S106 Part 1 'Application to connect to a public sewer' Approval Notice

United Utilities Reference Number:	**EC4436**
Applicant details	
Applicant name	**Simon Chesworth**
Applicant address *(including postcode)*	**Bruntwood Circle Square 14 Limited** **C/O Bruntwood Ltd** **Albert Square** **Manchester** **M2 6LW**
Applicant email	**Simon.chesworth@bruntwood.co.uk and Andy Losty <Andy.Losty@curtins.com>**
Site details: The site / property which is proposed for connection to the public sewer	
	Plot 1, Circle Square, Upper Brook Street, Manchester, M1

APPROVED

Your application for connection to the public sewer has been approved, to be made via a new connection:

To a private drain	☒	You may appoint your contractor and advise your appointed building control body (who should inspect the work). United Utilities should be advised when this work is complete.
Direct to the public sewer	☐	**Further action required** You may now appoint an appropriately qualified contractor. Your appointed contractor is responsible for obtaining authorisation to work on a public sewer. (The S106 Part 2 application form **'Request for permission to work on a public sewer'** is available on our website; unitedutilities.com).

Mode of connection approved	**Other - please see comments box**					
Sewer connection type	Foul	☒	Surface water	☐	Combined	☐

This approval is valid for 12 months from the date below.
This approval does not grant access to third party land, permission should be sought if required between applicant and land owner
If the new connection renders access unsafe or is otherwise detrimental to the manhole or sewer, a new/upgraded manhole will be requested.

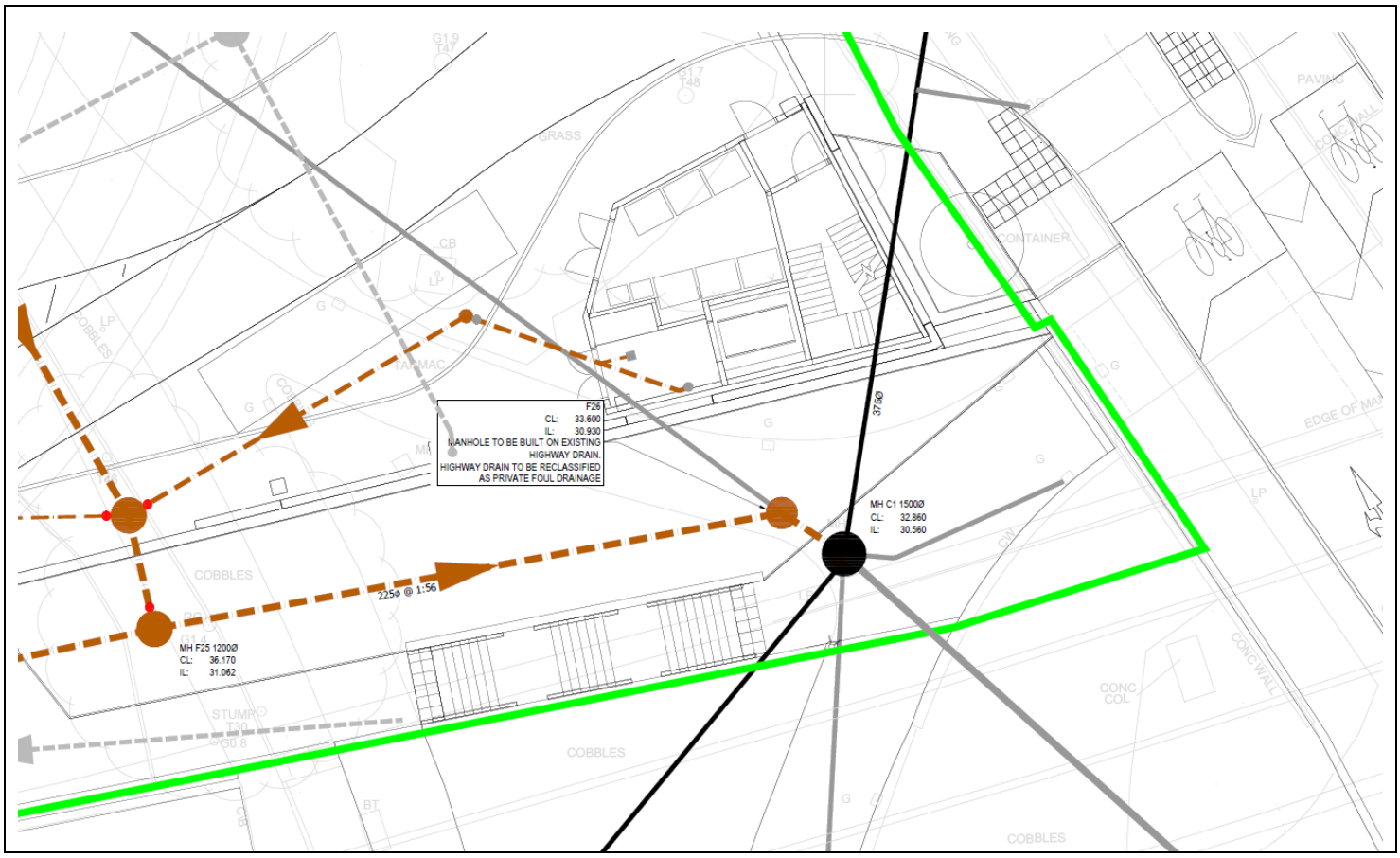
Comments

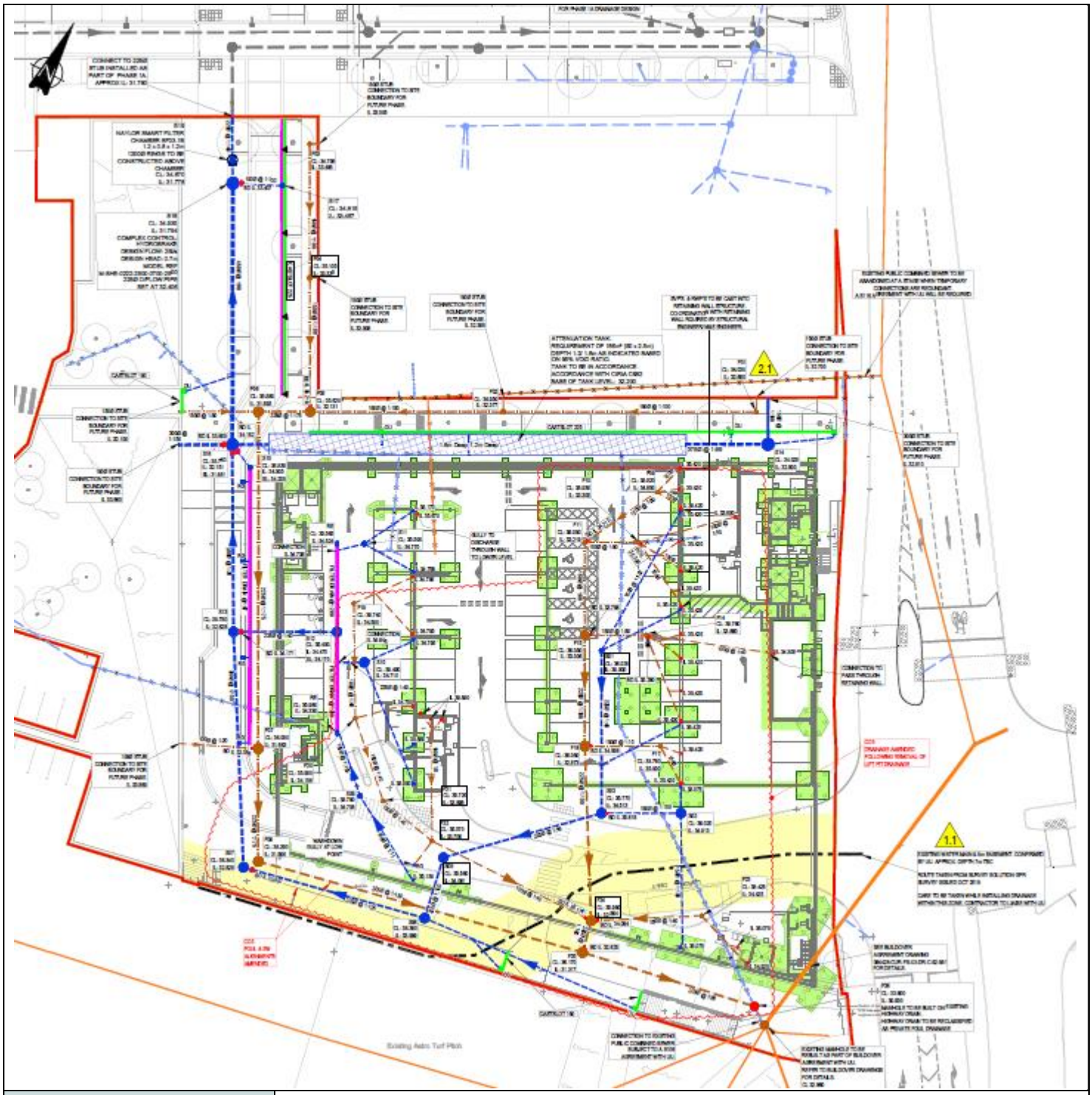
Approval granted for the 225mm Foul only connection via the utilisation of a private drain within the site boundary that shows to communicates with the 375mm Combined sewer that crosses the site through to Brook Street (as per your revised drawing below 064428-CUR-00-00-DR-C-92-530-P02)

Surface water to watercourse

Based on the information supplied by Andy Losty 05/10/19 that the private highway drain which is located in the land, the ownership of this has been transferred and the section of re-used drain only takes foul drainage

Please note, if you are proposing to connect to an existing, unchartered drain or sewer then it is the developers responsibility to confirm that it communicates with the Public Sewer
Connections may be made to private lateral drains or to existing neighbouring drain. A part 1 approval does not give permission to access third party land. The applicant must seek permission from the relevant land owner.


F26
CL: 33.600
IL: 30.930
MANHOLE TO BE BUILT ON EXISTING
HIGHWAY DRAIN.
HIGHWAY DRAIN TO BE RECLASSIFIED
AS PRIVATE FOUL DRAINAGE
MH C1 1500Ø
CL: 32.860
IL: 30.560
MH F25 1200Ø
CL: 36.170
IL: 31.062
225Ø @ 1:56
375Ø
GRASS
CONTAINER
PAVING
COBBLES
TARMAC
STUMP
CONC COL
CONC WALL
EDGE OF MA



Development Support Technician	**Lynne Berry**
Contact number	**07881034558**
Date	**09/10/2018**

Appendix E

As Built Contractor Information (Plot 9)

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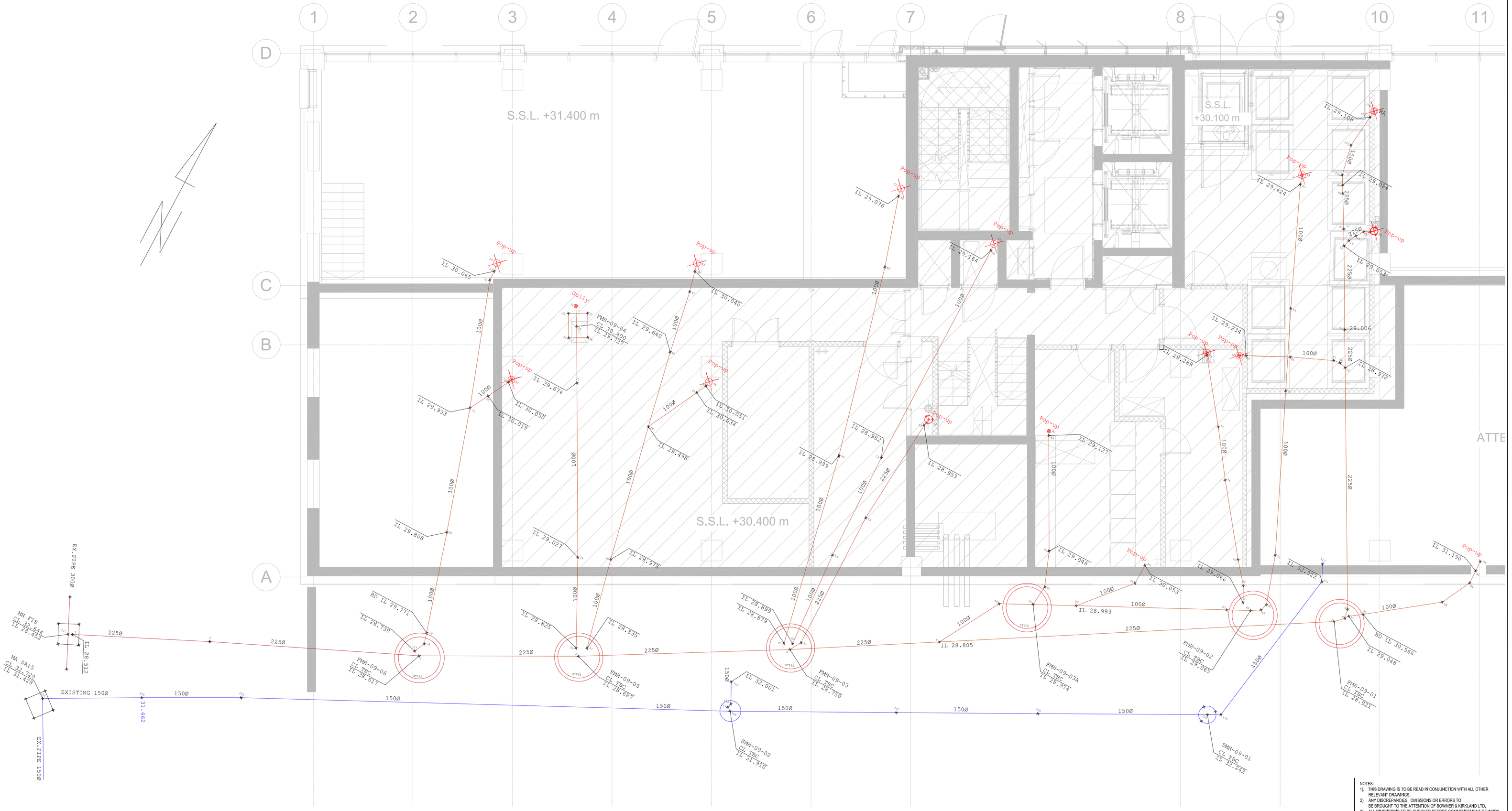
No	Easting	Northing	Level
1	384260.309	397446.761	28.512
2	384263.876	397448.424	28.540
3	384269.362	397450.881	28.617
4	384273.393	397453.008	28.687
5	384278.649	397456.021	28.750
6	384282.322	397458.220	28.805
7	384292.025	397464.041	28.921
8	384292.256	397464.262	28.923
9	384292.200	397464.530	28.924
10	384288.894	397470.607	28.972
11	384288.368	397471.558	29.006
12	384287.225	397473.673	29.053
13	384287.278	397473.867	29.071
14	384287.392	397474.084	29.077
15	384287.532	397474.290	29.215
16	384287.789	397474.453	30.400
17	384269.187	397450.938	28.739
18	384269.328	397451.254	28.764
19	384269.241	397451.563	29.771
20	384268.402	397454.375	29.808
21	384267.312	397457.833	29.933
22	384266.097	397461.330	30.059
23	384266.091	397461.613	30.065
24	384266.050	397461.855	31.400
25	384267.613	397458.377	30.019
26	384267.937	397459.001	30.050
27	384267.984	397459.103	30.400
28	384273.227	397453.187	28.825
29	384272.048	397455.500	29.027
30	384269.681	397459.901	29.674
31	384268.914	397461.324	29.727
32	384268.867	397460.927	30.400
33	384268.530	397461.544	30.400
34	384268.619	397461.830	30.400
35	384269.012	397461.808	30.400
36	384269.348	397461.197	30.400
37	384273.504	397453.325	28.835
38	384272.907	397455.890	28.978
39	384272.073	397459.754	29.498
40	384271.623	397461.934	29.640
41	384271.304	397463.722	30.028
42	384271.163	397464.304	30.040
43	384271.104	397464.535	31.400
44	384272.840	397461.264	30.034
45	384272.986	397461.555	30.051
46	384273.004	397461.704	30.400
47	384278.416	397456.094	28.879
48	384277.282	397461.577	28.939
49	384275.910	397466.966	28.971
50	384275.298	397468.940	29.076
51	384275.261	397469.171	31.400
52	384278.636	397456.203	28.899
53	384278.456	397458.980	28.927
54	384278.381	397462.104	28.982
55	384278.364	397468.809	29.164
56	384278.355	397469.021	30.400
57	384278.837	397456.343	28.752
58	384278.795	397460.369	28.878
59	384279.026	397463.494	28.953
60	384279.063	397463.701	30.400
61	384286.723	397471.374	29.341
62	384285.294	397474.641	29.424
63	384285.213	397474.900	30.400
64	384283.321	397459.988	28.962
65	384284.187	397460.427	28.974
66	384285.297	397460.978	28.993
67	384289.154	397462.892	29.056
68	384289.765	397463.194	29.065
69	384290.020	397463.351	29.071
70	384290.089	397463.558	29.084
71	384289.647	397464.928	29.127
72	384287.704	397469.221	29.258
73	384289.466	397463.297	29.066
74	384289.248	397463.732	29.086
75	384288.764	397464.317	29.138
76	384287.373	397466.154	29.127
77	384286.478	397467.411	29.245
78	384285.226	397469.068	29.289
79	384285.193	397469.126	30.400
80	384284.248	397461.030	28.998
81	384283.874	397461.993	29.046
82	384282.313	397464.907	29.127
83	384282.259	397465.025	30.400
84	384286.479	397462.332	30.000
85	384286.490	397462.917	30.053
86	384288.699	397470.660	29.053
87	384288.509	397470.634	29.064
88	384287.364	397470.141	29.157
89	384286.227	397469.581	29.234
90	384286.047	397469.485	30.400
91	384292.324	397464.369	29.048
92	384292.665	397464.611	30.566
93	384294.498	397465.987	31.072
94	384294.934	397466.836	31.176
95	384294.922	397467.220	31.190
96	384294.912	397467.523	31.195
97	384286.993	397474.093	29.065
98	384286.492	397474.979	29.071
99	384286.377	397475.186	29.084
100	384286.227	397475.440	29.086
101	384286.050	397476.308	29.091
102	384286.156	397477.273	29.108
103	384260.418	397444.742	31.428
104	384262.912	397446.095	31.462
105	384265.425	397447.430	31.541
106	384277.964	397453.656	31.910
107	384282.183	397455.856	32.001
108	384285.779	397457.731	32.091
109	384290.076	397459.984	32.242
110	384290.415	397460.162	32.249
111	384291.181	397464.883	32.322
112	384290.956	397465.342	32.319
113	384277.853	397453.723	31.983
114	384277.885	397453.855	31.987
115	384277.598	397454.419	32.001
116	384286.179	397477.486	31.400
117	384260.201	397446.708	28.452



KEY:

Foul water drain-line indicates centre of pipe levels shown are invert levels

Surface water drain-line indicates centre of pipe levels shown are invert levels

NOTES:
1). THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.
2). ANY DISCREPANCIES, OMISSIONS OR ERRORS TO BE BROUGHT TO THE ATTENTION OF BOWMER & KIRKLAND LTD.
3). ALL DIMENSIONS TO BE CHECKED BEFORE COMMENCEMENT OF WORK ON SITE.
4). DO NOT SCALE FROM THIS DRAWING.

Rev:	Description/comment	Date: Drawn by:
A	First issue.	2019/01/09 RK/AS

Bowmer & Kirkland
NORTHWEST Regional Office
1st Floor, Altitude, Atlas Business Park, Manchester, M22 5HF

Project:
CIRCLE SQUARE
Plot 9
Manchester

Drawing title:
Foul and surface water drain
As-built position

Issued for:	Drawing status:	
For information	*As-built*	
Size: *A1*	Scale: *NTS*	Drawn by: *RK*
Drawing number: *BK-SK-103*		Revision: *AB*

Appendix F

Proposed Drainage Masterplan

Plot Drainage Layouts

Sectional Completion Layout – Area A

FOR DETAILS OF DRAINAGE SERVING BUILDING 9, REFER TO DRAWING 062617-CUR-09-ZZ-DR-D-70-500

FOR DETAILS OF DRAINAGE SERVING BUILDINGS 5 & 6, REFER TO DRAWING CSAL-CUR-ZT-ZZ-DR-D-90001

FOR DETAILS OF DRAINAGE SERVING BUILDINGS 7 & 8, REFER TO DRAWING CSAL-CUR-ZL-ZZ-DR-C-90001

FOR DETAILS OF DRAINAGE SERVING BUILDINGS 2,3 & 4, REFER TO DRAWINGS CS-CUR-ZZ-0B-DR-C-90000 CS-CUR-ZZ-0G-DR-C-90002

REFER TO DRAINAGE UNDER ICMA0040 FOR PHASE 1A DRAINAGE

REFER TO DRAWINGS UNDER ICMA0040 FOR DRAINAGE WITHIN BRANCASTER ROAD

Works by CEC - Refer to Civils Drawings

SC16 Northern Gateway MCC

Salford

KEY

- BUILDINGS 2, 3 & 4 WORKS BOUNDARY
- BUILDINGS 5 & 6 WORKS BOUNDARY
- BUILDING 7 & 8 WORKS BOUNDARY
- BUILDING 9 WORKS BOUNDARY
- DRAINAGE WITHIN SEPARATE PHASES
- PROPOSED SURFACE WATER DRAINAGE
- PROPOSED FOUL WATER DRAINAGE
- PROPOSED TREE PIT DRAINAGE
- ATTENUATION TANK
- LINEAR DRAINAGE CHANNELS
- LINEAR DRAINAGE OUTLET / ACCESS BOXES
- FILTER DRAIN WITH PERFORATED 100Ø PIPE
- CONNECTION FROM DRAINAGE CHANNEL TO FILTER DRAIN
- BASEMENT EXTENTS

SURFACE WATER CONNECTION TO SEWER

THE ALLOWABLE MAXIMUM FLOW RATES FOR THE TOTAL SITE ARE APPROXIMATELY:
- 72 l/s FOR THE 1 IN 1 YEAR EVENT
- 176 l/s FOR THE 1 IN 30 YEAR EVENT
- 218 l/s FOR THE 1 IN 100 YEAR EVENT

THE FLOW RATES CALCULATED IN THE DRAINAGE MODEL ARE APPROXIMATELY:
- 70.0 l/s FOR THE 1 IN 1 YEAR EVENT
- 132.2 l/s FOR THE 1 IN 30 YEAR EVENT
- 203.7 l/s FOR THE 1 IN 100 YEAR EVENT (INCLUDING ALLOWANCE OF 30% FOR CLIMATE CHANGE)

ALL COMMERCIAL KITCHEN FACILITIES REQUIRE ENZYME DOSING. DETAILS TO BE CONFIRMED BY M&E CONTRACTOR

PROPOSED DRAINAGE CHANNEL POSITIONS ARE INDICATIVE ONLY AND SUBJECT TO FINAL COORDINATION WITH DETAILED EXTERNAL LEVELS BY LANDSCAPE ARCHITECT.

SUBJECT TO FINAL COORDINATION WITH FOUNDATION, ARCHITECTURAL AND M&E LAYOUTS. POP-UP SETTING OUT BY OTHERS.

GENERAL NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
2. DO NOT SCALE THIS DRAWING. ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY. ALL DIMENSIONS MUST BE CHECKED / VERIFIED ON SITE.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
4. ALL SEWERS, UNLESS AGREED OTHERWISE STATED, SHALL BE:
   150MM DIA TO BE VITRIFIED CLAY.
   225MM DIA TO BE VITRIFIED CLAY.
   300MM DIA TO BE VITRIFIED CLAY.
   375MM DIA AND GREATER TO BE CLASS 120 CONCRETE PIPES.
5. ALL VITRIFIED CLAY PIPES TO BS EN 295-1:
   ALL CONCRETE PIPES TO BE TO BS EN 1916.
   ALL CONCRETE MANHOLES TO BE TO BS EN1917.
6. FIRST PIPE OUT OF MANHOLES TO BE AS SHORT AS PRACTICABLE SO AS TO PROVIDE A FLEXIBLE JOINT AS CLOSE AS POSSIBLE TO THE OUTSIDE FACE OF THE CONCRETE SURROUND AND CONNECTED TO A LENGTH OF ROCKER PIPE.
7. ALL PIPE DIAMETERS GIVEN ARE NOMINAL INTERNAL PIPE DIAMETERS.
8. ALL SEWER WORKS TO COMPLY WITH WRC SEWERS FOR ADOPTION, 6TH EDITION', WATER AUTHORITY REQUIREMENTS AND KITE-MARK(EOR SIMILAR APPROVED) WHERE PRACTICABLE. WHERE CONFLICTING DETAILS OCCUR, WATER AUTHORITY'S DETAILS SHALL TAKE PRECEDENCE IN ALL CASES.
9. MANHOLE COVERS SHALL HAVE A CLEAR OPENING IN ACCORDANCE WITH SFA 6TH EDITION AND SHALL BE CLASS D400 TO BS EN 124 WITH 150MM DEEP FRAMES IN VEHICULAR TRAFFICKED AREA: CLASS B125 COVERS AND FRAMES TO BE PROVIDED ON ALL OTHER MANHOLES IN LANDSCAPING.
10. FILLED GROUND MUST BE FILLED AND CONSOLIDATED BEFORE ANY SEWER WORKS ARE CARRIED OUT.
11. THE WATER AUTHORITY IS NOT OBLIGED TO ACCEPT FILTER DRAIN / LAND DRAINAGE RUN OFF INTO THE PUBLIC SEWER NETWORK OR ADOPTABLE DRAINAGE SYSTEM (DIRECTLY OR INDIRECTLY). AN ALTERNATIVE METHOD OF DISPOSAL OF LAND DRAINAGE RUN OFF WILL THEREFORE BE REQUIRED AND ANY PROPOSALS MUST BE AGREED WITH THE LOCAL AUTHORITY LAND DRAINAGE SECTION.
12. COVER SLABS MUST CARRY THE BSI KITEMARK AND SHALL COMPLY WITH BS 5911 PART3 / BS EN 1917 :2000. WHERE THE CLEAR OPENING OF THE KITE-MARKED PRODUCT IS DIFFERENT TO THAT OF THE COVER AND FRAME, A LOAD BEARING SLAB SHOULD BE FITTED ABOVE THE COVER SLAB TO BRING THE SIZE DOWN AS SPECIFIED ABOVE. PLEASE REFER TO CONCRETE PIPELINE SYSTEMS ASSOCIATION (CPSA) 'TECHNICAL BULLETIN' ISSUED AUTUMN 2004 FOR KITE-MARKED COVER SLAB OPENING SIZES.
13. SULPHATE RESISTANT CEMENT (C20-DC2) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED TO PROVE THAT SUCH PRECAUTIONS ARE NOT REQUIRED.
14. SEWERS MUST HAVE 5M CLEARANCE FROM TREES AND HEDGES OR TO HAVE SUITABLE ROOT PROTECTION IN ACCORDANCE WITH THE SFA 6TH EDITION REQUIREMENTS.
15. ALL PIPES TO HAVE CLASS 'S' GRANULAR BED AND SURROUND UNLESS OTHERWISE STATED. BEDDING AND BACKFILL MATERIALS TO CONFORM TO THE REQUIREMENTS OF WIS 4-09-02 (TABLE A2). WHERE DEPTH OF COVER TO TOP OF SEWER IS LESS THAN 1.2M IN HIGHWAYS AND VERGES (OR LESS THAN 0.9M IN NON-VEHICULAR ACCESSED AREAS), THEN A CLASS 'Z' BEDDING TO BE USED.
16. ALL SEWER TRENCHES AND BRANCH CONNECTIONS TO BE BACKFILLED WITH SUITABLE MATERIAL IN LAYERS NOT EXCEEDING 225MM UNCONSOLIDATED THICKNESS THEN FULLY COMPACTED.
17. SEWER PIPES TO BE LAID IN MAXIMUM 3 METRE LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER LENGTHS.
18. PLASTIC CHANNEL SECTIONS WILL NOT BE PERMITTED WITHIN MANHOLE CHAMBERS. CLAYWARE CHANNELS SHALL BE USED WITHIN MANHOLES FOR PIPE SIZES UP TO AND INCLUDING 300MM DIAMETER.
19. THE CHAMBER SIZE OF MANHOLES WITH MORE THAN ONE CONNECTION IN THEM MAY NEED TO BE INCREASED AN INCREMENT TO ACCOMMODATE THE CONNECTION AND BENDS.
20. ALL STACKS AND RWPS TO HAVE LOW LEVEL RODDING ACCESS PLATES UNLESS AN ALTERNATIVE MEANS OF ACCESS IS AGREED. ACCESS POINT TO BE ABOVE ANY GROUND FLOOR CONNECTED APPLIANCE SPILL LEVEL.
21. ALL GULLY AND CHANNEL DRAIN OUTLETS AND TERMINATION POINTS TO BE TRAPPED AND RODDABLE. INTERNAL GULLIES AND CHANNEL DRAINS TO BE SPECIFIED BY OTHERS.
22. ALL CONNECTIONS PASSING THROUGH BASES OR EDGE BEAMS TO BE IN SEALED SLEEVES. ALTERNATIVELY CONNECTIONS MAY BE CAST-IN WITH FLEXIBLE JOINTS NOT GREATER THAN 150MM FROM FACE OF CONCRETE.
23. ALL INTERNAL COVERS TO BE MECHANICALLY JOINTED CORNERS AND DOUBLE SEALED.
24. FOR SPECIFIC MANHOLE DETAILS AND COVER SIZES SEE MANHOLE SCHEDULES.
25. ALL MANHOLE COVERS IN BLOCK/SLAB PAVING AREA TO HAVE RECESSED COVERS OF THE APPROPRIATE GRADE TO ACCEPT ARCHITECT'S PAVING PROPOSAL.
26. CHANNELS IN ALL MANHOLES TO BE SET AT THE APPROPRIATE INCOMING AND OUTGOING PIPE GRADIENTS AND SHALL BE PRE-FORMED UP TO 225Ø.
27. ALL BRANCH CONNECTIONS TO BE MADE WITH SWEPT BENDS IN THE DIRECTION OF FLOW IN THE MAIN SEWER.
28. INTERNAL DRAINAGE CONNECTIONS ARE PROVIDED TO THE PENETRATION POSITIONS SHOWN ON M&E DRAWINGS. ALL INTERNAL CHANNEL DRAINS AND GULLIES SHALL DISCHARGE VIA TRAPPED AND RODDABLE SUMP UNITS. UNIT SPECIFICATION BY OTHERS.
29. EXTERNAL LINEAR CHANNEL DRAINS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE MANUFACTURERS REQUIREMENTS AND SHALL DISCHARGE VIA TRAPPED RODDABLE GULLY UNITS UNLESS ADVISED OTHERWISE. LINEAR CHANNELS TO BE TO LOAD CLASS D400 GRATING AND HEALGUARD SPECIFICATION. UNITS TO HAVE A 200MM MINIMUM CONCRETE BED AND HAUNCH.
30. PROPOSED DRAINAGE CHANNEL POSITIONS ARE INDICATIVE ONLY AND SUBJECT TO FINAL CO-ORDINATION WITH DETAILED LEVELS BY LANDSCAPE ARCHITECT.
31. SECTION 163 OF THE HIGHWAYS ACT 1980 REQUIRES PROVISION TO BE MADE TO PREVENT WATER FALLING ON OR FLOWING ONTO THE HIGHWAY FROM PRIVATE DRIVEWAYS OR PROPERTIES. ANY DRAINAGE REQUIREMENTS MUST BE CONNECTED INTO THE PRIVATE SURFACE WATER DRAINAGE SYSTEM.
32. THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING:-

(i). ALL OPERATIONS SHOULD BE CARRIED OUT IN ACCORDANCE WITH THE GENERAL HEALTH AND SAFETY POLICY OF THE DEVELOPER AS REQUIRED BY SECTIONS 2 OF THE HEALTH AND SAFETY AT WORK ACT 1974 AND IN PARTICULAR THE CONSTRUCTION (GENERAL PROVISIONS) REGULATIONS.

(ii). THE LOCAL AUTHORITY AND UTILITIES COMPANIES ARE TO BE NOTIFIED PRIOR TO COMMENCEMENT OF WORK ON SITE.

(iii). PRIOR TO CONSTRUCTION THE ACTUAL POSITIONS AND DEPTHS OF SERVICES LIKELY TO BE AFFECTED BY THE WORKS SHOULD BE ESTABLISHED BY MEANS OF HAND DIG IN CLOSE LIAISON WITH THE UTILITY COMPANIES. THE CONTRACTOR SHALL IMMEDIATELY ADVISE THE ENGINEER OF ANY SERVICES EXPOSED WHICH MAY AFFECT THE DESIGN.

(iiii). ALL OPERATIVES WORKING ON THE HIGHWAY WORKS MUST HAVE STREET WORKS ACCREDITATION.

33. THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT, AND TEMPORARY AND PERMANENT DIVERSION WORKS, AS NECESSARY TO ALL EXISTING SERVICES.
34. THE CONTRACTOR SHALL ALLOW FOR KEEPING TRENCHES AND EXCAVATIONS AS DRY AS PRACTICABLE BY PUMPING FROM TEMPORARY SUMPS AND DE-WATERING AS APPROPRIATE, THE POINT AND METHOD OF DISCHARGE TO BE AGREED WITH THE DRAINAGE AUTHORITY & LLFA AND ENVIRONMENT AGENCY.
35. ALL DRAINAGE WORKS ARE TO BE CONSTRUCTED FROM THE OUTFALL TOWARDS THE HEAD OF RUN TO ENSURE THE OUTFALL CAN BE ACHEVED.

Rev:	Description:	Date:	By:	Chkd:
P03	MASTERPLAN UPDATED	14.11.18	ATL	ATL
P02	MASTERPLAN UPDATED	09.07.18	ZG	CG
P01	FIRST ISSUE	14.09.17	ATL	CG

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Merchant Exchange, 17-19 Whitworth Street West, Manchester, M1 5WG
0161 236 2394
manchester@curtins.com
www.curtins.com
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Status: INFORMATION

Project: CIRCLE SQUARE PHASE 1B

Drg Title: DRAINAGE MASTERPLAN

Size:	Date:	Drawn By:	Designed By:	Checked By:
A0	14.09.17	ATL	ATL	CG

Scale: 1:250

Project No:	Originator:	Zone:	Level:	Type:	Discipline:	Category / Number:	Rev:
063401	CUR	00	ZZ	DR	C	92-500	-P03

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PROPOSED SURFACE WATER MANHOLE SCHEDULE

MH	CL	IL	DEPTH TO SOFFIT (m)	DS PIPE DIA (mm)	MH DIA (mm)	MH TYPE	MH COVER	Easting (X)	Northing (Y)
SA12	35.230	33.270	1.735	225	1200	TYPE 2	600 X 600 D400	384275.577	397345.971
SA13	35.230	33.030	1.975	225	1200	TYPE 2	600 X 600 D400	384270.338	397354.448
SA14A	35.080	34.000	0.930	150	600	PPIC CATCHPIT	300 X 300 D400	384279.591	397361.271
SA14	34.870	32.760	1.885	225	1200	TYPE 2 CATCHPIT	600 X 600 D400	384265.266	397364.010
SA15A	34.710	33.210	1.350	150	600	PPIC CATCHPIT	300 X 300 D400	384264.713	397367.107
SA15	34.730	32.630	1.875	225	1200	TYPE 2	600 X 600 D400	384262.876	397368.522
SA16	34.410	32.335	1.850	225	1200	TYPE 2	600 X 600 D400	384257.366	397378.886
SA17A	34.830	33.100	1.505	225	600	PPIC CATCHPIT	300 X 300 D400	384261.046	397386.489
SA17	33.960	31.935	1.800	225	1200	TYPE 2	600 X 600 D400	384.247.016	397398.287
SA18	33.710	31.800	1.610	300	1200	TYPE 2	600 X 600 D400	384244.176	397403.660
SA19A	33.700	32.350	1.200	150	600	PPIC CATCHPIT	300 X 300 D400	384242.485	397408.916
SA19	33.550	31.730	1.520	300	1200	TYPE 2 CATCHPIT	600 X 600 D400	384244.784	397410.797
SA20	33.480	30.310	2.795	375	1500	TYPE 2	600 X 600 D400	384241.607	397413.660
SA16A	33.450	31.950	1.350	150	600	PPIC CATCHPIT	300 X 300 D400	384236.903	397419.423
SA25	33.550	30.300	2.875	375	1800	TYPE 2	600 X 600 D400	384234.966	397412.565
SA26	34.180	30.233	3.572	375	1800	TYPE 1B	600 X 600 D400	384210.555	397400.212
SA27	34.180	30.122	3.683	375	SPECIALIST SEE DETAIL		600 X 600 D400	384208.386	397398.180

PROPOSED FOUL WATER MANHOLE SCHEDULE

MH	CL	IL	DEPTH TO SOFFIT (m)	DS PIPE DIA (mm)	MH DIA (mm)	MH TYPE	MH COVER	Easting (X)	Northing (Y)
FA5	35.310	33.870	1.290	150	450	PPIC	300 X 300 D400	384274.870	397344.635
FA6	35.240	33.590	1.500	150	450	PPIC	300 X 300 D400	384269.450	397354.732
FA7	34.735	33.250	1.335	150	1200	TYPE 2	600 X 600 D400	384262.788	397366.695
FA8	34.540	32.820	1.570	150	1200	TYPE 2	600 X 600 D400	384255.826	397379.800
FA9	34.205	32.500	1.555	150	1200	TYPE 2	600 X 600 D400	384248.691	397393.231
FA10	33.705	31.500	2.055	150	1200	TYPE 2	600 X 600 D400	384241.087	397407.815
FA11	33.520	29.414	3.956	150	1200	TYPE 1B	600 X 600 D400	384237.385	397414.931

NOTE

PINK LINE DENOTES EXTENT OF BASEMENT LEVEL. ALL GROUND LEVEL POP UP AND GULLY LOCATIONS TO BE UNDERSLUNG TO BUILDING WALL FOR SUITABLE CONNECTION TO BELOW GROUND NETWORK.

ALL RAINWATER DRAINAGE TO TO BE UNDERSLUNG TO BUILDING WALL FOR SUITABLE CONNECTION TO BELOW GROUND NETWORK. RAINWATER POP-UPS ARE ASSUMED, AND ARE TO BE CONFIRMED BY ARCHITECT/ M&E.

BASEMENT LEVEL DRAINAGE NOT SHOWN FOR CLARITY. REFER TO DRAWING CS-CUR-ZZ-OB-DR-C-90000 FOR DETAILS.

FOR DETAILS OF UNDERSLUNG DRAINAGE REFER TO N G BAILEY DRAWINGS.

DRAWING REFERENCES

THE FOLLOWING DRAWINGS HAVE BEEN USED AS A BASIS FOR THE DESIGN SHOWN ON THIS DRAWING:

ARCHITECT DRAWING - FCBS
CS-FCBS-24-0G-DR-A-2100 REV C32

LANDSCAPE ARCHITECT DRAWING
PL1502-VW-001-20-WORKING FILE_MASTERPLAN RECEIVED 25.03.19
PL1502-VW-001-15-WORKING FILE_LEVELS_B2,3,4 RECEIVED 1705.18

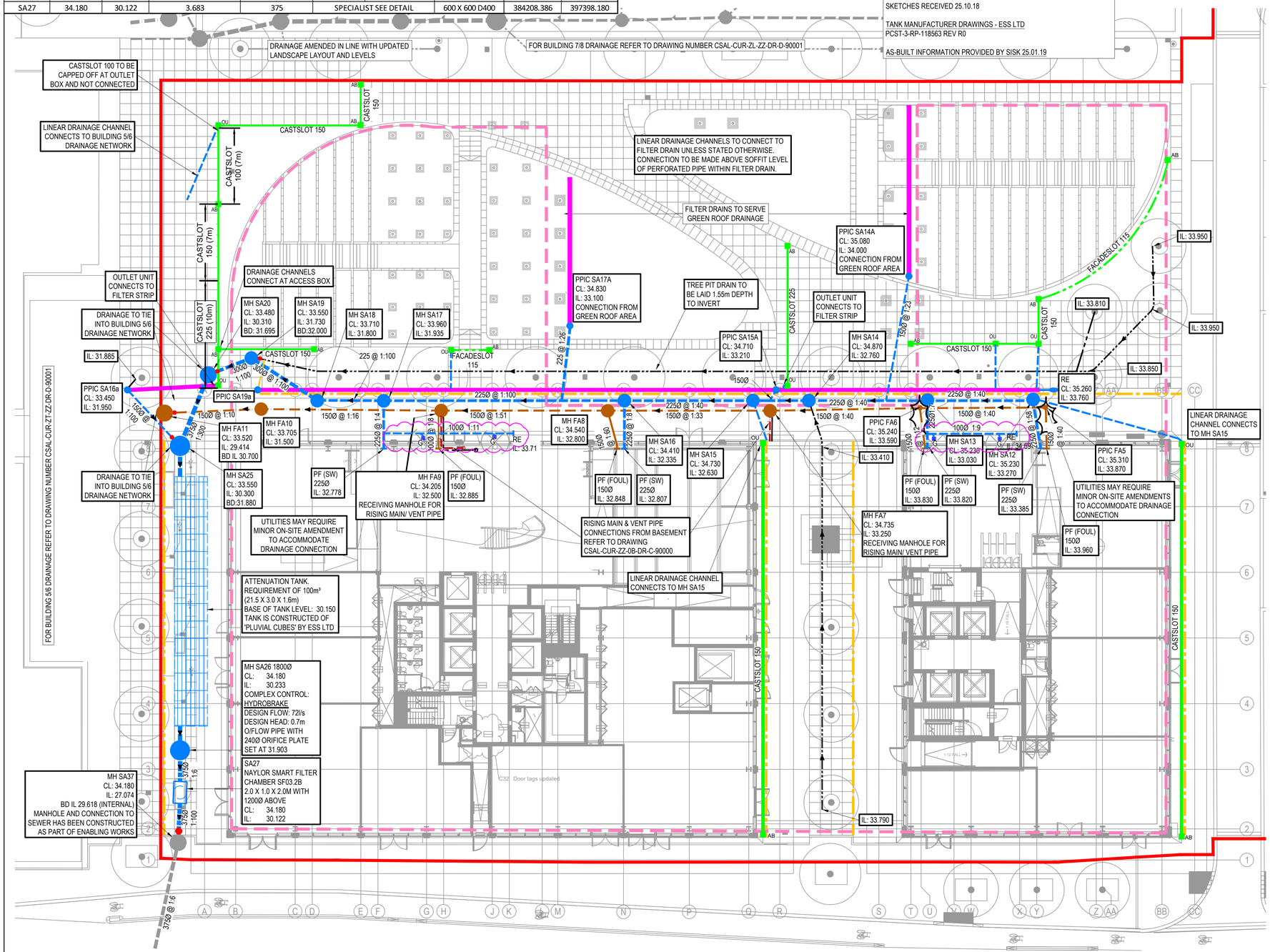
M&E DRAWINGS - N G BAILEY
CS-NGB-B2-0B-DR-M-5801 REV C02
CS-NGB-B3-3A-DR-M-5201 REV C01
CS-NGB-B3-3A-DR-M-5201 REV C02
CS-NGB-B4-0B-DR-M-5201 REV C02
CS-NGB-B4-0B-DR-M-5202 REV C02
SKETCHES RECEIVED 25.10.18

TANK MANUFACTURER DRAWINGS - ESS LTD
PCST-3-RP-118563 REV R0

AS-BUILT INFORMATION PROVIDED BY SISK 25.01.19

FINAL CONSTRUCTION
THE INFORMATION IS BASED ON CONFIRMATION FROM THE CONTRACTOR OF THE INSTALLED WORKS. THERE MAY BE VARIATIONS ON SITE WHICH ARE NOT REFLECTED ON THIS DRAWING AND HAS NOT BEEN VERIFIED.

REFER TO CSAL-CUR-ZZ-ZZ-DR-C-002X SERIES OF DRAWINGS FOR DRAINAGE DETAILS



GENERAL NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
2. DO NOT SCALE THIS DRAWING. ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY. ALL DIMENSIONS MUST BE CHECKED / VERIFIED ON SITE.
3. DESIGN BASED ON TOPOGRAPHICAL SURVEY AND CCTV SURVEY INFORMATION AVAILABLE AT THE TIME OF DESIGN.
4. ALL DRAINAGE WORKS TO BE IN ACCORDANCE WITH THE CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY (CESWI) AS INCLUDED IN SEWERS FOR ADOPTION 7th EDITION, THE REQUIREMENTS OF APPROVED DOCUMENT H (2002 EDITION) AND BUILDING REGULATIONS 2000.
5. ALL DIMENSIONS ARE IN METRES AND LEVELS IN METRES ABOVE ORDNANCE DATUM UNLESS OTHERWISE NOTED.
6. ALL EXISTING SERVICES TO BE LOCATED PRIOR TO COMMENCEMENT OF ANY DRAINAGE WORKS, AND WHERE NECESSARY PROTECTION OR DIVERSIONS TO BE UNDERTAKEN TO AVOID CONFLICT WITH THE PROPOSED WORK.
7. ALL EXISTING DRAINS TO BE ABANDONED SHALL BE EITHER REMOVED OR GROUTED UP IF NOT POSSIBLE. GROUTING TO BE PERFORMED BY CAPPING ALL ENDS / CONNECTIONS AND FILLING THE RETAINING VOID WITH GROUT, IN ACCORDANCE WITH CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY 7th EDITION (CESWI) 7TH EDITION.
8. ALL SOFT SPOTS TO BE REMOVED FROM BOTTOM OF EXCAVATIONS AND TO BE REFILLED TO FORMATION LEVEL IN ACCORDANCE WITH GROUNDWORKS SPECIFICATIONS.
9. RAISED GROUND MUST BE FILLED IN ACCORDANCE WITH GROUNDWORKS SPECIFICATIONS AND CONSOLIDATED BEFORE ANY SEWER WORKS ARE CARRIED OUT.
10. ALL SEWERS, UNLESS AGREED OTHERWISE STATED, SHALL BE:
    - 150mm to 300mm DIA TO BE VITRIFIED CLAY.
    - 375mm DIA AND GREATER TO BE CLASS 120 CONCRETE PIPES.
11. ALL PIPE DIAMETERS GIVEN ARE NOMINAL INTERNAL PIPE DIAMETERS.
12. PIPE MATERIALS IN ACCORDANCE WITH THE FOLLOWING:
    - ALL VITRIFIED CLAY PIPES TO BS EN 295-1:
    - ALL CONCRETE PIPES TO BE TO BS EN 1916.
    - ALL CONCRETE MANHOLES TO BE TO BS EN1917.
13. AS AN ALTERNATIVE THE CONTRACTOR MAY USE AN APPROVED UNPLASTICISED POLYVINYL CHLORIDE (PVCU) WITH APPROVAL FROM THE ENGINEER.
14. ALL PRIVATE DRAINAGE PIPES WITH A COVER OF LESS THAN 600mm IN NON-TRAFFICKED AREAS AND LESS THAN 900mm IN TRAFFICKED AREAS TO BE BEDDED AND SURROUNDED IN CONCRETE (CLASS Z). COMPRESSIBLE MATERIAL SHALL BE PROVIDED AT EVERY PIPE JOINT. WHERE COVER EXCEEDS THIS DEPTH, PIPES ARE TYPICALLY BEDDED AND SURROUNDED IN CLASS S. REFER TO PIPE EMBEDMENT DETAILS DRAWING FOR SPECIFIC TYPES.
15. BACKFILL TO DRAINAGE TRENCHES UNDER HARDSTANDING AREAS TO BE TYPE 1 SUB BASE MATERIAL, ELSEWHERE BACKFILL TO BE FREE DRAINING READILY COMPATIBLE MATERIAL FREE FROM DETRITUS, ORGANIC MATTER, FROZEN SOIL CLAY LUMPS AND LARGE STONES. TO BE COMPACTED IN LAYERS NOT EXCEEDING 150mm THICK.
16. BEDDING AND BACKFILL MATERIALS TO CONFORM TO THE REQUIREMENTS OF WIS 4-08-02 (TABLE A2).
17. WHERE FOUL SEWERS RUN ABOVE SURFACE SEWERS, CONCRETE PROTECTION MAY BE REQUIRED AT CROSSOVERS TO PREVENT ANY POTENTIAL CONTAMINATION.
18. THE FIRST PIPE OUT OF MANHOLES TO BE AS SHORT AS PRACTICABLE SO AS TO PROVIDE A FLEXIBLE JOINT AS CLOSE AS POSSIBLE TO THE OUTSIDE FACE OF THE CONCRETE SURROUND AND CONNECTED TO A LENGTH OF ROCKER PIPE.
19. ALL CONNECTIONS PASSING THROUGH BASES OR EDGE BEAMS TO BE IN SEALED SLEEVES. ALTERNATIVELY CONNECTIONS MAY BE CAST-IN WITH FLEXIBLE JOINTS NOT GREATER THAN 150MM FROM FACE OF CONCRETE.
20. SEWER PIPES TO BE LAID IN MAXIMUM 3 METRE LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER LENGTHS.
21. PLASTIC CHANNEL SECTIONS WILL NOT BE PERMITTED WITHIN MANHOLE CHAMBERS. CLAYWARE CHANNELS SHALL BE USED WITHIN MANHOLES FOR PIPE SIZES UP TO AND INCLUDING 300mm DIAMETER.
22. ALL NEW CONNECTIONS INTO EXISTING MANHOLES (OR INTO EXISTING SEWERS) TO BE 'SOFFITS LEVEL' UNLESS OTHERWISE NOTED.
23. SULPHATE RESISTANT CEMENT (C20-DC2) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED TO PROVE THAT SUCH PRECAUTIONS ARE NOT REQUIRED.
24. SEWERS MUST HAVE 5m CLEARANCE FROM TREES AND HEDGES OR TO HAVE SUITABLE ROOT PROTECTION IN ACCORDANCE WITH SFA REQUIREMENTS.
25. THE CHAMBER SIZE OF MANHOLES WITH MORE THAN ONE CONNECTION IN THEM MAY NEED TO BE INCREASED TO ACCOMMODATE THE CONNECTIONS AND BENDS.
26. ALL UNDERGROUND FOUL DRAINAGE SHOULD BE SUITABLY VENTED AT OR NEAR TO THE HEAD OF RUNS.
27. ALL GULLY AND CHANNEL DRAIN OUTLETS AND TERMINATION POINTS TO BE TRAPPED AND RODDABLE. INTERNAL GULLIES AND CHANNEL DRAINS TO BE SPECIFIED BY OTHERS.
28. ALL BRANCH CONNECTIONS TO BE MADE WITH SWEPT BENDS IN THE DIRECTION OF FLOW IN THE MAIN SEWER.
29. ALL MANHOLE COVERS IN BLOCK/SLAB AND EXTERNAL PAVING AREAS TO HAVE RECESSED COVERS OF THE APPROPRIATE GRADE TO ACCEPT ARCHITECT'S PAVING PROPOSAL.
30. UNLESS NOTED OTHERWISE IN THE MANHOLE SCHEDULE, ALL MANHOLE, GULLY AND CHANNEL COVERS (IRONWORK) SHOULD BE THE FOLLOWING SPECIFICATION:
    - B125 LOAD CLASS IN PEDESTRIAN AREAS
    - D400 LOAD CLASS IN VEHICULAR AREAS.
31. COVER LEVELS, GULLY POSITIONS, AND BUILDING LOCATION ARE APPROXIMATE AND SHALL BE CONFIRMED BY ARCHITECT/LANDSCAPE ARCHITECT. CONTRACTOR TO ALLOW FOR ADJUSTMENT TO SUIT AGREED POSITIONS AND FINISHED LEVELS, AND CONFIRM ALL COVER LEVELS ON SITE.
32. THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING:-
33. (I). ALL OPERATIONS SHOULD BE CARRIED OUT IN ACCORDANCE WITH THE GENERAL HEALTH AND SAFETY POLICY OF THE DEVELOPER AS REQUIRED BY SECTIONS 2 OF THE HEALTH AND SAFETY AT WORK ACT 1974 AND IN PARTICULAR THE CONSTRUCTION (GENERAL PROVISIONS) REGULATIONS.
34. (II). THE LOCAL AUTHORITY AND UTILITIES COMPANIES ARE TO BE NOTIFIED PRIOR TO COMMENCEMENT OF WORK ON SITE.
35. (III). PRIOR TO CONSTRUCTION THE ACTUAL POSITIONS AND DEPTHS OF SERVICES LIKELY TO BE AFFECTED BY THE WORKS SHOULD BE ESTABLISHED BY MEANS OF HAND DIG IN CLOSE LIAISON WITH THE UTILITY COMPANIES. THE CONTRACTOR SHALL IMMEDIATELY ADVISE THE ENGINEER OF ANY SERVICES EXPOSED WHICH MAY AFFECT THE DESIGN.
36. (IIII). ALL OPERATIVES WORKING ON THE HIGHWAY WORKS MUST HAVE STREET WORKS ACCREDITATION.
37. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT PIPES ARE ADEQUATELY PROTECTED FROM CONCENTRATED LOADING BY CONSTRUCTION TRAFFIC DURING THE CONSTRUCTION PERIOD.
38. THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT, AND TEMPORARY AND PERMANENT DIVERSION WORKS, AS NECESSARY TO ALL EXISTING SERVICES.
39. THE CONTRACTOR SHALL ALLOW FOR KEEPING TRENCHES AND EXCAVATIONS AS DRY AS PRACTICABLE BY PUMPING FROM TEMPORARY SUMPS AND DE-WATERING AS APPROPRIATE. THE POINT AND METHOD OF DISCHARGE TO BE AGREED WITH THE DRAINAGE AUTHORITY & LLFA AND ENVIRONMENT AGENCY.
40. IT IS ADVISED THAT DRAINAGE WORKS ARE TO BE CONSTRUCTED FROM THE OUTFALL TOWARDS THE HEAD OF RUN TO ENSURE THE OUTFALL CAN BE ACHIEVED.
41. ALL DRAINS TO BE CCTV SURVEYED ON COMPLETION OF THE WORKS.
42. GREASE TRAPS SHOULD BE PROVIDED ABOVE GROUND WITHIN AN ENZYME TREATMENT SYSTEM, BY APPROPRIATE SPECIALIST DESIGNER.
43. TREE PIT DRAINAGE GENERALLY 1.590m DEPTH TO INVERT.
44. LINEAR DRAINAGE TO BE LAID TO GROUND FALLS.
45. ALL CO-ORDINATES SHOWN ON MANHOLE SCHEDULE REPRESENT APPROXIMATE CENTRE POINT POSITIONS.

KEY

- PLOT BOUNDARY
- PROPOSED SW NETWORK
- PROPOSED FW NETWORK
- PROPOSED RISING MAIN INDICATIVE ROUTING TBC BY SPECIALIST
- PROPSOSED FIN DRAIN TO LAYING COURSE
- 100Ø VENT PIPE FOR EMERGENCY STORAGE TANK INDICATIVE ROUTING: TBC BY SPECIALIST
- PROPOSED RODDING EYE
- PROPOSED BACKDROP MANHOLE CONNECTION
- PROPOSED LINEAR DRAINAGE CHANNEL. GATIC CASTSLOT (OSA). SIZES AS SHOWN
- PROPOSED LINEAR DRAINAGE CHANNEL. GATIC FACADESLOT (OSA) SIZES AS SHOWN
- AB GATIC ACCESS BOX (OSA)
- OU GATIC OUTLET SUMP UNIT (OSA) TO CONNECT TO FILTER DRAIN
- PROPOSED FILTER DRAIN
- PROPOSED 100mm PERFORATED TREE PIT DRAINAGE
- PROPOSED BASEMENT EXTENTS
- PUDDLE FLANGE DETAIL WHERE UNDERSLUNG DRAINAGE PENETRATES RETAINING WALL

Rev:	Description:	Date:	By:	Chkd:
FC	FINAL CONSTRUCTION ISSUE	16.10.20	ATL	ATL
C13	CONNECTIONS FROM REVOLVING DOORS	02.06.20	MW	MW
C12	COVER LEVELS AMENDED TO MATCH UPDATED LANDSCAPE ARCHITECT'S	06.06.19	ATL	ATL
C11	MANHOLE SA12 HAS BEEN UPSIZED AS REQUESTED	05.06.19	MW	MW
C10	FIN DRAINS ADDED. LINEAR DRAINAGE REVIEWED	29.03.19	ATL	ATL
C09	AS BUILT INFORMATION ADDED, MANHOLE FA11 LOCATION AMENDED	12.02.19	OJT	ATL
C08	MANHOLES SA20, 25 & CONNECTION TO SA37 AMENDED	02.01.19	ATL	ATL

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Merchant Exchange, 17-19 Whitworth Street West, Manchester, M1 5WG
0161 236 2394
manchester@curtins.com
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Status: CONSTRUCTION

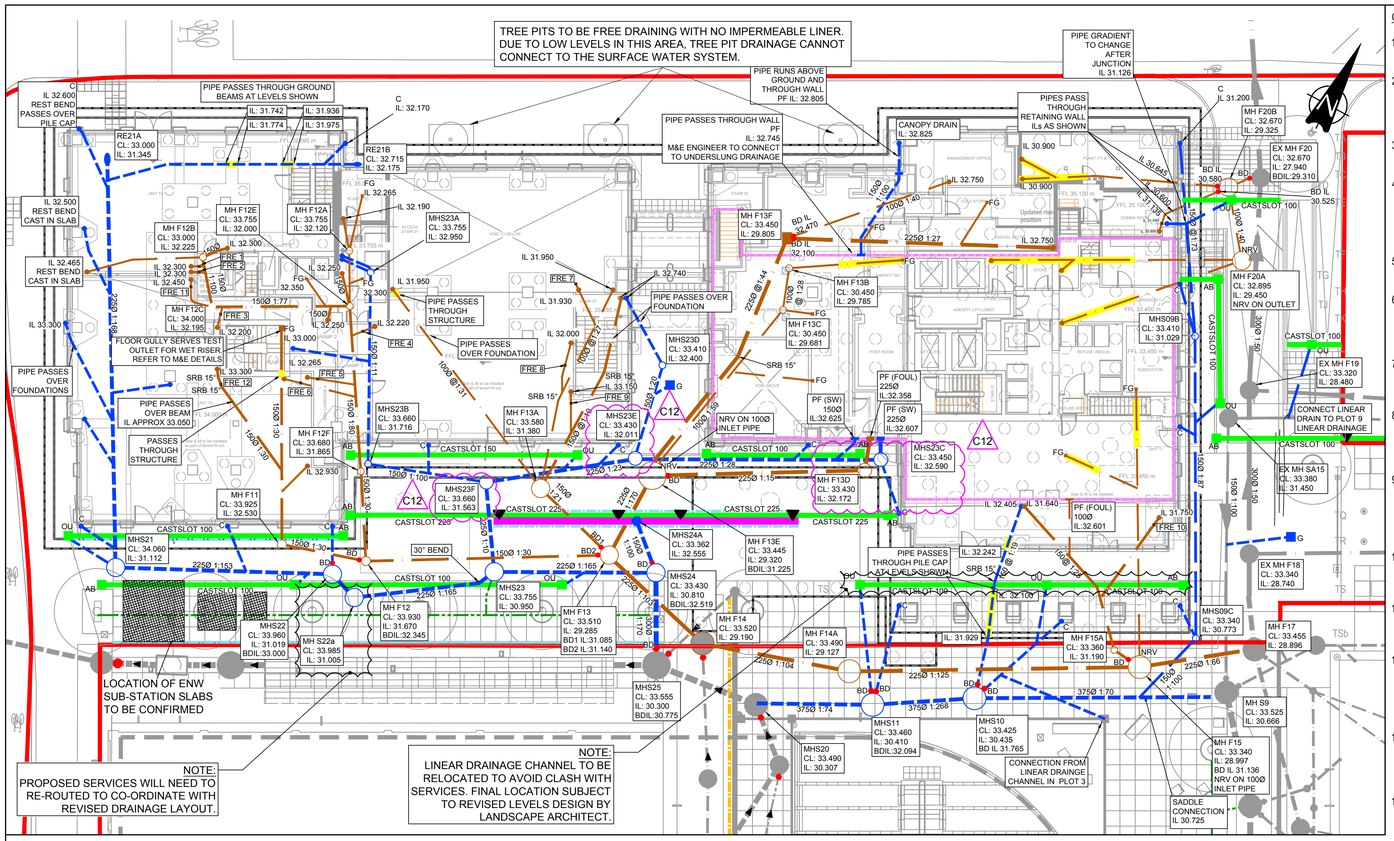
Project: FORMER BBC SITE OXFORD ROAD, MANCHESTER

Drg Title: BUILDINGS 2, 3 & 4 PROPOSED GROUND FLOOR DRAINAGE LAYOUT

Size:	Date:	Drawn By:	Designed By:	Checked By:
A1	25/04/18	TG	ATL	ATL
Scale: 1:200				

Project No:	Originator:	Zone:	Level:	Type:	Discipline:	Category / Number:	Rev:
CS	- CUR -	ZZ	- 0G -	DR -	C -	90002	- FC

\\mwfil02\Projects\CE LETTERS\Mk pdx\MA1400-MA1449\MA1420 Satellite Commercial Buildings\E - Drawings\Curtins\70 Drainage\



PROPOSED SURFACE WATER MANHOLE SCHEDULE - REFER TO SFA 7th EDITION

MH	CL	IL	DEPTH TO SOFFIT (m)	DS PIPE DIA (mm)	MH DIA (mm)	MH TYPE	COVER TYPE		Easting (X)	Northing (Y)
S09B	33.430	31.029	2.251	150	450	PPIC	450 x 450 - D400	350ø Reducer in Chamber	384255.606	397448.250
S09C	33.340	30.773	2.417	150	450	PPIC	450 x 450 - D400	350ø Reducer in Chamber	384264.914	397430.860
S10	33.425	30.435	2.615	375	1500	TYPE 2	600 x 600 - D400		384253.984	397420.625
S11	33.460	30.410	2.675	375	1500	TYPE 2	600 x 600 - D400		384248.312	397417.122
S11A	MANHOLE OMITTED									
S21	34.060	31.112	2.723	225	1200	TYPE 2	600 x 600 - D400		384200.466	397401.832
S22	33.960	31.019	2.716	225	1200	TYPE 2	600 x 600 - D400		384213.170	397408.087
S22A	33.985	31.005	2.755	225	1200	TYPE 2	600 x 600 - D400		384215.141	397407.409
S23	33.755	31.000	2.530	225	1200	TYPE 2	600 x 600 - D400		384222.428	397413.185
S23A	33.755	32.950	0.655	150	450	PPIC	450 x 450 - B125		384206.119	397426.670
S23B	33.660	31.716	1.794	150	450	PPIC	450 x 450 - D400	350ø Reducer in Chamber	384211.844	397415.534
S23C	33.450	32.590	0.635	225	900	TYPE 3	600 x 600 - D400		384241.272	397431.494
S23D	33.410	32.400	0.860	150	450	PPIC	450 x 450 - D400		384225.788	397430.240
S23E	33.430	32.011	1.194	225	900	TYPE 3	600 x 600 - D400		384227.080	397424.043
S23F	33.660	31.563	1.872	225	900	TYPE 3	600 x 600 - D400	350X 350 Reducer on Cover Slab	384219.216	397418.112
S24	33.430	30.810	2.320	300	1200	TYPE 2	600 x 600 - D400		384231.776	397418.083
S24A	33.362	32.555	0.657	150	600	PPIC CATCHPIT	600 x 600 - D400		384229.081	397420.485

NOTE
RELIC PILES CUT TO 150mm BELOW INVERT OF SW CONNECTION.
SUGGESTED CUT OFF LEVEL = 30.500m

INTERNAL FOUL RODDING EYE INFORMATION

REF	CL	IL	EASTING	NORTHING
FRE1	33.000	32.253	384196.048	397421.744
FRE2	33.000	32.279	384196.219	397421.421
FRE3	34.000	32.275	384198.753	397419.647
FRE4	33.755	32.123	384207.488	397423.029
FRE5	34.000	32.204	384206.342	397418.897
FRE6	34.000	32.199	384205.480	397418.139
FRE7	32.450	31.942	384218.307	397432.289
FRE8	33.650	31.851	384220.176	397427.265
FRE9	33.650	33.120	384221.682	397425.263
FRE10	33.450	31.690	384259.020	397436.130
FRE11	34.000	AS AGREED ON SITE; AS BUILY INFO TBC		
FRE12	34.000	33.265	384200.918	397415.618

RODDING EYE TO SUIT 100Ø PIPEWORK
ACO RODDING EYE, REF 104010 WITH ACO DOUBLE SEALED COVER, REF 105054 OR SIMILAR APPROVED.
TO BE INSTALLED LEVEL WITH FLOOR FINISHES

PROPOSED FOUL WATER MANHOLE SCHEDULE - REFER TO SFA 7th EDITION

MH	CL	IL	DEPTH TO SOFFIT (m)	DS PIPE DIA (mm)	MH DIA (mm)	MH TYPE	COVER TYPE		Easting (X)	Northing (Y)
F11	34.050	32.530	1.370	150	450	PPIC	450 x 450 - D400	350ø Reducer in Chamber	384209.343	397408.262
F12	33.930	31.670	2.110	150	450	PPIC	450 x 450 - D400	350ø Reducer in Chamber	384214.697	397409.868
F12A	33.755	32.120	1.535	100	450	PPIC	450 x 450 - B125	350ø Reducer in Chamber	384204.227	397427.241
F12B	33.000	32.225	0.625	150	450	PPIC	450 x 450 - B125		384195.985	397422.381
F12C	34.000	32.195	1.655	150	450	PPIC	450 x 450 - B125	350ø Reducer in Chamber	384198.041	397419.810
F12D	MANHOLE OMITTED									
F12E	33.755	32.000	1.605	150	450	PPIC	450 x 450 - B125	350ø Reducer in Chamber	384205.953	397424.072
F12F	33.600	31.865	1.585	150	450	PPIC	450 x 450 - D400	350ø Reducer in Chamber	384211.649	397414.883
F13	33.510	29.285	4.000	225	1200	TYPE 1B	600 x 600 - D400		384228.541	397417.676
F13A	33.600	31.380	2.120	100	1200	TYPE 1B	600 x 600 - D400		384222.547	397419.410
F13B	30.450	29.785	0.565	100	450	PPIC	450 x 450 - B125		384230.121	397439.728
F13C	30.450	29.681	0.669	100	450	PPIC	450 x 450 - B125		384231.044	397437.127
F13D	33.400	32.172	1.003	225	900	TYPE 3	600 x 600 - D400		384240.675	397430.394
F13E	33.400	29.320	3.855	225	1800	TYPE 1B	600 x 600 - D400		384228.588	397423.575
F13F	33.450	29.805	3.420	225	1000 X 1000	SPECIAL	600 X 600 - 125	Non- Access	384229.083	397441.383
F14	33.520	29.190	4.105	225	1200	TYPE 1B	600 x 600 - D400		384236.621	397415.448
F14A	33.490	29.127	4.138	225	1200	TYPE 1B	600 x 600 - D400		384245.944	397418.343
F15	33.390	28.997	4.168	225	1200	TYPE 1B	600 x 600 - D400		384262.551	397427.484
F15A	33.360	31.190	2.020	150	450	PPIC	450 x 450 - D400	350ø Reducer in Chamber	384260.558	397427.688
F16	MANHOLE OMITTED									
F20A	33.100	29.450	3.550	100	1200	TYPE 2	600 x 600 - D400		384255.981	397454.035
F20B	32.680	29.325	3.255	100	1200	TYPE 2	600 x 600 - D400		384252.983	397457.864
F20C	MANHOLE OMITTED									

INVERT LEVELS OF POP UPS IS 600mm BELOW SLAB LEVEL UNLESS NOTED OTHERWISE.

INVERT LEVELS OF FLOOR GULLIES IS ASSUMED 460mm BELOW SLAB LEVEL. SUBJECT TO CHANGE FOLLOWING SPECIFICATION OF GULLY UNIT BY OTHERS.

ALL SURFACE WATER DRAINAGE IS 150mm DIA UNLESS STATED OTHERWISE

ALL FOUL DRAINAGE IS 100mm DIA UNLESS STATED OTHERWISE.

ALL POP UP CONNECTIONS TO PASS BELOW GROUND BEAMS UNLESS NOTED OTHERWISE

ALL ABOVE GROUND ACCESS FITTINGS REQUIRE 24 HOUR ACCESS.

ACCESS PANELS ARE TO BE PROVIDED WHERE PIPEWORK IS BOXED IN.

LINEAR DRAINAGE SUBJECT TO REVIEW FOLLOWING LANDSCAPE ARCHITECTS FINAL LEVEL DESIGN.

GENERAL NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
2. DO NOT SCALE THIS DRAWING. ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY. ALL DIMENSIONS MUST BE CHECKED / VERIFIED ON SITE.
3. DESIGN BASED ON TOPOGRAPHICAL SURVEY AND CCTV SURVEY INFORMATION AVAILABLE AT THE TIME OF DESIGN.
4. ALL DRAINAGE WORKS TO BE IN ACCORDANCE WITH THE CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY (CESWI) AS INCLUDED IN SEWERS FOR ADOPTION 7th EDITION, THE REQUIREMENTS OF APPROVED DOCUMENT H (2002 EDITION) AND BUILDING REGULATIONS 2000.
5. ALL DIMENSIONS ARE IN METRES AND LEVELS IN METRES ABOVE ORDNANCE DATUM UNLESS OTHERWISE NOTED.
6. IT IS ADVISED THAT THE CONTRACTOR SURVEY RETAINED EXISTING DRAINAGE PRIOR TO COMMENCEMENT TO CONFIRM LOCATION AND CONDITION . POTENTIAL PRE-CLEANSING TO BE UNDERTAKEN IN ORDER TO FACILITATE SURVEY IF REQUIRED.
7. EXISTING SEWER LOCATIONS WHERE THE PROPOSED DRAINAGE IS TO CONNECT, ARE TO BE SURVEYED AND EXACT LEVELS CONFIRMED AND PROVIDED TO ENGINEER PRIOR TO COMMENCEMENT OF WORKS.
8. ALL EXISTING SERVICES TO BE LOCATED PRIOR TO COMMENCEMENT OF ANY DRAINAGE WORKS, AND WHERE NECESSARY PROTECTION OR DIVERSIONS TO BE UNDERTAKEN TO AVOID CONFLICT WITH THE PROPOSED WORK.
9. ALL EXISTING DRAINS TO BE ABANDONED SHALL BE EITHER REMOVED OR GROUTED UP IF NOT POSSIBLE. GROUTING TO BE PERFORMED BY CAPPING ALL ENDS / CONNECTIONS AND FILLING THE RETAINING VOID WITH GROUT, IN ACCORDANCE WITH CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY 7th EDITION (CESWI) 7TH EDITION.
10. ALL SOFT SPOTS TO BE REMOVED FROM BOTTOM OF EXCAVATIONS AND TO BE REFILLED TO FORMATION LEVEL IN ACCORDANCE WITH GROUNDWORKS SPECIFICATIONS.
11. RAISED GROUND MUST BE FILLED IN ACCORDANCE WITH GROUNDWORKS SPECIFICATIONS AND CONSOLIDATED BEFORE ANY SEWER WORKS ARE CARRIED OUT.
12. ALL ADOPTABLE DRAINAGE WORKS INCLUDING WORKS TO EXISTING PUBLIC SEWERS TO BE UNDERTAKEN IN ACCORDANCE WITH "SEWERS FOR ADOPTION 7th EDITION" AND "CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY 7th EDITION" AND CONSTRUCTED TO THE RELEVANT STATUTORY UNDERTAKERS DETAILS.
13. ALL PRIVATE DRAINAGE WORKS TO BE IN ACCORDANCE WITH "CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY 7th EDITION", BS EN 752 2008 'DRAIN AND SEWER SYSTEMS OUTSIDE BUILDINGS' AND THE BUILDING REGULATIONS APPROVED 'DOCUMENT H'.
14. ALL SEWERS, UNLESS AGREED OTHERWISE STATED, SHALL BE:
    - 150mm to 300mm DIA TO BE VITRIFIED CLAY.
    - 375mm DIA AND GREATER TO BE CLASS 120 CONCRETE PIPES.
15. ALL PIPE DIAMETERS GIVEN ARE NOMINAL INTERNAL PIPE DIAMETERS.
16. PIPE MATERIALS IN ACCORDANCE WITH THE FOLLOWING:
    - ALL VITRIFIED CLAY PIPES TO BS EN 295-1;
    - ALL CONCRETE PIPES TO BE TO BS EN 1916.
    - ALL CONCRETE MANHOLES TO BE TO BS EN1917.
17. AS AN ALTERNATIVE THE CONTRACTOR MAY USE AN APPROVED UNPLASTICISED POLYVINYL CHLORIDE (PVCU) WITH APPROVAL FROM THE ENGINEER.
18. ALL ADOPTABLE DRAINAGE PIPES WILL REQUIRE A MINIMUM OF 1200mm COVER, IN ACCORDANCE WITH SEWERAGE UNDERTAKERS REQUIREMENTS.
19. ALL PRIVATE DRAINAGE PIPES WITH A COVER OF LESS THAN 600mm IN NON-TRAFFICKED AREAS AND LESS THAN 900mm IN TRAFFICKED AREAS TO BE BEDDED AND SURROUNDED IN CONCRETE (CLASS Z). COMPRESSIBLE MATERIAL SHALL BE PROVIDED AT EVERY PIPE JOINT. WHERE COVER EXCEEDS THIS DEPTH, PIPES ARE TYPICALLY BEDDED AND SURROUNDED IN CLASS S. REFER TO PIPE EMBEDMENT DETAILS DRAWING FOR SPECIFIC TYPES.
20. BACKFILL TO DRAINAGE TRENCHES UNDER HARDSTANDING AREAS TO BE TYPE 1 SUB BASE MATERIAL, ELSEWHERE BACKFILL TO BE FREE DRAINING READILY COMPATIBLE MATERIAL FREE FROM DETRITUS, ORGANIC MATTER, FROZEN SOIL CLAY LUMPS AND LARGE STONES. TO BE COMPACTED IN LAYERS NOT EXCEEDING 150mm THICK.
21. BEDDING AND BACKFILL MATERIALS TO CONFORM TO THE REQUIREMENTS OF WIS 4-08-02 (TABLE A2).
22. WHERE FOUL SEWERS RUN ABOVE SURFACE SEWERS, CONCRETE PROTECTION MAY BE REQUIRED AT CROSSOVERS TO PREVENT ANY POTENTIAL CONTAMINATION.
23. THE FIRST PIPE OUT OF MANHOLES TO BE AS SHORT AS PRACTICABLE SO AS TO PROVIDE A FLEXIBLE JOINT AS CLOSE AS POSSIBLE TO THE OUTSIDE FACE OF THE CONCRETE SURROUND AND CONNECTED TO A LENGTH OF ROCKER PIPE.
24. ALL CONNECTIONS PASSING THROUGH BASES OR EDGE BEAMS TO BE IN SEALED SLEEVES. ALTERNATIVELY CONNECTIONS MAY BE CAST-IN WITH FLEXIBLE JOINTS NOT GREATER THAN 150MM FROM FACE OF CONCRETE.
25. WHERE DRAINAGE PIPES ARE LESS THAN 300mm BELOW THE UNDERSIDE OF THE GROUND FLOOR SLAB, CONCRETE ENCASEMENT IS REQUIRED (CLASS Z). COMPRESSIBLE JOINTS ARE TO BE PROVIDED AT EVERY PIPE JOINT WITHIN THE CONCRETE.
26. WHERE PIPES ARE MORE THAN 300mm BELOW THE UNDERSIDE OF THE SLAB, CLASS S BEDDING IS ACCEPTABLE.
27. SEWER PIPES TO BE LAID IN MAXIMUM 3 METRE LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER LENGTHS.
28. PLASTIC CHANNEL SECTIONS WILL NOT BE PERMITTED WITHIN MANHOLE CHAMBERS. CLAYWARE CHANNELS SHALL BE USED WITHIN MANHOLES FOR PIPE SIZES UP TO AND INCLUDING 300mm DIAMETER.
29. ALL NEW CONNECTIONS INTO EXISTING MANHOLES (OR INTO EXISTING SEWERS) TO BE 'SOFFITS LEVEL' UNLESS OTHERWISE NOTED.
30. SULPHATE RESISTANT CEMENT (C20-DC2) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED TO PROVE THAT SUCH PRECAUTIONS ARE NOT REQUIRED.
31. SEWERS MUST HAVE 5m CLEARANCE FROM TREES AND HEDGES OR TO HAVE SUITABLE ROOT PROTECTION IN ACCORDANCE WITH SFA REQUIREMENTS.
32. THE CHAMBER SIZE OF MANHOLES WITH MORE THAN ONE CONNECTION IN THEM MAY NEED TO BE INCREASED TO ACCOMMODATE THE CONNECTIONS AND BENDS.
33. ALL INTERNAL DRAINAGE CONNECTIONS ARE PROVIDED TO THE PENETRATION POSITIONS SHOWN ON ARCHITECT AND M&E DRAWINGS. REFER TO DIMENSIONED LOCATIONS ON ARCHITECT'S GROUND FLOOR SETTING-OUT PLANS.
34. RAINWATER AND FOUL WATER POP UP LOCATIONS AND SIZES TO BE CONFIRMED BY ARCHITECT AND M&E ENGINEER.
35. ALL UNDERGROUND FOUL DRAINAGE SHOULD BE SUITABLY VENTED AT OR NEAR TO THE HEAD OF RUNS.
36. ALL ACCESS FITTINGS, STACKS, RWP'S AND GULLIES TO BE RODDABLE. ALL TO HAVE LOW LEVEL RODDING ACCESS PLATES UNLESS AN ALTERNATIVE MEANS OF ACCESS IS AGREED. ACCESS POINT TO BE ABOVE ANY GROUND FLOOR CONNECTED APPLIANCE SPILL LEVEL.
37. LARGE ACCESS FITTING REQUIRED ABOVE GROUND WHERE GREATER THAN 12M UP TO 22M TO A JUNCTION. SMALL ACCESS FITTING REQUIRED UP TO 12M TO A JUNCTION.
38. ALL GULLY AND CHANNEL DRAIN OUTLETS AND TERMINATION POINTS TO BE TRAPPED AND RODDABLE. INTERNAL GULLIES AND CHANNEL DRAINS TO BE SPECIFIED BY OTHERS.
39. ALL BRANCH CONNECTIONS TO BE MADE WITH SWEPT BENDS IN THE DIRECTION OF FLOW IN THE MAIN SEWER.
40. WHERE NO WC'S ARE CONNECTED UPSTREAM, UNDERSLAB FW DRAINAGE TO BE LAID AT 1:40 MIN. AFTER THE CONNECTION OF AT LEAST 1NO WC, A MIN. FALL OF 1:80 APPLIES.
41. ALL INTERNAL COVERS TO HAVE MECHANICALLY JOINTED CORNERS AND DOUBLE SEALED WITH RECESSED TRAY TO ALLOW FOR FINISHES.
42. ALL MANHOLE COVERS IN BLOCK/SLAB AND EXTERNAL PAVING AREAS TO HAVE RECESSED COVERS OF THE APPROPRIATE GRADE TO ACCEPT ARCHITECT'S PAVING PROPOSAL.
43. UNLESS NOTED OTHERWISE IN THE MANHOLE SCHEDULE, ALL MANHOLE, GULLY AND CHANNEL COVERS (IRONWORK) SHOULD BE THE FOLLOWING SPECIFICATION:
    - B125 LOAD CLASS IN PEDESTRIAN AREAS
    - D400 LOAD CLASS IN VEHICULAR AREAS.
44. COVER LEVELS, GULLY POSITIONS, AND BUILDING LOCATION ARE APPROXIMATE AND SHALL BE CONFIRMED BY ARCHITECT/LANDSCAPE ARCHITECT. CONTRACTOR TO ALLOW FOR ADJUSTMENT TO SUIT AGREED POSITIONS AND FINISHED LEVELS, AND CONFIRM ALL COVER LEVELS ON SITE.
45. OUTFALL CONNECTION(S) SUBJECT TO AGREEMENT WITH THE APPROVING AUTHORITY.
46. THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING:-
    (I). ALL OPERATIONS SHOULD BE CARRIED OUT IN ACCORDANCE WITH THE GENERAL HEALTH AND SAFETY POLICY OF THE DEVELOPER AS REQUIRED BY SECTIONS 2 OF THE HEALTH AND SAFETY AT WORK ACT 1974 AND IN PARTICULAR THE CONSTRUCTION (GENERAL PROVISIONS) REGULATIONS.

    (II). THE LOCAL AUTHORITY AND UTILITIES COMPANIES ARE TO BE NOTIFIED PRIOR TO COMMENCEMENT OF WORK ON SITE.

    (III). PRIOR TO CONSTRUCTION THE ACTUAL POSITIONS AND DEPTHS OF SERVICES LIKELY TO BE AFFECTED BY THE WORKS SHOULD BE ESTABLISHED BY MEANS OF HAND DIG IN CLOSE LIAISON WITH THE UTILITY COMPANIES. THE CONTRACTOR SHALL IMMEDIATELY ADVISE THE ENGINEER OF ANY SERVICES EXPOSED WHICH MAY AFFECT THE DESIGN.

    (IIII). ALL OPERATIVES WORKING ON THE HIGHWAY WORKS MUST HAVE STREET WORKS ACCREDITATION.
47. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT PIPES ARE ADEQUATELY PROTECTED FROM CONCENTRATED LOADING BY CONSTRUCTION TRAFFIC DURING THE CONSTRUCTION PERIOD.
48. THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT, AND TEMPORARY AND PERMANENT DIVERSION WORKS, AS NECESSARY TO ALL EXISTING SERVICES.
49. THE CONTRACTOR SHALL ALLOW FOR KEEPING TRENCHES AND EXCAVATIONS AS DRY AS PRACTICABLE BY PUMPING FROM TEMPORARY SUMPS AND DE-WATERING AS APPROPRIATE. THE POINT AND METHOD OF DISCHARGE TO BE AGREED WITH THE DRAINAGE AUTHORITY & LLFA AND ENVIRONMENT AGENCY.
50. IT IS ADVISED THAT DRAINAGE WORKS ARE TO BE CONSTRUCTED FROM THE OUTFALL TOWARDS THE HEAD OF RUN TO ENSURE THE OUTFALL CAN BE ACHIEVED.
51. ALL DRAINS TO BE CCTV SURVEYED ON COMPLETION OF THE WORKS.

REFER TO ARCHITECT'S, M&E AND STRUCTURAL PLANS FOR SETTING OUT OF ALL POP-UPS, FLOOR GULLIES & WALL PENETRATIONS.

KEY

- PHASING BOUNDARY
- EXTENT OF BASEMENT
- EXTENT OF LOWER GROUND FLOOR
- PROPOSED SURFACE WATER DRAINAGE
- PROPOSED FOUL WATER DRAINAGE
- EXISTING DRAINAGE FROM SEPARATE PHASES
- BD — BACKDROP CONNECTION
- PF — PUDDLE FLANGE DETAIL WHERE UNDERSLUNG DRAINAGE PENETRATES RETAINING WALL
- NRV — NON RETURN VALVE REFER TO STANDARD DETAILS DRAWING
- FG — PROPOSED FLOOR GULLY
- C — ASSUMED CANOPY DRAINAGE LOCATIONS TBC BY ARCHITECT
- RE — PROPOSED RODDING EYE
- CONNECTIONS TO BE CAST IN BASEMENT SLAB
- PROPOSED FIN DRAIN TO LAYING COURSE
- PROPOSED 100mm PERFORATED TREE PIT DRAINAGE
- PROPOSED LINEAR DRAINAGE CHANNEL GATIC CASTSLOT (OSA) SIZE AS NOTED.
- AB — GATIC ACCESS BOX (OSA)
- OU — GATIC OUTLET UNIT (OSA)
- FILTER DRAIN 450mm WIDE 1000mm DEEP WITH PERFORATED 100Ø PIPE
- CONNECTION FROM SLOTDRAIN TO FILTER DRAIN
- TOWER CRANE BASE
- SRB — SLOW RADIUS BEND. 15 DEGREES

Rev:	Description:	Date:	By:	Chkd:
C12	MANHOLES S23C, S23E,S23F & F13D AMENDED IN LINE WITH CONTRACTOR CHANGE	23.04.19	ATL	ATL
C11	SITE AMENDMENTS, FIN DRAINS TO LAYING COURSE ADDED. LINEAR DRAINAGE REVIEWED.	09.04.19	ATL	ATL
C10	MANHOLES MH14,15 LOCATION CHANGED, MH14A& MH15A ADDED	05.02.19	MW	MW
C09	INTERNAL DRAINAGE AMENDED AS AGREED. DRAINAGE AMENDED AROUND TC BASE AND TO CO-ORDINATE WITH PLOT 2-4 DRAINAGE	22.11.18	ATL	ATL
C08	FOUL RODDING EYE SPECIFICATION ADDED. LEVEL/ GRADIENT REVIEW	30.10.18	ATL	ATL
C07	FOUL RODDING EYES ADDED IN LINE WITH BUILDING CONTROL REQUIREMENTS & REVIEW OF DRAINAGE	23.10.18	ATL	ATL
C06	UPDATED AS CLOUDED	11.09.18	TG	ATL
C05	DRAWING UPDATED FOLLOWING DRAINAGE REVIEW	05.09.18	TG	ATL
C04	DRAWING UPDATED. CANOPY DRAINAGE AMENDED BASEMENT FW UPDATED AND MH F12B MOVED	08.08.18	ZG	ATL
C03	DRAWING UPDATED TO SUIT LATEST ARCH LAYOUT	27.07.18	ZG	CD
C02	DRAWING UPDATED TO SUIT CLIENT COMMENTS	04.07.18	ZG	CD
C01	ISSUED FOR CONSTRUCTION	04.06.18	ZG	CD

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Merchant Exchange, 17-19 Whitworth Street West, Manchester, M1 5WG
0161 236 2394
manchester@curtins.com
www.curtins.com
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Status: STAGE 5 ISSUE

Project: FORMER BBC SITE
OXFORD ROAD, MANCHESTER

Drg Title: BUILDINGS 5 & 6
PROPOSED DRAINAGE LAYOUT

Size:	Date:	Drawn By:	Designed By:	Checked By:
A1	04.06.18	ZG	ATL	CD
Scale: 1:200				

Project No: 045001 Originator: CUR Zone: ZZ Level: DR Type: D Discipline: - Category / Number: 90001 Rev: C12

CSAL - CUR - ZT - ZZ - DR - D - 90001 -C12

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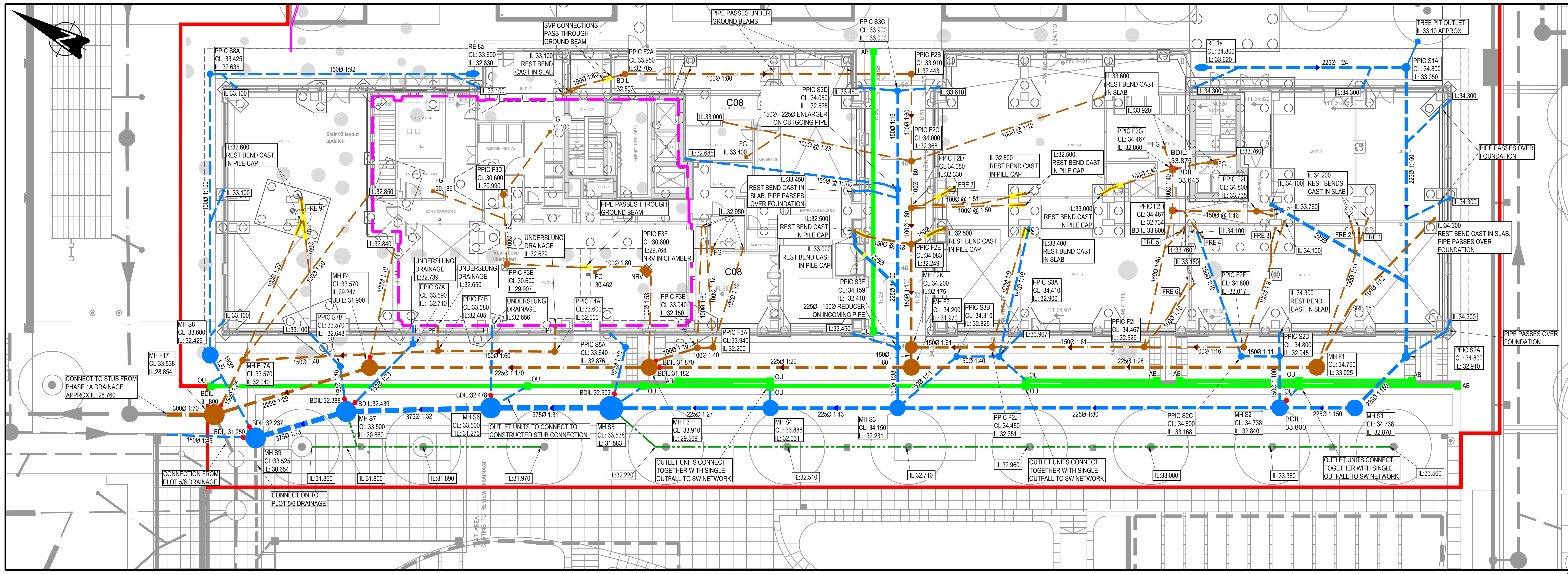

KEY

- INDICATIVE PLOT BOUNDARY
- EXTENT OF BASEMENT
- PROPOSED SURFACE WATER DRAINAGE
- PROPOSED FOUL WATER DRAINAGE
- EXISTING DRAINAGE FROM SEPARATE PHASES
- BD — BACKDROP CONNECTION
- PF — PUDDLE FLANGE FITTED TO OUTLET OF UNDERSLUNG DRAINAGE THROUGH RETAINING WALL
- GATIC PAVESLOT 100 CHANNEL OR SIMILAR APPROVED
- AB — GATIC ACCESS BOX OR SIMILAR APPROVED
- OU — GATIC OUTLET UNIT OR SIMILAR APPROVED
- RE — SURFACE WATER RODDING EYE
- FRE 3 — FOUL INTERNAL RODDING EYE
- PROPOSED 100mm PERFORATED TREE PIT DRAINAGE
- FG — PROPOSED FLOOR GULLY
- CONNECTIONS TO BE CAST IN BASEMENT SLAB

INTERNAL FOUL RODDING EYE INFORMATION

REF	CL	IL	EASTING	NORTHING
FRE1	34.800	34.050	384320.055	397363.127
FRE2	34.800	34.050	384319.864	397363.486
FRE3	34.800	34.020	384317.044	397368.632
FRE4	34.800	34.200	384314.222	397373.248
FRE5	34.467	33.700	384313.988	397374.861
FRE6	34.467	33.100	384309.85	397372.681.
FRE7	34.010	32.530	384308.938	397391.218
FRE8	REMOVED			
FRE9	33.600	32.580	384284.311	397431.853

RODDING EYE TO SUIT 100Ø PIPEWORK
ACO RODDING EYE, REF 104010 WITH ACO DOUBLE SEALED COVER, REF 105054 OR SIMILAR APPROVED.

C08

STAGE 5 DRAINAGE DESIGN BASED ON THIRD PARTY PRELIMINARY STAGE 5 INFORMATION. DESIGN SUBJECT TO CHANGE FOLLOWING RECEIPT OF FINAL / FIXED LAYOUTS.

DRAINAGE FOR EXTERNAL PAVED AREAS SHOWN INDICATIVELY AND SUBJECT TO CHANGE FOLLOWING CO-ORDINATION WITH LANDSCAPE ARCHITECT.

ALL PIPE SIZES TO BE CONFIRMED FOLLOWING RECEIPT OF FINAL M&E INFORMATION.

M&E ENGINEER TO CONFIRM ALL UNDERSLUNG DRAINAGE INVERT LEVELS WHERE PASSING THROUGH WALL.

RELIC PILES TO BE CUT OFF 300mm BELOW PROPOSED DRAINAGE INVERT LEVELS AT INDIVIDUAL LOCATIONS.

INVERT LEVELS OF POP UPS ARE 600mm BELOW SLAB LEVEL UNLESS NOTED OTHERWISE.

INVERT LEVELS OF FLOOR GULLIES ARE ASSUMED 450mm BELOW SLAB LEVEL. SUBJECT TO CHANGE FOLLOWING SPECIFICATION OF GULLY UNIT BY OTHERS.

ALL SURFACE WATER DRAINAGE IS 150mm DIA UNLESS STATED OTHERWISE

ALL FOUL DRAINAGE IS 100mm DIA UNLESS STATED OTHERWISE.

ALL ABOVE GROUND ACCESS FITTINGS REQUIRE 24 HOUR ACCESS.

ACCESS PANELS ARE TO BE PROVIDED WHERE PIPEWORK IS BOXED IN.

NOTE
LOCATION OF STEPS UNDER REVIEW.
TBC BY LANDSCAPE ARCHITECT.

PROPOSED SURFACE WATER MANHOLE SCHEDULE - REFER TO SFA 7th EDITION

MH	CL	IL	DEPTH TO SOFFIT (m)	DS PIPE DIA (mm)	MH DIA (mm)	MH TYPE	COVER TYPE		EASTING (X)	NORTHING (Y)
S1	34.738	32.870	1.643	225	1200	TYPE 2	600 x 600 - D400		384308.452	397357.319
S2	34.738	32.840	1.673	225	1200	TYPE 2	600 x 600 - D400		384305.846	397362.251
S3	34.150	32.291	1.634	225	1200	TYPE 2	600 x 600 - D400		384293.129	397387.271
S4	33.880	32.031	1.624	225	1200	TYPE 2	600 x 600 - D400		384288.701	397395.602
S5	33.538	31.583	1.580	375	1800	TYPE 2	600 x 600 - D400		384283.454	397406.038
S6	33.500	31.273	1.852	375	1500	TYPE 2	600 x 600 - D400		384279.107	397413.932
S7	33.500	30.860	2.265	375	1500	TYPE 2	600 x 600 - D400		384273.101	397423.264
S8	33.600	32.426	1.024	150	1200	TYPE 2	600 x 600 - D400		384272.044	397434.142
S9	33.525	30.654	2.496	375	1500	TYPE 2	600 x 600 - D400		384268.217	397428.291
RE 1a	34.800	33.620	1.030	150	150	RE	D400		384325.409	397379.197
PPIC S1A	34.800	33.050	1.525	225	600	PPIC	450 x 450 - D400	350ø reducer cap	384332.531	397365.799
PPIC S2A	34.800	32.910	1.665	225	600	PPIC	450 x 450 - D400	350ø reducer cap	384313.616	397355.744
PPIC S2B	CHAMBER OMITTED									
PPIC S2C	34.800	33.168	1.482	150	450	PPIC	450 x 450 - D400	350ø reducer cap	384307.883	397366.550
PPIC S2D	34.800	32.945	1.705	150	450	PPIC	450 x 450 - D400	350ø reducer cap	384309.206	397364.040
PPIC S3A	34.410	33.000	1.260	150	450	PPIC	450 x 450 - D400	350ø reducer cap	384299.429	397382.425
PPIC S3B	34.310	32.907	1.253	150	450	PPIC	450 x 450 - D400	350ø reducer cap	384297.956	397385.190
PPIC S3C	33.900	33.000	0.750	150	450	PPIC	450 x 450 - D400	350ø reducer cap	384313.289	397398.308
PPIC S3D	34.050	32.525	1.375	150	450	PPIC	450 x 450 - D400	350ø reducer cap	384306.845	397394.858
PPIC S3E	34.159	32.410	1.599	150	450	PPIC	450 x 450 - D400	350ø reducer cap	384296.475	397389.369
PPIC S5A	33.640	32.876	0.614	150	450	PPIC	450 x 450 - D400	350ø reducer cap	384287.033	397407.202
PPIC S7A	33.590	32.710	0.730	150	450	PPIC	450 x 450 - D400	350ø reducer cap	384279.865	397421.256
PPIC S7B	33.570	32.648	0.772	150	450	PPIC	450 x 450 - D400	350ø reducer cap	384275.837	397425.207
RE 8a	33.600	32.830	0.620	150	150	RE	D400		384299.600	397426.750
PPIC S8A	33.425	32.635	0.640	150	450	PPIC	450 x 450 - D400	350ø reducer cap	384290.464	397443.936

PROPOSED FOUL WATER MANHOLE SCHEDULE - REFER TO SFA 7th EDITION

MH	CL	IL	DEPTH TO SOFFIT (m)	DS PIPE DIA (mm)	MH DIA (mm)	MH TYPE	COVER TYPE		EASTING (X)	NORTHING (Y)
F1	34.760	33.025	1.510	225	1200	TYPE 2	600 x 600 - D400		384309.791	397361.234
F2	34.200	31.970	2.005	225	1200	TYPE 2	600 x 600 - D400		384295.678	397387.785
F3	33.910	29.569	4.116	225	1200	TYPE 1B	600 x 600 - D400		384286.533	397404.956
F4	33.570	29.247	4.098	225	1200	TYPE 1B	600 x 600 - D400		384276.780	397423.269
F17	33.538	28.854	4.384	300	1500	TYPE 1B	600 x 600 - D400		384268.294	397431.810
F17A	33.570	31.950	1.520	100	450	PPIC	450 x 450 - D400	350ø reducer cap	384272.842	397431.831
F1A	CHAMBER OMITTED									
F1B	CHAMBER OMITTED									
F2A	33.950	32.705	1.145	100	450	PPIC	450 x 450 - B125		384304.900	397416.753
F2B	33.910	32.443	1.367	100	450	PPIC	450 x 450 - D400	350ø reducer cap	384314.875	397397.990
F2C	34.000	32.368	1.532	100	450	PPIC	450 x 450 - D400	350ø reducer cap	384309.160	397394.952
F2D	34.050	32.330	1.620	100	450	PPIC	450 x 450 - D400	350ø reducer cap	384306.098	397393.324
F2E	34.083	32.292	1.641	150	450	PPIC	450 x 450 - D400	350ø reducer cap	384304.058	397392.240
F2F	34.800	32.249	2.451	100	450	PPIC	450 x 450 - D400	350ø reducer cap	384308.552	397366.715
F2G	34.467	32.860	1.507	100	450	PPIC	450 x 450 - B125	350ø reducer cap	384318.13	397377.783
F2H	34.467	32.734	1.583	150	450	PPIC	450 x 450 - B125	350ø reducer cap	384314.686	397375.951
F2I	34.450	32.529	1.771	150	450	PPIC	450 x 450 - D400	350ø reducer cap	384305.092	397373.242
F2J	34.450	32.351	1.949	150	450	PPIC	450 x 450 - D400	350ø reducer cap	384299.805	397383.203
F2K	34.200	32.175	1.875	150	900	Type 1B	450 x 450 - D400	350ø reducer cap	384296.974	397388.474
F2L	34.800	33.735	0.915	150	450	PPIC	450 x 450 - D400		384317.913	397370.601
F3A	33.945	32.200	1.645	100	450	PPIC	450 x 450 - D400	350ø reducer cap	384290.067	397401.467
F3B	33.945	32.150	1.695	100	450	PPIC	450 x 450 - D400	350ø reducer cap	384289.489	397402.476
F3C	CHAMBER OMITTED									
F3D	30.600	29.990	0.510	100	450	PPIC	450 x 450 - B125		384292.766	397420.523
F3E	30.600	29.907	0.593	100	450	PPIC	450 x 450 - B125		384288.363	397417.877
F3F	30.600	29.764	0.736	100	750 X 600	Type 3	450 x 450 - B125		384292.717	397408.508
F4A	33.600	32.550	0.900	150	450	PPIC	450 x 450 - D400		384284.275	397411.708
F4B	33.580	32.405	1.025	150	450	PPIC	450 x 450 - D400		384280.252	397419.39
F4C	CHAMBER OMITTED									
F17A	33.590	32.040	1.450	100	450	PPIC	450 x 450 - D400	350ø reducer cap	384274.371	397431.893

GENERAL NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
2. DO NOT SCALE THIS DRAWING. ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY. ALL DIMENSIONS MUST BE CHECKED / VERIFIED ON SITE.
3. DESIGN BASED ON TOPOGRAPHICAL SURVEY AND CCTV SURVEY INFORMATION AVAILABLE AT THE TIME OF DESIGN.
4. ALL DRAINAGE WORKS TO BE IN ACCORDANCE WITH THE CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY (CESWI) AS INCLUDED IN SEWERS FOR ADOPTION 7th EDITION, THE REQUIREMENTS OF APPROVED DOCUMENT H (2002 EDITION) AND BUILDING REGULATIONS 2000.
5. ALL DIMENSIONS ARE IN METRES AND LEVELS IN METRES ABOVE ORDNANCE DATUM UNLESS OTHERWISE NOTED.
6. IT IS ADVISED THAT THE CONTRACTOR SURVEY RETAINED EXISTING DRAINAGE PRIOR TO COMMENCEMENT TO CONFIRM LOCATION AND CONDITION . POTENTIAL PRE-CLEANSING TO BE UNDERTAKEN IN ORDER TO FACILITATE SURVEY IF REQUIRED.
7. EXISTING SEWER LOCATIONS WHERE THE PROPOSED DRAINAGE IS TO CONNECT, ARE TO BE SURVEYED AND EXACT LEVELS CONFIRMED AND PROVIDED TO ENGINEER PRIOR TO COMMENCEMENT OF WORKS.
8. ALL EXISTING SERVICES TO BE LOCATED PRIOR TO COMMENCEMENT OF ANY DRAINAGE WORKS, AND WHERE NECESSARY PROTECTION OR DIVERSIONS TO BE UNDERTAKEN TO AVOID CONFLICT WITH THE PROPOSED WORK.
9. ALL EXISTING DRAINS TO BE ABANDONED SHALL BE EITHER REMOVED OR GROUTED UP IF NOT POSSIBLE. GROUTING TO BE PERFORMED BY CAPPING ALL ENDS / CONNECTIONS AND FILLING THE RETAINING VOID WITH GROUT, IN ACCORDANCE WITH CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY 7th EDITION (CESWI) 7TH EDITION.
10. ALL SOFT SPOTS TO BE REMOVED FROM BOTTOM OF EXCAVATIONS AND TO BE REFILLED TO FORMATION LEVEL IN ACCORDANCE WITH GROUNDWORKS SPECIFICATIONS.
11. RAISED GROUND MUST BE FILLED IN ACCORDANCE WITH GROUNDWORKS SPECIFICATIONS AND CONSOLIDATED BEFORE ANY SEWER WORKS ARE CARRIED OUT.
12. ALL ADOPTABLE DRAINAGE WORKS INCLUDING WORKS TO EXISTING PUBLIC SEWERS TO BE UNDERTAKEN IN ACCORDANCE WITH "SEWERS FOR ADOPTION 7th EDITION" AND "CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY 7th EDITION" AND CONSTRUCTED TO THE RELEVANT STATUTORY UNDERTAKERS DETAILS.
13. ALL PRIVATE DRAINAGE WORKS TO BE IN ACCORDANCE WITH "CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY 7th EDITION", BS EN 752 2008 'DRAIN AND SEWER SYSTEMS OUTSIDE BUILDINGS' AND THE BUILDING REGULATIONS APPROVED 'DOCUMENT H'.
14. ALL SEWERS, UNLESS AGREED OTHERWISE STATED, SHALL BE:
    - 150mm to 300mm DIA TO BE VITRIFIED CLAY.
    - 375mm DIA AND GREATER TO BE CLASS 120 CONCRETE PIPES.
15. ALL PIPE DIAMETERS GIVEN ARE NOMINAL INTERNAL PIPE DIAMETERS.
16. PIPE MATERIALS IN ACCORDANCE WITH THE FOLLOWING:
    - ALL VITRIFIED CLAY PIPES TO BS EN 295-1:
    - ALL CONCRETE PIPES TO BE TO BS EN 1916.
    - ALL CONCRETE MANHOLES TO BE TO BS EN1917.
17. AS AN ALTERNATIVE THE CONTRACTOR MAY USE AN APPROVED UNPLASTICISED POLYVINYL CHLORIDE (PVCU) WITH APPROVAL FROM THE ENGINEER.
18. ALL ADOPTABLE DRAINAGE PIPES WILL REQUIRE A MINIMUM OF 1200mm COVER, IN ACCORDANCE WITH SEWERAGE UNDERTAKERS REQUIREMENTS.
19. ALL PRIVATE DRAINAGE PIPES WITH A COVER OF LESS THAN 600mm IN NON-TRAFFICKED AREAS AND LESS THAN 900mm IN TRAFFICKED AREAS TO BE BEDDED AND SURROUNDED IN CONCRETE (CLASS Z). COMPRESSIBLE MATERIAL SHALL BE PROVIDED AT EVERY PIPE JOINT. WHERE COVER EXCEEDS THIS DEPTH, PIPES ARE TYPICALLY BEDDED AND SURROUNDED IN CLASS S. REFER TO PIPE EMBEDMENT DETAILS DRAWING FOR SPECIFIC TYPES.
20. BACKFILL TO DRAINAGE TRENCHES UNDER HARDSTANDING AREAS TO BE TYPE 1 SUB BASE MATERIAL, ELSEWHERE BACKFILL TO BE FREE DRAINING READILY COMPATIBLE MATERIAL FREE FROM DETRITUS, ORGANIC MATTER, FROZEN SOIL CLAY LUMPS AND LARGE STONES. TO BE COMPACTED IN LAYERS NOT EXCEEDING 150mm THICK.
21. BEDDING AND BACKFILL MATERIALS TO CONFORM TO THE REQUIREMENTS OF WIS 4-08-02 (TABLE A2).
22. WHERE FOUL SEWERS RUN ABOVE SURFACE SEWERS, CONCRETE PROTECTION MAY BE REQUIRED AT CROSSOVERS TO PREVENT ANY POTENTIAL CONTAMINATION.
23. THE FIRST PIPE OUT OF MANHOLES TO BE AS SHORT AS PRACTICABLE SO AS TO PROVIDE A FLEXIBLE JOINT AS CLOSE AS POSSIBLE TO THE OUTSIDE FACE OF THE CONCRETE SURROUND AND CONNECTED TO A LENGTH OF ROCKER PIPE.
24. ALL CONNECTIONS PASSING THROUGH BASES OR EDGE BEAMS TO BE IN SEALED SLEEVES. ALTERNATIVELY CONNECTIONS MAY BE CAST-IN WITH FLEXIBLE JOINTS NOT GREATER THAN 150MM FROM FACE OF CONCRETE.
25. WHERE DRAINAGE PIPES ARE LESS THAN 300mm BELOW THE UNDERSIDE OF THE GROUND FLOOR SLAB, CONCRETE ENCASEMENT IS REQUIRED (CLASS Z). COMPRESSIBLE JOINTS ARE TO BE PROVIDED AT EVERY PIPE JOINT WITHIN THE CONCRETE.
26. WHERE PIPES ARE MORE THAN 300mm BELOW THE UNDERSIDE OF THE SLAB, CLASS S BEDDING IS ACCEPTABLE.
27. SEWER PIPES TO BE LAID IN MAXIMUM 3 METRE LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER LENGTHS.
28. PLASTIC CHANNEL SECTIONS WILL NOT BE PERMITTED WITHIN MANHOLE CHAMBERS. CLAYWARE CHANNELS SHALL BE USED WITHIN MANHOLES FOR PIPE SIZES UP TO AND INCLUDING 300mm DIAMETER.
29. ALL NEW CONNECTIONS INTO EXISTING MANHOLES (OR INTO EXISTING SEWERS) TO BE 'SOFFITS LEVEL' UNLESS OTHERWISE NOTED.
30. SULPHATE RESISTANT CEMENT (C20-DC2) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED TO PROVE THAT SUCH PRECAUTIONS ARE NOT REQUIRED.
31. SEWERS MUST HAVE 5m CLEARANCE FROM TREES AND HEDGES OR TO HAVE SUITABLE ROOT PROTECTION IN ACCORDANCE WITH SFA REQUIREMENTS.
32. THE CHAMBER SIZE OF MANHOLES WITH MORE THAN ONE CONNECTION IN THEM MAY NEED TO BE INCREASED TO ACCOMMODATE THE CONNECTIONS AND BENDS.
33. ALL INTERNAL DRAINAGE CONNECTIONS ARE PROVIDED TO THE PENETRATION POSITIONS SHOWN ON ARCHITECT AND M&E DRAWINGS. REFER TO DIMENSIONED LOCATIONS ON ARCHITECT'S GROUND FLOOR SETTING-OUT PLANS.
34. RAINWATER AND FOUL WATER POP UP LOCATIONS AND SIZES TO BE CONFIRMED BY ARCHITECT AND M&E ENGINEER.
35. ALL UNDERGROUND FOUL DRAINAGE SHOULD BE SUITABLY VENTED AT OR NEAR TO THE HEAD OF RUNS.
36. ALL ACCESS FITTINGS, STACKS, RWP'S AND GULLIES TO BE RODDABLE. ALL TO HAVE LOW LEVEL RODDING ACCESS PLATES UNLESS AN ALTERNATIVE MEANS OF ACCESS IS AGREED. ACCESS POINT TO BE ABOVE ANY GROUND FLOOR CONNECTED APPLIANCE SPILL LEVEL.
37. LARGE ACCESS FITTING REQUIRED ABOVE GROUND WHERE GREATER THAN 12M UP TO 22M TO A JUNCTION. SMALL ACCESS FITTING REQUIRED UP TO 12M TO A JUNCTION.
38. ALL GULLY AND CHANNEL DRAIN OUTLETS AND TERMINATION POINTS TO BE TRAPPED AND RODDABLE. INTERNAL GULLIES AND CHANNEL DRAINS TO BE SPECIFIED BY OTHERS.
39. ALL BRANCH CONNECTIONS TO BE MADE WITH SWEPT BENDS IN THE DIRECTION OF FLOW IN THE MAIN SEWER.
40. WHERE NO WC'S ARE CONNECTED UPSTREAM, UNDERSLAB FW DRAINAGE TO BE LAID AT 1:40 MIN. AFTER THE CONNECTION OF AT LEAST 1NO WC, A MIN. FALL OF 1:80 APPLIES.
41. ALL INTERNAL COVERS TO HAVE MECHANICALLY JOINTED CORNERS AND DOUBLE SEALED WITH RECESSED TRAY TO ALLOW FOR FINISHES.
42. ALL MANHOLE COVERS IN BLOCK/SLAB AND EXTERNAL PAVING AREAS TO HAVE RECESSED COVERS OF THE APPROPRIATE GRADE TO ACCEPT ARCHITECT'S PAVING PROPOSAL.
43. UNLESS NOTED OTHERWISE IN THE MANHOLE SCHEDULE, ALL MANHOLE, GULLY AND CHANNEL COVERS (IRONWORK) SHOULD BE THE FOLLOWING SPECIFICATION:
    - B125 LOAD CLASS IN PEDESTRIAN AREAS
    - D400 LOAD CLASS IN VEHICULAR AREAS.
44. COVER LEVELS, GULLY POSITIONS, AND BUILDING LOCATION ARE APPROXIMATE AND SHALL BE CONFIRMED BY ARCHITECT/LANDSCAPE ARCHITECT. CONTRACTOR TO ALLOW FOR ADJUSTMENT TO SUIT AGREED POSITIONS AND FINISHED LEVELS, AND CONFIRM ALL COVER LEVELS ON SITE.
45. OUTFALL CONNECTION(S) SUBJECT TO AGREEMENT WITH THE APPROVING AUTHORITY.
46. THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING:-
    (I). ALL OPERATIONS SHOULD BE CARRIED OUT IN ACCORDANCE WITH THE GENERAL HEALTH AND SAFETY POLICY OF THE DEVELOPER AS REQUIRED BY SECTIONS 2 OF THE HEALTH AND SAFETY AT WORK ACT 1974 AND IN PARTICULAR THE CONSTRUCTION (GENERAL PROVISIONS) REGULATIONS.
    (II). THE LOCAL AUTHORITY AND UTILITIES COMPANIES ARE TO BE NOTIFIED PRIOR TO COMMENCEMENT OF WORK ON SITE.
    (III). PRIOR TO CONSTRUCTION THE ACTUAL POSITIONS AND DEPTHS OF SERVICES LIKELY TO BE AFFECTED BY THE WORKS SHOULD BE ESTABLISHED BY MEANS OF HAND DIG IN CLOSE LIAISON WITH THE UTILITY COMPANIES. THE CONTRACTOR SHALL IMMEDIATELY ADVISE THE ENGINEER OF ANY SERVICES EXPOSED WHICH MAY AFFECT THE DESIGN.
    (IIII). ALL OPERATIVES WORKING ON THE HIGHWAY WORKS MUST HAVE STREET WORKS ACCREDITATION.
47. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT PIPES ARE ADEQUATELY PROTECTED FROM CONCENTRATED LOADING BY CONSTRUCTION TRAFFIC DURING THE CONSTRUCTION PERIOD.
48. THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT, AND TEMPORARY AND PERMANENT DIVERSION WORKS, AS NECESSARY TO ALL EXISTING SERVICES.
49. THE CONTRACTOR SHALL ALLOW FOR KEEPING TRENCHES AND EXCAVATIONS AS DRY AS PRACTICABLE BY PUMPING FROM TEMPORARY SUMPS AND DE-WATERING AS APPROPRIATE. THE POINT AND METHOD OF DISCHARGE TO BE AGREED WITH THE DRAINAGE AUTHORITY & LLFA AND ENVIRONMENT AGENCY.
50. IT IS ADVISED THAT DRAINAGE WORKS ARE TO BE CONSTRUCTED FROM THE OUTFALL TOWARDS THE HEAD OF RUN TO ENSURE THE OUTFALL CAN BE ACHIEVED.
51. ALL DRAINS TO BE CCTV SURVEYED ON COMPLETION OF THE WORKS.
52. ALL SVPs BEND 300mm BELOW UNDERSIDE OF STRUCTURAL SLAB UNLESS NOTED OTHERWISE.

Rev:	Description:	Date:	By:	Chkd:
C09	FOUL RODDING EYE SPECIFICATION ADDED AS REQUESTED	31.10.18	ATL	ATL
C08	AMENDMENTS IN LINE WITH EAI 40 & RFI 052	17.10.18	ATL	ATL
C07	RODDING EYES ADDED IN ACCORDANCE WITH BC REQUIREMENTS. F2L ADDED.	08.10.18	TG	ATL
C06	AMENDED IN LINE WITH SISK/ IMTECH REVIEWS	21.09.18	TG	ATL
C05	AMENDED IN LINE WITH SISK REVIEW & COMMENTS	12.09.18	TG	ATL
C04	AMENDED AS CLOUDED	08.08.18	ZG	CD
C03	LAYOUT UPDATED - LEVELS AND SCHEDULE REVISED	02.08.18	TG	ATL
C02	DRAWING UPDATED TO SUIT CLIENT COMMENTS	05.07.18	ZG	CD
C01	ISSUED FOR CONSTRUCTION	07.06.18	ZG	CD

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Merchant Exchange, 17-19 Whitworth Street, West Manchester M1 5WG
0161 236 2394
manchester@curtins.com
www.curtins.com
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Status: STAGE 5 ISSUE

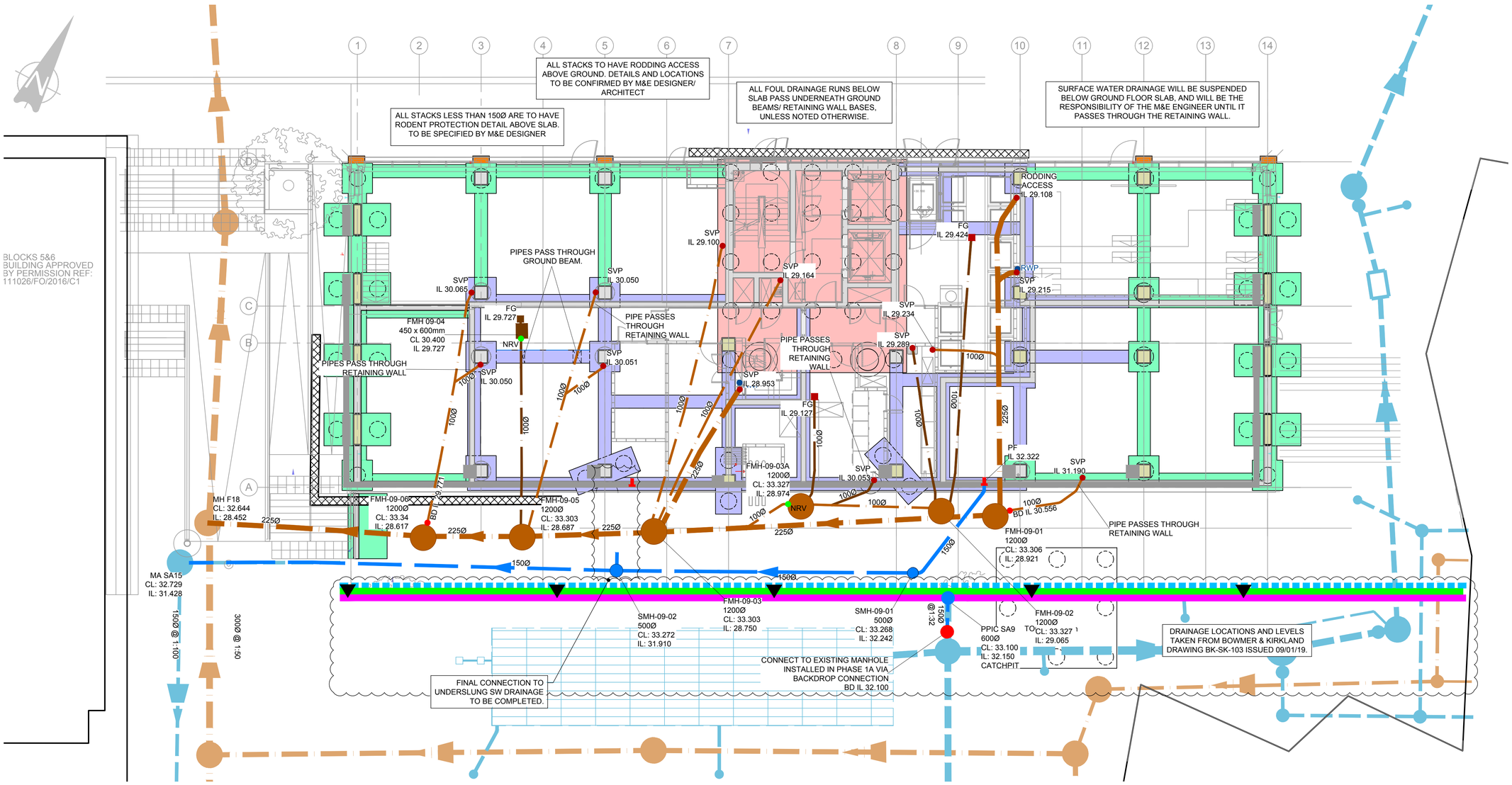
Project: FORMER BBC SITE
OXFORD ROAD, MANCHESTER

Drg Title: BUILDINGS 7 & 8
PROPOSED DRAINAGE LAYOUT

Size:	Date:	Drawn By:	Designed By:	Checked By:
A1	07.06.18	ZG	ATL	CD
Scale: 1:200				

Project No:	Originator:	Zone:	Level:	Type:	Discipline:	Category / Number:	Rev:
CSAL	- CUR -	ZL -	ZZ -	DR -	C -	90001	-C09

\\mafs02\Projects\049201 - 049300\049239 Building 7&8\QMS 4 Production\4B Models & Drawings_Civil-C\CAD\



DRAINAGE KEY

- SURFACE WATER DRAINAGE
- FOUL WATER DRAINAGE
- FOUL DRAINAGE SERVING BASEMENT SANITARY UNITS ONLY
- FG — FLOOR GULLY CONNECTION TO FW DRAIN (BASEMENT LEVEL)
- SVP — FOUL CONNECTION TO FW DRAIN
- EXISTING PHASE 1A SURFACE WATER DRAINAGE
- EXISTING PHASE 1A FOUL WATER DRAINAGE
- BUILDING 9 WORKS BOUNDARY (APPROXIMATE)
- NRV — NON-RETURN VALVE WITHIN MANHOLE
- BD — BACKDROP CONNECTION
- PF — PUDDLE FLANGE CONNECTION THROUGH RETAINING STRUCTURE
- PROPOSED PAVEMENT LAYING COURSE DRAINAGE REFER TO DETAIL
- PROPOSED LINEAR DRAINAGE CHANNEL GATIC CASTSLOT 150mm (OSA)
- FILTER DRAIN 450mm WIDE 600mm DEEP WITH PERFORATED 100Ø PIPE
- CONNECTION FROM DRAINAGE CHANNEL TO FILTER DRAIN. REFER TO DETAIL

FOUNDATION KEY

- DENOTES T.O.F LEVEL OF 28.800
- DENOTES T.O.F. LEVEL OF 30.000 MIN. B.O.F LEVEL 29.250
- DENOTES T.O.F. LEVEL OF 31.150 MIN. B.O.F LEVEL 30.400

REFER TO FOUNDATION LAYOUT DRAWINGS FOR LATEST INFORMATION

FINAL CONSTRUCTION

THE INFORMATION IS BASED ON CONFIRMATION FROM THE CONTRACTOR OF THE INSTALLED DRAINAGE. THERE MAY BE VARIATIONS ON SITE WHICH ARE NOT REFLECTED ON THIS DRAWING AND HAS NOT BEEN VERIFIED.

AT TIME OF ISSUE, FINAL COVER LEVELS ARE TBC AS EXTERNAL WORKS HAVE NOT BEEN COMPLETED. DRAIWNG TO BE UPDATED ONCE EXTERNAL WORKS ARE COMPLETE, AND COVER LEVELS HAVE BEEN CONFIRMED.

GENERAL NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
2. DO NOT SCALE THIS DRAWING. ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION.
4. ALL DIMENSIONS ARE IN METRES AND LEVELS IN METRES ABOVE ORDNANCE DATUM UNLESS OTHERWISE NOTED.
5. ALL DRAINAGE WORKS ARE CONSTRUCTED IN ACCORDANCE WITH THE CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY (CESWI) AS INCLUDED IN SEWERS FOR ADOPTION 7th EDITION, THE REQUIREMENTS OF APPROVED DOCUMENT H (2002 EDITION) AND BUILDING REGULATIONS 2000.
6. ALL DRIANAGE PIPES, UNLESS OTHERWISE STATED ARE VITRIFIED CLAY.
7. ALL PIPE DIAMETERS GIVEN ARE NOMINAL INTERNAL PIPE DIAMETERS.
8. PIPE MATERIALS IN ACCORDANCE WITH THE FOLLOWING:
   - ALL VITRIFIED CLAY PIPES TO BS EN 295-1.
9. BEDDING AND BACKFILL MATERIALS CONFORM TO THE REQUIREMENTS OF WIS 4-08-02 (TABLE A2).
10. ALL CONNECTIONS PASSING THROUGH BASES OR EDGE BEAMS ARE IN SEALED SLEEVES.
11. WHERE DRAINAGE PIPES ARE LESS THAN 300mm BELOW THE UNDERSIDE OF THE GROUND FLOOR SLAB, PIPEWORK IS CONCRETE ENCASED. COMPRESSIBLE JOINTS ARE PROVIDED AT EVERY PIPE JOINT WITHIN THE CONCRETE.
12. WHERE PIPES ARE MORE THAN 300mm BELOW THE UNDERSIDE OF THE SLAB, CLASS S BEDDING IS USED.
13. ALL CONNECTIONS INTO EXISTING MANHOLES IS 'SOFFITS LEVEL' UNLESS OTHERWISE NOTED.
14. ALL ACCESS FITTINGS, STACKS, RWP'S AND GULLIES TO BE RODDABLE. ALL TO HAVE LOW LEVEL RODDING ACCESS PLATES UNLESS AN ALTERNATIVE MEANS OF ACCESS IS AGREED. ACCESS POINT TO BE ABOVE ANY GROUND FLOOR CONNECTED APPLIANCE SPILL LEVEL.
15. ALL GULLY AND CHANNEL DRAIN OUTLETS AND TERMINATION POINTS ARE TRAPPED AND RODDABLE. INTERNAL GULLIES AND CHANNEL DRAINS TO BE SPECIFIED BY OTHERS.
16. ALL BRANCH CONNECTIONS MADE WITH SWEPT BENDS IN THE DIRECTION OF FLOW IN THE MAIN SEWER.
17. ALL INTERNAL COVERS HAVE MECHANICALLY JOINTED CORNERS AND DOUBLE SEALED WITH RECESSED TRAY TO ALLOW FOR FINISHES.
18. ALL MANHOLE COVERS IN BLOCK/SLAB AND EXTERNAL PAVING AREAS TO HAVE RECESSED COVERS OF THE APPROPRIATE GRADE TO ACCEPT ARCHITECT'S PAVING PROPOSAL.
19. UNLESS NOTED OTHERWISE IN THE MANHOLE SCHEDULE, ALL MANHOLE, GULLY AND CHANNEL COVERS (IRONWORK) SHOULD BE THE FOLLOWING SPECIFICATION:
   - B125 LOAD CLASS IN PEDESTRIAN AREAS
   - D400 LOAD CLASS IN VEHICULAR AREAS.
32. COVER LEVELS, GULLY POSITIONS, AND BUILDING LOCATION ARE APPROXIMATE AND SHALL BE CONFIRMED BY ARCHITECT/LANDSCAPE ARCHITECT. CONTRACTOR TO ALLOW FOR ADJUSTMENT TO SUIT AGREED POSITIONS AND FINISHED LEVELS, AND CONFIRM ALL COVER LEVELS ON SITE.
33. OUTFALL CONNECTION(S) SUBJECT TO AGREEMENT WITH THE APPROVING AUTHORITY.
34. ALL DRAINS TO BE CCTV SURVEYED ON COMPLETION OF THE WORKS.
35. ALL STACKS LESS THAN 150Ø ARE TO HAVE RODENT PROTECTION DETAIL ABOVE SLAB. TO BE SPECIFIED BY OTHERS

Rev:	Description:	Date:	By:	Chkd:
C07	LINEAR DRAINAGE AND FILTER STRIPS ADDED	22.03.19	ATL	HS
C06	PAVING FIN DRAIN ADDED	12.03.19	HS	ATL
C05	POSITION OF FMH-09-03 AMENDED TO AVOID CLASH WITH GROUND BEAM	07.03.18	TG	ATL
C04	FMH09-03A ADDED, ROUTES CHANGES AS CLOUDED. COVER LEVELS AMENDED	06.03.18	TG	ATL
C03	CHANGES AS CLOUDED	30.01.18	TG	ATL
C02	DRAINAGE AMENDED FOR GRID CORRECTION & CO-ORDINATION WITH PROPOSED SERVICES	25.01.18	TG	ATL
C01	CONSTRUCTION ISSUE	18.01.18	TG	ATL
V04	UPDATED IN LINE WITH REVISED POP UP LOCATION	04.01.18	TG	ATL
V03	UPDATED IN LINE WITH UPDATED INFORMATION. STAGE 5 ISSUE	22.12.17	ATL	CG

curtins
Merchant Exchange, 17-19 Whitworth Street West, Manchester, M1 5WG
0161 236 2394
manchester@curtins.com
www.curtins.com
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Status: FINAL CONSTRUCTION

Project: FORMER BBC SITE OXFORD ROAD, MANCHESTER

Drg Title: BUILDING 9 PROPOSED DRAINAGE LAYOUT

Size:	Date:	Drawn By:	Designed By:	Checked By:
A1	02.06.17	ZG	ZG	CG/RM
Scale: 1:100				

Project No:	Originator:	Zone:	Level:	Type:	Discipline:	Category / Number:	Rev:
062617	CUR	09	ZZ	DR	D	70-500	C07

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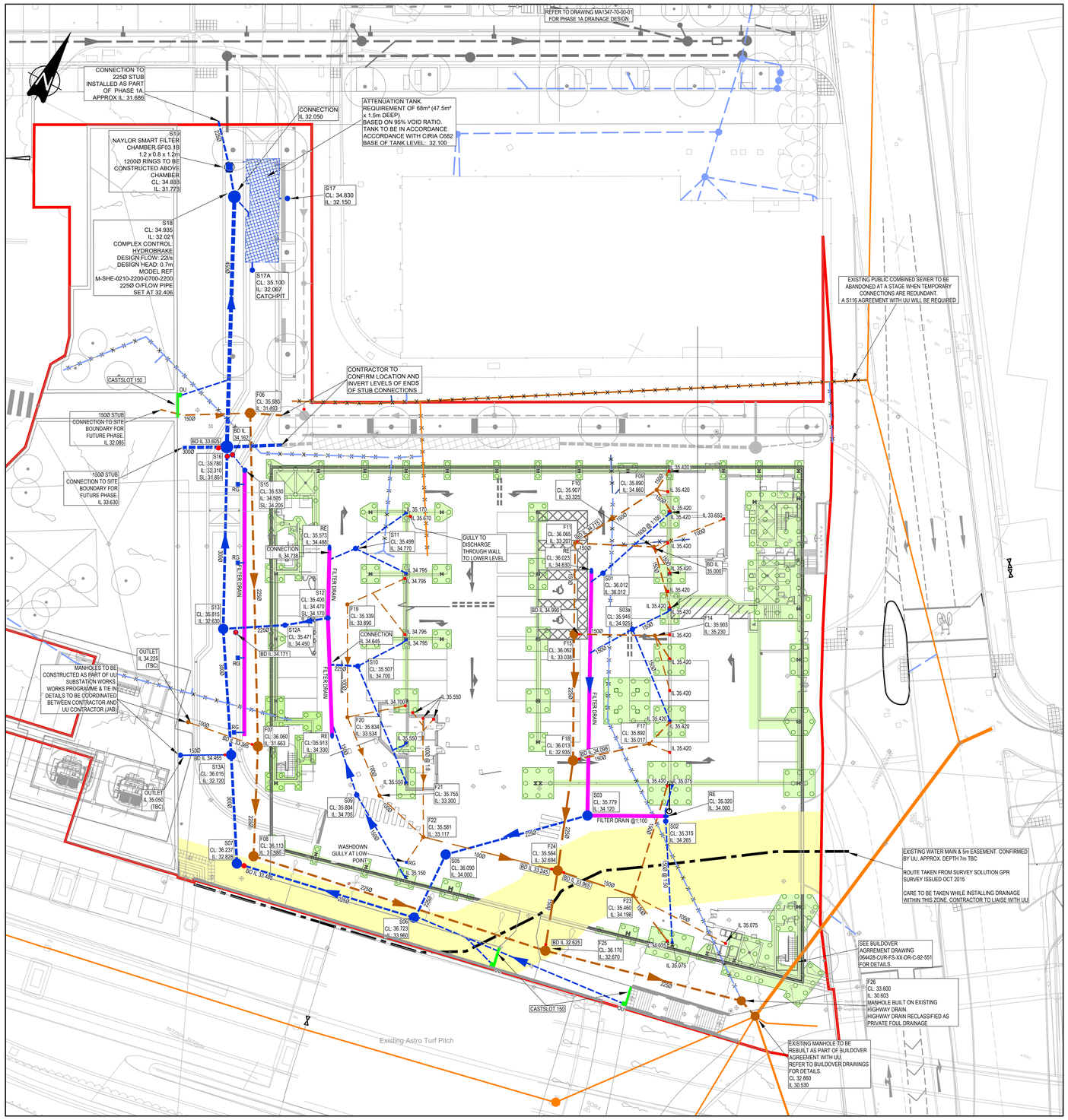
REFER TO DRAWING MA1347-70-00-01 FOR PHASE 1A DRAINAGE DESIGN
CONNECTION TO 225Ø STUB INSTALLED AS PART OF PHASE 1A. APPROX IL. 31.686
CONNECTION IL 32.050
ATTENUATION TANK. REQUIREMENT OF 68m³ (47.5m³ x 1.5m DEEP) BASED ON 95% VOID RATIO. TANK TO BE IN ACCORDANCE ACCORDANCE WITH CIRIA C682 BASE OF TANK LEVEL: 32.100
S19 NAYLOR SMART FILTER CHAMBER SF03.1B 1.2 x 0.8 x 1.2m 1200Ø RINGS TO BE CONSTRUCTED ABOVE CHAMBER CL: 34.888 IL: 31.773
S18 CL: 34.935 IL: 32.021 COMPLEX CONTROL HYDROBRAKE DESIGN FLOW: 20l/s DESIGN HEAD: 0.7m MODEL REF M-SHE-0210-2200/0700-2200 225Ø O/FLOW PIPE SET AT 32.406
S17 CL: 34.830 IL: 32.150
S17A CL: 35.100 IL: 32.067 CATCHPIT
EXISTING PUBLIC COMBINED SEWER TO BE ABANDONED AT A STAGE WHEN TEMPORARY CONNECTIONS ARE REDUNDANT. A S116 AGREEMENT WITH UU WILL BE REQUIRED
CONTRACTOR TO CONFIRM LOCATION AND INVERT LEVELS OF ENDS OF STUB CONNECTIONS
CASTSLOT 150
OU
F06 CL: 35.580 IL: 31.693
1500Ø STUB CONNECTION TO SITE BOUNDARY FOR FUTURE PHASE IL 32.085
1500Ø STUB CONNECTION TO SITE BOUNDARY FOR FUTURE PHASE IL 33.630
BD IL 34.162
BD IL 33.650
S16 CL: 35.780 IL: 32.310 SL: 31.851
S15 CL: 35.530 IL: 34.505 SL: 34.205
S11 CL: 35.499 IL: 34.770
S12 CL: 35.400 IL: 34.470 IL: 34.170
S12A CL: 35.471 IL: 34.450
S13 CL: 35.815 IL: 32.630
S14 CL: 35.507 IL: 34.700
S10 CL: 35.507 IL: 34.700
S09 CL: 35.804 IL: 34.705
S08 CL: 36.113 IL: 33.586
S07 CL: 36.237 IL: 32.828
S06 CL: 36.723 IL: 33.960
S05 CL: 36.090 IL: 34.000
S04 CL: 36.062 IL: 33.038
S03 CL: 35.779 IL: 34.120
S02 CL: 35.315 IL: 34.265
S01 CL: 36.012 IL: 35.305
S03a CL: 35.945 IL: 34.925
F01 CL: 36.060 IL: 31.663
F02 CL: 35.913 IL: 34.330
F03 CL: 35.834 IL: 33.534
F04 CL: 35.755 IL: 33.300
F05 CL: 35.890 IL: 34.860
F06 CL: 35.580 IL: 31.693
F07 CL: 36.060 IL: 31.663
F08 CL: 36.113 IL: 33.586
F09 CL: 35.890 IL: 34.860
F10 CL: 35.907 IL: 33.325
F11 CL: 36.066 IL: 33.207
F12 CL: 36.023 IL: 34.630
F13 CL: 36.062 IL: 33.038
F14 CL: 35.903 IL: 35.230
F15 CL: 36.062 IL: 33.038
F16 CL: 36.013 IL: 32.935
F17 CL: 35.892 IL: 35.017
F18 CL: 36.013 IL: 32.935
F19 CL: 35.339 IL: 33.890
F20 CL: 35.834 IL: 33.534
F21 CL: 35.755 IL: 33.300
F22 CL: 35.581 IL: 33.117
F23 CL: 35.460 IL: 34.198
F24 CL: 35.564 IL: 32.694
F25 CL: 36.170 IL: 32.670
F26 CL: 33.600 IL: 30.603
RE CL: 35.320 IL: 34.000
BD IL 34.990
BD IL 34.998
BD IL 33.245
BD IL 32.965
BD IL 32.625
BD IL 35.000
IL 35.420
IL 33.650
IL 35.075
IL 35.550
IL 34.795
IL 34.700
IL 34.465
IL 34.925
IL 35.550
IL 35.075
IL 35.420
IL 35.170
IL 35.670
IL 34.738
IL 34.645
IL 34.700
IL 34.705
IL 34.470
IL 34.450
IL 34.534
IL 34.330
IL 34.198
IL 33.890
IL 33.339
IL 33.534
IL 33.300
IL 33.117
IL 32.694
IL 32.670
IL 33.960
IL 34.000
IL 33.586
IL 32.828
IL 32.720
IL 32.630
IL 32.935
IL 33.038
IL 33.207
IL 33.325
IL 34.860
IL 35.230
IL 35.017
IL 34.265
IL 34.120
IL 35.305
IL 34.925
IL 31.773
IL 32.150
IL 32.067
IL 31.693
IL 31.663
IL 34.330
IL 33.890
IL 33.534
IL 33.300
IL 33.117
IL 34.198