CONDITION 11
SUDS MANAGEMENT AND MAINTENANCE PLAN & DRAINAGE VALIDATION REPORT

House of Social, Plot 10b First Street

for

House of Social 1 Ltd



12/06/2025

COMPLEX CHALLENGES ...
MADE SIMPLE

CONDITION 11
SUDS MANAGEMENT AND MAINTENANCE PLAN & DRAINAGE VALIDATION REPORT

House of Social, Plot 10b First Street

for

House of Social 1 Ltd

TITLE	NAME	SIGNATURE	DATE
Report Author	JON SMITH	[redacted]	**12/06/2025**
Approved By	PAUL WHITE	[redacted]	**12/06/2025**
Issue No. 01	**FINAL**		
Report Reference	4513-ROC-ZZ-XX-RP-C-DTN2		

REVISION	DESCRIPTION	SIGNATURE	DATE
Issue No.			

COMPLEX CHALLENGES ...
MADE SIMPLE

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COMPLEX CHALLENGES ...
MADE SIMPLE

PLANNING REFERENCE: 136170/FO/2023

Condition 11 - No development hereby permitted shall be occupied until details of the implementation, maintenance and management of the sustainable drainage scheme have been submitted to and approved by the local planning authority. The scheme shall be implemented and thereafter managed and maintained in accordance with the approved details. Those details shall include:

a) Verification report providing photographic evidence of construction as per design drawings.

b) As built construction drawings if different from design construction drawings.

c) Management and maintenance plan for the lifetime of the development which shall include the arrangements for adoption by any public body or statutory undertaker, or any other arrangements to secure the operation of the sustainable drainage scheme throughout its lifetime.

Reason: To manage flooding and pollution and to ensure that a managing body is in place for the sustainable drainage system and there is funding and maintenance mechanism for the lifetime of the development. This condition is imposed in light of national policies within the NPPF and NPPG and local policies EN08 and EN14.

1.0 INTRODUCTION

This document has been prepared in support of a Condition Discharge application with respect to the consented development referenced above, which is currently under construction, at First Street, Manchester.

The purpose of this report is to review and comment on the as-built drainage prior to occupation in line with Condition 11. This will consist of a review of the CCTV survey information and as built record data provided by the contractor and comparison against the construction issued drawings and specifications.

The report will also address requirements for future ongoing management & maintenance requirements of the below ground drainage network and SuDS features

A copy of the planning decision notice is provided in Appendix A.

1.1 Surface Water Strategy

The general principal of the surface water drainage strategy is to collect the run-off from the roof area of the new building and direct it to a number of new RWPs that will drop down to a new below ground surface water network.

The network will pass beneath the building and outfall to the combined sewer in River Street at a peak restricted rate of 4.9l/s. Due to this restricted rate an offline geocellular crate attenuation tank has been constructed beneath the landscaping area to the southeast. A climate change allowance of 45% in additional rainfall for the 100-year return period storm event has been applied.

The private drainage layout for the new development building has been designed in accordance with BS EN 752: 2017 and Building Regulations Part H guidance. This requires no surcharge for the 2-year storm event and no flooding for up to the 30-year storm event. No exceedance flooding for the 100-year return period storm of Critical duration with a 45% allowance being identified in the hydraulic modelling.

External to the building, the hard landscaped areas are drained via ACO channel and/or slot drains positioned to suit the external levels and falls. The surface water drainage system includes a SuDS feature in the form of a rain garden that has been designed to collect surface water run-off from the surrounding public realm areas.

A copy of the final construction issue drainage drawings are provided in Appendix B. The contractors drawing for the geocellular attenuation tank is provided in Appendix C and the landscape architects drawings for the rain garden are provided in Appendix D.

1.2 Foul Water Strategy

Foul water drainage runs in a separate system that is combined with the surface water drainage in the final manhole prior to discharge via a combined connection to the public sewer in River Street.

The proposed foul water drainage layout is also shown on the Drainage GA plans in Appendix B.

The development includes a food hall and kitchens to serve up to 500 covers. As such below ground grease traps have been included as part of the foul water drainage network. The grease traps are ACO LipuMax P below ground separators model type P-B-NS5.5 & NS10.

Three grease traps have been provided ref GT1, GT2 and GT3 and there are two different sizes, nominally 550 and 1000 litre capacity. Manufactures details of these are provided in Appendix N and the locations are shown on the as-built drainage drawing provided in Appendix J.

An S106 application for the connection to the public sewer was submitted to, and approved by, United Utilities under reference 05251839. A copy of the approval notice is included in Appendix E.

2.0 CCTV REVIEW

A post-construction Foul Water CCTV survey was undertaken by Renaker Build Limited in stages from the 15th May to 23rd May 2025. A copy of the survey records can be found in Appendix F.

A post-construction Surface Water CCTV survey was undertaken by Renaker Build Limited in stages from the 3rd June to 10th June 2025. A copy of the survey records can be found in Appendix F.

The findings and recommendations from the survey are summarised below.

Survey	Survey Start	Survey End	Diameter	Material	Comments
1	F1.0	F1.MC2	100	PVCu	No defects
2	F1.02	F1.MC16	150	PVCu	No defects
3	F1.03	F1.MC15	150	PVCu	No defects
4	F1.06	F1.07	150	PVCu	No defects
5	F1.09	F1.10	100	PVCu	No defects
6	F1.10A	GT3	150	PVCu	No defects
7	F1.11	F1.12	150	PVCu	No defects
8	F1.13	F1.10	150	PVCu	No defects
9	F1.13	F1.14	150	PVCu	No defects
10	F1.15	F1.16	100	PVCu	No defects
11	F1.16	F1.13	150	PVCu	No defects
12	F1.MC2	F1MC4	100	PVCu	No defects
13	F1.MC6	GT1	100	PVCu	No defects
14	F1.MC7	F1.01b	100	PVCu	No defects
15	F1.MC7	F1.MC6	100	PVCu	No defects
16	F1.MC12	F1.MC13	150	PVCu	No defects
17	F1.MC13	F1.04	150	PVCu	No defects
18	F1.MC14	F1.04	150	PVCu	No defects
19	F1.MC15	F1.MC14	150	PVCu	No defects
20	F1.07	F1.08	150	PVCu	No defects
21	F1.08	F1.10	225	PVCu	No defects
22	F1.10	F1.14	225	PVCu	No defects
23	F1.MC16	Branch	150	PVCu	No defects
24	F1.MC16	F1.MC17	150	PVCu	No defects
25	F1.MC17	F1.03	150	PVCu	No defects

Survey	Survey Start	Survey End	Diameter	Material	Comments
27	S1.06	S1.05	225	PVCu	No defects
28	S1.06	S1.06B	225	PVCu	No defects
29	S1.06B	Branch	225	PVCu	No defects
30	S1.06	C1.06	225	PVCu	No defects
31	RODEYE	C1.00	150	PVCu	No defects
32	C1.00	F1.13	2256	PVCu	No defects
33	Gully	S1.00	100 / 150	PVCu	No defects
34	S1.00	S1.03	150	PVCu	No defects
35	S1.01	S1.02	150	PVCu	No defects
36	S1.03	S1.05	225	PVCu	No defects

There were a number of pipe runs which were found to contain debris from review of the post-construction CCTV survey. These pipe runs are programmed to be cleaned/jetted following paving install to remove these obstructions.

The remainder of the foul and surface water drainage networks had no defects present and can be considered installed to a satisfactory standard.

Construction set Manhole Chamber Data Sheets have been produced by Renaker Build Limited. A copy of the records can be found in Appendix G.

Manhole Ref	Comments
F1.00	Inspected 10.06 2025 – no defects
F1.01	Not Inspected – on going site works
F1.01b	Not Inspected – on going site works
F1.02	Not Inspected – on going site works
F1.03	Not Inspected – on going site works
F1.04	Not Inspected – on going site works
F1.05	Not Inspected – on going site works
F1.06	Not Inspected – on going site works
F1.07	Not Inspected – on going site works
F1.08	Not Inspected – on going site works
F1.09	Not Inspected – on going site works
F1.10	Not Inspected – on going site works
F1.10a	Not Inspected – on going site works
F1.10 int	Not Inspected – on going site works

Manhole Ref	Comments
F1.11	Not Inspected – on going site works
F1.12	Inspected 10.06 2025 – no defects
F1.13	Inspected 10.06 2025 – no defects
F1.13 int	Not Inspected – on going site works
F1.14	Not Inspected – on going site works
F1.15	Not Inspected – on going site works
F1.16	Not Inspected – on going site works
F1.MC1	Not Inspected – on going site works
F1.MC2	Not Inspected – on going site works
F1.MC3	Not Inspected – on going site works
F1.MC4	Not Inspected – on going site works
F1.MC5	Not Inspected – on going site works
F1.MC6	Not Inspected – on going site works
F1.MC7	Not Inspected – on going site works
F1.MC8	Not Inspected – on going site works
F1.MC9	Not Inspected – on going site works
F1.MC10	Not Inspected – on going site works
F1.MC11	Not Inspected – on going site works
F1.MC12	Not Inspected – on going site works
F1.MC13	Not Inspected – on going site works
F1.MC14	Not Inspected – on going site works
F1.MC15	Not Inspected – on going site works
F1.MC16	Not Inspected – on going site works
F1.MC17	Not Inspected – on going site works
F1.MC18	Not Inspected – on going site works
F1.MC19	Not Inspected – on going site works
F1.MC20	Not Inspected – on going site works
F1.MC21	Not Inspected – on going site works
C1.0	Inspected 10.06 2025 – combined MH no defects
S1.00	Inspected 21.05 2025 – crack / broken base of chamber Remedial action and repair/replace to be undertaken by contractor and photographic evidence to be provided on completion
S1.01	Not Inspected – on going site works
S1.02	Not Inspected – on going site works
S1.03	Not Inspected – on going site works

Manhole Ref	Comments
S1.04	Not Inspected – on going site works
S1.05	Not Inspected – on going site works
S1.06	Inspected 10.06 2025 – no defects
S1.06 flow chamber	Inspected 10.06 2025 – no defects

3.0 VERIFICATION

Following site visits to inspect the drainage installation on the 29th May and 4th June 2025, RoC Consulting can confirm that the foul and surface water drainage systems as inspected and reviewed have been constructed in accordance with the design layout drawings, details and specification. Where not inspected, or where any defects as noted in section 2.0 have been identified, they are to be addressed and rectified by the contractor and photographic records provided.

As-built records of the manholes and a site mark up of some minor layout changes have been provided by the contractor. These are included within this report in Appendices G and H respectively.

RoC Consulting have reviewed these and updated the final construction issue drainage GA drawing to provide an as-built record drawing of the site drainage. This drawing is provided within this report in appendix J.

Following a review of the as-built information provided by the contractors, and the post construction CCTV survey, we can confirm that with the exception of some minor layout and level adjustments to suit construction, the drainage systems have been adequately installed.

Taking the above into consideration, RoC believe that the drainage system will operate effectively and as intended in accordance with the design drawings, details and specification.

A selection of photographic records of the drainage installation generally, taken by the contractor during construction and taken by RoC during our site visits, is provided in Appendix K.

A photographic record of the attenuation tank installation, taken by the contractor during construction, is provided in Appendix L.

4.0 GENERAL MAINTENANCE ARRANGEMENTS

Maintenance Frequency

Regular visual inspections of the site drainage systems should be undertaken as often as is necessary to fulfil the required standard of maintenance. The necessary frequency can be divided into:

1. Regular Maintenance: Basic tasks completed on a frequent and predictable schedule.

2. Occasional Maintenance: Tasks that are likely to be required only periodically and much less frequently.

Maintenance Record

The site facilities management team and/or appointed management company will be provided with a 'Maintenance Record' so that they are aware of the function and maintenance requirements of the drainage system.

The record should include:

1. Location of the drainage system features within the site which are shown on RoC Final Construction issue drawing:

    - Z1-ROC-G580-PL-XX-DR01 C06 Drainage GA

2. Drainage construction details as shown on RoC drawings:

    - Z1-ROC-G580-DE-XX-DR02 C01 Drainage Details Sheet 1
    - Z1-ROC-G580-DE-XX-DR02 C01 Drainage Details Sheet 2
    - Z1-ROC-G580-DE-XX-DR02 C01 Drainage Details Sheet 3

3. Maintenance Schedule

Regular Maintenance

Inspections of the drainage network should be conducted as per the maintenance schedule (Appendix M) and could be integrated with Landscape Management activities such as grass cutting, which may also be undertaken at similar intervals.

It is recommended that the frequency of inspections should be increased during the first year of operation so that inspections are also conducted after every significant storm event to ensure that the drainage systems are functioning correctly and, if necessary, implement improvement works to optimise performance.

Elements which should be inspected include:

- Inlets and outlets – ensure that inlets and outlets associated with the detention basins are clear and that flows are not impeded. Any obstruction or build-up of material must be removed as soon as possible.

- Structure – a visual inspection of the attenuation tanks, flow control devices, non-return valves, separator etc to check for any seepages or leaks. This inspection should also include a check for structural damage. Any defects should be remediated as soon as possible.

- Water Quality – is there evidence of poor water quality in the surface water storage systems e.g. algae, oils or odours, if so further inspection and remedial actions should be taken.

- Sediment build-up – a visual inspection of the attenuation tank, hydrodynamic separator, manholes / inspection chambers, gullies, channel drains, sumps, rain garden etc to determine whether there is evidence of silt build-up. Any evidence of silt build-up should be reported and inspected further to determine whether silt removal should be initiated.

- Evidence of Inefficiencies – is there any visual evidence of surface water building up in the system or on the surface which could indicate that the connections are blocked or damaged, if so, remedial action should be implemented.

Occasional Maintenance

To ensure the long-term effectiveness of the drainage scheme, accumulated sediment should be periodically removed. The frequency at which this is done will vary over the lifetime of the development. Accumulation will generally be most acute during and immediately following the construction period i.e. until such time as all hard and soft landscaping within the catchment is complete and well established and all construction work is finished. At this point, the amount of sediment entering the drainage system will be reduced.

Until all development is concluded, careful consideration should be given to sediment build up during the regular inspections outlined above. Following development completion, the frequency at which sediment removal will be required could be between 10 to 15 years. This could be extended if an appropriate maintenance regime is undertaken on the network upstream of the attenuation features.

Sediment removal should be undertaken in such a way as to prevent damage to the SuDS features, minimise the impact on ecological systems and maintain aesthetic appearance. The particular method of removal will depend upon the SuDS feature, access, wildlife concerns and sediment depth.

Pipework, Manholes, Inspection Chambers & General Maintenance

The following maintenance schedules are recommended.

- Local repair or local replacement of damaged pipes or other structures in order to maintain the functionality of the drainage system.
- Cleaning and removal of sediments, obstructions etc. to restore / maintain hydraulic capacity.
- Jetting / vacuum of sewers to be undertaken as often as necessary to remove silts and/or ordinary debris.
- In the event that any extraordinary issues are encountered during an inspection, further investigation in the form of a CCTV survey may be required.
- Maintenance to be undertaken on a six-monthly schedule.
- All manhole covers should be lifted and the manholes visually inspected for silt, debris and signs of blockages within the drainage system. Check manhole covers and frames for damage and ensure correctly bolted together. This should be undertaken on a six-monthly basis.
- Should any debris or blockages be detected, the manholes should be cleaned along with associated pipe runs using high pressure jetting equipment. On completion a CCTV survey should be undertaken to verify / identify that no further remedial works are required.
- To avoid damaging the pipe, PSI pressures should be verified before jetting of any plastic twin wall drainage. Cleaning of drainage systems may require the temporary sealing of the system and careful collection of the effluent for disposal off site.

Control Manhole Maintenance

The proposed drainage system incorporates the use of a flow control to restrict pass forward flows from areas of the main site drainage system. This takes the form of a Hydrobrake Vortex devices, the location of which is identified on the drainage general arrangement drawing in Appendix B.

The controls do not have any moving parts and therefore require very little in the way of maintenance other than an inspection for debris / blockage.

The typical maintenance schedule is provided in Appendix M.

Attenuation Tank Maintenance

Regular inspections and maintenance are required to ensure the effective long-term operation of below-ground attenuation systems. The attenuation tanks will be maintained in accordance with advice provided by the manufacturer, while the responsibility for this maintenance will be placed with the sites facilities management team and/or appointed maintenance company.

The maintenance tasks of the attenuation tanks generally include the inspection of the inlets, outlets, air vents and overflows to identify silt build-up and/or structural damage to determine if remedial actions are required. If allowed to develop, these issues can severely reduce the effectiveness of the tank.

The typical maintenance schedule is provided in Appendix M.

Rain Garden Maintenance

Rain Gardens act as infiltration points for clean surface water. The system implemented in the scheme drainage receives run-off from the surrounding hard landscaped areas. The rain garden is to be planted with flowers and vegetation which will capture and absorb most of the run-off.

The rain garden is drained via a 100mm perforated pipe laid at the base of the planter to remove excess water and prevent it from becoming waterlogged. This is connected to the drainage network via a catchpit manhole to collect any silt.

For extreme storm events, an overflow gully is provided to allow rainwater to directly enter the drainage system should the rain garden become completely inundated.

Maintenance of the rain garden should be co-ordinated with the site wide landscape maintenance and will generally include vegetation management, litter / trash removal and inspection of the downstream access chamber for any blockages / siltation.

The typical maintenance schedule is provided in Appendix M.

Grease Trap Maintenance

Maintenance of the grease traps serving the food hall kitchens should be undertaken in accordance with the manufacturer's recommendations that are provided in Appendix P.

Daily, weekly, annual and 5-year inspections are recommended as follows:

Daily:

- Remove impurities from the coarse trap (if present) of the inlet pipe

Weekly:

- Inspect grease separator, connections, mechanical and electrical parts for external damage
- Check the sludge volume and grease layer thickness in the grease separator
- Remove course floating substances on the water surface
- For grease separators with a filling unit, check the water level in the odour trap

Annual:

- Remove and clean the filter screen in the suction socket of the HP pump
- Check the function of the HP pump and the HP orbital cleaning head
- Check the oil level of the HP pump
- Test the function of the disposal pump
- Check the function of the back pressure measurement
- Inspect and test the condition of the internal wall surfaces, built in parts and electrical equipment
- Test the function of the electrical component installations
- Inspect and test the function of the extraction equipment and free discharge of the filling unit
- Clean the outlet of the filling unit
- Check the cover of the extension system, especially the condition and function of the seal
- Clean the sampling equipment
- Tests (after prior emptying and cleaning) to be by a properly qualified person

5 yearly:

- Inspect the dimensioning of the grease separator
- Inspect the structural condition and leak tightness of the grease separator

- Inspect and test the condition of the internal wall surfaces, built in parts and electrical equipment
- Inspect for proper execution of the vent stack
- Inspect the completeness and plausibility of the entries in the operating log, e.g. verification of proper disposal, constituents removed, sampling
- Inspect for completeness of required permits and documents, e.g. approvals, drainage plans, instructions for use
- Tests (after prior emptying and cleaning) to be by a properly qualified person

It is recommended that the operator takes out a maintenance contract with an approved contractor for the regular servicing, inspection and maintenance of the grease separators.

APPENDIX A – PLANNING CONSENT

MANCHESTER CITY COUNCIL

Important – Planning permission & notices of consent

Compliance with conditions

- Your planning approval or consent is attached. It will contain conditions that you must comply with.
- Please read the conditions and understand their requirements and restrictions, for example submission and approval of details or measures to protect trees.
- Some conditions will require action before you start development and it is imperative that you seek to have these discharged before any work commences.
- Whilst every effort has been made to group conditions logically, it is your responsibility to ensure that you are aware of the requirements and/or restrictions of all conditions.
- If you fail to comply with the conditions this may result in a breach of planning control and this may lead to enforcement action.
- Failure to comply with conditions may also result in the development not being lawful.
- It is in your interests to demonstrate that conditions have been complied with. Failure to do so may cause difficulties if the property is sold or transferred.
- A fee is payable for each request to discharge conditions.
- For advice on any of these matters, please contact Planning, Manchester City Council, PO Box 532, Town Hall, Manchester M60 2LA or email planning@manchester.gov.uk

MANCHESTER CITY COUNCIL

Town & Country Planning Act 1990 (as amended)

Planning Permission

Applicant

House of Social 1 Ltd
C/o Agent

Agent (if used)

Mr Niall Alcock
Deloitte
Hanover Building
Corporation Street
Manchester
M4 4AH

Part 1 – Particulars of the application/development

Proposal: Erection of 14-storey building comprising purpose-built student accommodation (PBSA) (Sui Generis) and ground floor Food Hall (Sui Generis Use), and other associated works including external amenity spaces, public realm, secure cycle parking, access and servicing arrangements (Plot 10B)

Location: Land Bounded By River Street To The North, River Street And Vacant Lane To The East, Hulme Street To The South And Plot 10A Of The First Street Masterplan To The West, Manchester

Date of application: 1 March 2023

Application number: 136170/FO/2023

Part 2 – Particulars of decision

Manchester City Council gives notice that the development referred to in Part 1 has been **Approved** in accordance with the application and plans submitted subject to the condition(s) listed below (if any).

Article 35 Declaration

Officers have worked with the applicant in a positive and pro-active manner to seek solutions to problems arising in relation to dealing with the planning application. This has included on going discussions about the form and design of the developments and pre application advice about the information required to be submitted to support the application.

Condition(s) attached to this decision

1) The development must be begun not later than the expiration of three years beginning with the date of this permission.

Reason - Required to be imposed pursuant to Section 91 of the Town and Country Planning Act 1990.

2) The development hereby approved shall be carried out in accordance with the following drawings and documents:

(a) Dwgs 1172-TGA-XX-XX-DR-A-95020 P07 (Location Plan) and 1172-TGA-XX-XX-DR-A-95021 P06 (Proposed Site Plan)

(b) Dwgs 1172-TGA-XX-00-DR-A-95030 P05 , 1172-TGA-XX-01-DR-A-95031 P04, 1172-TGA-XX-ZZ-DR-A-95032 P03 , 1172-TGA-XX-ZZ-DR-A-95033 P03, 1172-TGA-XX-14-DR-A-95034 P03 , 1172-TGA-XX-XX-DR-A-95040 P03, 1172-TGA-XX-XX-DR-A-95041 P03 , 1172-TGA-XX-XX-DR-A-95042 P03, 1172-TGA-XX-XX-DR-A-95050 P04 , 1172-TGA-XX-XX-DR-A-95051 P04, 1172-TGA-XX-XX-DR-A-95052 P04 , 1172-TGA-XX-XX-DR-A-95053 P04, 1172-TGA-XX-ZZ-DR-A-95210 P04 , 1172-TGA-XX-ZZ-DR-A-95211 P04, 1172-TGA-XX-ZZ-DR-A-95212 P04, 1172-TGA-XX-ZZ-DR-A-95213 P04 and 1172-TGA-XX-ZZ-DR-A-95214 P03;

(d) Dwgs PL1471.3-PLA-ZZ-00-DR-L-001 P11, 1471.3-PLA-ZZ-00-DR-L-007 P06, 1471.3-PLA-ZZ-00-DR-L-005 P06, 1471.3-PLA-ZZ-00-DR-L-003 P06 and PL1471.3-PLA-ZZ-00-DR-L-009 P03;

(e) Crime Impact Statement Version B 06 01 23 stamped as received on 17-02-23;

(f) Accommodation Schedule Page 92 of the PLOT 10B FIRST STREET, MANCHESTER, DESIGN AND ACCESS STATEMENT, 1172-TGA-XX-XX-RP-A-FI_10_10-00250 stamped as received on 27-04-23 and Room Area Per Cluster Schedule - Scenario 01 stamped HS-TGA-Z100-SC-XX-00002 stamped as received on 17-05-23;

(g) Section 4 of the PLOT 10B FIRST STREET, MANCHESTER, DESIGN AND ACCESS STATEMENT, 1172-TGA-XX-XX-RP-A-FI_10_10-00250 stamped as received on 27-04-23;

(h) PLOT 10B FIRST STREET, MEDLOCK STREET, MANCHESTER WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL WORKS by PCA January 2023 stamped as received on 01-03-23;

(i) Inclusions of measures and targets in the ENERGY STRATEGY REPORT HOUSE OF SOCIAL 1 Ltd FIRST STREET MANCHESTER 30.01.2023 , ENVIRONMENTAL STANDARDS STATEMENT HOUSE OF SOCIAL 1 Ltd FIRST STREET MANCHESTER 16.01.23 both stamped as received on 01-03-23 and BREEAM Pre-assessment Report VITA Student Accommodation by AA Projects stamped as received on 17-02-23'

(j) Broadband Connectivity Assessment Plot 10b First Street Manchester by G Tech dated 17/01/2023 stamped as received on 01-03-23;

(k) House of Social 1 Ltd W A S T E & S E R V I C I N G S T R A T E G Y R E P O R T Plot 10b, April 2023 First Street stamped as received on 27-04-23;

(l) Plot 10b First Street House of Social 1 Ltd Fire Statement dated 23-01-23, stamped as received on 01-03-23;

(m) FIRST STREET PLOT 10B, MANCHESTER, DOCUMENT, LANDSCAPE DESIGN & ACCESS STATEMENT dated 28-03-23 by P.ie stamped as received on 27-04-23;

(n) Flood Risk Assessment & Outline Drainage Strategy Plot 10b First Street for House of Social 1 Ltd by Roc stamped as received on 01-03 23;

(o) Ventilation Strategy Report House of Social First Street, by Ridge dated 19-01-23 and stamped as received on 01-03-23;

(p) HOUSE OF 1 SOCIAL LTD, PLOT 10B, FIRST STREET REGENERATION, AREA, MANCHESTER, EXTENDED PHASE 1 HABITAT SURVEY AND BASELINE BIODIVERSITY NET GAIN ASSESSMENT by Penny Anderson Associates Ltd stamped as received on 01-03-23;

(q)Phase 1 Desktop Study, Plot 10b First Street for House of Social 1 Ltd, dated 10-01-23 stamped as received on 17-02-23, Phase 2 Site InvestigationPlot 10B First Street, for Vita Group dated 22 -12-22 stamped as received on 01-03-23 and House of Social, First Street Ground Gas Addendum dated 20-01-23 stamped as received on 17-02-23 all by Roc;

(r) Television and Radio Reception Impact Assessment Plot 10b First Street Manchester by GTech stamped as received on 01-03-23;

(s) House of Social 1 Ltd Plot 10b, First Street Framework Travelplan and Transport Statement by Vectos both dated April 23 and stamped as received on 27-04-23;

(t) Food Hall Management Plan First Street, Manchester stamped as received on 17-02-23;

(u) Student Management Plan stamped as received on 12-05-23

(v) First Street Plot 10a Noise Impact Assessment First Street Developments Limited Ref PLOT10A-XX-XX-RP-Y-45001 P03 12 January 2023 by Cundall stamped as received on 17-02-23;

(w) House of Social, Plot 10b, First Street, Response to MCC Comments - Note 01, May 2023 by Vectos;

(x) ES Volume 1 Main Text:

1. Introduction 2. EIA Methodology 3. Site, Surroundings and Description of Proposals
4. Alternatives and Design Evolution 26
5. Construction Phasing and Methodology , 6. Air Quality, 7. Climate Change, 8. Daylight, Sunlight and Overshadowing, 9. Human Health,
10. Noise and Vibration, 11. Socio-Economics, 12. Townscape and Visual Impact, 13. Wind Microclimate, 14. Summary of Residual Impacts
15. Type 1 Cumulative Effects

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all stamped as received on 23-01-23

As supplemented by: Measures within the and Air Quality Technical Note - Plot 10b by Cundall dated 31-03-23 stamped as received on 27-04-23; Plot 10b: House of Social Wind Microclimate Technical Note by arcaero stamped as received on 27-04-23; Sunlight and Daylight Technical Note by Proximity stamped as received on 27-04-23; and Sunlught Impacts Summary Table stamped as received on 20-04-23

Reason - To ensure that the development is carried out in accordance with the approved plans. Pursuant to Core Strategy SP1, CC3, H1, H8, CC5, CC6, CC7, CC9, CC10, T1, T2, EN1, EN2, EN3, EN6, EN8, EN9, EN11, EN14, EN15, EN16, EN17, EN18, EN19 and DM1 saved Unitary Development Plan polices DC19.1, DC20 and DC26.1.

3) (a) Notwithstanding the details submitted with the application, prior to the commencement of above ground development the following shall be submitted for approval in writing by the City Council, as Local Planning Authority:

*hand sized samples and specifications of all materials to be used on all external elevations;
*drawings to illustrate details of full sized sample panels that will be produced in line with an agreed programme: and
*a programme for the production of the full sized sample panels and strategy for quality control management; and

The panels to be produced shall include jointing and fixing details between all component materials and any component panels , details of external ventilation requirements, details of the drips to be used to prevent staining and details of the glazing and frames

and

(b) Prior to above ground development submission of a Construction Environmental Management Plan (CEMP)- Circular Economy Statement (Materials) to include details of the strategy for securing more efficient use of non-renewable material resources and to reducing the lifecycle impact of materials used in construction and how this would be achieved through the selection of materials with low environmental impact throughout their lifecycle in line with the Monitoring and Mitigation as set out in the Plot 10, First Street
Environmental Statement (Chapter 7) February 2023 stamped as received on 01-03-23;

(c) The sample panels and quality control management strategy shall then be submitted and approved in writing by the City Council as local planning authority in accordance with the programme and dwgs as agreed above.

Reason - To ensure that the appearance of the development is acceptable to the City Council as local planning authority in the interests of the visual amenity of the area within which the site is located, as specified in policies SP1 and DM1 of the Core Strategy.

4) a) Notwithstanding the Phase 1 Desktop Study, Plot 10b First Street for House of Social 1 Ltd, dated 10-01-23 stamped as received on 17-02-23, Phase 2 Site InvestigationPlot 10B First Street, for Vita Group dated 22 -12-22 stamped as received on 01-03-23 and House of Social, First Street Ground Gas Addendum dated 20-01-23 stamped as received on 17-02-23 all by Roc the measures for investigating the site identified in the Site Investigation Proposal shall be carried out. Prior to the commencement of development a report outlining what measures, if any are required to remediate the land (a Site investigation Report and / or Remediation Strategy) shall be submitted to and approved in writing by the City Council as local planning authority.

In the event of the Preliminary Risk Assessment identifying risks which in the written opinion of the Local Planning Authority require further investigation, the development shall not commence in the identified areas until a scheme for the investigation of the site and the identification of remediation measures (the Site Investigation Proposal) has been submitted to and approved in writing by the City Council as local planning authority.

b) When the development commences, the development shall be carried out in accordance with the previously agreed Remediation Strategy and a Completion/Verification Report shall be submitted to and approved in writing by the City Council as local planning authority prior to the first occupation of the residential element of the scheme.

In the event that ground contamination, groundwater contamination and/or ground gas, not previously identified, are found to be present on the site at any time before the development is occupied, then development shall cease and/or the development shall not be occupied until, a report outlining what measures, if any, are required to

remediate the land (the Revised Remediation Strategy) is submitted to and approved in writing by the City Council as local planning authority and the development shall be carried out in accordance with the Revised Remediation Strategy, which shall take precedence over any Remediation Strategy or earlier Revised Remediation Strategy.

Reason - To ensure that the presence of or the potential for any contaminated land and/or groundwater is detected and appropriate remedial action is taken in the interests of public safety, pursuant to policies DM1 and EN18 of the Core Strategy.

5) No development shall take place until a construction management plan or construction method statement has been submitted to and approved in writing by the Local Planning Authority

Display of an emergency contact number;
- Arrangements that no noisy work shall commence before 08:30
- Details of Wheel Washing;
- Dust suppression measures;
- Compound locations where relevant;
- Location, removal and recycling of waste;
- Routing strategy and swept path analysis;
- Communication strategy with residents and businesses which shall include details of how there will be engagement, consult and notify residents during the works;
- Parking of construction vehicles and staff; and
- Sheeting over of construction vehicles.

Manchester City Council encourages all contractors to be 'considerate contractors' when working in the city by being aware of the needs of neighbours and the environment. Membership of the Considerate Constructors Scheme is highly recommended.

The development shall be carried out in accordance with the approved construction management plan.

Reason - To safeguard the amenities of nearby residents, highway safety and air quality, pursuant to policies SP1, EN15, EN16, EN19 and DM1 of the Manchester Core Strategy (July 2012).

6) Notwithstanding the documents detailed in condition 2, prior to the commencement of above ground works a programme for submission of final details of the public realm works and highway works as shown in FIRST STREET PLOT 10B, MANCHESTER, DOCUMENT, LANDSCAPE DESIGN & ACCESS STATEMENT dated 28-03-23 by P.ie stamped as received on 27-04-23 and Dwgs PL1471.3-PLA-ZZ-00-DR-L-001 P11, 1471.3-PLA-ZZ-00-DR-L-007 P06, 1471.3-PLA-ZZ-00-DR-L-005 P06, 1471.3-PLA-ZZ-00-DR-L-003 P06 and PL1471.3-PLA-ZZ-00-DR-L-009 P03 shall be submitted and approved in writing by the City Council as Local Planning Authority. The programme shall include an implementation timeframe and details of when the following details will be submitted.

For the avoidance of doubt the development should be delivered in accordance with the approved programme and should not be occupied unless or until the public realm works are completed.

(a) Details of (a) all hard (to include use of natural stone or other high quality materials) and (b) all soft landscaping works (excluding tree planting) which demonstrably fully consider and promote inclusive access (including older and disabled people);

(b) Details of measures to create potential opportunities to enhance and create new biodiversity within the development to include, the choice of planting species within the public realm, where detailed design allows bat boxes and brick, bird boxes and areas of sensitively designed lighting provide opportunities areas within the site for use by bats and moths to include input from a qualified ecologist and which demonstrates Biodiversity Net gain across the site;

(c) Details of the proposed tree species within the public realm including proposed size, species and planting specification including tree pits and design and details of on going maintenance;

(d) Details of how surface water from the public realm would be managed within the public realm though Suds interventions such as infiltration, swales, soakways, rain gardens and permeable surfaces;

(e) Location and design of all street furniture including seating, lighting, bins, handrails, recycling bins, temporary gates, boundary treatments, planters all to include features which fully consider and promote inclusive access (which includes older and disabled people);

(f) Lighting around and within the site (which includes for consideration of older and disabled people and any biodiversity features installed for bats) and how it has been designed to increase opportunities for roosting bats; and

(g) A management and maintenance strategy for the public realm and who would be responsible for the day to day management and maintenance of these areas including ensuring ongoing maintenance of provision of access for disabled people.

The detailed scheme shall demonstrate that it complies with Accessibility and Age Friendly principles.

and shall then be submitted and approved in writing by the City Council as local planning authority in accordance with the programme as agreed above.

All of the above shall be fully implemented prior to occupation of the development

If within a period of 5 years from the date of the planting of any tree or shrub, that tree or shrub or any tree or shrub planted in replacement for it, is removed, uprooted or destroyed or dies, or becomes, in the opinion of the local planning authority, seriously damaged or defective, another tree or shrub of the same species and size as that originally planted shall be planted at the same place,

Reason - To ensure a satisfactory development delivered in accordance with the above plans and in the interest of pedestrian and highway safety pursuant to Section 170 of the NPPF 2019, to ensure that a satisfactory landscaping scheme for the development is carried out that respects the character and visual amenities of the area, in accordance with policies R1.1, I3.1, T3.1, S1.1, E2.5, E3.7 and RC4 of the Unitary Development Plan for the City of Manchester and policies SP1, DM1, EN1, EN9 EN14 and EN15 of the Core Strategy.

7) Prior to use of the Food Hall external area on River Street commencing, a management strategy for the operation of the area, to include details of how , how noise from patrons and potential crime and disorder issues would be managed and how the area will be cleared and closed by the latest operating time agreed in discharge of condition 18 and which precludes the playing of any amplified music shall be submitted to an approved in writing by the City Council as Local Planning Authority.

Reason - To secure a reduction in noise in order to protect future residents from noise nuisance, pursuant to policies SP1 and DM1 of the Core Strategy and saved UDP Policy DC26.

8) A programme of archaeological works will be undertaken in accordance with the approved Written Scheme of Investigation prepared by Pre-Construct Archaeology in January 2023 (Plot 10B First Street, Medlock Street, Manchester. Written Scheme of Investigation for Archaeological Works) and submitted as part of the planning application. The WSI covers the following:

1. A phased programme and methodology of investigation and recording to include:
i) archaeological Strip-Map-Record
ii) informed by the above, targeted more detailed excavation of the most significant areas identified by the strip
2. A programme for post-investigation assessment to include:
- analysis of the site investigation records and finds
- production of a final report on the investigation results.
3. Deposition of the final report with the Greater Manchester Historic Environment Record.
4. Dissemination of the results commensurate with their significance.
5. Provision for archive deposition of the report and records of the site investigation.
6. Nomination of a competent person or persons/organisation to undertake the works set out within the approved WSI.

Reason: In accordance with NPPF Section 16, Paragraph 205 - To record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and

9) The development hereby approved shall achieve a post-construction Building Research Establishment Environmental Assessment Method (BREEAM) rating of at least a 'Excellent' rating. Post construction review certificate(s) shall be submitted to, and approved in writing by the City Council as local planning authority, within six months of the buildings hereby approved being first occupied.

Reason - In order to minimise the environmental impact of the development, pursuant to policies SP1, T1-T3, EN4-EN7 and DM1 of the Core Strategy, and the principles contained within The Guide to Development in Manchester SPD (2007), and the National Planning Policy Framework.

10) Notwithstanding the details as set out within condition 2 (n) no development shall take place until a scheme for the surface water drainage works in accordance with Non-Statutory Technical Standards for Sustainable Drainage Systems (March 2015) or any subsequent replacements and national standards and details has been submitted to and approved in writing by the Local Planning Authority. This shall include:

*A finalised drainage layout showing all components, outfalls, levels and connectivity, limiting surface water discharge to a maximum 5l/s;
*Maximised integration of green SuDS components (utilising infiltration or attenuation) if practicable;
* Evidence that the drainage system has been designed (unless an area is designated to hold and/or convey water as part of the design) so that flooding does not occur during a 1 in 100-year rainfall event with allowance for 45% climate change in any part of a building;
*Assessment of overland flow routes for extreme events that is diverted away from buildings (including basements). Overland flow routes need to be designed to convey the flood water in a safe manner in the event of a blockage or exceedance of the proposed drainage system capacity including inlet structures. A layout with overland flow routes needs to be presented with appreciation of these overland flow routes with regards to the properties on site and adjacent properties off site.
Property threshold levels must be set a minimum of 30.925m AOD, in line with the proposed Flood Risk Assessments (FRA). Providing the Environment Agency agree, given the main risk of flooding at this location is associated to River Medlock (statutory main river). *Progression through the drainage hierarchy shall be evidence based and supported by site investigation. Results of ground investigation carried out under Building Research Establishment Digest 365. Site investigations should be undertaken in locations and at proposed depths of the proposed infiltration devices. Proposal of the attenuation that is achieving half emptying time within 24 hours. If no ground investigations are possible or infiltration is not feasible on site, evidence of alternative surface water disposal routes (as follows) is required.
*Where surface water is connected to the public sewer, agreement in principle from United Utilities is required that there is adequate spare capacity in the existing system taking future development requirements into account. An email of acceptance of proposed flows and/or new connection will suffice.
*Evidence of an agreement in principle to divert the existing United Utilities sewer within the site boundary.
* Hydraulic calculation of the proposed drainage system;
* Construction details of flow control and SuDS elements.

The approved details shall be implemented as part of the development.

Reason: To promote sustainable development, secure proper drainage and to manage the risk of flooding and pollution. This condition is imposed in light of national policies within the NPPF and NPPG and local policies EN08 and EN14.

11) No development hereby permitted shall be occupied until details of the implementation, maintenance and management of the sustainable drainage scheme have been submitted to and approved by the local planning authority. The scheme shall be implemented and thereafter managed and maintained in accordance with the approved details. Those details shall include:

(a)Verification report providing photographic evidence of construction as per design drawings;
(b)As built construction drawings if different from design construction drawings;
(c)Management and maintenance plan for the lifetime of the development which shall include the arrangements for adoption by any public body or statutory undertaker, or any other arrangements to secure the operation of the sustainable drainage scheme throughout its lifetime.

Reason: To manage flooding and pollution and to ensure that a managing body is in place for the sustainable drainage system and there is funding and maintenance mechanism for the lifetime of the development. This condition is imposed in light of national policies within the NPPF and NPPG and local policies EN08 and EN14.

12) Nothwithstanding the details within the First Street Plot 10a Noise Impact Assessment First Street Developments Limited Ref PLOT10A-XX-XX-RP-Y-45001 P03 12 January 2023 by Cundall stamped as received on 17-02-23 before use of the gym area as shown in dwg 1172-TGA-XX-00-DR-A-95030 P05 commences a scheme for acoustically insulating the space to ensure that there is no unacceptable level of noise transfer from this unit to the PBSA above or any unacceptable noise break out shall be submitted to and approved in writing by the City Council as local planning authority. Noise from gym activities such as impact machines and free weights areas will need to be included within the assessment and details of any acoustic insulation / acoustic floor build up recommendation for these areas.

Where entertainment noise is proposed the LAeq (entertainment noise) shall be controlled to 5dB below the LA90 (without entertainment noise) in each octave band at the facade of the nearest noise sensitive location.

The approved noise insulation scheme shall be completed before the use of the gym commences. The approved details shall be implemented and remain in place for as long as the unit is in use

Prior to the use commencing a post completion report to verify that all of the recommended mitigation measures have been installed and effectively mitigate any potential adverse noise impacts in adjacent residential accommodation arising directly from the proposed development shall be submitted and agreed in writing by the City Council as local planning authority. Prior to occupation any non compliance shall be suitably mitigated in accordance with an agreed scheme.

Reason - To secure a reduction in noise in order to protect future building occupiers from noise nuisance, pursuant to policies SP1 and DM1 of the Core Strategy and saved UDP Policy DC26.

13) The PBSA accommodation hereby approved shall be operated in accordance with the Student Management Plan stamped as received on 12-05-23

Reason - To safeguard the amenities of nearby residential occupiers as the site is located in a residential area, pursuant to policies SP1, DM1 and C10 of the Manchester Core Strategy and to saved policy DC26 of the Unitary Development Plan for Manchester.

14) Notwithstanding the details within the First Street Plot 10a Noise Impact Assessment First Street Developments Limited Ref PLOT10A-XX-XX-RP-Y-45001 P03 12 January 2023 by Cundall stamped as received on 17-02-23:

a) Prior to above ground works a scheme for acoustically insulating the proposed residential accommodation against noise from the nearby road network and any nearby commercial premises shall be submitted to and approved in writing by the City Council as local planning authority. There may be other actual or potential sources of noise which
require consideration on or near the site.

The potential for overheating shall also be assessed and the noise insulation scheme shall take this into account. The approved noise insulation and ventilation scheme shall be
completed before any of the dwelling units are occupied.
Noise survey data shall include measurements taken during a rush-hour period and night time to determine the appropriate sound insulation measures necessary. The following noise criteria shall be required to be achieved with windows closed:

Bedrooms (night tme - 23.00 - 07.00) 30 dB LAeq (individual noise events shall not exceed 45 dB LAmax,F by more than 15 times)
Living Rooms (daytme - 07.00 - 23.00) 35 dB LAeq
Gardens and terraces (dayme) 55 dB LAeq

Additionally, where entertainment noise is a factor in the noise climate the sound insulation scheme shall be designed to achieve internal noise levels in the 63Hz and 125Hz octave centre frequency bands so as not to exceed (in habitable rooms) 47dB and 41dB (Leq,5min), respectively.

The approved noise insulation scheme and vibration mitigation measures shall be completed before any of the dwelling units are occupied.

b) Prior to first occupation of the residential units, a verification report shall be required to validate that the work undertaken throughout the development conforms to the recommendations and requirements in the approved acoustic consultant's report. The report shall also undertake post completion testing to confirm that the internal noise criteria have been met. Any instances of non-conformity with the recommendations in the report shall be detailed along with any measures required to ensure compliance with the internal
noise criteria.

Reason - To secure a reduction in noise in order to protect future residents from noise nuisance, and to reduce the potential for overheating pursuant to policies SP1, H1 and DM1 of the Core Strategy.

15) Final details of the method of extraction of any fumes, vapours and odours from any kitchen within each ground floor unit shall be submitted to and approved in writing by the City Council as local planning authority prior to commencement of those uses.

The details of the approved scheme shall be implemented prior to occupancy of each unit and shall remain in situ whilst the use or development is in operation.

Defra have published a document entitled 'Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems' (withdrawn but still available via an internet search). It describes a method of risk assessment for odour, guidance on minimum requirements for odour and noise control, and advice on equipment selection. It is recommended that any scheme should make reference to this document (particularly Annex B) or other relevant guidance or documents which superseed this guidance. Details should also be provided in relation to replacement air. The applicant will therefore need to consult with a suitably qualified ventilation engineer and submit a kitchen fume extract strategy report for approval.

Reason - To safeguard the amenities of the occupiers of nearby residential accommodation, pursuant to policies SP1 and DM1 of the Core Strategy

16) The Food Hall (Sui Generis) use shall operate in accordance with the following hours:

0800hrs to 0100hrs Monday to Sunday

To safeguard the amenities of the occupiers of nearby residential accommodation, pursuant to policies SP1 and DM1 of the Core Strategy

17) Notwithstanding the recommendation within the First Street Plot 10a Noise Impact Assessment First Street Developments Limited Ref PLOT10A-XX-XX-RP-Y-45001 P03 12 January 2023 by Cundall stamped as received on 17-02-23 before the operation of the ground floor Food Hall commences , details of it will be acoustically insulated and treated to limit the break out of noise shall be submitted for approval in writing by the City Council, as Local Planning Authority. This shall include a noise study of the premises and a scheme of acoustic treatment.

Where entertainment noise is proposed the LAeq (entertainment noise) shall be controlled to 5dB below the LA90 (without entertainment noise) in each octave band at the facade of the nearest noise sensitive location, and internal noise levels at structurally adjoined residential properties in the 63HZ and 125Hz octave frequency bands shall be controlled so as not to exceed (in habitable rooms) 47dB and 41dB, respectively. The scheme proposed may need to include different measures such as acoustic lobbies at access and egress points of the premises, acoustic treatment of the building structure, sound limiters linked to sound amplification equipment and specified maximum internal noise levels.

The approved noise insulation scheme shall be completed before any of the approved uses commence.

Prior to occupation a post completion report to verify that all of the recommended mitigation measures have been installed and effectively mitigate any potential adverse noise impacts in adjacent residential accommodation arising directly from the proposed development shall be submitted and agreed in writing by the City Council as local planning authority. Prior to occupation any non compliance shall be suitably mitigated in accordance with an agreed scheme.

The approved details shall be implemented and remain in place for as long as the unit is in use (and any subsequent permitted changes of use under Class E)
Reason - To secure a reduction in noise in order to protect future residents from noise nuisance, pursuant to policies SP1 and DM1 of the Core Strategy and saved UDP Policy DC26.

18) Prior to use of the Food Hall external area on River Street commencing details of the hours of operation shall be submitted to and approved in writing by the City Council as Local Planning Authority

Reason - To secure a reduction in noise in order to protect future residents from noise nuisance, pursuant to policies SP1 and DM1 of the Core Strategy and saved UDP Policy DC26.

19) Prior to the use of the External Seating Area associated with the Food Hall as shown in dwg 1172-TGA-XX-00-DR-A-95030 P05 commencing final details of the seating, tables, boundary treatment, any other associated structures and details of how

and where these strucutures would be stored / secured outside of the approved operating hours shall be submitted and approved in writing by the City Council as Local Planning Authority.

The approved details shall be implemented and remain in place for as the area is in use.

Reason - In the interest of visual amenity pursuant to policies SP1 and DM1 of the Manchester Core Strategy (2012)

20) The development hereby approved shall be carried out in accordance with the W A S T E & S E R V I C I N G S T R A T E G Y R E P O R T
Plot 10b, First Street April 2023 and House of Social, Plot 10b, First Street, Response to MCC Comments - Note 01, May 2023 by Vectos;

The details shall be implemented prior to the first use of the development and thereafter retained and maintained in situ.

The approved details shall be implemented and remain in place for as long as the unit is in use.

Reason - In order to ensure that adequate provision is made within the development for the storage and recycling of waste in accordance with policies DM1 and EN19 of the Core Strategy for the City of Manchester.

21) Piling or any other foundation designs using penetrative methods shall not be permitted other than with the express written consent of the Local Planning Authority, which may be given for those parts of the site where it has been demonstrated that there is no resultant unacceptable risk to groundwater. The development shall be carried out in accordance with the approved details.

Reason

To ensure a safe form of development that poses no unacceptable risk of contamination to controlled waters pursuant to section 10 of the National Planning Policy Framework Core Strategy policy EN14 and EN17.

22) a) At periodic intervals as agreed with the Work and Skills Team prior to commencement of development, details of a Local Benefit Proposal, in order to demonstrate commitment to recruit local labour for the duration of the construction of the development, shall be submitted for approval in writing by the City Council, as Local Planning Authority. The document shall be implemented as part of the construction of the development and will be reviewed periodically

The Report will confirm the following:

i) the measures proposed to recruit local people including apprenticeships

ii) mechanisms for the implementation and delivery of the Local Benefit Proposal

iii) measures to monitor and review the effectiveness of the Local Benefit Proposal in achieving the objective of recruiting and supporting local labour objectives

(b) Within one month prior to construction work being completed, a detailed report which takes into account the information and outcomes about local labour recruitment pursuant to items (i) and (ii) above shall be submitted for approval in writing by the City Council as Local Planning Authority.

Reason - The applicant has demonstrated a commitment to recruiting local labour pursuant to policies SP1, EC1 and DM1 of the Manchester Core Strategy (2012).

23) Prior to occupation of (a) The PBSA; and (b) The Food Hall (Sui Generis)

a scheme for the acoustic insulation of any plant including externally mounted ancillary equipment, lift equipment, substation and any emergency plant associated with the development to ensure that it achieves a background noise level of 5dB below the existing background (La90) at the nearest noise sensitive location shall be submitted to and approved in writing by the City Council as local planning authority in order to secure a reduction in the level of noise emanating from the equipment.

The approved scheme shall be completed before the premises is occupied and a verification report submitted for approval by the City Council as local planning authority for each of (a) and (b) and any non compliance suitably mitigated in accordance with an agreed scheme prior to occupation. The approved scheme shall remain operational thereafter.

The approved details shall be implemented and remain in place for as long as the above uses are operational

Reason - To secure a reduction in noise in order to protect future residents from noise nuisance, pursuant to policies SP1, H1 and DM1 of the Core Strategy.

24) The development hereby approved shall be carried out in accordance with the targets set out within the ENERGY STRATEGY REPORT HOUSE OF SOCIAL 1 Ltd FIRST STREET MANCHESTER 30.01.2023 , ENVIRONMENTAL STANDARDS STATEMENT HOUSE OF SOCIAL 1 Ltd FIRST STREET MANCHESTER 16.01.23 both stamped as received on 01-03-23 and BREEAM Pre-assessment Report VITA Student Accommodation by AA Projects stamped as received on 17-02-23'

A post construction statement shall be submitted within 12 months of occupation of the development.

Reason - In order to minimise the environmental impact of the development, pursuant to policies SP1, DM1, EN4 and EN8 of Manchester's Core Strategy, and the principles contained within The Guide to Development in Manchester SPD (2007) and the National Planning Policy Framework.

25) Prior to implementation of any proposed lighting scheme (including on the roof terrace and external areas) details of the scheme including a report to demonstrate that the proposed lighting levels would not have any adverse impact on the amenity of residents within this and adjacent developments shall be submitted to and agreed in writing by the City Council as local planning authority:

Reason - In the interests of visual and residential amenity pursuant to Core Strategy policies SP1, CC9, EN3 and DM1 of the Core Strategy.

26) The development hereby approved shall be carried out in accordance with the House of Social 1 Ltd Plot 10b, First Street Framework Travelplan dated April 23 and stamped as received on 27-04-23;

In this condition a travel plan means a document that includes the following:

i) the measures proposed to be taken to reduce dependency on the private car by building occupiers;
ii) a commitment to surveying the travel patterns of residents within the first six months of use of the development or when two thirds of the units are occupied (whichever is sooner) and thereafter from time to time;
iii) mechanisms for the implementation of the measures to reduce dependency on the private car;
iv) measures for the delivery of specified travel plan services;
v) measures to monitor and review the effectiveness of the Travel Plan in achieving the objective of reducing dependency on the private car;
vi) measures to identify and promote walking routes connecting First Street, The Civic Quarter, ID Manchester and the Corridor and the City Centre; and
vii) details of cycle parking within the public realm

Within 3 months of the completion of the travel survey, a revised Travel Plan which takes into account the information about travel patterns gathered pursuant to item (ii) above shall be submitted to and approved in writing by the City Council as local planning authority. Any Travel Plan which has been approved by the City Council as local planning authority shall be implemented in full at all times when the development hereby approved is in use.

Reason - To assist promoting the use of sustainable forms of travel and to secure a reduction in air pollution from traffic or other sources in order to protect existing and future residents from air pollution. , pursuant to policies SP1, T2 and DM1 of the Core Strategy, the Guide to Development in Manchester SPD (2007) and Greater Manchester Air Quality action plan 2016.

27) Notwithstanding the Television and Radio Reception Impact Assessment Plot 10b First Street Manchester by GTech stamped as received on 01-03-23 if following commencement of construction of the hereby approved development, any interference complaint received by the Local Planning Authority shall be investigated to identify whether the reported television interference is caused by the Development hereby permitted. The Local Planning Authority will inform the developer of the television interference complaint received. Once notified, the developer shall instruct a suitably qualified person to investigate the interference complaint within 6 weeks and notify the Local Planning Authority of the results and the proposed mitigation solution. If the interference is deemed to have been caused by the Development, hereby permitted mitigation will be installed as soon as reasonably practicable but no later than 3 months from submission of the initial investigation to the Local Planning Authority. No action shall be required in relation to television interference complaints after the date 12 months from the completion of development.

Reason - To ensure terrestrial television services are maintained In the interest of residential amenity, as specified in Core Strategy Polices DM1 and SP1

28) Deliveries, servicing and collections, including waste collections shall not take place outside the following hours: 07:30 to 20:00, Monday to Saturday, Sunday/Bank Holiday the times shall be confined to 10:00 to 18:00

The approved details shall be implemented and remain in place for as long as the unit is in use (and any subsequent permitted changes of use under Class E)

Reason - In interests of residential amenity in order to reduce noise and general disturbance in accordance with saved policy DC26 of the Unitary Development Plan for the City of Manchester and policies SP1 and DM1 of the Core Strategy.

29) No infiltration of surface water drainage into the ground on land affected by contamination is permitted other than with the express written consent of the local planning authority, which may be given for those parts of the site where it has been demonstrated that there is no resultant unacceptable risk to controlled waters. The development shall be carried out in accordance with the approval details.

Reason - To prevent pollution of controlled waters from potential contamination on site. Infiltration methods on contaminated land carries groundwater pollution risks and may not work in areas with a high water table. Where the intention is to dispose to soakaway, these should be shown to work through an appropriate assessment carried out under Building Research Establishment (BRE) Digest 365.

30) The development hereby approved shall include for full disabled access to be provided to all publicly accessible areas of public realm during the hours that it is open to the general public and via the main entrances.

Reason - To ensure that satisfactory disabled access is provided by reference to the provisions Core Strategy policy DM1

31) The window(s) at ground level, fronting onto River Street , River Street / Wilmott Street and from the reception area fronting the route to the service yard shall be retained as a clear glazed window opening at all times and views into the premises shall not be screened or obscured in any way.

Reason - The clear glazed window(s) is an integral and important element in design of the ground level elevations and are important in maintaining a visually interesting street-scene consistent with the use of such areas by members of the public, and so as to be consistent with saved policy DC14 of the Unitary Development Plan for the City of Manchester and policies SP1 and DM1 of the Core Strategy.

32) If any external lighting at the development hereby approved, when illuminated, causes glare or light spillage which in the opinion of the Council as local planning authority causes detriment to adjoining and nearby residential properties, within 14 days of a written request, a scheme for the elimination of such glare or light spillage shall be submitted to the Council as local planning authority and once approved shall thereafter be retained in accordance with details which have received prior written approval of the City Council as Local Planning Authority.

Reason - In order to minimise the impact of the illumination of the lights on the occupiers of nearby residential accommodation, pursuant to policies SP1 and DM1 of the Core Strategy

33) Notwithstanding the details contained within condition 2 above prior to the first occupation of the PBSA a scheme of highway works and footpaths reinstatement/public realm for that phase shall be submitted for approval in writing by the City Council, as Local Planning Authority.

This shall include the following:

Detailed designs in relation to the above to including materials, layout, junction protection, carriageway widths, kerb heights, street lighting, entry treatments, signing, lining and traffic management including installing dropped kerbs with tactile pavers across any vehicle access to the site and at adjacent junction crossing points, reinstatement of any redundant vehicle crossing points; and

shall be implemented and be in place prior to the first occupation of the PBSA accommodation and thereafter retained and maintained in situ.

Reason - To ensure safe access to the development site in the interest of pedestrian and highway safety pursuant to policies SP1, EN1 and DM1 of the Manchester Core Strategy (2012).

34) The development shall be carried out in accordance with sections 4, 5 and 6 of the Crime Impact Statement Version B 06 01 23 stamped as received on 17-02-23;

The development shall only be carried out in accordance with these approved details and within 12 months of completion, the applicant will confirm in writing to the Council as local planning authority that the development has achieved Secure by Design accreditation

Reason - To reduce the risk of crime pursuant to policies SP1 and DM1 of the Core Strategy and to reflect the guidance contained in the National Planning Policy Framework

35) No doors (other than those designated as fire exits, access to the sub station and ground floor bin store shown on Dwg 1172-TGA-XX-00-DR-A-95030 P05) shall open outwards onto adjacent public highway.

Reason - In the interest of pedestrian safety pursuant to policy DM1 of the Manchester Core Strategy (2012).

36) The 88 cycle parking spaces and 12 spaces within the public realm shall be fully implemented as shown in dwg 1172-TGA-XX-00-DR-A-95030 P05 along with the 'Free to Hire; scheme as detailed within the House of Social 1 Ltd Plot 10b, First Street Framework Travelplan dated April 23 and stamped as received on 27-04-23; The development shall not be occupied unless and until the above cycle parking spaces and 'Free to Hire' scheme are in place

Reason - To ensure there is sufficient cycles stand provision at the development and the residents in order to support modal shift measures pursuant to policies SP1,T1, T2 and DM1 of the Manchester Core Strategy (2012).

37) a) No development, hereby approved, shall commence until a detailed risk management programme / plan for unexploded ordnance (UXO) and mitigation as

appropriate, is submitted in writing to the local planning authority for approval. Development shall be carried out fully in accordance with the approved UXO risk management and mitigation programme / plan.

b) No property, hereby approved, shall be occupied until the approved UXO risk management and mitigation programme / plan has been implemented in full as to the removal of high risk UXO matters or implemented in full as to other necessary mitigation which are covered under the detailed risk management programme / plan approved pursuant to paragraph a) above and a mitigation completion verification report has been submitted to and approved in writing by the Local Planning Authority, confirming that that all risks to (including the possible evacuation of) existing and proposed premises have been satisfactorily mitigated.

c) If, at any time during development, high risk UXO not previously identified (as part of the approved UXO risk management and mitigation programme / plan approved under 40a) is encountered / found to be present , no further development shall be carried out until a revised and/or additional UXO risk management and mitigation programme / plan is submitted detailing how the high risk UXO not previously identified shall be dealt with, and is approved in writing by the Local Planning Authority. The revised and/or additional UXO risk management and mitigation programme / plan shall be implemented as approved and following completion of mitigation a completion verification report shall be prepared and submitted in writing to the Local Planning Authority for approval confirming that that all risks to (including the possible evacuation of) existing and proposed premises have been satisfactorily mitigated.

Reason: To ensure that the risks from unexploded ordnance to future users of the land and existing neighbouring land are eliminated and or minimised to ensure that development can take place without unacceptable risk to workers and neighbours including any unacceptable major disruption to the wider public on and off site that may arise as a result of evacuation/s associated with the mitigation of UXO, pursuant to policies EN18 and DM1 of the Core Strategy for Manchester.

38) Prior to the first use of the development hereby approved a external signage strategy for the entire building shall be submitted for approval in writing by the City Council, as Local Planning Authority. The approved strategy shall then be implemented and used to inform any future advertisement applications for the building.

Reason - In the interest of visual amenity pursuant to policies SP1 and DM1 of the Manchester Core Strategy (2012).

39) Prior to the first use of the development hereby approved, details of the siting, scale and appearance of the air source heat pumps to the buildings hereby approved. The air source heat pumps must also comply with the noise criteria as specified in condition 15. The approved details shall then be implemented prior to the first use of the development and thereafter retained and maintained in situ.

Reason - In the interest of ensuring the air source heat pumps are installed and to ensure that they are appropriate in terms of visual amenity pursuant to polices SP1, EN1, EN6 and DM1 of the Manchester Core Strategy (2012).

40) The proposed gym use hereby approved as shown in dwg 1172-TGA-XX-00-DR-A-95030 P05 shall be ancillary to the PBSA hereby approved and not operate as separate planning units or commercial uses for which a separate application for planning consent would be required.

Reason - For the avoidance of doubt and in order to secure a satisfactory form of development due to the particular circumstance of the application site, and in the interest of amenity, pursuant policy DM1 of the Core Strategy for Manchester.

41) Before any part of the development hereby approved is first occupied details of the following to be based on the findings of a Stage 1 Road Safety Audit (RSA 1)shall be submitted and approved in writing by the City Council as Local Planning Authority:

A service management plan to include details of final arrangements in relation to both refuse collection and deliveries. This should cover the frequency and dimensions of vehicles requiring access to the site, along with final details of the location for loading/ unloading and detail a programme for the implementation of the interim arrangements if Plot 10a is not completed before Plot 10b.

The development shall thereafter be fully implemented in accordance with these details.

Reason - In interests of highway safety pursuant to Policy DM1 of the Core Strategy

42) Before development commences a scheme for dealing with the discharge of surface water and which demonstrates that the site will be drained on a separate system, shall be submitted to and approved in writing by the City Council as Local Planning Authority. The approved scheme shall be implemented in full before use of the use first commences.

Reason - Pursuant to National Planning Policy Framework policies (PPS 1 (22) and PPS 25 (F8)).

43) In relation to relation to site layout, water supplies for firefighting purposes and access for fire appliances,the development shall be implemented in accordance with the Fire Safety Measures set out in the Plot 10b First Street House of Social 1 Ltd Fire Statement dated 23-01-23, stamped as received on 01-03-23;

Reason

To ensure a satisfactory development pursuant to Policy DM1 of the Core Strategy and in accordance with the Fire safety and high-rise residential buildings Guidance August 2021.

44) No externally mounted telecommunications equipment shall be mounted on any part of the building hereby approved, including the roofs other than with express written consent of the Local Planning Authority.

Reason - In the interest of visual amenity pursuant to Core Strategy Policies DM1 and SP1

45) Air quality mitigation shall be implemented in accordance with Chapter 6 of the Plot 10, First Street Environmental Statement
February 2023 by Deloitte's stamped as received on 01-03-23.

During the build phase of the development the specific construction mitigation measures listed in ES Chapter shall be implemented through the CEMP. Prior to commencement of development verification that the mitigation measures have been implemented shall

be submitted to an agreed in writing by the City Council as local planning authority and shall remain in situ whilst the development is under construction'

Reason: To secure a reduction in air pollution from traffic or other sources in order to protect existing and future residents from air pollution, pursuant to policies EN16, SP1 and DM1 of the Core Strategy.

46) Any external food delivery services will collect the food from the service yard as shown on Dwg 1172-TGA-XX-00-DR-A-95030 P05 goods in delivery door which shall be monitored by front of house staff to ensure all deliveries are collected from here and drivers / cyclists do not enter the front of the building. All staff will monitor delivery cyclists waiting to collect orders and waiting around the public realm seating areas.

Reason - In the interest of pedestrian safety and secure a reduction in noise in order to protect future residents from noise nuisance, pursuant to policies SP1, H1 and DM1 of the Core Strategy.

Informatives

Building Regulations 2010
This permission does not grant approval under Building Regulations.

Street Naming & Numbering Requirements
Manchester City Council is responsible for allocating street naming and numbering within Manchester for new developments or property conversions. Individuals or businesses are not permitted to allocate their own property numbers, building or street names.

If your development includes the creation of new dwellings (either new build or conversion of existing buildings), creation of new commercial properties or the subdivision of existing properties you must ensure that you request new or changes to addresses through us so they can be officially allocated and registered in accordance with the Public Health Act 1925 Sections 17-19 & Greater Manchester Act 1981 Section 22.

Failure to do this may result in difficulties for the developer/occupier when requiring services such as connections to utilities, phone lines and postal services and may delay your development.

You can apply online at the following address:
http://www.manchester.gov.uk/info/100011/roads_parking_and_transport/1988/naming_and_numbering_of_houses_buildings_streets_and_roads/2

Mining Information
The proposed development lies within an area which could be subject to current coal mining or hazards resulting from past coal mining. Please read the Standing Advice from the Coal Authority in Appendix A.

It is expected that all modifications / improvements to the public highway are achieved with a maximum carbon footprint of 40%. Materials used during this process must also be a minimum of 40% recycled and fully recyclable. Developers will be expected to demonstrate that these standards can be met prior to planning conditions being discharged. The developer is to agree the above with MCC's Statutory Approvals and

Network Resilience Teams post planning approval and prior to construction taking place.
Commuted sums are required for any non-standard materials (and street trees) used on the adopted highway.

Construction/demolition works shall be confined to the following hours unless otherwise agreed in writing by the City Council as local planning authority:

Monday - Friday: 7.30am - 6pm
Saturday: 8.30am - 2pm
Sunday / Bank holidays: No work

Workforce may arrive on site 30 minutes prior but no working outside these times, unless changed by prior agreement. Noise to be kept to a minimum in the first hour. Reason - To safeguard the amenities of the occupiers of nearby residential accommodation during the construction phase.

Any materials approved for planning purposes should be discussed in full with Building Control. This is to ensure they meet the guidance contained in the Building Regulations for fire safety. Should it be necessary to change the external facade treatment due to conflicts with the Building Regulations you should discuss these with the Planning Service as soon as possible as this could materially effect your permission.

As the proposal involves development over 11m in height (or alterations to increase the height of a building above 11m), developers are required to notify the Greater Manchester Fire & Rescue Service of the commencement of development via email to construction-started@manchesterfire.gov.uk

For this development proposals for good practice principles for both the design and operational phases are recommended. Reference should be made to IAQM/EPUK guidance: http://iaqm.co.uk/guidance

Should there be any basement excavations proposed adjacent to the highway structural drawings and calculations for the temporary and permanent support works must be submitted for checking (for a fee) to MCC Bridges/Structures Section. The applicant is advised to contact highways.structures@manchester.gov.uk.

All of the works required to achieve the new accesses / egresses and associated TROs should be included as part of a S278 agreement to be funded by the applicant

Nesting birds: No works to trees or shrubs shall occur between the 1 st March and 31 st August in any year unless a detailed bird nest survey by a suitably experienced ecologist has been carried out

INNS Management: It is an offence under the Wildlife & Countryside Act 1981, as amended to introduce, plant or cause to grow wild any plant listed in Schedule 9 part 2 of the Act. Species such as wall cotoneaster are included within this schedule. If any wall cotoneaster will be transported off site as a result of this development a suitably experienced consultant should be employed to advise on how to avoid an offence .

Generator: The routine maintenance and servicing of the now proposed emergency generator (level 12) shall be confined to Monday to Friday 08:00 to 18:00 hours.

Detail should be sought from the applicant in relation to any proposed construction or fit out
arrangements, where there is an impact on the highway. The applicant is advised that any requirements for licensing, hoarding / scaffolding and any associated temporary traffic management arrangements will need discussion and agreement with the council's Highways Applications and Network Resilience teams via Contact Manchester (Tel. 0161 234 5004).

The consent hereby granted does not negate the need for any statutory consents required in relation to the development relating to Gas Infrastructure from Cadent Gas

Date: 25 July 2023

Signed: 

Julie Roscoe
Director of Planning, Building Control & Licensing

Manchester City Council, P O Box 532, Town Hall, Manchester M60 2LA

Notes

1. This permission refers only to that required under the Town and Country Planning Act 1990 does not include any consent or approval under any other enactment, byelaw, order or regulation.

2 If the applicant is aggrieved by the decision of the local planning authority to refuse permission or approval for the proposed development, or to grant permission or approval subject to conditions, they may appeal to the Secretary of State in accordance with Section 78(1) of the Town and Country Planning Act 1990 within six months of the date of the notice of the decision.

The Planning Inspectorate have introduced an online appeals service that can be used to make appeals online. This service is available through the gov.uk website – www.gov.uk/appeal-planning-decision The Inspectorate will publish details of your appeal on the internet. Alternatively If you are unable to access the online appeal form, please contact the Planning Inspectorate to obtain a paper copy of the appeal form on tel: 0303 444 5000.

The Secretary of State has power to allow a longer period for the giving of a notice of appeal but they will not normally be prepared to exercise this power unless there are special circumstances that excuse the delay in giving notice of appeal.

If you intend to submit an appeal that you would like examined by inquiry then you must notify the City Council (planning@manchester.gov.uk) and the Planning Inspectorate (inquiryappeals@planninginspectorate.gov.uk) at least 10 days before submitting the appeal. Further details are on GOV.UK.

3. The statutory requirements are those set out in Section 79(6) of the Town and Country Planning Act 1990, namely Sections 70(1) and 72(1) of the Act.

4. If either the local planning authority of the Secretary of State refuses permission to develop land or grants it subject to conditions, the owner may claim that they can neither put the land to a reasonably beneficial use in its existing state nor render the land capable of a reasonably beneficial use by the carrying out of any development which has been or would be permitted.

In these circumstances, the owner may serve a purchase notice on the Council in whose area the land is situated. This notice will require the Council to purchase his interest in the land in accordance with the provisions of Part VI of the Town and Country Planning Act 1990

5. In certain circumstances, a claim may be made against the local planning authority for compensation, where permission is refused or granted subject to conditions by the Secretary of State on appeal or on a reference of the application to them. The circumstances in which such compensation is payable are set out in Section 114 of the Town and Country Planning Act 1990.

Right of challenge on planning application decision

A third party does not have a right of appeal against a decision on a planning application. Instead there is a right of challenge (a Judicial Review) which is limited to lawfulness of the procedure that we have taken in coming to that decision.

Any challenge must be based on the following and not the merit of the decision:

- Procedural irregularity
- Irrationality
- Illegality

Any application for permission to bring such a challenge (which is through the High Court) must be made within 6 weeks of the date of the decision being issued.

Appendix A

The Coal Authority

STANDING ADVICE - DEVELOPMENT LOW RISK AREA

The proposed development lies within a coal mining area which may contain unrecorded coal mining related hazards. If any coal mining feature is encountered during development, this should be reported immediately to the Coal Authority on 0345 762 6848.

Further information is also available on the Coal Authority website at:
www.gov.uk/government/organisations/the-coal-authority

Standing Advice valid from 1st January 2023 until 31st December 2024

COMPLEX CHALLENGES ...
MADE SIMPLE

APPENDIX B – FINAL CONSTRUCTION ISSUE DRAWINGS

THIS DRAWING IS THE PROPERTY OF RoCp. COPYRIGHT IS RESERVED BY THEM AND THE DRAWING IS ISSUED ON THE CONDITION THAT IT IS NOT COPIED, REPRODUCED, RETAINED OR DISCLOSED TO ANY UNAUTHORISED PERSON EITHER WHOLLY OR IN PART WITHOUT THE WRITTEN CONSENT OF RoCp

NOTES

1. ALL DIMENSIONS ARE IN METRES UNLESS STATED OTHERWISE.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL ARCHITECTS, ENGINEERS AND SPECIALIST DRAWINGS AND SPECIFICATIONS.
3. ANY DISCREPANCIES SHOULD BE REPORTED TO THE ENGINEER IMMEDIATELY SO THAT CLARIFICATION CAN BE SOUGHT PRIOR TO THE COMMENCEMENT OF WORK.
4. BEFORE STARTING ANY WORKS, CONTRACTOR TO CHECK INVERT LEVELS AND POSITIONS OF EXISTING DRAINS, SEWERS, INSPECTIONS CHAMBERS AND MANHOLES AGAINST INFORMATION SHOWN ON THIS DRAWING.
5. ROCKER PIPES ARE TO BE PROVIDED AT ALL CONCRETE CASED INTERFACES.
6. CLASS Z CONCRETE SURROUND TO BE PROVIDED FOR PIPES WITH COVER LESS THAN 1.2m ABOVE THE CROWN OF THE PIPE FOR ROADS AND 0.6m FOR SOFT AND PEDESTRIAN AREAS ONLY AND UNDER ALL FOUNDATIONS AND WHERE PIPES LAID WITHIN 1m OF FOUNDATIONS.
7. CONNECTIONS TO EXISTING PUBLIC SEWERS IN ACCORDANCE WITH UNITED UTILITIES REQUIREMENTS, TO BE APPROVED / AGREED WITH THE WATER AUTHORITY.
8. PROPOSED COVER LEVELS ARE APPROXIMATE AND SHALL BE CHECKED BY THE CONTRACTOR ON SITE TO SUIT THE EXACT FINISHED LEVEL AND GRADIENT.
9. ALL DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY AND IN CONJUNCTION WITH ALL RELEVANT BRITISH STANDARDS, CODES OF PRACTICE AND 'SEWERS FOR ADOPTION' 7th EDITION.
10. ACCESS COVERS AND FRAMES SHALL COMPLY WITH THE LOADINGS SPECIFIED AND TO BS EN 124 AND KITEMARKED OR IF RECESSED COVERS ARE SPECIFIED THEN IN ACCORDANCE WITH FACTA ASSOCIATION EQUIVALENT. ALLOW FOR RECESS MANHOLE COVERS TO ACCEPT LANDSCAPE ARCHITECT FINISHES TO ALL NON-ASPHALT EXTERNAL AREAS.
11. THE PROPOSED BUILDING LAYOUTS SHOWN ON THIS DRAWING ARE FOR INFORMATION ONLY. REFER TO ARCHITECTS PLANS FOR PRECISE LOCATION SETTING OUT INFORMATION AND DETAILS
12. FOR SETTING OUT DIMENSIONS OF SS'S, SVP'S, RWP'S, FLOOR GULLY'S & OTHER DRAINAGE 'POP UP' LOCATIONS, REFER TO ARCHITECTS OR MECHANICAL & ELECTRICAL ENGINEERS DRAWINGS.
13. ALL DRAINAGE PIPEWORK SHOWN SHALL BE 100mm DIAMETER FOR FOUL AND 150mm FOR SURFACE WATER UNLESS NOTED OTHERWISE. ALL DRAINAGE PIPEWORK SHALL BE LAID SOFFIT TO SOFFIT UNLESS OTHERWISE STATED.
14. ALL UNDERSLAB DRAINAGE SHALL BE LAID AT GRADIENTS OF 1:80 MIN. FOR FOUL PIPEWORK AND 1:100 MIN. FOR SURFACE WATER UNLESS NOTED OTHERWISE. ALL UNDERSLAB DRAINAGE SHALL BE CLEAR OF FOUNDATIONS UNLESS SHOWN OTHERWISE. USE OF SHORT/ LONG RADIUS BENDS IS ACCEPTABLE PROVIDED THEY ARE KEPT TO A MINIMUM AND USED WHERE UNAVOIDABLE.
15. AT LEAST ONE SOIL PIPE AT THE HEAD OF EACH FOUL RUN SHALL BE VENTED TO THE ATMOSPHERE. ALL RAINWATER PIPES SHALL HAVE ABOVE GROUND RODDING ACCESS.
16. ALL PRIVATE DRAINAGE PIPEWORK FOR FOUL AND SURFACE WATER SYSTEMS HAVE BEEN DESIGNED ON THE BASIS OF UPVC TO BS EN 1401-1, UNLESS NOTED OTHERWISE. SURFACE WATER CAN ALSO BE CONSTRUCTED WITH POLYPIPE TWINWALL PIPES.
17. CONCRETE ENCASEMENT OF THE PIPEWORK SHALL BE REQUIRED WHERE THE VERTICAL CLEARANCE BETWEEN TWO PIPES CROSSING IS LESS THAN 300MM.
18. WHERE NEW DRAINAGE IS SITUATED WITHIN 5 METRES OF NEW OR EXISTING TREES THE PIPEWORK SHALL BE ENCASED IN CONCRETE TO REDUCE THE RISK OF ROOT INGRESS.
19. ALL NEW DRAINAGE INSTALLATIONS TOGETHER WITH ANY EXISTING DRAINAGE RETAINED SHALL BE JETTED AND CCTV SURVEYED UPON COMPLETION. CONTRACTOR TO ENSURE THAT THE DRAINAGE SYSTEM IS FULLY OPERATIONAL, FREE OF EXCESS DEBRIS/SILT AND ALL IDENTIFIED FAULTS RECTIFIED.
20. ATTENUATION STORAGE CALCULATIONS INCLUDE CLIMATE CHANGE ALLOWANCE OF 40% IN ACCORDANCE WITH CURRENT ENVIRONMENT AGENCY GUIDELINES.

WILMOTT STREET

RIVER STREET

MH004 CL 30.76 IL 26.46
225Ø CWS
MH003 CL 30.84 IL 26.38
MH002 CL 30.76 IL 26.36
450Ø CWS
630Ø CWS
CS05 CL 30.750 IL 26.435
DIVERTED 375Ø CONCRETE @ 1:172
CS06 CL 30.650 IL 26.385
WPC
YG
F1.00 CL 30.915 IL 30.300 450Ø PPIC
S1.00 CL 30.870 IL 29.915 450Ø PPIC
Grease trap, sized to suit 3 kitchens
(1.000) 150Ø 1:94
Grease trap, sized to suit 2 kitchens
100Ø 1:80
F1.01 CL 30.915 IL 29.750 450Ø PPIC
Temporary drain to hoist base - to be capped following removal of hoist
S1.03 CL 30.925 IL 29.510 1200Ø PCC
(2.002) 225Ø 1:125
Catchpit at end of land drain beneath rain garden connected to geocellular tank
Outlet from rain garden into catchpit
Proposed WAVIN Aquacell Core or equivalent approved offline geocellular attenuation tank. Vol Max:88m³ @ 0.8m deep. For storm events up to and including the 1 in 100 year +45% return period. IL: 29.550m. To be installed strictly in accordance with the manufacturers guidance & recommendations. Layout to be configured around proposed tree pits
100Ø Perforated Pipe beneath Rain Garden
5m x 5m crane base. exact location TBC
French drain below hoist base comprising 100mm perforate pipe wrapped in punched geotextile with single size aggregate surround
S1.02 CL 30.915 IL 29.800 450Ø PPIC
(2.001) 150Ø 1:100
(2.000) 150Ø 1:56
S1.01 CL 31.950 IL 30.300 450Ø PPIC
LV & HV DUCTING
F1.02 CL 31.970 IL 31.070 450Ø PPIC
F1.04 CL 30.915 IL 29.700 1200Ø PCC
150Ø 1:120
150Ø 1:53
150Ø 1:18
F1.03 CL 30.915 IL 30.115 450Ø PPIC
F1.02A CL 31.970 IL 30.700 450Ø PPIC
150mm Ø pipe laid within fill below LV switch room 1:7 approx gradient
Slow radius bend
WPC IL 31.670 approx
Existing combined sewer to be diverted by others as part of a S185 agreement with United Utilities
EX 61 CWS
DIVERTED 375Ø CONCRETE @ 1:207
RG
RE
F1.15 CL 30.915 IL 30.115 450Ø PPIC
100Ø 1:80
F1.16 CL 30.915 IL 30.055 450Ø PPIC
FFL = 30.925m
Indicates approx location of 5600x4700x300 thk hoist base
Foul drain to be surrounded in concrete where passes under hoist base
1m Wide x 0.1m Deep RC30 Concrete Slab With 1 Layer A193 MESH (Central) placed on 150mm well compacted Type 1 Sub base beneath each pipe run
F1.10 CL 30.925 IL 30.325 450Ø PPIC
Python route to be revised to avoid clash with drainage
F1.13 CL 30.925 IL 30.225 450Ø PPIC
F1.11 CL 30.925 IL 30.325 450Ø PPIC
F1.10A CL 30.925 IL 30.325 450Ø PPIC
F1.08 CL 30.925 IL 30.325 450Ø PPIC
F1.06 CL 30.925 IL 30.325 450Ø PPIC
225Ø 1:150
(1.002) 225Ø 1:215
150Ø 1:24
225Ø Stub connection to be constructed into site boundary and within hoarding (by others) with an invert level of 28.455. Backdrop constructed on UU S185 diversion MH CS04 to facilitate this.
F1.13 CL 30.880 IL 29.270 1200Ø PCC
150Ø 1:9
S1.06 CL 30.915 IL 29.800 600Ø PPIC
225Ø
150Ø 1:80
F1.12 CL 30.925 IL 30.175 450Ø PPIC
F1.07 CL 32.000 IL 29.930 450Ø PPIC
150Ø 1:80
F1.05 CL 32.700 IL 30.225 1200Ø PCC
CS04 CL 30.650 IL 26.580
225Ø
C1.00 CL 30.800 IL 29.005 1200Ø PCC
(1.004) 150Ø 1:38
(5.000) 225Ø 1:18
(1.003) 225Ø 1:170
F1.14 CL 30.915 IL 29.380 1200Ø PCC
225Ø 1:150
F1.10 CL 31.500 IL 29.510 600Ø PPIC
F1.08 CL 30.955 IL 29.550 600Ø PPIC
S1.05 CL 31.900 IL 29.375 600Ø PPIC
150Ø 1:25
(4.000) 150Ø 1:12
S1.04 CL 32.600 IL 31.700 450Ø PPIC
DIVERTED 375Ø CONCRETE @ 1:110
CS03 CL 30.600 IL 26.630
DIVERTED 375Ø CONCRETE @ 1:163
CS02 CL 30.780 IL 26.680
S1.06 CL 30.915 IL 29.125 1500Ø PCC
Proposed Flow Control chamber with integral hydrobrake optimum or equivalent approved. Discharge restricted to 4.9 l/s at 1.50m design head. Subject to agreement in principle with the LLFA and United Utilities
Grease trap, sized to suit large pot wash
All new drainage constructed beneath retaining wall base. large diameter PPIC's to be constructed through the base with RC detailing amended to suit
Foul and surface water flows combined at final manhole prior to leaving the site. New 225Ø connection to proposed diverted combined sewer in River Street, Subject to agreement with United Utilities. Design of diverted sewer by others. Invert level details to be confirmed.
EX 610Ø CWS

CAVEAT NOTES

ALL DRAINAGE INFORMATION ON THIS DRAWING IS SUBJECT TO POTENTIAL CHANGE AS THE SCHEME IS DEVELOPED AS THE FOLLOWING INFORMATION IS EITHER YET TO BE FINALISED OR DETERMINED.

- PLANNING CONSENT & CONDITION DISCHARGE
- ABOVE GROUND DRAINAGE POP-UPS PROVIDED BY OTHERS
- EXTERNAL LAYOUT AND LEVELS PROVIDED BY OTHERS
- S106 CONNECTION APPROVAL
- FINAL COORDINATION WITH PYTHON ROUTES AND GROUND BEAMS

FINAL CONSTRUCTION ISSUE

THIS DRAWING REPRESENTS THE FINAL CONSTRUCTION VERSION ISSUED TO THE CONTRACTOR INCORPORATING AMENDMENTS MADE DURING THE CONTRACT. IT IS BASED ON PERIODIC SITE INSPECTIONS BY ROC CONSULTING RATHER THAN CONTRACTOR RECORDS. NO GUARANTEE CAN THEREFORE BE GIVEN AS TO THE ACCURACY OF THE INFORMATION SHOWN

DRAINAGE LEGEND

- EXISTING COMBINED WATER SEWER
- EXISTING COMBINED WATER SEWER ABANDONED
- DIVERTED COMBINED WATER SEWER (BY OTHERS)
- PROPOSED FOUL WATER DRAINAGE
- PROPOSED SURFACE WATER DRAINAGE
- PROPOSED COMBINED WATER DRAINAGE
- PROPOSED DRAINAGE CHANNEL (SPEC BY OTHERS)
- PROPOSED THRESHOLD DRAIN (SPEC BY OTHERS)
- GEOCELLULAR ATTENUATION
- WPC WASTE POINT CONNECTION (FOUL)
- RWP RAINWATER PIPE
- ITG INTERNAL TRAPPED GULLY (WADE OR SIMILAR)
- MINI INSPECTION CHAMBER (MAX 0.6m DEEP)
- SITE BOUNDARY

REV.	DATE	DETAILS	DRN.	CHK.
C06	10.04.25	ROAD GULLIES & CANOPY DRAINS ADDED	EP	JAS
C05	18.01.24	LANDSCAPE BACKGROUND UPDATED	EP	JAS
C04	20.12.23	DRAINAGE UPDATED	EP	JAS
C03	07.11.23	DRAINAGE UPDATED	EP	JAS
C02	06.10.23	CONSTRUCTION ISSUE	EP	JAS
C01	08.09.23	CONSTRUCTION ISSUE	PG	JAS
P04	30.06.23	SITE LAYOUT AMENDED, DRAINAGE UPDATED	PG	JAS
P03	23.05.23	DROPS ADDED, LAYOUT AMENDED	PG	JAS
P02	11.04.23	STAGE 3 ISSUE	PG	JAS
P01	11.10.22	FIRST ISSUE	ARJ	JAS

DRAWING STATUS
CONSTRUCTION

RIBA STAGE
RIBA STAGE 5

RoC CONSULTING
Commercial Wharf
6 Commercial Street
Manchester M15 4PZ
T 0161 214 5390
W rocconsulting.com

DRAWN	DATE	SCALES
ARJ	OCT 22	1:150
CHECKED JAS	DATE OCT 22	THE ABOVE SCALES APPLY WHEN PLOTTED AT A1 SIZE –DO NOT SCALE–
APPRVD. JAS	DATE OCT 22	EMAIL FOR DRAWINGS info@rocconsulting.com

CLIENT
VITA GROUP

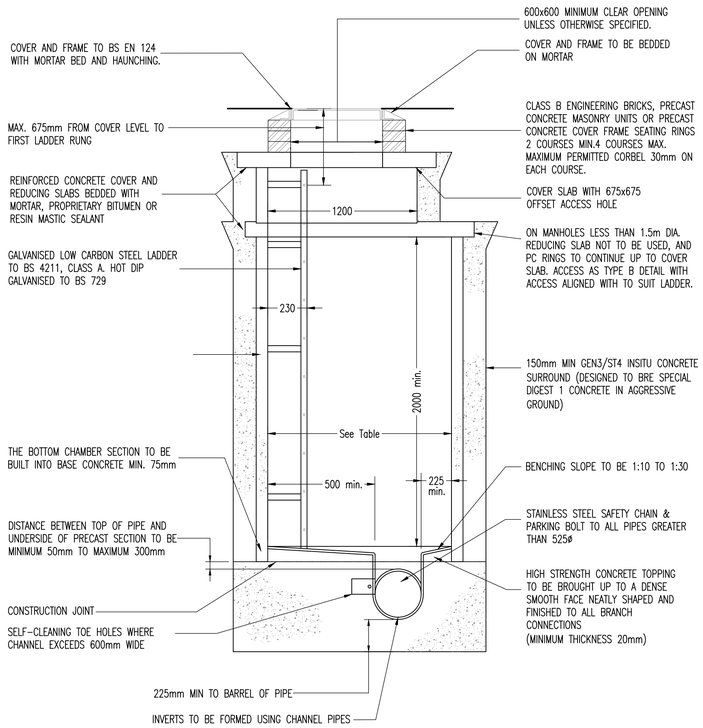
PROJECT TITLE
PLOT 10B
FIRST STREET

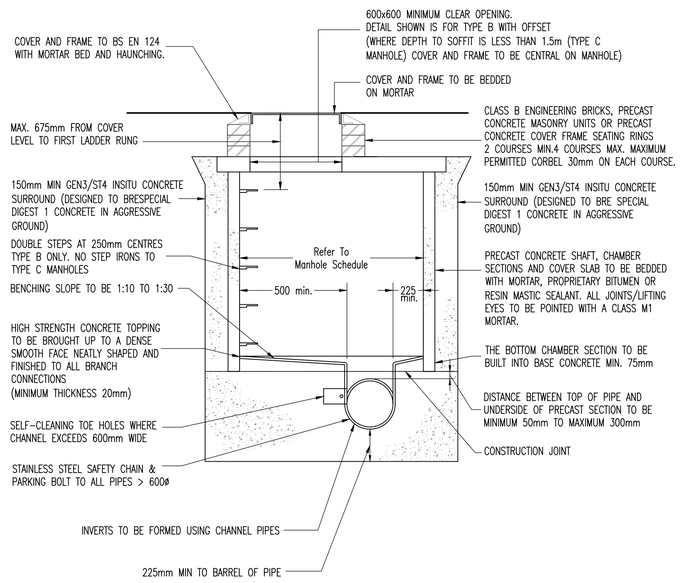
DRAWING TITLE
FOUL & SURFACE DRAINAGE GENERAL ARRANGEMENT

DRAWING No. Z1-ROC-G580-PL-XX-DR01
REV. C06

4513

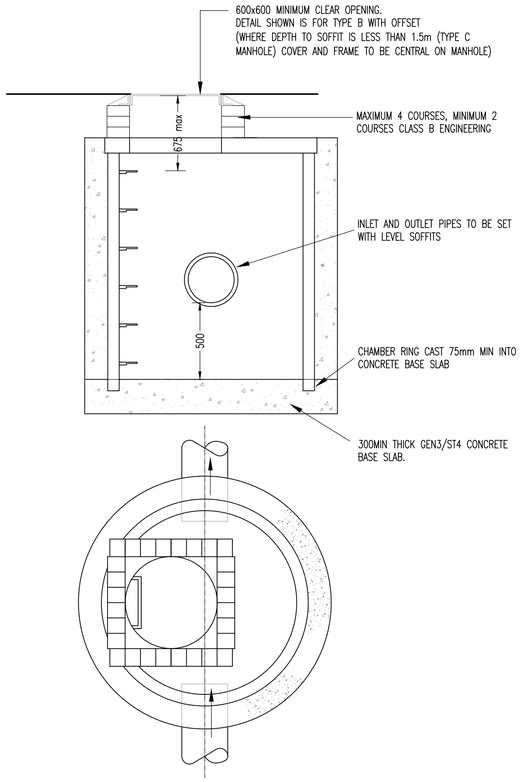
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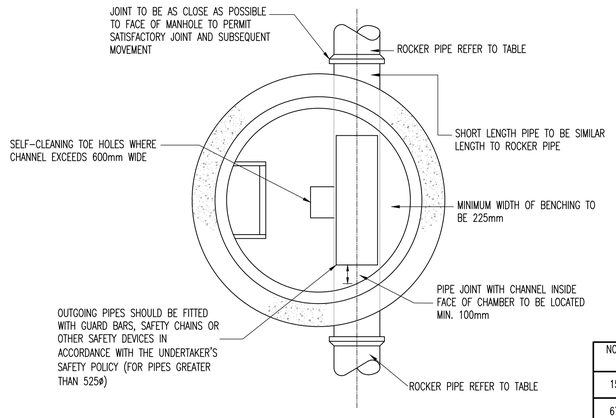
DIAMETER OF LARGEST PIPE IN MANHOLE (mm)	INTERNAL DIAMETER OF MANHOLE (mm)
LESS THAN 375mm	1200
375 – 450	1350
500 – 700	1500
750 – 900	1800

MINIMUM MANHOLE CHAMBER SIZES



CATCHPIT MANHOLE

CHAMBER CONSTRUCTION AS FOR PCC MANHOLES

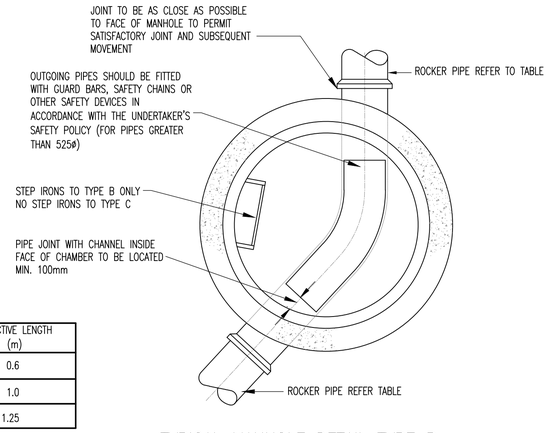


TYPICAL MANHOLE DETAIL TYPE A

DEPTH FROM GROUND LEVEL TO SOFFIT OF PIPE 3m TO 6m
FOR CHAMBERS LESS THAN 1500ø A TYPE B MANHOLE SHALL BE USED

NOMINAL DIA. (mm)	EFFECTIVE LENGTH (m)
150 to 600	0.6
675 to 750	1.0
825 & over	1.25

ROCKER PIPE TABLE

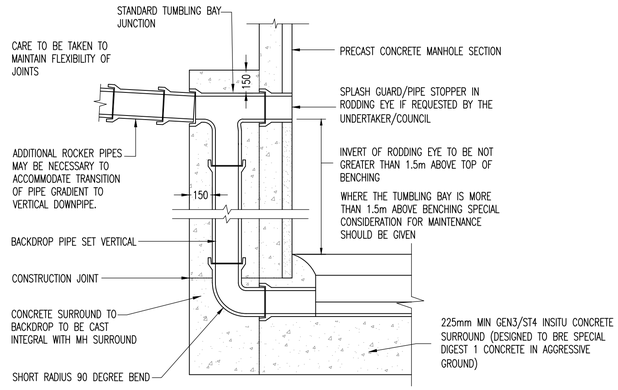


TYPICAL MANHOLE DETAIL TYPE B
DEPTH TO SOFFIT OF PIPE 1.5m* TO 3.0m

TYPICAL MANHOLE DETAIL TYPE C
DEPTH TO SOFFIT OF PIPE LESS THAN 1.5m

P.C.C CHAMBER RINGS USED FOR MANHOLES LESS THAN 1500 TO SOFFIT SHALL BE 600X600 CLEAR OPENING. ALL MAINTENANCE SHALL BE CARRIED OUT FROM THE SURFACE. NO STEP RUNGS SHALL BE PROVIDED. THE COVER OPENING SHALL BE LOCATED OVER THE OUTGOING PIPE.

FOR MAINTENANCE, ANY MANHOLE CONSTRUCTED WITHOUT DOUBLE STEPS OR A LADDER SHALL BE ACCESSED BY WINCH ONLY.



SEWER DIAMETER (mm)	DROP SHAFT DIAMETER (mm)
225–300	225
375	300
450	375
525–600	450
675	525
750–900	600

THE CONNECTION AT THE BOTTOM OF THE BACKDROP IS TO BE MADE AT SOFFIT LEVEL IN MANHOLES MAX. PIPE SIZE 825mm AND AT SPRINGING LEVEL IN MANHOLES PIPE SIZE 900 TO 1500mm VERTICAL RODDING EYE MAY BE REQUIRED IN SITUATIONS WHERE BLOCKAGES ARE HIGH RISK.
THE TUMBLING BAY SHALL BE BUILT INTO THE MANHOLE CHAMBER BELOW ANY REUCING SLAB

MINIMUM DIMENSIONS REQUIRED TO CONSTRUCT BACKDROP	
PIPE DIA. (mm)	MIN DIMENSION (mm)
100	530
150	630
225	915
300	1170

TYPICAL VERTICAL BACKDROP DETAIL

NOTE : WHERE THE DROP IS NOT EXCESSIVE A 45° DROP PIPE MAY BE USED

NOTE:
WIDE WALL P.C.C CHAMBER RINGS MAY BE USED FOR MANHOLES IN AREAS NOT AT RISK FROM FLOATION DUE TO A POTENTIAL HIGH WATER TABLE. THE RINGS SHALL BE INSTALLED AND SEALED IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS. NO CONCRETE SURROUND WILL BE REQUIRED TO THE P.C.C RINGS.

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REV	DATE	DETAILS	DRN	CHK
C01	08.09.23	CONSTRUCTION ISSUE	PG	JAS
P01	23.05.23	FIRST ISSUE	PG	JAS

DRAWING STATUS
CONSTRUCTION

RIBA STAGE
RIBA STAGE 5

RoC CONSULTING
Commercial Wharf
6 Commercial Street
Manchester M15 4PZ
T 0161 214 5390
W rocconsulting.com

DRAWN	DATE	SCALES
PG	MAY 23	NTS
CHECKED JAS	DATE MAY 23	THE ABOVE SCALES APPLY WHEN PLOTTED AT A1 SIZE --DO NOT SCALE--
APPRVD. JAS	DATE MAY 23	EMAIL FOR DRAWINGS info@rocconsulting.com

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PROJECT TITLE
PLOT 10B
FIRST STREET

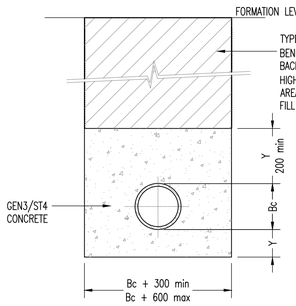
DRAWING TITLE
TYPICAL DRAINAGE DETAILS
SHEET 1

DRAWING No.
Z1-ROC-G580-PL-XX-DR02

REV.
C01

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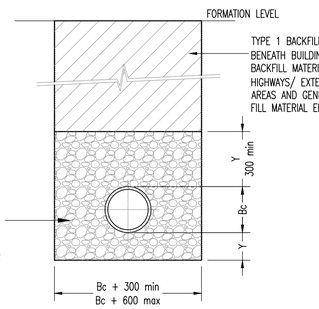
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TO BE USED WHERE COVER TO PIPE IS:
1. LESS THAN 1.2m IN TRAFFICKED AREAS
2. LESS THAN 0.90m IN FIELDS
3. LESS THAN 0.6m IN LANDSCAPED AREAS
4. LESS THAN 0.3m BENEATH BUILDING SLABS

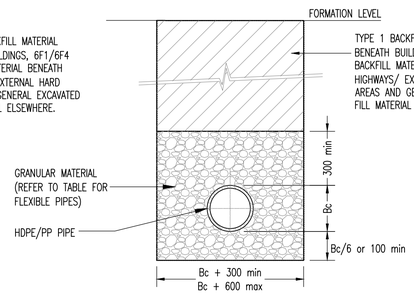
CLASS Z BEDDING DETAIL

Y VALUE:
HARD SPOTS/IRREGULAR TRENCH BOTTOM BC/4 (200mm MIN)
EVEN TRENCH BOTTOM BC/6 (100mm MIN)
BC = OUTSIDE PIPE DIAMETER



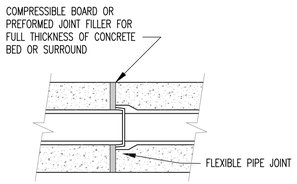
CLASS S BEDDING DETAIL

Y VALUE:
HARD SPOTS/IRREGULAR TRENCH BOTTOM BC/4 (200mm MIN)
EVEN TRENCH BOTTOM BC/6 (100mm MIN)
BC = OUTSIDE PIPE DIAMETER



CLASS P/T/W BEDDING DETAIL

CLASS P 0.6m – 2.0m
CLASS T >2.0m
CLASS W BENEATH BUILDINGS
(FLEXIBLE PIPE CONSTRUCTION)

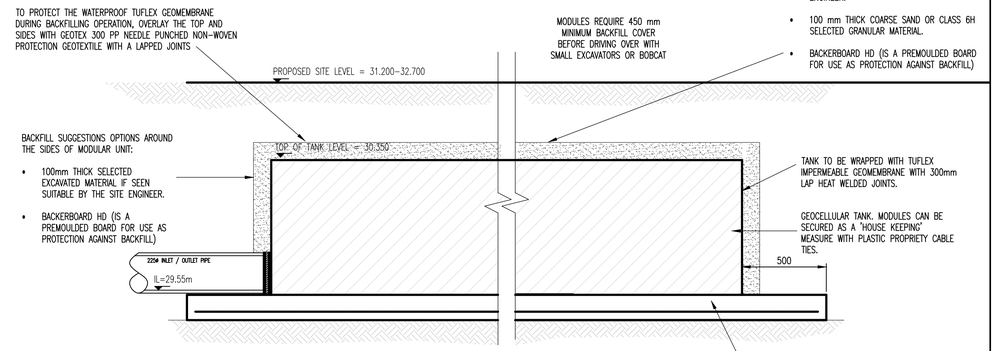


JOINTS FOR CONCRETE SURROUND TO PIPES

(AT EACH PIPE JOINT)

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TYPICAL DETAILS OF ATTENUATION TANK BASED ON ALLDERBURGH PLUVIAL CUBE MODULE UNITS

INLET/OUTLET PIPES MUST BE SUPPORTED WITH CONCRETE TO PROTECT IT DURING BACKFILLING

THE CONTRACTOR SHALL PROHIBIT THE MOVEMENT OF CONSTRUCTION PLANT ACROSS THE STORAGE TANK AND WHERE NECESSARY PROVIDE ADDITIONAL SUPPORT AND PROTECTION TO THE STRUCTURE. PARTICULARLY POST CONSTRUCTION. TEMPORARY FENCING CAN BE USED TO PROHIBIT TRADE STOCKS, PILLING MATERIALS, HEAVY PLANTS ETC.,

BS EN 1610:1998 ANNEX B TABLE B.15 COARSE AGGREGATE – PIPE BEDDING							
SIEVE SIZE (mm)	PERCENTAGE BY MASS PASSING BS SIEVES FOR NOMINAL SIZES						
	GRADED AGGREGATE (mm)			SINGLE-SIZED AGGREGATE (mm)			
	40 to 5	20 to 5	14 to 5	40	20	14	10
50.0	100	-----	-----	100	-----	-----	-----
37.5	90 – 100	100	-----	85 – 100	100	-----	-----
20.0	35 – 70	90 – 100	100	0 – 25	85 – 100	100	-----
14.0	-----	-----	90 – 100	-----	-----	85 – 100	100
10.0	10 – 40	30 – 60	50 – 85	0 – 5	0 – 25	0 – 50	85 – 100
5.0	0 – 5	0 – 10	0 – 10	-----	0 – 5	0 – 10	0 – 25
2.36	-----	-----	-----	-----	-----	-----	0 – 5

RIGID PIPES BEDDING GRADING

FOR RIGID PIPES THE BEDDING SHOULD BE SINGLE SIZE MATERIAL OR GRADED MATERIAL FROM 5mm UP TO A MAX SIZE OF 10mm FOR 100mm PIPES; 14mm FOR 150mm PIPES; 20mm FOR 225mm TO 600mm PIPES; 40mm FOR OVER 600mm PIPES

BS EN 13242, COARSE AGGREGATE (CLAUSE 4.3.2)		
CATEGORY FOR GENERAL GRADING REQUIREMENTS	Gc80–20	
CATEGORY FOR TOLERANCES AT MID–SIZE SIEVES	GTnr (NO REQUIREMENTS)	
CATEGORY PF MAXIMUM VALUES OF FINES CONTENTS	GRAVEL – F1.5 CRUSHED ROCK, RECYCLED AGGREGATE – F4	
NOMINAL PIPE DIAMETER, mm	AGGREGATE SIZE, mm	
	GRADED	SINGLE SIZED
NOT EXCEEDING 140	–	4/10
EXCEEDING 140 BUT NOT EXCEEDING 400	2/14 or 4/20	4/10, 6/14 or 10/20
EXCEEDING 400	2/14, 4/20 or 4/40	4/10, 6/14, 10/20 or 20/40

FLEXIBLE PIPE BEDDING, HAUNCHING AND SURROUND MATERIAL

TRENCH WIDTHS

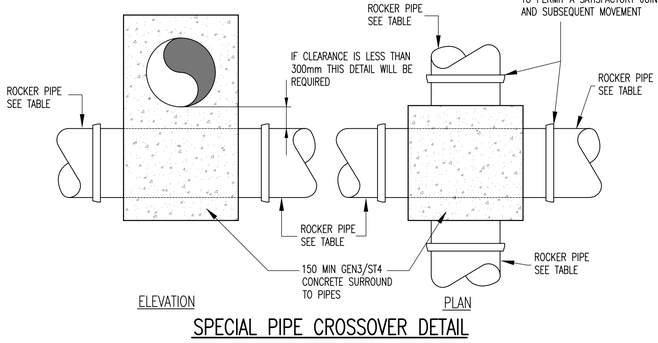
PIPE I.D	OVERALL TRENCH WIDTH
100	550
150	600
225	700
300	850
375	1050
450	1150
525	1200
600	1350
675	1450
750	1500
825	1600
900	1900
1050	2100
1200	2300
1350	2500
1500	2700
1800	3100

PIPE ø	JOINT THICKNESS
< 450	18mm
450 – 1200	36mm
>1200	54mm

COMPRESSIBLE FILLER TABLE

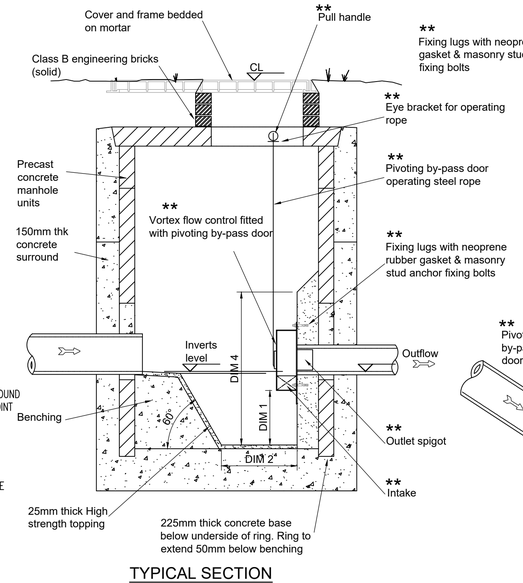
(BITUMEN IMPREGNATED INSULATING BOARD TO BS EN 622–1 AND BS EN 622–4)

NOMINAL DIA. (mm)	EFFECTIVE LENGTH (m)
150 to 600	0.6
675 to 750	1.0
825 & over	1.25



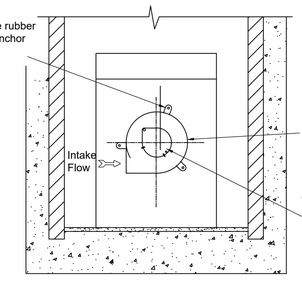
SPECIAL PIPE CROSSOVER DETAIL

REQUIRED IF CLEARANCE BETWEEN PIPES CROSSING EACH OTHER IS LESS THAN 300mm

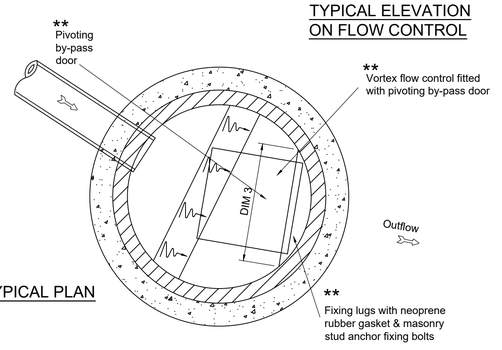


TYPICAL SECTION THRU MANHOLE

** By Vortex Flow Control supplier



TYPICAL ELEVATION ON FLOW CONTROL



TYPICAL PLAN

MH Ref	Invert Level	Design Head	Design Flow	Hydrobrake Ref	Dim 1	Dim 2	Dim 3	Dim 4	Min. MH Size
S1.06	29.025	1.5m	4.9 l/s	SHE-0097-4900-1500-4900	TBCmm	TBCmm	TBCmm	TBCmm	1500mm Ø

TYPICAL VORTEX FLOW CONTROL MANHOLE

NOT TO SCALE

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P01	23.05.23	FIRST ISSUE	PG	JAS

DRAWING STATUS
CONSTRUCTION

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RIBA STAGE 5

RoC CONSULTING
Commercial Wharf
6 Commercial Street
Manchester M15 4PZ
T 0161 214 5390
W rocconsulting.com

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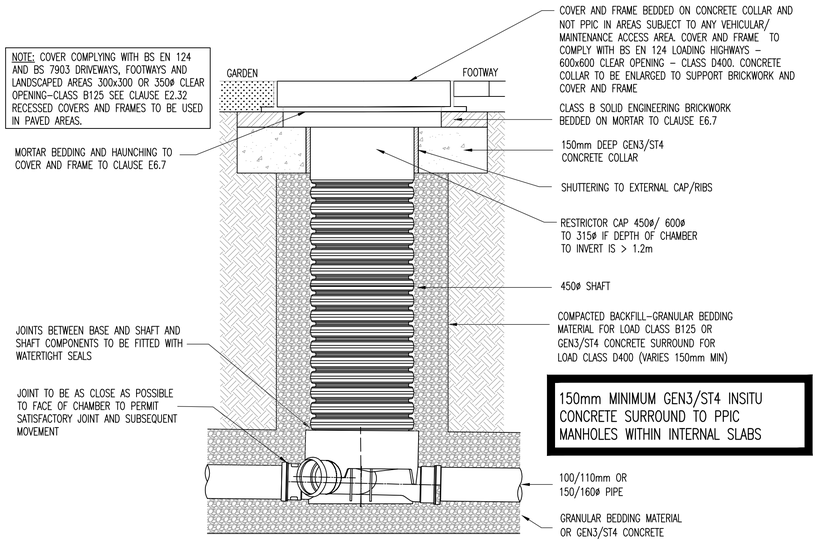
PROJECT TITLE
PLOT 10B
FIRST STREET

DRAWING TITLE
TYPICAL DRAINAGE DETAILS
SHEET 2

DRAWING No. Z1-ROC-G580-PL-XX-DR03
REV. C01

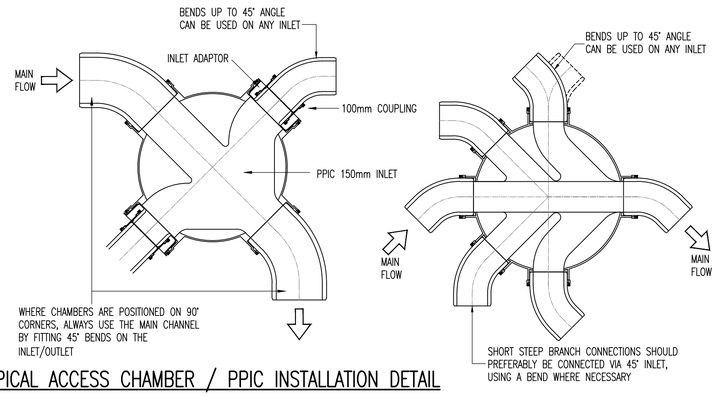
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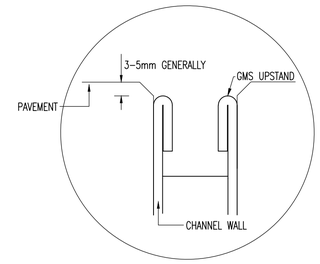


TYPICAL INSPECTION CHAMBER SfA–7 TYPE D (BASED ON WAVIN RANGE 450/600 CHAMBER)

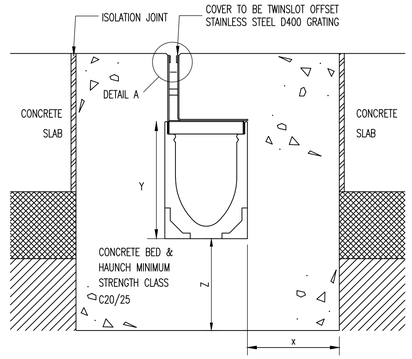
MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 3m NON–ENTRY



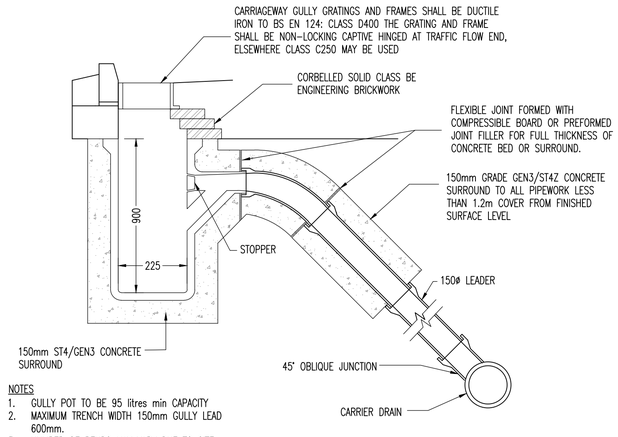
TYPICAL ACCESS CHAMBER / PPIC INSTALLATION DETAIL



DETAIL A



CONCRETE PAVEMENT

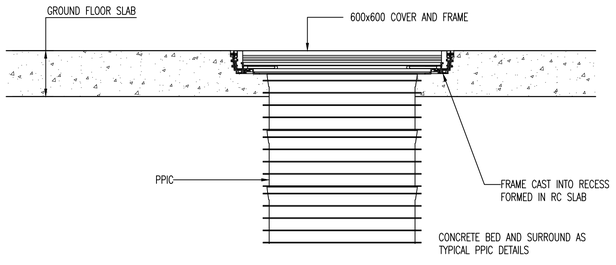


NOTES
1. GULLY POT TO BE 95 litres min CAPACITY
2. MAXIMUM TRENCH WIDTH 150mm GULLY LEAD 600mm.
3. NUMBER OF BENDS MAY VARY DUE TO SITE DIFFERENCES.
4. CONCRETE SURROUND OF PIPES SHALL ALWAYS FINISH AT A JOINT.

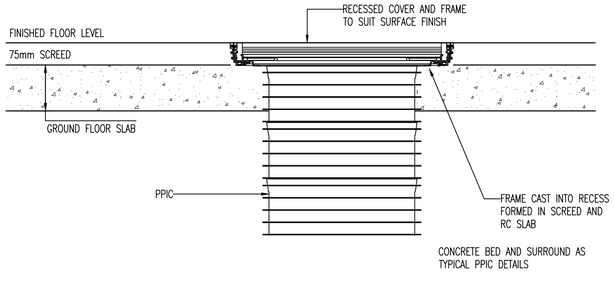
TYPICAL ROAD GULLY DETAIL

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COVER/FRAME TO INTERNAL MANHOLE ON CONCRETE SLAB



COVER/FRAME TO INTERNAL MANHOLE ON SCREED OVEDR CONCRETE SLAB

1.0 GROUND CONDITIONS: THE CUSTOMER SHOULD ENSURE THAT THE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR THE EXISTING GROUND CONDITIONS. ENGINEERING ADVICE MAY BE NECESSARY.

2.0 BLOCK PAVEMENTS: THE CHANNEL MUST BE SUPPORTED LATERALLY AND THEREFORE BLOCKS MUST BE RESTRAINED FROM MOVEMENT BY BEDDING SECURELY. E.G. BY USING AN EPOXY OR POLYMER MODIFIED MORTAR FOR BED AND PERPENDICULAR JOINTS. (FOR EXAMPLE RONAFIX MORTAR MIX C OR SIMILAR: FROM RONACRETE TEL 01279 638700). ENGINEERING ADVICE MAY BE REQUIRED.

3.0 SURFACE CRACKS: ALTERNATE CRACK CONTROL AND MOVEMENT JOINTS TRANSVERSELY WITHIN BED AND HAUNCH MAY REDUCE UNSIGHTLY SURFACE CRACKING. ENGINEERING ADVICE MAY BE REQUIRED.

4.0 JOINT SEALANT: WHERE ACO DRAIN CHANNEL JOINTS AND FITTINGS ARE TO BE SEALED (WHERE USED IN FOUL WATER APPLICATIONS OR WHERE IMPERMEABILITY IS REQUIRED, FOR EXAMPLE) CONTACT A SEALANT SPECIALIST FOR GUIDANCE ON THE MOST APPROPRIATE SEALING COMPOUND TO USE.

5.0 SURFACE PROTECTION: IN ASPHALT PAVEMENTS AVOID CONTACT BETWEEN COMPACTION EQUIPMENT AND CHANNEL/GRATING. THIS MAY BE ACHIEVED BY ENSURING THAT THE FINISHED SURFACE LEVEL LIES ABOVE THE GRATING LEVEL (BY AT LEAST 3MM). STONES SHOULD BE REMOVED FROM GRATING PRIOR TO LAYING/ROLLING WEARING COURSE.

6.0 GENERAL INSTALLATION NOTES: SEE DRAWING FOR GENERAL NOTES ON INSTALLATION.

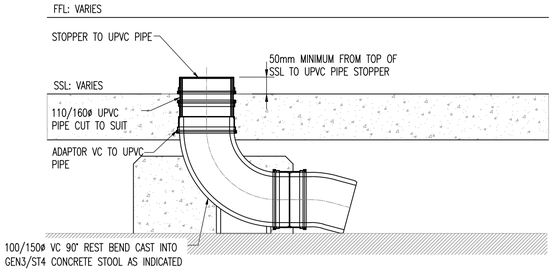
7.0 MINIMUM DIMENSIONS OF CONCRETE SURROUND

LOAD CLASS		A15	B125	C250	D400*
MINIMUM DIMENSIONS (mm)	X	100	150	150	200
	Y	Full Channel Height (Less Y2 where necessary)			
	Z	100	150	150	200
MAXIMUM DIMENSIONS (mm)	Y2+	35	35	35	35
	Y3	100	60	60	60

* E.G. PARKING AREAS FOR ALL TYPES OF ROAD VEHICLE NOT SUITABLE FOR CARRIAGEWAY OF ROADS OR INDUSTRIAL AREAS.
\+ NOTE DASHED LINE PRINTED ON EDGE RAILS 35mm BELOW TOP.

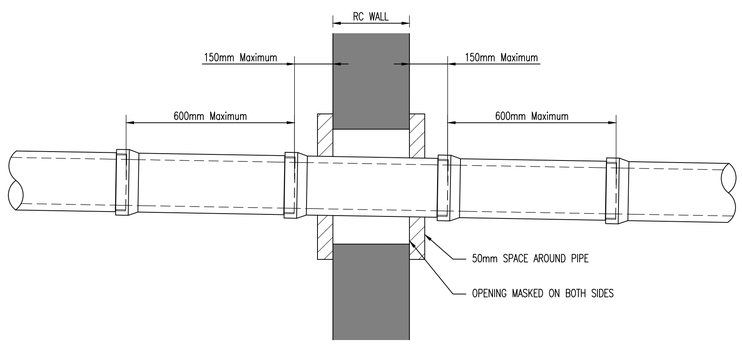
8.0 GRATING SECURITY LOCKS
ALL THE GRATINGS ARE HELD IN THE CHANNEL UNITS BY THE DRAINLOCK ™ FIXING. IN ADDITION, GRATINGS TYPE 23405, 23161 & 23221 (CAST IRON) AND 12680/12682 (COMPOSITE) CAN BE LOCKED IN PLACE WITH AN OPTIONAL SECURITY LOCKING KIT. SEE INSTALLATION NOTES.

INSTALLATION DETAILS FOR ACO MULTIDRAIN M100D DRAINAGE CHANNEL

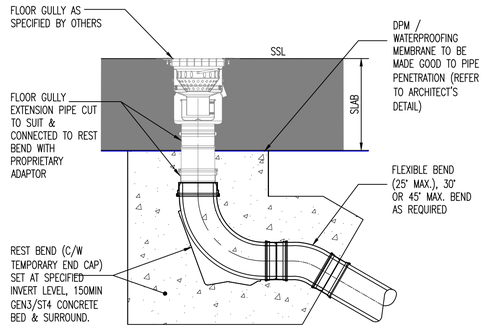


TYPICAL BELOW GROUND WASTE PIPE CONNECTION DETAIL

(INVERT LEVEL FOR 100ø AND 150ø ALL TO BE SET AT MAXIMUM OF 1m BELOW SSL & uPVC PIPE LENGTH TO BE ADJUSTED AS REQUIRED)



PIPE PASSING THROUGH OPENING IN WALL



TRAPPED FLOOR GULLY DETAIL 1 (WASHDOWN)

(BASED BLUCHER TRAPPED FLOOR DRAIN GULLY TYPE 1.3 L/S FLOW 100ø OUTLET)

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NOTES

1. ALL DIMENSIONS ARE IN METRES UNLESS STATED OTHERWISE.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL ARCHITECTS, ENGINEERS AND SPECIALIST DRAWINGS AND SPECIFICATIONS.
3. ANY DISCREPANCIES SHOULD BE REPORTED TO THE ENGINEER IMMEDIATELY SO THAT CLARIFICATION CAN BE SOUGHT PRIOR TO THE COMMENCEMENT OF WORK.

REV.	DATE	DETAILS	DRN.	CHK.
C01	08.09.23	CONSTRUCTION ISSUE	PG	JAS
P01	23.05.23	FIRST ISSUE	PG	JAS

DRAWING STATUS
CONSTRUCTION

RIBA STAGE
RIBA STAGE 5

RoC CONSULTING
Commercial Wharf
6 Commercial Street
Manchester M15 4PZ
T 0161 214 5390
W rocconsulting.com

DRAWN	DATE	SCALES
PG	MAY 23	NTS
CHECKED	DATE	THE ABOVE SCALES APPLY WHEN PLOTTED AT A1 SIZE --DO NOT SCALE--
JAS	MAY 23	
APPRVD.	DATE	EMAIL FOR DRAWINGS
JAS	MAY 23	info@rocconsulting.com

CLIENT
VITA GROUP

PROJECT TITLE
PLOT 10B
FIRST STREET

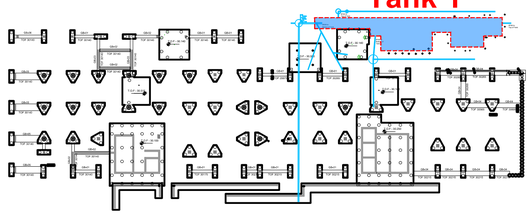
DRAWING TITLE
TYPICAL DRAINAGE DETAILS
SHEET 3

DRAWING No.	REV.
Z1-ROC-G580-PL-XX-DR04	C01

4513 © RoCp Ltd.

COMPLEX CHALLENGES ...
MADE SIMPLE

APPENDIX C – ATTENUATION TANK DRAWING



01 – Tank Location
Scale 1:500

Site Construction Sequence - Attenuation Application

Installation procedures should be carried out in accordance with the Health and Safety at Work Etc. Act (1974) and any other relevant legislation. Special attention should be paid to temporary work requirements in excavations.

Excavate to the required plan dimensions and level, ensuring that the excavation orientation will allow easy installation of connecting pipework. Consideration should be given to maintaining construction plant access for reinstating around the installed Variobox units. A minimum 300mm working space is required around the structure but 500mm is recommended for safe working practice.

Ensure that the ground bearing capacity at the formation level is sufficient for the proposed operational loads. The base of the excavation should be smooth and level, free of large stones and soft spots. Any soft spots should be excavated and replaced with suitable compacted granular material.

a) Attenuation Application

Place and compact a 100mm thick bedding layer of coarse sand. The base should be level and free of any undulations. Line the base and sides of the excavation with a 300g needle punched non- woven protective geotextile before placement of the impermeable geomembrane.

Install the geomembrane. Hewitech or the contractor seal the joints by wedge welding in accordance *Ciria 698 Site Handbook For The Construction of SUDS*, making an allowance for the connecting pipework or adapters. To ensure that the integrity of the geomembrane has been maintained, it is recommended that an inspection of the material is carried out, and welded joints are air tested in accordance with *Ciria 698 Site Handbook for the Construction of SUDS*.

If water is present, we recommend that the excavation depth is over dug by 200mm, with a base layer of 'TERRAM', overlaid by 150mm of compacted 'Type 1 road stone', topped off with a 50mm layer of pipe bedding. A sump should be excavated below the base layer of stone to allow the extraction of water via a drainage pump.

Variobox shear connectors (Detail C) are placed between all layers of Variobox units to give structural support to the tank. Sufficient Variobox clips (Detail D are placed connecting Variobox units to maintain rigidity of the tank prior to backfilling the sides, the adjacent units being connected with two Variobox clips.

Place the Variobox shear connector into the recess at the edge of the unit, two number per unit as indicated Detail 05. Install the next layer of Variobox units, positioning the units in the upper layer so that they exactly mirror the position of the units in the lower layer. Repeat the above procedure until the necessary depth of Variobox structure has been achieved.

Pipe connections to the tank are made via flange adaptors which are attached to the Variobox units with tie wraps.
A Variobox attenuation structure requires ventilation to ensure proper hydraulic performance. Consideration should be given as to how this ventilation is to be installed, generally utilising a vent pipe to the downstream manhole (Detail 01), or alternatively a vertical vent pipe (Detail 02). One 110mm vent pipe per 7500m2 of drained area is recommended within *CIRIA C680 Structural Design of Modular Geocellular Drainage Tanks*.

Complete the geomembrane encapsulation of the entire Variobox structure, forming and testing joints where appropriate. Complete the geotextile protective fleece encapsulation of the Variobox structure, re-examining the geotextile for damage and joint integrity.

Contractor

Backfill around the sides of the encapsulated units, forming a thick layer of coarse sand or Class 6H selected granular material immediately adjacent to the units. Where required, remaining excavated areas around the units should be backfilled with Class 6N or 6P selected granular material, in accordance with *MCHW, Volume 1, Series 600* or similarly approved specification.

Above the wrapped Variobox units, place and lightly compact a minimum 100mm thick layer of either coarse sand or Class 6H selected granular material (with 100% passing the 5mm sieve), in accordance with *MCHW, Volume 1, Series 600.*

Final backfilling of the installation is dependent on the expected operational loads.
(NB. Compaction plant over and immediately adjacent to the Variobox units shall not exceed 2300 kg/m width).

Field conditions (e.g. landscaped areas)

The backfill material that lies within 300mm above the Variobox units should be free from particles exceeding 40mm in diameter, in accordance with Class 8 material to *MCHW, Volume 1, Series 600*. Final backfilling up to finished ground level may be achieved using selected as-dug material. Backfill material should be placed and compacted in layers no greater than 300mm, or in compliance with the approved specification.

Lightly trafficked (eg restricted access car park

Backfill with Class 1 or 2 material in accordance with *MCHW, Volume 1, Series 600*. Backfill material should be placed and compacted in layers not greater than 150mm. Where the Variobox units are installed beneath a paved area, the pavement sub-base may form part of the backfill material provided that minimum cover depths are maintained.

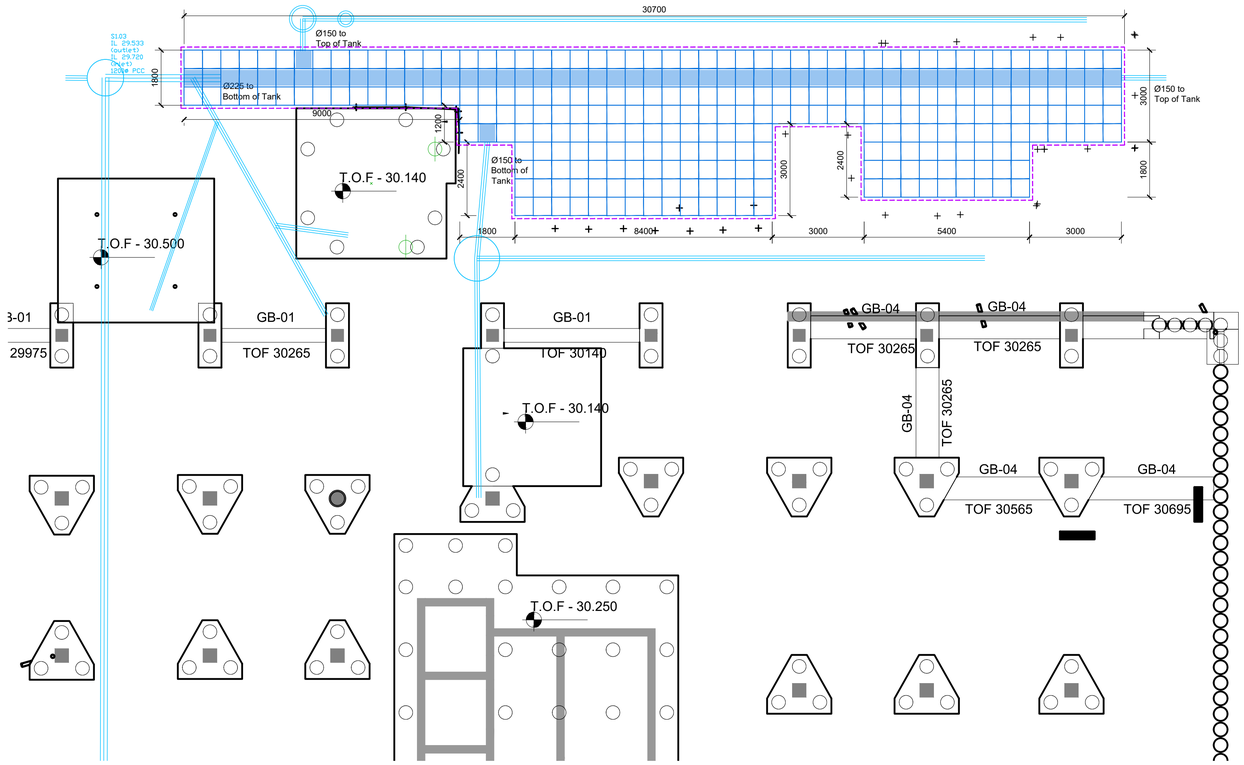
Heavily trafficked (e.g. service areas or roads)

Contact Hewitech for further information and guidance.

Complete pavement construction or landscaping over the Variobox system.

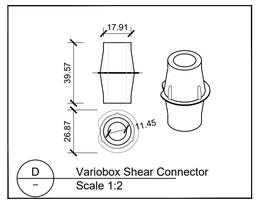
It should be noted that infiltration systems are not generally installed under roads due to the reduction in load bearing capacity of saturated soils. Specialist advice should be sought where this type of installation is proposed.

In attenuation systems, where groundwater may be present, a boyancy check should be undertaken by a qualified engineer to ensure that the imposed overburden pressure exceeds any uplift forces generated.

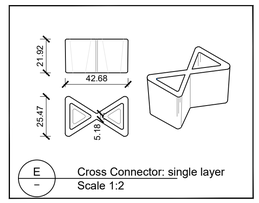


02 – Tank 1 Plan
Scale 1:100

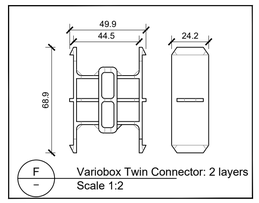
VARIOBOX PLUS 700kN/m² CELLULAR STORAGE - ENGINEER TO CONFIRM FINAL VOLUMES										
Tank Ref	**Length (m)**	**Width (m)**	**Depth (m)**	**Area (m²)**	**Volume (m³)**	**Eff. Storage (m³)**	**No. Crates Long**	**No. Crates Wide**	**No. Crates High**	**No. Crates**
1	-	-	0.80	109.98	87.98	83.58	-	-	2	606
			Total Sizes	**109.98**	87.98	**83.58**				**606**



D – Variobox Shear Connector
Scale 1:2



E – Cross Connector: single layer
Scale 1:2

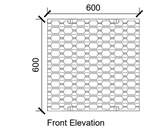


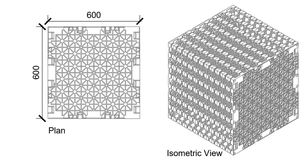
F – Variobox Twin Connector: 2 layers
Scale 1:2

NOTES DO NOT SCALE DRAWING

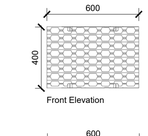
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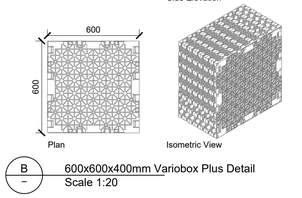
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Particular application and specific site conditions can be discussed in further detail with our technical representative.



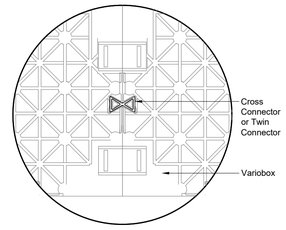


A – 600x600x600mm Variobox Plus Detail
Scale 1:20





B – 600x600x400mm Variobox Plus Detail
Scale 1:20



C – Variobox Plus Connection Detail
Scale 1:5

REV	DATE	DRAWN	CHECK
A	30.04.25	ACS	
	24.04.25	ACS	

hewitech
INNOVATION IN PLASTIC

Unit 2, Andoversford Industrial Estate
Andoversford
Cheltenham,
Gloucestershire
GL54 4LB
Tel: +44 (0)1242 821678
email: sales@hewitech.co.uk
web: www.hewitech.co.uk

PROJECT EMAIL ADDRESS
sales@hewitech.co.uk

PROJECT
House of Social
First Street, Manchester

TITLE
Variobox Plus
Attenuation Tank Details

SCALE @ A1
As Shown

PROJECT NO
25-591

DRAWING NO
0001

REV
A

PRELIMINARY - FOR COMMENT

END OF CONTRACT/MOBILISATION SIGN OFF SHEET
Attenuation Tanks

This records that all the installation procedures have been fulfilled and passed by the site Quality Engineer, and that the site has been left tidy at the end of each mobilisation or end of the contract.

I have inspected the lining works and as far as can be seen they are complete and satisfactory.

On behalf of JN1495 Renaker

Site: House of Social, First St, Manchester, M1 5GH

Attenuation tanks as detailed below.

5 PIPE

Please note where additional days on site are used these must be detailed below. The total number of days installation work on site was (2), there was/were (0) additional day(S), due to:

Sign ..... Print ..... Date 07/06/25

On behalf of **Hewitech UK,**

Sign ..... Print JAMES PINTER Date 07/06/2025

(Please return a signed copy of this page to Dave Fozzard)

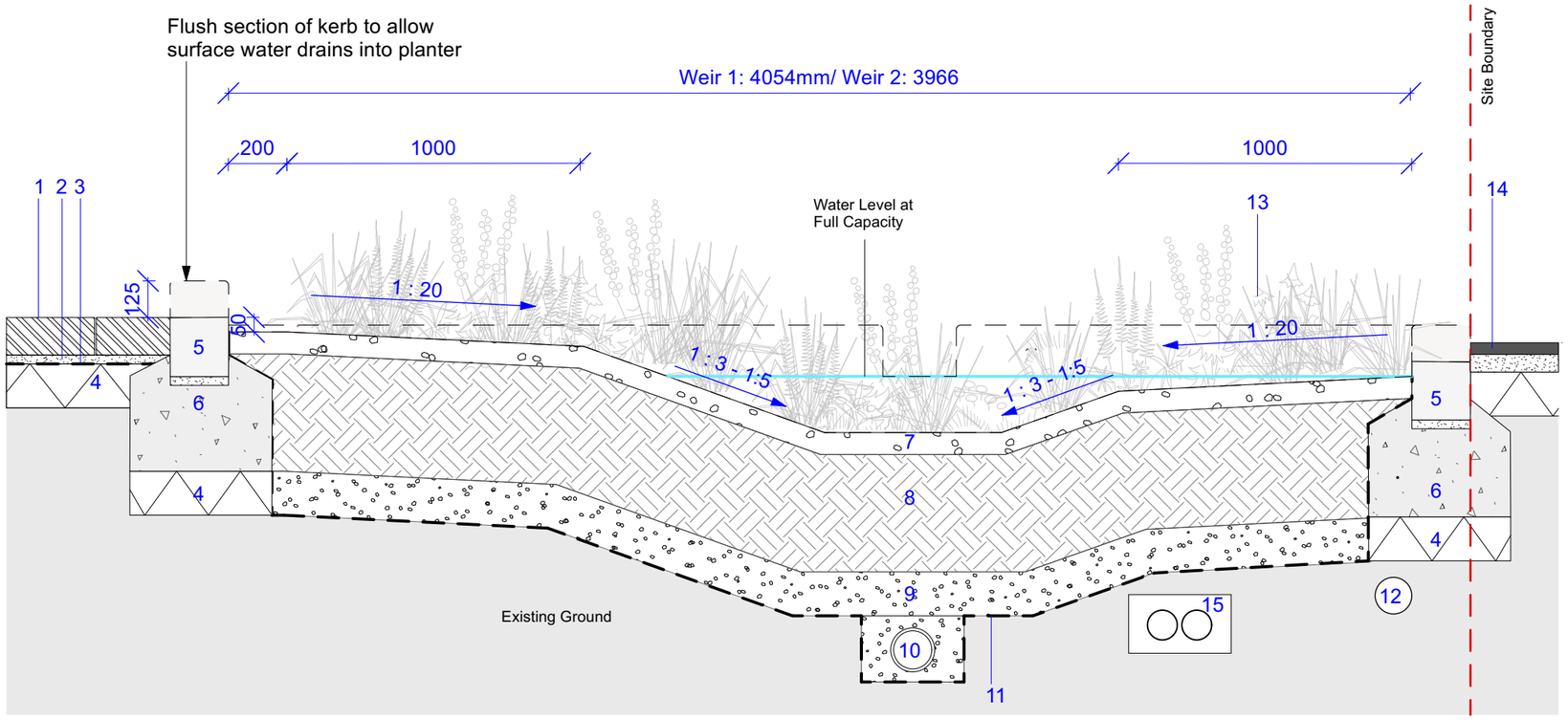
COMPLEX CHALLENGES ...
MADE SIMPLE

APPENDIX D – RAIN GARDEN DRAWINGS

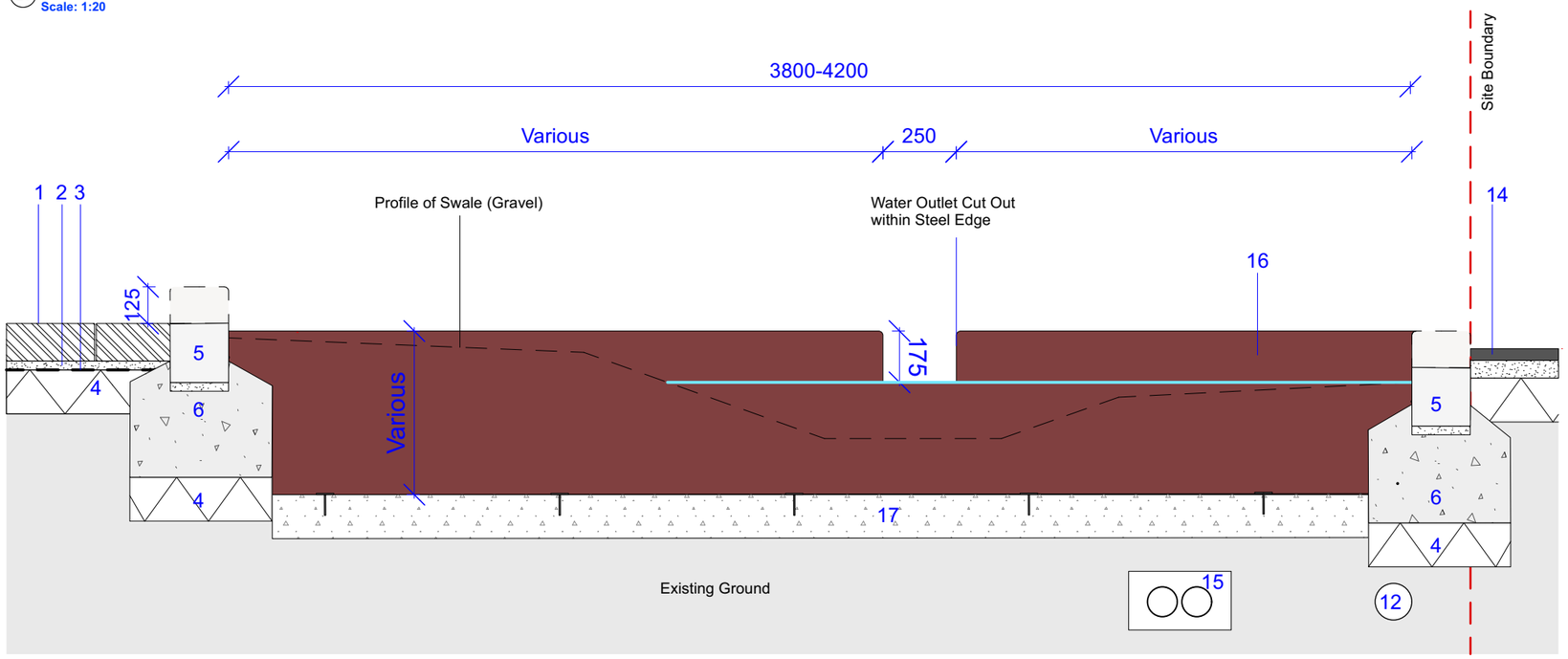
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NOTE: This drawing is design intent only.
Construction should not proceed based on this drawing.

NOTES:
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2. Always work to noted dimensions.
3. All dimensions are in millimetres unless otherwise stated.
4. All setting out, levels and dimensions to be agreed on site.
5. The dimensions of all materials must be checked on site before being laid out.
6. This drawing must be read with the relevant specification clauses and detail drawings.
7. Order of construction and setting out to be agreed on site.



E1 **Typical Raingarden Details**
Scale: 1:20



E2 **Typical Steel and Drainage Outlet**
Scale: 1:20

LEGEND

1. LINEAR CONCRETE BLOCK - Pedestrian
Refer to spec clause Q25/120

2. SAND BEDDING COURSE
- To engineers details and specification

3. SLIP MEMBRANE
- To engineers details and specification

4. MOT TYPE 1
- To engineers details and specification

5. UPSTAND GRANITE KERB TO PLANTER EDGE _ Type 2
Refer to spec clause Q10/124

6. CONCRETE HAUNCHING
- To engineers details and specification

7. GRAVEL MULCH
Refer to spec clause Q23/160

8. RAINGARDEN SOIL MIX
- Minimum 400mm depth
10% Imported topsoil to BS 3882 (sandy loam)
70% Sandstone aggregate: 5-20mm size
20% Parts composted materials
Supplier: Green Estates or equal and approved

9. DRAINAGE LAYER
- 150mm clean crushed stones. No fines

10. WATER COLLECTOR PIPE
- To engineers details and specification

11. GEOTEXTILE MEMBRANCE
- To engineers details and specification

12. EXISTING GAS MAIN
- 125mm existing gas main
- Shown indicatively. Exact location to be measured on site.

13. RAINGARDEN PLANTING
- Refer to planting schedule and planting plan for details

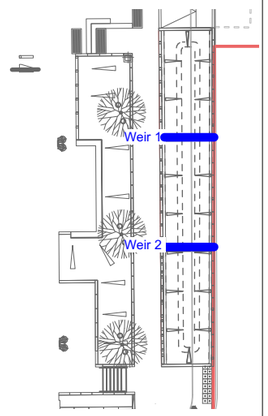
14. EXISTING TARMAC

15. EXISTING DUCT
- To be redirected. Location tbc with engineers.
- To engineers details for more information

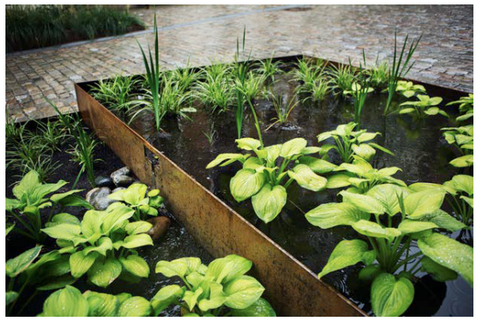
16. STEEL RETAINING WEIR
Refer to spec clause P31/131

17. CONCRETE FOUNDATION TO STEEL EDGE
- To engineers details and specification

LOCATION PLAN NTS



PRECEDENT IMAGE



Revision	Date	Description	Drawn	Apprvd.
C01	16.05.25	Final Construction Issue	JD	RM
P03	24.03.25	Location plan updated	YH	RM
P02	14.09.23	Annotation updates	YH	RM
P01	05.09.23	First Issue	YH	RM

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MANCHESTER
2 Back Grafton St
Altrincham
WA14 1DY
T:0161 928 9281

Client	Select Property
Project	HoS/ First Street Plot 10b
Drg Title	Typical Raingarden Details

Created on	Created by	Approved by
29-08-23	YH	RM

Scale	Size	Workstage	Purpose
Various	A3	Stage 5	Final Construction

Drg No. EX-PTE-G710-De-Grd-6002
Revision C01

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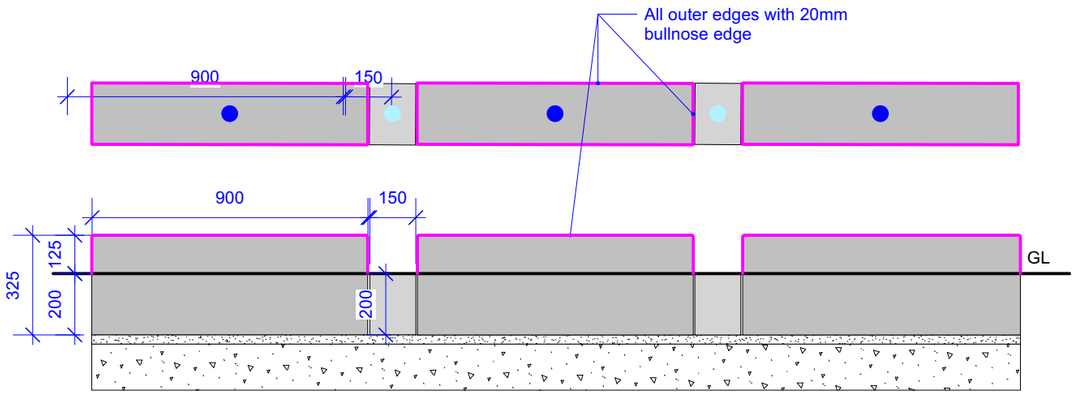
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NOTES:
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3. All dimensions are in millimetres unless otherwise stated.
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5. The dimensions of all materials must be checked on site before being laid out.
6. This drawing must be read with the relevant specification clauses and detail drawings.
7. Order of construction and setting out to be agreed on site.

- Granite kerb unit laid with 125mm upstand Q10/ 124
- Granite kerb unit laid flush Q10/ 124

Polished top
Flamed exposed sides

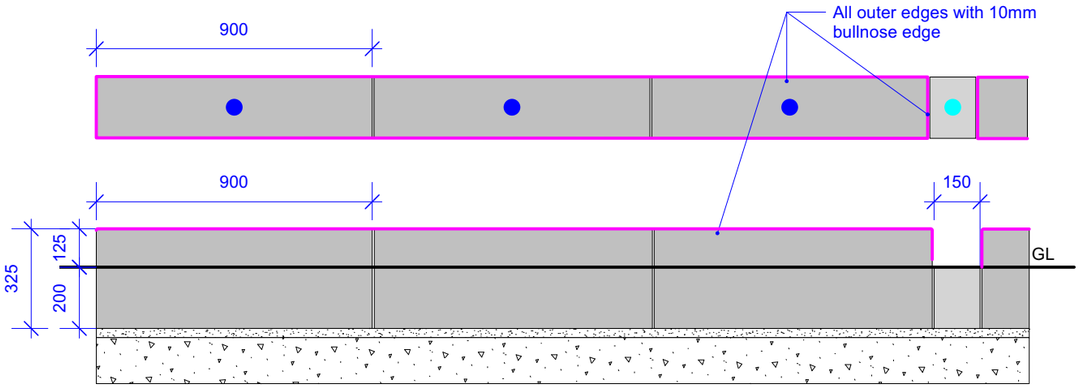


1 Type K3.2- Kerbs adjacent to Footpaths
Scale: 1:20

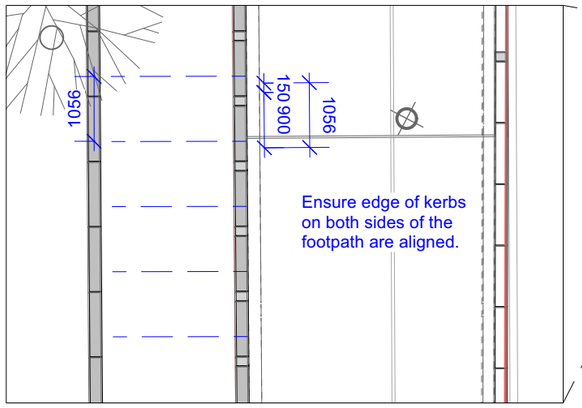


PRECEDENT IMAGE -
With greater wall upstand, shown indicative only

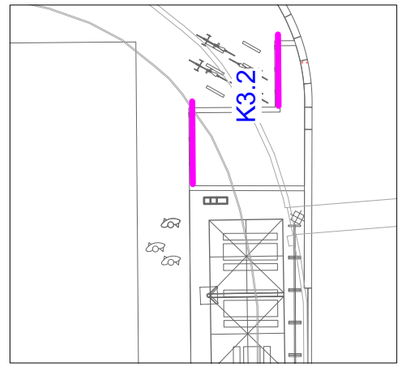
NOTES:
- Refer to drawing EX-PTE-G700-Pl-Grd-1001 for location.
  Refer to drawing EX-PTE-G710-De-Grd-5001 for kerb details.
- All foundation to engineers details and specification.
- 6mm joints between kerbs.
- Kerb K1.2r to be laid with a ratio of 3 upstand units and 1 flush units

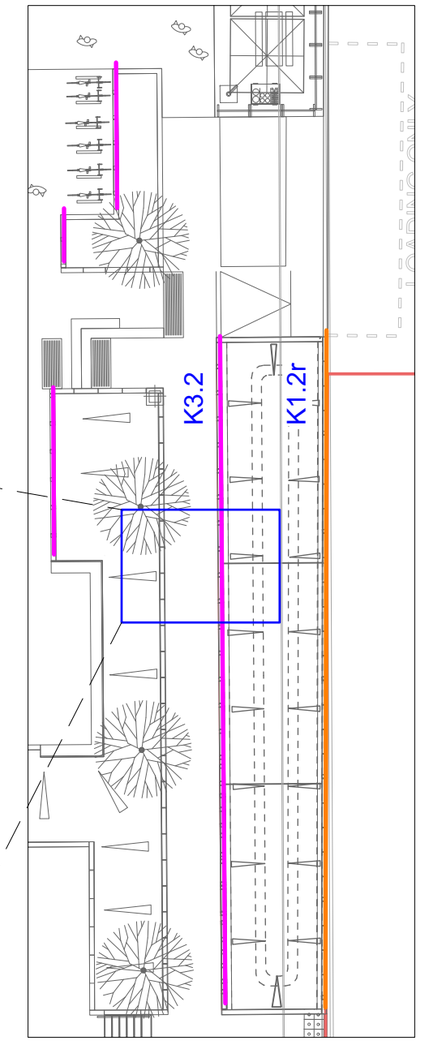


2 Type K1.2r- Kerbs adjacent to Wilmotte Street
Scale: 1:20



4 Alignment Detail
Scale: 1:100





3 Location Plan
Scale: 1:250

NOTES:
ALL BUILDUPS TO ENGINEERS DETAIL

Revision	Date	Description	Drawn	Apprvd.
C02	16.05.25	Final Construction Issue	JD	RM
C01	14.03.25	Stage 5	YH	RM
P03	02.12.24	Kerb type updates	BR	RM
P02	29.11.24	Kerb depth updated	CB	RM
P01	21.11.24	First issue	YH	RM

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MANCHESTER
2 Back Grafton St
Altrincham
WA14 1DY
T:0161 928 9281

Client	Select Property
Project	HoS/ First Street Plot 10b
Drg Title	Raingarden Kerbing Details

Created on	Created by	Approved by
21-11-24	YH	RM

Scale	Size	Workstage	Purpose
As shown	A3	Stage 5	Final Construction

Drg No. EX-PTE-G710-De-Grd-6004
Revision C02

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APPENDIX E – UU CONNECTION NOTICE

S106 Part 2 'Request for permission to work on a public sewer (LOW RISK)' Approval Notice

United Utilities Reference Number:	***05251839***
Contractor details	
Contractor/company name	**Renaker Build Ltd.**
Contractor email address	**stephendavis@renaker.com**
Works Supervisor	**Stephen Davis**
Principal Contractor details (if applicable):	
Company name	
Name of contact for project	
Email address	
Date of proposed works	**12/02/2024**
Site details: The site / property which is proposed for connection to the public sewer	
Site address *(including postcode)*	**Plot 10B First Street, Manchester M15 4RF** **Land bounded by River Street to the north, and east, Hulme Street to the south and First Street Plot 10A to the west.**

APPROVED

Your application for permission to work on the public sewer has been approved.

You are now authorised to make the connection to the public sewer in accordance with the information provided on your application **'Request for permission to work on a public sewer'**.
This approval is only valid for works on a manhole/ inspection chamber less than 1.5m deep (or within excavations less than 1.5m deep for junction connections) and where the pipe is less than 300mm in diameter.

Please provide 5 days' notice to the Developer Services Inspector to arrange an inspection of the works.

The excavation should not be backfilled until the United Utilities appointed person has inspected the works.
United Utilities reserve the right to request a connection to the public sewer be laid open for inspection.
United Utilities will also be entitled to recover all costs associated for any excavation, remedial works and repeat visits if these requirements are not met.

You must log on and off the sewer network at the beginning and end of each shift when working on the public sewer by calling

07826 539459

and quoting the United Utilities reference number at the top of this decision notice.

Any gas alarms, residual risks or sewer incidents should also be reported on this number.

Comments

Approval granted for a *225*mm *combined* connection via *junction to stubb connection* on the *combined* sewer located within *River Street.*

Approved by:	**Marcus Jones**
Date:	**05/02/2024**

United Utilities 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

Water for the North West

Site details: Details of the site or premise that have been connected to the public sewer	
United Utilities notification reference (EC/NC/SC/WC)	5251839
Site address	Plot 10B First Street, Manchester M15 4RF
Development type	New property

Contractor Details			
Contractor name / Company Name	Renaker		
Contractor Email Addess	leedawson@renaker.com		
Works Supervisor	leedawson@renaker.com		
Confirm sewer 'log on' & 'log off' procedure followed	Yes ☑	No ☐	

Principal Contractor Details (if applicable)	
Company name (if applicable)	
Name of Contact for Project	
Email Address	
Number of site inspections conducted by United Utilities	

Connection details			
Sewer connection type	Combined		
Combined sewer pipesize diameter	225mm		
Connecting into:	225mm	Existing Sewer Type	Combined
Connecting to asset:	New manhole		
Connection Location	Plot 10B First Street, Manchester M15 4RF		

Outcome	
Connection status	Satisfactory

Comments
I can confirm that the Combined Sewer connection is SATISFACTORY - 225mm Combined Sewer connecting into the 225mm Combined connected via New manhole in Plot 10B First Street, Manchester M15 4RF

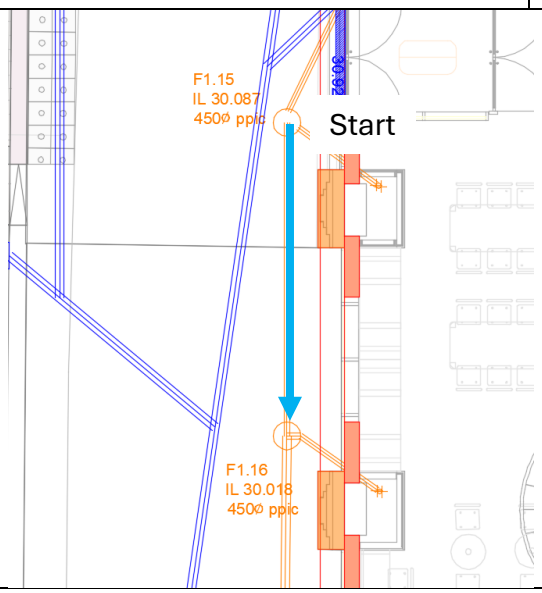
Approved: I confirm the sewer connection detailed above has been satifactorily completed and inspected

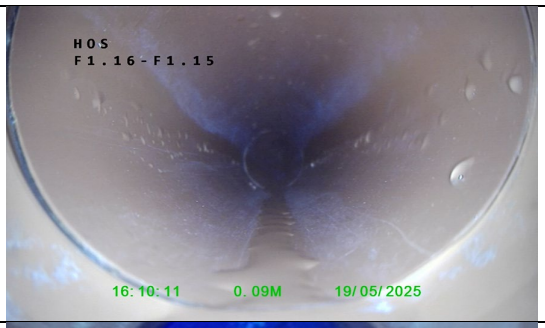
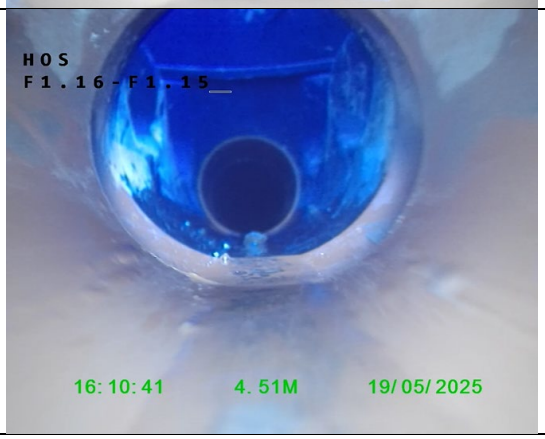
Developer Services Inspector	Marcus Jones
Date of Inspection	26/02/2024

COMPLEX CHALLENGES ...
MADE SIMPLE

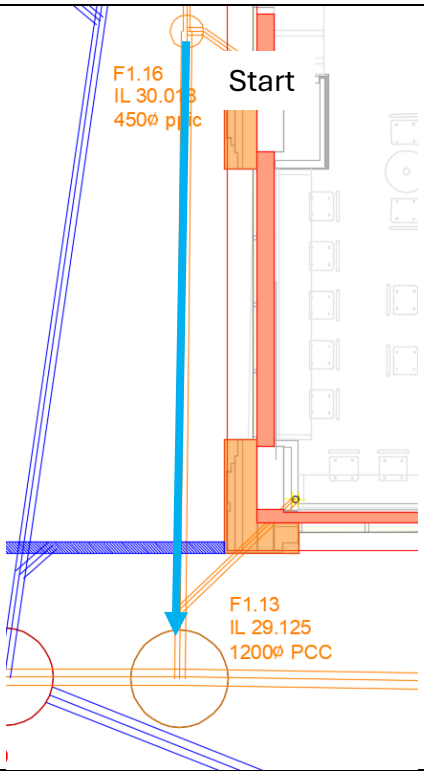
APPENDIX F – CCTV SURVEY RECORDS

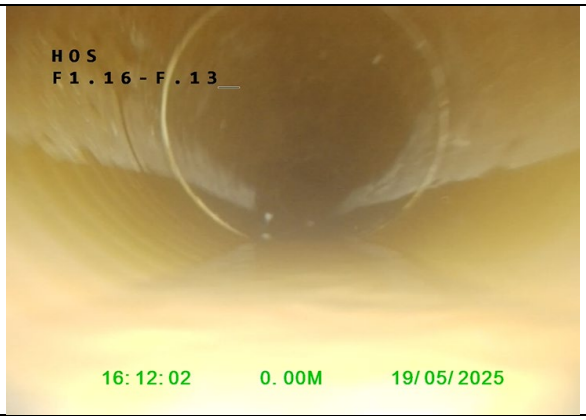
RENAKER	**HOS – First Street**	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6

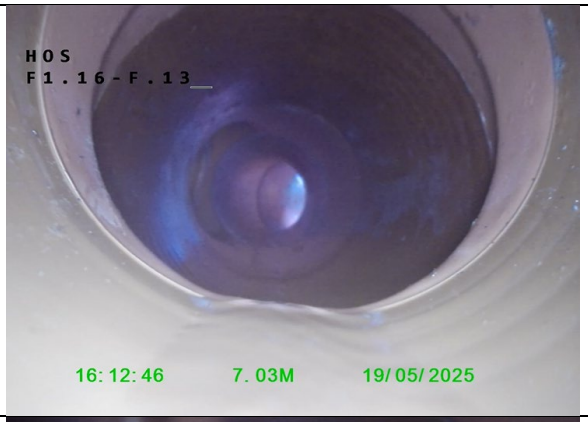
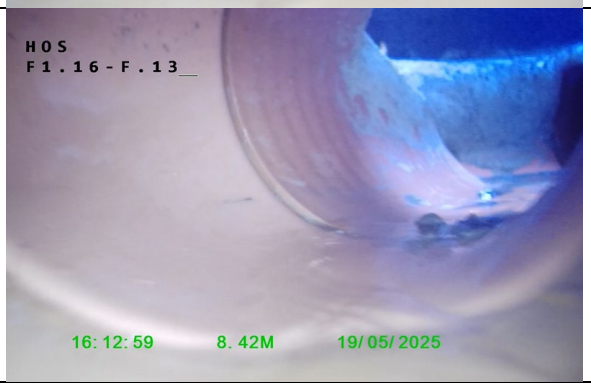


Observations		
Note: Video recording incorrectly labelled as F1.16-F1.15		
Pipe Type & Diameter	Polypipe UG 100mm Diameter	
0.0m	Survey Start @ F1.15	
4.51m	End of Survey @ F1.16	

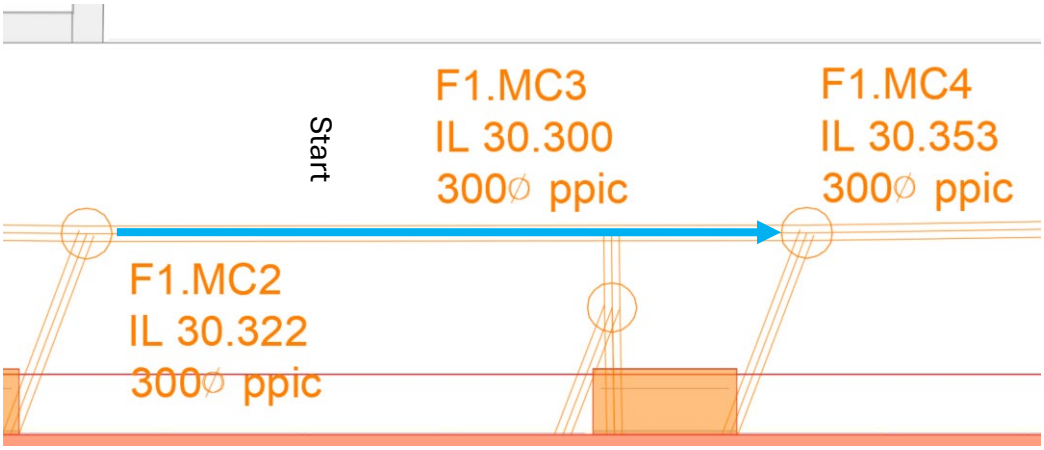
RENAKER	**HOS – First Street**	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6

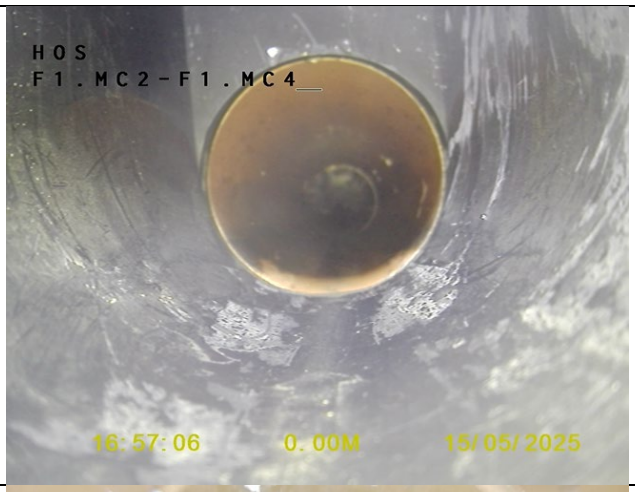


Observations		
Pipe Type & Diameter	Polypipe PolySewer 150mm Diameter	
0.0m	Survey Start @ F1.16	

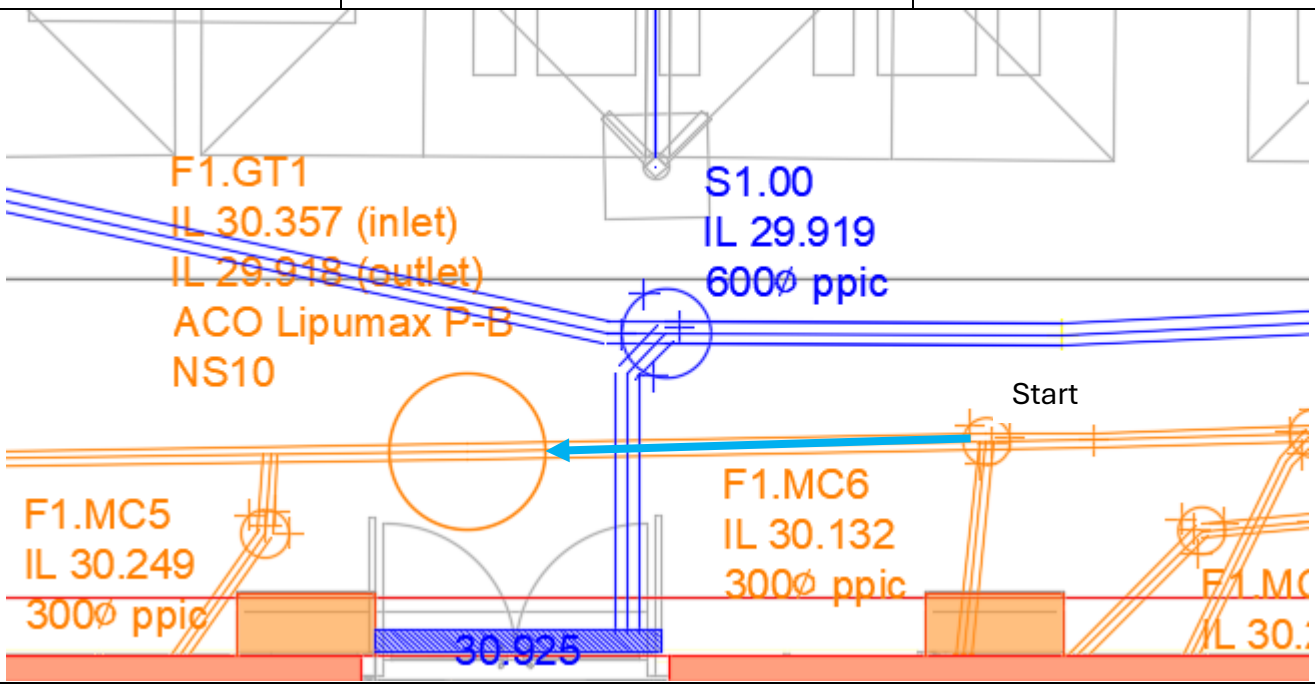
7.03m	Pipe diameter increases to 225mm	
7.63m	Branch @9O'Clock	
8.22m	Bends Right 30Degrees	
8.42m	End of Survey @ F1.13	

RENAKER	**HOS – First Street**	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6

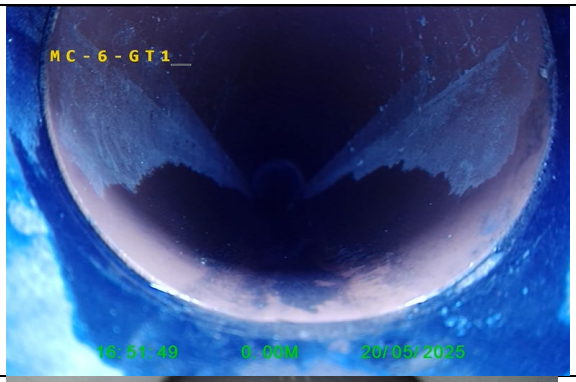


Observations		
Pipe Type & Diameter	Polypipe UG 100mm Diameter	
0.0m	Survey Start @ F1.MC2	
3.64m	Branch Connection @ 3 O'Clock	
4.80 m	End of Survey @ F1.MC4	

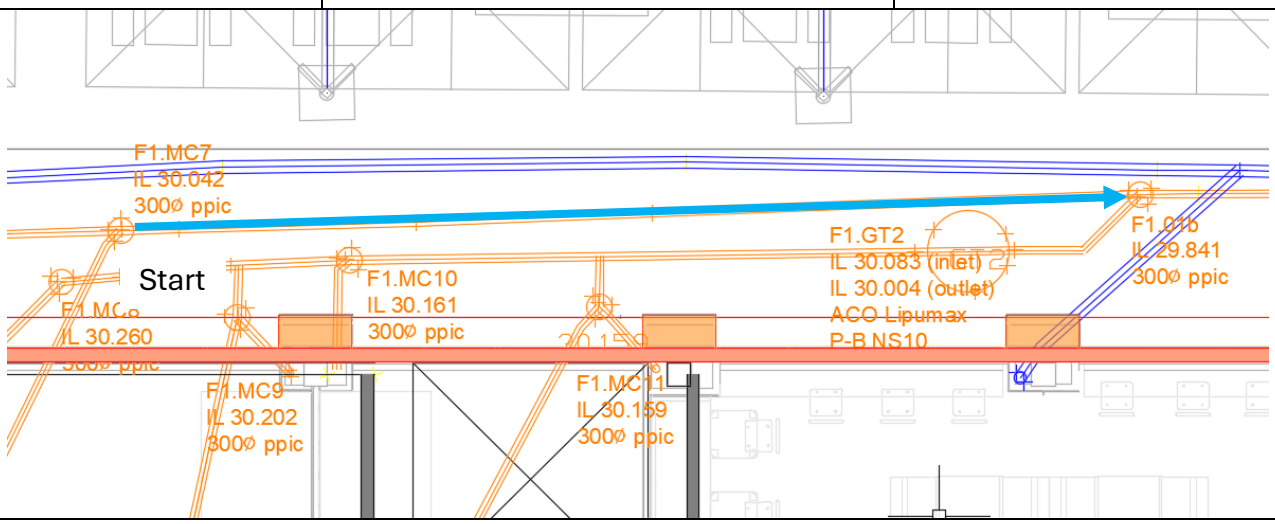
RENAKER	**HOS – First Street**	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6



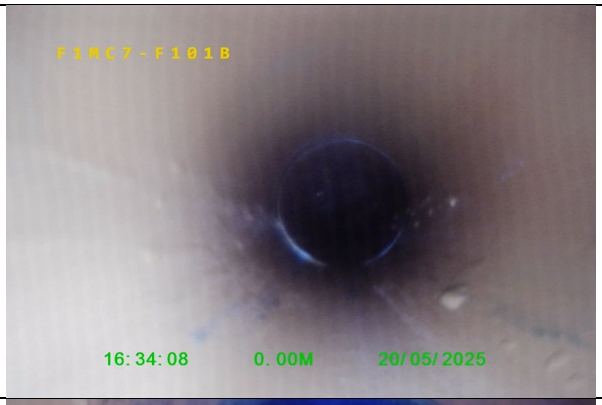
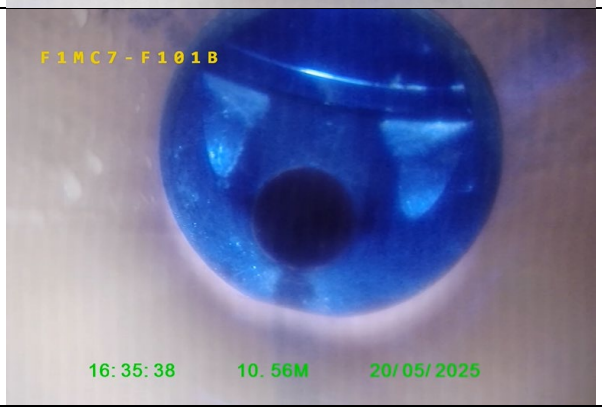
Observations

Pipe Type & Diameter	Polypipe UG 100mm Diameter	
0.0m	Survey Start @ F1.MC6	
2.88m	End of Survey @ F1.GT1	

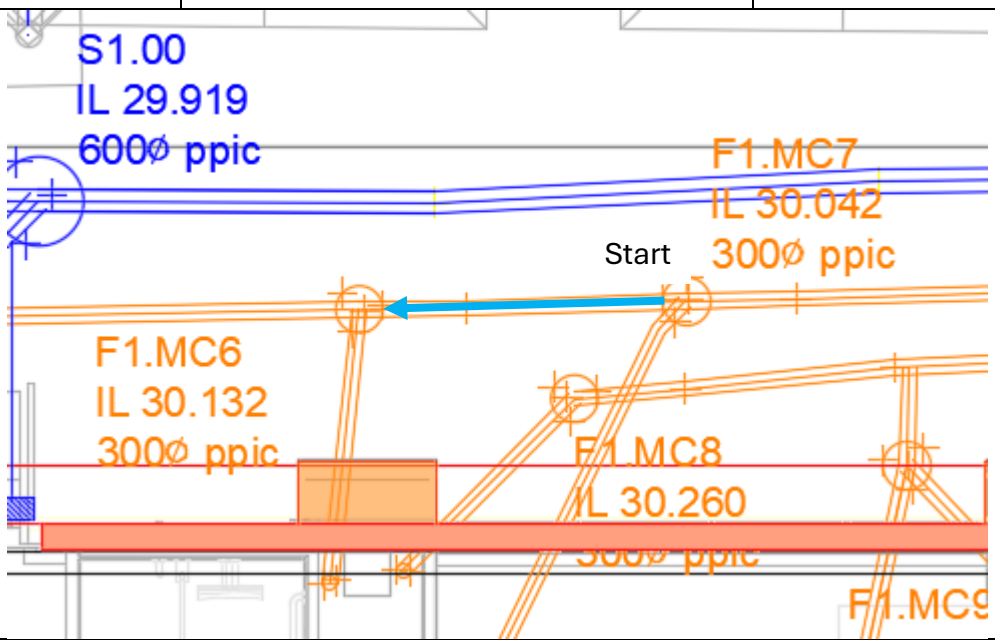
RENAKER	**HOS – First Street**	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6

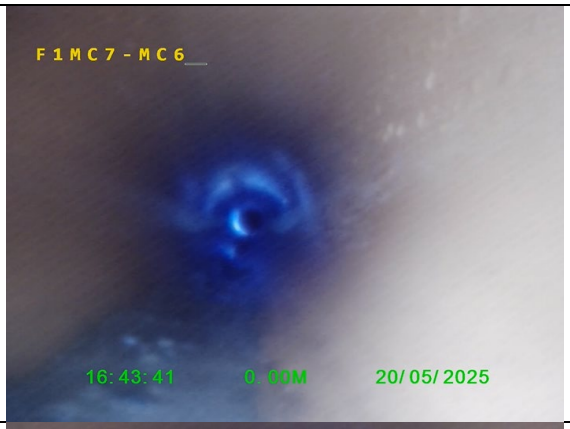
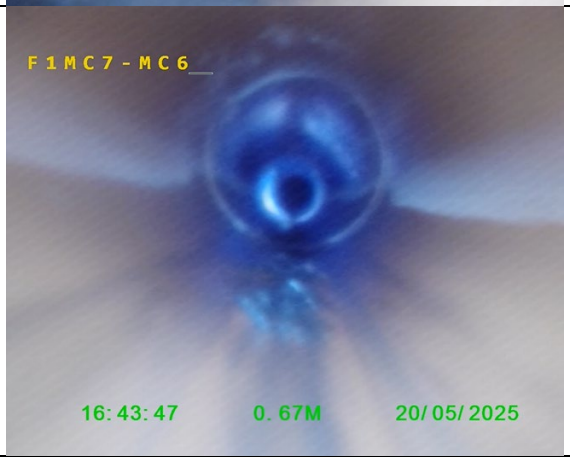


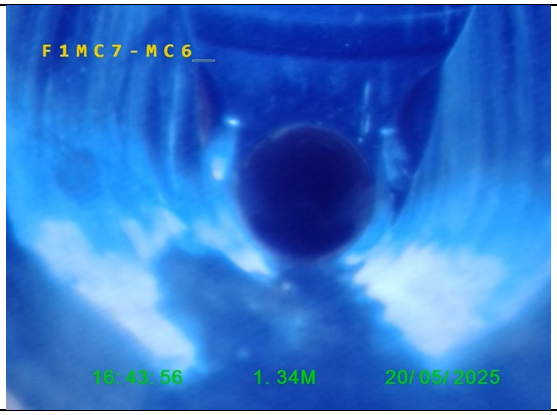
Observations

Pipe Type & Diameter	Polypipe UG 100mm Diameter	
0.0m	Survey Start @ F1.MC7	
10.56m	End of Survey @ F1.01b	

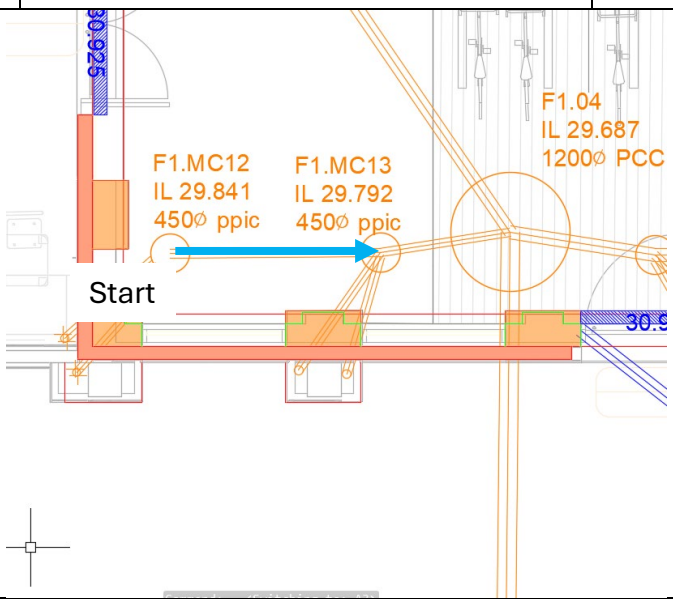
RENAKER	**HOS – First Street**	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6



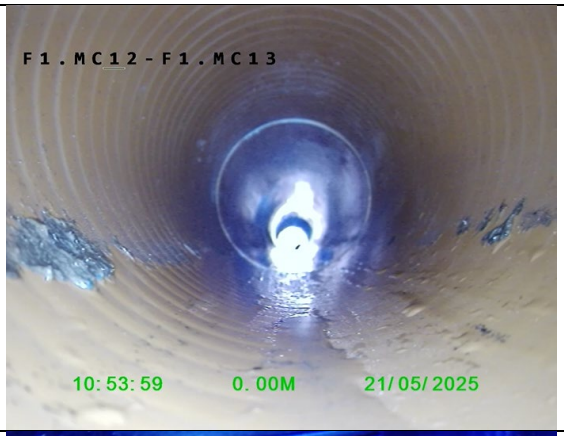
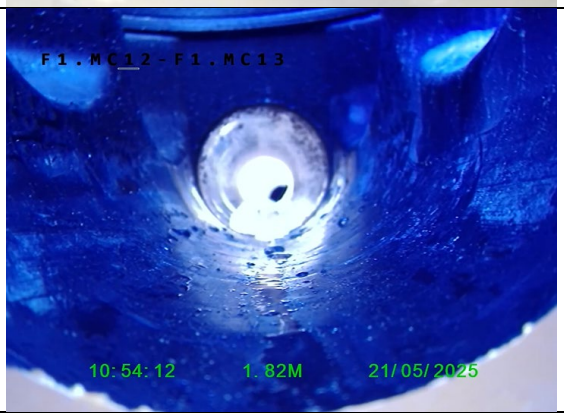
Observations		
Pipe Type & Diameter	Polypipe UG 100mm Diameter	
0.0m	Survey Start @ F1.MC7	
0.67m	Debris in pipe - minor	

1.34m	End of Survey @ F1.MC6		

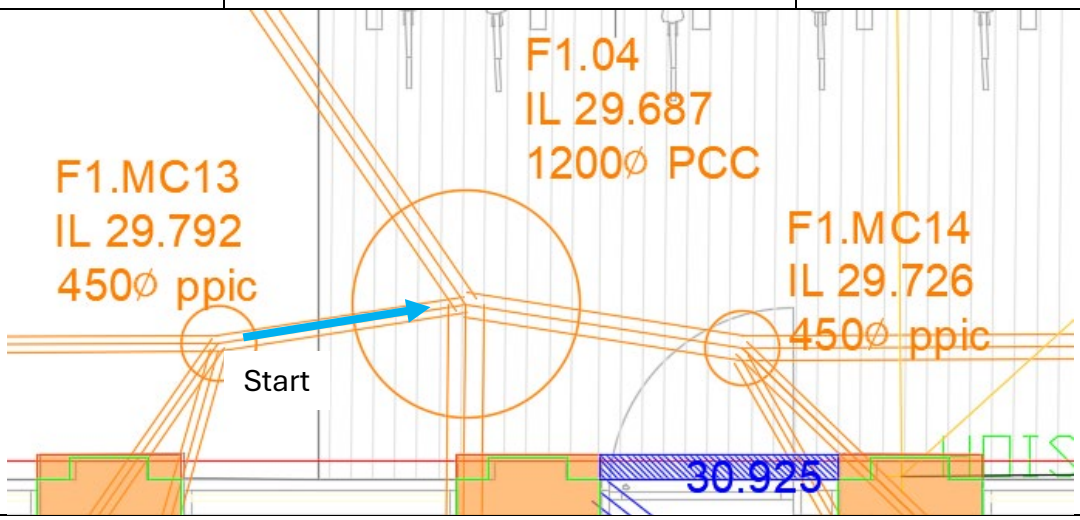
RENAKER	**HOS – First Street**	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6

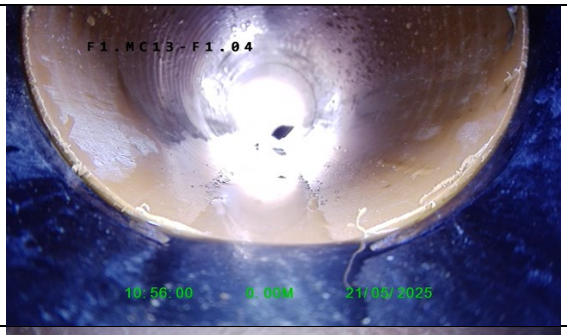
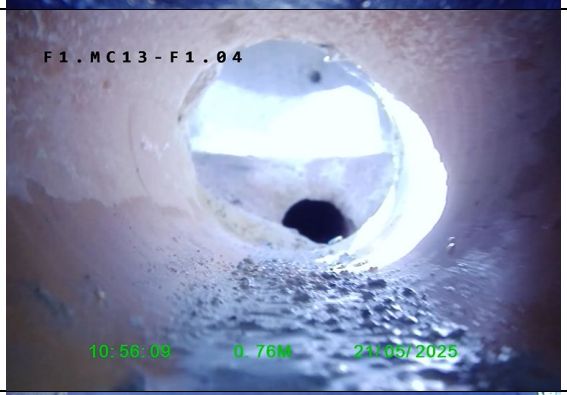


Observations

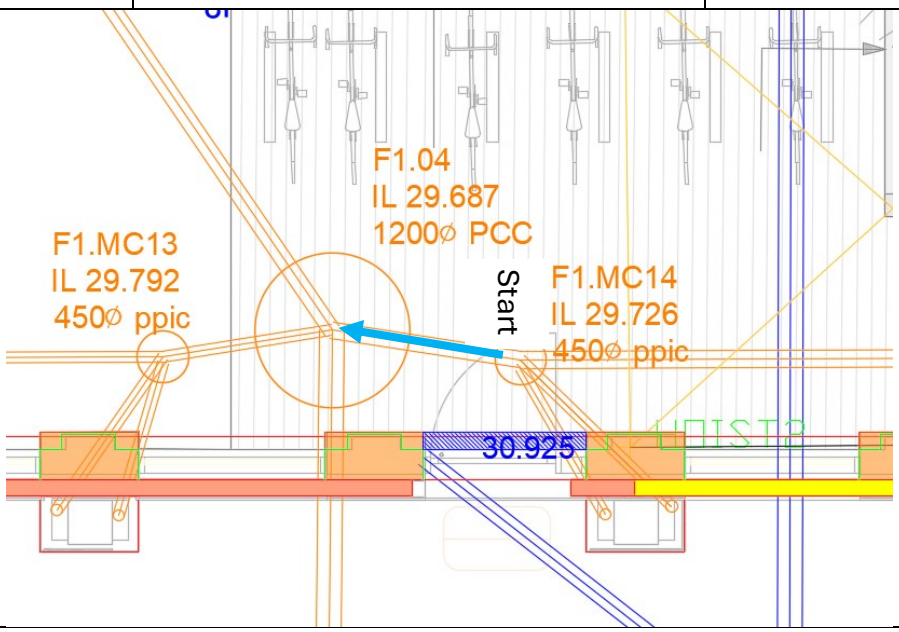
Pipe Type & Diameter	Polypipe PolySewer 150mm Diameter	
0.0m	Survey Start @ F1.MC12	
1.82m	End of Survey @ F1.MC13	

RENAKER	**HOS – First Street**	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6



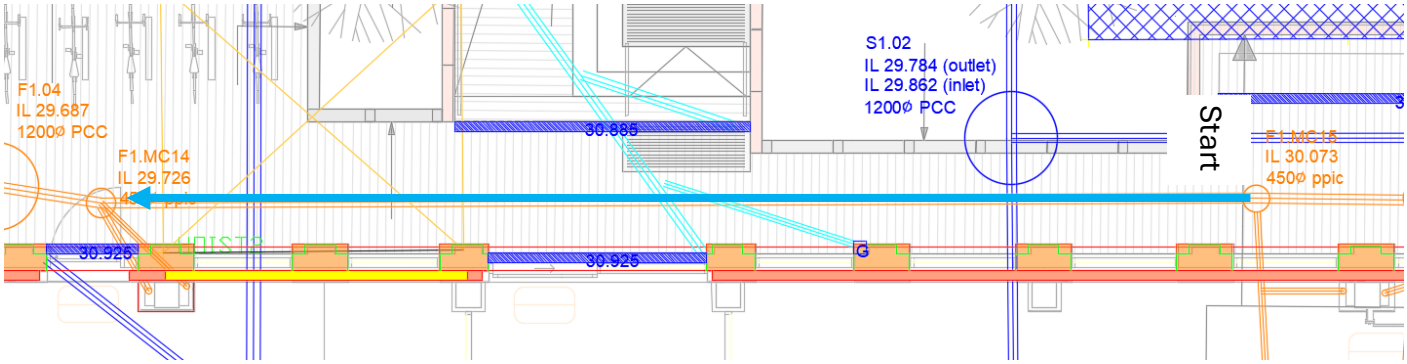
Observations		
Pipe Type & Diameter	Polypipe Polysewer 150mm Diameter	
0.0m	Survey Start @ F1.MC13	
0.76m	Minor Debris in channel	
0.96m	End of Survey @ F1.04	

RENAKER	HOS – First Street	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6

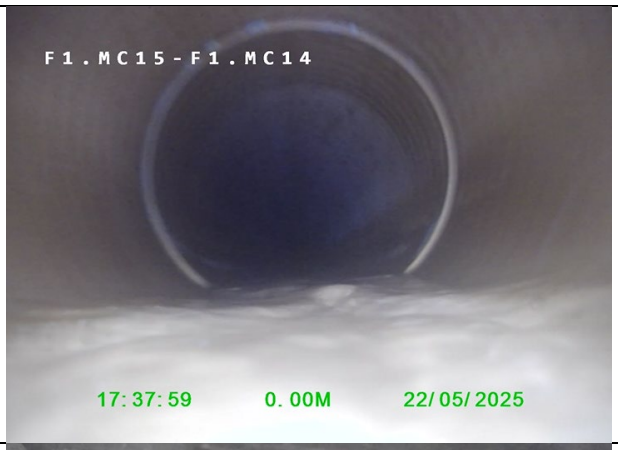
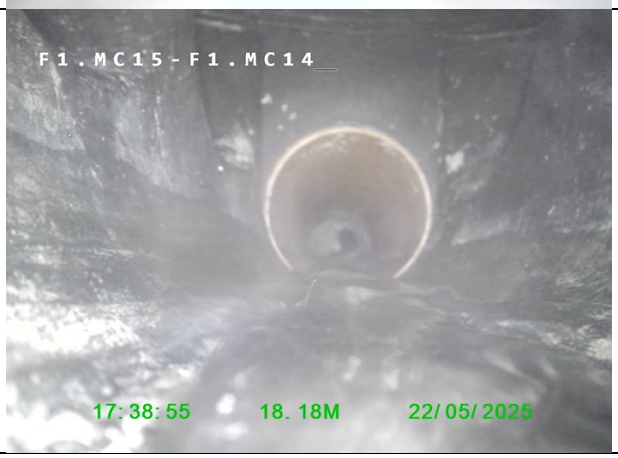


Observations		
Pipe Type & Diameter	Polypipe Polysewer 150mm Diameter	
0.0m	Survey Start @ F1.MC14	
1.89m	End of Survey @ F1.04 Some Debris in Channel - Removed	

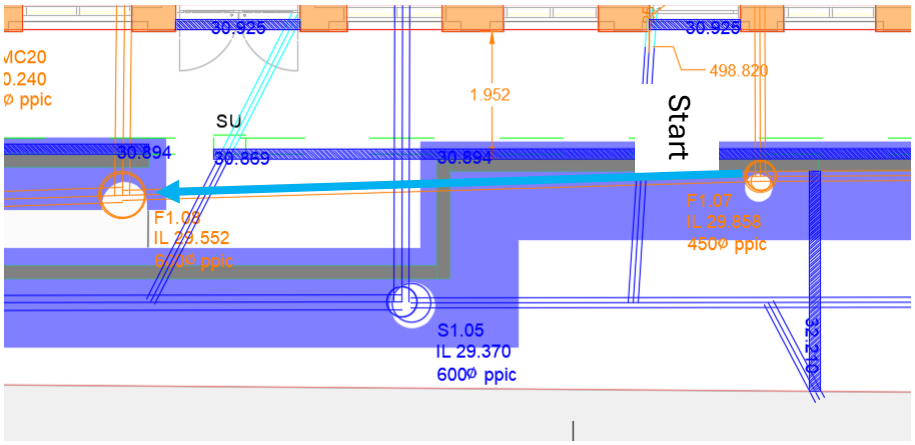
RENAKER	HOS – First Street	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6

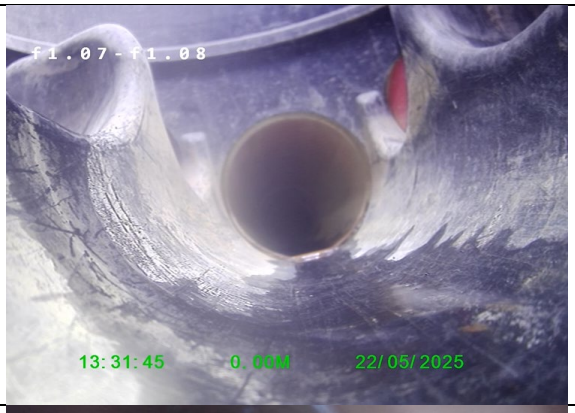
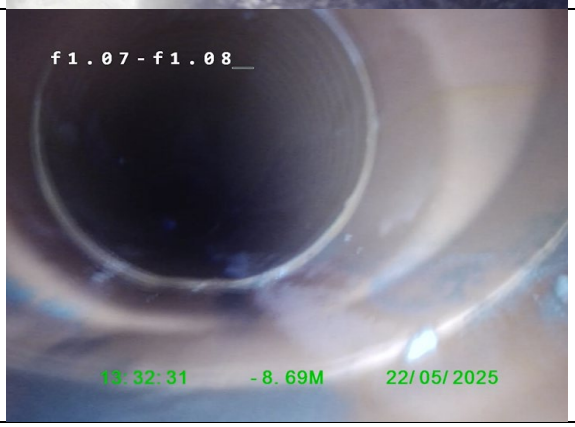


Observations

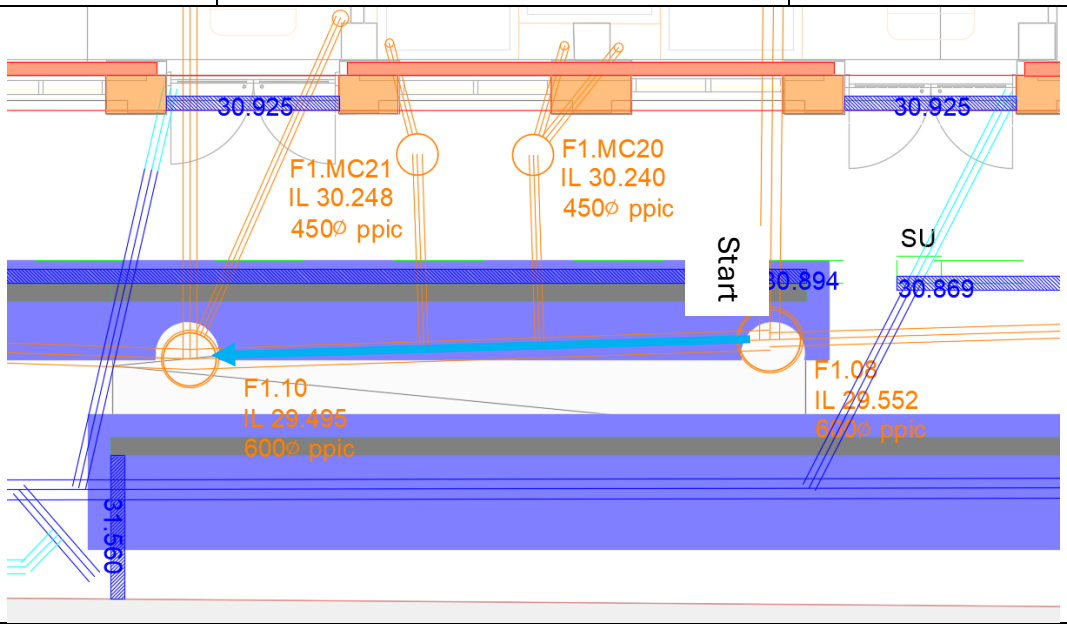
Pipe Type & Diameter	Polypipe Polysewer 150mm Diameter	
0.0m	Survey Start @ F1.MC15	
18.18m	End of Survey @ F1.MC14	

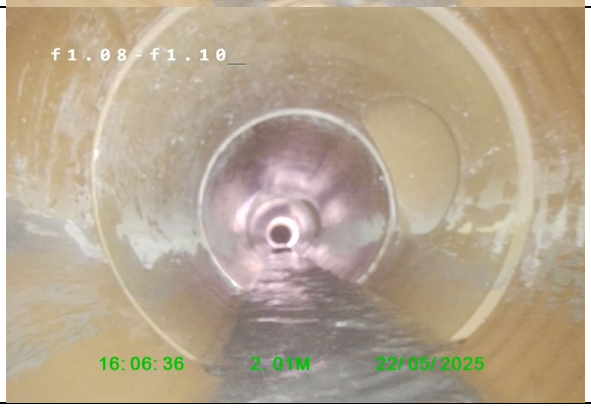
RENAKER	**HOS – First Street**	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6

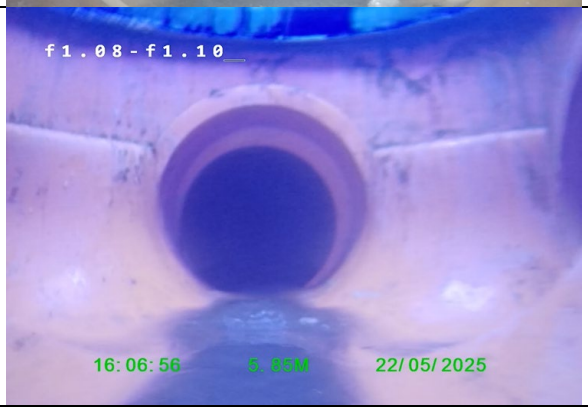


Observations		
NOTE:		
Pipe Type & Diameter	Polypipe Polysewer 150mm Diameter	
0.00m	Survey Start @ F1.07	
-8.69m	End of Survey @ F1.08	

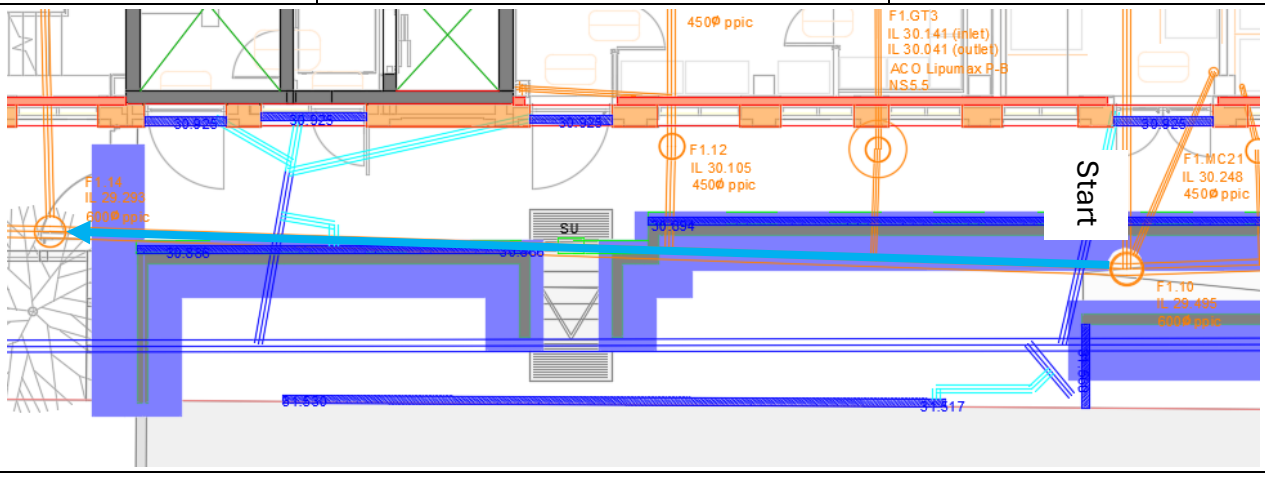
RENAKER	HOS – First Street	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6

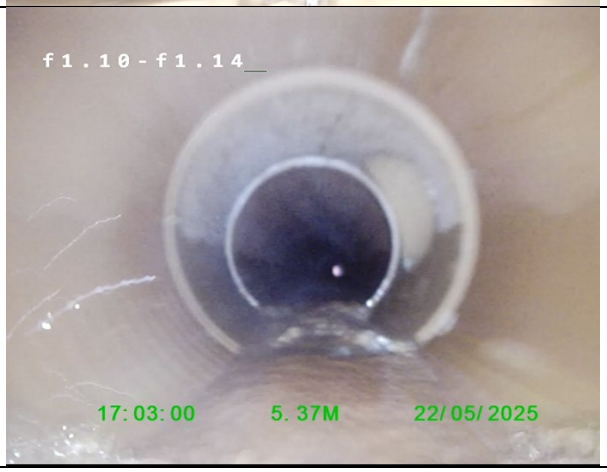


Observations		
NOTE:		
Pipe Type & Diameter	Polypipe Polysewer 225mm Diameter	
0.00m	Survey Start @ F1.08	
2.01m	Branch @2 O'Clock	

3.36m	Branch @2 O'Clock		
5.85m	End of Survey @ F1.10		

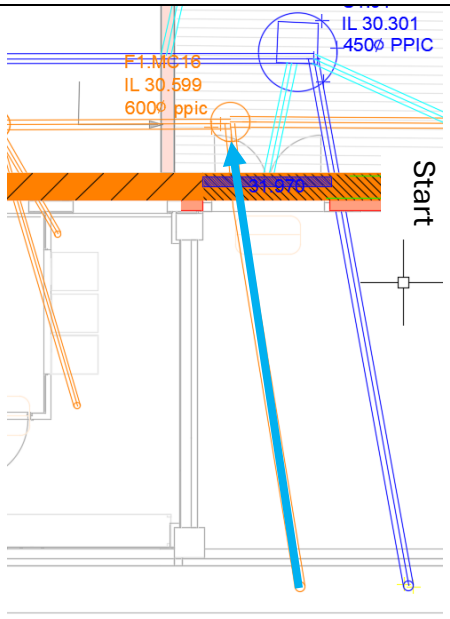
RENAKER	HOS – First Street	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6



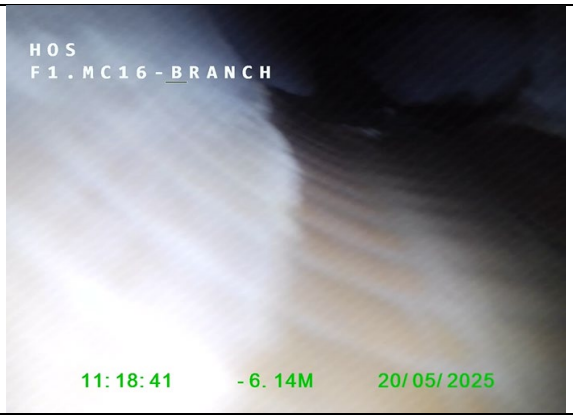
Observations		
NOTE:		
Pipe Type & Diameter	Polypipe Polysewer 225mm Diameter	
0.00m	Survey Start @ F1.10	
5.37m	Branch @2 O'Clock	

9.75m	Branch @2 O'Clock		
20.60m	End of Survey @ F1.14		

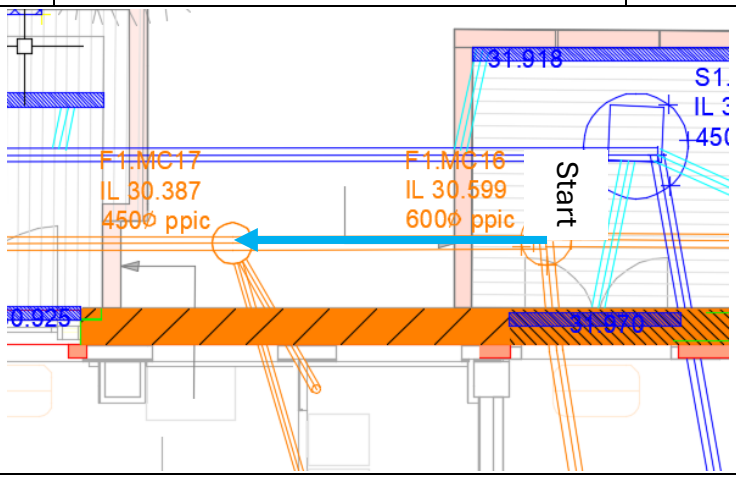
RENAKER	**HOS – First Street**	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6



Observations		
NOTE: Survey started at 0m camera reversed back towards F1.MC16		
Pipe Type & Diameter	Polypipe Polysewer 150mm Diameter	
0.0m	Survey Start @ end of pipe	
-1.24m	Water holding at base of rest bend <10mm	

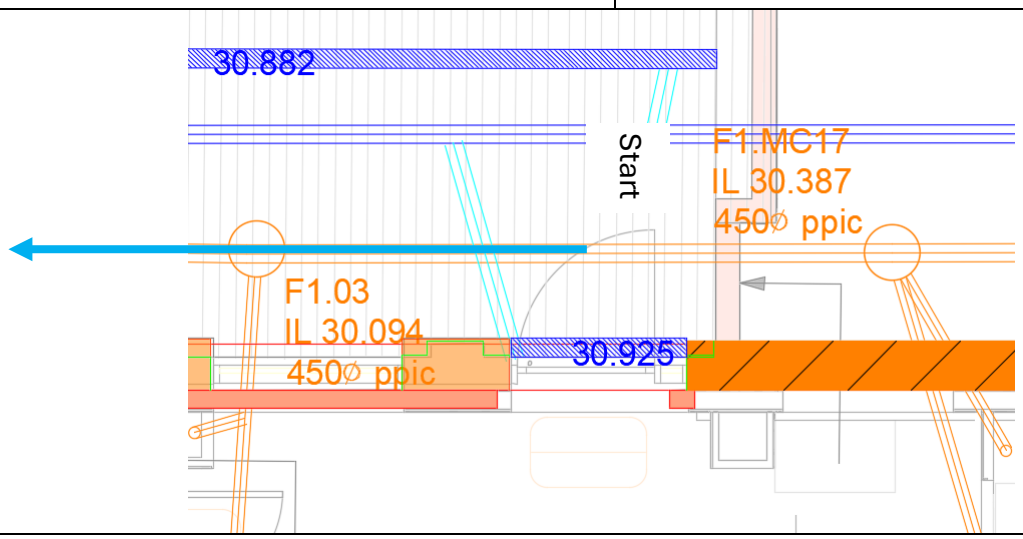
-6.14m	Pipe bends down 45 degrees – start of external backdrop	
-6.53m	End of Survey @ F1.MC16	

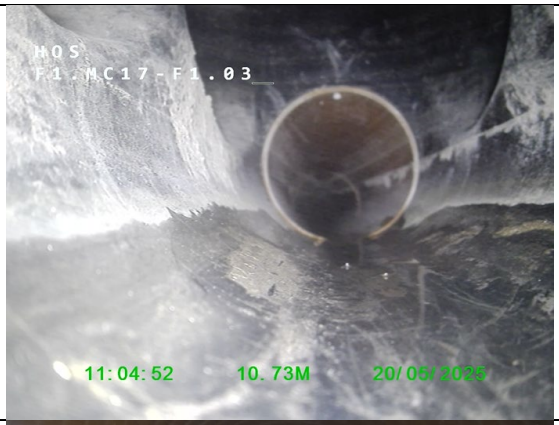
RENAKER	**HOS – First Street**	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6



Observations		
NOTE: Survey started at 7.20m camera not reset		
Pipe Type & Diameter	Polypipe Polysewer 150mm Diameter	
7.20	Survey Start @ F1.MC16	
10.63m	End of Survey @ F1.MC17	

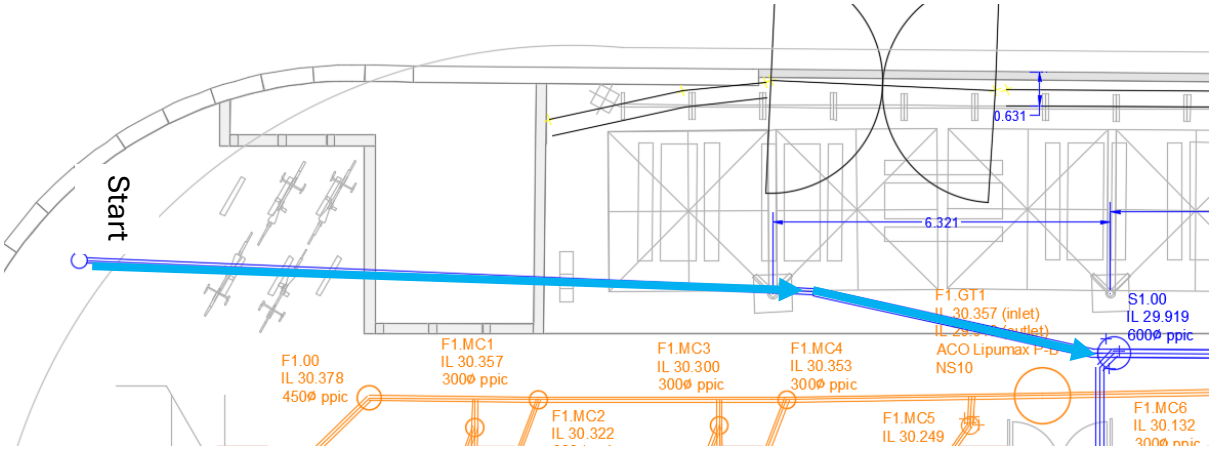
RENAKER	**HOS – First Street**	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6



Observations		
NOTE: Survey started at 10.73m camera not reset		
Pipe Type & Diameter	Polypipe Polysewer 150mm Diameter	
10.73m	Survey Start @ F1.MC17	
15.70m	Debris in MH F1.03 requires clearing	

16.20m	End of Survey @ F1.03	

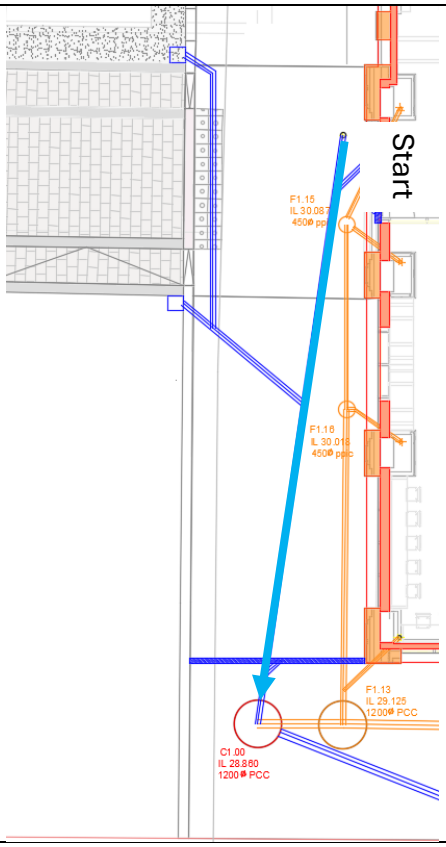
RENAKER	**HOS – First Street**	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6

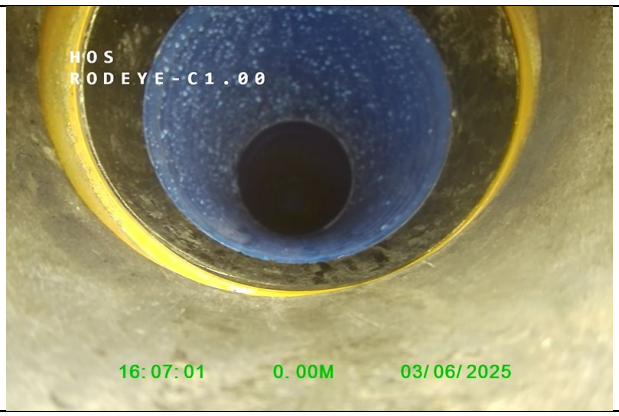


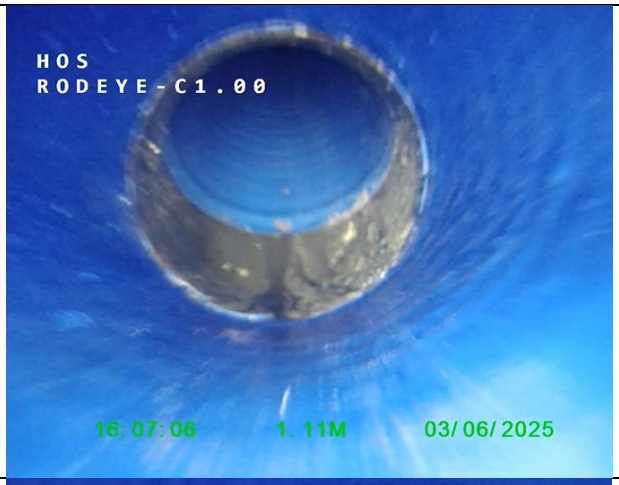
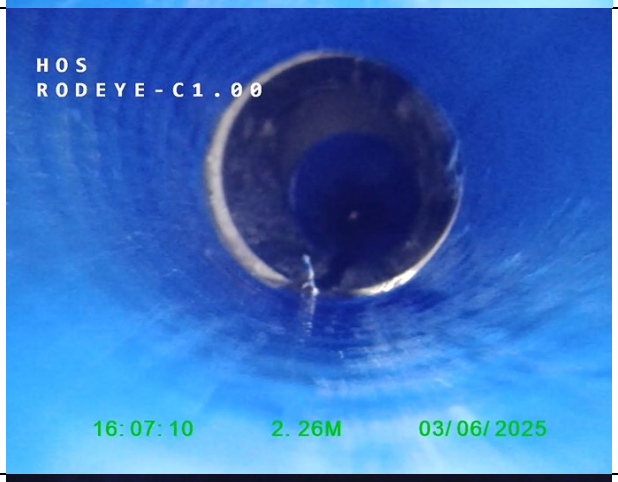
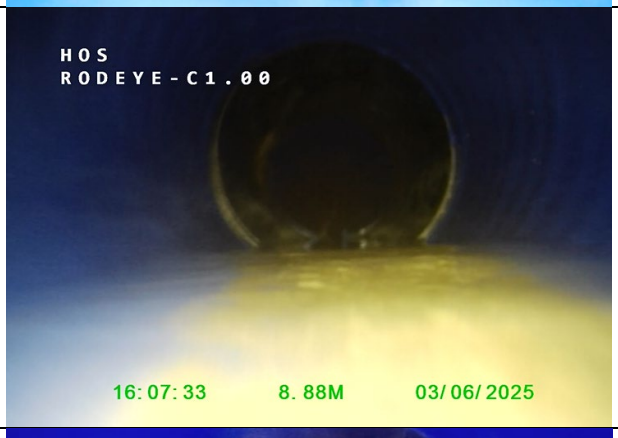
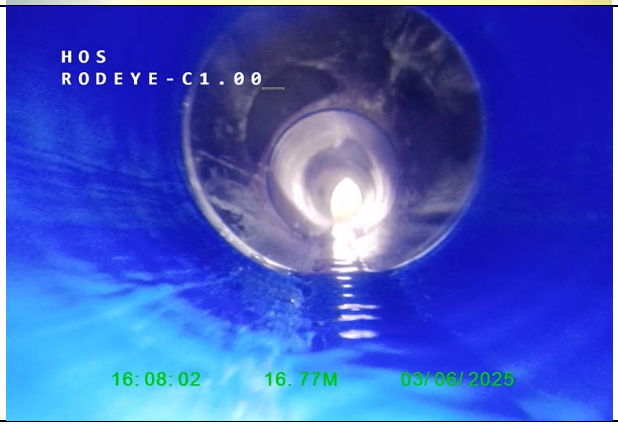
Observations:		
NOTE:		
Pipe Type & Diameter	Polypipe Ridgidrain 100-150mm Diameter	
0.0m	Survey Start @ Gully	
0.24m	Bends Right 30Degrees	

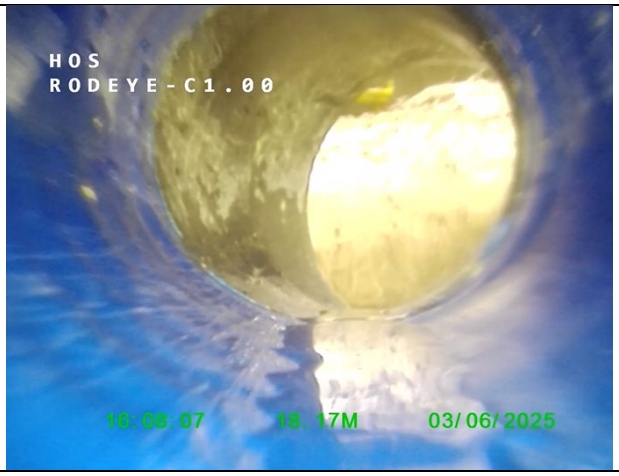
0.76m	Bends left 45 Degrees		
9.12m	Loose Debris in channel		
13.02m	15 Degree bend right Pipe diameter increases to 150mm		
18.89m	End of Survey @ S1.00		

RENAKER	**HOS – First Street**	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6

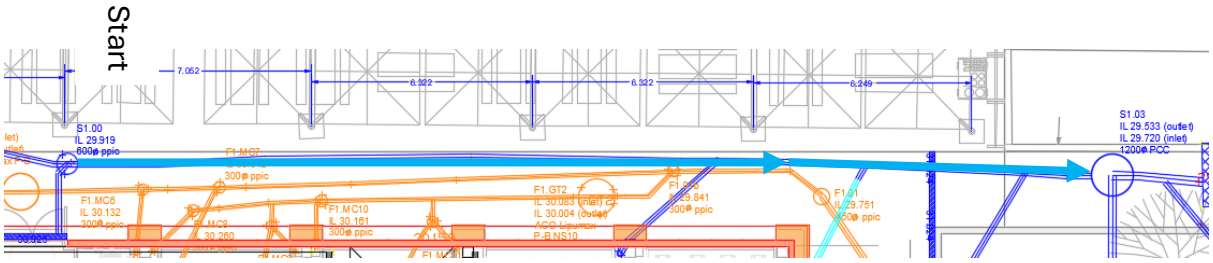


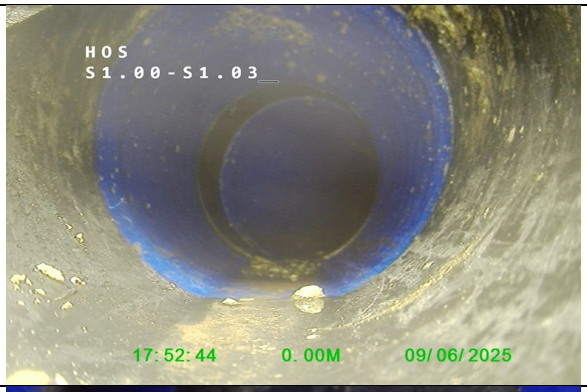
Observations		
Pipe Type & Diameter	Polypipe Ridgidrain 150mm Diameter	
0.0m	Survey Start @ Rodeye	

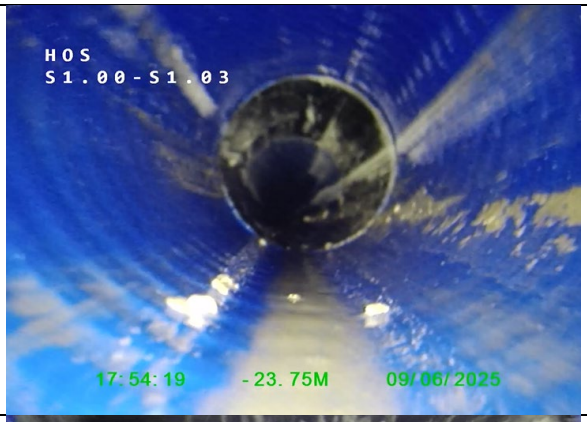
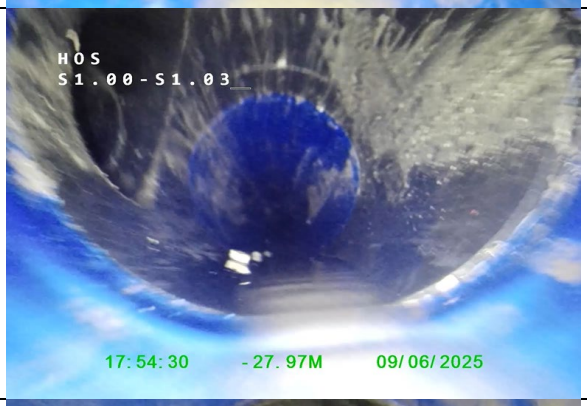
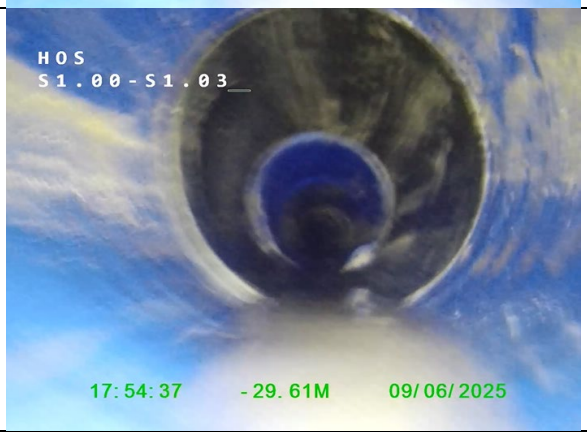
1.11 m	30Degree Bend to horizontal	
2.26m	Branch @ 11O'Clock	
8.89m	Branch @ 2O'Clock – Water holding due to slight change	
16.77m	Branch @ 10O'Clock	

18.17m	End of Survey @ C1.00 – 15Degree bend right into manhole		

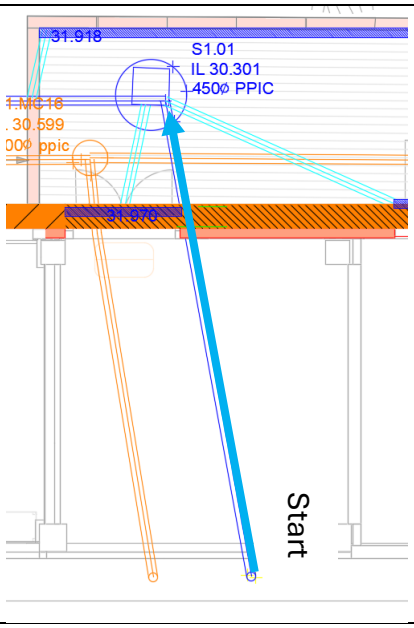
RENAKER	**HOS – First Street**	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6

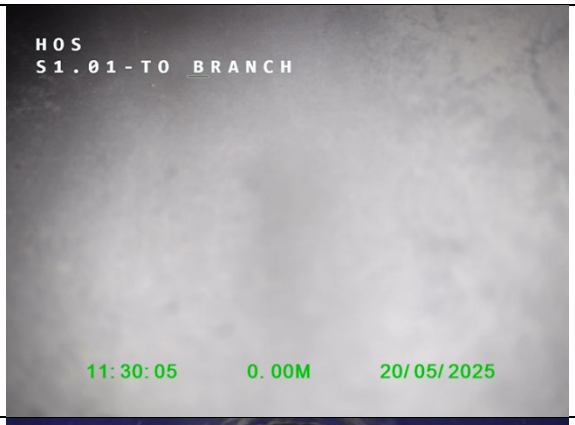


Observations: General observation of debris in channel requires jetting		
NOTE: Camera reversed from S1.00		
Pipe Type & Diameter	Polypipe Ridgidrain 150mm Diameter	
0.0m	Survey Start @ S1.00	
-18.92m	Branch @ 10OClock	

-23.75m	Branch @ 10OClock	
-27.97m	Branch @ 9OClock	
-29.61m	Branch @ 9OClock	
-30.09m	End of Survey @ S1.03	

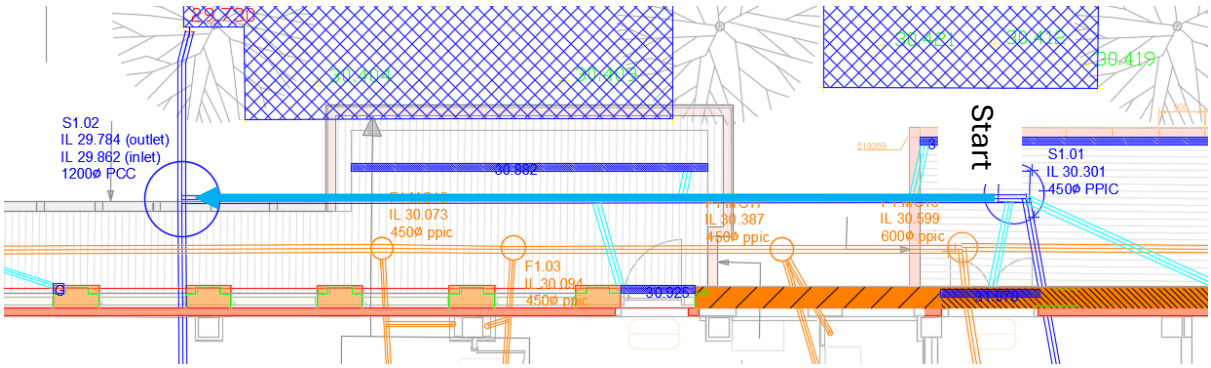
RENAKER	**HOS – First Street**	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6

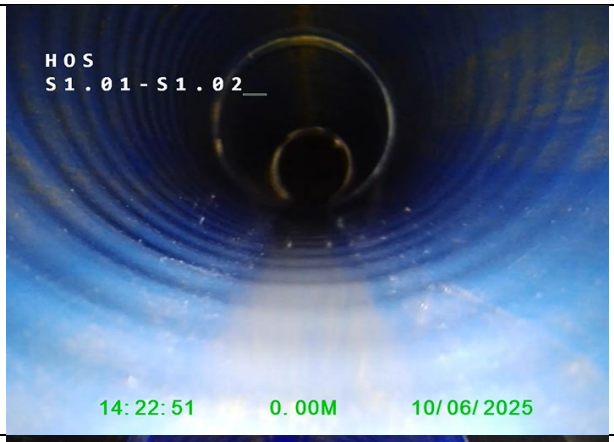
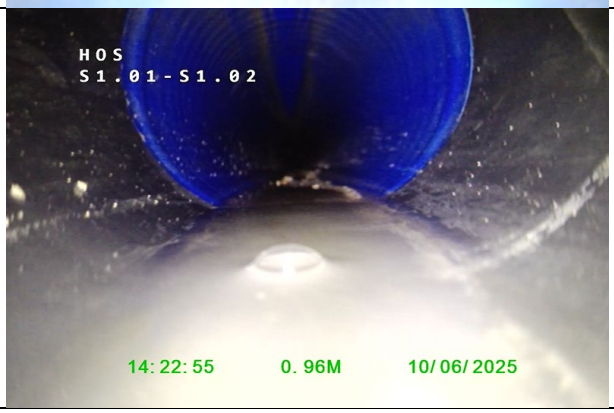


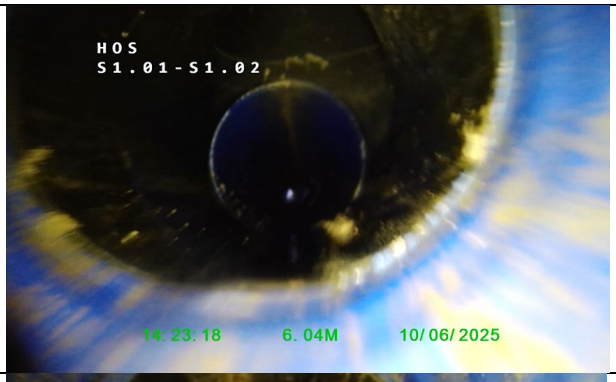
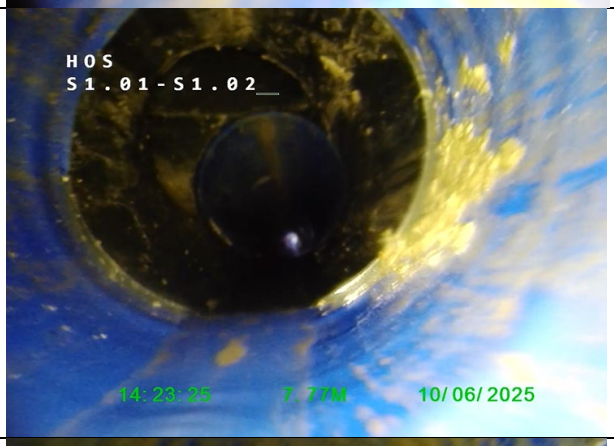
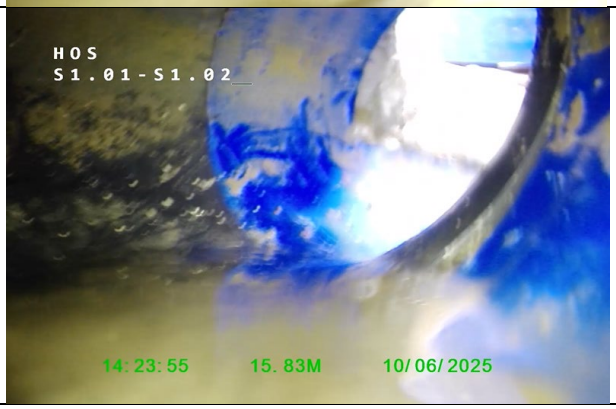
Observations		
NOTE: Survey started at 0m camera reversed back towards S1.01		
Pipe Type & Diameter	Polypipe Ridgidrain 150mm Diameter	
0.0m	Survey Start @ end of pipe	
-1.82m	Pipe bends Right 30 degrees	

-6.53m	End of Survey @ S1.01 – Some Debris in Manhole		

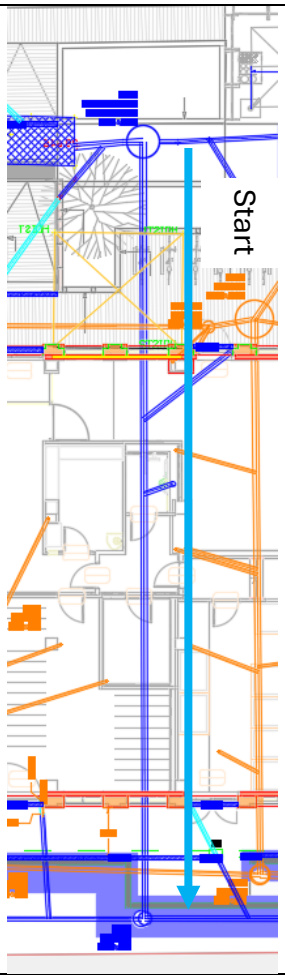
RENAKER	**HOS – First Street**	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6

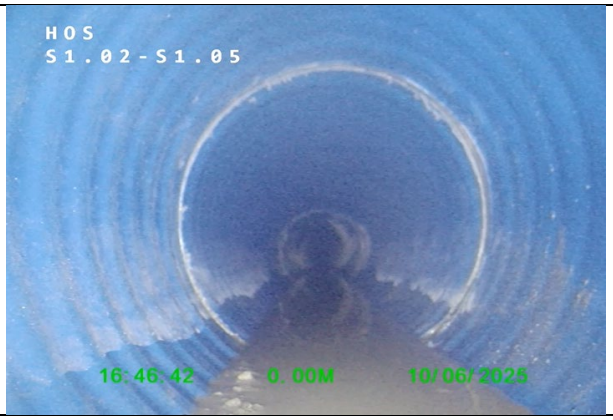


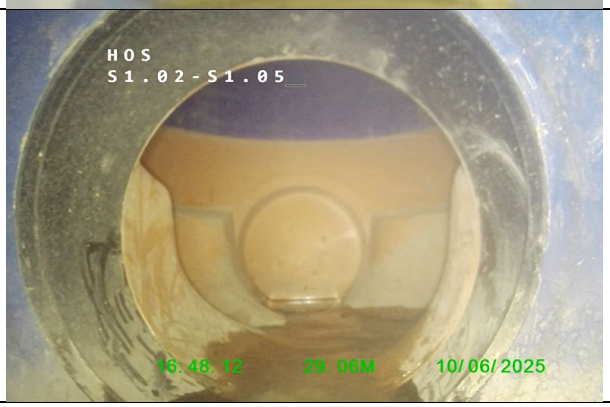
Observations		
NOTE:		
Pipe Type & Diameter	Polypipe Ridgidrain 150mm Diameter	
0.0m	Survey Start @ S1.01	
0.96m	Branch @ 2 OClock	

6.04m	Branch @ 12 OClock	
7.77m	Branch @ 10 OClock	
14.14m	Loose Debris at side of channel	
15.83m	End of Survey @ S1.02 – Bends Right 45Degrees into manhole	

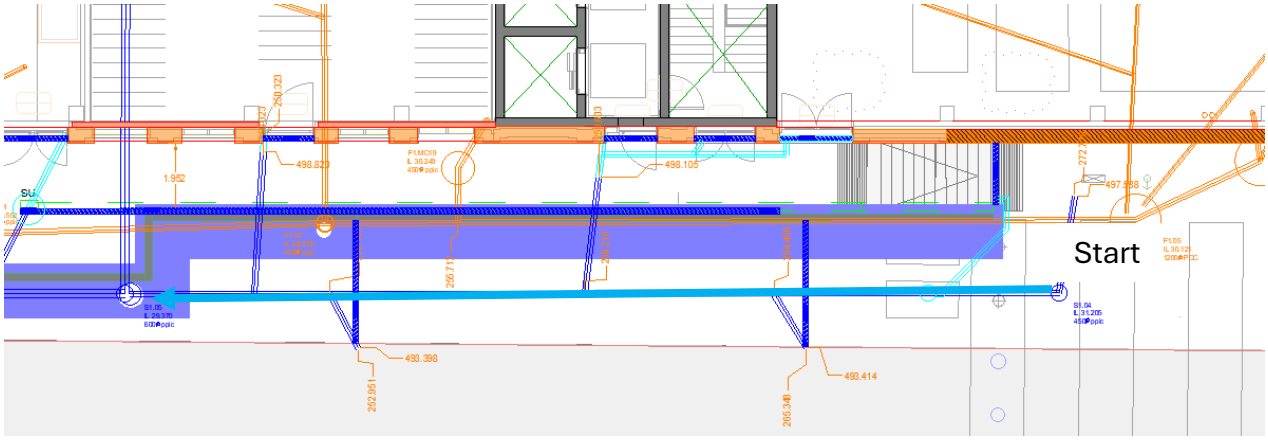
RENAKER	**HOS – First Street**	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6



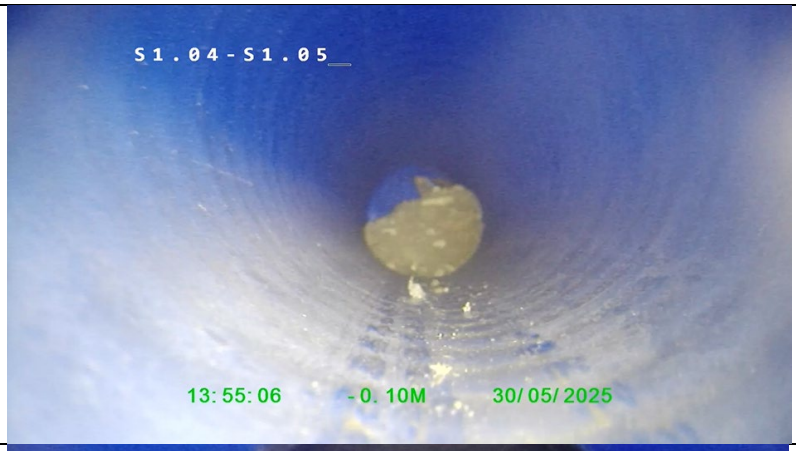
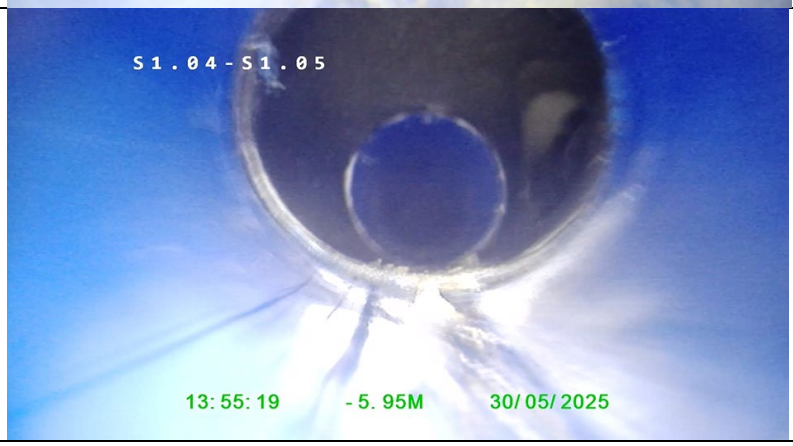
Observations: Video incorrectly labelled as S1.02 – S1.05 (Should read S1.03 – S1.05)		
NOTE:		
Pipe Type & Diameter	Polypipe Ridgidrain 225mm Diameter	
0.0m	Survey Start @ S1.03	

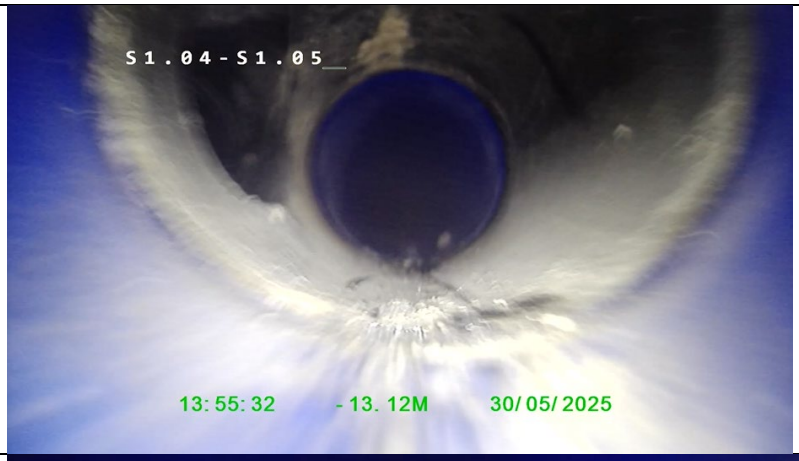
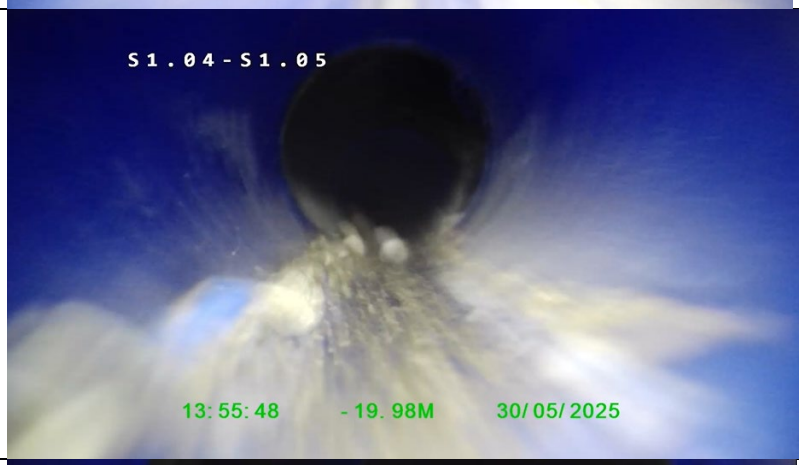
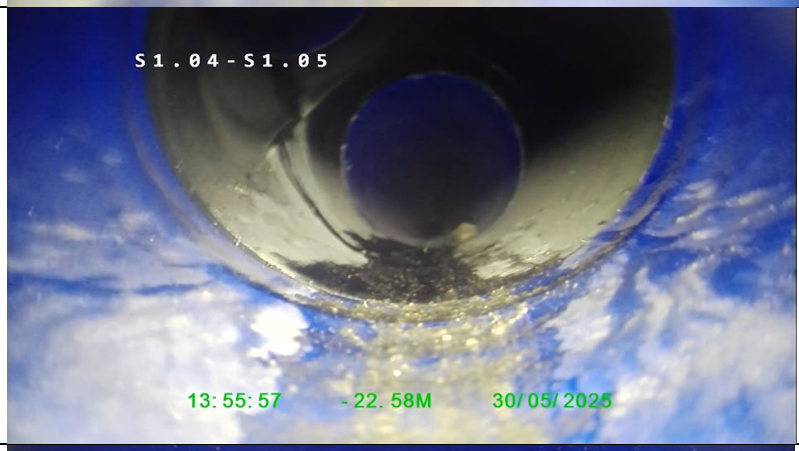
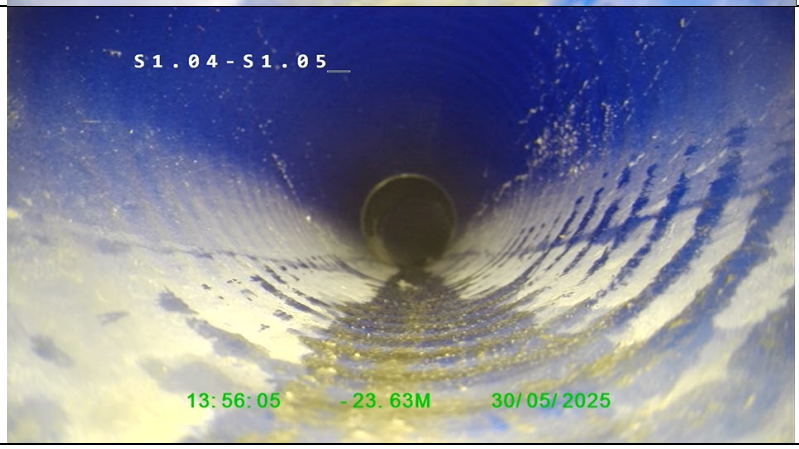
9.71m	Branch @ 3 OClock		
12.20m	Branch @ 3 OClock		
29.06m	End of Survey @ S1.05		

RENAKER	**HOS – First Street**	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6

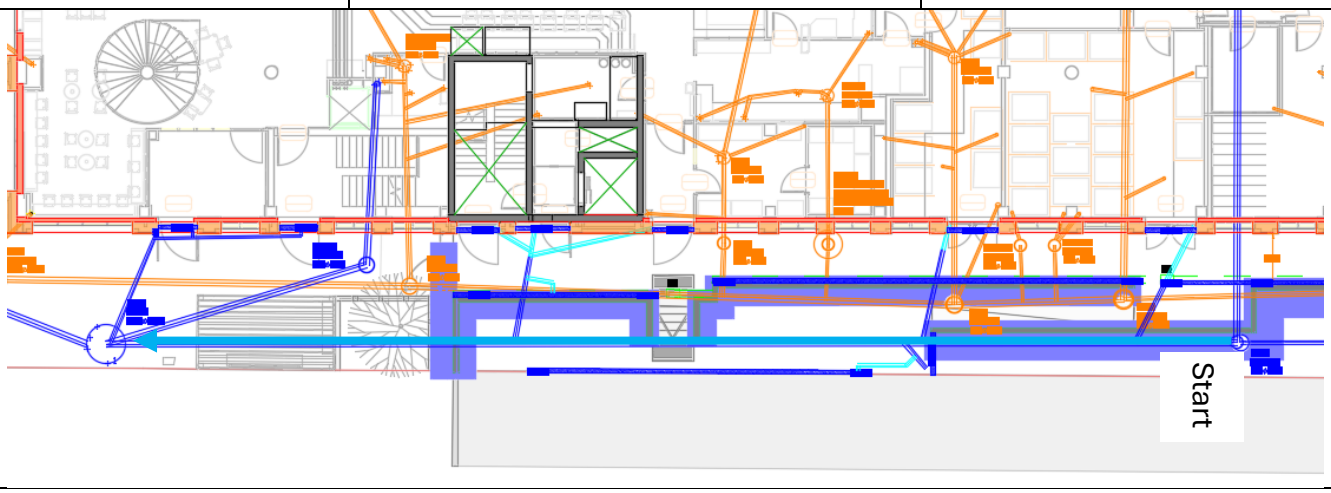


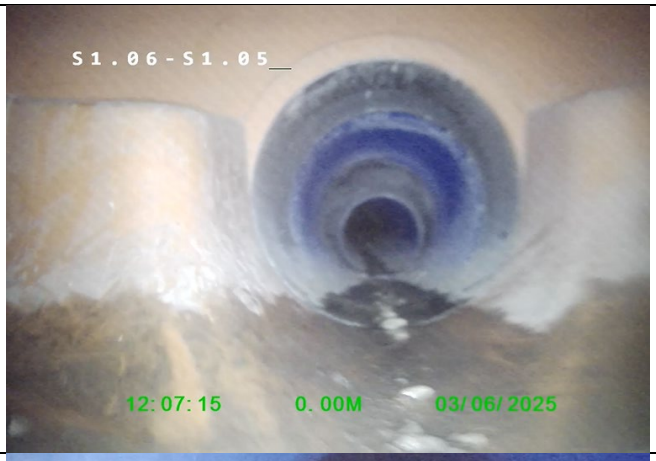
Observations

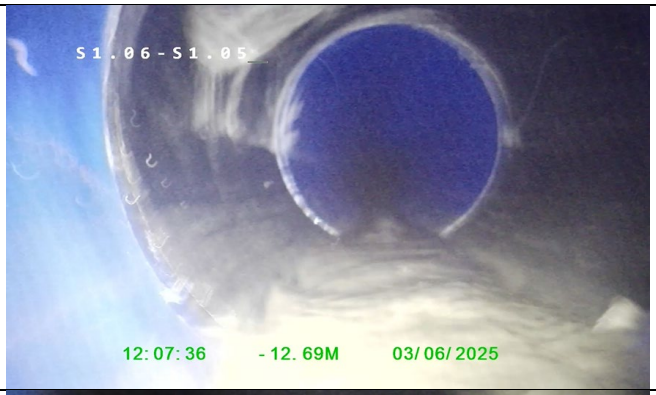
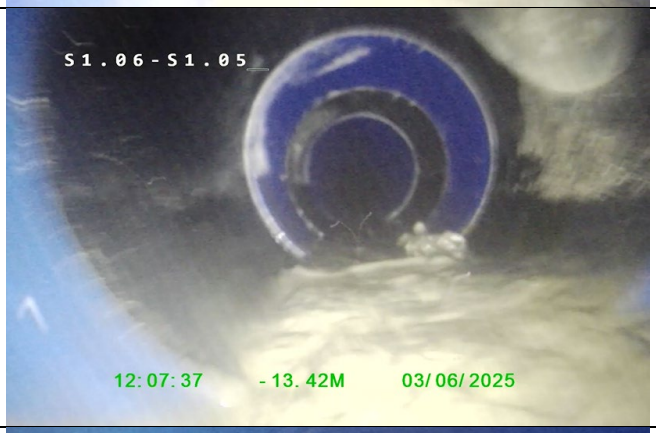
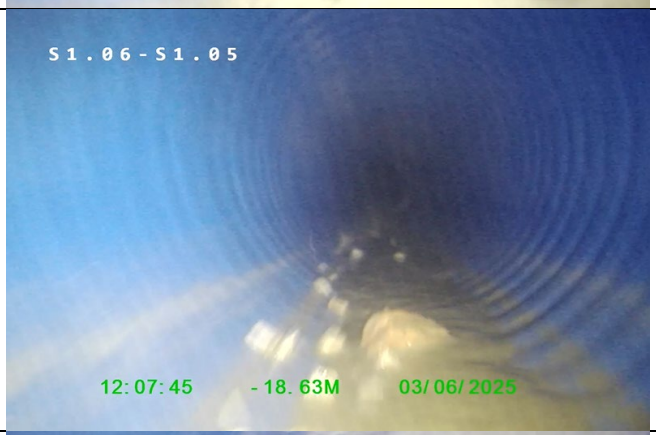
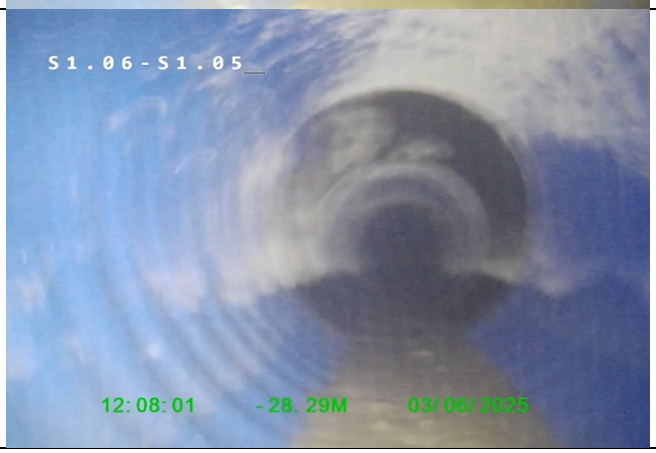
Pipe Type & Diameter	Polypipe UG 100mm Diameter	
0.0m	Survey Start @ S1.04 Man hole not yet installed	
5.95m	Junction	

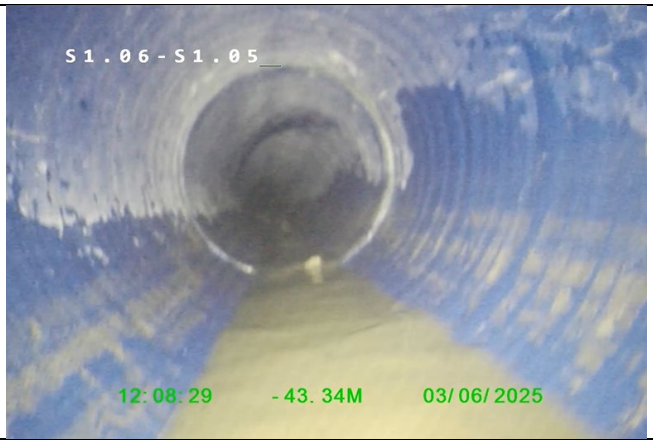
13.12m	Branch @ 9 o'clock	
19.98m	Debris in line	
22.58m	Branch @ 9 o'clock	
23.68m	End of survey @ S1.05	

RENAKER	**HOS – First Street**	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6

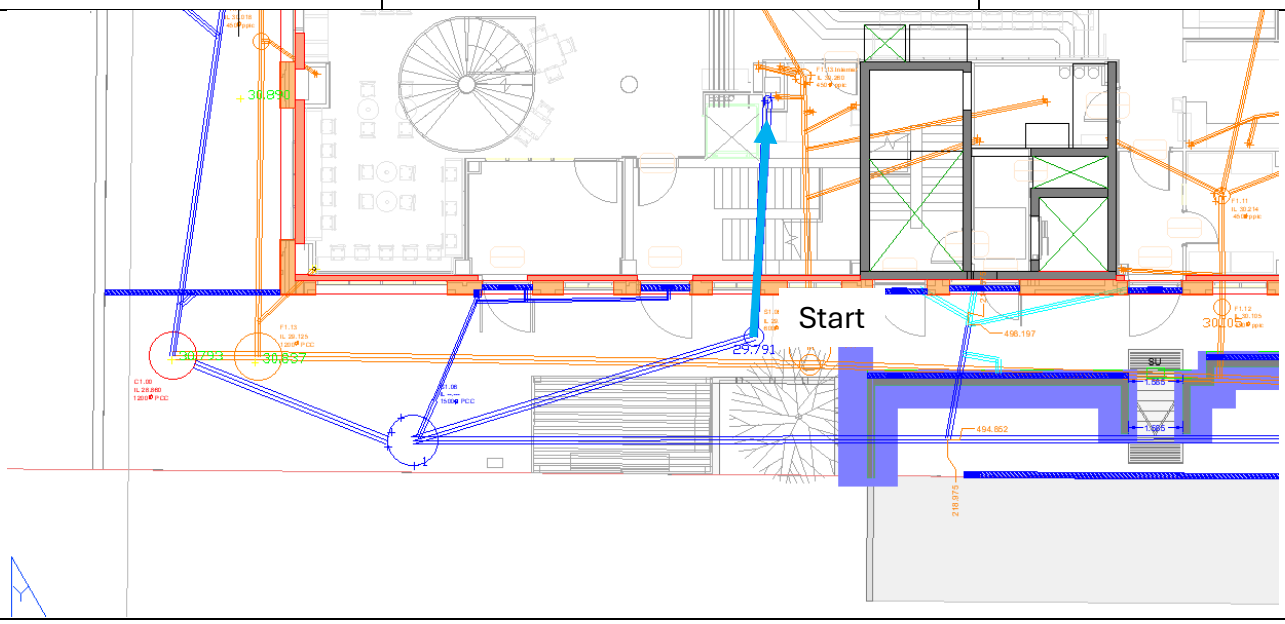


Observations		
NOTE: Survey started at 0m camera reversed back towards S1.06		
Pipe Type & Diameter	Polypipe Ridgidrain 225mm Diameter	
0.0m	Survey Start @ S1.05	
-3.42m	Branch @ 9O'Clock	

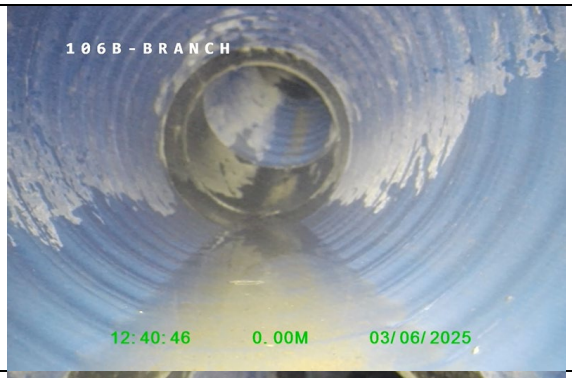
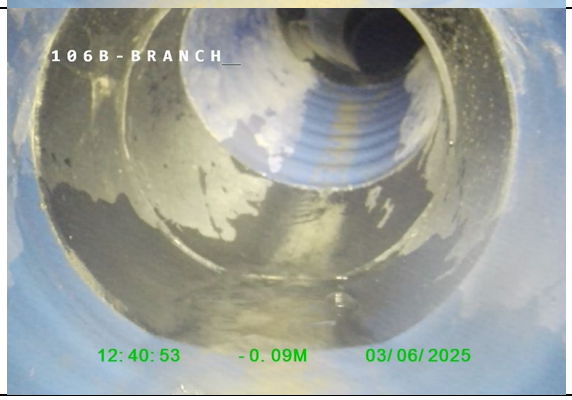
-12.69m	Branch @ 10O'Clock	
-13.42	Branch @ 2O'Clock	
-18.63	Loose Debris in Channel	
-28.29m	Branch @ 2O'Clock	

-43.34m	End of Survey @ S1.06 – Some Debris in Manhole	

RENAKER	**HOS – First Street**	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6

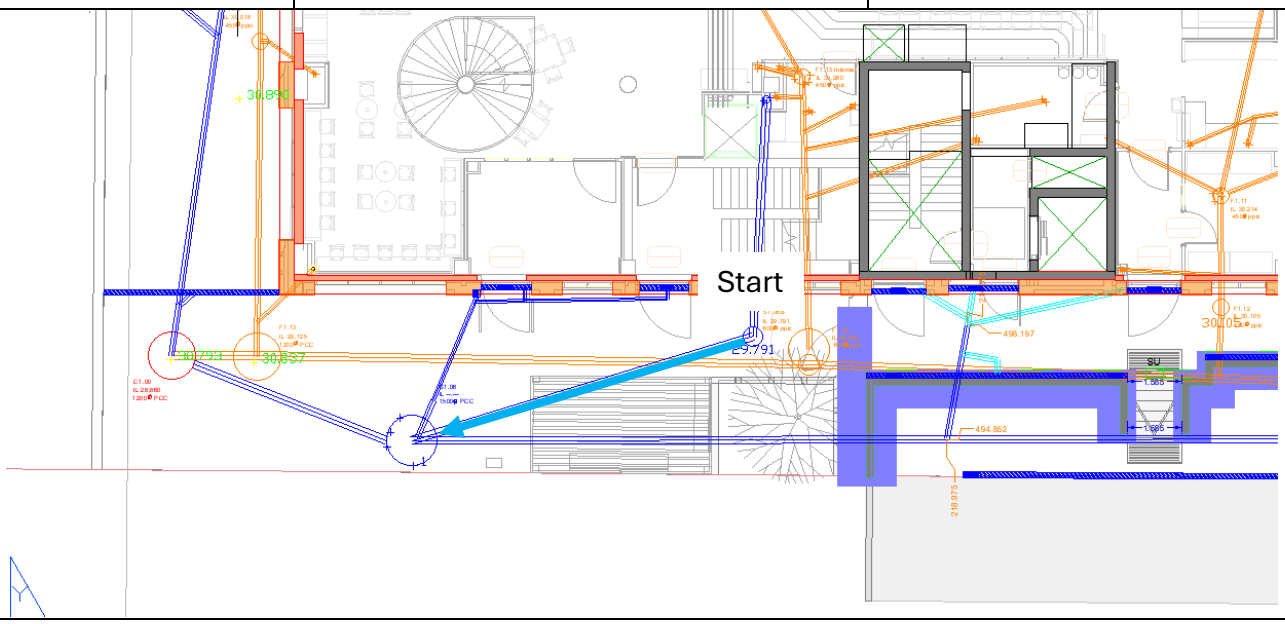


Observations

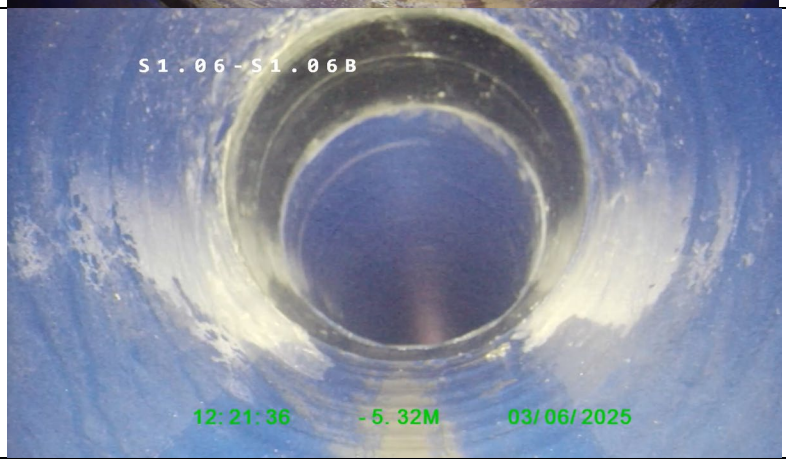
Pipe Type & Diameter	Polypipe Ridgidrain 225mm Diameter	
0.0m	Survey Start @ S1.06B	
0.4m	Bends up 30 degrees	

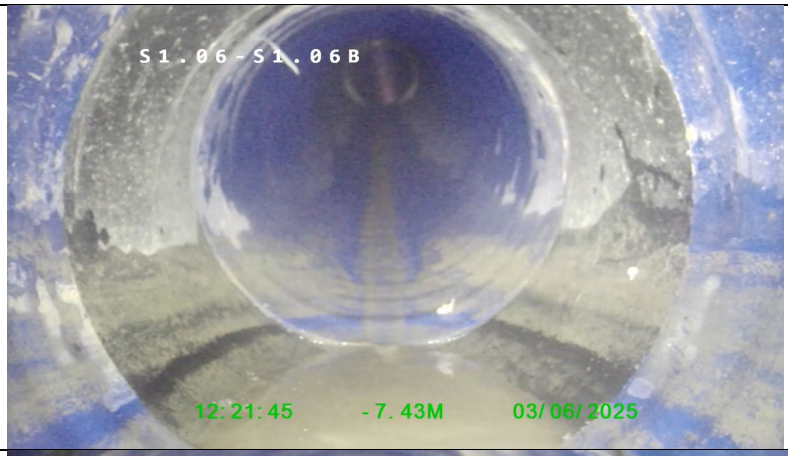
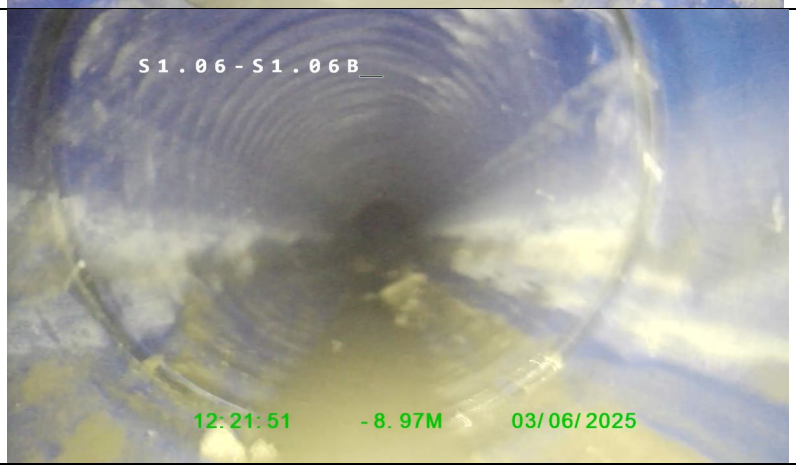
0.86 m	Bends down 30 degrees – Top of external backdrop	
5.28m	30 Degree Bend right	
6.04m	End of Survey @ Rest Bend	

RENAKER	**HOS – First Street**	Drainage CCTV Survey Camera Model; Vivax-Metrotech VCam6



Observations

Pipe Type & Diameter	Polypipe UG 100mm Diameter	
0.0m	Survey Start @ S1.06B	
5.32m	Bends down 15 degrees	

7.43 m	15 degree bends flat	
8.97m	End of Survey @ S1.06	

APPENDIX G – MANHOLE RECORDS

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

RENAKER

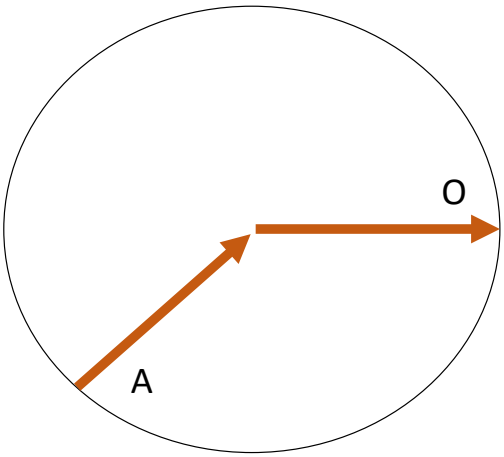
PROJECT: HOS First Street | **System Type** Foul

MANHOLE/CATCHPIT Reference. F1.00 | **DATE ISSUED:**

Position	Design	Asbuilt	Difference	Remarks
Easting	202.535	202.711	-0.176	
Northing	523.5	523.54	-0.04	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 450mm Dia

CONNECTIONS AS DETAILED

		INVERT LEVEL		
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:	100	30.376	30.378	0.002
A	100	30.426	30.428	0.002
B				
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size 450x450

COVER LEVEL:

DESIGN: 30.89

AS-BUILT:

DIFFERENCE **30.89**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE:

DATE:

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

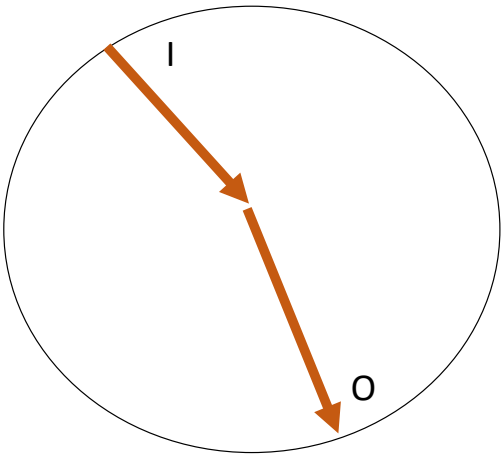
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.01	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	238.249	238.261	-0.012	
Northing	523.487	523.442	0.045	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 450mm Dia

CONNECTIONS AS DETAILED

		INVERT LEVEL		
	DIA	DESIGN	AS-BUILT	DIFF
INLET:	100	29.75	29.751	-0.001
OUTLET:	150	29.75	29.751	-0.001
A				
B				
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size 450x450

COVER LEVEL:

DESIGN: 30.92

AS-BUILT:

DIFFERENCE **30.92**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

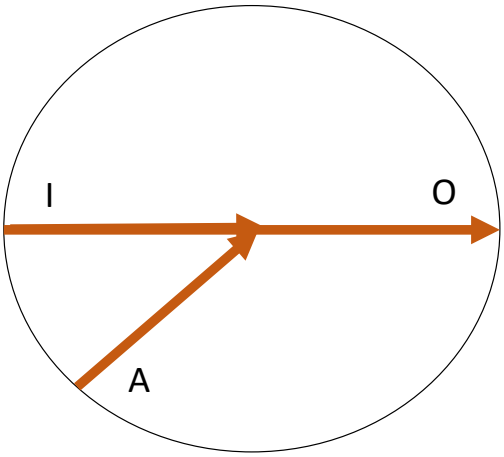
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.01b	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	233.463	234.003	-0.54	
Northing	523.848	524.165	-0.317	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type: PPIC

RING DIA AND TYPE: 300mm Dia

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:	100	29.851	29.841	0.01
OUTLET:	100	29.851	29.841	0.01
A	100	29.851	29.891	-0.04
B				
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size: 300x300

COVER LEVEL:

DESIGN: 30.939

AS-BUILT:

DIFFERENCE: **30.939**

BENCHING: N/A

BRICKWORK COURSES:

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

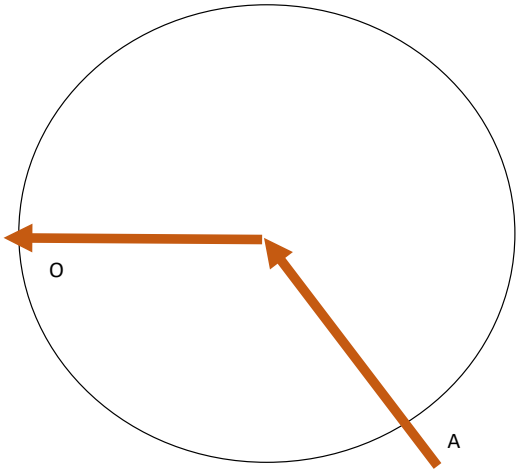
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	**F1.02**	**DATE ISSUED:**	23/11.2023

Position	Design	Asbuilt	Difference	Remarks
Easting	282.001	281.94	0.061	
Northing	517.161	517.162	-0.001	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 450 mm

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:		31.07	31.109	-0.039
OUTLET:		31.07	31.041	0.029
A				
B				
C				
D				

NON STANDARD DETAILS:

SPECIAL ACCESS / SAFETY

HYDROBRAKE / SUMP

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size 450x450

COVER LEVEL:

DESIGN: 31.965

AS-BUILT:

DIFFERENCE **31.965**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

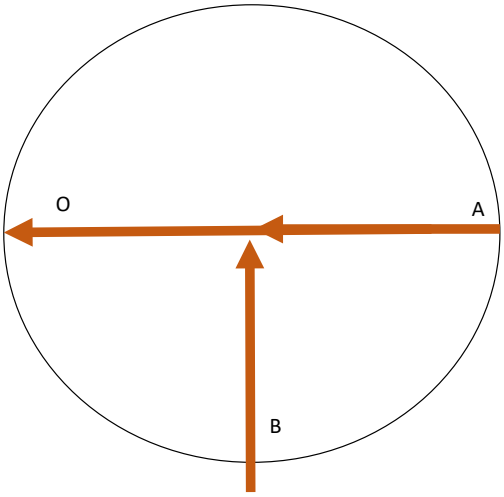
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	**F1.03**	**DATE ISSUED:**	23/11.2023

Position	Design	Asbuilt	Difference	Remarks
Easting	265.126	265.2	-0.074	
Northing	517.163	517.199	-0.036	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 450 mm

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:	150	30.115	30.094	0.021
A	150	30.115	30.101	0.014
B	150	30.115	30.101	0.014
C				
D				

NON STANDARD DETAILS:

SPECIAL ACCESS / SAFETY

HYDROBRAKE / SUMP

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size 450x450

COVER LEVEL:

DESIGN: 31.92

AS-BUILT:

DIFFERENCE **31.92**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

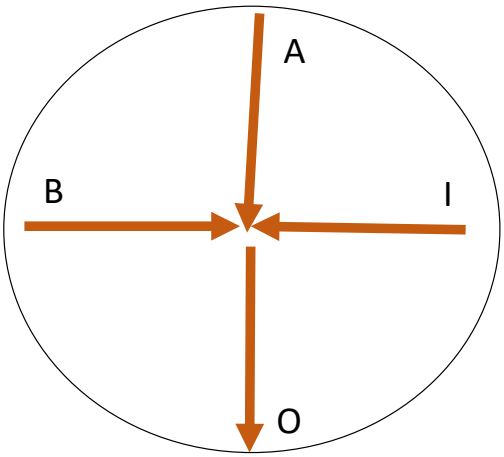
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.04	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	242.234	242.397	-0.163	
Northing	517.207	517.381	-0.174	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type: PCC Rings

RING DIA AND TYPE: 1200mm

CONNECTIONS AS DETAILED

		INVERT LEVEL		
	DIA	DESIGN	AS-BUILT	DIFF
INLET:	150	29.7	29.687	0.013
OUTLET:	225	29.7	29.687	0.013
A	150	29.7	29.687	0.013
B	100	29.7	29.687	0.013
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size: 600x600

COVER LEVEL:

DESIGN: 31.92

AS-BUILT:

DIFFERENCE: **31.92**

BENCHING: N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

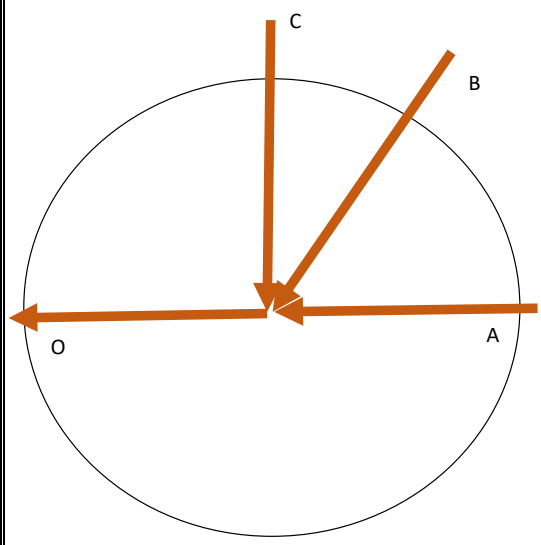
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	**F1.05**	**DATE ISSUED:**	23/11.2023

Position	Design	Asbuilt	Difference	Remarks
Easting	274.481	274.456	0.025	
Northing	496.875	496.944	-0.069	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PCC Rings

RING DIA AND TYPE 1200 mm

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:	150	30.225	30.121	-0.104
A	150	30.225	30.121	-0.104
B	110	30.225	30.121	-0.104
C	110	30.225	30.121	-0.104
D				

NON STANDARD DETAILS:

SPECIAL ACCESS / SAFETY

HYDROBRAKE / SUMP

COVER TYPE / SPEC: Ductile Iron D400

Cover Size 600x600

COVER LEVEL:

DESIGN: 32.85

AS-BUILT:

DIFFERENCE **32.85**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

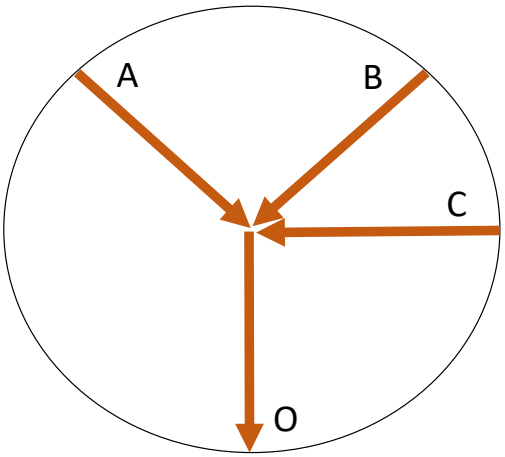
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.06	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	252.001	252.019	-0.018	
Northing	506.054	506.042	0.012	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 450mm Diameter

CONNECTIONS AS DETAILED

	DIA	INVERT LEVEL DESIGN	INVERT LEVEL AS-BUILT	DIFF
INLET:				
OUTLET:	150	30.325	30.357	0.032
A	100	30.4	30.432	0.032
B	100	30.4	30.432	0.032
C	100	30.4	30.432	0.032
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Internal Double sealed

Cover Size 450x450

COVER LEVEL:

DESIGN: 31.925

AS-BUILT:

DIFFERENCE **31.925**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

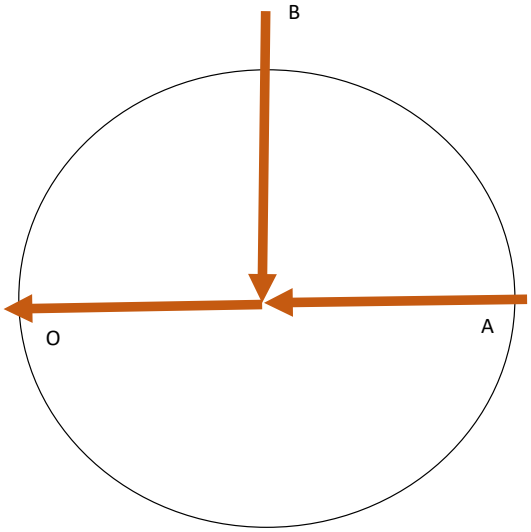
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	**F1.07**	**DATE ISSUED:**	23/11.2023

Position	Design	Asbuilt	Difference	Remarks
Easting	251.992	252.034	-0.042	
Northing	496.932	496.838	0.094	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 450 mm

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:	150	29.95	29.858	-0.092
A	150	29.95	29.858	-0.092
B	150	29.95	29.858	-0.092
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Ductile Iron D400

Cover Size 450x450

COVER LEVEL:

DESIGN: 32.36

AS-BUILT:

DIFFERENCE **32.36**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

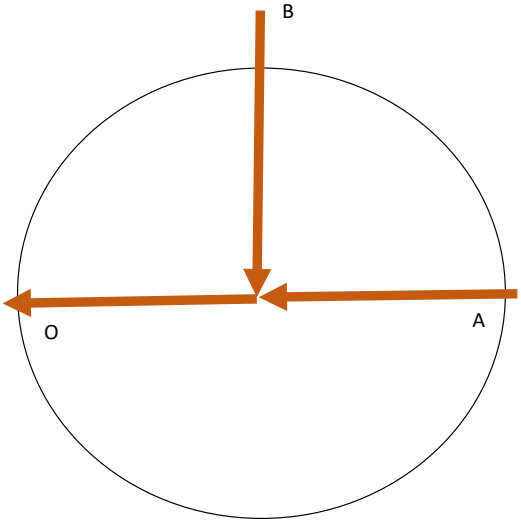
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	**F1.08**	**DATE ISSUED:**	23/11.2023

Position	Design	Asbuilt	Difference	Remarks
Easting	**242.203**	**242.183**	**0.02**	
Northing	**496.88**	**496.546**	**0.334**	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type	PPIC	
RING DIA AND TYPE	600	mm

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:				
A	150	29.55	29.552	0.002
B	0.1	29.55	29.552	0.002
C	0.225	29.55	29.552	0.002
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC:	Ductile Iron D400
Cover Size	600x600
COVER LEVEL:	
DESIGN:	30.91
AS-BUILT:	
DIFFERENCE	**30.91**
BENCHING	N/A
BRICKWORK COURSES:	N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

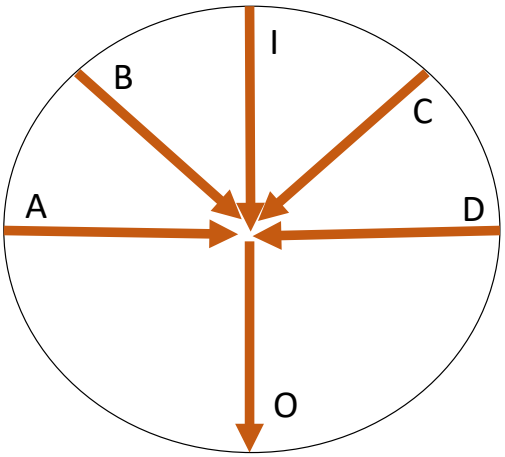
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.09	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	235.731	235.732	-0.001	
Northing	505.81	505.753	0.057	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 450mm Dia

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:	100	30.325	29.757	-0.568
OUTLET:	150	30.325	29.757	-0.568
A	100	30.4	29.832	-0.568
B	100	30.4	29.832	-0.568
C	100	30.4	29.832	-0.568
D	100	30.4	29.832	-0.568

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Internal Double Sealed

Cover Size 450x450

COVER LEVEL:

DESIGN: 30.925

AS-BUILT:

DIFFERENCE **30.925**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

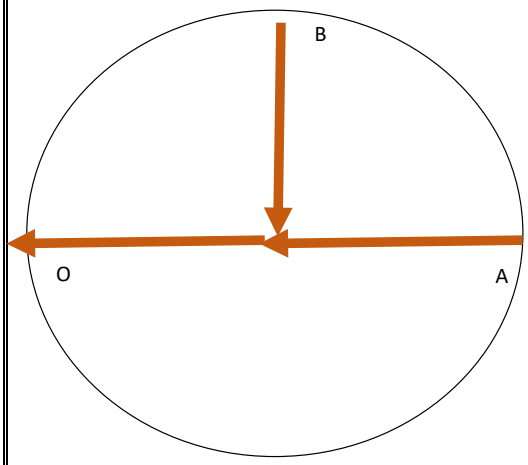
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.10	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	235.683	235.732	-0.049	
Northing	496.43	496.332	0.098	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 600mm Diameter

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:	0.225	29.51	29.495	0.015
A	0.225	29.51	29.495	0.015
B	0.15	29.51	29.495	0.015
C				
D				

NON STANDARD DETAILS:

SPECIAL ACCESS / SAFETY

HYDROBRAKE / SUMP

COVER TYPE / SPEC: Ductile Iron D400

Cover Size 600x600

COVER LEVEL:

DESIGN: 30.91

AS-BUILT:

DIFFERENCE **30.91**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE:

DATE:

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

RENAKER

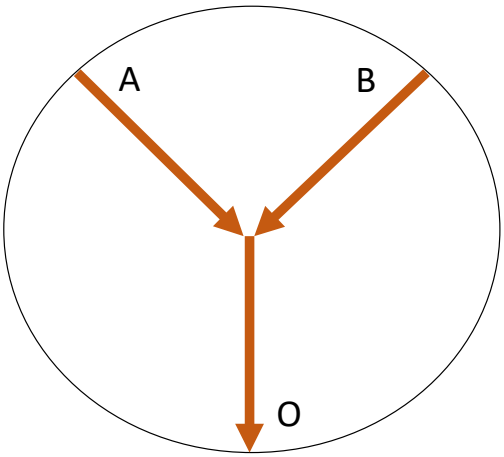
PROJECT: HOS First Street | **System Type** Foul

MANHOLE/CATCHPIT Reference. F1.10A | **DATE ISSUED:**

Position	Design	Asbuilt	Difference	Remarks
Easting	230.843	230.906	-0.063	
Northing	504.452	504.313	0.139	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 450mm Dia

CONNECTIONS AS DETAILED

	DIA	INVERT LEVEL DESIGN	INVERT LEVEL AS-BUILT	DIFF
INLET:				
OUTLET:	100	30.325	30.246	-0.079
A	100	30.375	30.296	-0.079
B	100	30.375	30.296	-0.079
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Internal Double Sealed

Cover Size 450x450

COVER LEVEL:

DESIGN: 30.925

AS-BUILT:

DIFFERENCE **30.925**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE:

DATE:

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

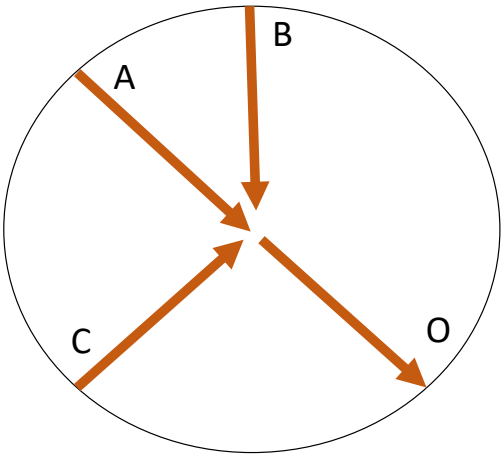
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.10 (Internal)	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	212.522	212.519	0.003	
Northing	509.284	509.278	0.006	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 450mm Dia

CONNECTIONS AS DETAILED

	DIA	INVERT LEVEL DESIGN	INVERT LEVEL AS-BUILT	DIFF
INLET:				
OUTLET:	100	30.325	30.32	-0.005
A	100	30.325	30.32	-0.005
B	100	30.375	30.37	-0.005
C	100	30.375	30.37	-0.005
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Internal Double Sealed

Cover Size 450x450

COVER LEVEL:

DESIGN: 30.925

AS-BUILT:

DIFFERENCE **30.925**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

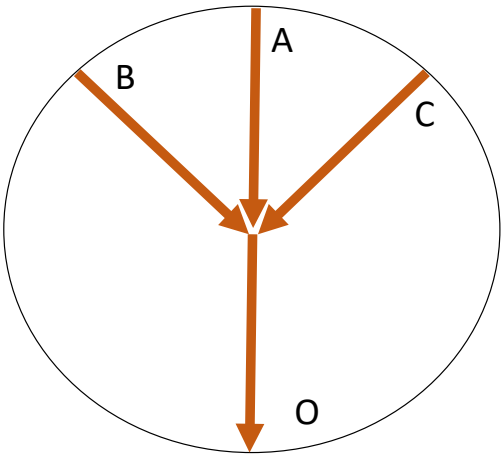
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.11	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	226.947	226.944	0.003	
Northing	502.012	501.945	0.067	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 450mm Dia

CONNECTIONS AS DETAILED

	DIA	INVERT LEVEL DESIGN	INVERT LEVEL AS-BUILT	DIFF
INLET:				
OUTLET:	150	30.325	30.214	-0.111
A	100	30.325	30.214	-0.111
B	100	30.375	30.264	-0.111
C	100	30.375	30.264	-0.111
D				

NON STANDARD DETAILS:

SPECIAL ACCESS / SAFETY

HYDROBRAKE / SUMP

COVER TYPE / SPEC: Recessed Internal Double Sealed

Cover Size 450x450

COVER LEVEL:

DESIGN: 30.925

AS-BUILT:

DIFFERENCE **30.925**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

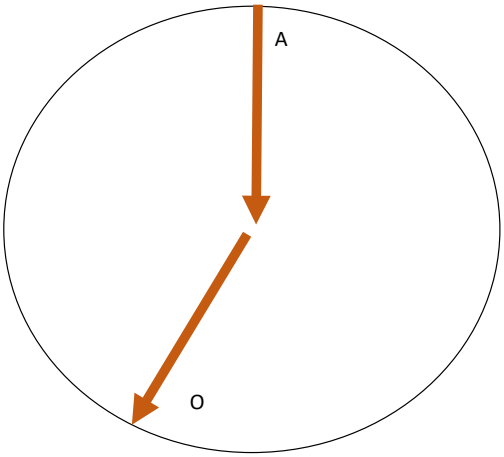
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.12	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	226.936	226.958	-0.022	
Northing	498.684	498.692	-0.008	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 450mm Diameter

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:	0.15	30.175	30.105	0.07
A	0.15	30.175	30.105	0.07
B				
C				
D				

NON STANDARD DETAILS:

SPECIAL ACCESS / SAFETY

HYDROBRAKE / SUMP

COVER TYPE / SPEC: Ductile Iron D400

Cover Size 450x450

COVER LEVEL:

DESIGN: 30.92

AS-BUILT:

DIFFERENCE **30.92**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

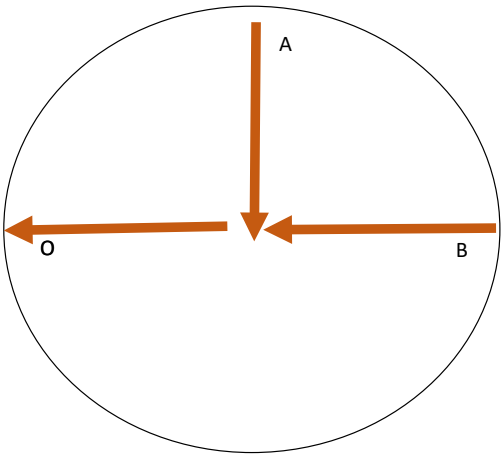
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.13	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	198.956	198.906	0.05	
Northing	497.618	497.276	0.342	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type: PCC Rings

RING DIA AND TYPE: 1200mm Diameter

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:	0.225	29.27	29.125	-0.145
A	0.15	29.27	29.125	-0.145
B	0.225	29.27	29.125	-0.145
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size: 600x600mm

COVER LEVEL:

DESIGN: 30.8

AS-BUILT:

DIFFERENCE: **30.8**

BENCHING: N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

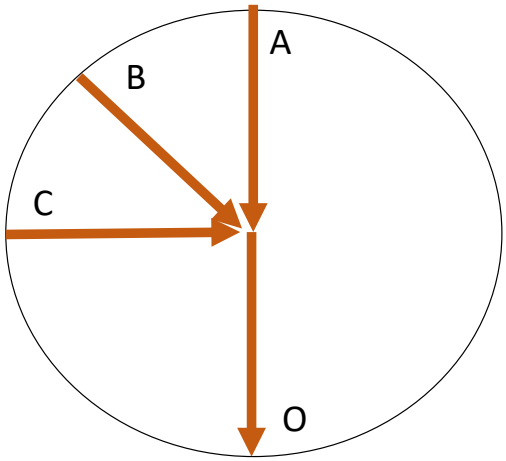
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.13 Internal	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	214.972	214.807	0.165	
Northing	505.479	505.346	0.133	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 450mm Dia

CONNECTIONS AS DETAILED

	DIA	INVERT LEVEL DESIGN	INVERT LEVEL AS-BUILT	DIFF
INLET:				
OUTLET:	150	30.225	30.26	0.035
A	100	30.225	30.26	0.035
B	100	30.275	30.31	0.035
C	100	30.275	30.31	0.035
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Internal Double Sealed

Cover Size 450x450

COVER LEVEL:

DESIGN: 30.925

AS-BUILT:

DIFFERENCE **30.925**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

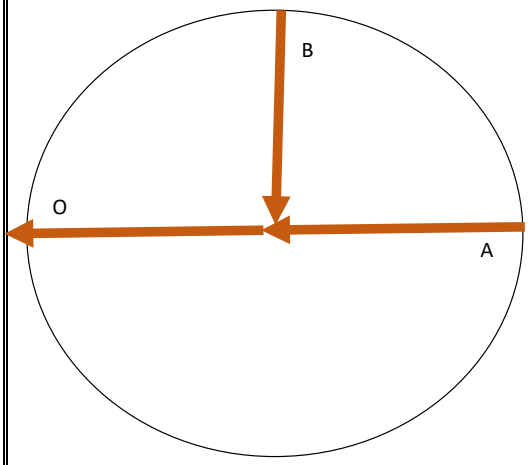
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.14	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	214.974	214.974	0	
Northing	496.873	497.474	-0.601	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 600mm Diameter

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:	225	29.38	29.293	-0.087
A	225	29.38	29.293	-0.087
B	150	29.38	29.293	-0.087
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size 600x600mm

COVER LEVEL:

DESIGN: 30.89

AS-BUILT:

DIFFERENCE **30.89**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

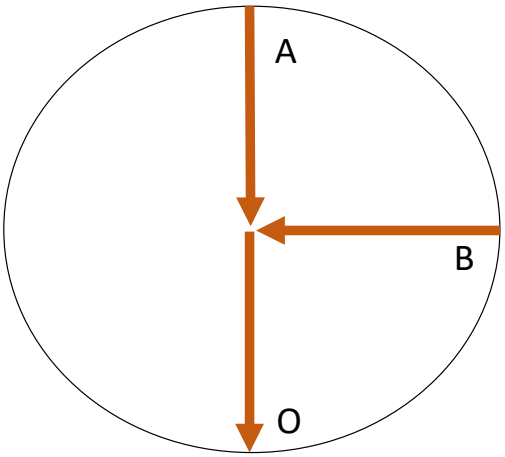
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.15	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	198.966	199.011	-0.045	
Northing	511.76	511.813	-0.053	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 450mm Dia

CONNECTIONS AS DETAILED

		INVERT LEVEL		
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:	100	30.115	30.087	-0.028
A	100	30.115	30.087	-0.028
B	100	30.165	30.137	-0.028
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size 450x450

COVER LEVEL:

DESIGN: 30.92

AS-BUILT:

DIFFERENCE **30.92**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

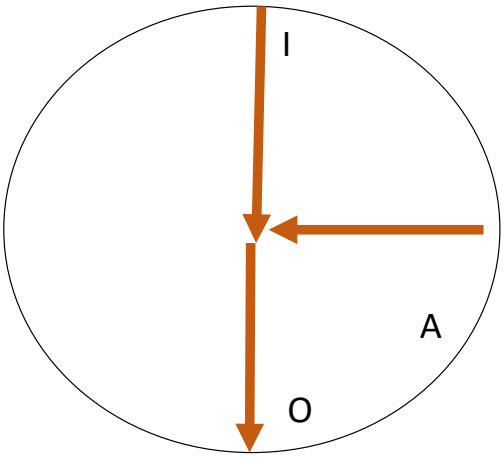
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.16	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	198.966	199.008	-0.042	
Northing	506.515	506.444	0.071	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type: PPIC

RING DIA AND TYPE: 450mm Dia

CONNECTIONS AS DETAILED

	DIA	INVERT LEVEL DESIGN	INVERT LEVEL AS-BUILT	DIFF
INLET:	100	30.055	30.018	-0.037
OUTLET:	150	30.055	30.018	-0.037
A	100	30.055	30.068	0.013
B				
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size: 450x450

COVER LEVEL:

DESIGN: 30.92

AS-BUILT:

DIFFERENCE: **30.92**

BENCHING: N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

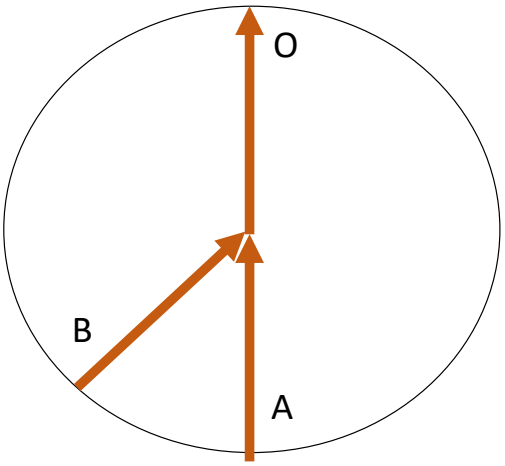
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.MC1	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	204.668	204.694	-0.026	
Northing	522.999	522.99	0.009	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 300mm Dia

CONNECTIONS AS DETAILED

	DIA	INVERT LEVEL DESIGN	INVERT LEVEL AS-BUILT	DIFF
INLET:				
OUTLET:	100	30.35	30.357	0.007
A	100	30.35	30.357	0.007
B	100	30.4	30.407	0.007
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size 300x300

COVER LEVEL:

DESIGN: 30.9

AS-BUILT:

DIFFERENCE **30.9**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

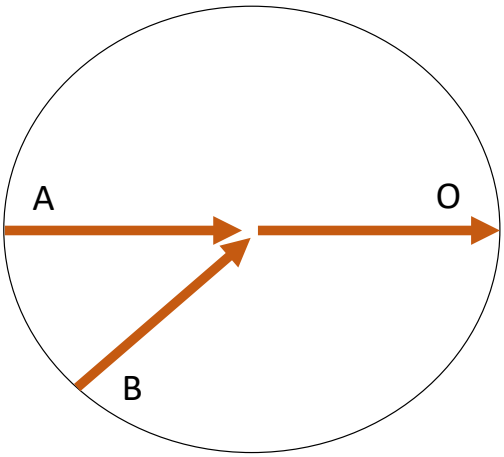
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.MC2	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	205.888	205.881	0.007	
Northing	523.498	523.505	-0.007	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 300mm Dia

CONNECTIONS AS DETAILED

	DIA	INVERT LEVEL DESIGN	INVERT LEVEL AS-BUILT	DIFF
INLET:				
OUTLET:	100	30.325	30.322	-0.003
A	100	30.325	30.322	-0.003
B	100	30.375	30.372	-0.003
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size 300x300

COVER LEVEL:

DESIGN: 30.895

AS-BUILT:

DIFFERENCE **30.895**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

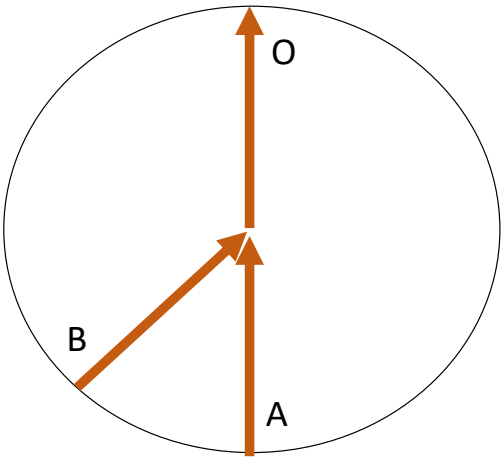
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.MC3	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	209.324	209.272	0.052	
Northing	522.999	523.03	-0.031	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 300mm Dia

CONNECTIONS AS DETAILED

	DIA	INVERT LEVEL DESIGN	INVERT LEVEL AS-BUILT	DIFF
INLET:				
OUTLET:	100	30.277	30.3	0.023
A	100	30.277	30.3	0.023
B	100	30.327	30.35	0.023
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size 300x300

COVER LEVEL:

DESIGN: 30.895

AS-BUILT:

DIFFERENCE **30.895**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

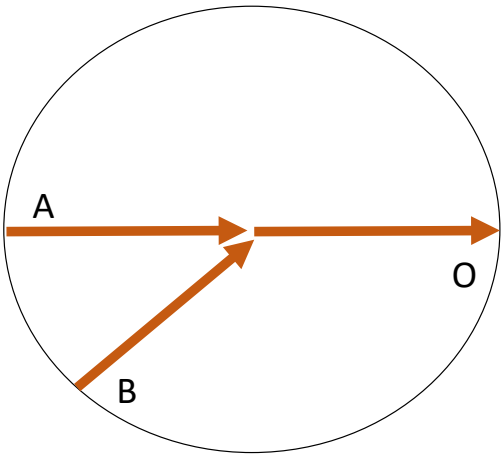
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.MC4	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	210.512	210.531	-0.019	
Northing	523.498	523.51	-0.012	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 300mm Dia

CONNECTIONS AS DETAILED

	DIA	INVERT LEVEL DESIGN	INVERT LEVEL AS-BUILT	DIFF
INLET:				
OUTLET:	100	30.254	30.253	-0.001
A	100	30.254	30.253	-0.001
B	100	30.304	30.303	-0.001
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size 300x300

COVER LEVEL:

DESIGN: 30.885

AS-BUILT:

DIFFERENCE **30.885**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

RENAKER

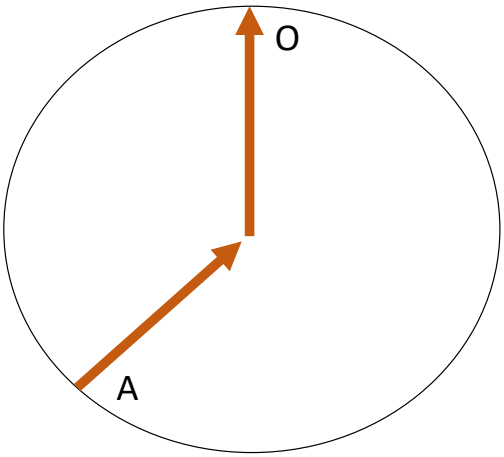
PROJECT: HOS First Street | **System Type** Foul

MANHOLE/CATCHPIT Reference. F1.MC5 | **DATE ISSUED:**

Position	Design	Asbuilt	Difference	Remarks
Easting	213.975	213.963	0.012	
Northing	523.048	523.031	0.017	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 300mm Dia

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:	100	30.205	30.249	0.044
A	100	30.255	30.299	0.044
B				
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size 300x300

COVER LEVEL:

DESIGN: 30.885

AS-BUILT:

DIFFERENCE **30.885**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE:

DATE:

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

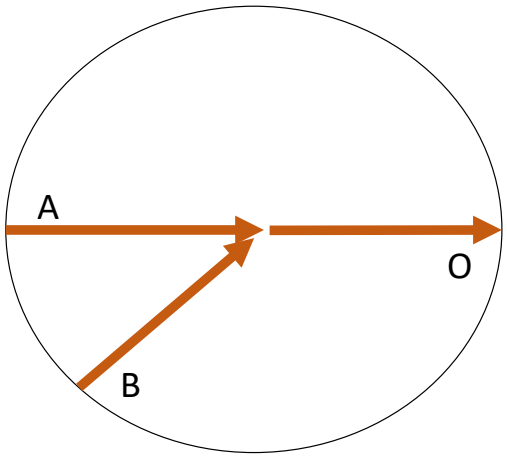
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.MC6	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	218.817	218.821	-0.004	
Northing	523.623	523.648	-0.025	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 300mm Dia

CONNECTIONS AS DETAILED

	DIA	INVERT LEVEL DESIGN	INVERT LEVEL AS-BUILT	DIFF
INLET:				
OUTLET:	100	30.049	30.132	0.083
A	100	30.049	30.132	0.083
B	100	30.099	30.182	0.083
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size 300x300

COVER LEVEL:

DESIGN: 30.88

AS-BUILT:

DIFFERENCE **30.88**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

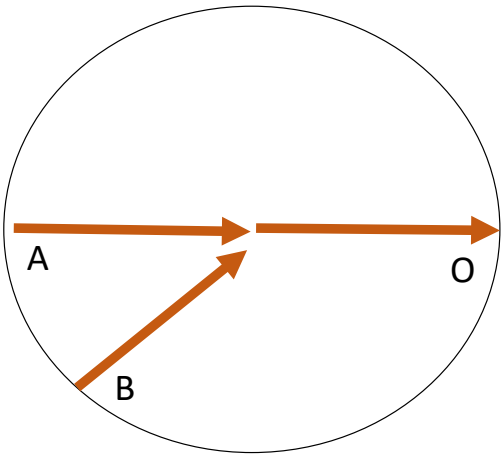
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.MC7	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	221.011	221.025	-0.014	
Northing	523.697	523.701	-0.004	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 300mm Dia

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:	100	30.016	30.042	0.026
A	100	30.016	30.042	0.026
B	100	30.066	30.092	0.026
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size 300x300

COVER LEVEL:

DESIGN: 30.88

AS-BUILT:

DIFFERENCE **30.88**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

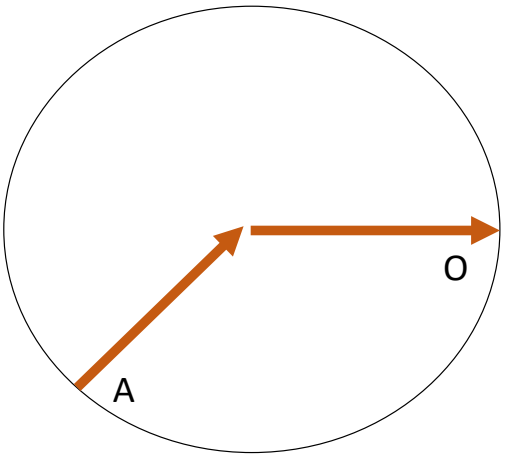
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.MC8	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	220.256	220.271	-0.015	
Northing	523.042	523.049	-0.007	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 300mm Dia

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:	100	30.2	30.26	0.06
A	100	30.25	30.31	0.06
B				
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size 300x300

COVER LEVEL:

DESIGN: 30.88

AS-BUILT:

DIFFERENCE **30.88**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

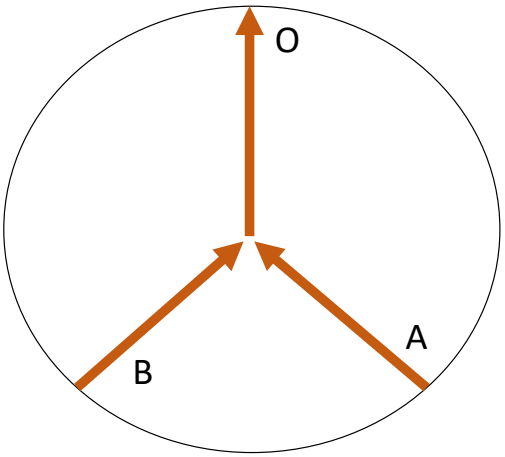
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.MC9	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	222.498	222.51	-0.012	
Northing	522.609	522.597	0.012	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 300mm Dia

CONNECTIONS AS DETAILED

	DIA	INVERT LEVEL DESIGN	INVERT LEVEL AS-BUILT	DIFF
INLET:				
OUTLET:	100	30.155	30.202	-0.047
A	100	30.205	30.252	-0.047
B	100	30.205	30.252	-0.047
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size 300x300

COVER LEVEL:

DESIGN: 30.89

AS-BUILT:

DIFFERENCE **30.89**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

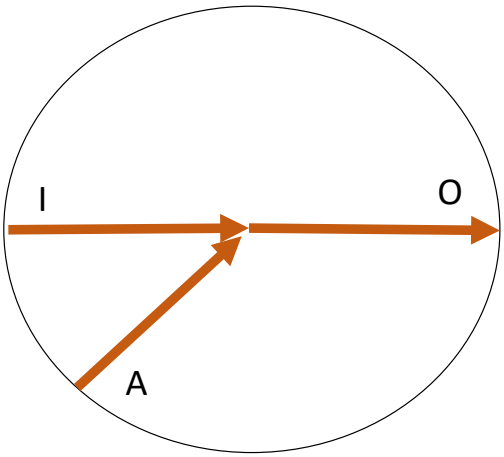
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.MC10	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	223.861	223.938	-0.077	
Northing	523.192	523.327	-0.135	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 300mm Dia

CONNECTIONS AS DETAILED

	DIA	INVERT LEVEL DESIGN	INVERT LEVEL AS-BUILT	DIFF
INLET:	100	30.126	30.161	0.035
OUTLET:	100	30.126	30.161	0.035
A	100	30.176	30.211	0.035
B				
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size 300x300

COVER LEVEL:

DESIGN: 30.89

AS-BUILT:

DIFFERENCE **30.89**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

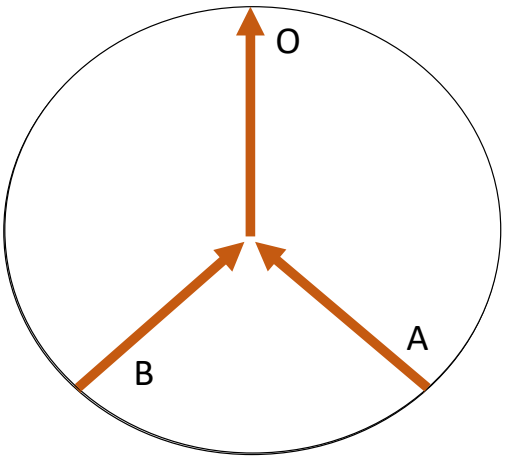
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.MC11	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	227.129	227.119	0.01	
Northing	522.608	522.731	-0.123	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 300mm Dia

CONNECTIONS AS DETAILED

	DIA	INVERT LEVEL DESIGN	INVERT LEVEL AS-BUILT	DIFF
INLET:				
OUTLET:	100	30.05	30.159	0.109
A	100	30.1	30.209	0.109
B	100	30.1	30.209	0.109
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size 300x300

COVER LEVEL:

DESIGN: 30.935

AS-BUILT:

DIFFERENCE **30.935**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

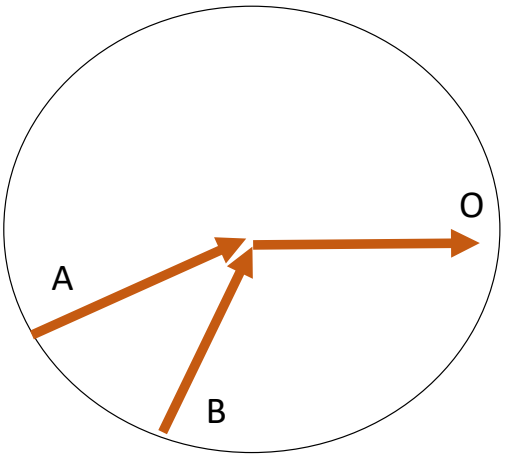
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.MC12	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	238.329	238.39	-0.061	
Northing	517.055	517.128	-0.073	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 450mm dia

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:	100	-	29.841	
A	100	-	29.841	
B	100	-	29.841	
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size 450x450

COVER LEVEL:

DESIGN: 30.925

AS-BUILT:

DIFFERENCE **30.925**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-10
Originator	C.Underhill
Revision	00

Chamber Data Sheet

RENAKER

PROJECT:	M25 First Direct	System Type:	Pond
SEARCH LOCATION / Reference:	P1 MH19	DATE ISSUED:	

Position	Design	Asbuilt	Difference	Remarks
Kerring	249.999	249.994	-0.005	
Spalding	247.750	247.417	-0.467	

Layout



Chambers

MH Type: PPIC

Main Dia AND TYPE: 1200mm dia

CONNECTIONS AS DESIGNED

	Invert Level			
	No.	Dia (mm)		
Spur	1	150		29.750
Inverts	2	150		29.750
3		150		29.750
4		150		29.750
5				
6				

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size: 600x600

COVER LEVEL

DESIGN: 30.625

AS-BUILT: 30.625

Characteristics of

BENCHING: N/A

BENCHDOWN COURSES: N/A

MONITORING DETAILS

ENGINEER SIGNATURE:

DATE:

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

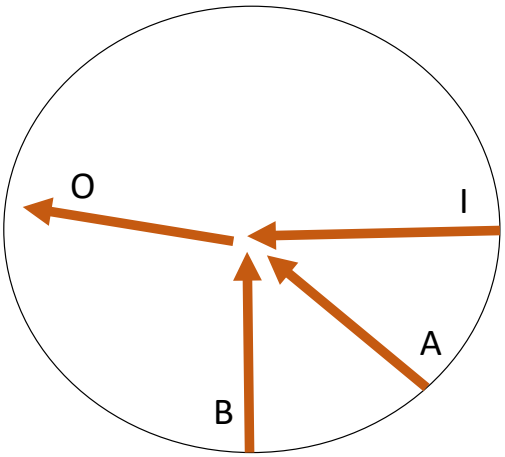
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.MC14	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	244.407	244.106	0.301	
Northing	516.703	517.113	-0.41	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 450mm

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:	150	-	29.726	
OUTLET:	150	-	29.726	
A	100	-	29.776	
B	100	-	29.776	
C				
D				

NON STANDARD DETAILS:

N/A

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size 450x450

COVER LEVEL:

DESIGN: 30.92

AS-BUILT:

DIFFERENCE **30.92**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

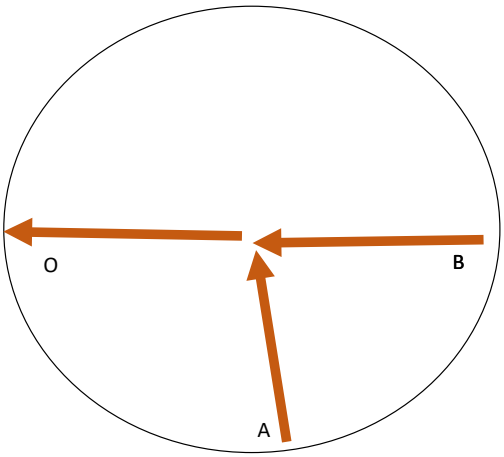
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.MC15	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	262.777	262.623	0.154	
Northing	517.169	517.19	-0.021	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 450mm Diameter

CONNECTIONS AS DETAILED

	DIA	INVERT LEVEL DESIGN	INVERT LEVEL AS-BUILT	DIFF
INLET:				
OUTLET:	150	-	30.073	
A	150	-	30.073	
B	150	-	30.073	
C				
D				

NON STANDARD DETAILS:

SPECIAL ACCESS / SAFETY

HYDROBRAKE / SUMP

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size 450x450

COVER LEVEL:

DESIGN: 30.92

AS-BUILT:

DIFFERENCE **30.92**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

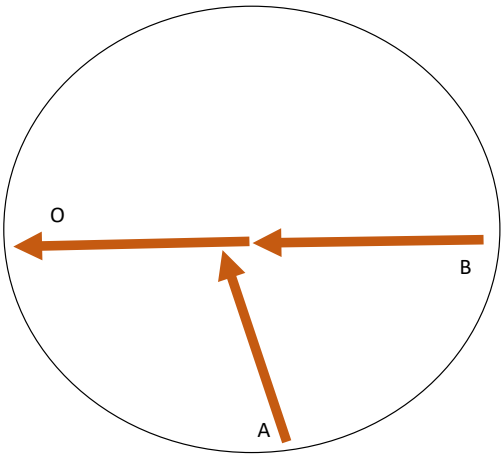
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.MC16	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	262.777	262.623	0.154	
Northing	517.169	517.19	-0.021	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 600mm Diameter

CONNECTIONS AS DETAILED

	DIA	INVERT LEVEL DESIGN	INVERT LEVEL AS-BUILT	DIFF
INLET:				
OUTLET:	150	-	30.599	
A	150	-	30.599	
B	150	-	30.599	
C				
D				

NON STANDARD DETAILS:

SPECIAL ACCESS / SAFETY

HYDROBRAKE / SUMP

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size 600x600

COVER LEVEL:

DESIGN: 31.965

AS-BUILT:

DIFFERENCE **31.965**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

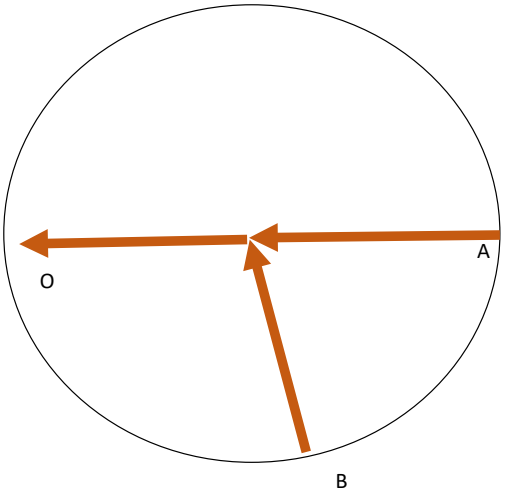
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	**F1.MC17**	**DATE ISSUED:**	23/11.2023

Position	Design	Asbuilt	Difference	Remarks
Easting	270.462	270.476	-0.014	
Northing	517.163	517.171	-0.008	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 450 mm

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:	150	-	30.387	
A	110	-	30.387	
B	110	-	30.387	
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Ductile Iron

Cover Size 450Dia

COVER LEVEL:

DESIGN: 31.4

AS-BUILT:

DIFFERENCE **31.4**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

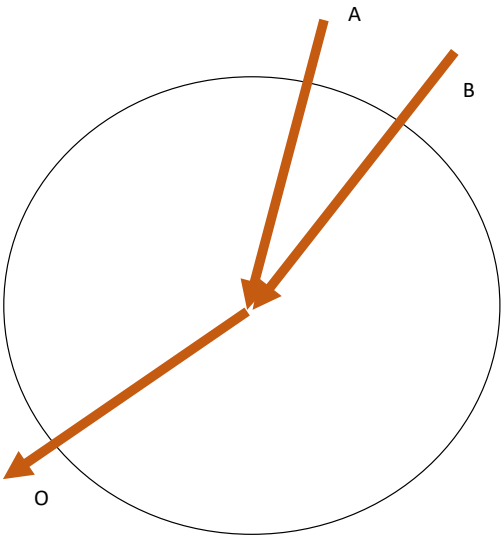
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	**F1.MC18**	**DATE ISSUED:**	23/11.2023

Position	Design	Asbuilt	Difference	Remarks
Easting	277.406	277.911	-0.505	
Northing	498.816	498.563	0.253	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PCC Rings

RING DIA AND TYPE 1200 mm

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:	150		30.256	
A	110		30.256	
B	110		30.256	
C				
D				

NON STANDARD DETAILS:

Hoop Irons for access

COVER TYPE / SPEC: Ductile Iron

Cover Size 600x600

COVER LEVEL:

DESIGN: 32.87

AS-BUILT:

DIFFERENCE **32.87**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

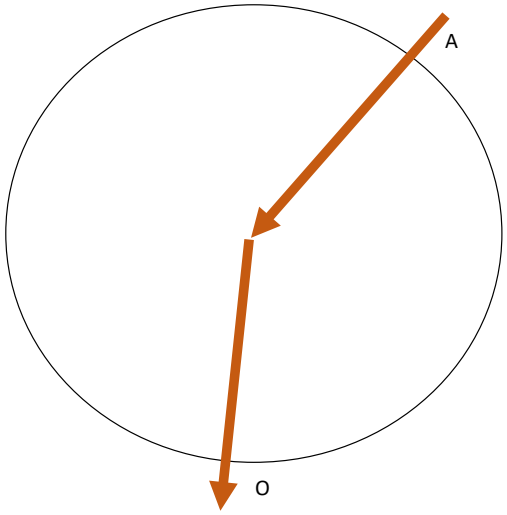
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	**F1.MC19**	**DATE ISSUED:**	23/11.2023

Position	Design	Asbuilt	Difference	Remarks
Easting	255.674	255.726	-0.052	
Northing	498.801	498.373	0.428	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 450 mm

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:	150	-	30.249	
A	150	-	30.249	
B				
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Ductile Iron

Cover Size 450x450

COVER LEVEL:

DESIGN: 32.87

AS-BUILT:

DIFFERENCE **32.87**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

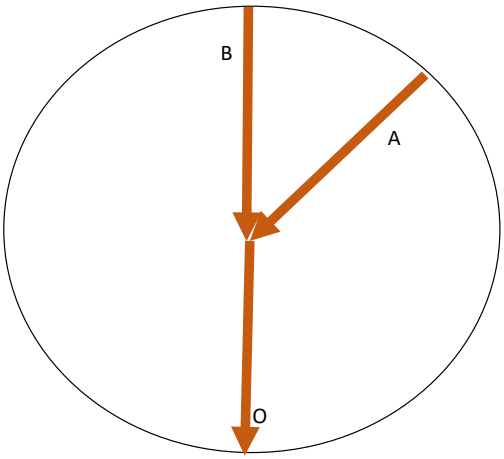
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.MC20	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	239.518	239.552	-0.034	
Northing	498.518	498.599	-0.081	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 450mm Dia

CONNECTIONS AS DETAILED

	DIA	INVERT LEVEL DESIGN	INVERT LEVEL AS-BUILT	DIFF
INLET:				
OUTLET:	100	-	30.24	
A	100	-	30.24	
B	100	-	30.24	
C				
D				

NON STANDARD DETAILS:

SPECIAL ACCESS / SAFETY

HYDROBRAKE / SUMP

COVER TYPE / SPEC: Ductile Iron

Cover Size 450x450

COVER LEVEL:

DESIGN: 30.925

AS-BUILT:

DIFFERENCE **30.925**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

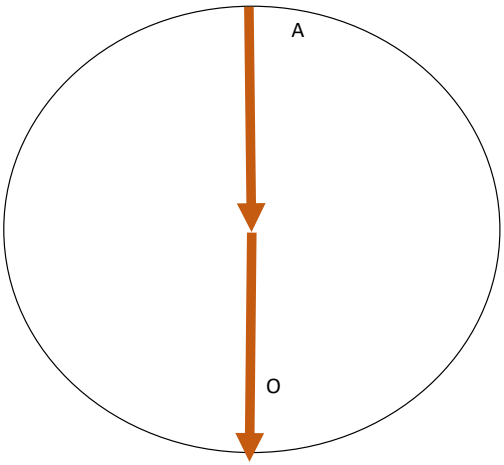
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Foul**
MANHOLE/CATCHPIT Reference.	F1.MC21	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	238.307	238.263	0.044	
Northing	498.519	498.609	-0.09	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 450mm Diameter

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:	100		30.248	
A	100		30.248	
B				
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Ductile Iron

Cover Size 450x450

COVER LEVEL:

DESIGN: 30.925

AS-BUILT:

DIFFERENCE **30.925**

BENCHING N/A

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

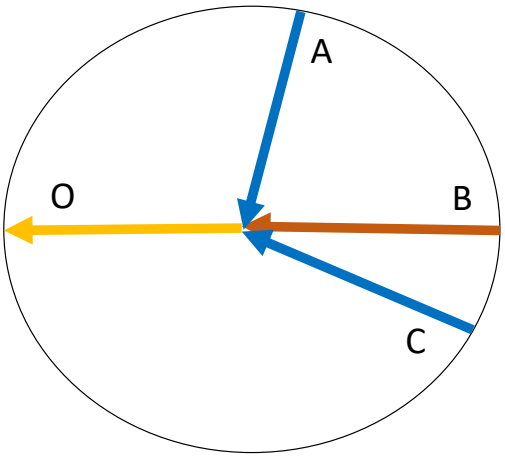
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**combined**
MANHOLE/CATCHPIT Reference.	C1.00	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	196.427	196.427	0	
Northing	497.523	497.3	0.223	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type: PCC Rings

RING DIA AND TYPE: 1200mm Diameter

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:	225	29.005	28.86	-0.145
A	100	29.08		
B	225	29.005		
C	150	29.08		
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size: 600x600

COVER LEVEL:

DESIGN: 30.74

AS-BUILT:

DIFFERENCE: **30.74**

BENCHING: COMPLETE

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

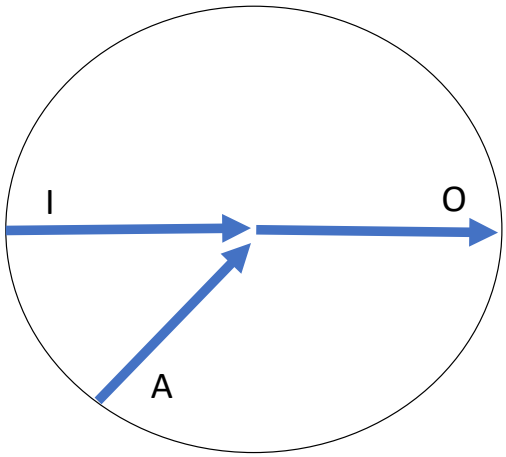
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Surface Water**
MANHOLE/CATCHPIT Reference.	S1.00	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	216.342	216.663	-0.321	
Northing	524.406	524.378	0.028	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type: PPIC

RING DIA AND TYPE: 600mm Dia Plastic

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:	150	29.95	29.918	0.032
OUTLET:	150	29.95	29.918	0.032
A	150	29.95	29.918	0.032
B				
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC: Recessed Galvanised Steel

Cover Size: 600x600

COVER LEVEL:

DESIGN: 30.9

AS-BUILT:

DIFFERENCE: **30.9**

BENCHING: COMPLETE

BRICKWORK COURSES: N/A

ENGINEER SIGNATURE: _____

DATE: _____

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

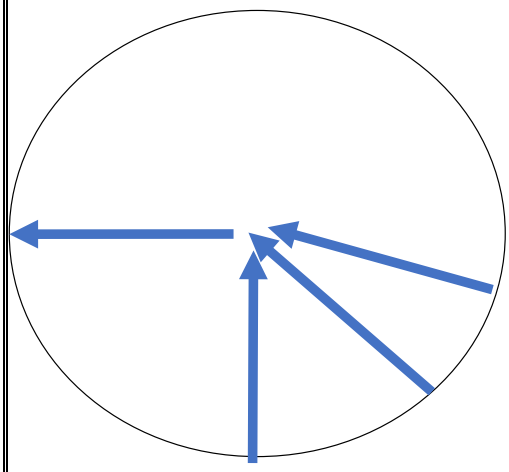
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Surface water**
MANHOLE/CATCHPIT Reference.	S1.01	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	274.581	275.035	-0.454	
Northing	517.856	518.261	-0.405	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type

RING DIA AND TYPE

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:		30.3	30.301	
OUTLET:				
A				
B				
C				
D				

NON STANDARD DETAILS:

SPECIAL ACCESS / SAFETY

HYDROBRAKE / SUMP

COVER TYPE / SPEC:

Cover Size

COVER LEVEL:

DESIGN:

AS-BUILT:

DIFFERENCE

BENCHING

BRICKWORK COURSES:

ENGINEER SIGNATURE: ----------

DATE: ----------

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

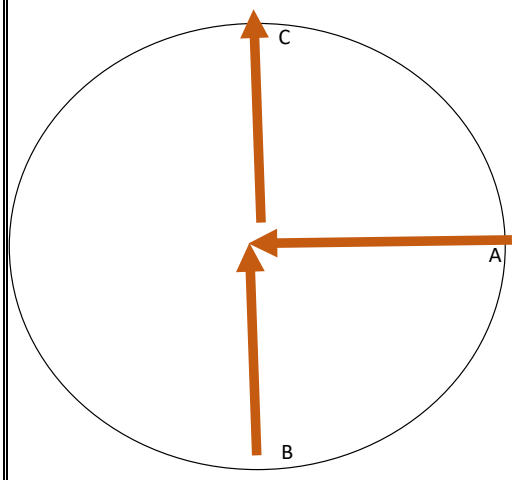
RENAKER

PROJECT:	HOS First Street	System Type	Surface water
MANHOLE/CATCHPIT Reference.		DATE ISSUED:	

Position	Design	Asbuilt	Difference	Remarks
Easting	258.747	258.696	0.051	
Northing	517.857	518.152	-0.295	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type

RING DIA AND TYPE

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:				
A		29.8	29.784	0.016
B		29.8	29.862	0.062
C		29.8	29.784	0.016
D				

NON STANDARD DETAILS:

SPECIAL ACCESS / SAFETY

HYDROBRAKE / SUMP

COVER TYPE / SPEC:

Cover Size

COVER LEVEL:

DESIGN:

AS-BUILT:

DIFFERENCE

BENCHING

BRICKWORK COURSES:

ENGINEER SIGNATURE: ----------

DATE: ----------

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

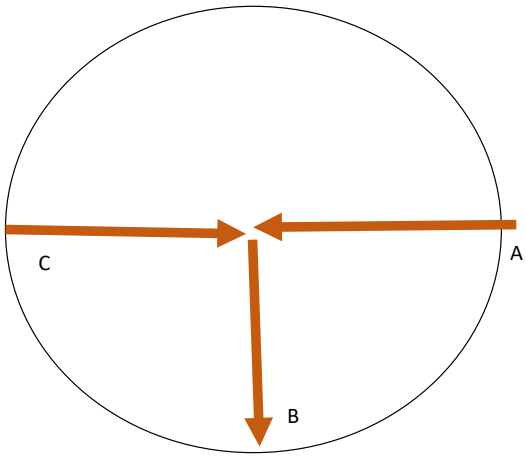
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Surface water**
MANHOLE/CATCHPIT Reference.	S1.03	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	246.64	246.57	0.07	
Northing	524.038	524.051	-0.013	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type: Insitu Concrete

RING DIA AND TYPE: 1200 DIA

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:				
A	0.225	29.51	29.533	0.023
B	0.225	29.51	29.533	0.023
C	0.15	29.51	29.72	0.21
D				

NON STANDARD DETAILS:

SPECIAL ACCESS / SAFETY

HYDROBRAKE / SUMP

COVER TYPE / SPEC:

Cover Size

COVER LEVEL:

DESIGN:

AS-BUILT:

DIFFERENCE

BENCHING

BRICKWORK COURSES:

ENGINEER SIGNATURE: ----------

DATE: ----------

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

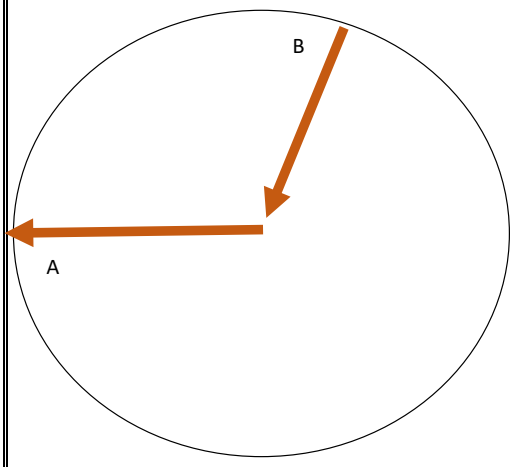
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Surface water**
MANHOLE/CATCHPIT Reference.		**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	272.198	272.344	-0.146	
Northing	494.887	494.916	-0.029	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type

RING DIA AND TYPE

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:				
A		31.7	31.205	0.495
B		31.7	31.205	0.495
C				
D				

NON STANDARD DETAILS:

SPECIAL ACCESS / SAFETY

HYDROBRAKE / SUMP

COVER TYPE / SPEC:

Cover Size

COVER LEVEL:

DESIGN:

AS-BUILT:

DIFFERENCE

BENCHING

BRICKWORK COURSES:

ENGINEER SIGNATURE: ----------

DATE: ----------

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

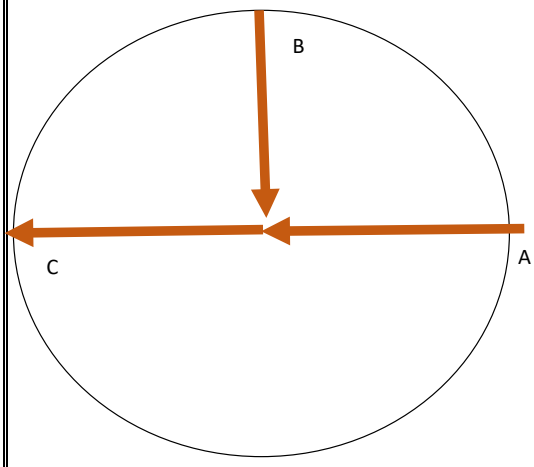
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Surface water**
MANHOLE/CATCHPIT Reference.		**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	246.646	246.494	0.152	
Northing	494.887	494.903	-0.016	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type

RING DIA AND TYPE

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:				
A	0.15	29.375	29.373	0.002
B	0.225	29.375	29.373	0.002
C	0.225	29.375	29.373	0.002
D				

NON STANDARD DETAILS:

SPECIAL ACCESS / SAFETY

HYDROBRAKE / SUMP

COVER TYPE / SPEC:

Cover Size

COVER LEVEL:

DESIGN:

AS-BUILT:

DIFFERENCE

BENCHING

BRICKWORK COURSES:

ENGINEER SIGNATURE: ----------

DATE: ----------

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

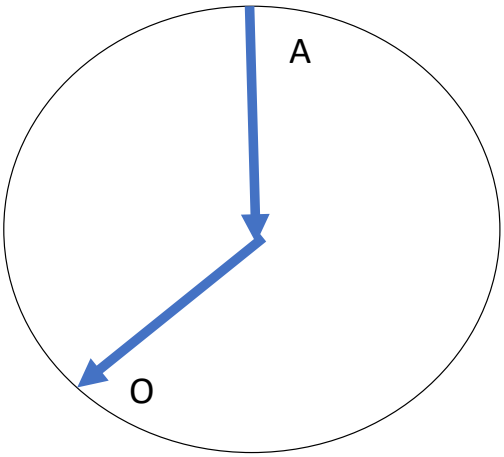
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Surface Water**
MANHOLE/CATCHPIT Reference.	S1.06	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	212.568	213.337	-0.769	
Northing	498.277	497.852	0.425	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PPIC

RING DIA AND TYPE 600mm Dia

CONNECTIONS AS DETAILED

	INVERT LEVEL			
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:	225	29.8	29.791	-0.009
A	225	29.8	29.791	-0.009
B				
C				
D				

NON STANDARD DETAILS:

COVER TYPE / SPEC:

Cover Size

COVER LEVEL:

DESIGN:

AS-BUILT:

DIFFERENCE

BENCHING N/A

BRICKWORK COURSES:

ENGINEER SIGNATURE: ----------

DATE: ----------

Reference	FOR-ENG-19
Originator	C Underhill
Revision	00

Chamber Data Sheet

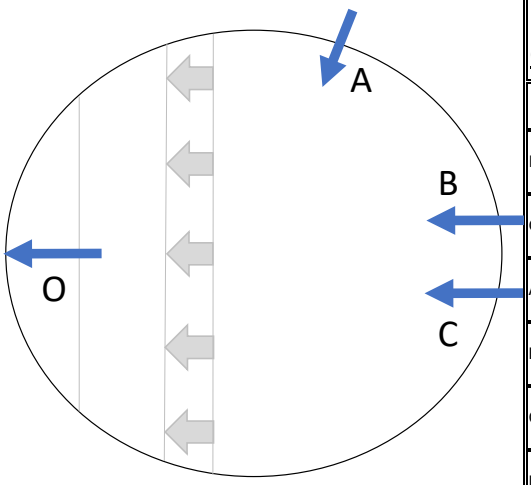
RENAKER

PROJECT:	**HOS First Street**	**System Type**	**Surface water**
MANHOLE/CATCHPIT Reference.	S1.06 Flow Control Chamber	**DATE ISSUED:**	

Position	Design	Asbuilt	Difference	Remarks
Easting	203.572	203.414	0.158	
Northing	494.922	494.831	0.091	

Layout

SKETCH POSITION OF STEP IRONS, ORIENTATION OF COVER SLAB/COVER RELATIVE TO INLET / OUTLET AND CONNECTIONS



POSITION:

MH Type PCC Rings

RING DIA AND TYPE 1500mm Dia

CONNECTIONS AS DETAILED

		INVERT LEVEL		
	DIA	DESIGN	AS-BUILT	DIFF
INLET:				
OUTLET:				
A				
B				
C				
D				

NON STANDARD DETAILS:

HYDROBRAKE & SUMP

COVER TYPE / SPEC:

Cover Size

COVER LEVEL:

DESIGN:

AS-BUILT:

DIFFERENCE

BENCHING

BRICKWORK COURSES:

ENGINEER SIGNATURE: ----------

DATE: ----------

Surface Water	PCC Rings	COMPLETE
Foul	PPIC	INCOMPLETE
Combined	Insitu Con	N/A
	Brickwork	

COMPLEX CHALLENGES ...
MADE SIMPLE

APPENDIX H – SITE RECORD DRAWING

ACO Connects to Rain garden PPIC

Rain Garden Catchpit

Additional PPIC to allow Backwash into tank

Change to Pipe layout

Removed Slot drain

Proposed Pipework Branch rises up Roof drainage.

Change to Pipe layout

Additional ACO connection

Additional ACO Connection

Additional ACO connection (ACO)

Additional ACO Connection

Move S1.04 Downslope to avoid clash with Bollards.

N

Revision notes:		
Rev:	Date:	Notes:
AB01	21/05/2024	As Built Drawing

Drawn by: F Wallace, L Dawson	Project: House of Social - First Street	Date: 21/05/2024	RENAKER	
Client: VITA Group	Drawing Title: Drainage As Built Layout	Scale @ A3: ?? @A3		
		Revision: AB		

COMPLEX CHALLENGES ...
MADE SIMPLE

APPENDIX J – AS BUILT DRAINAGE GA

THIS DRAWING IS THE PROPERTY OF RgCp. COPYRIGHT IS RESERVED BY THEM AND THE DRAWING IS ISSUED ON THE CONDITION THAT IT IS NOT COPIED, REPRODUCED, RETAINED OR DISCLOSED TO ANY UNAUTHORISED PERSON EITHER WHOLLY OR IN PART WITHOUT THE WRITTEN CONSENT OF RgCp

NOTES

1. ALL DIMENSIONS ARE IN METRES UNLESS STATED OTHERWISE.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL ARCHITECTS, ENGINEERS AND SPECIALIST DRAWINGS AND SPECIFICATIONS.
3. ANY DISCREPANCIES SHOULD BE REPORTED TO THE ENGINEER IMMEDIATELY SO THAT CLARIFICATION CAN BE SOUGHT PRIOR TO THE COMMENCEMENT OF WORK.
4. BEFORE STARTING ANY WORKS, CONTRACTOR TO CHECK INVERT LEVELS AND POSITIONS OF EXISTING DRAINS, SEWERS, INSPECTIONS CHAMBERS AND MANHOLES AGAINST INFORMATION SHOWN ON THIS DRAWING.
5. ROCKER PIPES ARE TO BE PROVIDED AT ALL CONCRETE CASED INTERFACES.
6. CLASS Z CONCRETE SURROUND TO BE PROVIDED FOR PIPES WITH COVER LESS THAN 1.2m ABOVE THE CROWN OF THE PIPE FOR ROADS AND 0.6m FOR SOFT AND PEDESTRIAN AREAS ONLY AND UNDER ALL FOUNDATIONS AND WHERE PIPES LAID WITHIN 1m OF FOUNDATIONS.
7. CONNECTIONS TO EXISTING PUBLIC SEWERS IN ACCORDANCE WITH UNITED UTILITIES REQUIREMENTS, TO BE APPROVED / AGREED WITH THE WATER AUTHORITY.
8. PROPOSED COVER LEVELS ARE APPROXIMATE AND SHALL BE CHECKED BY THE CONTRACTOR ON SITE TO SUIT THE EXACT FINISHED LEVEL AND GRADIENT.
9. ALL DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY AND IN CONJUNCTION WITH ALL RELEVANT BRITISH STANDARDS, CODES OF PRACTICE AND 'SEWERS FOR ADOPTION' 7th EDITION.
10. ACCESS COVERS AND FRAMES SHALL COMPLY WITH: THE LOADINGS SPECIFIED AND TO BS EN 124 AND KITEMARKED OR IF RECESSED COVERS ARE SPECIFIED THEN IN ACCORDANCE WITH PACTA ASSOCIATION EQUIVALENT. ALLOW FOR RECESS MANHOLE COVERS TO ACCEPT LANDSCAPE ARCHITECT FINISHES TO ALL NON-ASPHALT EXTERNAL AREAS.
11. THE PROPOSED BUILDING LAYOUTS SHOWN ON THIS DRAWING ARE FOR INFORMATION ONLY - REFER TO ARCHITECTS PLANS FOR PRECISE LOCATION SETTING OUT INFORMATION AND DETAILS
12. FOR SETTING OUT DIMENSIONS OF SSS, SVPS, RWPS, FLOOR GULLYS & OTHER DRAINAGE 'POP UP' LOCATIONS, REFER TO ARCHITECTS OR MECHANICAL & ELECTRICAL ENGINEERS DRAWINGS.
13. ALL DRAINAGE PIPEWORK SHOWN SHALL BE 100mm DIAMETER FOR FOUL AND 150mm FOR SURFACE WATER UNLESS NOTED OTHERWISE. ALL DRAINAGE PIPEWORK SHALL BE LAID SOFFIT TO SOFFIT UNLESS OTHERWISE STATED.
14. ALL UNDERSLAB DRAINAGE SHALL BE LAID AT GRADIENTS OF 1:80 MIN. FOR FOUL PIPEWORK AND 1:100 MIN. FOR SURFACE WATER UNLESS NOTED OTHERWISE. ALL UNDERSLAB DRAINAGE SHALL BE CLEAR OF FOUNDATIONS UNLESS SHOWN OTHERWISE. USE OF SHORT LONG RADIUS BENDS IS ACCEPTABLE PROVIDED THEY ARE KEPT TO A MINIMUM AND USED WHERE UNAVOIDABLE.
15. AT LEAST ONE SOIL PIPE AT THE HEAD OF EACH FOUL RUN SHALL BE VENTED TO THE ATMOSPHERE. ALL RAINWATER PIPES SHALL HAVE ABOVE GROUND RODDING ACCESS.
16. ALL PRIVATE DRAINAGE PIPEWORK FOR FOUL AND SURFACE WATER SYSTEMS HAVE BEEN DESIGNED ON THE BASIS OF UPVC TO BS EN 1401-1, UNLESS NOTED OTHERWISE. SURFACE WATER CAN ALSO BE CONSTRUCTED WITH POLYPIPE TWINWALL PIPES.
17. CONCRETE ENCASEMENT OF THE PIPEWORK SHALL BE REQUIRED WHERE THE VERTICAL CLEARANCE BETWEEN TWO PIPES CROSSING IS LESS THAN 300MM.
18. WHERE NEW DRAINAGE IS SITUATED WITHIN 5 METRES OF NEW OR EXISTING TREES THE PIPEWORK SHALL BE ENCASED IN CONCRETE TO REDUCE THE RISK OF ROOT INGRESS.
19. ALL NEW DRAINAGE INSTALLATIONS TOGETHER WITH ANY EXISTING DRAINAGE RETAINED SHALL BE JETTED AND CCTV SURVEYED UPON COMPLETION. CONTRACTOR TO ENSURE THAT THE DRAINAGE SYSTEM IS FULLY OPERATIONAL, FREE OF EXCESS DEBRIS/SILT AND ALL IDENTIFIED FAULTS RECTIFIED.
20. ATTENUATION STORAGE CALCULATIONS INCLUDE CLIMATE CHANGE ALLOWANCE OF 40% IN ACCORDANCE WITH CURRENT ENVIRONMENT AGENCY GUIDELINES.

AS BUILT ISSUE

THIS DRAWING REPRESENTS THE FINAL CONSTRUCTION VERSION ISSUED TO THE CONTRACTOR INCORPORATING AMENDMENTS MADE DURING THE CONTRACT. IT IS BASED ON PERIODIC INSPECTIONS BY ROC CONSULTING WITH THE MAIN CONTRACTOR CONFIRMING THAT THESE FORM AN AS BUILT RECORD OF THE WORKS UNDERTAKEN

REV.	DATE	DETAILS	DRN.	CHK.
AB1	12.06.2025	AS BUILT ISSUE	wdc	JAS

DRAWING STATUS: AS BUILT

RIBA STAGE: RIBA STAGE 5

RoC CONSULTING
Commercial Wharf
6 Commercial Street
Manchester M15 4PZ
T 0161 214 5390
W rocconsulting.com

DRAWN	DATE	SCALES
ARJ	OCT 22	1:150
CHECKED	DATE	THE ABOVE SCALES APPLY WHEN PLOTTED AT A1 SIZE --DO NOT SCALE--
JAS	OCT 22	
APPRVD.	DATE	EMAIL FOR DRAWINGS
JAS	OCT 22	info@rocconsulting.com

CLIENT: VITA GROUP

PROJECT TITLE: PLOT 10B
FIRST STREET

DRAWING TITLE: FOUL & SURFACE DRAINAGE GENERAL ARRANGEMENT

DRAWING No.	REV.
Z1-ROC-G580-PL-XX-DR01	AB1

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WILMOTT STREET

RIVER STREET

MH004 CL 30.76 IL 26.46
225Ø CWS
MH003 CL 30.84 IL 26.38
MH002 CL 30.76 IL 26.36
450Ø CWS
630Ø CWS
Catchpit at end of land drain beneath rain garden connected to geocellular tank
Outlet from rain garden into catchpit
Proposed WAVIN Aquacell Core or equivalent approved offline geocellular attenuation tank. Vol Max:88m³ @ 0.8m deep. For storm events up to and including the 1 in 100 year +45% return period. IL: 29.550m. To be installed strictly in accordance with the manufacturers guidance & recommendations. Layout to be configured around proposed tree pits
100Ø Perforated Pipe beneath Rain Garden
CS05 CL 30.750 IL 26.435
DIVERTED 375Ø CONCRETE @ 1:172
CS06 CL 30.650 IL 26.385
WPC
Grease trap, sized to suit 3 kitchens
S1.00 CL 30.870 IL 29.919 600Ø PPIC
(1.000) 150Ø 1:94
Grease trap, sized to suit 2 kitchens
F1.01 CL 30.915 IL 29.750 450Ø PPIC
S1.03 CL 30.925 IL 29.510 1200Ø PCC
(2.002) 225Ø 1:125
5m x 5m crane base. exact location TBC
S1.01 CL 31.950 IL 30.300 450Ø PPIC
S1.02 CL 30.915 IL 29.800 450Ø PPIC
(2.001) 150Ø 1:100
(2.000) 150Ø 1:56
F1.02 CL 31.970 IL 31.070 450Ø PPIC
LV & HV DUCTING
YG
F1.00 CL 30.915 IL 30.300 450Ø PPIC
100Ø 1:80
F1.04 CL 30.915 IL 29.700 1200Ø PCC
150Ø SU 1:20
150Ø 1:53
150Ø 1:18
F1.03 CL 30.915 IL 30.115 450Ø PPIC
F1.02A CL 31.970 IL 30.700 450Ø PPIC
150mm Ø pipe laid within fill below LV switch room 1:7 approx gradient
Existing combined sewer to be diverted by others as part of a S185 agreement with United Utilities
5m x 5m crane base. exact location TBC
FFL = 30.925m
Indicates approx location of 5600x4700x300 thk hoist base
Foul drain to be surrounded in concrete where passes under hoist base
1m Wide x 0.1m Deep RC30 Concrete Slab With 1 Layer A193 MESH (Centralised) placed on 150mm well compacted Type 1 Sub base beneath each pipe run
Slow radius bend
DIVERTED 3750 CONCRETE @ 1:207
EX 610Ø CWS
F1.15 CL 30.915 IL 30.115 450Ø PPIC
F1.16 CL 30.915 IL 30.055 450Ø PPIC
F1.10 CL 30.925 IL 30.325 450Ø PPIC
Python route to be revised to avoid clash with drainage
F1.13 CL 30.925 IL 30.225 450Ø PPIC
F1.11 CL 30.925 IL 30.325 450Ø PPIC
F1.10A CL 30.925 IL 30.325 450Ø PPIC
F1.08 CL 30.925 IL 30.325 450Ø PPIC
F1.06 CL 30.925 IL 30.325 450Ø PPIC
F1.12 CL 30.925 IL 30.175 450Ø PPIC
F1.07 CL 30.000 IL 29.950 450Ø PPIC
F1.05 CL 32.700 IL 30.225 1200Ø PCC
F1.MC18 CL 32.700 IL 30.256 1200Ø PCC
WPC IL 31.670 approx
225Ø Stub connection to be constructed into site boundary and within hoarding (by others) with an invert level of 28.455. Backdrop constructed on UU S185 diversion MH CS04 to facilitate this.
F1.13 CL 30.880 IL 29.270 1200Ø PCC
CS04 CL 30.650 IL 26.580
S1.06 CL 30.915 IL 29.800 600Ø PPIC
225Ø 1:150
C1.00 CL 30.800 IL 29.005 1200Ø PCC
DIVERTED 3750 CONCRETE @ 1:110
(5.000) 225Ø 1:18
F1.14 CL 30.915 IL 29.380 1200Ø PCC
(1.003) 225Ø 1:170
(4.000) 150Ø 1:12
S1.04 CL 32.600 IL 31.700 450Ø PPIC
CS03 CL 30.600 IL 26.530
DIVERTED 375Ø CONCRETE @ 1:163
CS02 CL 30.780 IL 26.680
S1.06 CL 30.915 IL 29.125 1500Ø PCC
Proposed Flow Control chamber with integral hydrobrake optimum or equivalent approved. Discharge restricted to 4.9 l/s at 1.50m design head. Subject to agreement in principle with the LLFA and United Utilities
Grease trap, sized to suit large pot wash
S1.05 CL 31.900 IL 29.375 600Ø PPIC
All new drainage constructed beneath retaining wall base. large diameter PPIC's to be constructed through the base with RC detailing amended to suit
Foul and surface water flows combined at final manhole prior to leaving the site. New 225Ø connection to proposed diverted combined sewer in River Street, Subject to agreement with United Utilities. Design of diverted sewer by others. Invert level details to be confirmed.

DRAINAGE LEGEND

- EXISTING COMBINED WATER SEWER
- EXISTING COMBINED WATER SEWER ABANDONED
- DIVERTED COMBINED WATER SEWER (BY OTHERS)
- PROPOSED FOUL WATER DRAINAGE
- PROPOSED SURFACE WATER DRAINAGE
- PROPOSED COMBINED WATER DRAINAGE
- PROPOSED DRAINAGE CHANNEL (SPEC BY OTHERS)
- PROPOSED THRESHOLD DRAIN (SPEC BY OTHERS)
- GEOCELLULAR ATTENUATION
- WPC WASTE POINT CONNECTION (FOUL)
- RWP RAINWATER PIPE
- ITG INTERNAL TRAPPED GULLY (WADE OR SIMILAR)
- MINI INSPECTION CHAMBER (MAX 0.6m DEEP)
- SITE BOUNDARY

COMPLEX CHALLENGES ...
MADE SIMPLE

APPENDIX K – PHOTOGRAPHIC RECORD GENERAL

	
COMBINED MANHOLE C1.00	FLOW CONTROL CHAMBER
	
FLOW CONTROL CHAMBER	FW MANHOLE F1.13

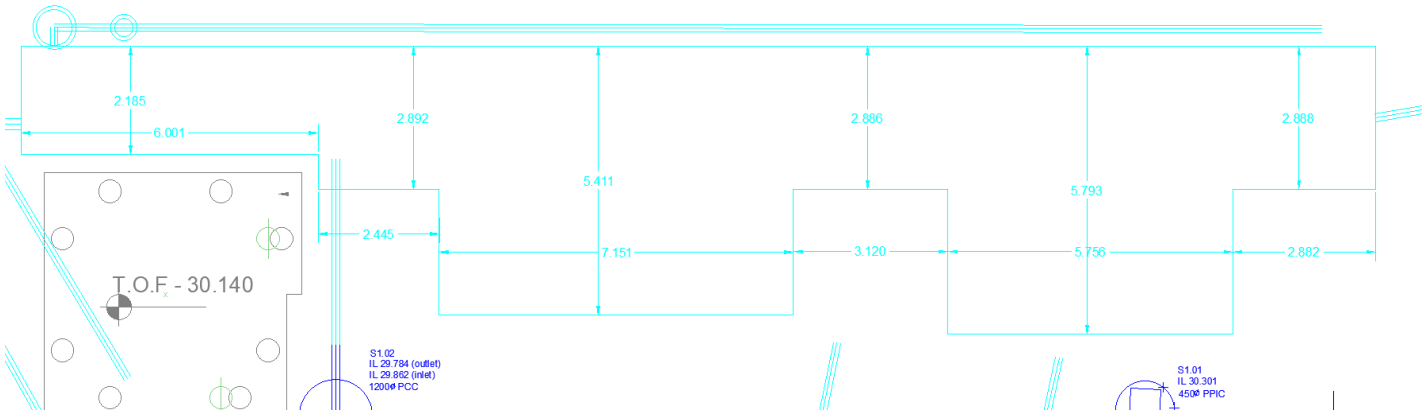
	
SW MANHOLE S1.06	FW MANHOLE F1.12
	
FW MANHOLE F1.00	

	
GREASE TRAP – 2 KITCHENS	GREASE TRAP – 2 KITCHENS

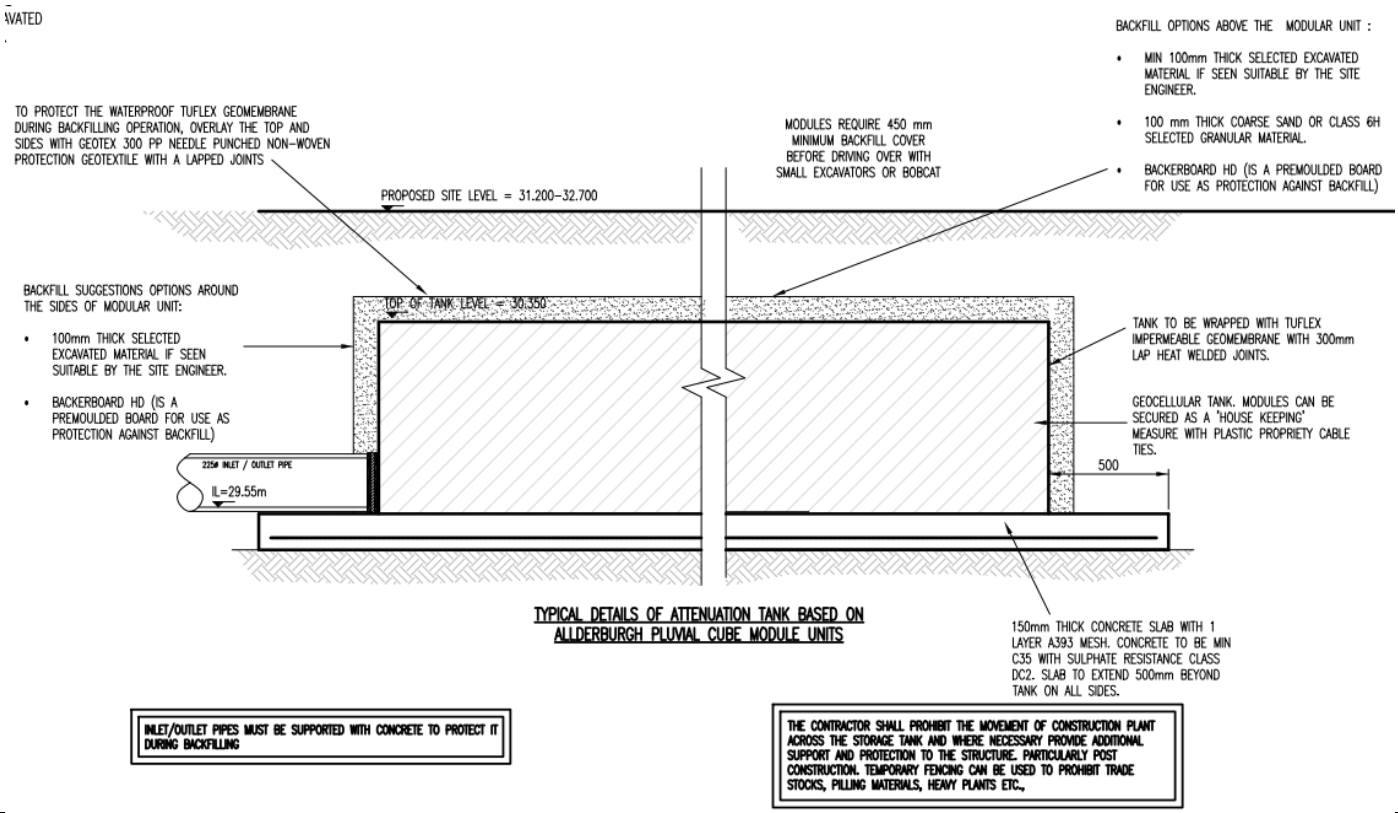
APPENDIX L – PHOTOGRAPHIC RECORD ATTENUATION TANK

RENAKER	HOS – First Street	Attenuation Tank Install

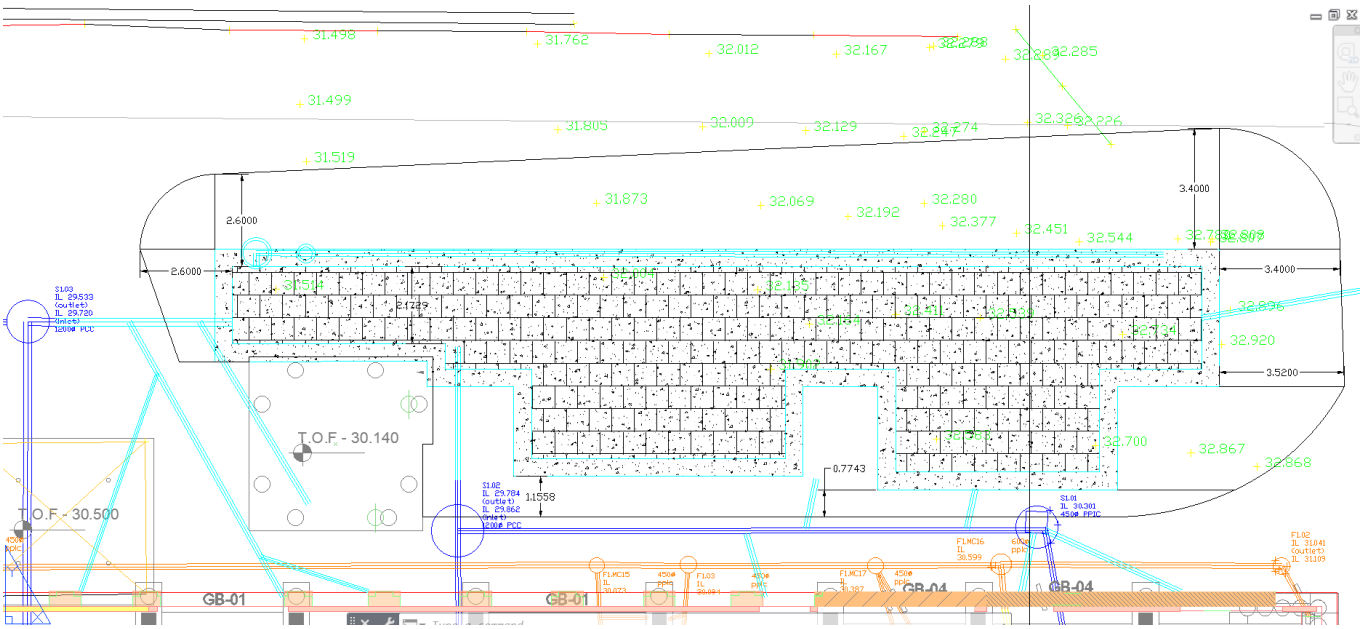
Attenuation Tank Layout



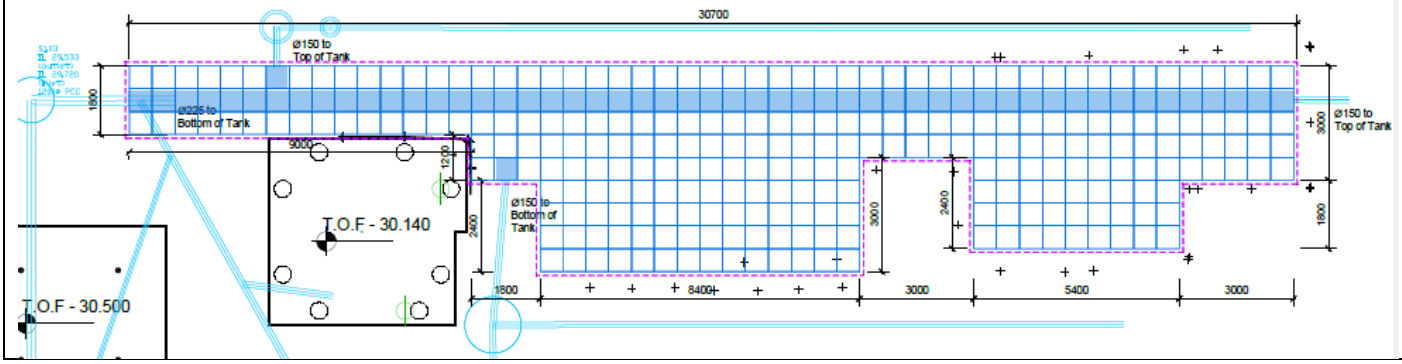
Attenuation Tank Section Detail



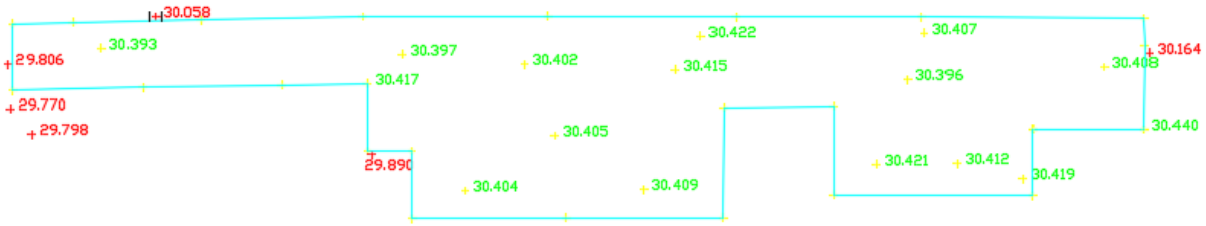
Plan Showing Extents of RC Slab and Excavation Requirements

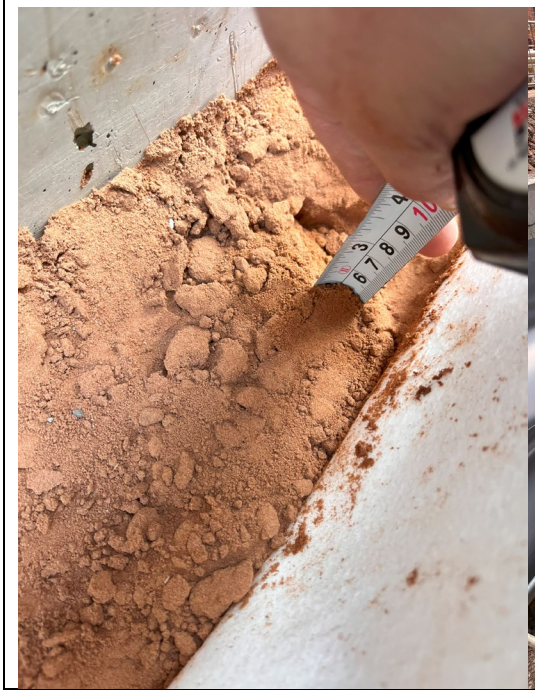


Hewitech Layout (Ammended to suit site constraints and Module sizes)

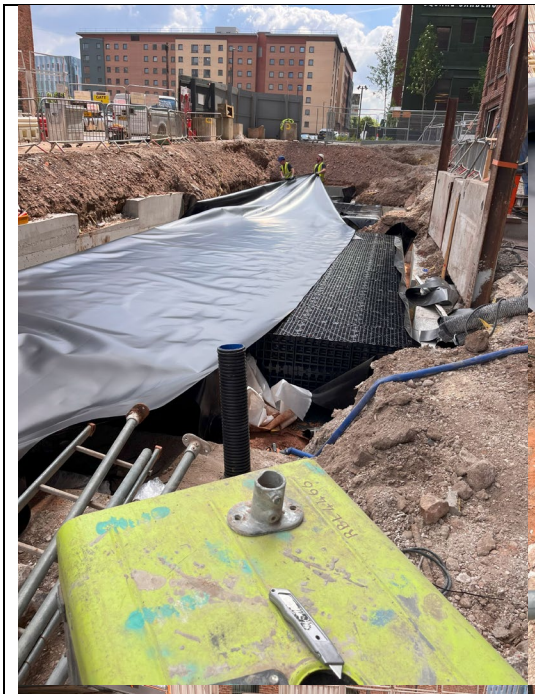
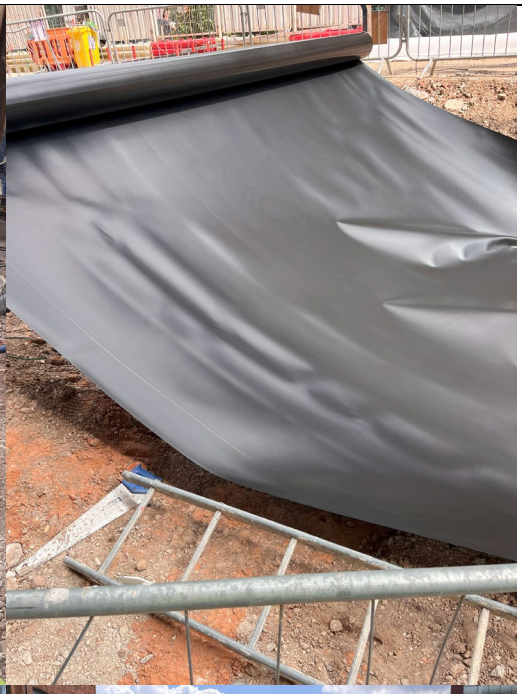


Asbuilt Levels to top of tank

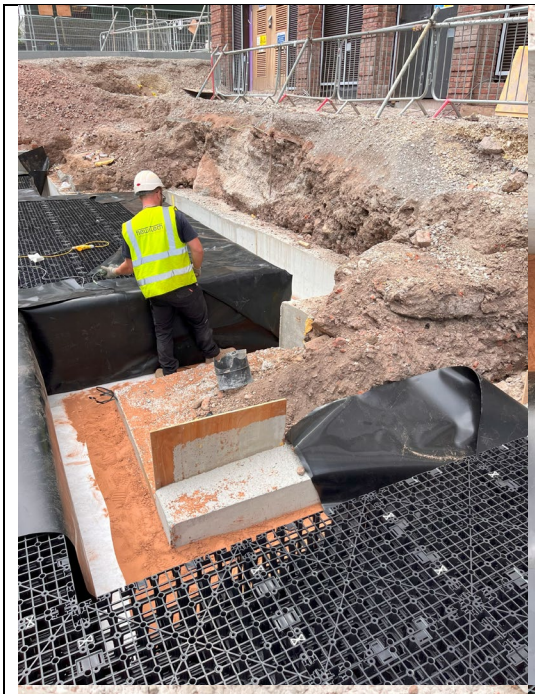
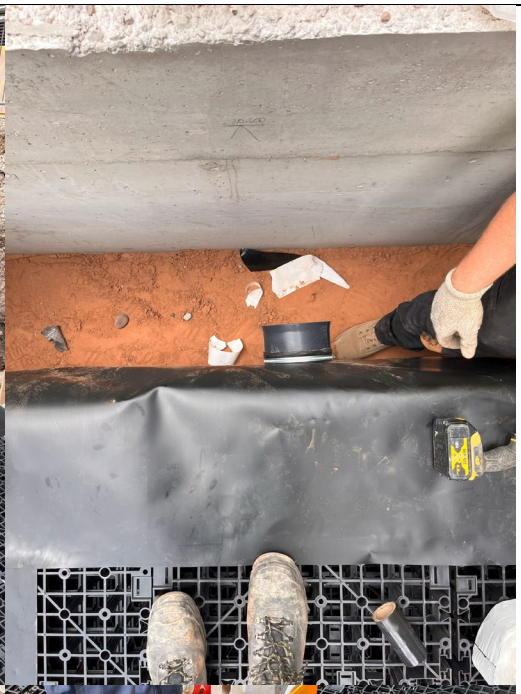
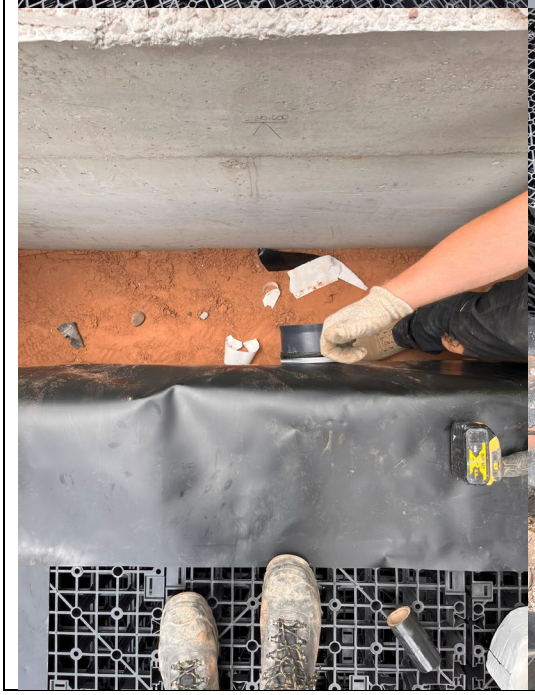




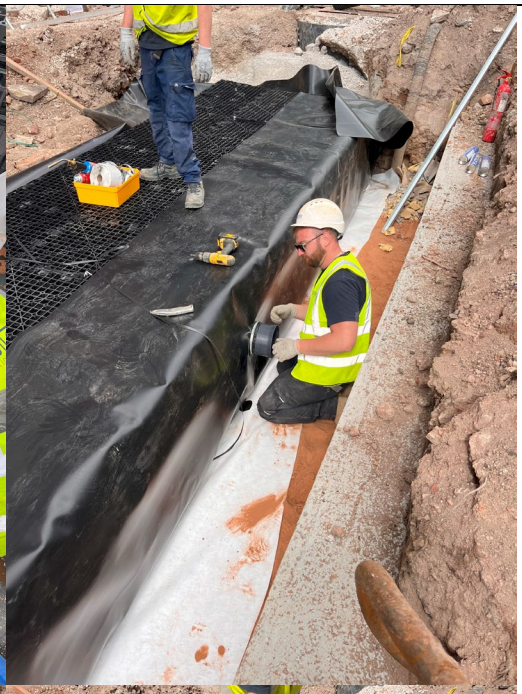
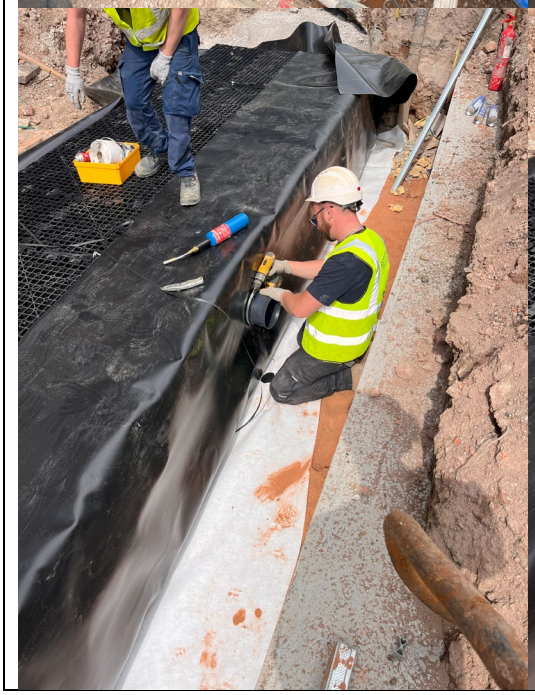
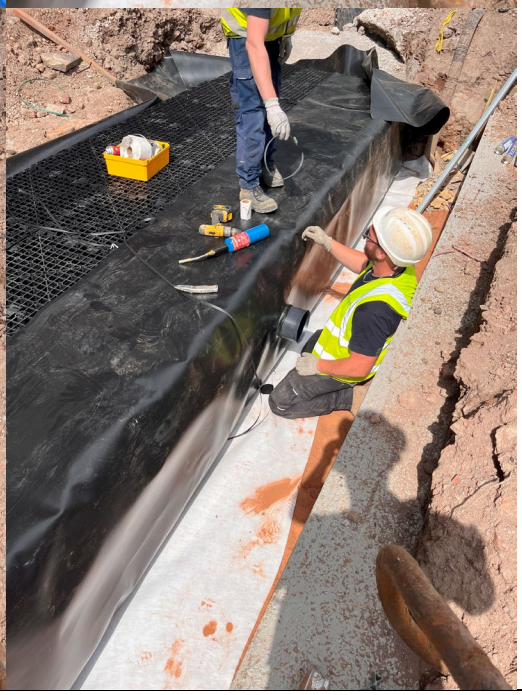


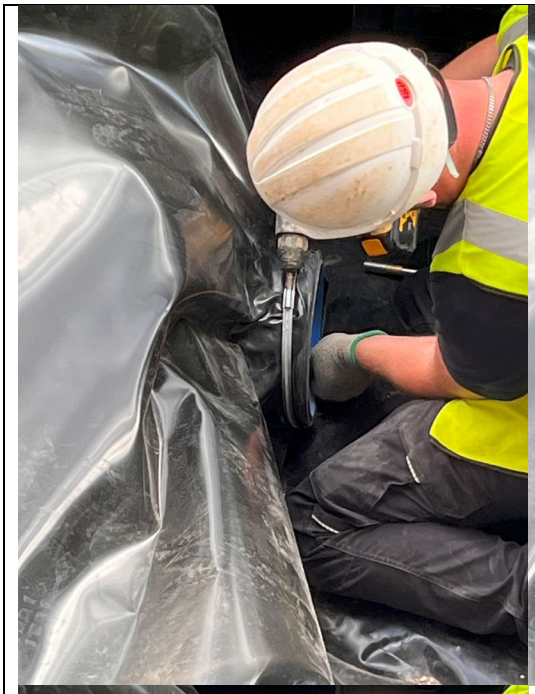





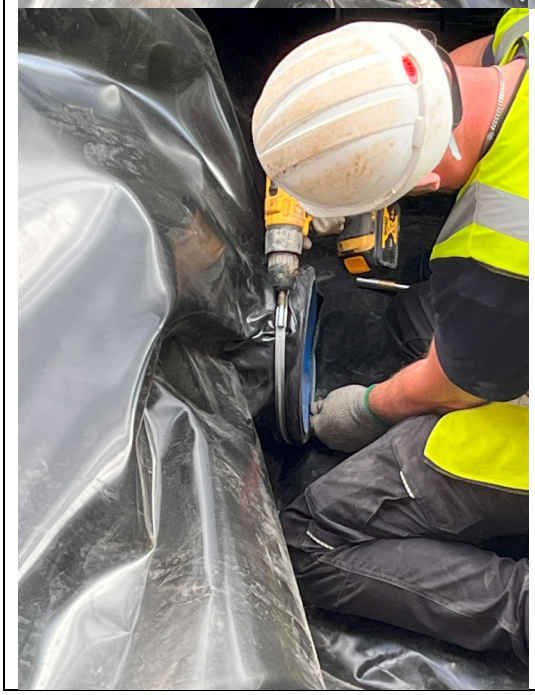






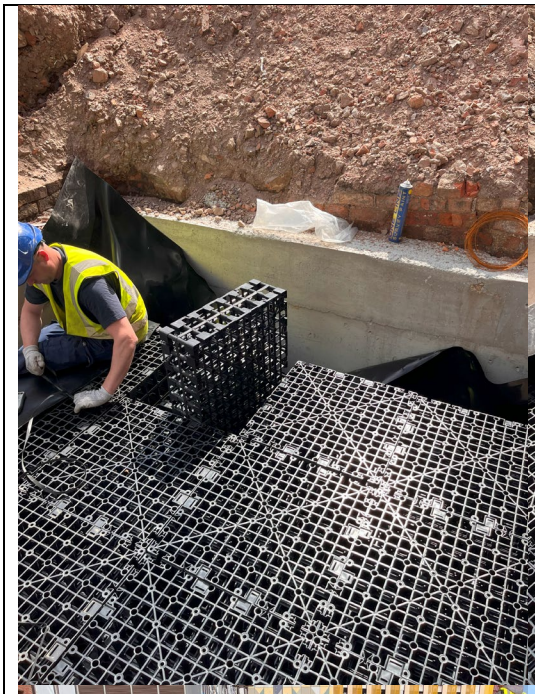








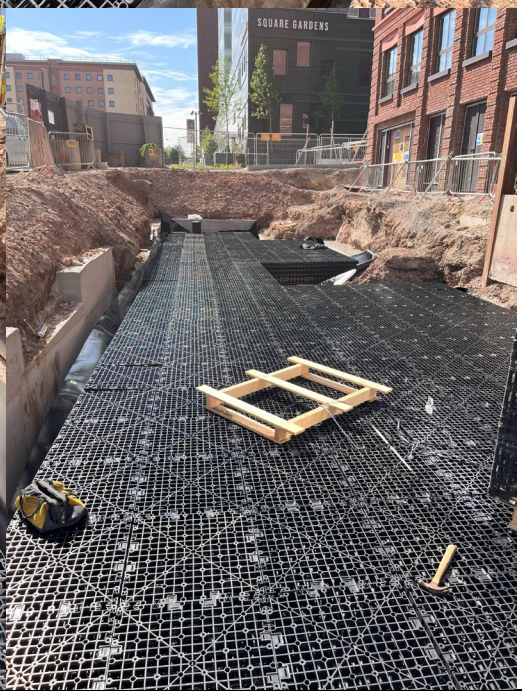











SQUARE GARDENS