



RIDGE

BOLTON COLLEGE

DRAINAGE TECHNICAL NOTE

NOVEMBER 2023

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Issue	Status	Author	Approved	Date
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Distribution

Issue	Organisation	Quantity
1	Bolton MBC	1



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1.0 Introduction

In March 202 a planning application was submitted to Bolton MBC for the erection of a three storey teaching block for Engineering and Digital Skills with 7no. classrooms, 2no. workshops, 2no. staff areas, 2no. 1:1 meeting places together with storage plant space and WC provisions (ref: 13347/22). Ridge have prepared this technical note to address comments made by the LLFA regarding the discharge the drainage related planning conditions for the new development under 13347/22.

2.0 Drainage Related comments and Ridge Response

3.1 Detailed below is the United Utilities comment text in blue with Ridge response in black beneath.

Prior to commencement of the surface water drainage works within the application site, the following details shall be submitted to and approved in writing with the Local Planning Authority. This shall include:

1) Provide information about the design storm period and intensity, the method employed to delay and control the surface water discharged from the site and the measures taken to prevent pollution of the receiving groundwater and/or surface waters.

As noted within the Ridge Flood Risk and Drainage Technical Note (BCC-RDG-00-ZZ-RP-C-0001 - March 2022), The SW strategy is to continue with the existing private surface water regime where the SW flows are **currently limited to the existing 15l/s** and is attenuated in a below ground SW Tank.

It is important to note that the proposed development area is currently positively drained via Drainage channels is discharged into the existing SW system which is **currently limited to 15l/s**.

The proposed building footprint is approximately 450 m² and is located on the existing car park. This area is currently positively drained and is accounted for within the existing SW system.

As the SW runoff for the proposed development area is already limited, it is considered that the new development will not result in an increase in surface water runoff rates from the site. The proposed development will therefore not increase flood risk onto its locality.

The Existing and Proposed Impermeable Area can be seen on the existing Bolton College O & M plan. This sketch is attached within **Appendix A**.

As part of the proposed drainage works, diversion of the existing private SW system around the proposed new building will be required.

A petrol Interceptor is to be located prior to the existing SW attenuation tank; this measure will stop any pollutants from being discharged from the development.

It is important to note that during the planning stage, the Proposed Drainage Strategy had been accepted by Bolton MBC LLFA. Please see the extract below confirming this.

The new building is utilising the attenuation tank already being used for the car park etc and already has a restriction to the public sewer.
It is proposed that some re-routing of the surface water network will be required to accommodate the building's footprint which is showed on the Proposed Drainage Layout - BCC-RDG-00-ZZ-DR-C-0002
The LPA is advised to condition this and make this the approved drawing.

Any further SW attenuation for the proposed scheme would not be feasible due to site constraints (limited working space).

2) Include a timetable for its implementation, and);

Not applicable as the proposed SW system is to discharge into the existing SW system which is currently restricting flow to a maximum 15 l/s.

The Existing and Proposed Drainage GA plans are located within **Appendix B**.

3) Provide a management and maintenance plan for the lifetime of the development which shall include the arrangements for adoption by any public authority or statutory undertaker and any other arrangements to secure the operation of the scheme throughout its lifetime;

The proposed Drainage Maintenance Schedule plan is attached within **Appendix C**.



Appendix A – Existing and Proposed Impermeable Area Plan

Appendix B – Ridge Design Drawings

CONTENTS	
Identifier	Name
BCC-RDG-00-ZZ-DR-C-0001	Existing Drainage GA
BCC-RDG-00-ZZ-DR-C-0002	Proposed Drainage GA
BCC-RDG-00-ZZ-DR-C-0003	Abandonment Plan
BCC-RDG-00-ZZ-DR-C-0004	Manhole Schedule
BCC-RDG-00-ZZ-DR-C-0005	Drainage Details

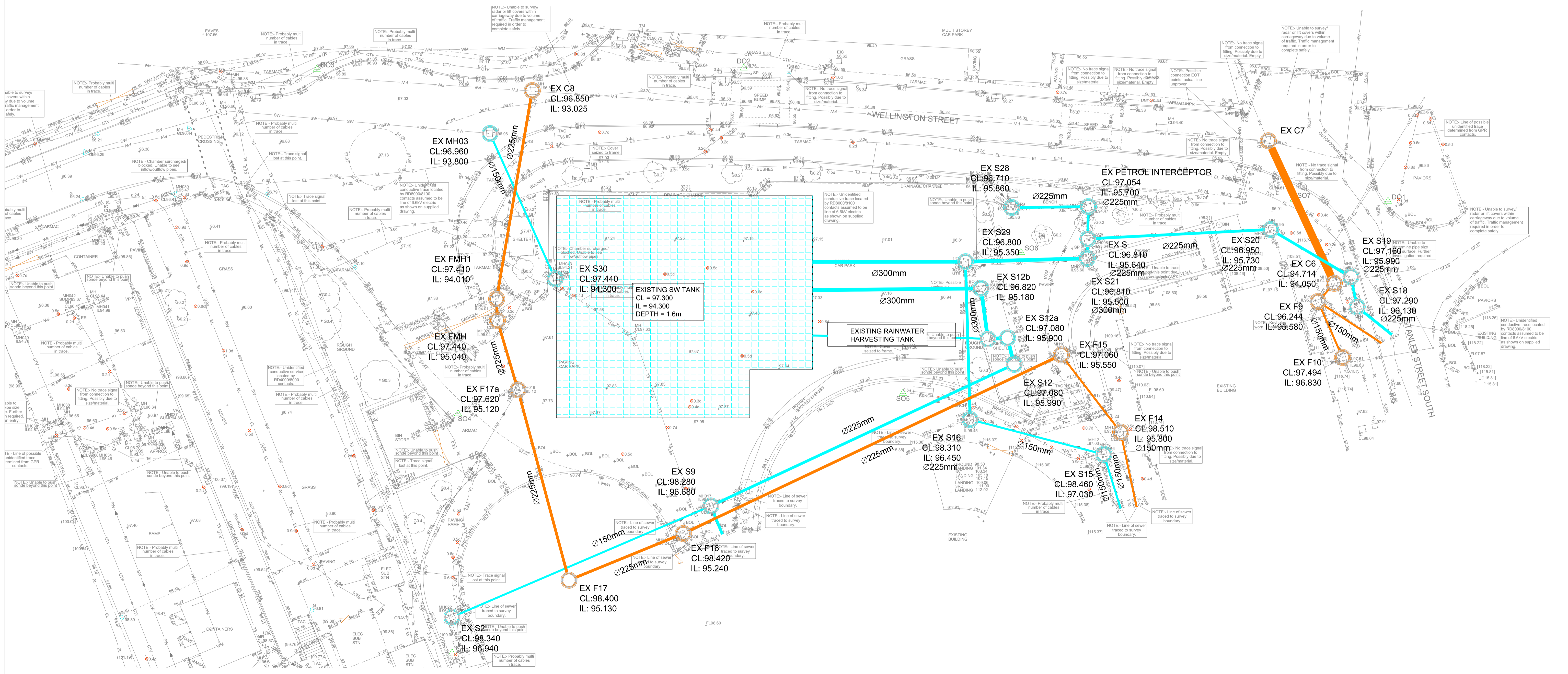
KEY

- EXISTING SW SEWER
- EXISTING FW SEWER

GENERAL NOTES

1. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, ENGINEERS, ARCHITECTS & SERVICES DRAWINGS, INCLUDING APPROVED BUILDERS WORK DRAWINGS. CONTRACTOR TO NOTIFY ENGINEER OF DISCREPANCIES BETWEEN STRUCTURAL DRAWINGS AND SPECIFICATIONS OR OTHER DRAWINGS.
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4. INFORMATION CONTAINED ON THIS DRAWING IS SCHEME DESIGN ONLY AND REQUIRES FURTHER DETAILED DESIGN AND CO-ORDINATION WITH THE CONTRACTOR, DESIGN TEAM AND APPROPRIATE SUB-CONTRACTORS.

ALL EXISTING DRAINAGE INFORMATION INTERPOLATED BETWEEN SURVEY OPERATIONS GPRS SURVEY '21J201/001' AND THE DRAINAGE LAYOUT WITHIN THE O & M MANUAL 'DRAINAGE LAYOUT BUILDING A'



No	DATE	DRAWN	REV'D ENG.	AMENDMENT

No	DATE	DRAWN	REV'D ENG.	AMENDMENT
P2	21.04.22	AM	PB	ISSUED FOR TENDER
P1	07.03.22	AM	PB	PRELIMINARY ISSUE

STATUS	PURPOSE OF ISSUE
S2	FOR INFORMATION
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ENGINEER	PB

EXISTING DRAINAGE LAYOUT				PROJECT REFERENCE: 3694
SCALE	SHEET	DRAWING No	REV	
1:100	A1	BCC-RDG-00-ZR-C-0001	P1	

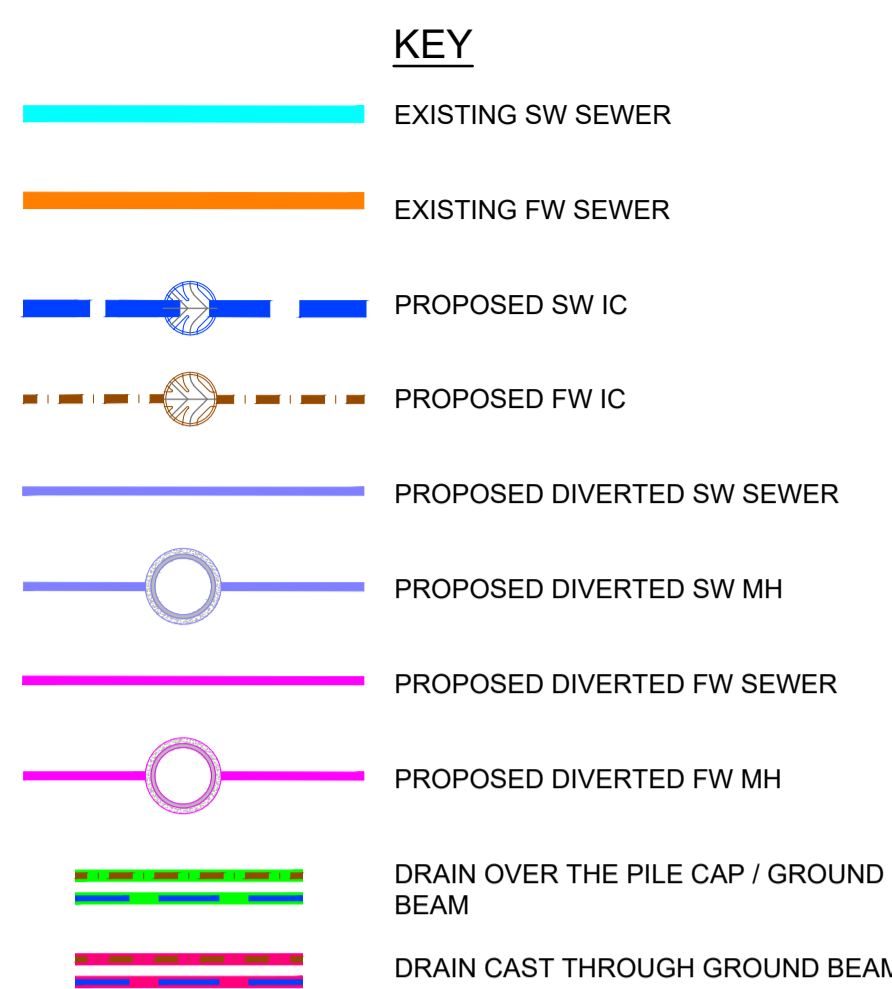
DRAINAGE NOTES

- THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT AND DIVERSION WORKS AS NECESSARY, TO ALL EXISTING SERVICES TO THE SATISFACTION OF THE PUBLIC UTILITIES.
- THE CONTRACTOR SHALL ALLOW FOR DEALING WITH SURFACE WATER RUN-OFF INTO EXCAVATIONS AND FROM GROUNDWATER BY MEANS OF SUMPS, PUMPING AND DE-WATERING AS APPROPRIATE. IN ORDER TO KEEP THE EXCAVATION AS REASONABLY DRY AS POSSIBLE DURING THE CONSTRUCTION OF THE WORKS.
- ALL PRIVATE DRAINAGE WITHIN THE SITE IS TO COMPLY WITH THE REQUIREMENTS OF BSEN752 AND BUILDING REGULATIONS PART H. WHERE APPROPRIATE, ALL ADOPTED DRAINAGE SHALL BE DESIGN AND CONSTRUCTED IN ACCORDANCE WITH SEWERS FOR ADOPTION 6th EDITION AND THE ADOPTING AUTHORITIES STANDARD REQUIREMENTS.
- ALL PRIVATE DRAINAGE PIPES TO BE LAID IN TRENCHES BEDDED CLASS 'B' ON SINGLE SIZED AGGREGATE AND BACKFILLED WITH APPROVED SELECTED FILL (40mm DOWN) REUSED FROM EXCAVATED MATERIAL. UNDER BUILDINGS AND WHERE COVER TO INVERT IS LESS THAN 1200mm UNDER TRAFFICKED AREAS PIPES TO BE CAST IN CONCRETE (CLASS Z BEDDING). CLASS 'S' BED AND SURROUND MAY BE REQUIRED FOR SEWERS TO BE ADOPTED. REFER TO SPECIFIC DRAWINGS FOR FURTHER INFORMATION.
- SELECTED BACKFILL MATERIAL SHALL CONSIST OF UNIFORM EXCAVATED MATERIAL, FREE FROM STONES LARGER THAN 40mm, CLAY LUMPS LARGER THAN 75mm, TREE ROOTS, CONTAMINATED MATERIAL. SELECTED BACKFILL MATERIAL IS TO BE PLACED IN LAYERS NOT EXCEEDING 150mm THICKNESS. THE MATERIAL SHALL BE COMPACTED TO ACHIEVE NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED IN LABORATORY COMPACTION TESTS. SUFFICIENT TESTING SHALL BE CARRIED OUT, BY THE CONTRACTOR, TO DEMONSTRATE THIS IS ACHIEVED (NUMBER 12 AND FREQUENCY OF TESTING TO BE AGREED WITH SHD), WHERE THE MOISTURE CONTENT OF THE MATERIAL PROHIBITS COMPLIANCE WITH THE ABOVE 6F1 OR SIMILAR IMPORTED MATERIAL SHALL BE USED.
- CONCRETE PROTECTION TO PIPEWORK IS TO BE PROVIDED AS FOLLOWS:
 - ALL PIPEWORK WITHIN PEDESTRIAN/SOFT AREAS WITH LESS THAN 600mm COVER.
 - ALL PIPEWORK SUBJECT TO VEHICULAR OVERRUN WITH LESS THAN 1.2m COVER.
- ALL PIPEWORK WITHIN MANHOLES ARE TO BE LAID SOFFIT TO SOFFIT (U.N.O). ALL CHAMBER INVERT LEVELS ARE FOR THE OUTGOING PIPE LEVELS. BACKDROP PIPEWORK SHALL BE CONNECTED AT SOFFIT TO SOFFIT WITH THE RODDING ACCESS LEVEL SPECIFIED.
- ALL DRAINS TO BE LAID ACCURATELY TO LINE AND LEVEL IN STRICT ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
- ANY GRADIENTS OF DRAINS INDICATED ARE INDICATIVE ONLY AND THE CONTRACTOR SHALL INSTALL THE DRAINS TO THE SPECIFIED LEVELS SHOWN FOR EACH MANHOLE (U.N.O). CATCHPIT INVERT LEVELS ARE FOR THE OUTGOING PIPE WITH THE SUMP LEVEL SPECIFIED SEPARATELY.
- CO-ORDINATE SETTING OUT INFORMATION FOR MANHOLES IS TO THE INTERSECTION THE DRAINS AND NOT THE CENTRE OF THE MANHOLE.
- COVER LEVELS OF THE MANHOLES ARE PROVISIONAL AND SUBJECT TO ADJUSTMENT ON SITE TO SUIT THE FINISHED

- GROUND LEVELS. ALL EXTERNAL WORKS CONSTRUCTION AREAS TO BE AS LOCATED BY THE ARCHITECT.
- MANHOLE COVERS AND FRAMES ARE TO BE IN ACCORDANCE WITH BSEN124 AND THE FOLLOWING:
 - VEHICULAR AREAS: CLASS D400 (E600 IN VULNERABLE SE'RVICE YARD LOCATIONS), DOUBLE TRIANGULAR, 150mm DEEP DUCTILE IRON COVER AND FRAME WITH THREE POINT COVER SEATING, BADGED FW OR SW FOR FOUL OR SURFACE WATER DRAINAGE.
 - PEDESTRIAN AREAS: CLASS B125, 100mm DEEP, BADGED FW OR SW FOR FOUL OR SURFACE WATER DRAINAGE.
- POSITIONS AND SIZES OF ABOVE GROUND FOUL AND SURFACE WATER DRAINAGE CONNECTIONS ARE TO BE CONFIRMED PRIOR TO CONSTRUCTION WITH THE ARCHITECT & M&E ENGINEER.
- GULLY GRATINGS AND STEEL CHANNEL COVERS ARE TO BE IN ACCORDANCE WITH BSEN124 AS FOLLOWS:
 - AREAS SUBJECT TO VEHICULAR OVERRUN: CLASS D400 MINIMUM.
 - AREAS NOT SUBJECT TO REGULAR VEHICLE OVERRUN (ADJACENT TO KERBS ETC): CLASS C250.
 - GULLY GRATES ADJACENT TO KERBS SHALL BE HINGED ON THE SIDE OF THE TRAFFIC DIRECTION (LEFT HAND SIDE).
- ALL BRICKWORK IN CONNECTION WITH DRAINAGE IS TO BE SOLID CLASS B ENGINEERING BRICK TO BS3921.
- ALL PRECAST CONCRETE PIPES, CHAMBER PRODUCTS AND ROAD GULLIES SHALL BE TO BS5911 AND BE KITEMARKED.
- ALL DRAINAGE INSITU CONCRETE SHALL BE GEN3 (U.N.O).
- ALL INSITU AND CONCRETE PRODUCTS SHALL COMPLY WITH THE REQUIREMENTS FOR SULPHATE EXPOSURE IN ACCORDANCE WITH BRE SPECIAL DIGEST 1, CONCRETE IN

- AGGRESSIVE GROUND (2001) PART 1: TABLE 2.
- UPON COMPLETION OF THE WORKS THE CONTRACTOR SHALL CLEAN ALL DRAINAGE BY JETTING, REMOVING ALL DEBRIS FROM SITE. NO DEBRIS SHALL BE PERMITTED TO ENTER THE EXISTING DRAINAGE SYSTEM.
- CONSTRUCTION JOINTS IN CONCRETE SURROUND MUST NOT BE WITHIN 150MM OF CHAMBER/SHAFT RING JOINTS.
- ROCKER PIPES TO BE SURROUNDED WITH CONCRETE LOCATED 150mm MINIMUM 200mm MAXIMUM FROM THE FIRST FLEXIBLE JOINT TO THE MANHOLE WALL.
- SOFT SPOTS IN THE TRENCH FORMATION SHALL BE REMOVED AND REPLACED WITH GRANULAR BEDDING UNLESS INSTRUCTED OTHERWISE.
- LATERAL CONNECTIONS IN BETWEEN MANHOLE RUNS SHALL BE FORMED BY USING PURPOSE MADE JUNCTION FITTINGS. BEND FITTINGS SHALL BE PROVIDED WHERE APPROPRIATE TO DIRECT THE FLOW INTO MAIN RUNS.
- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LIAISE WITH BUILDING CONTROL FOR APPROVALS, INTERIM INSPECTION, SNAGGING AND FINAL INSPECTIONS OF THEIR WORK.
- THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL EXISTING STATUTORY UNDERTAKERS APPARATUS AND SERVICE CONNECTIONS ADJACENT TO AND CROSSING THE WORKS BY TRIAL PITS PRIOR TO COMMENCING MACHINE DIG.
- AT THE CONCLUSION OF THE WORKS THE CONTRACTOR SHALL PROVIDE A MARKED UP DRAWING TO RECORD ANY AS BUILT VARIATIONS NOT SHOWN ON THE DRAWINGS.
- THE DRAINAGE SYSTEM IS NOT DESIGNED TO ACCEPT

- UNTREATED EFFLUENT FROM A COMMERCIAL KITCHEN CONTAINING GREASE AND OILS. REMOVAL OF GREASE AND OIL SHOULD BE MADE AT SOURCE USING A FLOOR MOUNTED ABOVE GROUND GREASE REMOVAL SYSTEM. IT IS RECOMMENDED THAT A MECHANICAL GREASE REMOVAL SYSTEM BE EMPLOYED FOR THIS PURPOSE NOT A PASSIVE SYSTEM.
- PIPEWORK TO BE OF THE FOLLOWING MANUFACTURER: 100 / 150 / 225MM DIAMETER HEPWORTH SUPERSLEEVE VITRIFIED CLAY PIPES (40kN/mm CRUSHING STRENGTH), 300mm + TO BE CONCRETE CLASS M. ALTERNATIVELY 'POLYSEWER' UPVC DRAINAGE SYSTEM BY POLYPIPE WHEN INSTALLED IN LINE WITH THE MANUFACTURERS RECOMMENDATIONS. FILTER DRAINAGE TO BE PERFORATED HDPE.
- ALL RWP, WPC & GULLY CONNECTIONS TO BE 100mm DIA UNO & ARE RODDABLE AT LOCATIONS ABOVE GROUND LEVEL.
- ALL INSPECTION CHAMBERS WITH A DEPTH GREATER THAN 1.2m TO HAVE A 350mm DIAMETER REDUCING PLATE LOCATED BENEATH COVER AND FRAME TO PREVENT ACCESS.

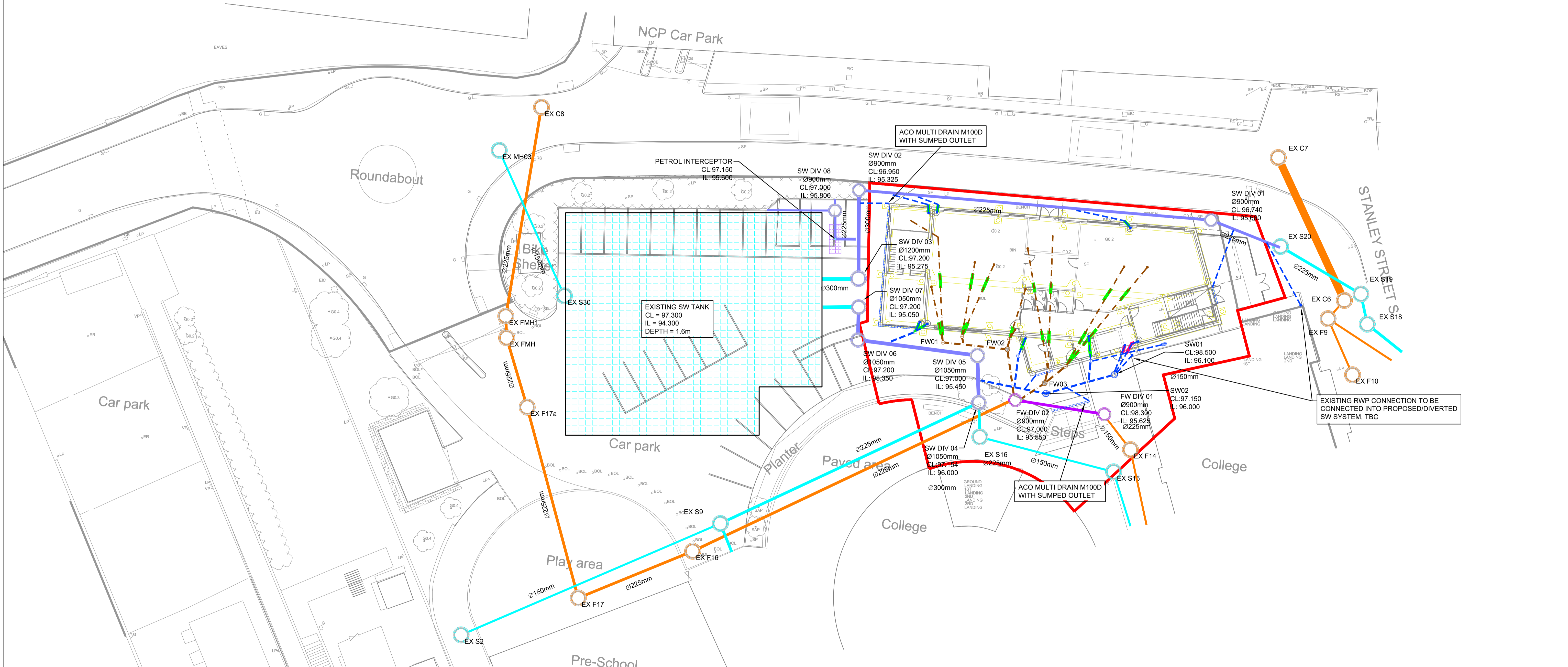


ALL SVP AND RWP DROP LOCATIONS TO BE CONFIRMED BY OTHERS

ALL CONNECTIONS TO HAVE ABOVE GROUND RODDABLE ACCESS

ALL DRAINS ARE 150mm Ø U.N.O
ALL BELOW SLAB DRAINAGE 100mm Ø U.N.O

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No	DATE	DRAWN	REV'D ENG	AMENDMENT
P3	05.05.22	AM	AM	EXISTING RWP CONNECTIONS
P2	21.04.22	AM	PB	DRAINAGE LAYOUT UPDATED
P1	07.03.22	AM	PB	PRELIMINARY ISSUE

STATUS	PURPOSE OF ISSUE
S2	FOR INFORMATION

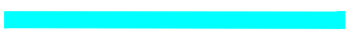


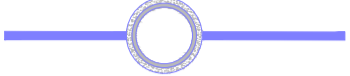




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PROPOSED DRAINAGE LAYOUT				PROJECT REFERENCE: 3694
SCALE	SHEET	DRAWING No	REV	
1:100	A1	BCC-RDG-00-ZZ-DR-C-0002	P3	

KEY

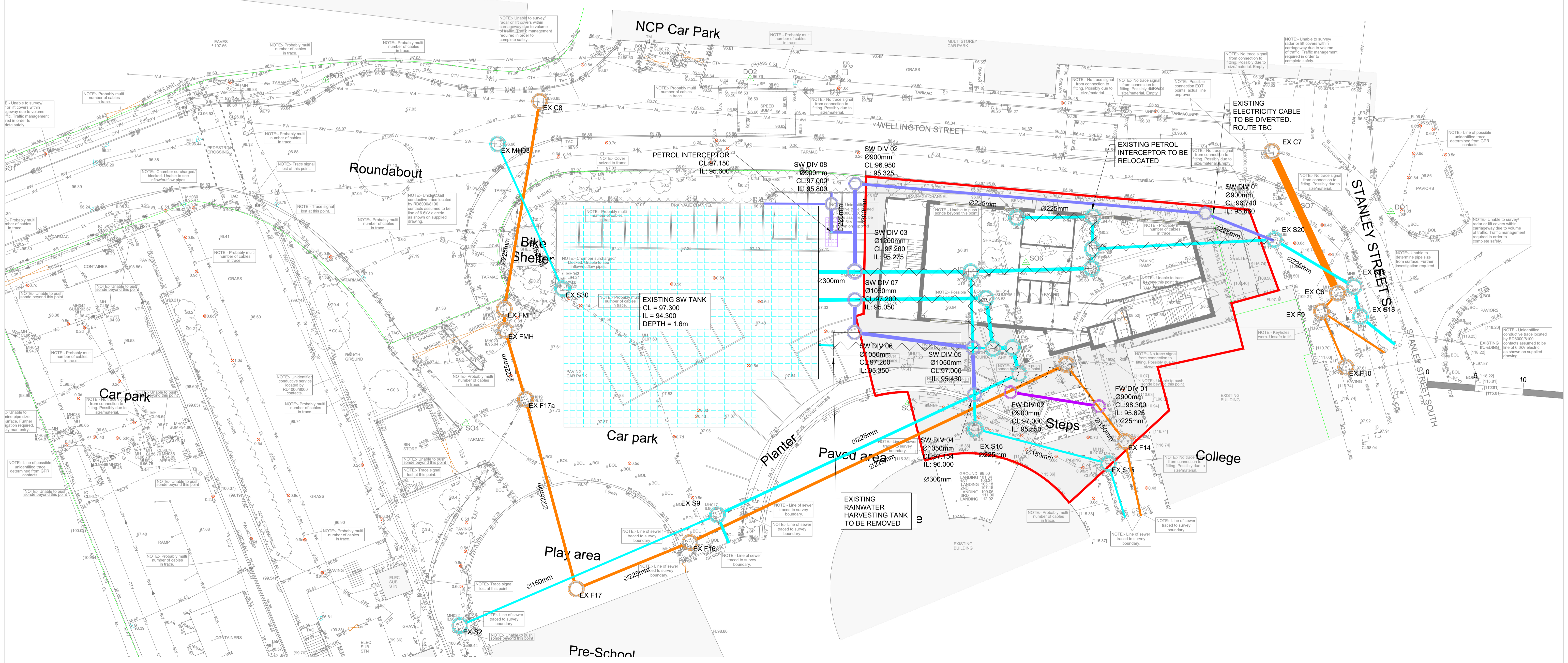
-  EXISTING SW SEWER
-  EXISTING FW SEWER
-  PROPOSED DIVERTED SW SEWER
-  PROPOSED DIVERTED SW MH
-  PROPOSED DIVERTED FW SEWER
-  PROPOSED DIVERTED FW MH
-  EXISTING FW DRAIN TO BE GRUBBED OUT
-  EXISTING SW DRAIN TO BE GRUBBED OUT

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SEE DRAWING NUMBER 'BCC-RDG-00-ZZ-DR-C-0002' FOR THE PROPOSED DRAINAGE LAYOUT

EXTERNAL AREAS WHERE EXISTING INFRASTRUCTURE IS TO BE REMOVED / GRUBBED OUT, EXCAVATED MATERIAL FROM SITE CAN USED AS BACKFILLING THE VOIDS. EXISTING DRAINAGE INFRASTRUCTURE UNDERNEATH THE PROPOSED BUILDING, THE BACKFILL TO BE USED IS GRANULAR FILL 6F2 - COMPACTED.



No	DATE	DRAWN	REV'D ENG.	AMENDMENT

No	DATE	DRAWN	REV'D ENG.	AMENDMENT
P1	21.04.22	AM	PB	PRELIMINARY ISSUE

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PROJECT REFERENCE: 3694			
DRAINAGE ABANDONMENT PLAN			
SCALE	SHEET	DRAWING No	REV
1:100	A1	BCC-RDG-00-ZZ-DR-C-0003	P1

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MANHOLE SCHEDULE									
MANHOLE NO.	MANHOLE CO-ORDINATES	COVER LEVEL (m)	DEPTH TO INVERT (m)	MANHOLE SIZE	MANHOLE TYPE	PIPE IN NAME, INVERT LEVEL (m) & DIA	PIPE OUT NAME, INVERT LEVEL (m) & DIA	COVER SIZE (mm) & GRADE	COMMENTS
FW DIV 01	E:371161.811 N:408805.244	98.300	2.675	900	Type-B	From EX F14, IL=95.700, 150mmØ	To FW DIV 02, IL=95.625, 225mmØ	600x600 D400	
FW DIV 02	E:371152.591 N:408806.706	97.000	1.450	900	Type-E	From FW02, IL=96.300, 150mmØ From FW DIV 01, IL=95.550, 225mmØ From FW03, IL=96.300, 150mmØ	To EX F16, IL=95.550, 225mmØ	600x600 D400	
FW01	E:371145.116 N:408812.666	97.200	0.650	300	Mini IC	From SVP01, IL=96.550, 100mmØ From FWGULLY01, IL=96.550, 100mmØ	To FW02, IL=96.550, 150mmØ	300 C250	
FW02	E:371151.776 N:408811.956	97.000	0.550	450	IC	From FW01, IL=96.450, 150mmØ From MINI IC 1, IL=96.450, 150mmØ	To FW DIV 02, IL=96.450, 150mmØ	450 C250	
FW03	E:371155.637 N:408808.447	97.150	0.750	450	IC	From SVP02, IL=96.400, 150mmØ From SVP03, IL=96.400, 150mmØ	To FW DIV 02, IL=96.400, 150mmØ	450 C250	
PETROL INTERCEPTOR	E:371133.971 N:408823.358	97.150	1.550			From SW DIV 08, IL=95.600, 225mmØ	To , IL=95.600, 225mmØ	600x600 D400	D/S SADDLE TO SW DIVERSION
SW DIV 01	E:371172.844 N:408825.304	96.740	1.080	900	Type-E	From EX S20, IL=95.66, 225mmØ From , IL=95.660, 225mmØ	To SW DIV 02, IL=95.660, 225mmØ	600x600 D400	
SW DIV 02	E:371136.431 N:408828.400	96.950	1.625	900	Type-E	From SW DIV 01, IL=95.400, 225mmØ	To SW DIV 03, IL=95.325, 300mmØ	600x600 D400	
SW DIV 03	E:371136.383 N:408819.258	97.200	1.925	1,200	Type-B	From SW DIV 02, IL=95.275, 300mmØ	SW TANK, IL=95.275, 300mmØ	600x600 D400	
SW DIV 04	E:371148.826 N:408806.432	97.154	1.154	1,050	Type-E	From EX S16, IL=96.075, 225mmØ From EX S9, IL=96.075 225mmØ	To SW DIV 05, IL=96.000, 300mmØ	600x600 D400	
SW DIV 05	E:371148.884 N:408811.300	97.000	1.100	1,050	Type-E	From SW DIV 04, IL=95.450, 300mmØ	To SW DIV 06, IL=95.450, 300mmØ	600x600 D400	
SW DIV 06	E:371136.339 N:408812.918	97.200	1.850	1,050	Type-B	From SW DIV 05, IL=95.350, 300mmØ	To SW DIV 07, IL=95.350, 300mmØ	600x600 D400	
SW DIV 07	E:371136.402 N:408816.316	97.200	2.150	1,050	Type-B	From SW DIV 06, IL=95.050, 300mmØ	To SW TANK, IL=95.050, 300mmØ	600x600 D400	
SW DIV 08	E:371133.961 N:408826.287	97.000	1.200	900	Type-E	From , IL=95.800, 150mmØ From , IL=95.800, 150mmØ	To PETROL INTERCEPTOR, IL=95.800, 225mmØ	600x600 D400	
SW01	E:371162.848 N:408809.328	98.500	2.400	600	IC	From RWP01 , IL=96.100, 100mmØ From RWP02 , IL=96.100, 100mmØ	To SW02, IL=96.100, 150mmØ	600 C250	
SW02	E:371155.746 N:408807.375	97.150	1.150	600	IC	From SW01, IL=96.000, 150mmØ	TO , IL=96.000, 150mmØ	600 C250	D/S SADDLE TO SW DIVERSION

No	DATE	DRAWN	REV'D ENG.	AMENDMENT

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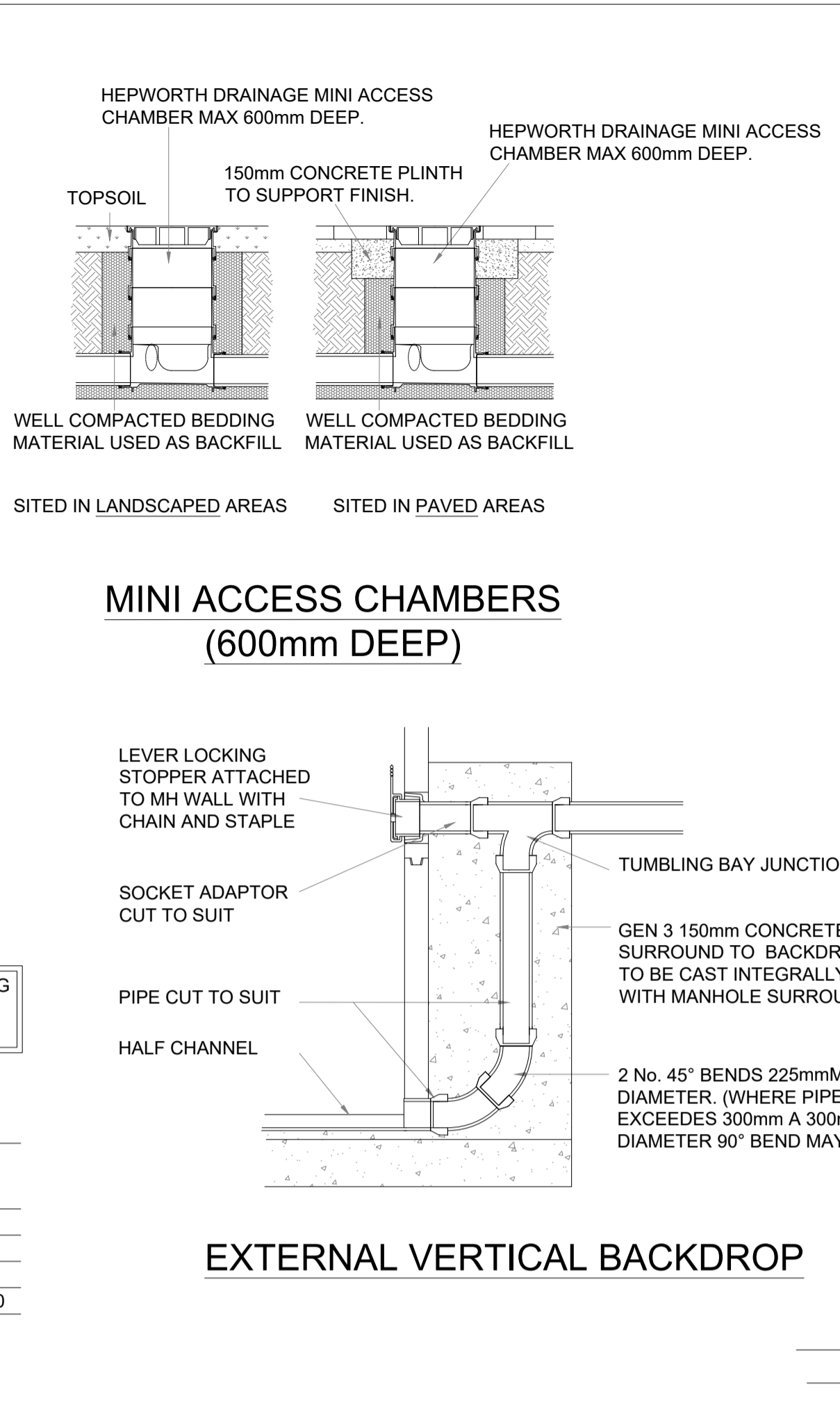
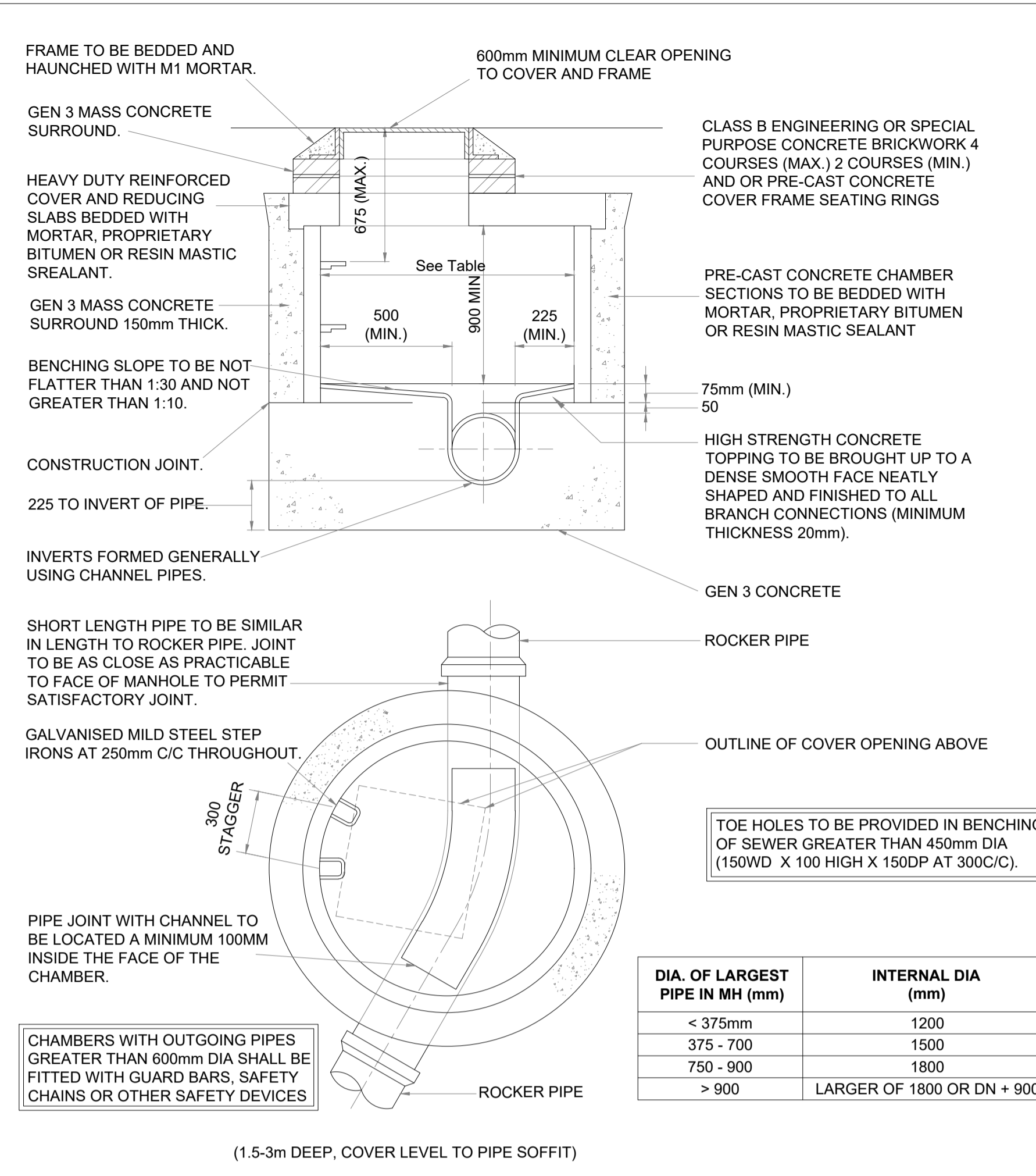
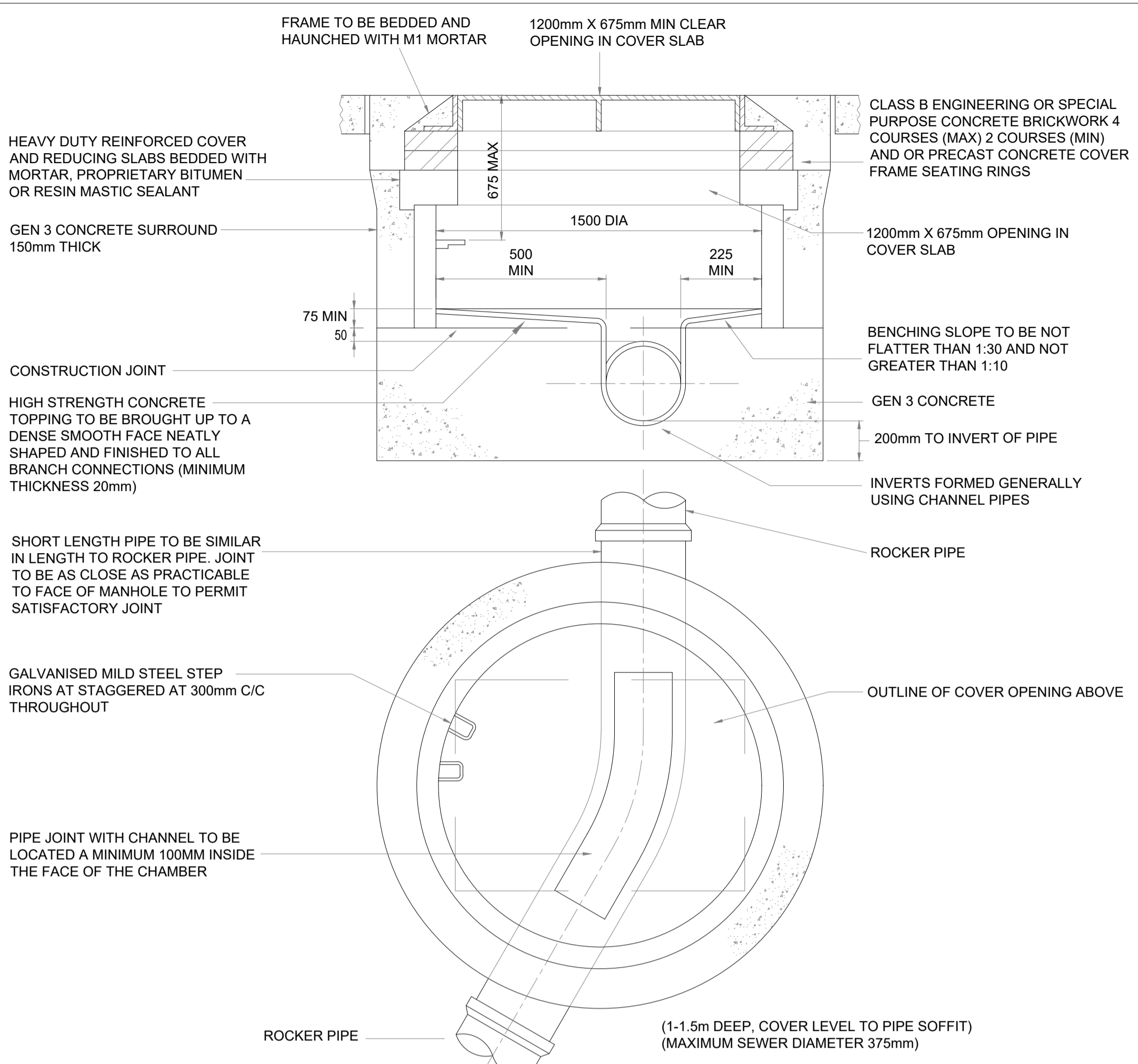
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P1	21.04.22	AM	PB	PRELIMINARY ISSUE

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S2	FOR INFORMATION
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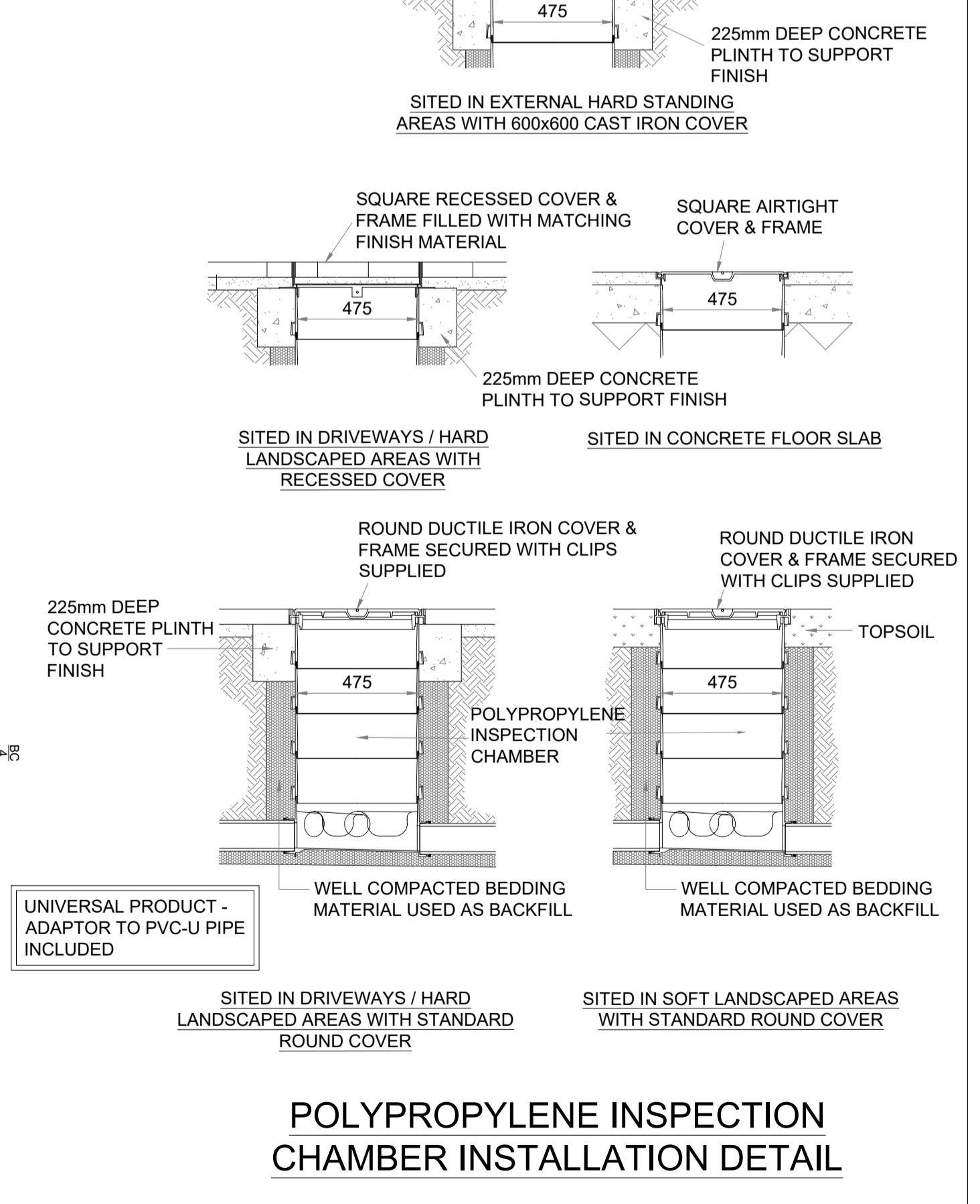
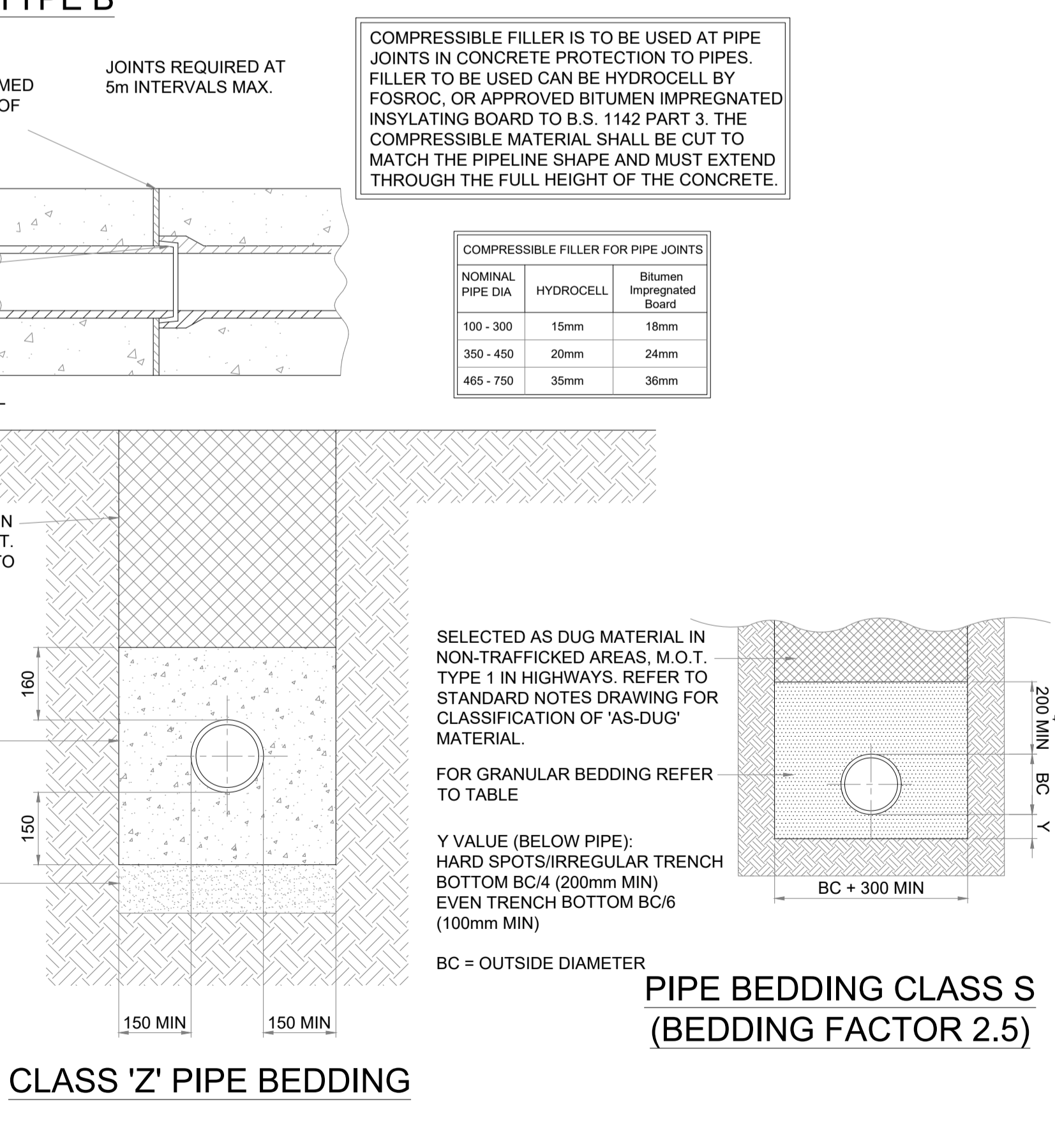
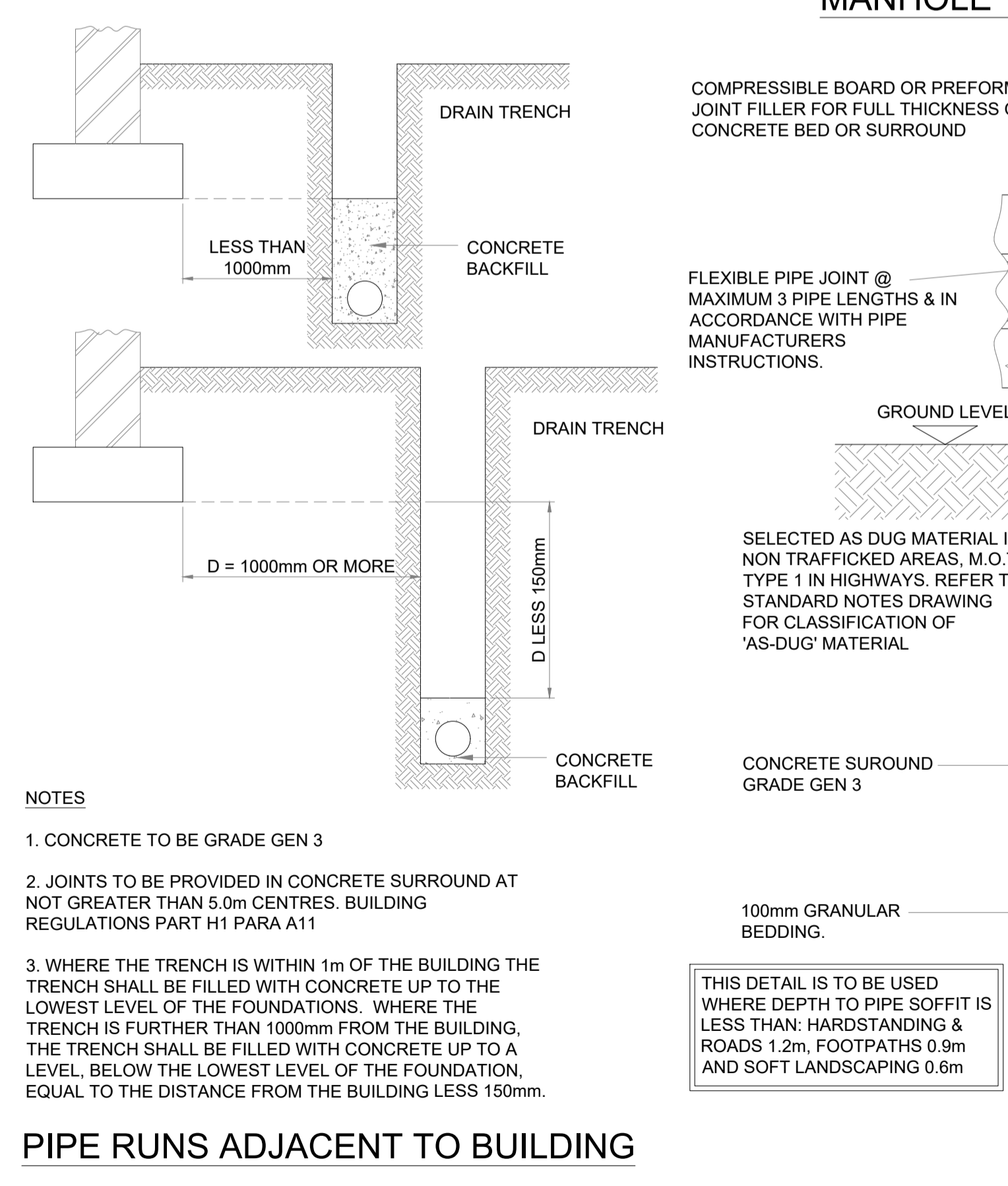
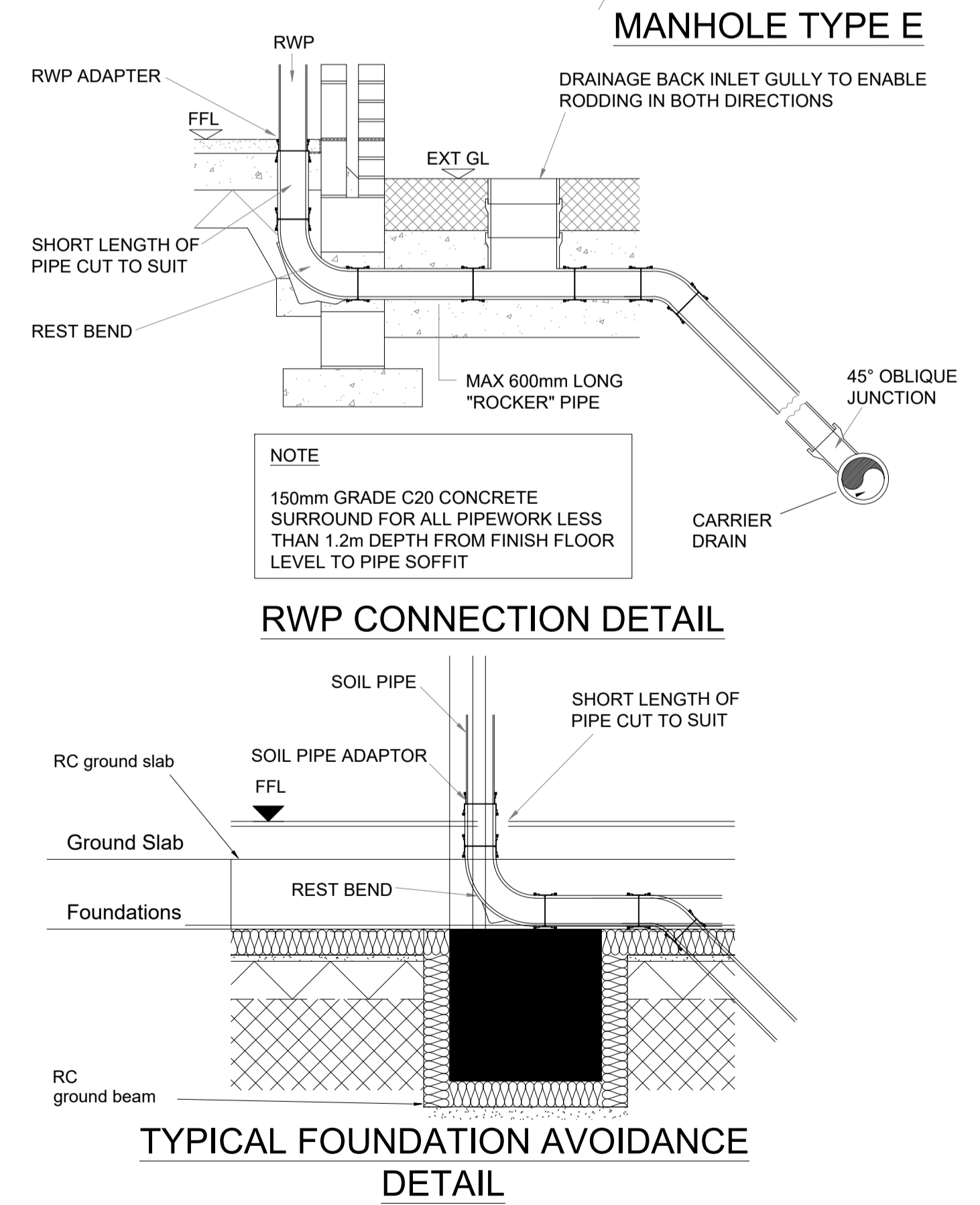
CLIENT	BOLTON COLLEGE	
PROJECT	BOLTON COMMUNITY COLLEGE	
DRAFTER	AM	ENGINEER PB

PROJECT REFERENCE: 3694			
DRAINAGE MANHOLE SCHEDULE			
SCALE	SHEET	DRAWING No	REV
1:100	A1	BCC-RDG-00-ZZ-DR-C-0004	P1



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No	DATE	DRAWN	REV'D ENG.	AMENDMENT

No	DATE	DRAWN	REV'D ENG.	AMENDMENT

No	DATE	DRAWN	REV'D ENG.	AMENDMENT
P1	21.04.22	AM	PB	PRELIMINARY ISSUE

STATUS	PURPOSE OF ISSUE
S2	FOR INFORMATION

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CLIENT	BOLTON COLLEGE
PROJECT	BOLTON COMMUNITY COLLEGE
DRAFTER	AM
ENGINEER	PB

PROJECT REFERENCE	3694
DRAINAGE DETAILS	
SCALE	1:100
SHEET	A1
DRAWING No	BCC-RDG-00-ZR-DC-0005
REV	P1



Appendix C – Drainage Maintenance Schedule

BOLTON COLLEGE DRAINAGE MAINTENANCE SCHEDULE

Organisation responsible for maintenance: _____

Contact Details – Name: _____

Number: _____

Documents:

- Drainage Layout

SUDS have been specified for the site to promote sustainable management of surface water for both flow attenuation and water quality. This document outlines the maintenance schedules for each system in order to maintain the efficiency of the drainage network. The schedules have been created based on guidance from CIRIA C753.

Table 1: Pipes and Manholes Maintenance Schedule

Maintenance schedule	Required Action	Recommended Frequency
Occasional maintenance	Visual inspection of covers, gratings and manhole chambers.	Annually or as required.
	Cleaning out manholes.	Annually or as required.
	CCTV inspection of drainage pipes.	Annually or as required.
Remedial actions	Reactive cleaning of manholes and drains.	During flooding events.
	Cleaning out drains by water jetting.	As required.
	Replace damaged covers, grating and manhole components.	As required.
	Rehabilitation – repairs, relining or replacement.	As determined by inspections.

Table 2: Geocellular Tank Maintenance Schedule

Maintenance Schedule	Required Action	Recommended Frequency
Regular Maintenance	Inspect and identify areas that are not operating correctly. If required, take remedial action	Monthly for 3 months, then annually or as required
	Remove debris from the catchment surface	Monthly
	Remove sediment from pre-treatment structures	Annually

Remedial Actions	Repair / rehabilitate inlets/outlet and vents	As required
Monitoring	Inspect inlets, outlets and vents to ensure they are in good condition and operating as designed.	Annually
	Survey Inside of tank for sediment build up and remove is necessary	Every 5 years or where concerned about operation