

**DRAINAGE INSTALLATION
VERIFICATION REPORT**

for a development at

**LORETO COLLEGE,
NEW BUILD PROBATION LAND**

Undertaken on behalf of

CADDICK CONSTRUCTION LTD

Report Title:	Drainage Installation Verification Report
Report Reference:	LNCP-WML-00-XX-RP-C-1000
Client:	Caddick Construction Ltd
Issue Date:	March 2025
Drafted By:	Daniel Baker
Authorised By:	Loughlin OGorman

This document has been prepared for the titled project (or named part thereof) and should not be relied upon or used for any other project without an independent check being carried out as to its suitability and prior written authorization being obtained from WML Consulting. WML accepts no responsibility or liability for the consequences of the use of this document, wholly or in part, for any other purpose than that for which it was commissioned. Any persons so using or relying upon this document for such other purpose do so at their own risk.

This report was prepared for the sole use of the Client and shall not be relied upon or transferred to any other party without the express written authorisation of WML. It May contain material subject to copyright or obtained subject to license; unauthorised copying of this report will be in breach of copyright/license.

The findings and opinions provided in this document are given in good faith and are subject to the limitations imposed by employing site assessment methods and techniques, appropriate to the time of investigation and within the limitations and constraints defined within this document. The findings and opinions are relevant to the dates when the assessment was undertaken, but should not necessarily be relied upon to represent conditions at a substantially later date.

The findings and opinions conveyed in this report are based on information obtained from a variety of sources as detailed and which WML assumes to be reliable, but has not been independently confirmed. Therefore, WML cannot and does not guarantee the authenticity or reliability of third party information it has relied upon.

Where opinions expressed in this report are based on current available guidelines and legislation, no liability can be accepted by WML for the effects of any future changes to such guidelines and legislation.

The limitations of liability of WML for the contents of this document have been agreed with the Client, as set out in the terms and conditions of offer and related contract documentation.

WML Consulting Ltd
Third Floor South,
Metropolitan House,
Station Road,
Cheadle Hulme,
Cheshire
SK8 7AZ

Tel: 0161 482 0600
Email: info@wmlconsulting.com
www.wmlconsulting.com

DRAINAGE INSTALLATION VERIFICATION REPORT

- 1.0 WML Consulting have been commissioned by Caddick Construction Ltd to provide a response to planning condition 7 of planning consent ref. 136963 / FO / 2023.
- 1.1 The proposed development relates to the construction of a new three-storey educational building located on the south eastern corner of the land adjacent to the Chichester Road South and Moss Lane East Road junction.
- 1.2 Condition 7 of this consent is as below in blue font.

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:

- Verification report providing photographic evidence of construction as per design drawings;
- As built construction drawings if different from design construction drawings;
- 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.

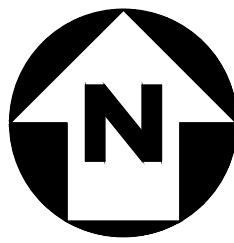
Reason: To manage flooding and pollution and to ensure that a managing body is in place for the sustainable drainage system and there is funding and maintenance mechanism for the lifetime of the development.

- 1.3 In response to the above WML have produced this document which contains a series of appendices as listed below
- **Appendix A** – drawings indicating the as installed below ground drainage infrastructure.
- Note that any as-built information provided by Caddick Construction Ltd has been incorporated within the record drawings and calculations contained within appendix A.
- **Appendix B** – Surface water drainage calculations for the systems indicated on drawing 1001.
 - **Appendix C** – Photographs of the installation of the drainage infrastructure.

Maintenance of the below ground drainage system

- 1.5 It is understood that the proposed drainage system is to be the sole responsibility of the college or site owners' management team / company. Though it may be necessary to involve a specialist drainage maintenance company also as and when needed.
- 1.8 The below ground foul and surface water drainage proposals indicated are relatively traditional in nature, and should provide years of relatively low maintenance operation in relation to the anticipated lifespan of the proposed development.
- 1.9 In line with current good practice: -
- **Gullies and linear drainage channels.** These should be inspected and / or cleaned out at 6 monthly intervals or following heavy storms that may wash detritus into them. Any problems highlighted by these inspections will need to be investigated, possibly by CCTV survey, to confirm the nature of the problem and to allow it to be remedied in a timely manner.
 - **Inspection chambers, manholes, catchpits, etc.** These should be inspected at 6 monthly intervals or following heavy storms to ensure that the pipework associated with them is running freely. Any problems highlighted by these inspections will need to be investigated, possibly by CCTV survey, to confirm the nature of the problem and to allow it to be remedied in a timely manner.
 - **Orifice flow control.** It has been necessary to incorporate 1No. orifice flow control device as part of the proposed surface water design. It should be inspected at 6 monthly intervals or following heavy storms to ensure that the pipework associated with it is running freely. Any problems highlighted by these inspections will need to be investigated, possibly by CCTV survey, to confirm the nature of the problem and to allow it to be remedied in a timely manner.
 - **Permeable Paving.** Permeable paving has been specified for all new areas of external paving within the site constraints. Permeable paving is generally considered to be low maintenance; however, it is proposed to check and clean the permeable surfaces regularly to ensure that surface water runoff is not prevented from draining into the sub-base layer. Particular attention should be given during the autumn period where a build-up of leaves could occur and result in a loss of performance.
- 1.10 It is anticipated that the majority of the maintenance of the below ground drainage system will be carried out by the site owner's management team / company. Though it may be necessary to involve a specialist drainage maintenance company also as and when needed.
- 1.11 Caddick Construction will be responsible for the maintenance of the below ground drainage systems for twelve months following handover of the development, currently forecast to happen 28th April 2025.
- 1.12 Loreto College will be responsible for the maintenance of the below ground drainage systems after 28th April 2026.
- 1.13 It is considered that this document with its various appendices adequately responds to the information requested via planning condition 15, and hence it can be discharged.

APPENDIX A
Record Drawings



LEGEND

— SW — SW — SW —	EXISTING ADOPTED SURFACE WATER SEWER
— CW — CW — CW —	EXISTING ADOPTED COMBINED WATER SEWER
— FW — FW — FW —	EXISTING PRIVATE SURFACE WATER DRAIN
— FW — FW — FW —	EXISTING PRIVATE FOUL WATER DRAIN
— CW — CW — CW —	EXISTING PRIVATE COMBINED WATER DRAIN
— — — — —	EXISTING PRIVATE DRAINAGE TO BE REMOVED
— — — — —	EXISTING SURFACE WATER CULVERT
— — — — —	EXISTING SURFACE WATER CULVERT - 7m EASEMENT
— — — — —	PROPOSED PRIVATE SURFACE WATER SEWER
— — — — —	PROPOSED PRIVATE WASTE WATER SEWER
— — — — —	PROPOSED ATTENUATION TANK
— — — — —	PROPOSED PERMEABLE SURFACING
— — — — —	DENOTES RETAINING WALL
— — — — —	SITE BOUNDARY

DRAINAGE NOTES

REFERENCE SHOULD BE MADE TO THE DRAINAGE STRATEGY DOCUMENT REF: 10639-WML-00-XX-RP-C-0001.

THE EXISTING DRAINAGE SHOWN ON THIS DRAWING IS BASED UPON THE UNITED UTILITIES LAUSSEWER RECORDS AND EXISTING DRAINAGE SITE PLAN PRODUCED FOR THE ADJACENT DEVELOPMENT WORKS AT TAINWORTH STREET.

THE LOCATION OF THE EXISTING SURFACE WATER CULVERT IS SHOWN INDICATIVE ONLY AND IS BASED UPON SURVEY INFORMATION UNDERTAKEN BY MALCOLM HUGHES CHARTERED SURVEYORS- APRIL 2023.

ALL DRAINAGE LEVELS SHOWN ARE FOR INFORMATION PURPOSES ONLY AND ARE BASED UPON THE EXISTING TOPOGRAPHICAL SURVEY AND PROPOSED FINISHED LEVELS PROVIDED BY 10 ARCHITECTS.

THE ARCHITECT IS RESPONSIBLE FOR CONFIRMING ALL MANHOLE COVER LEVELS PRIOR TO CONSTRUCTION.

THE PROPOSED DRAINAGE DESIGN INFORMATION SHOWN ON THIS DRAWING IS FOR INFORMATION PURPOSES ONLY AND IS SUBJECT TO DETAILED DESIGN.

RAIN WATER PIPES AND SLAB PENETRATIONS ARE SHOWN INDICATIVE ONLY. ARCHITECT/MEP ENGINEER IS TO CONFIRM FINAL SETTING OUT INFORMATION PRIOR TO CONSTRUCTION.

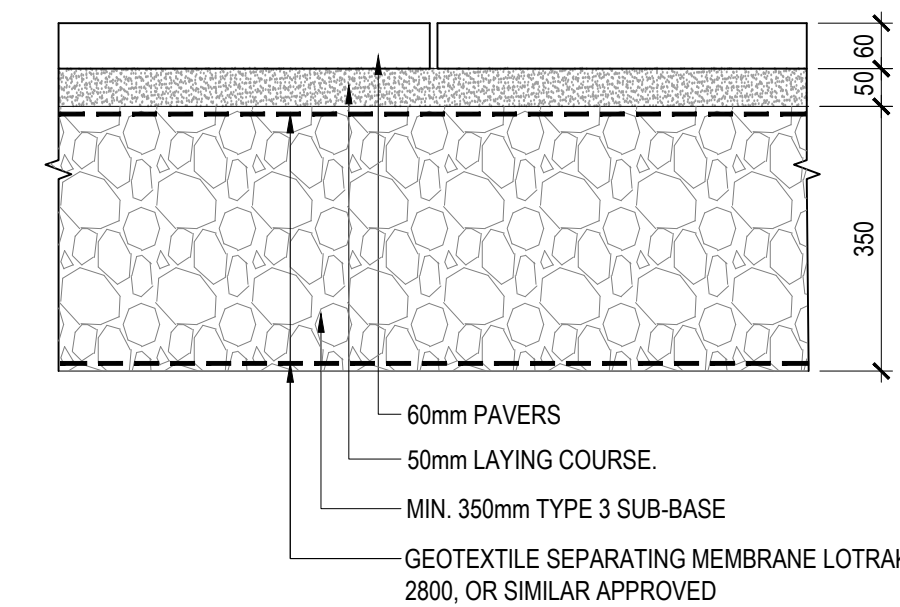
(BD) DENOTES EXTERNAL BACKDROP

(CP) DENOTES 'CATCH PIT' WITH 500mm DEEP SUMP BELOW OUTGOING INVERT LEVEL

(FC) DENOTES FLOW CONTROL CHAMBER

(PVD) DENOTES PERMAVOID DIFFUSER UNITS

(VC) DENOTES VENTED COVER



ALL WORKS TO BE IN ACCORDANCE WITH BST533-3 GENERALLY.

PAVER: THICKNESS 60mm

MATERIAL: AS SPECIFIED BY ARCHITECT

LAYING COURSE: THICKNESS 50mm

MATERIAL: IN ACCORDANCE WITH Q241455A

ROADBASE: NON REQUIRED

MATERIAL: NA

GRANULAR SUB-BASE AS SECTION Q20 OF WML SPECIFICATION THICKNESS 350 mm (SHW803 TYPE 3 GSB - MINIMUM 30% VOID RATIO).

JOINTING: NARROW JOINTS TO ARCHITECTS DETAIL

MATERIAL: IN ACCORDANCE WITH Q24510A

LAYING PATTERN: AS SPECIFIED BY ARCHITECT.

ASSUMED CBR: 5% (SUBJECT TO CONFIRMATION OF CBR TESTS BY SITE INVESTIGATION SPECIALIST AFTER SITE STRIP)

ADDITIONAL FILLING REQUIRED TO RAISE SURFACE LEVEL FOLLOWING SITE STRIP TO BE IN ACCORDANCE WITH D20, (SH803 TYPE 3 GSB).

ALL MATERIAL WITHIN 450MM OF SURFACE LEVEL TO BE NON-FROST SUSCEPTIBLE. IF ENCOUNTERED NOTIFY WML. REPLACEMENT FILL TO BE GRADE #F2 OR #F3 UNLESS AGREED OTHERWISE.

TYPICAL DETAIL PERMEABLE BRICK / BLOCK PAVING TO FOOTPATHS

(SCALE 1:10)



GENERAL NOTES

DO NOT SCALE FROM THIS DRAWING WORK TO FIGURED DIMENSIONS ONLY.

NO DEVIATION FROM THE DETAILS SHOWN ON THIS DRAWING IS ALLOWED WITHOUT PRIOR PERMISSION IN WRITING.

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL ARCHITECTS, ENGINEERS AND SPECIALISTS DRAWINGS AND THE SPECIFICATION.

THE CONTRACTOR SHALL INCORPORATE ALL THE REQUIREMENTS OF THE PRE-TENDER STAGE HEALTH AND SAFETY PLAN.

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH WML DRAINAGE DETAIL DRAWINGS FOR DETAILS OF MATERIALS AND WORKMANSHIP REFER TO THE SPECIFICATION.

THE CONTRACTOR IS RESPONSIBLE FOR CHECKING INVERT LEVELS AND POSITIONS OF ALL EXISTING DRAINS, SEWERS, INSPECTION CHAMBERS AND MANHOLES SHOWN ON THIS DRAWING IMMEDIATELY ON SITE ESTABLISHMENT. ANY DISCREPANCIES MUST BE REPORTED TO WML CONSULTING IMMEDIATELY.

WHERE THE NEW SITE DRAINAGE CONNECTS IN TO EXISTING MANHOLES IN CARRIAGEWAYS AND/OR EXISTING ADOPTED SEWERS, THE CONTRACTOR IS RESPONSIBLE FOR ALL LIAISON WITH THE RELEVANT STATUTORY UNDERTAKER AND LOCAL AUTHORITY WITH REGARD TO ROAD CLOSURES, TRAFFIC MANAGEMENT, PERMITS TO WORK, SUBMISSION OF CONTRACTORS METHOD STATEMENTS AND RISK ASSESSMENTS AND OTHER DOCUMENTATION AND CORRESPONDENCE ASSOCIATED WITH THE SITE STAGE (PART 2) ELEMENT OF THE WORKS.

ROCKER PIPES TO BE PROVIDED AT ALL CONCRETE CASED INTERFACES.

PROVIDE ADEQUATE PROTECTION TO MAINTAIN MINIMUM COVER TO DRAINS DURING THE CONSTRUCTION PERIOD.

COVER LEVELS ON THIS DRAWING ARE FOR INFORMATION PURPOSES ONLY.

THE LAYOUT OF DRAINAGE ON THIS DRAWING IS FOR INFORMATION PURPOSES ONLY.

U.N.O SURFACE WATER DRAINAGE PIPES OVER Ø100mm TO BE TWIN WALLED STRUCTURED PLASTIC APPROVED BY THE ENGINEER.

U.N.O FOUL WATER DRAINAGE PIPES TO BE SUPERSLEVE VITRIFIED CLAY PIPES OR SIMILAR.

ALL COVERS AND RODDING ACCESS POINTS TO BE SEALED AND SCREWED TIGHT.

ALL INTERNAL MANHOLE COVERS TO BE DOUBLE SEALED, LOOKABLE AND RECESSED TO ACCEPT FLOOR FINISHES WHERE APPLICABLE.

SETTING OUT OF ALL INTERNAL CULLYPLUMBING CONNECTIONS TO BE CO-ORDINATED BETWEEN THE SERVICE ENGINEERS AND THE ARCHITECT.

ALL INTERNAL GULLIES, PLUMBING CONNECTIONS, SOIL STACKS, SVPS AND ALL OTHER CONNECTIONS OF FOUL AND SURFACE WATER DRAINS TO BELOW GROUND TO BE FITTED WITH ACCESSIBLE RODDING POINTS ABOVE S8/8 LEVEL.

ALL SURFACE WATER CONNECTIONS TO BE 100mm DIAMETER AT MINIMUM FALLS OF 1:80 UNLESS NOTED OTHERWISE.

ALL FOUL WATER CONNECTIONS TO BE 100mm DIAMETER AT MINIMUM FALLS OF 1:40 UNLESS NOTED OTHERWISE.

ALL CONNECTIONS TO BE MADE IN ACCORDANCE WITH STANDARD DETAIL DRAWINGS.

ALL PIPEWORK TO BE INSTALLED WITH SOFFITS LEVEL (E.G. AT CHANGES IN PIPE SIZE) U.N.O.

FOR DETAILS OF GREASE TRAP/MACERATOR REQUIREMENTS ASSOCIATED WITH KITCHENS REFER TO SERVICE ENGINEER.

ON COMPLETION OF DRAINAGE WORKS, THE NEW DRAINAGE SYSTEM IS TO BE THOROUGHLY CLEANED AND A CCTV SURVEY CARRIED OUT TO CONFIRM NO CONSTRUCTION DEBRIS OR BLOCKAGES REMAIN.

CONNECTIONS TO CARRIER DRAINS ARE TO BE 'Y' JUNCTIONS.

ALL PRIVATE DRAINAGE IS TO COMPLY WITH BS EN 752 AND BUILDING REGS. PART H.

PIPE GRADIENTS ARE INDICATIVE MINIMUMS.

SURFACE CHANNEL DRAINS TO BE ACO MULTIDRAIN OR SIMILAR.

MANHOLES:

ALL PROPOSED NEW MANHOLES TO BE PRECAST RING MANHOLES TYPE B UNLESS NOTED OTHERWISE. INTERNAL DIAMETERS OF MANHOLES TO BE 1050mm WHERE DEPTH TO PIPE SOFFIT IS LESS THAN 1.5m, AND 1200mm Ø ELSEWHERE UNLESS NOTED OTHERWISE. IC - DENOTES POLYPROPYLENE INSPECTION CHAMBER BY HEPWORTHY OR SIMILAR APPROVED INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.

MANHOLE COVERS:

CARRIAGEWAYS GENERAL - EN124 CLASS D400

CARRIAGEWAYS WITHIN 0.5m OF KERB - EN124 CLASS C250

SLOW MOVING HGV (R8) - EN 124 CLASS B125 SLOW MOVING

GLV (T10), EN 124 CLASS B125 SLOW MOVING PRIVATE CARS - EN124 CLASS B125

INTERNAL - JONES OF OSWESTRY - SUPRASTEEL DOUBLE SEALED WITH NEOPRENE GASKET AND COVER GREASE OR SIMILAR APPROVED.

REFER TO ARCHITECTS DRAWINGS FOR DETAILS OF ANY MANHOLE COVERS WHICH REQUIRE INSET PANELS.

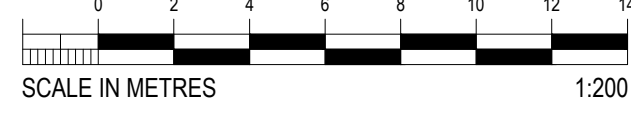
RECORD DRAWING

WML RECORD DRAWINGS ARE FINAL CONSTRUCTION DRAWINGS INCORPORATING AS-BUILT INFORMATION RECEIVED FROM THE CONTRACTOR.

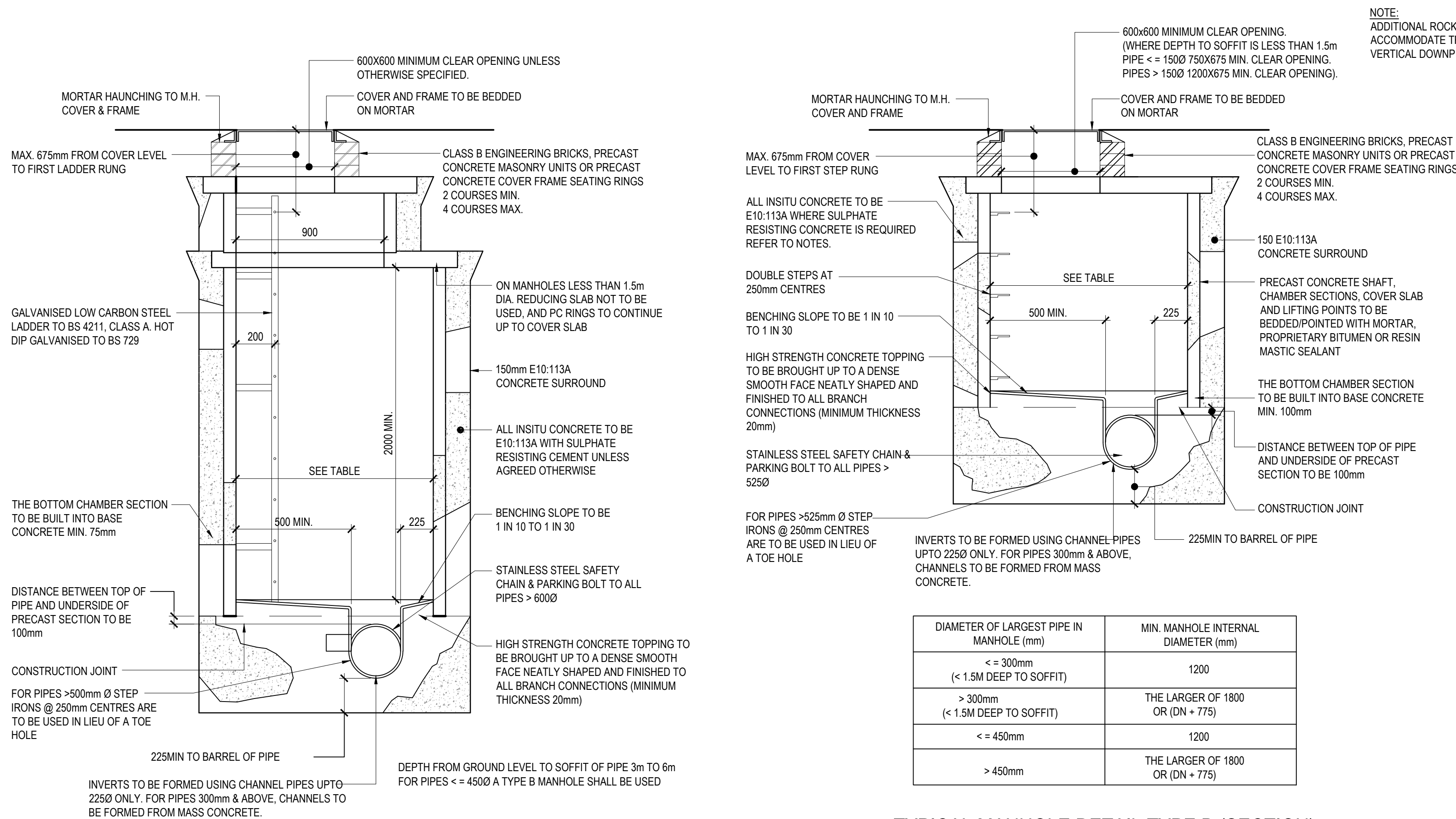
SURFACE WATER MANHOLE SCHEDULE									
MH REF	COVER LEVEL	INVERT LEVEL (IN)	INVERT LEVEL (OUT)	MAIN PIPE Ø (IN)	MAIN PIPE Ø (OUT)	MH TYPE	MANHOLE Ø	COVER TYPE	COMMENTS
S1	32.780	31.883	31.883	Ø225mm	Ø225mm	PPIC	Ø600mm	B125	WAVIN 600 RANGE OR SIMILAR APPROVED.
S2	32.780	31.644	31.589	Ø150mm	Ø225mm	PPIC	Ø600mm	B125	WAVIN 600 RANGE OR SIMILAR APPROVED. INCOMING Ø150mm CHANNEL DRAIN CONNECTION.
S3	32.500	31.323	31.323	Ø225mm	Ø225mm	PPIC	Ø600mm	B125	WAVIN 600 RANGE OR SIMILAR APPROVED.
S4	32.780	31.150	31.150	Ø225mm	Ø225mm	PPIC	Ø600mm	B125	WAVIN 600 RANGE OR SIMILAR APPROVED.
S5	31.750	30.820	30.775	Ø150mm	Ø225mm	PPIC	Ø600mm	B125	WAVIN 600 RANGE OR SIMILAR APPROVED. INCOMING Ø150mm RWP CONNECTION.
S6	32.930	32.315	32.240	Ø150mm	Ø225mm	PPIC	Ø600mm	B125	WAVIN 600 RANGE OR SIMILAR APPROVED. 2No. INCOMING Ø150mm RWP CONNECTIONS
S7	31.800	30.898	30.823	Ø150mm	Ø225mm	CATCH PIT	Ø1200mm	B125	COVER & FRAME TO HAVE 675x675 CLEAR OPENING. CATCH PIT SUMP IL: 30.250.
S8	32.500	30.567	30.492	Ø225mm	Ø300mm	CATCH PIT	Ø1200mm	B125	COVER & FRAME TO HAVE 675x675 CLEAR OPENING. CATCH PIT SUMP IL: 30.000.
S9	31.800	30.380	30.380	Ø300mm	Ø150mm	FLOW CONTROL	Ø1200mm	B125	COVER & FRAME TO HAVE 675x675 CLEAR OPENING. Ø42mm ORIFICE PLATE FITTED TO OUTGOING PIPE.
SP	31.800	30.315	30.315	Ø150mm	Ø150mm	SPEL SMARTCEPTOR	1200x750	B125	SPEL 200 SERIES SMARTCEPTOR HYDRODYNAMIC VORTEX SEPARATOR.
S10	31.800	30.247	30.247	Ø150mm	Ø150mm	NON-RETURN VALVE	1050mm	B125	1.5m DEEP, Ø1050mm NON-RETURN VALVE CHAMBER BY FREEFLOSH OR SIMILAR.

FOUL WATER MANHOLE SCHEDULE									
MH REF	COVER LEVEL	INVERT LEVEL (IN)	INVERT LEVEL (OUT)	MAIN PIPE Ø (IN)	MAIN PIPE Ø (OUT)	MH TYPE	DIAMETER	COVER TYPE	COMMENTS
F1	32.930	31.952	31.902	Ø100mm	Ø150mm	PPIC	Ø450mm	B125	WAVIN 450 RANGE OR SIMILAR APPROVED. INCOMING Ø100mm SOIL CONNECTION.
F2	32.500	31.555	31.555	Ø150mm	Ø150mm	PPIC	Ø1200mm	B125	COVER & FRAME TO HAVE 675x675 CLEAR OPENING.
F3	31.760	31.094	31.094	Ø150mm	Ø150mm	PPIC	Ø450mm	B125	WAVIN 450 RANGE OR SIMILAR APPROVED.
F3A	31.830	30.981	30.481	Ø150mm	Ø150mm	PPIC	Ø450mm	B125	WAVIN 450 RANGE OR SIMILAR APPROVED. EXTERNAL BACKDROP IL:31.000.
F4	32.780	31.449	31.599	Ø100mm	Ø150mm	PPIC	Ø450mm	B125	WAVIN 450 RANGE OR SIMILAR APPROVED. INCOMING Ø100mm SOIL CONNECTION.
F5	31.830	31.305	31.255	Ø100mm	Ø150mm	PPIC	Ø450mm	B125	WAVIN 450 RANGE OR SIMILAR APPROVED. INCOMING Ø100mm SOIL CONNECTION.
F6	31.830	30.863	30.363	Ø150mm	Ø150mm	PPIC	Ø450mm	B125	WAVIN 450 RANGE OR SIMILAR APPROVED. EXTERNAL BACKDROP IL:30.850.
F7	31.830	30.290	28.750	Ø150mm	Ø375mm	PCC	1200x750mm	B125	COVER & FRAME TO HAVE 1200x750 CLEAR OPENING. 2No. EXTERNAL BACKDROPS IL:30.250.

COORDINATES			
POINTS	EASTING	NORTHING	
SP	383285.849	395997.852	
F01	383313.857	395997.084	
F02	383288.757	395990.102	
F03	383294.429	395999.839	
F04	383321.343	395999.951	
F05	383317.849	395998.989	
F06	383318.64	395996.243	
F07	383312.165	395964.42	
F33	383307.572	395993.177	
S01	383333.903	395974.838	
S02	383335.91	396005.77	
S03	383315.822	396007.704	
S04	383313.952	395988.18	
S05	383292.22	395961.63	
S06	383305.285	395976.47	
S07	383266.606	395975.7	
S08	383286.804	395990.762	
S09	383286.775	395996.489	
S10	383294.696	396000.194	

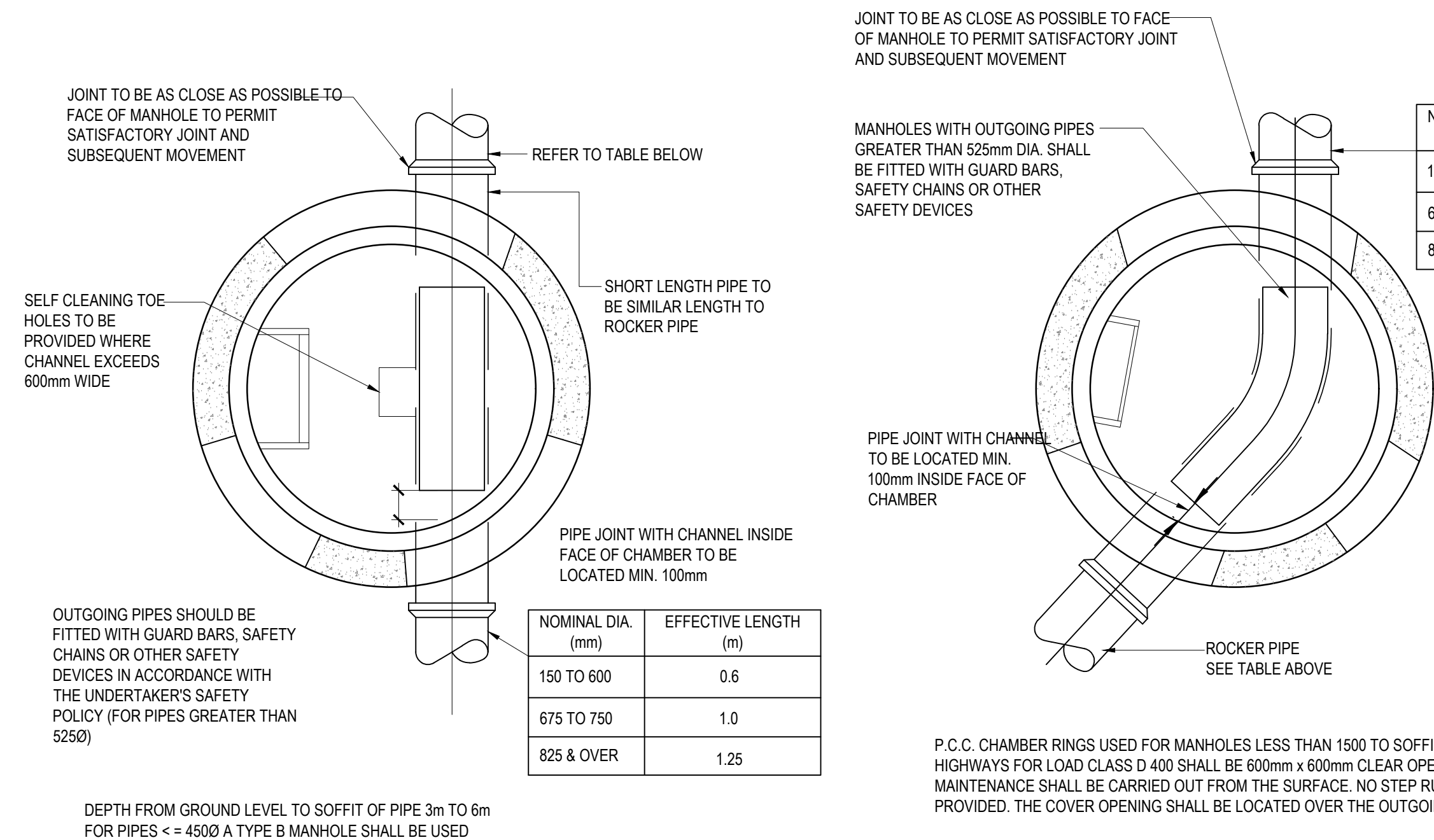


Project	Originator	Volume	Level	Type	Role	Number	Rev
LCNP	- WML - 00 - FN - DR -	D	-	5200	R01		



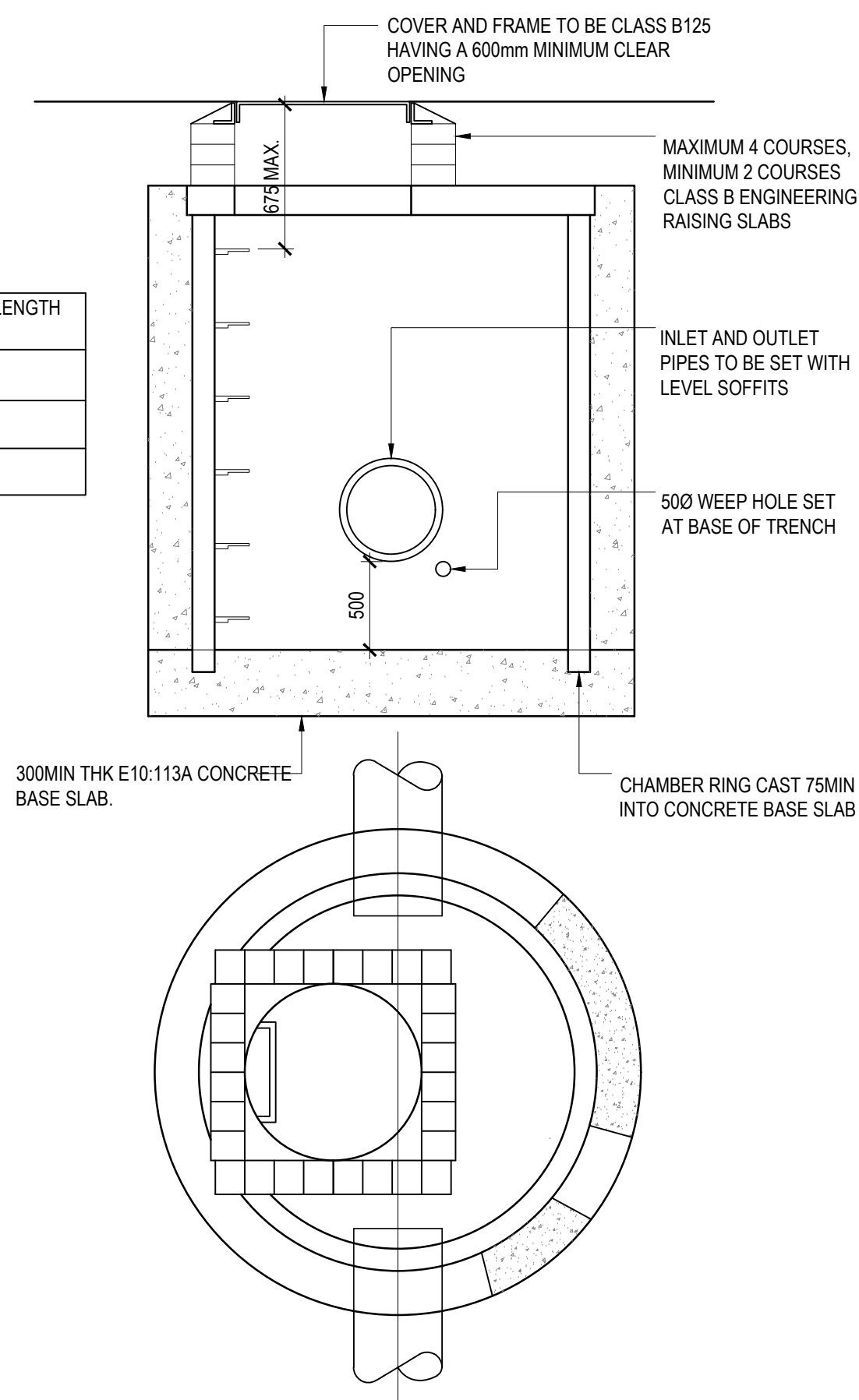
TYPICAL MANHOLE DETAIL TYPE A (SECTION)
[SCALE 1:20]

TYPICAL MANHOLE DETAIL TYPE B (SECTION)
[SCALE 1:20]



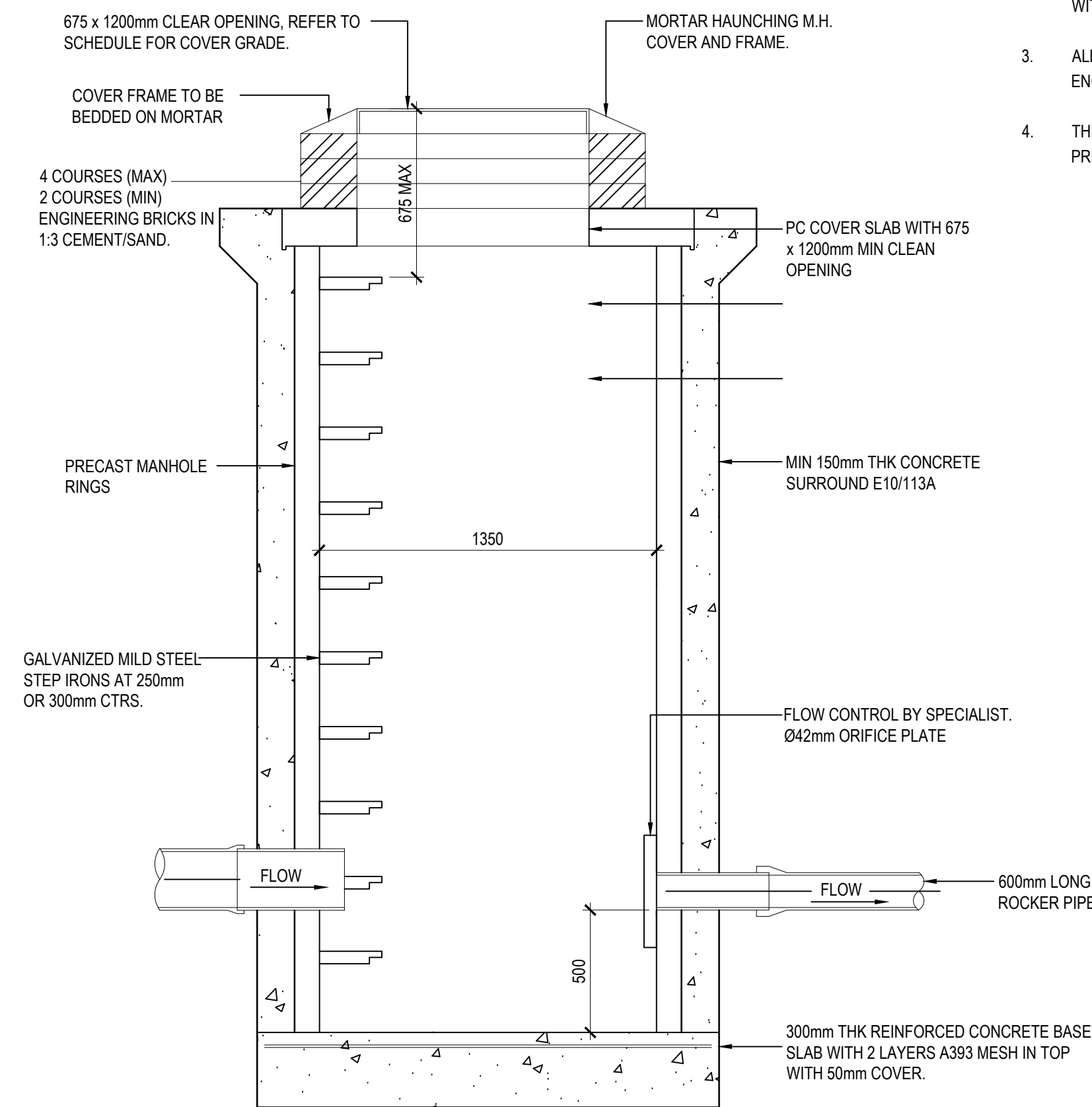
TYPICAL MANHOLE DETAIL TYPE A (PLAN)
[SCALE 1:20]

TYPICAL MANHOLE DETAIL TYPE B (E/F)
DEPTH TO SOFFIT OF PIPE 1.5m *TO 3.0m
[SCALE 1:20]



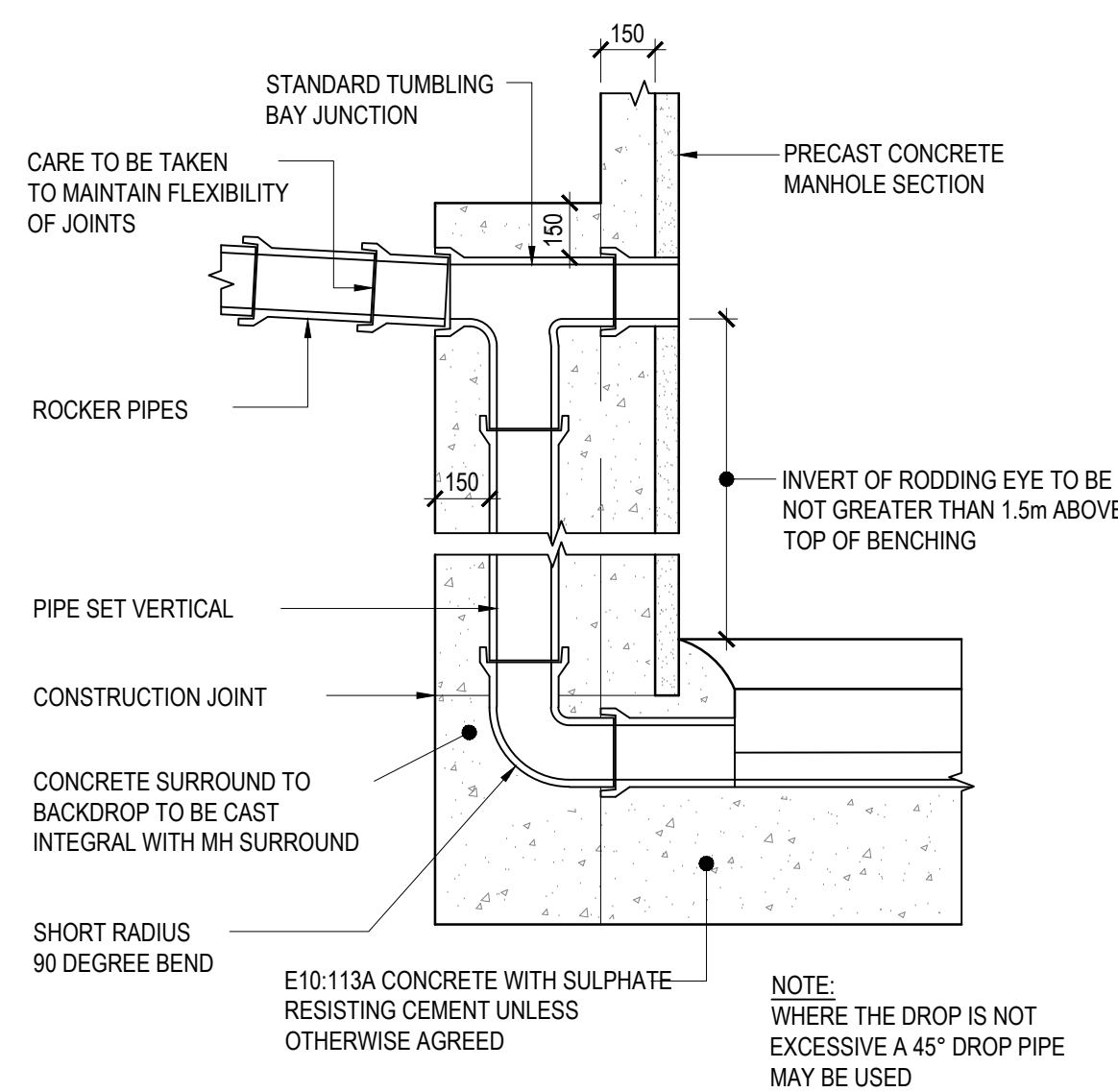
TYPICAL CATCHPIT MANHOLE PLAN & SECTION
(CHAMBER CONSTRUCTION AS FOR PCC MANHOLES)
[SCALE 1:20]

NOTE:
ADDITIONAL ROCKER PIPES MAY BE NECESSARY TO ACCOMMODATE TRANSITION OF PIPE GRADIENT TO VERTICAL DOWNPIPE



TYPICAL FLOW CONTROL CHAMBER
[SCALE 1:20]

FLOW CONTROL CHAMBER DETAIL IS INDICATIVE ONLY. CONTRACTOR IS TO REFER TO MANUFACTURES SPECIFICATION, INSTALLATION AND CONSTRUCTION DETAILS PRIOR TO CONSTRUCTION



TYPICAL VERTICAL BACKDROP DETAIL
[SCALE 1:20]

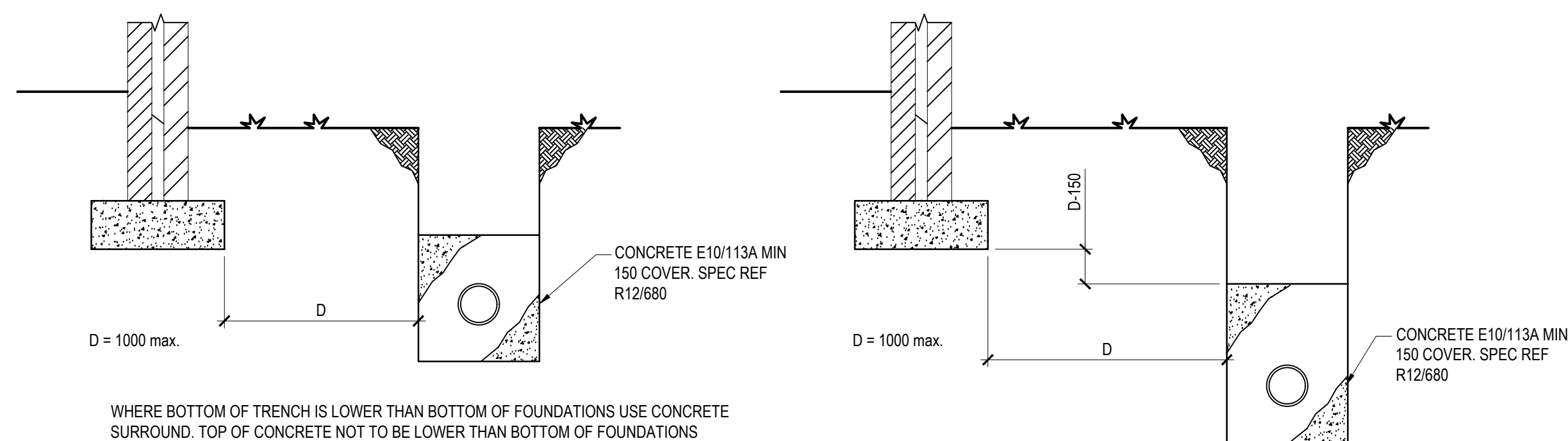
GENERAL NOTES

- DO NOT SCALE FROM THIS DRAWING WORK TO FIGURED DIMENSIONS ONLY.
- NO DEVIATION FROM THE DETAILS SHOWN ON THIS DRAWING IS ALLOWED WITHOUT PRIOR PERMISSION IN WRITING.
- ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL ARCHITECTS, ENGINEERS AND SPECIALISTS DRAWINGS AND THE SPECIFICATION.
- THE CONTRACTOR SHALL INCORPORATE ALL THE REQUIREMENTS OF THE PRE-TENDER STAGE HEALTH & SAFETY PLAN.

RECORD DRAWING

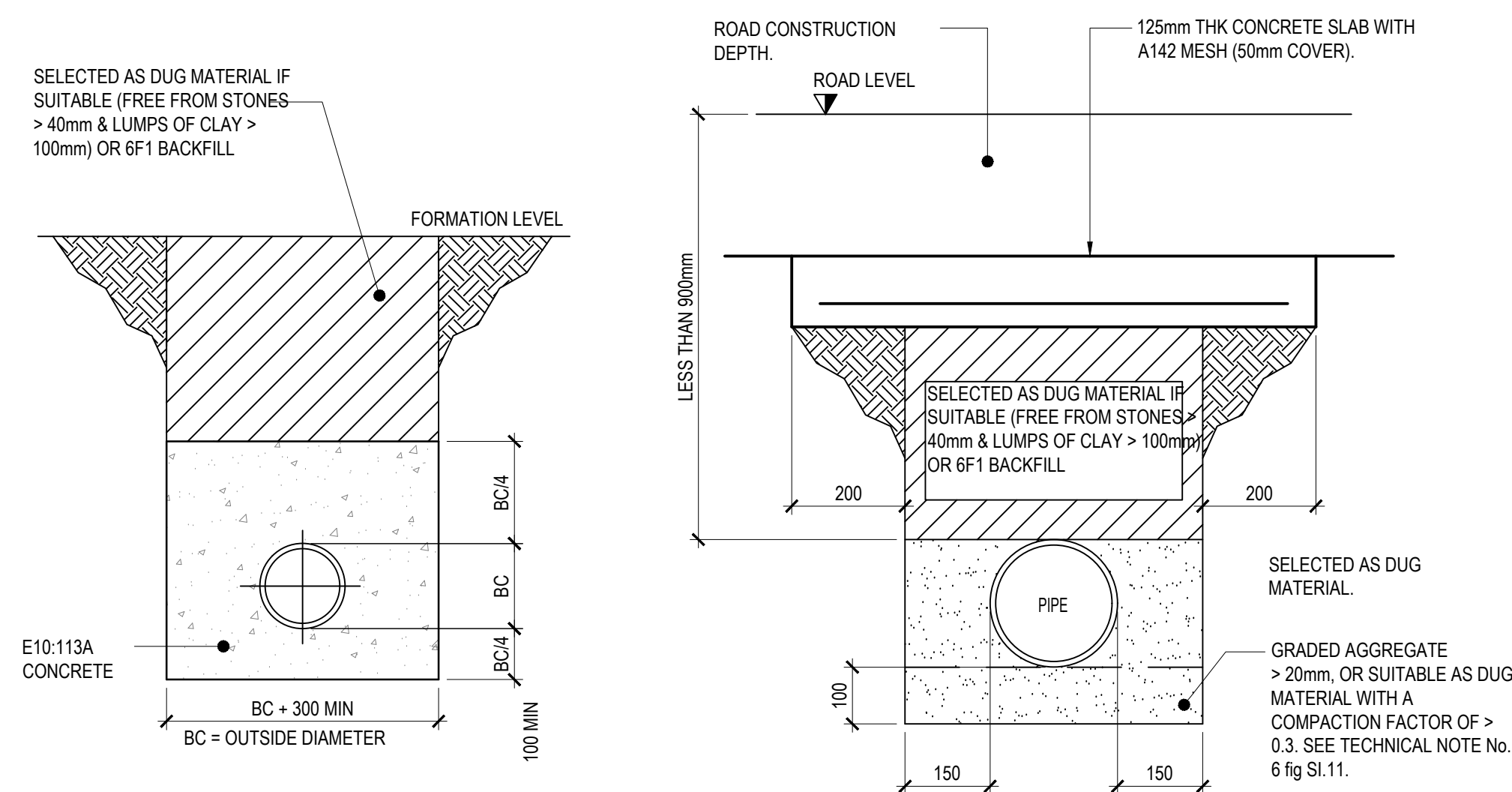
WML RECORD DRAWINGS ARE FINAL CONSTRUCTION DRAWINGS INCORPORATING AS-BUILT INFORMATION RECEIVED FROM THE CONTRACTOR.

R01	RECORD DRAWING.		03.03.25	DB	LoG
Rev.	Amendment		Date	By	Chk
Project LORETO COLLEGE, NEW BUILD PROBATION LAND					
ARCH/CLIENT CaddickConstruction.					
Title TYPICAL DRAINAGE DETAILS SHEET 1					
WML Job No. 10939	Drawn DB	Checked LoG	Date SEPT 2023	Scale 1:20 @ A1	
WMLCONSULTING Civil, Structural & Geotechnical Engineers				No.8 Oak Green Earl Road Stanley Green Business Park Cheshire Hulme Cheshire SK8 6QL Tel 0161 482 0600 Fax 0161 486 9210 e-mail info@wmlconsulting.com www.wmlconsulting.com	
Drawing No.					
Project	Originator	Volume	Level	Type	Role
LCNP	- WML	- 00	- FN	- DR	- D
					5230
					R01



- ## GENERAL NOTES

PIPES NEAR FOUNDATIONS

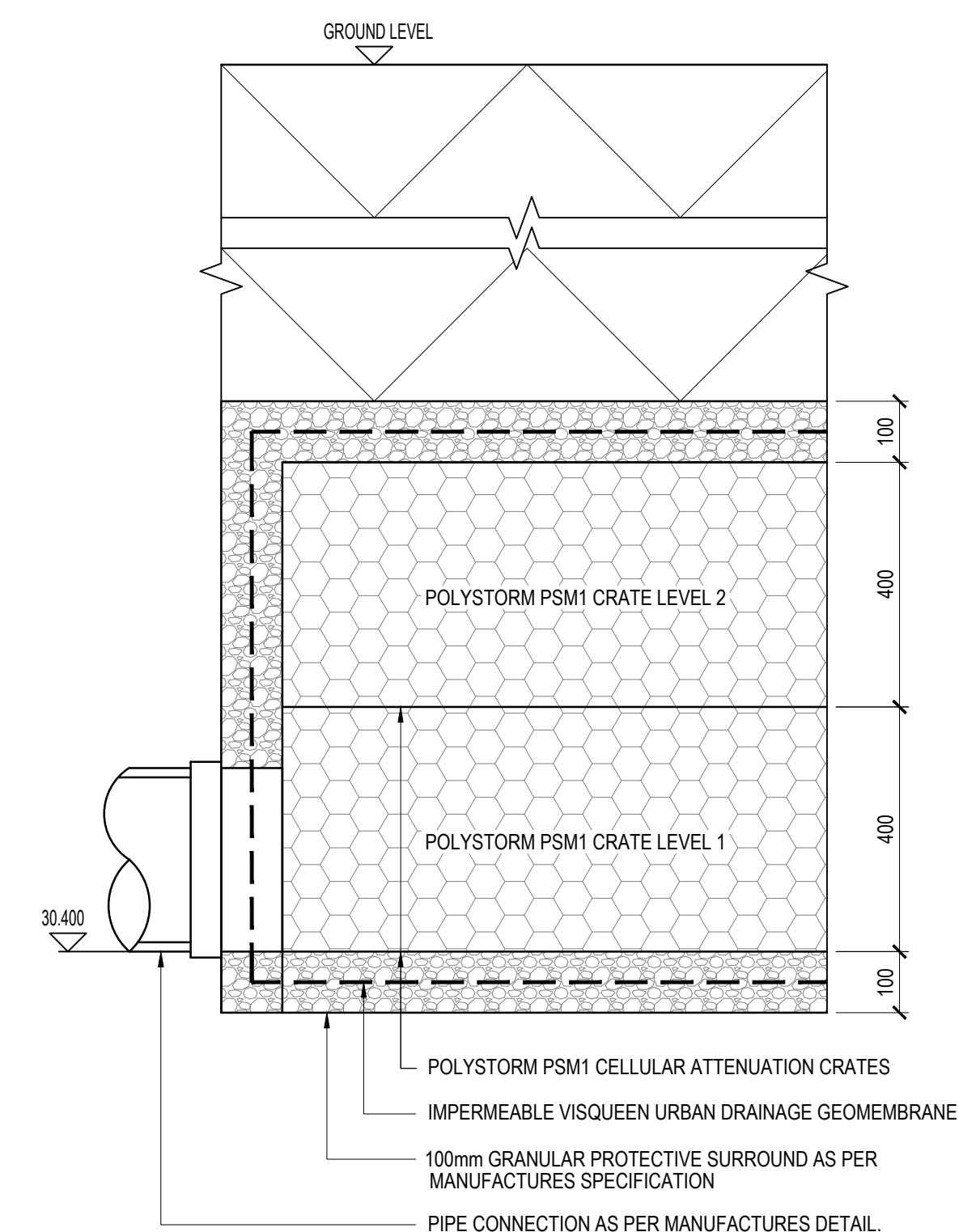


CONCRETE SURROUND UNDER ROADS
LESS THAN 1200mm COVER &
NON-TRAFFICKED LESS THAN 900mm
COVER.

PAVING SLAB UNDER ROADS LESS THAN 1200mm
COVER & NON-TRAFFICKED LESS THAN 900mm
COVER.

PIPES UNDER SLABS

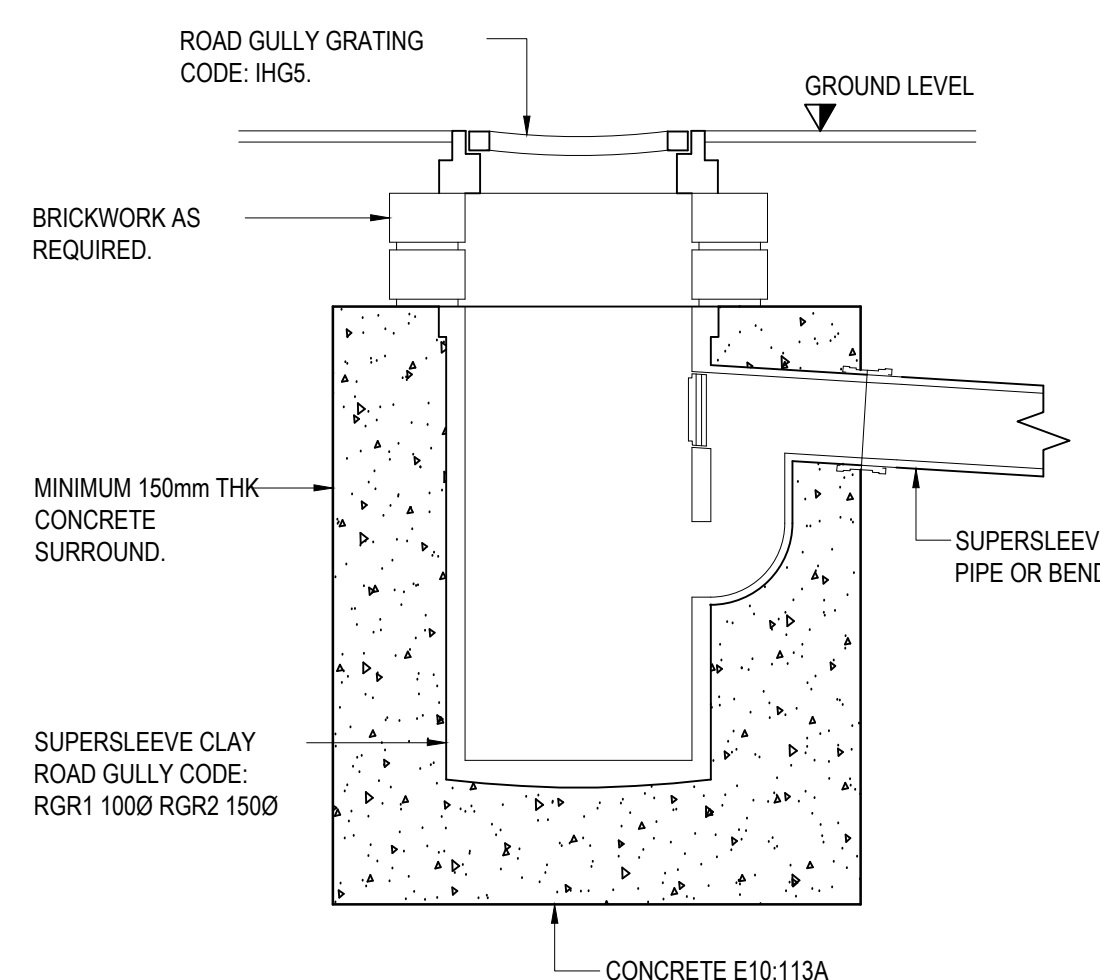
RWP DETAIL



TYPICAL SECTION THROUGH ATTENUATION TANK

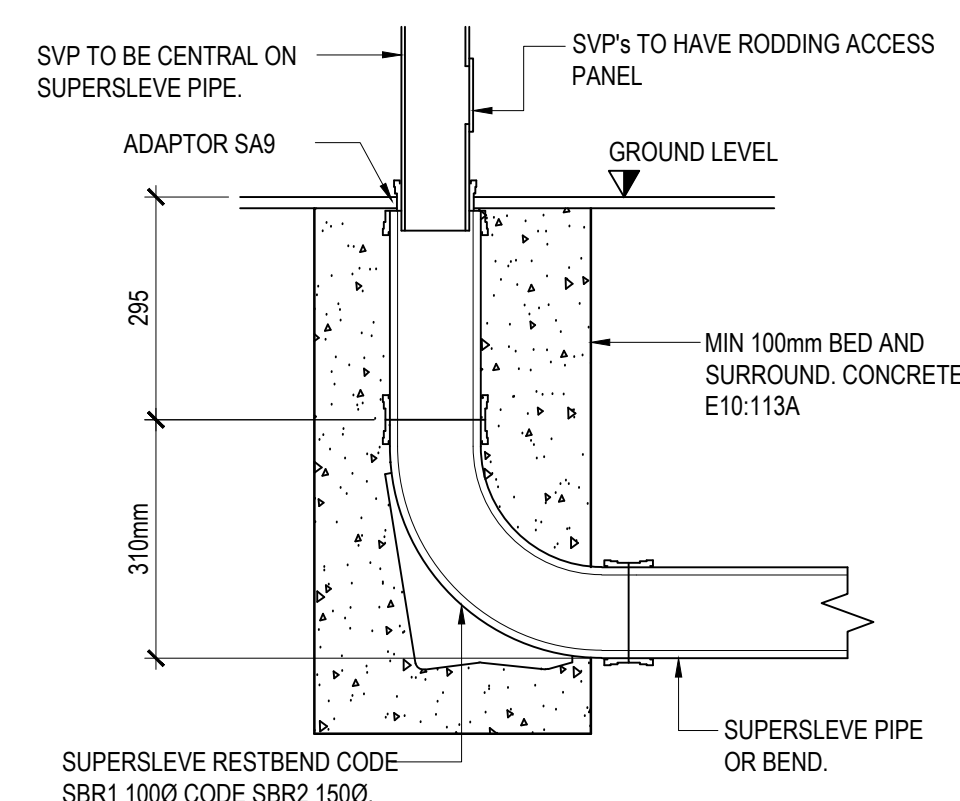
TYPICAL ATTENUATION TANK SECTION IS INDICATIVE ONLY. CONTRACTOR IS TO REFER TO MANUFACTURERS SPECIFICATIONS AND CONSTRUCTION DETAILS PRIOR TO TANK CONSTRUCTION.

RECORD DRAWING



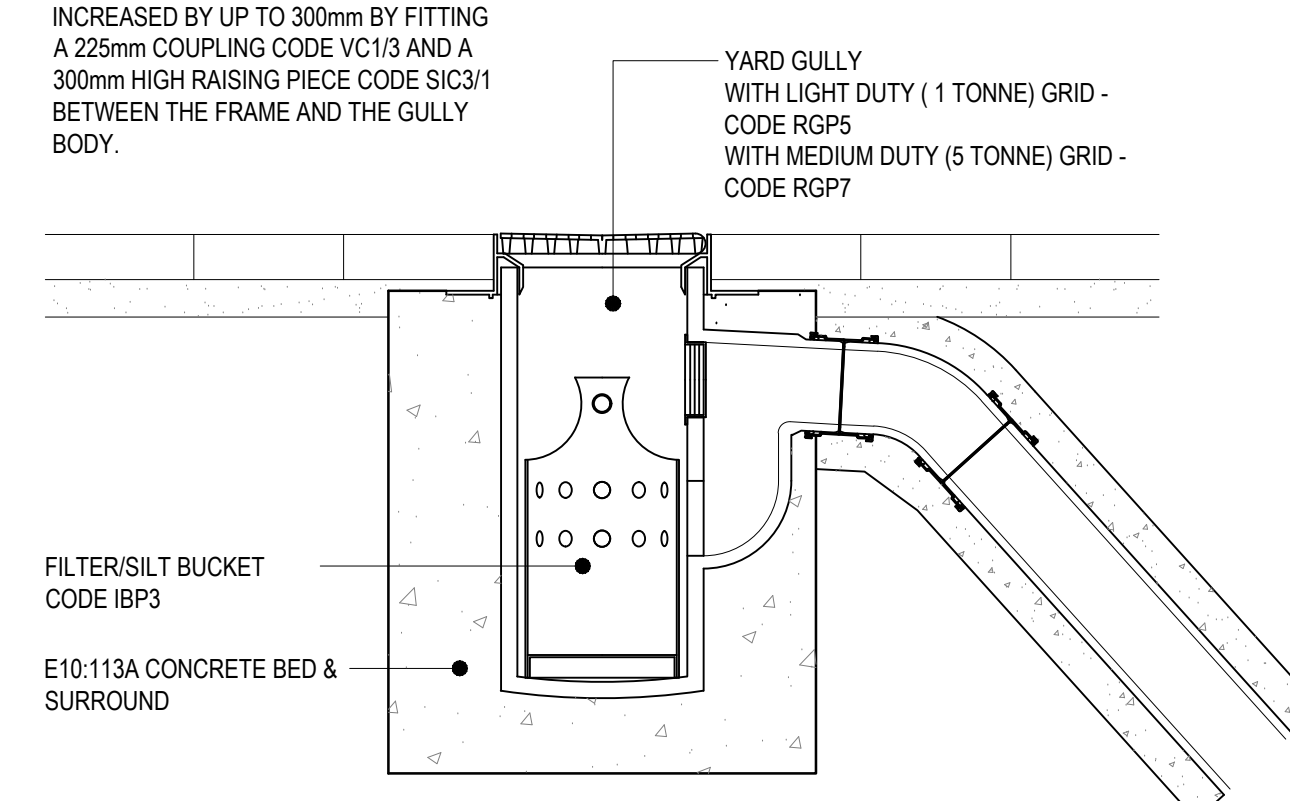
ROAD GULLY
(300Ø x 600Dp)

SOIL VENT PIPE



SOIL VENT PIPE

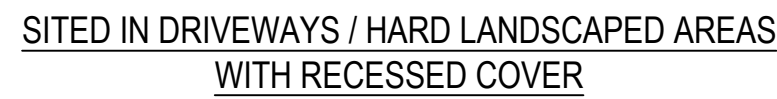
NB-
THE DEPTH OF THE GULLY CAN BE
INCREASED BY UP TO 300mm BY FITTING
A 225mm COUPLING CODE VC1/3 AND A
300mm HIGH RAISING PIECE CODE SIC3/1
BETWEEN THE FRAME AND THE GULLY
BODY.



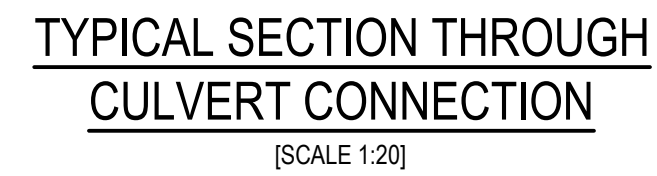
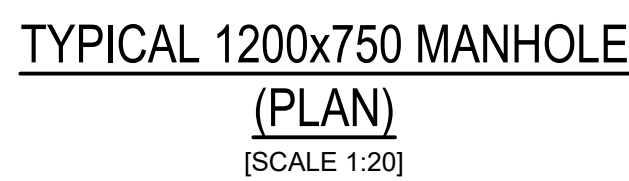
YARD GULLY CONNECTION DETAIL

[illegible]

1. DO NOT SCALE FROM THIS DRAWING WORK TO FIGURED DIMENSIONS ONLY.
2. NO DEVIATION FROM THE DETAILS SHOWN ON THIS DRAWING IS ALLOWED WITHOUT PRIOR PERMISSION IN WRITING.
3. ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL ARCHITECTS, ENGINEERS AND SPECIALISTS DRAWINGS AND THE SPECIFICATION.
4. THE CONTRACTOR SHALL INCORPORATE ALL THE REQUIREMENTS OF THE PRE-TENDER STAGE HEALTH & SAFETY PLAN.



[SCALE 1:20]



WML RECORD DRAWINGS ARE FINAL CONSTRUCTION DRAWINGS
INCORPORATING AS-BUILT INFORMATION RECEIVED FROM THE CONTRACTOR

[illegible]

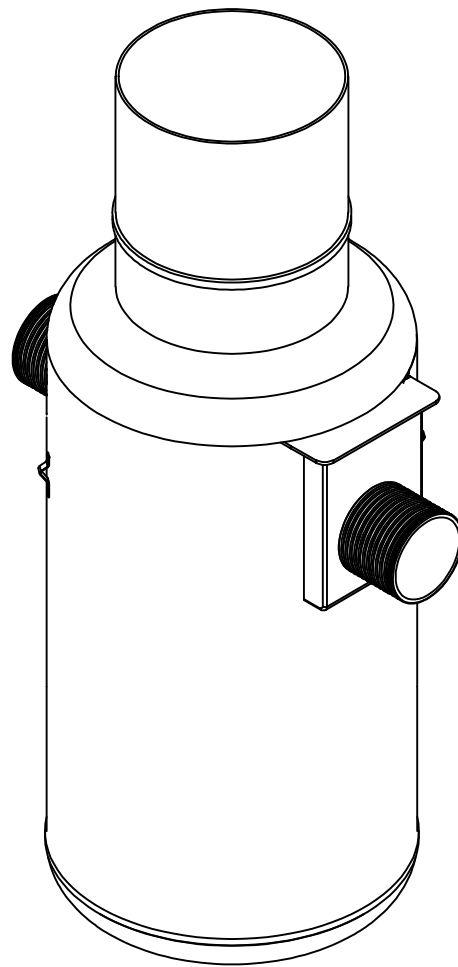
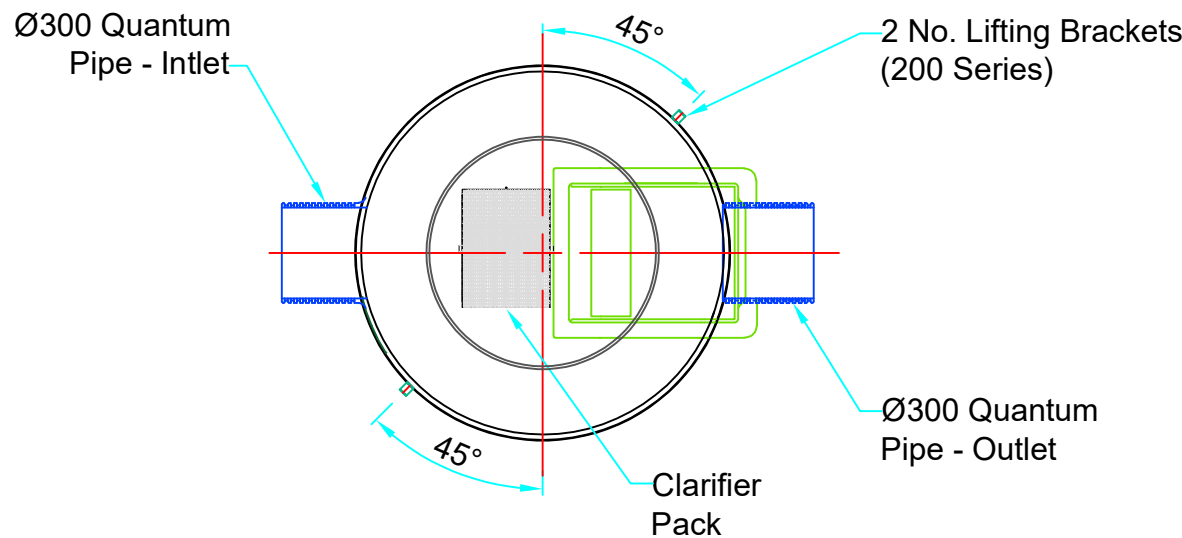
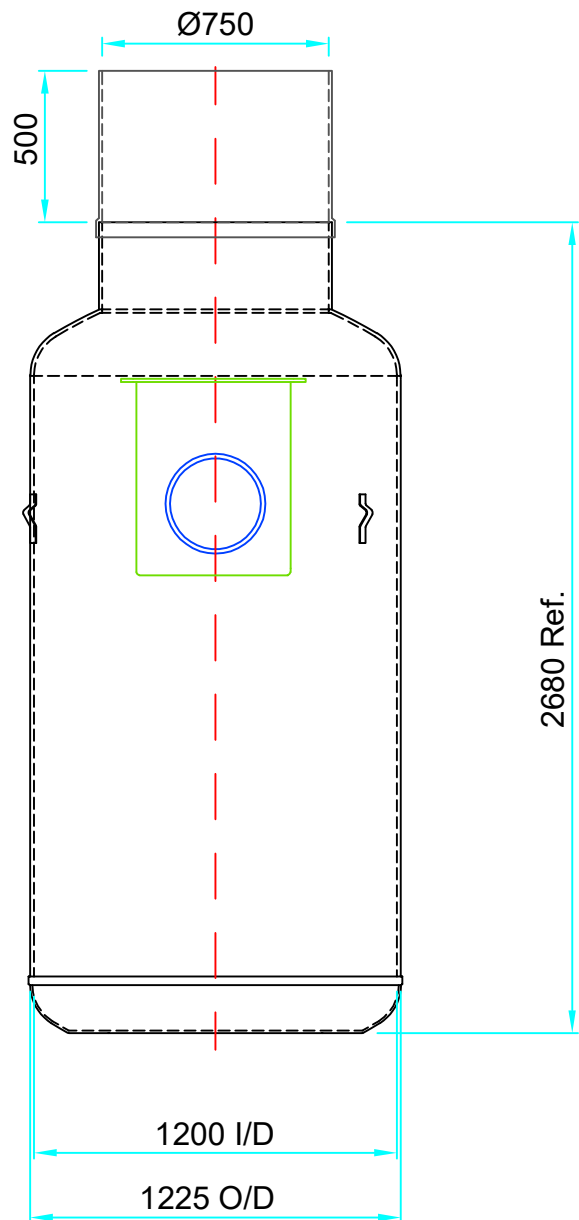
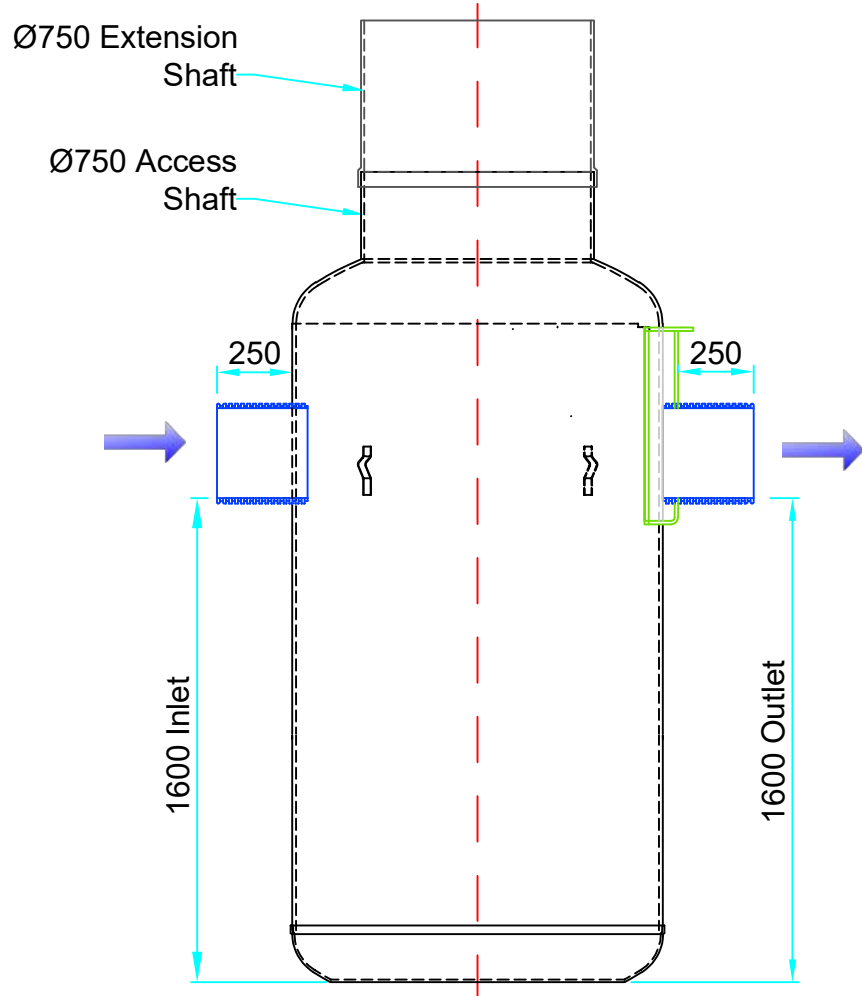
SERIAL No. 32448

Date

Approved By (Print)

Signed

CUSTOMER APPROVAL SIGN OFF



NOTE:-
This tank is to be Supplied with:
1 No. Ø750 access Shaft Extension - 500mm Long

Key to Symbols: △ Lifting Point

○ Hold-down strap rib locations where mechanical anchoring is required

Manufacturing Joint

○ BoQ's reference no.

This drawing is confidential and must not be copied, reproduced or passed to a third party without written permission from SPEL PRODUCTS

DIMENSIONS ARE SUBJECT TO DIMENSIONAL TOLERANCES. If critical, check physically prior to installation

Water table & Burial Depth: The customer must check tank specification is compatible with ground water table level (in winter) and burial depth. If in doubt refer to SPEL Data Manual Section 13 or contact SPEL Products Sales or Technical Department

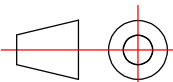
Title: SPEL 200 Series Smartceptor Hydrodynamic Vortex Separator SHV200/30
Contract: Scott Parnell (Newton Le Willows), Loreto College, Hulme, Manchester
ORDER REF: RIM 185079

Capacity

--

Tank Specification
STANDARD

Laminate Specification
GP



All sizes in mm
If in doubt ASK!



Lancaster Road, Shrewsbury
Shropshire, SY1 3NQ, England
Telephone: +44 (0)1743 445200
www.spelproducts.co.uk

Drawn

RR

Checked

SRB

Date

24.04.24

Scale

1:25 Sheet A3

TANK SERIAL No.

32448

INTERNAL ORDER No.

25677/001

Revision

A

APPENDIX B

Surface water drainage calculations

Surface Water Drainage Calculations

For a site referred to as

Loreto College New Build Probation Land

Undertaken on behalf of

Loreto College

WML Job No: 10939

Document No: 10939-WML-ZZ-XX-CA-C-0001

Date: March 2025

Project No. & Name:	10939 – Loreto College New Build Probation Land	Status:	Prepared by:	Rev:	Date:
Document Ref:	10939-WML-ZZ-XX-CA-C-0001	Preliminary	Daniel Baker	R01	March 2025

General Notes

1. The calculations within this document have been undertaken using MicroDrainage Software version 2020.
2. This document is to be read in conjunction with the following documents;
 - a. LCNP-WML-00-FN-DR-D-5200 – Proposed Drainage GA
 - b. LCNP-WML-00-XX-RP-D-052 – Drainage Strategy Document

Summary of Results

1. The following summary demonstrates that the outgoing flow rates for the new development works are less than or equal to those of the pre-development (Greenfield) site.

Greenfield Runoff Rate* (l/s)	Proposed Site Runoff Rate – Manhole S9 (l/s)
Q1: 1.4 Q30: 2.7 Q100: 3.3	1: 1.4 30: 2.2 100+40%: 3.1

2. The following summary demonstrates that the outgoing runoff volume for the 6-hour (360 min) 1:100-year event is less than or equal the pre-development (Greenfield) site.

Greenfield Runoff Volume* (m ³)	Proposed Site Runoff Volume(m ³)
83.274	78.611

Existing Greenfield Runoff Rates

WML Consulting Ltd		Page 1
No. 8 Oak Green Stanley Green Business Park Earl Rd, Cheadle Hulme, SK8 6QL		
Date 16/03/2023 14:21 File	Designed by DBaker Checked by	
Innovyze		Source Control 2020.1.3
<u>ICP SUDS Mean Annual Flood</u> Input Return Period (years) 1 Soil 0.450 Area (ha) 0.283 Urban 0.000 SAAR (mm) 860 Region Number Region 10 Results 1/s QBAR Rural 1.6 QBAR Urban 1.6 Q1 year 1.4 Q1 year 1.4 Q30 years 2.7 Q100 years 3.3		
©1982-2020 Innovyze		

Proposed Surface Water Network Calculation

WML Consulting Ltd										Page 1																																																																																																																																																																																																																
No. 8 Oak Green Stanley Green Business Park Earl Rd, Cheadle Hulme, SK8 6QL																																																																																																																																																																																																																										
Date 04/03/2025 09:52 File 10939 - Surface Water - ...						Designed by DBaker Checked by																																																																																																																																																																																																																				
Innovyze						Network 2020.1.3																																																																																																																																																																																																																				
STORM SEWER DESIGN by the Modified Rational Method Design Criteria for Storm Pipe Sizes STANDARD Manhole Sizes STANDARD FSR Rainfall Model - England and Wales <table><tr><td>Return Period (years)</td><td>1</td><td>PIMP (%)</td><td>100</td></tr><tr><td>M5-60 (mm)</td><td>18.000</td><td>Add Flow / Climate Change (%)</td><td>0</td></tr><tr><td>Ratio R</td><td>0.360</td><td>Minimum Backdrop Height (m)</td><td>0.200</td></tr><tr><td>Maximum Rainfall (mm/hr)</td><td>50</td><td>Maximum Backdrop Height (m)</td><td>1.500</td></tr><tr><td>Maximum Time of Concentration (mins)</td><td>30</td><td>Min Design Depth for Optimisation (m)</td><td>1.200</td></tr><tr><td>Foul Sewage (l/s/ha)</td><td>0.000</td><td>Min Vel for Auto Design only (m/s)</td><td>1.00</td></tr><tr><td>Volumetric Runoff Coeff.</td><td>0.750</td><td>Min Slope for Optimisation (1:X)</td><td>500</td></tr></table> Designed with Level Soffits												Return Period (years)	1	PIMP (%)	100	M5-60 (mm)	18.000	Add Flow / Climate Change (%)	0	Ratio R	0.360	Minimum Backdrop Height (m)	0.200	Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500	Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200	Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00	Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500																																																																																																																																																																																			
Return Period (years)	1	PIMP (%)	100																																																																																																																																																																																																																							
M5-60 (mm)	18.000	Add Flow / Climate Change (%)	0																																																																																																																																																																																																																							
Ratio R	0.360	Minimum Backdrop Height (m)	0.200																																																																																																																																																																																																																							
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500																																																																																																																																																																																																																							
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200																																																																																																																																																																																																																							
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00																																																																																																																																																																																																																							
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500																																																																																																																																																																																																																							
Network Design Table for Storm <table><tr><th>PN</th><th>Length (m)</th><th>Fall (m)</th><th>Slope (1:X)</th><th>I.Area (ha)</th><th>T.E. (mins)</th><th>Base Flow (l/s)</th><th>k (mm)</th><th>HYD SECT</th><th>DIA (mm)</th><th>Section Type</th><th>Auto Design</th></tr><tr><td>S3.000</td><td>30.997</td><td>0.314</td><td>98.7</td><td>0.024</td><td>5.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td><td>Pipe/Conduit</td><td></td></tr><tr><td>S3.001</td><td>20.180</td><td>0.246</td><td>82.0</td><td>0.046</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td><td>Pipe/Conduit</td><td></td></tr><tr><td>S3.002</td><td>19.613</td><td>0.173</td><td>113.4</td><td>0.012</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td><td>Pipe/Conduit</td><td></td></tr><tr><td>S3.003</td><td>28.136</td><td>0.583</td><td>48.3</td><td>0.022</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td><td>Pipe/Conduit</td><td></td></tr><tr><td>S4.000</td><td>11.100</td><td>0.115</td><td>96.5</td><td>0.004</td><td>5.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td><td>Pipe/Conduit</td><td></td></tr><tr><td>S5.000</td><td>16.613</td><td>1.580</td><td>10.5</td><td>0.017</td><td>5.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td><td>Pipe/Conduit</td><td></td></tr><tr><td>S4.001</td><td>8.812</td><td>0.093</td><td>94.8</td><td>0.000</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td><td>Pipe/Conduit</td><td></td></tr><tr><td>S6.000</td><td>20.830</td><td>0.256</td><td>81.4</td><td>0.081</td><td>5.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td><td>Pipe/Conduit</td><td></td></tr></table> Network Results Table <table><tr><th>PN</th><th>Rain (mm/hr)</th><th>T.C. (mins)</th><th>US/IL (m)</th><th>Σ I.Area (ha)</th><th>Σ Base Flow (l/s)</th><th>Foul (l/s)</th><th>Add Flow (l/s)</th><th>Vel (m/s)</th><th>Cap (l/s)</th><th>Flow (l/s)</th></tr><tr><td>S3.000</td><td>45.32</td><td>5.39</td><td>31.883</td><td>0.024</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.32</td><td>52.3</td><td>2.9</td></tr><tr><td>S3.001</td><td>44.49</td><td>5.63</td><td>31.569</td><td>0.070</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.44</td><td>57.4</td><td>8.4</td></tr><tr><td>S3.002</td><td>43.58</td><td>5.89</td><td>31.323</td><td>0.082</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.23</td><td>48.8</td><td>9.6</td></tr><tr><td>S3.003</td><td>42.78</td><td>6.14</td><td>31.200</td><td>0.103</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.89</td><td>75.1</td><td>12.0</td></tr><tr><td>S4.000</td><td>46.27</td><td>5.14</td><td>30.775</td><td>0.004</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.33</td><td>52.9</td><td>0.4</td></tr><tr><td>S5.000</td><td>46.54</td><td>5.07</td><td>32.240</td><td>0.017</td><td>0.0</td><td>0.0</td><td>0.0</td><td>4.06</td><td>161.4</td><td>2.1</td></tr><tr><td>S4.001</td><td>45.85</td><td>5.25</td><td>30.660</td><td>0.020</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.34</td><td>53.4</td><td>2.5</td></tr><tr><td>S6.000</td><td>45.89</td><td>5.24</td><td>30.823</td><td>0.081</td><td>0.0</td><td>0.0</td><td>0.0</td><td>1.45</td><td>57.7</td><td>10.1</td></tr></table>												PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design	S3.000	30.997	0.314	98.7	0.024	5.00	0.0	0.600	o	225	Pipe/Conduit		S3.001	20.180	0.246	82.0	0.046	0.00	0.0	0.600	o	225	Pipe/Conduit		S3.002	19.613	0.173	113.4	0.012	0.00	0.0	0.600	o	225	Pipe/Conduit		S3.003	28.136	0.583	48.3	0.022	0.00	0.0	0.600	o	225	Pipe/Conduit		S4.000	11.100	0.115	96.5	0.004	5.00	0.0	0.600	o	225	Pipe/Conduit		S5.000	16.613	1.580	10.5	0.017	5.00	0.0	0.600	o	225	Pipe/Conduit		S4.001	8.812	0.093	94.8	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit		S6.000	20.830	0.256	81.4	0.081	5.00	0.0	0.600	o	225	Pipe/Conduit		PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	S3.000	45.32	5.39	31.883	0.024	0.0	0.0	0.0	1.32	52.3	2.9	S3.001	44.49	5.63	31.569	0.070	0.0	0.0	0.0	1.44	57.4	8.4	S3.002	43.58	5.89	31.323	0.082	0.0	0.0	0.0	1.23	48.8	9.6	S3.003	42.78	6.14	31.200	0.103	0.0	0.0	0.0	1.89	75.1	12.0	S4.000	46.27	5.14	30.775	0.004	0.0	0.0	0.0	1.33	52.9	0.4	S5.000	46.54	5.07	32.240	0.017	0.0	0.0	0.0	4.06	161.4	2.1	S4.001	45.85	5.25	30.660	0.020	0.0	0.0	0.0	1.34	53.4	2.5	S6.000	45.89	5.24	30.823	0.081	0.0	0.0	0.0	1.45	57.7	10.1
PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design																																																																																																																																																																																																															
S3.000	30.997	0.314	98.7	0.024	5.00	0.0	0.600	o	225	Pipe/Conduit																																																																																																																																																																																																																
S3.001	20.180	0.246	82.0	0.046	0.00	0.0	0.600	o	225	Pipe/Conduit																																																																																																																																																																																																																
S3.002	19.613	0.173	113.4	0.012	0.00	0.0	0.600	o	225	Pipe/Conduit																																																																																																																																																																																																																
S3.003	28.136	0.583	48.3	0.022	0.00	0.0	0.600	o	225	Pipe/Conduit																																																																																																																																																																																																																
S4.000	11.100	0.115	96.5	0.004	5.00	0.0	0.600	o	225	Pipe/Conduit																																																																																																																																																																																																																
S5.000	16.613	1.580	10.5	0.017	5.00	0.0	0.600	o	225	Pipe/Conduit																																																																																																																																																																																																																
S4.001	8.812	0.093	94.8	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit																																																																																																																																																																																																																
S6.000	20.830	0.256	81.4	0.081	5.00	0.0	0.600	o	225	Pipe/Conduit																																																																																																																																																																																																																
PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)																																																																																																																																																																																																																
S3.000	45.32	5.39	31.883	0.024	0.0	0.0	0.0	1.32	52.3	2.9																																																																																																																																																																																																																
S3.001	44.49	5.63	31.569	0.070	0.0	0.0	0.0	1.44	57.4	8.4																																																																																																																																																																																																																
S3.002	43.58	5.89	31.323	0.082	0.0	0.0	0.0	1.23	48.8	9.6																																																																																																																																																																																																																
S3.003	42.78	6.14	31.200	0.103	0.0	0.0	0.0	1.89	75.1	12.0																																																																																																																																																																																																																
S4.000	46.27	5.14	30.775	0.004	0.0	0.0	0.0	1.33	52.9	0.4																																																																																																																																																																																																																
S5.000	46.54	5.07	32.240	0.017	0.0	0.0	0.0	4.06	161.4	2.1																																																																																																																																																																																																																
S4.001	45.85	5.25	30.660	0.020	0.0	0.0	0.0	1.34	53.4	2.5																																																																																																																																																																																																																
S6.000	45.89	5.24	30.823	0.081	0.0	0.0	0.0	1.45	57.7	10.1																																																																																																																																																																																																																
©1982-2020 Innovyze																																																																																																																																																																																																																										

WML Consulting Ltd		Page 3
No. 8 Oak Green Stanley Green Business Park Earl Rd, Cheadle Hulme, SK8 6QL		
Date 04/03/2025 09:52 File 10939 - Surface Water -...	Designed by DBaker Checked by	
Innovyze	Network 2020.1.3	

Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
S1	32.780	0.897	Open Manhole	600	S3.000	31.883	225				
S2	32.780	1.211	Open Manhole	600	S3.001	31.569	225	S3.000	31.569	225	
S3	32.500	1.177	Open Manhole	600	S3.002	31.323	225	S3.001	31.323	225	
S4	32.780	1.630	Open Manhole	600	S3.003	31.200	225	S3.002	31.150	225	
S5	31.750	0.975	Open Manhole	600	S4.000	30.775	225				
S6	32.930	0.690	Open Manhole	600	S5.000	32.240	225				
S-JCT	32.260	1.600	Junction		S4.001	30.660	225	S4.000	30.660	225	
								S5.000	30.660	225	
S7	32.930	2.107	Open Manhole	1200	S6.000	30.823	225				
S8	32.500	2.008	Open Manhole	1200	S3.004	30.492	300	S3.003	30.617	225	50
								S4.001	30.567	225	
								S6.000	30.567	225	
S-TANK	31.800	1.400	Junction		S3.005	30.400	300	S3.004	30.400	300	
S9	31.800	1.420	Open Manhole	1350	S3.006	30.380	150	S3.005	30.380	300	
S-SP	31.800	1.485	Open Manhole	1200	S3.007	30.315	150	S3.006	30.315	150	
S10	31.800	1.553	Open Manhole	1050	S3.008	30.247	150	S3.007	30.247	150	
S10	31.660	1.460	Open Manhole	1200		OUTFALL		S3.008	30.200	150	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
---------	---------------------	----------------------	--------------------------	---------------------------	----------------	----------------

S1	383333.903	395974.838	383333.903	395974.838	Required	
----	------------	------------	------------	------------	----------	---

S2	383335.910	396005.770	383335.910	396005.770	Required	
----	------------	------------	------------	------------	----------	---

S3	383315.822	396007.704	383315.822	396007.704	Required	
----	------------	------------	------------	------------	----------	---

S4	383313.952	395988.180	383313.952	395988.180	Required	
----	------------	------------	------------	------------	----------	---

S5	383292.220	395961.630	383292.220	395961.630	Required	
----	------------	------------	------------	------------	----------	---

S6	383305.285	395976.470	383305.285	395976.470	Required	
----	------------	------------	------------	------------	----------	---

WML Consulting Ltd										Page 5																																																																																																																																																																																																																																																												
No. 8 Oak Green Stanley Green Business Park Earl Rd, Cheadle Hulme, SK8 6QL																																																																																																																																																																																																																																																																						
Date 04/03/2025 09:52 File 10939 - Surface Water -...					Designed by DBaker Checked by																																																																																																																																																																																																																																																																	
Innovyze					Network 2020.1.3																																																																																																																																																																																																																																																																	
<u>PIPELINE SCHEDULES for Storm</u> <u>Upstream Manhole</u> <table><tr><th>PN</th><th>Hyd Sect</th><th>Diam (mm)</th><th>MH Name</th><th>C.Level (m)</th><th>I.Level (m)</th><th>D.Depth (m)</th><th>MH Connection</th><th>MH DIAM., L*W (mm)</th></tr><tr><td>S3.000</td><td>o</td><td>225</td><td>S1</td><td>32.780</td><td>31.883</td><td>0.672</td><td>Open Manhole</td><td>600</td></tr><tr><td>S3.001</td><td>o</td><td>225</td><td>S2</td><td>32.780</td><td>31.569</td><td>0.986</td><td>Open Manhole</td><td>600</td></tr><tr><td>S3.002</td><td>o</td><td>225</td><td>S3</td><td>32.500</td><td>31.323</td><td>0.952</td><td>Open Manhole</td><td>600</td></tr><tr><td>S3.003</td><td>o</td><td>225</td><td>S4</td><td>32.780</td><td>31.200</td><td>1.355</td><td>Open Manhole</td><td>600</td></tr><tr><td>S4.000</td><td>o</td><td>225</td><td>S5</td><td>31.750</td><td>30.775</td><td>0.750</td><td>Open Manhole</td><td>600</td></tr><tr><td>S5.000</td><td>o</td><td>225</td><td>S6</td><td>32.930</td><td>32.240</td><td>0.465</td><td>Open Manhole</td><td>600</td></tr><tr><td>S4.001</td><td>o</td><td>225</td><td>S-JCT</td><td>32.260</td><td>30.660</td><td>1.375</td><td>Junction</td><td></td></tr><tr><td>S6.000</td><td>o</td><td>225</td><td>S7</td><td>32.930</td><td>30.823</td><td>1.882</td><td>Open Manhole</td><td>1200</td></tr><tr><td>S3.004</td><td>o</td><td>300</td><td>S8</td><td>32.500</td><td>30.492</td><td>1.708</td><td>Open Manhole</td><td>1200</td></tr><tr><td>S3.005</td><td>o</td><td>300</td><td>S-TANK</td><td>31.800</td><td>30.400</td><td>1.100</td><td>Junction</td><td></td></tr><tr><td>S3.006</td><td>o</td><td>150</td><td>S9</td><td>31.800</td><td>30.380</td><td>1.270</td><td>Open Manhole</td><td>1350</td></tr><tr><td>S3.007</td><td>o</td><td>150</td><td>S-SP</td><td>31.800</td><td>30.315</td><td>1.335</td><td>Open Manhole</td><td>1200</td></tr><tr><td>S3.008</td><td>o</td><td>150</td><td>S10</td><td>31.800</td><td>30.247</td><td>1.403</td><td>Open Manhole</td><td>1050</td></tr></table> <u>Downstream Manhole</u> <table><tr><th>PN</th><th>Length (m)</th><th>Slope (1:X)</th><th>MH Name</th><th>C.Level (m)</th><th>I.Level (m)</th><th>D.Depth (m)</th><th>MH Connection</th><th>MH DIAM., L*W (mm)</th></tr><tr><td>S3.000</td><td>30.997</td><td>98.7</td><td>S2</td><td>32.780</td><td>31.569</td><td>0.986</td><td>Open Manhole</td><td>600</td></tr><tr><td>S3.001</td><td>20.180</td><td>82.0</td><td>S3</td><td>32.500</td><td>31.323</td><td>0.952</td><td>Open Manhole</td><td>600</td></tr><tr><td>S3.002</td><td>19.613</td><td>113.4</td><td>S4</td><td>32.780</td><td>31.150</td><td>1.405</td><td>Open Manhole</td><td>600</td></tr><tr><td>S3.003</td><td>28.136</td><td>48.3</td><td>S8</td><td>32.500</td><td>30.617</td><td>1.658</td><td>Open Manhole</td><td>1200</td></tr><tr><td>S4.000</td><td>11.100</td><td>96.5</td><td>S-JCT</td><td>32.260</td><td>30.660</td><td>1.375</td><td>Junction</td><td></td></tr><tr><td>S5.000</td><td>16.613</td><td>10.5</td><td>S-JCT</td><td>32.260</td><td>30.660</td><td>1.375</td><td>Junction</td><td></td></tr><tr><td>S4.001</td><td>8.812</td><td>94.8</td><td>S8</td><td>32.500</td><td>30.567</td><td>1.708</td><td>Open Manhole</td><td>1200</td></tr><tr><td>S6.000</td><td>20.830</td><td>81.4</td><td>S8</td><td>32.500</td><td>30.567</td><td>1.708</td><td>Open Manhole</td><td>1200</td></tr><tr><td>S3.004</td><td>10.681</td><td>116.1</td><td>S-TANK</td><td>31.800</td><td>30.400</td><td>1.100</td><td>Junction</td><td></td></tr><tr><td>S3.005</td><td>5.318</td><td>265.9</td><td>S9</td><td>31.800</td><td>30.380</td><td>1.120</td><td>Open Manhole</td><td>1350</td></tr><tr><td>S3.006</td><td>1.639</td><td>25.2</td><td>S-SP</td><td>31.800</td><td>30.315</td><td>1.335</td><td>Open Manhole</td><td>1200</td></tr><tr><td>S3.007</td><td>2.610</td><td>38.4</td><td>S10</td><td>31.800</td><td>30.247</td><td>1.403</td><td>Open Manhole</td><td>1050</td></tr><tr><td>S3.008</td><td>2.008</td><td>42.7</td><td>S10</td><td>31.660</td><td>30.200</td><td>1.310</td><td>Open Manhole</td><td>1200</td></tr></table>											PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)	S3.000	o	225	S1	32.780	31.883	0.672	Open Manhole	600	S3.001	o	225	S2	32.780	31.569	0.986	Open Manhole	600	S3.002	o	225	S3	32.500	31.323	0.952	Open Manhole	600	S3.003	o	225	S4	32.780	31.200	1.355	Open Manhole	600	S4.000	o	225	S5	31.750	30.775	0.750	Open Manhole	600	S5.000	o	225	S6	32.930	32.240	0.465	Open Manhole	600	S4.001	o	225	S-JCT	32.260	30.660	1.375	Junction		S6.000	o	225	S7	32.930	30.823	1.882	Open Manhole	1200	S3.004	o	300	S8	32.500	30.492	1.708	Open Manhole	1200	S3.005	o	300	S-TANK	31.800	30.400	1.100	Junction		S3.006	o	150	S9	31.800	30.380	1.270	Open Manhole	1350	S3.007	o	150	S-SP	31.800	30.315	1.335	Open Manhole	1200	S3.008	o	150	S10	31.800	30.247	1.403	Open Manhole	1050	PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)	S3.000	30.997	98.7	S2	32.780	31.569	0.986	Open Manhole	600	S3.001	20.180	82.0	S3	32.500	31.323	0.952	Open Manhole	600	S3.002	19.613	113.4	S4	32.780	31.150	1.405	Open Manhole	600	S3.003	28.136	48.3	S8	32.500	30.617	1.658	Open Manhole	1200	S4.000	11.100	96.5	S-JCT	32.260	30.660	1.375	Junction		S5.000	16.613	10.5	S-JCT	32.260	30.660	1.375	Junction		S4.001	8.812	94.8	S8	32.500	30.567	1.708	Open Manhole	1200	S6.000	20.830	81.4	S8	32.500	30.567	1.708	Open Manhole	1200	S3.004	10.681	116.1	S-TANK	31.800	30.400	1.100	Junction		S3.005	5.318	265.9	S9	31.800	30.380	1.120	Open Manhole	1350	S3.006	1.639	25.2	S-SP	31.800	30.315	1.335	Open Manhole	1200	S3.007	2.610	38.4	S10	31.800	30.247	1.403	Open Manhole	1050	S3.008	2.008	42.7	S10	31.660	30.200	1.310	Open Manhole	1200
PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)																																																																																																																																																																																																																																																														
S3.000	o	225	S1	32.780	31.883	0.672	Open Manhole	600																																																																																																																																																																																																																																																														
S3.001	o	225	S2	32.780	31.569	0.986	Open Manhole	600																																																																																																																																																																																																																																																														
S3.002	o	225	S3	32.500	31.323	0.952	Open Manhole	600																																																																																																																																																																																																																																																														
S3.003	o	225	S4	32.780	31.200	1.355	Open Manhole	600																																																																																																																																																																																																																																																														
S4.000	o	225	S5	31.750	30.775	0.750	Open Manhole	600																																																																																																																																																																																																																																																														
S5.000	o	225	S6	32.930	32.240	0.465	Open Manhole	600																																																																																																																																																																																																																																																														
S4.001	o	225	S-JCT	32.260	30.660	1.375	Junction																																																																																																																																																																																																																																																															
S6.000	o	225	S7	32.930	30.823	1.882	Open Manhole	1200																																																																																																																																																																																																																																																														
S3.004	o	300	S8	32.500	30.492	1.708	Open Manhole	1200																																																																																																																																																																																																																																																														
S3.005	o	300	S-TANK	31.800	30.400	1.100	Junction																																																																																																																																																																																																																																																															
S3.006	o	150	S9	31.800	30.380	1.270	Open Manhole	1350																																																																																																																																																																																																																																																														
S3.007	o	150	S-SP	31.800	30.315	1.335	Open Manhole	1200																																																																																																																																																																																																																																																														
S3.008	o	150	S10	31.800	30.247	1.403	Open Manhole	1050																																																																																																																																																																																																																																																														
PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)																																																																																																																																																																																																																																																														
S3.000	30.997	98.7	S2	32.780	31.569	0.986	Open Manhole	600																																																																																																																																																																																																																																																														
S3.001	20.180	82.0	S3	32.500	31.323	0.952	Open Manhole	600																																																																																																																																																																																																																																																														
S3.002	19.613	113.4	S4	32.780	31.150	1.405	Open Manhole	600																																																																																																																																																																																																																																																														
S3.003	28.136	48.3	S8	32.500	30.617	1.658	Open Manhole	1200																																																																																																																																																																																																																																																														
S4.000	11.100	96.5	S-JCT	32.260	30.660	1.375	Junction																																																																																																																																																																																																																																																															
S5.000	16.613	10.5	S-JCT	32.260	30.660	1.375	Junction																																																																																																																																																																																																																																																															
S4.001	8.812	94.8	S8	32.500	30.567	1.708	Open Manhole	1200																																																																																																																																																																																																																																																														
S6.000	20.830	81.4	S8	32.500	30.567	1.708	Open Manhole	1200																																																																																																																																																																																																																																																														
S3.004	10.681	116.1	S-TANK	31.800	30.400	1.100	Junction																																																																																																																																																																																																																																																															
S3.005	5.318	265.9	S9	31.800	30.380	1.120	Open Manhole	1350																																																																																																																																																																																																																																																														
S3.006	1.639	25.2	S-SP	31.800	30.315	1.335	Open Manhole	1200																																																																																																																																																																																																																																																														
S3.007	2.610	38.4	S10	31.800	30.247	1.403	Open Manhole	1050																																																																																																																																																																																																																																																														
S3.008	2.008	42.7	S10	31.660	30.200	1.310	Open Manhole	1200																																																																																																																																																																																																																																																														
©1982-2020 Innovyze																																																																																																																																																																																																																																																																						

WML Consulting Ltd		Page 6
No. 8 Oak Green Stanley Green Business Park Earl Rd, Cheadle Hulme, SK8 6QL		
Date 04/03/2025 09:52 File 10939 - Surface Water -...		
Designed by DBaker Checked by		
Innovyze		Network 2020.1.3

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall C. Level Name (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
S3.008	S10	31.660	30.200	0.000	1200

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m ³ /ha	Storage 2.000
Hot Start (mins)	0	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1
Number of Input Hydrographs	0	Number of Storage Structures	1
Number of Online Controls	2	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	1	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	18.000	Storm Duration (mins)	30
Ratio R	0.360		

©1982-2020 Innovyze

WML Consulting Ltd		Page 7
No. 8 Oak Green Stanley Green Business Park Earl Rd, Cheadle Hulme, SK8 6QL		
Date 04/03/2025 09:52 File 10939 - Surface Water -...	Designed by DBaker Checked by	
Innovyze	Network 2020.1.3	
<u>Online Controls for Storm</u> <u>Orifice Manhole: S9, DS/PN: S3.006, Volume (m³): 2.4</u> Diameter (m) 0.042 Discharge Coefficient 0.600 Invert Level (m) 30.380 <u>Non Return Valve Manhole: S10, DS/PN: S3.008, Volume (m³): 1.4</u>		
©1982-2020 Innovyze		

WML Consulting Ltd		Page 8
No. 8 Oak Green Stanley Green Business Park Earl Rd, Cheadle Hulme, SK8 6QL		
Date 04/03/2025 09:52 File 10939 - Surface Water -...		
Designed by DBaker Checked by		
Innovyze		Network 2020.1.3

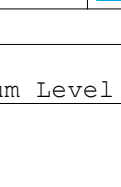
Storage Structures for Storm

Cellular Storage Manhole: S-TANK, DS/PN: S3.005

Invert Level (m) 30.400 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	143.5	143.5	2.600	0.0	186.6
0.200	143.5	153.1	2.800	0.0	186.6
0.400	143.5	162.7	3.000	0.0	186.6
0.600	143.5	172.2	3.200	0.0	186.6
0.800	143.5	181.8	3.400	0.0	186.6
1.000	0.0	186.6	3.600	0.0	186.6
1.200	0.0	186.6	3.800	0.0	186.6
1.400	0.0	186.6	4.000	0.0	186.6
1.600	0.0	186.6	4.200	0.0	186.6
1.800	0.0	186.6	4.400	0.0	186.6
2.000	0.0	186.6	4.600	0.0	186.6
2.200	0.0	186.6	4.800	0.0	186.6
2.400	0.0	186.6	5.000	0.0	186.6

©1982-2020 Innovyze

WML Consulting Ltd		Page 11
No. 8 Oak Green Stanley Green Business Park Earl Rd, Cheadle Hulme, SK8 6QL		
Date 04/03/2025 09:52 File 10939 - Surface Water - ...		
Designed by DBaker Checked by		
Innovyze		Network 2020.1.3

30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coefficient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	1
Number of Online Controls	2	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.360
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	18.000	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	ON
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 0, 45

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.
S3.000	S1	15 Winter	30	+0%				
S3.001	S2	15 Winter	30	+0%				
S3.002	S3	15 Winter	30	+0%	100/15 Summer			
S3.003	S4	15 Winter	30	+0%				
S4.000	S5	15 Winter	30	+0%	100/120 Winter			
S5.000	S6	15 Winter	30	+0%				
S4.001	S-JCT	240 Winter	30	+0%				
S6.000	S7	15 Winter	30	+0%	100/15 Winter			
S3.004	S8	240 Winter	30	+0%	100/15 Summer			
S3.005	S-TANK	240 Winter	30	+0%	30/120 Summer			
S3.006	S9	240 Winter	30	+0%	1/120 Winter			
S3.007	S-SP	240 Winter	30	+0%				
S3.008	S10	240 Winter	30	+0%				

©1982-2020 Innovyze

WML Consulting Ltd

Page 13

No. 8 Oak Green
Stanley Green Business Park
Earl Rd, Cheadle Hulme, SK8 6QL

Date 04/03/2025 09:52
File 10939 - Surface Water - ...

Innovyze

Designed by DBaker
Checked by

Network 2020.1.3



100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor 1.000

Additional Flow - % of Total Flow 0.000

Hot Start (mins) 0

MADD Factor * 10m³/ha Storage 2.000

Hot Start Level (mm) 0

Inlet Coefficient 0.800

Manhole Headloss Coeff (Global) 0.500

Flow per Person per Day (l/per/day) 0.000

Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0

Number of Storage Structures 1

Number of Online Controls 2

Number of Time/Area Diagrams 0

Number of Offline Controls 0

Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model

FSR

Ratio R 0.360

Region England and Wales Cv (Summer) 0.750

M5-60 (mm)

18.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm)

300.0

Analysis Timestep 2.5 Second Increment (Extended)

DTS Status

OFF

DVD Status

ON

Inertia Status

ON

Profile(s)

Summer and Winter

Duration(s) (mins)

15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440

Return Period(s) (years)

1, 30, 100

Climate Change (%)

0, 0, 45

WARNING: Half Drain Time has not been calculated as the structure is too full.

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.
S3.000	S1	15 Winter	100	+45%				
S3.001	S2	15 Winter	100	+45%				
S3.002	S3	15 Winter	100	+45%	100/15 Summer			
S3.003	S4	15 Winter	100	+45%				
S4.000	S5	240 Winter	100	+45%	100/120 Winter			
S5.000	S6	15 Winter	100	+45%				
S4.001	S-JCT	1440 Summer	100	+45%				
S6.000	S7	240 Winter	100	+45%	100/15 Winter			
S3.004	S8	240 Winter	100	+45%	100/15 Summer			
S3.005	S-TANK	240 Winter	100	+45%	30/120 Summer			
S3.006	S9	240 Winter	100	+45%	1/120 Winter			
S3.007	S-SP	240 Winter	100	+45%				
S3.008	S10	240 Winter	100	+45%				

©1982-2020 Innovyze

Existing Greenfield Runoff Volume

WML Consulting Ltd		Page 1																										
No. 8 Oak Green Stanley Green Business Park Earl Rd, Cheadle Hulme, SK8 6QL																												
Date 20/10/2023 09:49 File	Designed by DBaker Checked by																											
Innovyze		Source Control 2020.1.3																										
<u>Greenfield Runoff Volume</u> FSR Data <table> <tr> <td>Return Period (years)</td> <td>100</td> </tr> <tr> <td>Storm Duration (mins)</td> <td>360</td> </tr> <tr> <td>Region</td> <td>England and Wales</td> </tr> <tr> <td>M5-60 (mm)</td> <td>18.000</td> </tr> <tr> <td>Ratio R</td> <td>0.360</td> </tr> <tr> <td>Areal Reduction Factor</td> <td>1.00</td> </tr> <tr> <td>Area (ha)</td> <td>0.283</td> </tr> <tr> <td>SAAR (mm)</td> <td>864</td> </tr> <tr> <td>CWI</td> <td>120.442</td> </tr> <tr> <td>Urban</td> <td>0.000</td> </tr> <tr> <td>SPR</td> <td>47.000</td> </tr> </table> Results <table> <tr> <td>Percentage Runoff (%)</td> <td>49.46</td> </tr> <tr> <td>Greenfield Runoff Volume (m³)</td> <td>83.274</td> </tr> </table>			Return Period (years)	100	Storm Duration (mins)	360	Region	England and Wales	M5-60 (mm)	18.000	Ratio R	0.360	Areal Reduction Factor	1.00	Area (ha)	0.283	SAAR (mm)	864	CWI	120.442	Urban	0.000	SPR	47.000	Percentage Runoff (%)	49.46	Greenfield Runoff Volume (m³)	83.274
Return Period (years)	100																											
Storm Duration (mins)	360																											
Region	England and Wales																											
M5-60 (mm)	18.000																											
Ratio R	0.360																											
Areal Reduction Factor	1.00																											
Area (ha)	0.283																											
SAAR (mm)	864																											
CWI	120.442																											
Urban	0.000																											
SPR	47.000																											
Percentage Runoff (%)	49.46																											
Greenfield Runoff Volume (m³)	83.274																											
©1982-2020 Innovyze																												

Proposed Greenfield Runoff Volume

WML Consulting Ltd		Page 1
No. 8 Oak Green Stanley Green Business Park Earl Rd, Cheadle Hulme, SK8 6QL		
Date 04/03/2025 10:03 File 10939 - Surface Water -...		
Designed by DBaker Checked by		
Innovyze		Network 2020.1.3

Summary Wizard of 360 minute 100 year Summer I+0% for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coefficient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	1
Number of Online Controls	2	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.360
Region England and Wales	Cv (Summer)	0.750	
M5-60 (mm)	18.000 Cv (Winter)	0.840	

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	ON
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	360
Return Period(s) (years)	100
Climate Change (%)	0

Pipe

US/MH	US/CL	Discharge	Flow	
PN	Name	(m)	Vol (m³)	(l/s) Status
S3.006	S9	31.800	72.710	2.4 SURCHARGED

©1982-2020 Innovyze

WML Consulting Ltd		Page 2
No. 8 Oak Green Stanley Green Business Park Earl Rd, Cheadle Hulme, SK8 6QL		
Date 04/03/2025 10:03 File 10939 - Surface Water -...		
Designed by DBaker Checked by		
Innovyze		Network 2020.1.3

Summary Wizard of 360 minute 100 year Winter I+0% for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coefficient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	1
Number of Online Controls	2	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.360
Region England and Wales	Cv (Summer)	0.750	
M5-60 (mm)	18.000 Cv (Winter)	0.840	

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	ON
Inertia Status	ON

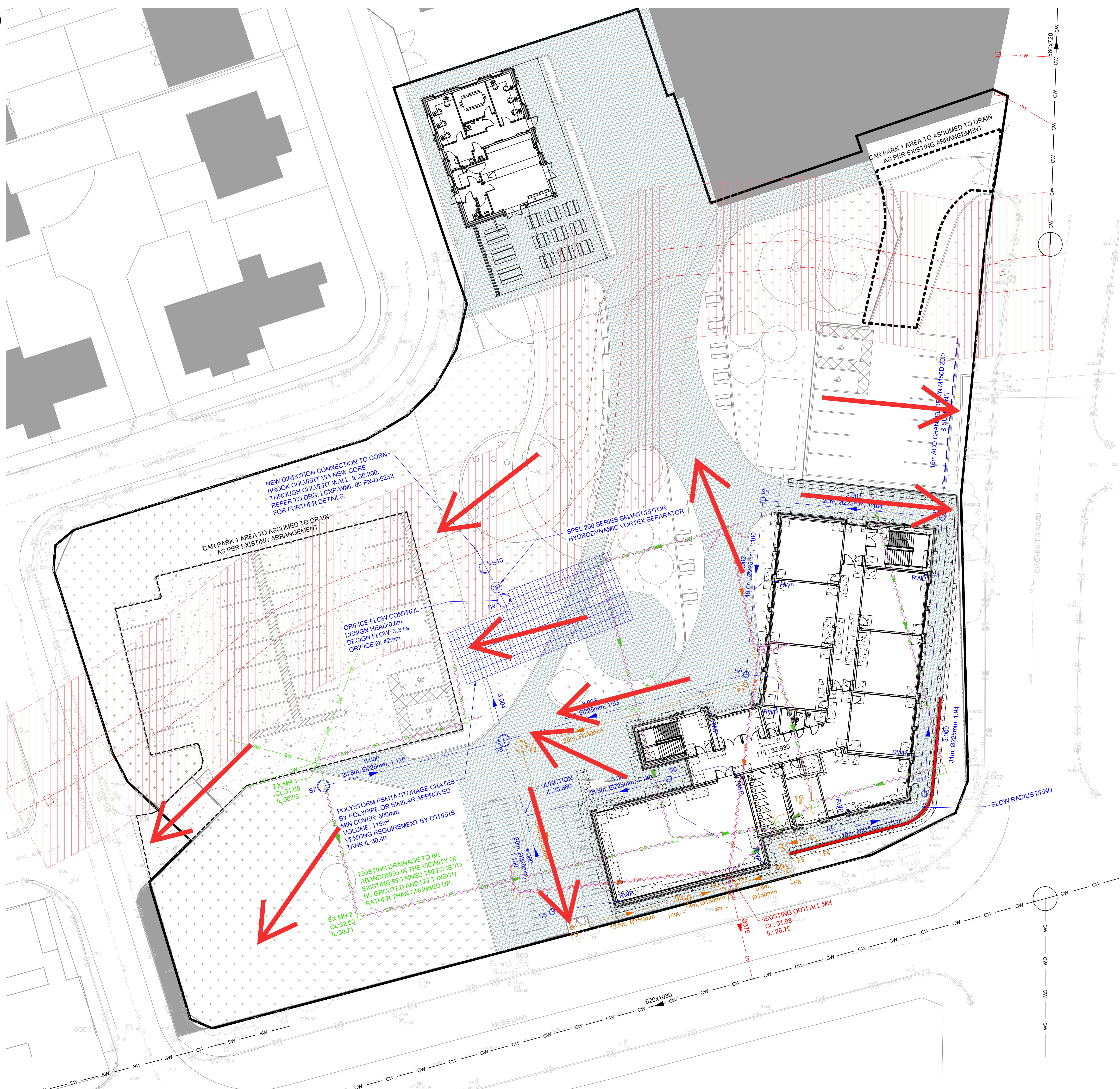
Profile(s)	Summer and Winter
Duration(s) (mins)	360
Return Period(s) (years)	100
Climate Change (%)	0

Pipe

US/MH	US/CL	Discharge	Flow	
PN	Name	(m)	Vol (m³)	(l/s) Status
S3.006	S9	31.800	78.611	2.5 SURCHARGED

©1982-2020 Innovyze

Exceedance Flow Route Plan



EXCEEDANCE FLOW ROUTES

APPENDIX C

Photographic record of the installation





CQC 4.10.06 Drainage Line Inspection

Attenuation Tank Welding and fitting

Form Reference	F1.3651472
Owned By	Oliver Manley (Caddick Construction)
Date	8/1/2024 2:32:53 PM
Status	Closed
Project Name	NW177 Loreto College
Project Reference	NW177
Location	NW177 Loreto College

Form Location	NW177 Loreto College
Package Organisation	Thomas Contracting
Brief Location & Description to Include Drainage Run References	Attenuation Tank Welding and fitting
Inspected By	Oliver Manley
What is the Relevant Drawing Number and Revision?	Organisation: HyrdoWMS Title: Proposed Attenuation Tank Details Drawing Number: 001 Rev: - Organisation: WML Title: Drainage Details Drawing Number: 5200 Rev: C05

Comments	Created By	Date
Shape of the tank was altered to suit the site needs. A row was taken away from the building site and added to the top section (10m x two rows = 84 crates)	Oliver Manley (Caddick Construction)	8/5/2024 8:44:13 AM

Document Name	Type	Created By	Date
LCNP-WML-00-FN-DR-D-5200 (4) (11).pdf	Pdf	Oliver Manley (Caddick)	8/5/2024 8:42:37 AM
Loreto College. Manchester-Attenuation Tank Details.pdf	Pdf	Oliver Manley (Caddick)	8/5/2024 8:42:39 AM

Have OGL /Commencement Levels Been Confirmed	Yes
Are the theoretical trench width confirmed	Yes
Bedding Materials Type and Level	20mm Gravel
Pipe Size mm	300

Comments	Created By	Date
Incoming and exiting	Oliver Manley (Caddick Construction)	8/5/2024 8:36:01 AM

Pipe Type	Polypipe
Material Surround	20mm Pea Gravel
Has the intermediate level been checked	N/A

Comments	Created By	Date
Whole tank is the same LVL	Oliver Manley (Caddick Construction)	8/5/2024 8:35:24 AM

Actual Invert Level	30.400
---------------------	--------

Document Name	Type	Created By	Date
MOT & IL SVY.dwg	Unknown	Oliver Manley (Caddick)	8/5/2024 8:34:51 AM
MOT & IL SVY.pdf	Pdf	Oliver Manley (Caddick)	8/5/2024 8:34:52 AM

Junctions Checked	Yes
Dims Down line MH reference start	N/A

Between MH references

#	Junction Reference/Type	Position Location
1	N/A	N/A
Final MH reference		N/A
Has a test been carried out		N/A
Backfill Materials Type		Clean stone

Sign Offs

Sub Contractor Supervisor	
---------------------------	--

Richard Hubbard (Thomas Contracting)
8/5/2024 8:44:27 AM

Document Name	Type	Created By	Date
Handover Sheet 1.pdf	Pdf	Oliver Manley (Caddick)	8/5/2024 8:44:36 AM
Handover Sheet 2.pdf	Pdf	Oliver Manley (Caddick)	8/5/2024 8:44:38 AM
Caddick Signature			

Oliver Manley (Caddick Construction)
8/5/2024 8:34:17 AM

Nothing in this document relieves the sub contractor of the responsibilities under the terms and conditions of the Sub Contract Agreement

Images



[8/5/2024 8:30:59 AM](#)[8/5/2024 8:31:00 AM](#)[8/5/2024 8:31:02 AM](#)



[8/5/2024 8:31:04 AM](#)[8/5/2024 8:31:06 AM](#)[8/5/2024 8:31:08 AM](#)



[8/5/2024 8:31:10 AM](#)[8/5/2024 8:31:12 AM](#)[8/5/2024 8:31:14 AM](#)



[8/5/2024 8:31:16 AM](#)



[8/5/2024 8:31:18 AM](#)



[8/5/2024 8:31:19 AM](#)



[8/5/2024 8:31:21 AM](#)



[8/5/2024 8:31:23 AM](#)



[8/5/2024 8:31:24 AM](#)



[8/5/2024 8:31:26 AM](#)



[8/5/2024 8:31:30 AM](#)



[8/5/2024 8:31:33 AM](#)



[8/5/2024 8:31:35 AM](#)



[8/5/2024 8:31:37 AM](#)



[8/5/2024 8:31:39 AM](#)



[8/5/2024 8:31:40 AM](#)



[8/5/2024 8:31:43 AM](#)



[8/5/2024 8:31:45 AM](#)



[8/5/2024 8:31:47 AM](#)



[8/5/2024 8:31:48 AM](#)



[8/5/2024 8:31:50 AM](#)



[8/5/2024 8:31:51 AM](#)



[8/5/2024 8:31:53 AM](#)



[8/5/2024 8:31:55 AM](#)



[8/5/2024 8:31:56 AM](#)



[8/5/2024 8:31:58 AM](#)



[8/5/2024 8:31:59 AM](#)



[8/5/2024 8:32:01 AM](#)



[8/5/2024 8:32:03 AM](#)



[8/5/2024 8:32:05 AM](#)



[8/5/2024 8:32:07 AM](#)



[8/5/2024 8:32:13 AM](#)



[8/5/2024 8:32:16 AM](#)



[8/5/2024 8:32:19 AM](#)



[8/5/2024 8:32:21 AM](#)



[8/5/2024 8:32:23 AM](#)





[8/5/2024 8:32:25 AM](#)



[8/5/2024 8:32:26 AM](#)



[8/5/2024 8:32:27 AM](#)



[8/5/2024 8:32:29 AM](#)



[8/5/2024 8:32:30 AM](#)



[8/5/2024 8:32:32 AM](#)



[8/5/2024 8:32:34 AM](#)



[8/5/2024 8:32:35 AM](#)



[8/5/2024 8:32:37 AM](#)



[8/5/2024 8:32:38 AM](#)



[8/5/2024 8:32:39 AM](#)



[8/5/2024 8:32:41 AM](#)



[8/5/2024 8:32:42 AM](#)



[8/5/2024 8:32:44 AM](#)



[8/5/2024 8:32:45 AM](#)



[8/5/2024 8:32:47 AM](#)



[8/5/2024 8:32:48 AM](#)



[8/5/2024 8:32:49 AM](#)



[8/5/2024 8:32:51 AM](#)



[8/5/2024 8:32:52 AM](#)

[8/5/2024 8:32:54 AM](#)

[8/5/2024 8:32:55 AM](#)

Document Name	Type	Created By	Date
Handover Sheet 1.pdf	Pdf	Oliver Manley (Caddick)	8/5/2024 8:33:07 AM
Handover Sheet 2.pdf	Pdf	Oliver Manley (Caddick)	8/5/2024 8:33:09 AM