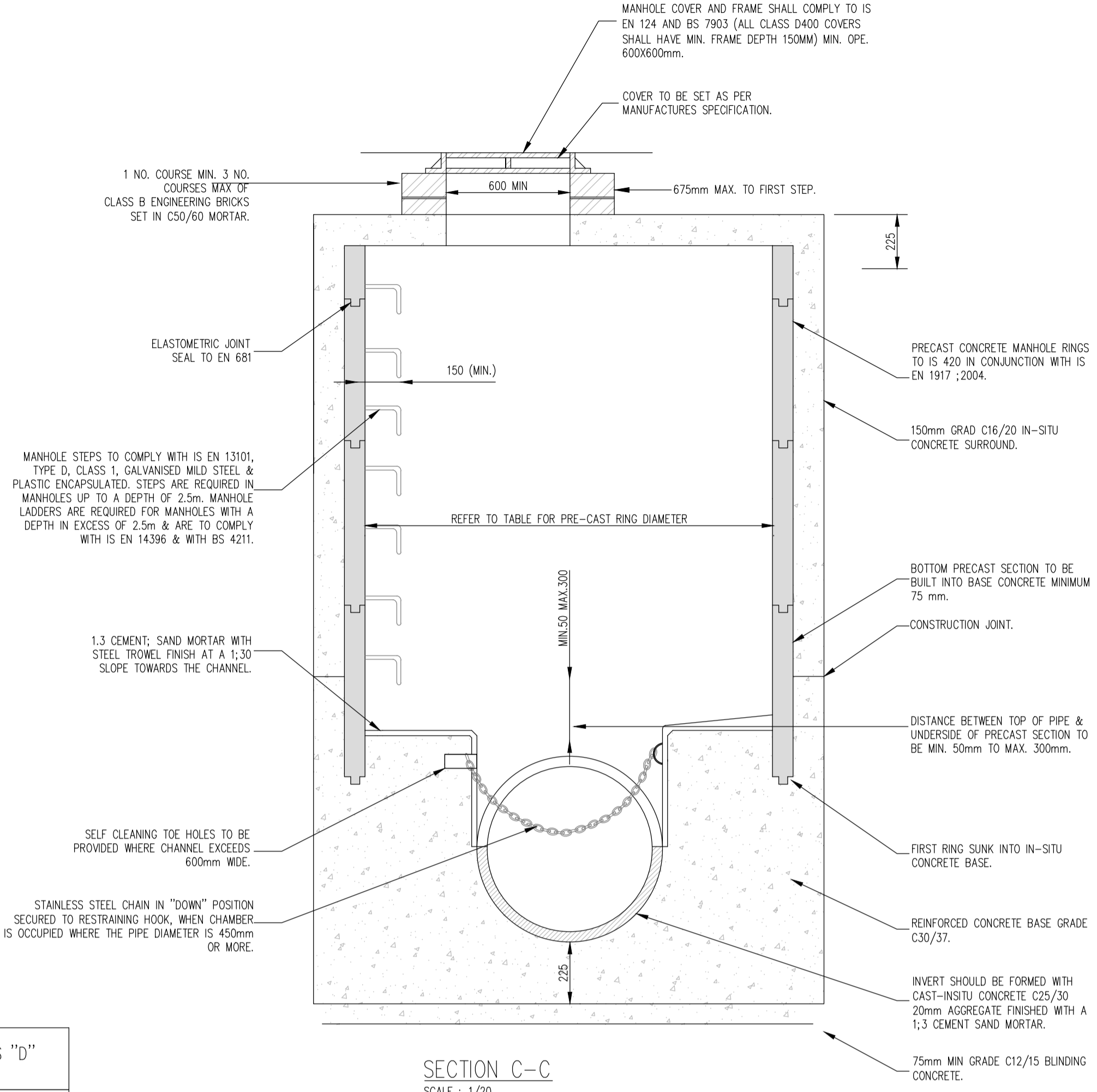
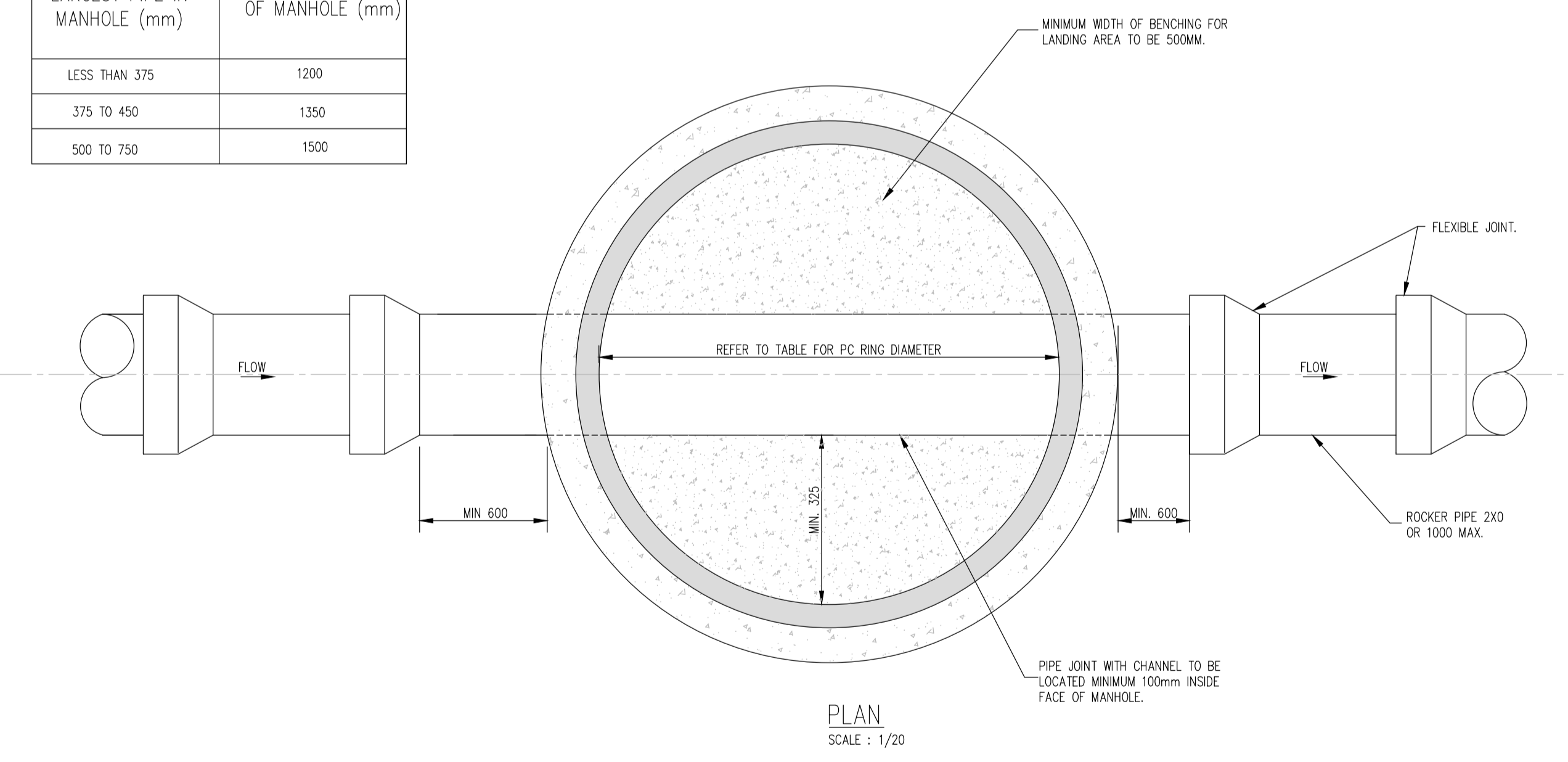


NOTES:
 PRECAST CONCRETE MANHOLE (<450mm DIA)
 STD-WW-10

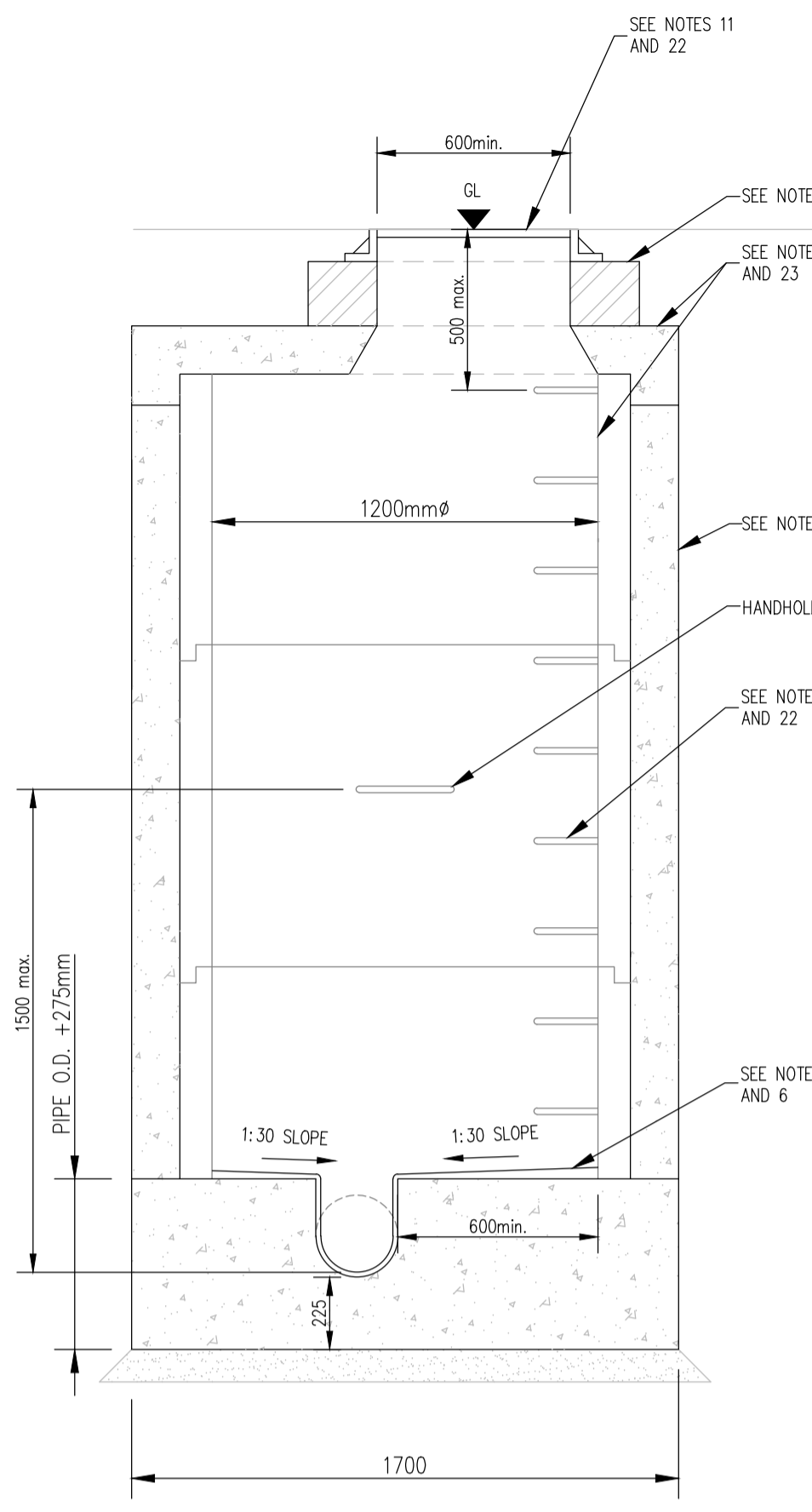
- ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.
- PRECAST MANHOLES UNITS, COMPLYING WITH REQUIREMENTS OF IS EN 1917 AND BS 5911-PART 3.
- THICKER MANHOLE BASE REQUIRED FOR SEWERS IN EXCESS OF 3m DEEP WHERE THE SIZE IS GREATER THAN THE STANDARD MINIMUM SIZE.
- APPROVED PRE-CAST CONCRETE BASES MAY BE USED INCORPORATING CHANNELS, BENCHING ETC. SUBJECT TO IRISH WATER APPROVAL AND COMPLYING WITH BS 5911-PART 4:2002.
- STRUCTURAL DESIGN AND REINFORCEMENT DETAILS TO BE PROVIDED BY THE DEVELOPER AND SUBMITTED TO IRISH WATER FOR REVIEW.
- MANHOLES GREATER THAN 3m IN DEPTH WILL REQUIRE A DETAILED STRUCTURAL DESIGN AND BE SUBJECT TO IRISH WATER APPROVAL.
- MANHOLE ROOFS SHOULD CONSIST OF RE-INFORCED CONCRETE SLAB OF IN-SITU CONCRETE, C30/37, WITH A MINIMUM THICKNESS OF 225mm DESIGNED TO CARRY ALL LIVE AND DEAD LOADS, ALTERNATIVELY APPROVED PRE-CAST CONCRETE ROOF SLABS MAY BE USED SUBJECT TO IRISH WATER APPROVAL AND COMPLIANCE WITH BS 5911 PART 4: 2002.
- COVER AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO APPROVAL FROM IRISH WATER.
- 200mm ALL AROUND, 100mm DEEP CONCRETE PLINTH WITH PROTECTIVE STAINLESS STEEL METAL BAND AROUND COVERS IN GREEN AREAS.
- ALL CHAMBERS TO BE CHECKED FOR UPLIFT BY THE DEVELOPER BASED ON GROUND CONDITIONS WITHIN THE SITE. SHOULD ANTI FLOATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO APPROVAL FROM IRISH WATER.
- ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206: 2013.



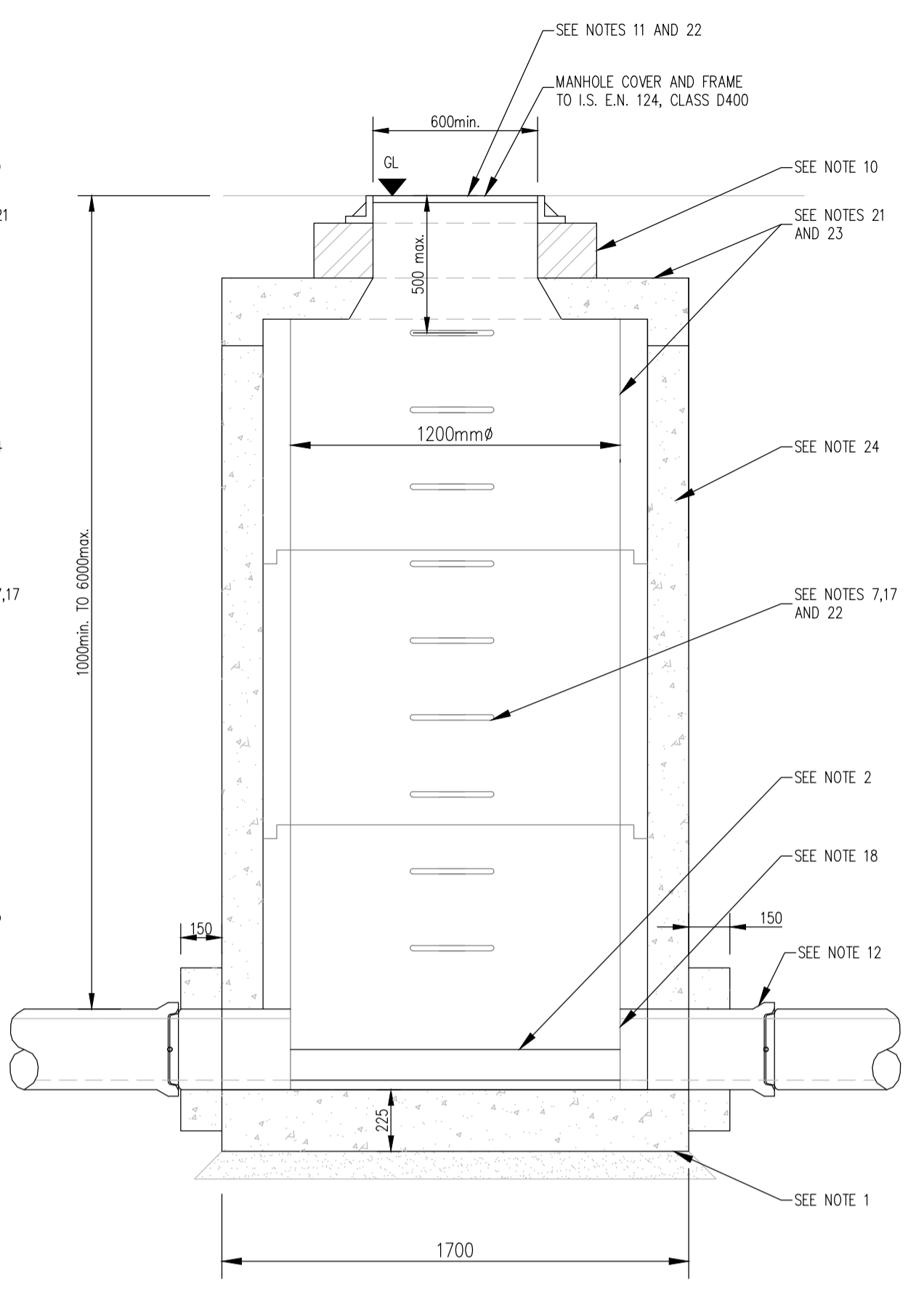
DIAMETER OF LARGEST PIPE IN MANHOLE (mm)	INTERNAL DIAMETER OF MANHOLE (mm)
LESS THAN 375	1200
375 TO 450	1350
500 TO 750	1500



FOUL MANHOLES TO IRISH WATER SPECIFICATIONS
 (STD-WW-10)
 SCALE: 1/20



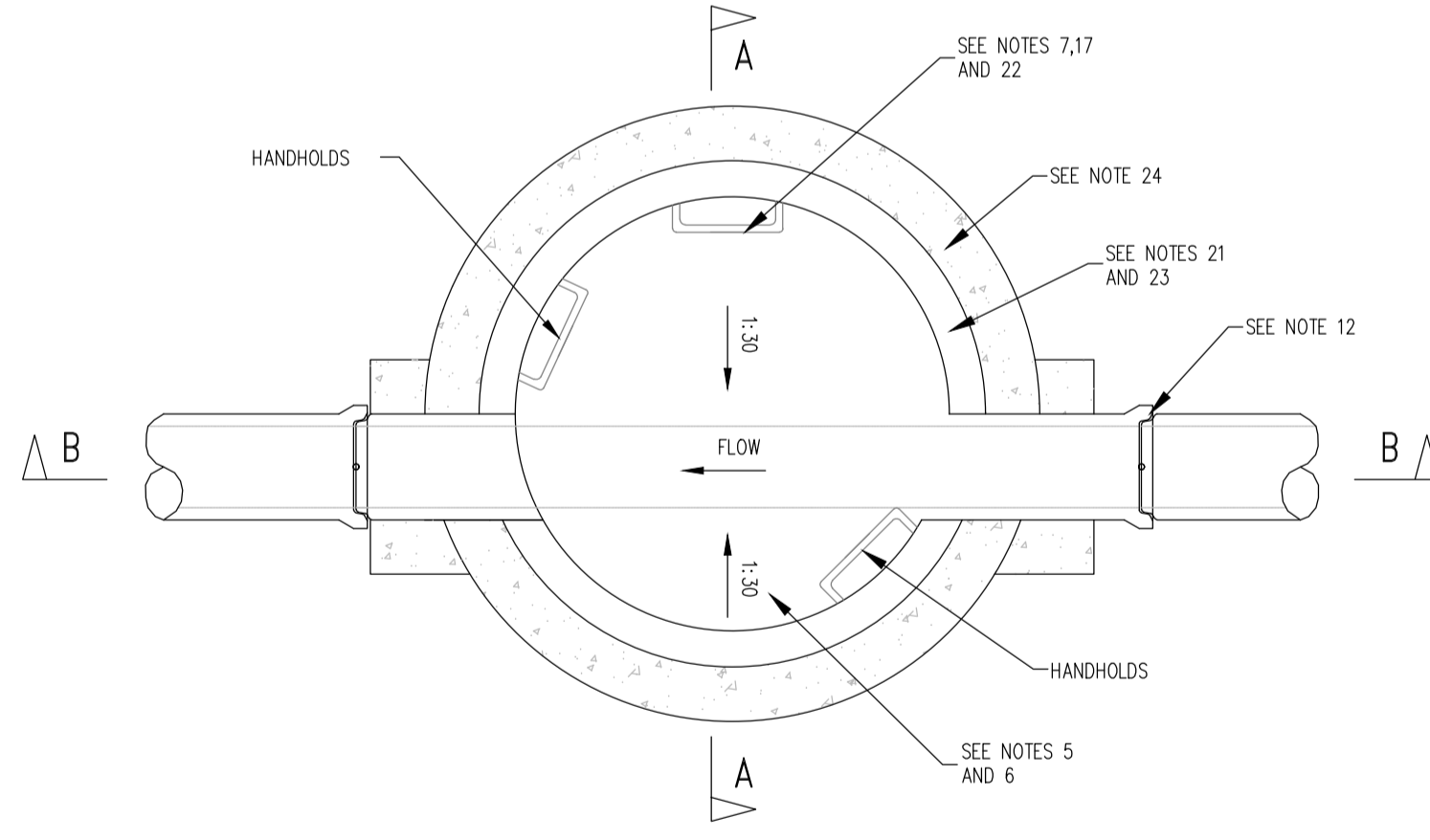
TYPE J MANHOLE (PRECAST)
 SECTION A-A
 SCALE 1:20



TYPE J MANHOLE (PRECAST)
 SECTION B-B
 SCALE 1:20

NOTE:
 CHAMBER COVERS TO BE CLASS D400

MANHOLE PIPE DIAMETER	CHAMBER INTERNAL DIAMETER
225mmØ	1200mmØ
300mmØ	1200mmØ
375mmØ	1200mmØ
450mmØ	1200mmØ
525mmØ	1200mmØ
600mmØ	1200mmØ
675mmØ	1350mmØ
750mmØ	1350mmØ
900mmØ	1500mmØ
1050mmØ	2100mmØ
1200mmØ	2100mmØ



TYPE J MANHOLE (PRECAST)
 PLAN
 SCALE 1:20

SURFACE WATER MANHOLES TO KILDARE COUNTY COUNCIL SPECIFICATIONS
 SCALE: 1/20

- NOTES:**
- 225mm THICK CL20N/20mm MASS CONCRETE FOUNDATIONS.
 - PERFORMED HALF ORCLE CHANNEL PIPES, THE PIPELINE MAY, WHERE PRACTICABLE, BE LAID THROUGH THE MANHOLE AND THE CROWN CUT OUT TO HALF DIAMETER, PROVIDED FLEXIBLE JOINTS ARE SITUATED ON EACH SIDE NO FURTHER THAN 600mm FROM THE INNER FACE OF MANHOLE WALL.
 - MANHOLE CONSTRUCTION.
 - FOR SURFACE WATER MANHOLE HIGH DENSITY BLOCKS TO CL10 OF IS.20 PART 1:1987 OR CL. 30N/20mm INSITU CONCRETE.
 - BLOCK WORK SHALL BE BEDDED AND JOINTED USING MORTAR TO IS406. BEDS AND VERTICAL JOINTS SHALL BE COMPLETELY FILLED WITH MORTAR AS THE BLOCKS ARE LAID.
 - JOINTS SHALL BE FLUSH POINTED AS THE WORK PROCEEDS.
 - BRICK TO BE BONDED TO BLOCK WORK USING ENGLISH GARDEN WALL BOND.
 - RELIEVING ARCH FORMED BY 215x103x65 SOLID ENGINEERING BRICK CLASS A OR B AS PER DRAWING. RELIEVING ARCHES USED IN BRICK OR BLOCK WORK MANHOLES EXTEND OVER FULL THICKNESS OF WALL. A DOUBLE ARCH IS TO BE FORMED FOR PIPE DIAMETERS GREATER THAN 600mm.
 - BENCHING AND PIPE CHANNEL PIPE SURROUND-CL.20/20 CONCRETE.
 - BENCHING FINISHED IN 2:1 SAND-CEMENT MORTAR WITH A SMOOTH TROWEL FINISH, AT 1:13 SLOPE TOWARDS CHANNEL.
 - STANDARD RUNGS AT 300 CENTRES VERTICALLY AND GALVANISED TO THE LATEST VERSION OF B.S.729 OR EQUIVALENT. NOTE: STEP IRONS ARE NOT ACCEPTABLE.
 - 600mm SQUARE OPE IN ROOF SLAB.
 - PRECAST R.C. ROOF SLAB SHALL BE 200mm THICK IN CLASS 30N/20mm, WITH 40mm COVER TO STEEL.
 - 1 TO 2 COURSES OF SOLID ENGINEERING BRICKS CL.B TO I.S.91:1983 SET IN 1:3 (CEMENT AND MORTAR).
 - CLASS D400 OR E600 MANHOLE COVER AND FRAME TO IS/EN 124. 150mm DEEP FRAME FOR ROADS AND 100mm DEEP FOR FOOTPATHS AND GREEN AREAS. NON-ROCK DESIGN, CLOSED KEYWAYS, MANUFACTURED FROM SPHEROIDAL GRAPHITE CAST IRON (DUCTILE CAST IRON), 600x600 (600mmØ) CLEAR OPENING, COVER AND FRAME COATED IN BITUMEN OR OTHER APPROVED MATERIAL, COVER TO HAVE A MINIMUM MASS OF 140KG/M². FRAME BEARING AREA SHALL BE 80,000mm² MIN. FRAMES SHALL BE DESIGNED TO PREVENT COVERS FALLING INTO MANHOLE. FRAMES SHALL BE BEDDED ON APPROVED MORTAR TO MANUFACTURERS INSTRUCTIONS.
 - SHORT LENGTH PIPE AND PIPE JOINT EXTERNAL TO MANHOLE SHALL NOT EXCEED 600mm FROM THE INNER FACE OF MANHOLE WALL.
 - TOE HOLES OF 230mm MINIMUM DEPTH AND GALVANISED STEEL SAFETY RAILINGS TO BE PROVIDED IN BENCHING OF SEWERS GREATER THAN 525mm DIAMETER AND DEPTH TO INVERT >3m FOR ACCESS TO INVERT.
 - A SAFETY CHAIN IS TO BE PROVIDED ON PIPES THAT EXCEED 450mm IN DIAMETER. MILD STEEL SAFETY CHAIN SHALL BE 10mm NOMINAL SIZE GRADE M(H) NON-CALIBRATED CHAIN, TYPE 1, COMPLYING WITH B.S.4942 PART 2 OR EQUIVALENT.
 - WHEN DEPTH OF MANHOLES TO INVERT IS GREATER THAN 3.0m LADDERS SHALL BE USED INSTEAD OF RUNGS TO B.S.4211 OR EQUIVALENT EXCEPT THAT STRINGERS SHOULD BE NOT LESS THAN 65x12mm IN SECTION AND RUNGS 25mm IN DIAMETER. FIXED LADDERS SHOULD MEET THE DIMENSIONAL REQUIREMENTS OF B.S.4211 OR EQUIVALENT.
 - LADDER STRINGERS SHOULD BE ADEQUATELY SUPPORTED FROM THE MANHOLE WALL AT INTERVALS OF NOT MORE THAN 2.0m, STRINGERS SHOULD BE BOLTED TO CLEATS TO FACILITATE RENEWAL.
 - ALL LADDERS, RUNGS, HANDRAILS, SAFETY CHAINS ETC. SHALL BE HOT DIP GALVANISED TO B.S.729 OR EQUIVALENT.
 - PIPE SHOULD BE CUT FLUSH WITH THE INSIDE SURFACE OF THE MANHOLE WALL SO THAT THE CHANNEL EXTENDS THE FULL LENGTH OF THE MANHOLE (EXCEPT FOR PRECAST MANHOLES).
 - POSITION OF 910 SQUARE OPE IN INTERMEDIATE ROOF SLAB.
 - ALL MANHOLES SHALL BE WATER TIGHT TO THE SATISFACTION OF THE ENGINEER.
 - FORMWORK TO REINFORCED CONCRETE AND MASS CONCRETE SHALL COMPLY WITH CLASS 2, SECTION 6.2.7, B.S.810:PART 1:1997.
 - PLAN DIMENSIONS OF MANHOLE ARE BASED ON BLOCK WORK HAVING A COORDINATING SIZE OF 450x225x100.
 - MANHOLES ARE DESIGNED TO B.S.8005 AND WALL THICKNESS TO I.S.325 BLOCK WORK DESIGN CODE TAKING GRANULAR FILL PRESSURE AND H.B. SURCHARGE.
 - REINFORCEMENT TO SLABS TO ENGINEERS DETAILS.
 - FOR MANHOLES >3m DEPTH TO INVERT USE 30N/20mm INSITU CONCRETE. REINFORCING MESH REF. A3930 6.16KG/m TO BE FIXED AT MID POINT OF WALL. ADDITIONAL REINFORCEMENT TO BE SUPPLIED OVER PIPE CROWN.
 - FOR PRECAST MANHOLES, CHAMBER WALLS AND COVER SLAB TO BE CONSTRUCTED TO IS EN 1917 AND IS 420 2004.
 - MANHOLE OPENINGS TO BE SITUATED FURTHEST FROM THE NEAREST CARRIAGEWAY. MANHOLE STEPS/ACCESS TO BE POSITIONED TO ALLOW VIEWING OF ONCOMING TRAFFIC.
 - FOR BEDDING AND SEALING OF CHAMBER RINGS, THE TOP RING (TO PRECAST COVER SLAB AND BOTTOM RING TO BE BEDDED WITH CEMENT MORTAR. FOR INTERMEDIATE RINGS, JOINTS TO BE SEALED WITH APPROVED PRE-FORMED JOINTING STRIP.
 - PRECAST MANHOLES TO BE SURROUNDED WITH A MINIMUM OF 150mm THICK GRADE C30 CONCRETE.
 - THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATION.
 - DO NOT SCALE FROM THIS DRAWING USE STATED DIMENSIONS ONLY. IF IN DOUBT CONSULT THE ENGINEER.
 - LEVELS REFER TO O.S. DATUM MALIN HEAD.

GENERAL NOTES
 ALL BRICK TO BE SOLID ENGINEERING BRICK CLASS A OR B.
 FOR PIPE DIAMETER >750mm USE MANHOLE WITH INTERNAL SIZE=PIPE SIZE + 1mETRE + 300mm.
 DISTANCE FROM THE TOP RUNG OF THE LADDER TO GROUND LEVEL MUST BE A MAXIMUM OF 500mm.

Section 179A Planning
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Rev. No.	Date	REVISION NOTE	Drn. By	Chkd. By

Architect: **REDDY ARCHITECTURE & URBANISM**
 Project: **51 UNIT HOUSING SCHEME AT CARROWBUNNAUM TD.**
 Title: **Drainage Details Sheet 1 of 3**
 Dwg. No.: **R116-CSC-ZZ-XX-DR-C-0012**
 Date: June 2023
 Drn. By: AB
 Chkd. By: GL
 Apprd. by: NB
 Scale: AS SHOWN
 Revision:

CS Consulting Group
 DUBLIN | LONDON | LIMERICK
 Head Office: 19-22 Dame Street, Dublin 2.
 T: +353 (0)1 5480863
 e: info@csconsulting.ie
 www.csconsulting.ie
 Quality: I.S. EN ISO 9001:2008
 Environment: I.S. EN ISO 14001:2004
 Health & Safety: I.S. EN ISO 50001:2011
 CHSAS 18001:2007

NOTES: WHERE THE 1 ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE. DEPTH OF 2 THE MINIMUM DEPTH OF COVER FROM THE FINISHED SURFACE TO THE CROWN OF GRAVITY. PIPES WITHOUT PROTECTION SHOULD SOFT BE AS FOLLOWS: MATERIAL

A. GARDENS AND PATHWAYS WITHOUT ANY POSSIBILITY OF VEHICULAR ACCESS - DEPTH NOT LESS THAN 0.5M (THIS WOULD IS NORMALLY RELATE TO DRAINS IN PRIVATE PROPERTY, SHALLOW PIPES OF THIS NATURE ARE UNDESIRABLE AND SHOULD OF EXCESSIVE. INSTALLED IN ACCORDANCE WITH THE CURRENT BUILDING REGULATIONS). SUCH ARRANGEMENTS

B. DRIVEWAYS, PARKING AREAS AND YARDS WITH HEIGHT RESTRICTIONS TO PREVENT ENTRY BY VEHICLES WITH A GROSS VEHICLE SHALL WEIGHT IN EXCESS OF 7.5 TONNES - DEPTH NOT LESS THAN 0.75m. BE

C. DRIVEWAYS, PARKING AREAS AND NARROW STREETS WITHOUT FOOTWAYS (EG MEWS DEVELOPMENTS) WITH LIMITED ACCESS FOR SUBJECT VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5 TONNES - DEPTH NOT LESS THAN 0.9m. TO ASSESSMENT

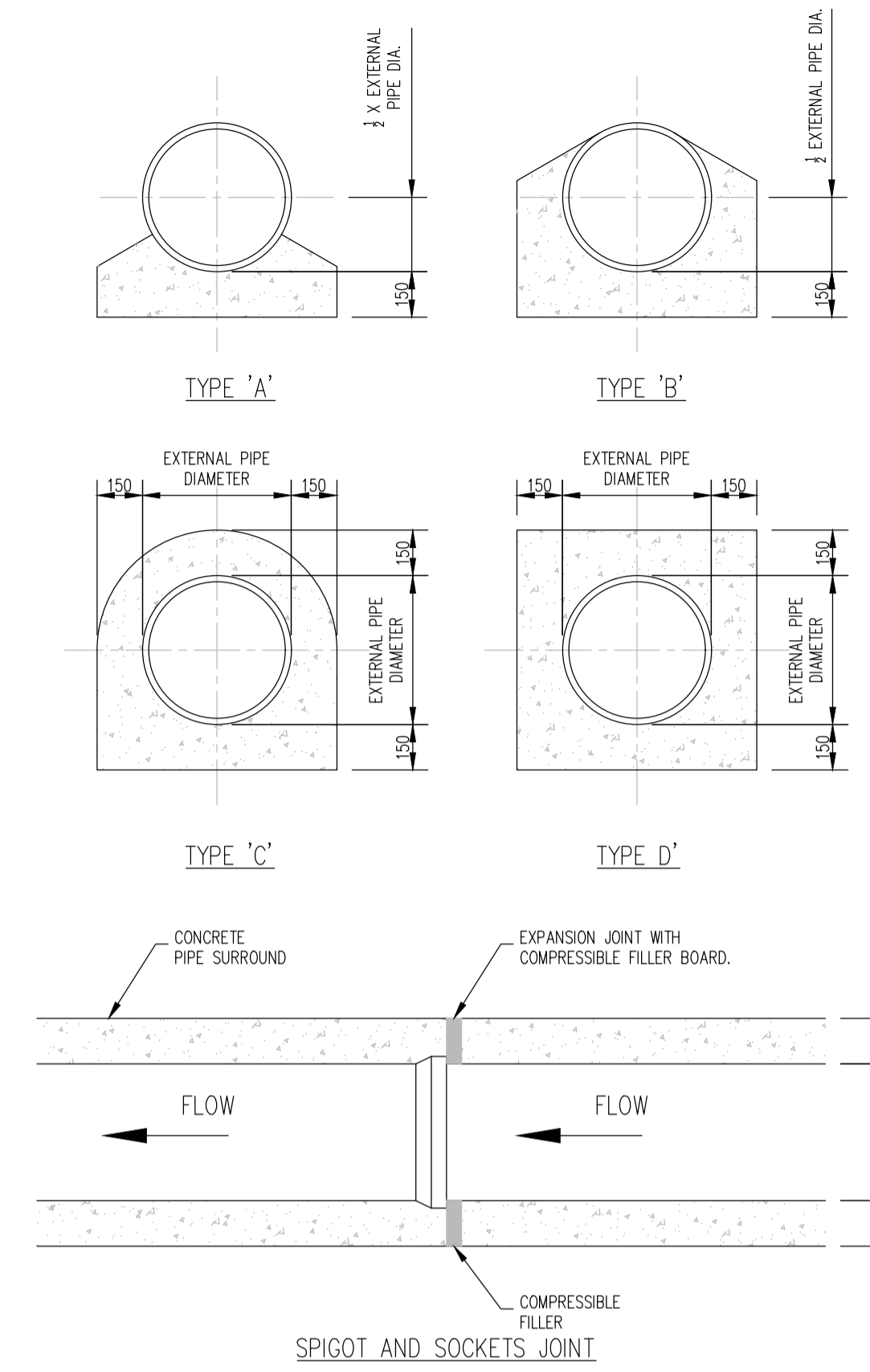
D. DEPTHS OF SEWERS IN GATED ESTATES SHALL BE SIMILAR TO THAT OUTLINED ABOVE. BY

E. AGRICULTURAL LAND AND PUBLIC OPEN SPACE - DEPTH NOT LESS THAN 0.9m. IRISH WATER

F. OTHER HIGHWAYS AND PARKING AREAS WITH UNRESTRICTED ACCESS TO VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF BEFORE 7.5 TONNES - DEPTH NOT LESS THAN 1.2m. ADVANCING 3 CLAUSE 808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS IS TO BE USED WITH AS BACKFILL MATERIAL WHERE THE SEWER MAIN IS LOCATED IN ROADS, FOOTPATHS OR WHEN THE NEAREST PART OF THE TRENCH IS WITHIN 1M OF THE PAVED EDGE OF THE ROADWAY, CLAUSE 808 IS TO BE COMPACTED AS PER CLAUSE 802 OF THE WORK. NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS: 7 IN GREEN-FIELD AREAS, TYPE 4 SELECTED EXCAVATED MATERIAL MAY BE USED IN GREEN-FIELD AREAS ABOVE GRANULAR PIPE SURROUND MATERIAL SUBJECT B TO THE APPROVAL OF IRISH WATER. BACKFILL 5 PIPE BEDDING SHALL COMPLY WITH WS 4-08-02 AND ION 4-08-01 GRANULAR MATERIAL SHALL BE 14mm TO 5MM GRADED (SELECTED AGGREGATE OR 10MM SINGLE SIZED AGGREGATE IS EN 13242. CONCRETE BED, HAUNCH & SURROUND, WHERE REQUIRED, SHALL EXCAVATED BE TO STD-WW-08. MATERIAL) WILL BE 6 IN SOFT GROUND CONDITIONS ALLOWED (CBR ABOVE < THE 5) SIDE THE HAUNCH MATERIAL GRANULAR SHOULD MATERIAL BE IN EXCAVATED THE AND CASE DISPOSED OF OF RIDD IN PIPES. ACCORDANCE A WITH GRANULAR THE SURROUND WASTE OF MANAGEMENT ACT MINIMUM AND DEPTH CLAUSE OF 808 150mm MATERIAL ABOVE IN THE ACCORDANCE CROWN WITH OF THE NATIONAL PIPE ROADS IS AUTHORITY REQUIRED SPECIFICATION FOR FOR FLEXIBLE ROAD PIPES, WORKS AND SHALL TYPE REPLACE B THE MATERIAL EXCAVATED MAY MATERIAL BE WRAPPED USED AS GEO-TEXTILE BACKFILL WRAPPING. ABOVE ALTERNATIVELY, THIS "SPECIAL ALL PIPE RISING SUPPORT MAINS ARRANGEMENTS, INCLUDING GREENFIELD PILING AREAS ETC. SHALL MAY HAVE BE A REQUIRED MINIMUM COVER OF 300mm OF GRANULAR MATERIAL ABOVE THE EXTERNAL CROWN OF THE PIPE. 8 PIPES SHALL NOT BE SUPPORTED ON STONES, ROCKS OR ANY HARD OBJECTS AT ANY POINT ALONG THE TRENCH. ROCK SHALL BE EXCAVATED TO A DEPTH OF 150mm BELOW THE ACTUAL DEPTH OF THE TRENCH WITH THE VOID FILLED WITH CLAUSE 808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS. THE GRANULAR MATERIAL SHALL BE LAID ABOVE THIS VOID BACKFILL MATERIAL. 9 NON DEGRADABLE MARKER TAPE SHOULD BE INSTALLED AT TOP OF PIPE BEDDING LAYER. IN THE CASE OF NON-METAL PIPE MATERIAL, THE MARKER TAPE SHOULD INCORPORATE A TRACE WIRE WHICH IS LINKED TO FITTINGS AND TERMINATED AT THE WASTE WATER PUMPING STATION AND THE DISCHARGE MANHOLE. 10 TRENCH WIDTHS FOR PIPE SIZES 500mm MAY BE <500mm, SUBJECT TO CONSIDERATION BEING GIVEN TO THE TRENCH DEPTH, HEALTH & SAFETY & CONSTRUCTION ACCESS REQUIREMENTS.

PIPE DIAMETER 'A' (mm)	DEPTH OF BEDDING 'C' (mm)
< 80 RISING MAIN	< SEE NOTE 10.
< 100	100
150 - 450	200
600	200

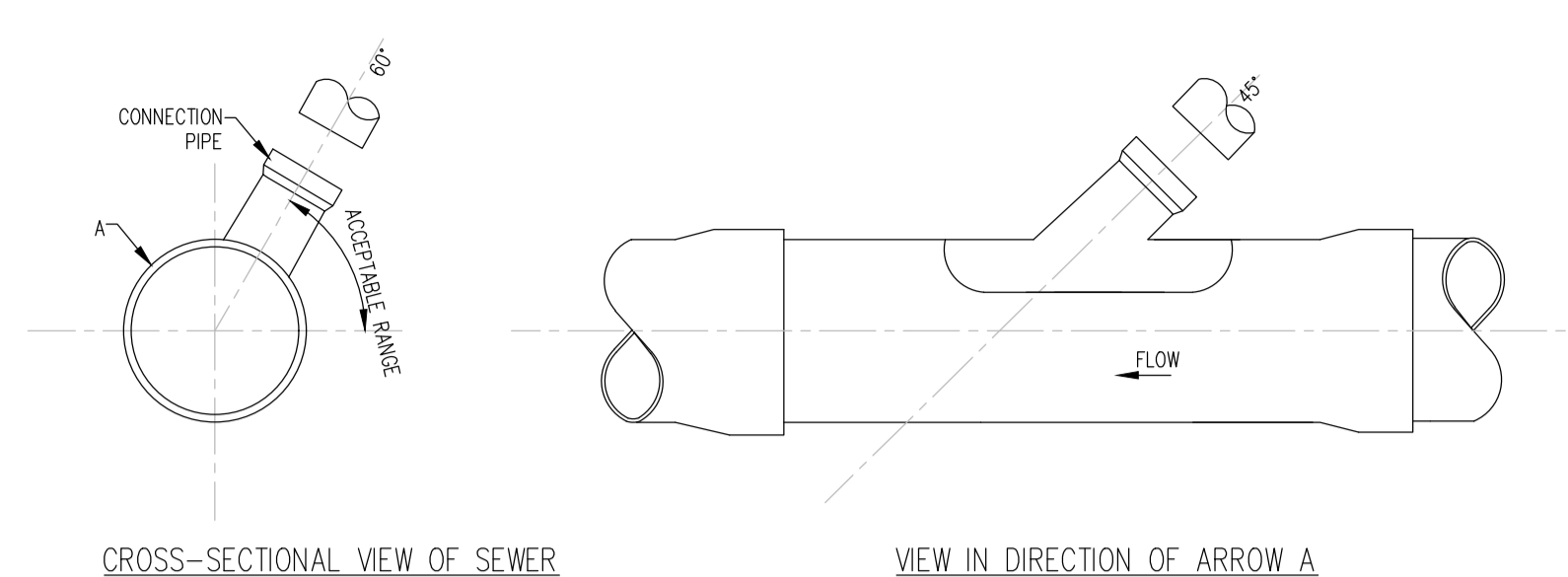
PIPE DIAMETER 'A' (mm)	TRENCH WIDTH 'B' (mm)
< 80 RISING MAIN	< SEE NOTE 10.
100	500
150	600
200	600
250	750
300	750
350	750
400	900
450	900
600	1250



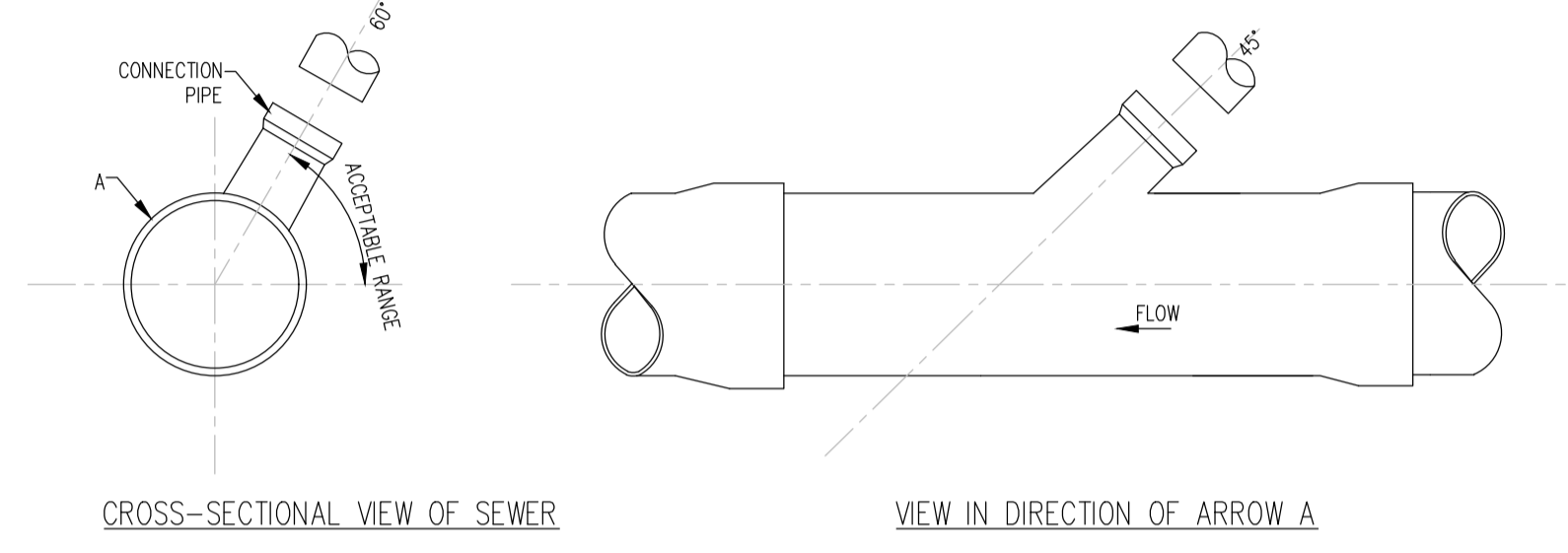
CONCRETE BED, HAUNCH AND SURROUND TO WASTEWATER PIPES. (STD-WW-08) SCALE 1:20

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.
- CONCRETE PIPELINE BEDS AND HAUNCHES MAY BE REQUIRED TO ADDRESS MINIMUM COVER SITUATIONS, AND SHALL BE SUBJECT TO SUBMISSION AND ASSESSMENT BY IRISH WATER BEFORE ADVANCING WITH THE WORKS.
- CONCRETE PIPE BEDS AND HAUNCHES SHALL HAVE A MINIMUM THICKNESS OF 150MM WITH AN ABSOLUTE MINIM DEPTH OF COVER ABOVE THE EXTERNAL CROWN OF THE PIPE OF 750MM.
- CONCRETE TO BE IN ACCORDANCE WITH IS EN 206 AND TO BE CLASSED C16/20.
- THE HAUNCHES AND SURROUNDINGS TO BE FORMED USING FORM WORK TO PROVIDE A ROUGH CAST FINISH.
- EXPANSION JOINTS IN THE CONCRETE SHALL BE PROVIDED AT ALL PIPE JOINTS TO ALLOW FOR PIPE FLEXIBILITY. COMPRESSIBILITY FILLER BOARD TO BE IN ACCORDANCE WITH BS EN 622-1 AND BS EN 622-4, AND TO BE 18mm THICK.
- POLYETHYLENE PIPES SHALL BE WRAPPED IN PLASTIC SHEETING HAVING A COMPECTION WITH ACCORDANCE WITH BS6076 BEFORE BEING CAST INTO CONCRETE.
- BITUMINOUS MATERIAL SHALL NOT BE PUT IN CONTACT WITH PE OR PVC PIPES.



APPROVED 45° SADDLE CONNECTION

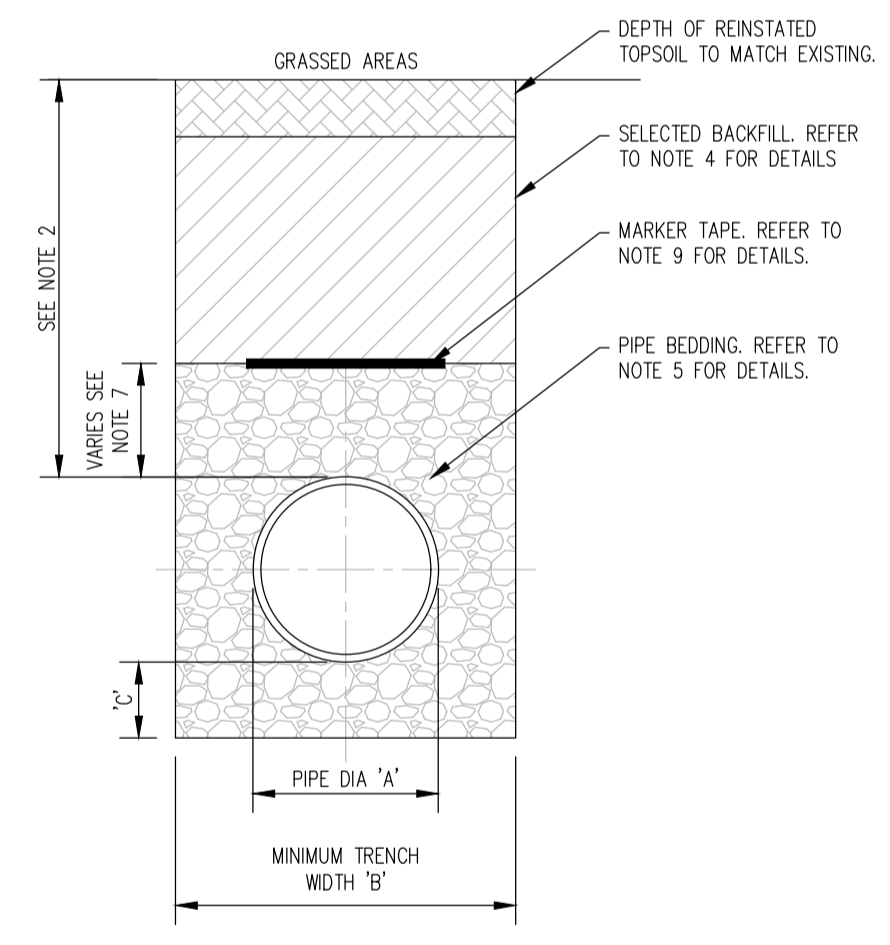


APPROVED 45° SADDLE CONNECTION

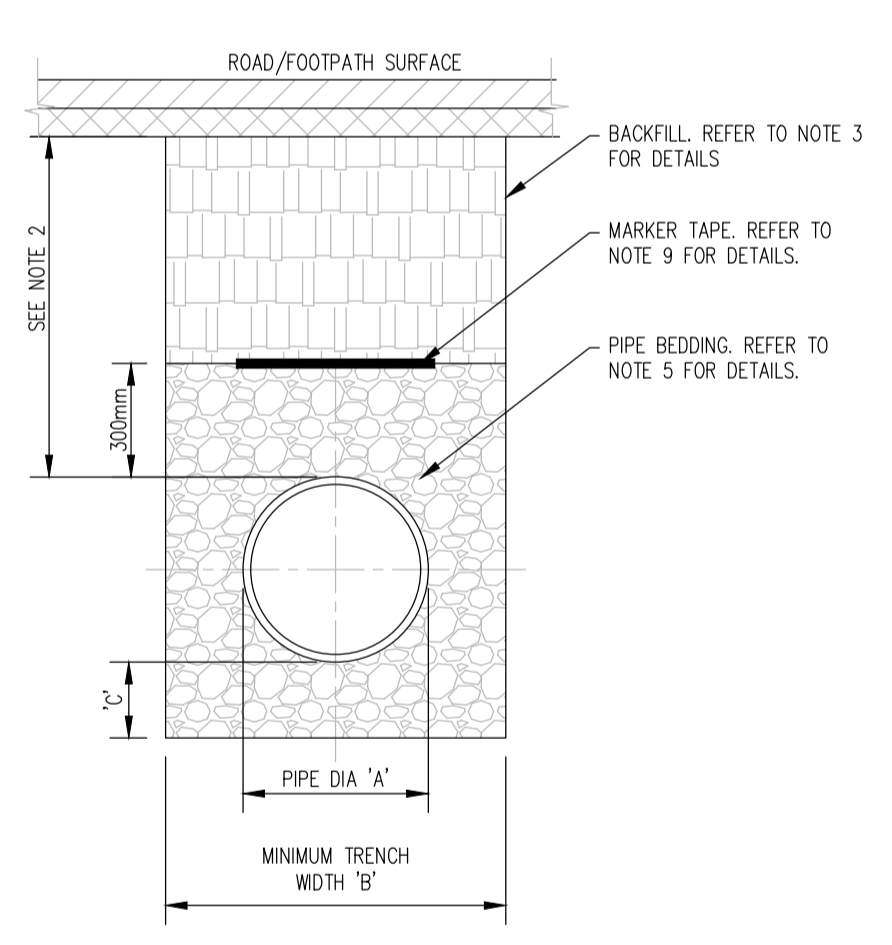
TYPICAL SEWER/SERVICE PIPE (STD-WW-04) SCALE 1:20

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.
- AS FAR AS PRACTICABLE, JUNCTION AND SERVICE CONNECTION SHALL BE BUILT IN FOR ALL PLANNED USERS WHEN THE SEWER IS BEING CONSTRUCTED. WHETHER IT IS NECESSARY TO MAKE A POST-CONSTRUCTION CONNECTION THE DEVELOPER SHALL BRING THE SEWER TO THE INSPECTION CHAMBER, INSTALL THE INSPECTION CHAMBER AND SEAL THE UPSTREAM END UNTIL THE CONNECTION IS REQUIRED.
- THE VERTICAL ANGLE BETWEEN THE SERVICE CONNECTING PIPE AND THE HORIZONTAL SHALL BE GREATER THAN 0° AND NOT MORE THAN 60°.
- WHERE THE CONNECTION IS BEING MADE TO A SEWER WITH A NORMAL INTERNAL DIAMETER OF 300mm DIAMETER OF LESS, CONNECTIONS SHALL BE MADE USING 45° ANGLE JUNCTION.
- WHERE THE CONNECTION IS BEING MADE TO A SEWER WITH NORMAL INTERNAL DIAMETER GREATER THAN 300mm;
 - IF THE DIAMETER OF THE CONNECTION PIPE IS GREATER THAN HALF THE DIAMETER OF THE SEWER, AN ACCESS MANHOLE SHALL BE CONSTRUCTED TO FORM THE CONNECTION POINT; OR
 - IF THE DIAMETER OF THE CONNECTION PIPE IS LESS THAN OR EQUAL TO HALF DIAMETER OF THE SEWER, THEN THE CONNECTION SHALL BE MADE USING A PREFORMED SADDLE FITTING WITH A SLOW BEND BETWEEN THE SADDLE AND THE CONNECTION SEWER/DRAIN.
- CONNECTIONS MADE WITH THE SADDLE FITTINGS SHALL BE MADE BY CUTTING AND SAFELY REMOVING A CORE FROM THE PIPE AND JOINING THE SADDLE FITTING TO THE PIPE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS TO ENSURE A WATER TIGHT JOINT. THE CONNECTING PIPE SHALL NOT PROTRUDE INTO THE SEWERS.

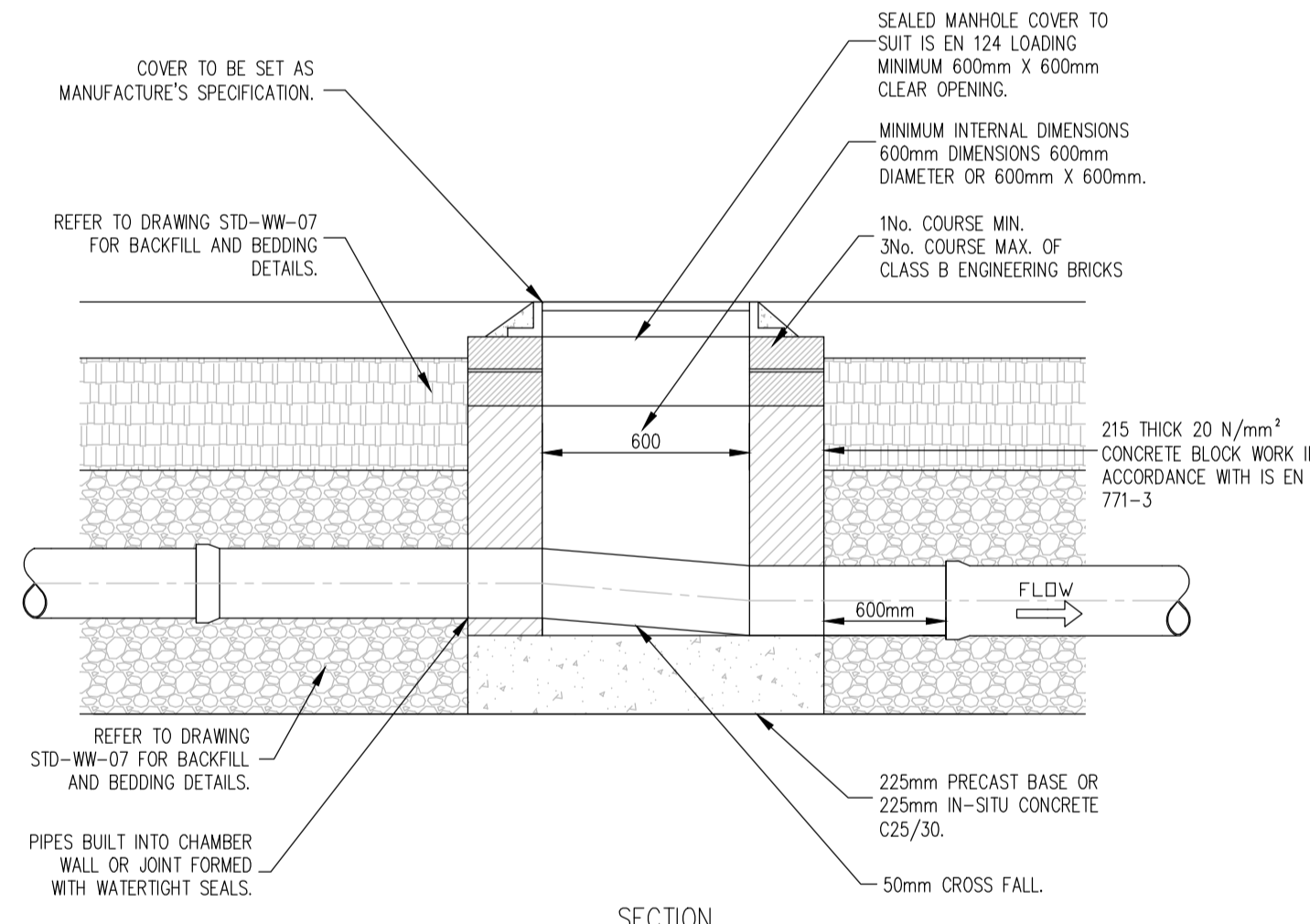


CROSS SECTION IN GRASSED AREAS

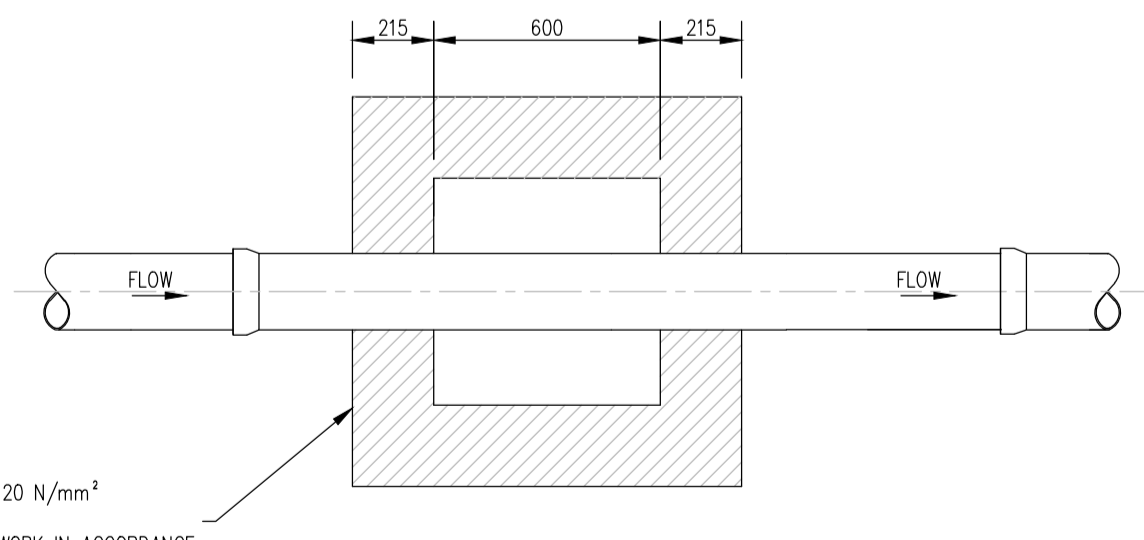


CROSS SECTION IN ROADS

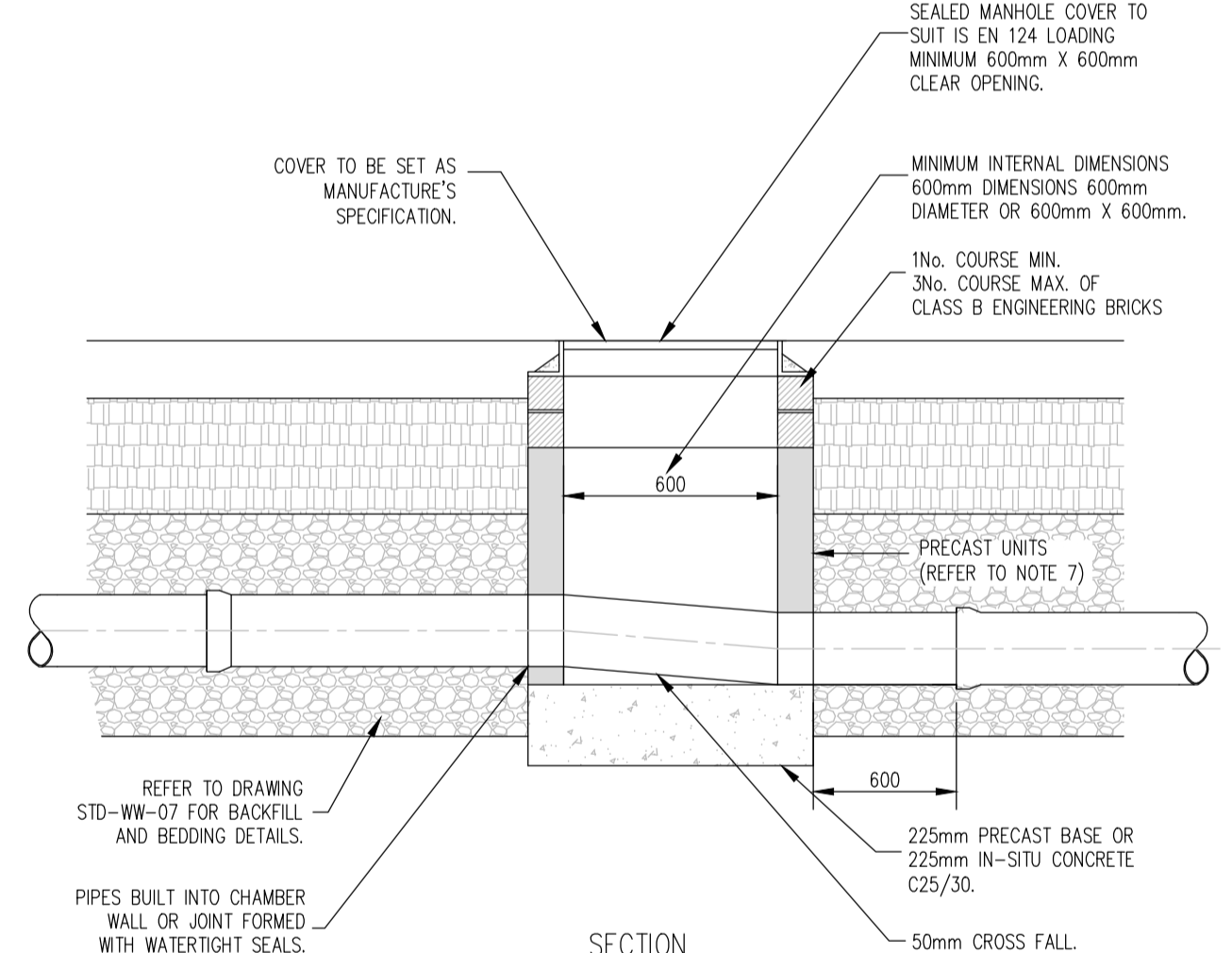
TRENCH BACKFILL AND BEDDING (STD - WW - 07) SCALE 1:20



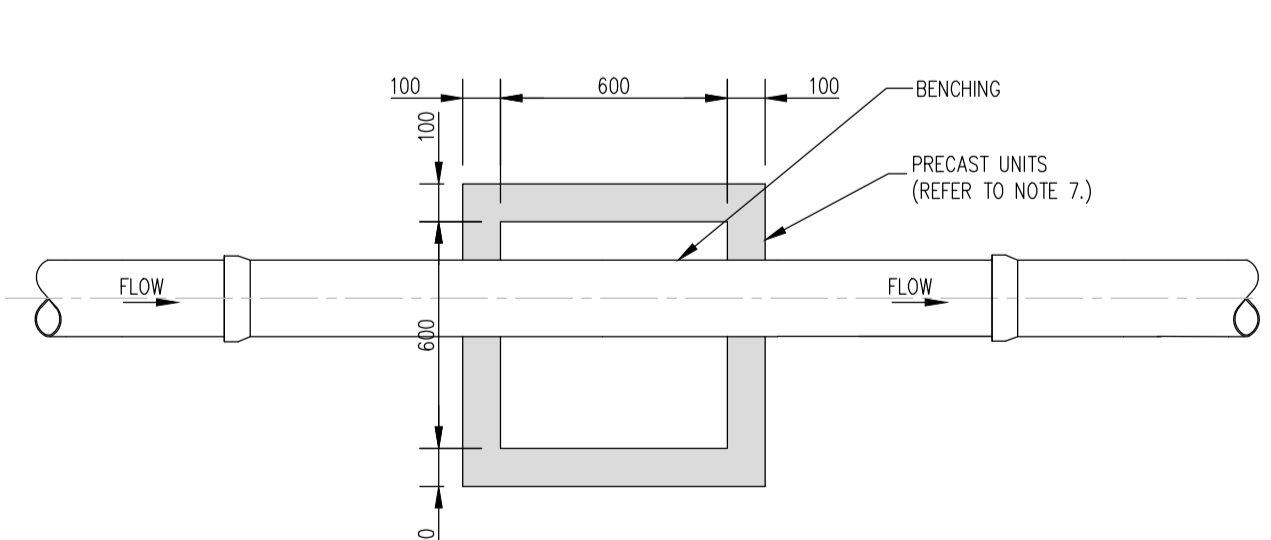
SECTION



PLAN INSPECTION CHAMBER (BLOCKWORK CONSTRUCTION)



SECTION



PLAN INSPECTION CHAMBER (PRECAST CONCRETE CONSTRUCTION)

PRIVATE SIDE INSPECTION CHAMBER (STD-WW-13) SCALE 1:20

NOTES:

- ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
- AN INSPECTION CHAMBER SHOULD BE LOCATED AT OR WITHIN 1m OF THE PROPERTY BOUNDARY AT THE UPSTREAM END OF EACH SERVICE CONNECTION ON THE PRIVATE SIDE OF THE CURTLAGE, IF PRACTICABLE.
- ANY PIPE AND ASSOCIATED ACCESS UPSTREAM OF THE POINT OF CONNECTION TO A PUBLIC SEWER IS A PRIVATE DRAIN AND SHOULD BE CONSTRUCTED IN ACCORDANCE WITH THE BUILDING REGULATIONS.
- ACCESS POINTS SHOULD BE LOCATED SO THAT THEY ARE ACCESSIBLE AND APPARENT TO THE MAINTAINER AT ALL TIMES FOR USE. THEY SHOULD AVOID REAR GARDENS OR ENCLOSED LOCATIONS AND THEY SHOULD NEVER BE OVERLAIN WITH SURFACE DRESSING, TOPSOIL, ETC.
- COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO APPROVAL FROM IRISH WATER.
- 200mm ALL AROUND, 100mm DEEP CONCRETE PLINTH WITH PROTECTIVE STAINLESS STEEL METAL BAND AROUND COVERS IN GREEN AREAS.
- PROPERTY PREFABRICATED CHAMBER UNITS MAY ALSO BE USED SUBJECT TO APPROVAL FROM IRISH WATER.
- CONCRETE CHAMBER SHALL BE SURROUNDED BY A MINIMUM OF 150mm COMPACTED CLAUSE 804 OR CLAUSE 808 MATERIAL AS PER STD-WW-07.

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Rev. No.	Date	REVISION NOTE

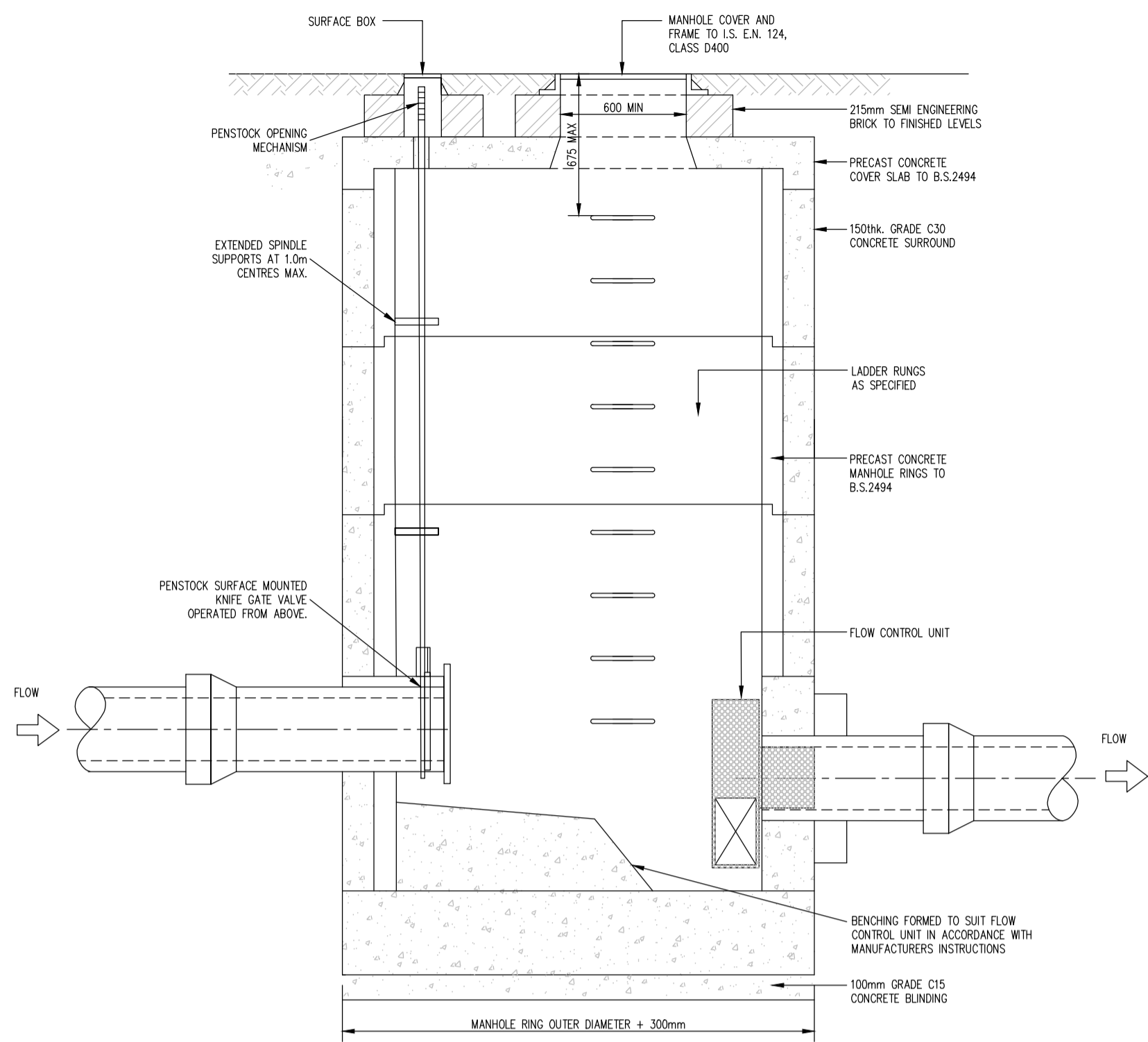
Dim. By	Chkd. By	Architect	Project
AB	GL	REDDY ARCHITECTURE & URBANISM	51 UNIT HOUSING SCHEME AT CARROWBUNNAUN TD.

Dwg. No.	Date	Dim by	Chkd by	Aprvd by	Scale	Revision
R116-CSC-ZZ-XX-DR-C-0013	June 2023	AB	GL	NB	AS SHOWN	

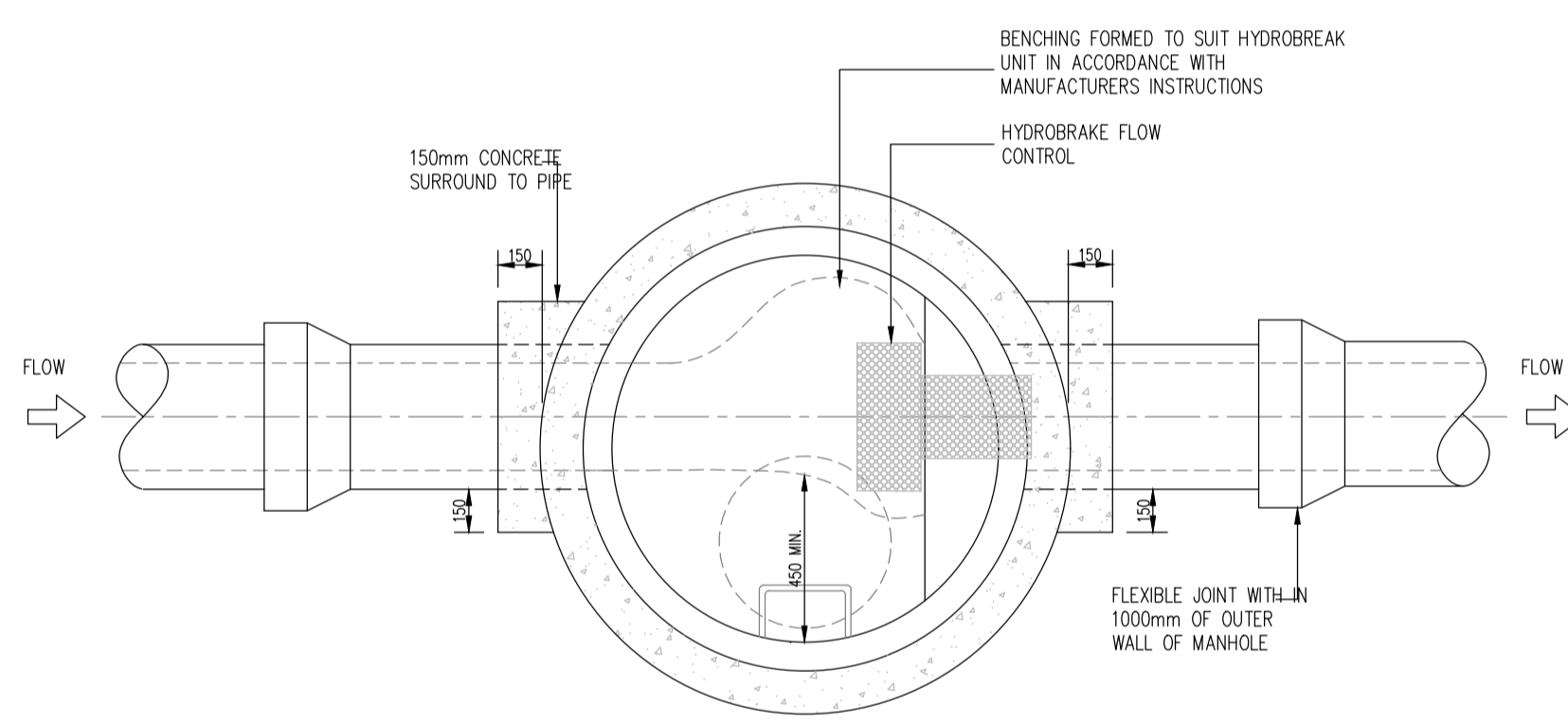
CS Consulting Group
DUBLIN | LONDON | LIMERICK

Head Office
19-22 Dame Street, Dublin 2.
T: +353 (0)1 5480863
e: info@csconsulting.ie
w: www.csconsulting.ie

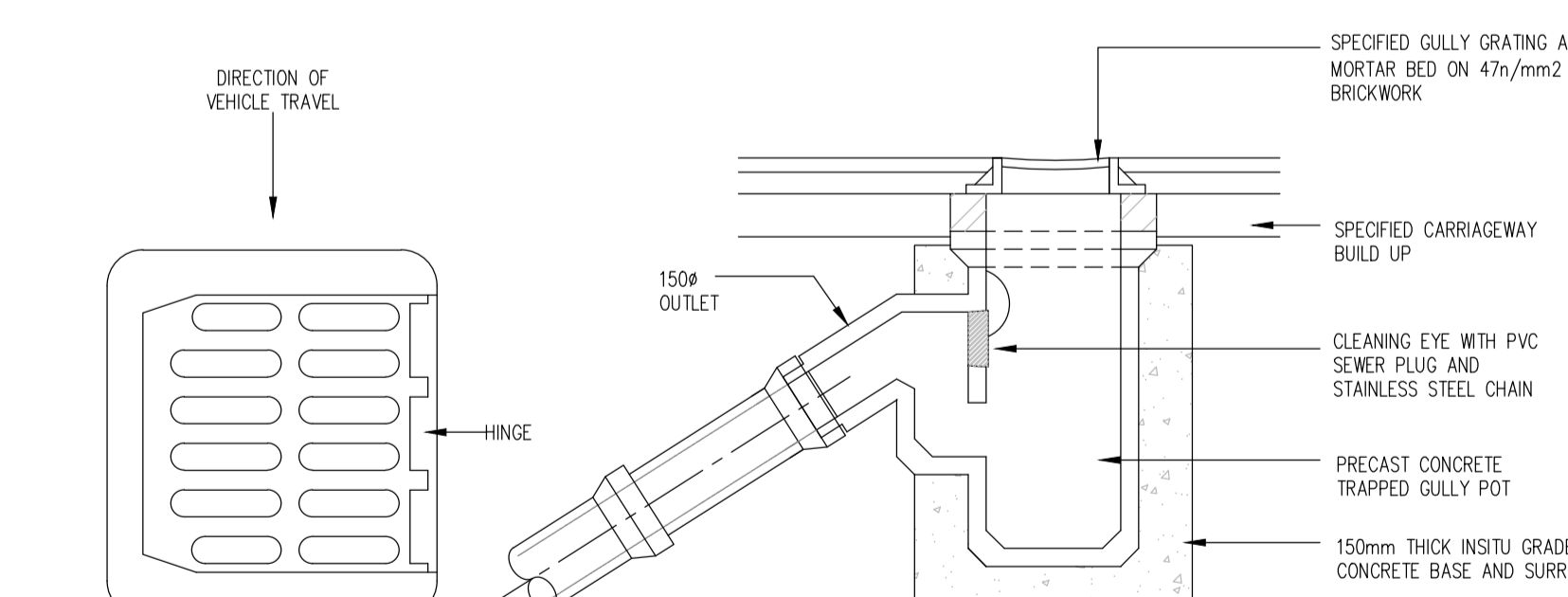
Quality Environment I.S. EN ISO 9001:2008
Energy I.S. EN ISO 14001:2004
Health & Safety OHSAS 18001:2007



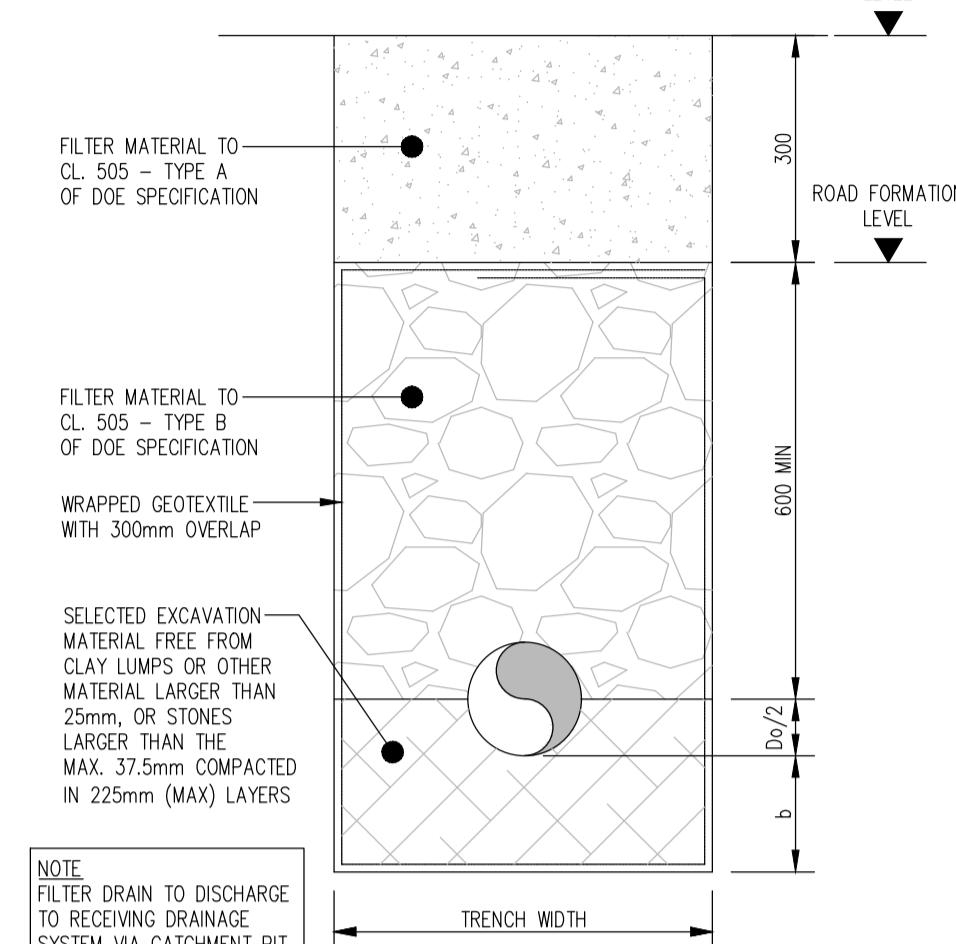
HYDROBRAKE CHAMBER
MAX. DEPTH G.L. TO I.L. - 3.0m
SCALE 1:25



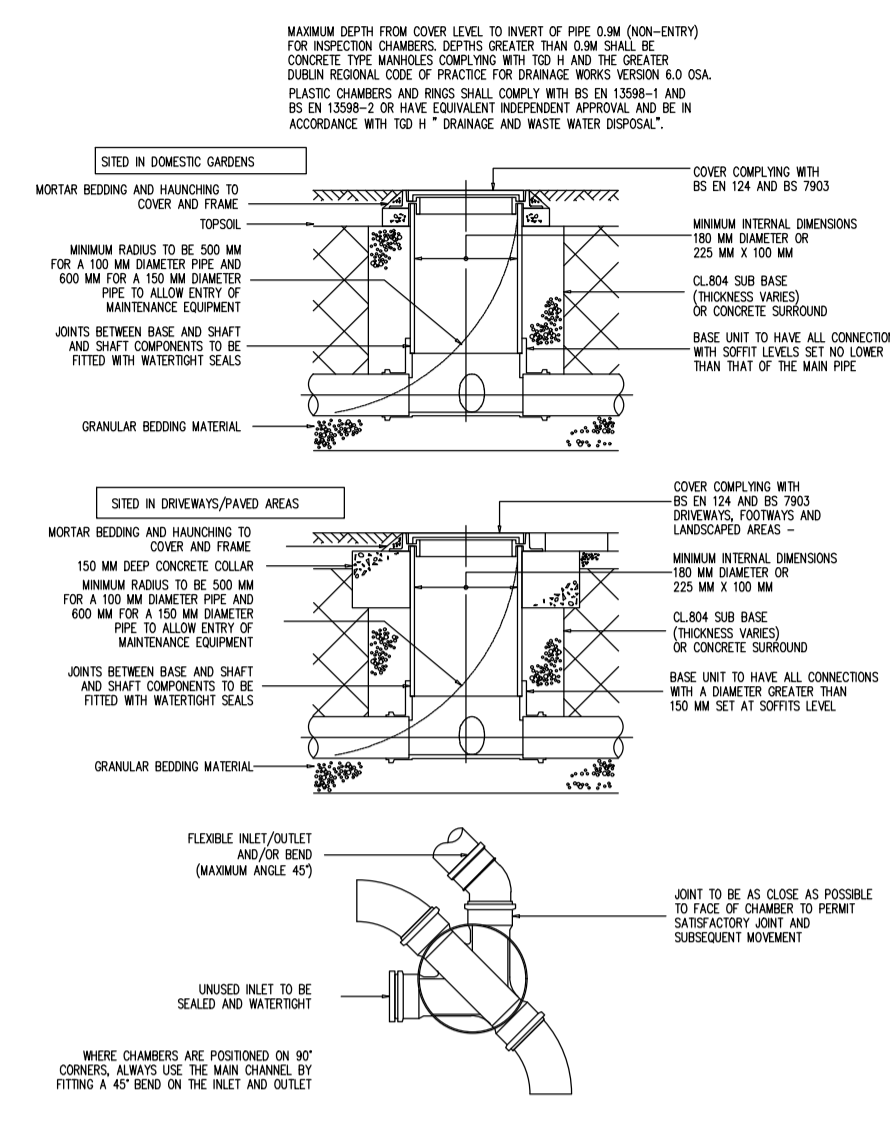
PLAN ON HYDROBRAKE CHAMBER
MAX. DEPTH G.L. TO I.L. - 3.0m
SCALE 1:25



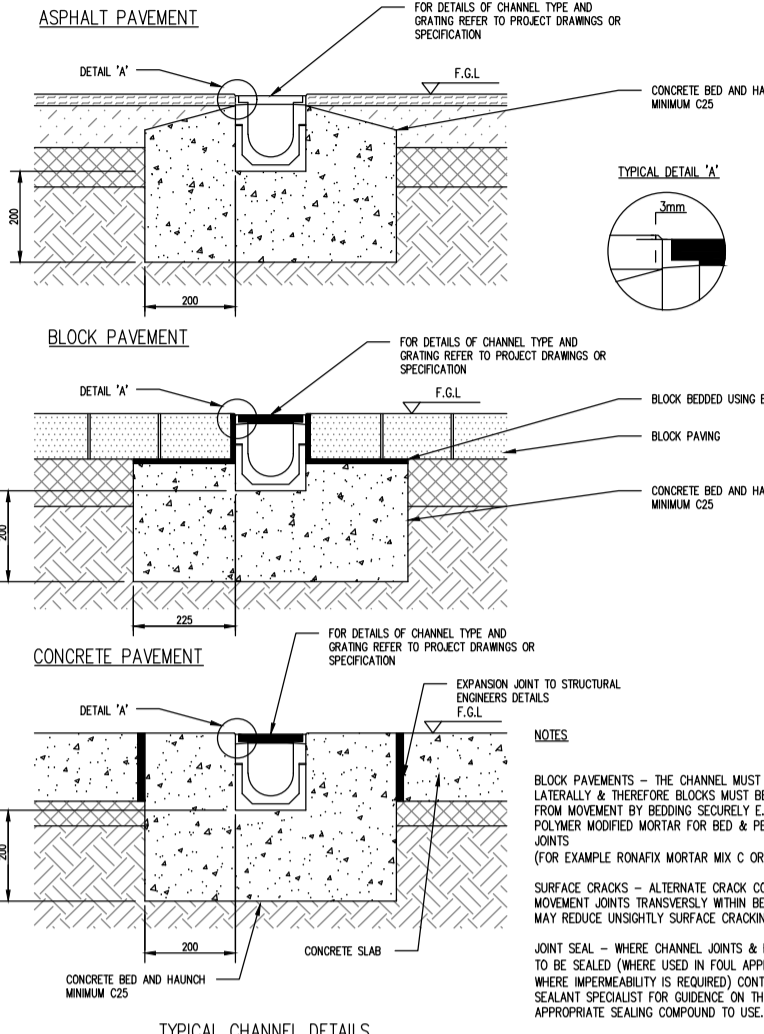
PRECAST CONCRETE TRAPPED GULLY POT
SCALE 1:20



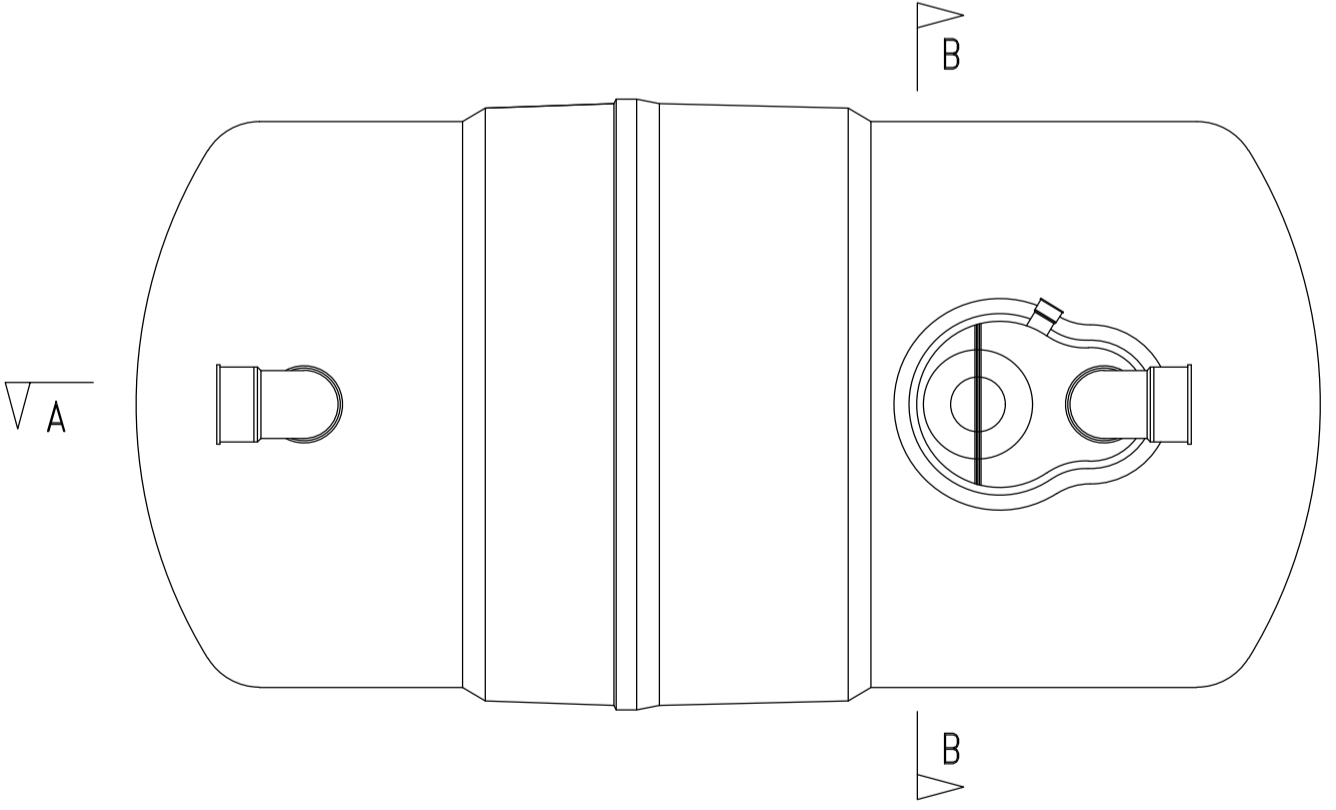
FILTER DRAINS
SCALE: 1/10



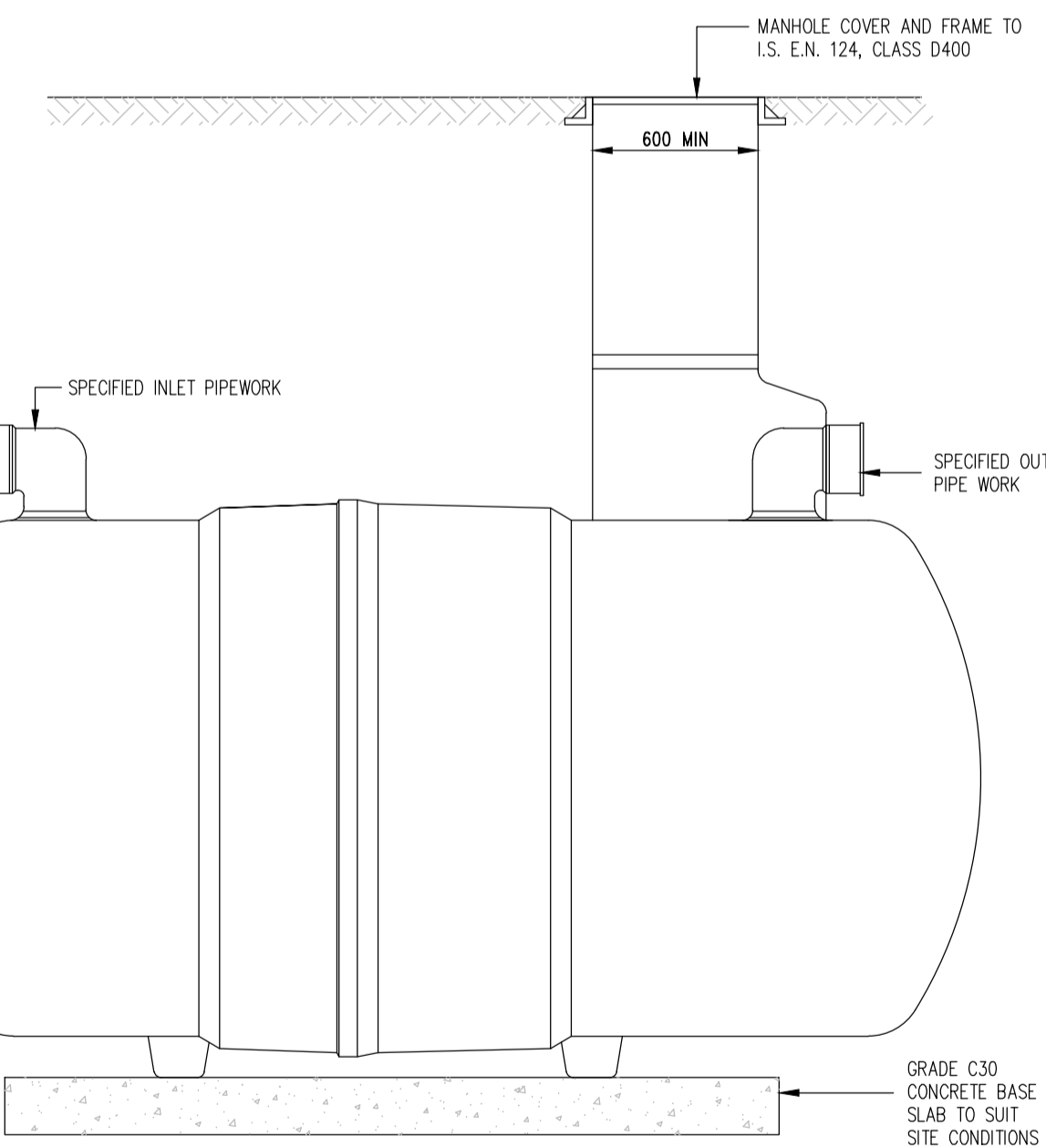
TYPICAL ARMSTRONG JUNCTION CHAMBER DETAIL
- (Finish - maximum depth) NOT TO SCALE



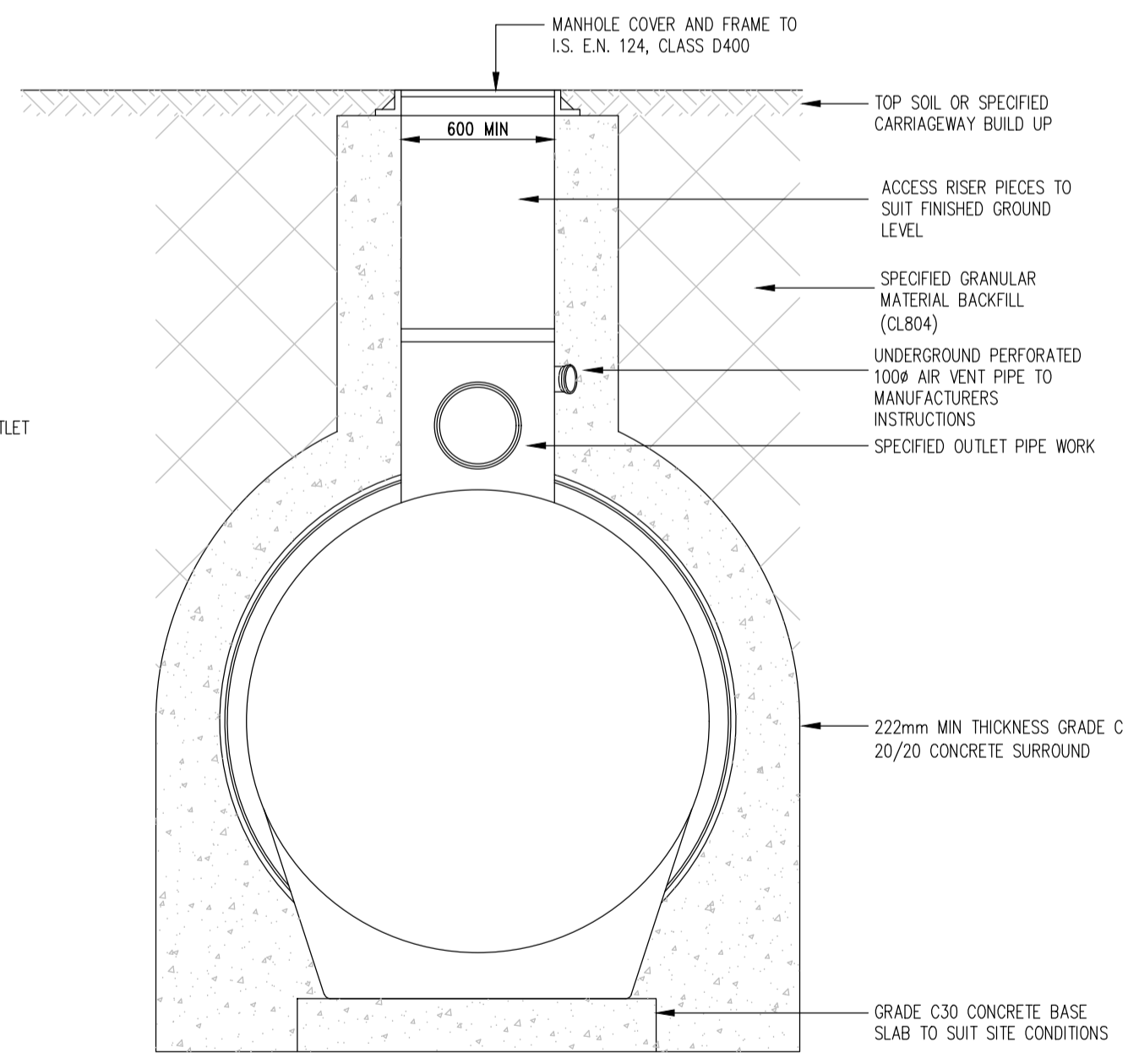
TYPICAL CHANNEL DETAILS
NOT TO SCALE



KLARGESTER CLASS 1 INTERCEPTOR (O.S.A.)
PLAN VIEW
SCALE 1:25



KLARGESTER CLASS 1 INTERCEPTOR (O.S.A.)
SECTION A-A
SCALE 1:25



KLARGESTER CLASS 1 INTERCEPTOR (O.S.A.)
SECTION B-B
SCALE 1:25

- NOTES :**
- DO NOT SCALE FROM THIS DRAWING USE STATED DIMENSIONS ONLY. IF IN DOUBT CONSULT THE ENGINEER.
 - LEVELS REFER TO O.S. DATUM MALIN HEAD.
 - THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE ALL OF THE CONTRACT DOCUMENTS IN PARTICULAR THE ARCHITECT'S, LANDSCAPE ARCHITECT'S AND SERVICE ENGINEER'S SITE LAYOUT DRAWINGS.
 - ALL CIVIL WORKS SHALL BE COMPLETED IN ACCORDANCE WITH SPECIFICATIONS.
 - THE CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING, PROTECTING AND MAINTAINING ALL EXISTING SERVICES WITHIN THE SITE BOUNDARY. THE ENGINEER HAS SHOWN KNOW SERVICES ON THE DRAWINGS BUT GIVES NO GUARANTEE THAT THESE ARE THE ONLY SERVICES WITHIN THE SITE BOUNDARY. THE CONTRACTOR SHALL CONTACT THE RELEVANT STATUTORY AND PRIVATE UTILITY COMPANIES AND CONFIRM THE LOCATION OF THEIR PLANT FOR THEMSELVES.
 - THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF THE NAME AND LOCATION OF ALL TIPS USED FOR THE DISPOSAL OF MATERIAL OFF SITE.
 - THE CONTRACTOR SHALL ENSURE THAT ADEQUATE PROVISIONS ARE IN PLACE TO PREVENT THE SPREAD OF DIRT, MUD AND SITE MATERIAL ON THE PUBLIC ROAD. THE CONTRACTOR SHALL ENSURE THAT THE PUBLIC ROADS AROUND THE SITE ARE CLEANED ON A REGULAR BASIS, OR AS DIRECTED BY THE ENGINEER, WITH A MECHANICAL SUCTION SWEEPER.
 - THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THAT NOISE AND DUST ARE MINIMISED.
 - BUILDING CONCRETE SHALL BE GRADE 15/20. BUILDING SHALL BE A MINIMUM OF 100MM THICK. ALL STRUCTURAL CONCRETE SHALL BE GRADE 30/20 UNLESS SPECIFIED OTHERWISE ELSEWHERE.
 - ALL EXPOSED CONCRETE FINISHES SHOULD BE FAIR FACED FINISHES UNLESS SPECIFIED OTHERWISE ELSEWHERE.
 - HANDRAILS SHALL BE SPECIFIED 316 STAINLESS STEEL SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO MANUFACTURE.

Section 179A Planning
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Rev. No.	Date	REVISION NOTE	Drn. By	Chkd. By

Architect	REDDY ARCHITECTURE & URBANISM
Project	51 UNIT HOUSING SCHEME AT CARROWBUNNAUM TD.
Title	Drainage Details Sheet 3 of 3
Dwg. No.	R116-CSC-ZZ-XX-DR-C-0014
Date	June 2023
Drn. by	AB
Chkd. by	GL
Apprd by	AS SHOWN
Scale	
Revision	

CS Consulting Group
DUBLIN | LONDON | LIMERICK

Head Office
19-22 Dame Street, Dublin 2.
T: +353 (0)1 5480863
e: info@csconsulting.ie
w: www.csconsulting.ie

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Health & Safety
OHSAS 18001:2007

PLINTH DETAIL IN GRASS AREA

SECTION

SECTION

ROOF PLAN

ROOF PLAN

FLOOR PLAN

FLOOR PLAN

FIRE HYDRANT CHAMBER (BLOCKWORK CONSTRUCTION)

FIRE HYDRANT CHAMBER (PRECAST CONCRETE CONSTRUCTION)

REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

Uisce Éireann / Irish Water		STANDARD DETAILS - WATER		SCALE	DATE
NO.	DESCRIPTION	NO.	DESCRIPTION	NOT TO SCALE	SEPT. 2015
1	Revised	1	Revised		
2	Revised	2	Revised		
3	Revised	3	Revised		
4	Revised	4	Revised		
5	Revised	5	Revised		
6	Revised	6	Revised		
7	Revised	7	Revised		
8	Revised	8	Revised		
9	Revised	9	Revised		
10	Revised	10	Revised		

TITLE: OFF - LINE HYDRANT FOR POLYETHYLENE (P.E.) PIPE (Sheet 4 of 4)

DRAWING NO: STD-W-19

REV: 4

PLINTH DETAIL IN GRASS AREA

SECTION

SECTION

ROOF PLAN

ROOF PLAN

FLOOR PLAN

FLOOR PLAN

FIRE HYDRANT CHAMBER (BLOCKWORK CONSTRUCTION)

FIRE HYDRANT CHAMBER (PRECAST CONCRETE CONSTRUCTION)

REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

Uisce Éireann / Irish Water		STANDARD DETAILS - WATER		SCALE	DATE
NO.	DESCRIPTION	NO.	DESCRIPTION	NOT TO SCALE	SEPT. 2015
1	Revised	1	Revised		
2	Revised	2	Revised		
3	Revised	3	Revised		
4	Revised	4	Revised		
5	Revised	5	Revised		
6	Revised	6	Revised		
7	Revised	7	Revised		
8	Revised	8	Revised		
9	Revised	9	Revised		
10	Revised	10	Revised		

TITLE: OFF - LINE HYDRANT FOR POLYETHYLENE (P.E.) PIPE (Sheet 3 of 4)

DRAWING NO: STD-W-18

REV: 3

PLINTH DETAIL IN GRASS AREA

SECTION

SECTION

ROOF PLAN

ROOF PLAN

FLOOR PLAN

FLOOR PLAN

ON - LINE AIR VALVE (BLOCKWORK CONSTRUCTION)

ON - LINE AIR VALVE (PRECAST CONCRETE CONSTRUCTION)

REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

Uisce Éireann / Irish Water		STANDARD DETAILS - WATER		SCALE	DATE
NO.	DESCRIPTION	NO.	DESCRIPTION	NOT TO SCALE	SEPT. 2015
1	Revised	1	Revised		
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3	Revised	3	Revised		
4	Revised	4	Revised		
5	Revised	5	Revised		
6	Revised	6	Revised		
7	Revised	7	Revised		
8	Revised	8	Revised		
9	Revised	9	Revised		
10	Revised	10	Revised		

TITLE: ON - LINE AIR VALVE FOR POLYETHYLENE (P.E.) PIPE (Sheet 3 of 4)

DRAWING NO: STD-W-22

REV: 3

PLINTH DETAIL IN GRASS AREA

SECTION

SECTION

ROOF PLAN

ROOF PLAN

FLOOR PLAN

FLOOR PLAN

ON - LINE AIR VALVE (BLOCKWORK CONSTRUCTION)

ON - LINE AIR VALVE (PRECAST CONCRETE CONSTRUCTION)

REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

Uisce Éireann / Irish Water		STANDARD DETAILS - WATER		SCALE	DATE
NO.	DESCRIPTION	NO.	DESCRIPTION	NOT TO SCALE	SEPT. 2015
1	Revised	1	Revised		
2	Revised	2	Revised		
3	Revised	3	Revised		
4	Revised	4	Revised		
5	Revised	5	Revised		
6	Revised	6	Revised		
7	Revised	7	Revised		
8	Revised	8	Revised		
9	Revised	9	Revised		
10	Revised	10	Revised		

TITLE: ON - LINE AIR VALVE FOR POLYETHYLENE (P.E.) PIPE (Sheet 4 of 4)

DRAWING NO: STD-W-22

REV: 3

PLINTH DETAIL IN GRASS AREA

SECTION

SECTION

ROOF PLAN

ROOF PLAN

FLOOR PLAN

FLOOR PLAN

SLUICE VALVE CHAMBER (BLOCKWORK CONSTRUCTION)

SLUICE VALVE CHAMBER (PRECAST CONCRETE CONSTRUCTION)

REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

Uisce Éireann / Irish Water		STANDARD DETAILS - WATER		SCALE	DATE
NO.	DESCRIPTION	NO.	DESCRIPTION	NOT TO SCALE	SEPT. 2015
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5	Revised	5	Revised		
6	Revised	6	Revised		
7	Revised	7	Revised		
8	Revised	8	Revised		
9	Revised	9	Revised		
10	Revised	10	Revised		

TITLE: SLUICE VALVE FOR POLYETHYLENE (P.E.) PIPE (< 350mm DIA.) (Sheet 2 of 2)

DRAWING NO: STD-W-15

REV: 3

SECTION

SECTION

PLAN (DUCTILE IRON WATER MAIN)

PLAN (POLYETHYLENE WATER MAIN)

ROOF PLAN

ROOF PLAN

SCOUR CHAMBER TO STORM SEWER ARRANGEMENTS

REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

Uisce Éireann / Irish Water		STANDARD DETAILS - WATER		SCALE	DATE
NO.	DESCRIPTION	NO.	DESCRIPTION	NOT TO SCALE	SEPT. 2015
1	Revised	1	Revised		
2	Revised	2	Revised		
3	Revised	3	Revised		
4	Revised	4	Revised		
5	Revised	5	Revised		
6	Revised	6	Revised		
7	Revised	7	Revised		
8	Revised	8	Revised		
9	Revised	9	Revised		
10	Revised	10	Revised		

TITLE: SCOUR CHAMBER TO STORM SEWER ARRANGEMENTS

DRAWING NO: STD-W-30B

REV: 0

SECTION

SECTION

CROSS SECTION IN ROADWAYS

CROSS SECTION IN GRASSED AREAS

PE TO DI DETAIL

ROOF PLAN

ROOF PLAN

TRENCH BACKFILL / BEDDING & REDUCED COVER PROTECTION SLAB DETAIL

REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

Uisce Éireann / Irish Water		STANDARD DETAILS - WATER		SCALE	DATE
NO.	DESCRIPTION	NO.	DESCRIPTION	NOT TO SCALE	SEPT. 2015
1	Revised	1	Revised		
2	Revised	2	Revised		
3	Revised	3	Revised		
4	Revised	4	Revised		
5	Revised	5	Revised		
6	Revised	6	Revised		
7	Revised	7	Revised		
8	Revised	8	Revised		
9	Revised	9	Revised		
10	Revised	10	Revised		

TITLE: TRENCH BACKFILL / BEDDING & REDUCED COVER PROTECTION SLAB DETAIL

DRAWING NO: STD-W-13

REV: 2

SECTION

SECTION

ROOF PLAN

ROOF PLAN

FLOOR PLAN

FLOOR PLAN

ELECTROMAGNETIC METER CHAMBER (80 - 250mm DIA.)

REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

Uisce Éireann / Irish Water		STANDARD DETAILS - WATER		SCALE	DATE
NO.	DESCRIPTION	NO.	DESCRIPTION	NOT TO SCALE	SEPT. 2015
1	Revised	1	Revised		
2	Revised	2	Revised		
3	Revised	3	Revised		
4	Revised	4	Revised		
5	Revised	5	Revised		
6	Revised	6	Revised		
7	Revised	7	Revised		
8	Revised	8	Revised		
9	Revised	9	Revised		
10	Revised	10	Revised		

TITLE: ELECTROMAGNETIC METER CHAMBER (80 - 250mm DIA.)

DRAWING NO: STD-W-26

REV: 4

NOTES

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Rev. No.	Date	REVISION NOTE

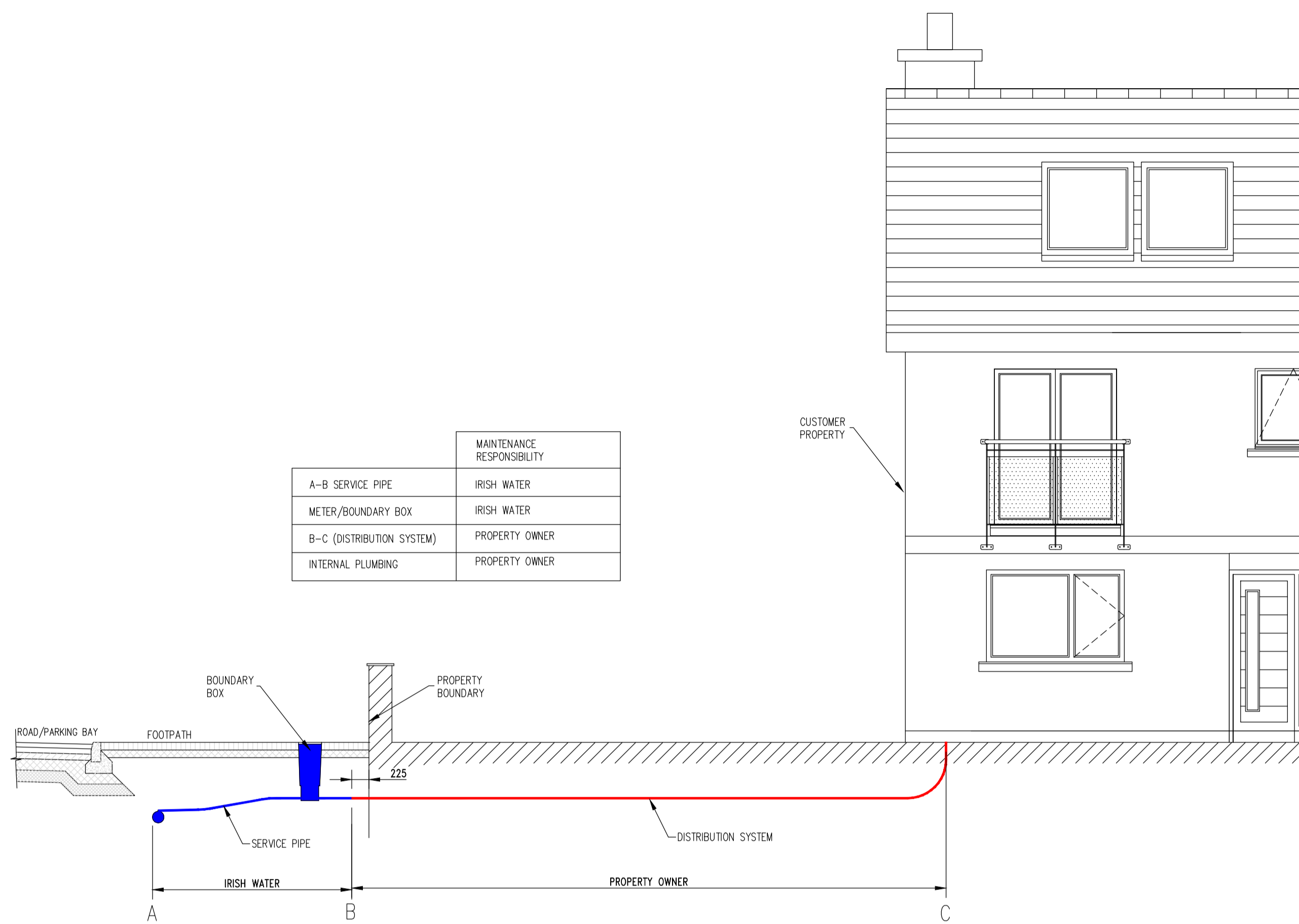
Architect: **REDDY ARCHITECTURE & URBANISM**
 51 UNIT HOUSING SCHEME AT CARROWBUNNAUN TD.
 Watermain Details
 Sheet 1 of 2

CS Consulting Group
 DUBLIN | LONDON | LIMERICK
 Head Office: 19-22 Dame Street, Dublin 2.
 T: +353 (0)1 5480863
 e: info@csconsulting.ie
 w: www.csconsulting.ie

Dwg. No: **R116-CSC-ZZ-XX-DR-C-0015**
 Date: 10/03/2023
 Dim by: AB
 Chkd by: GL
 Aprvd by: NB
 AS SHOWN

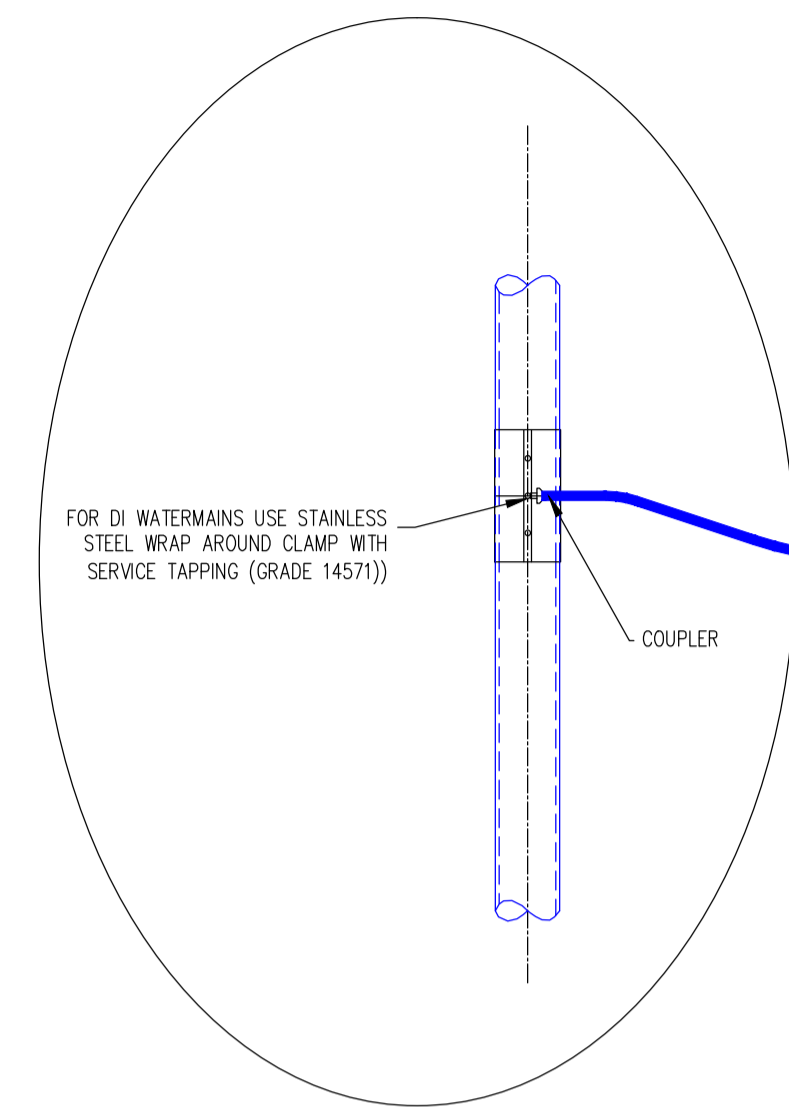
Quality Environment Energy Health & Safety
 I.S. EN ISO 9001:2008
 I.S. EN ISO 14001:2004
 I.S. EN ISO 50001:2011
 OHSAS 18001:2007

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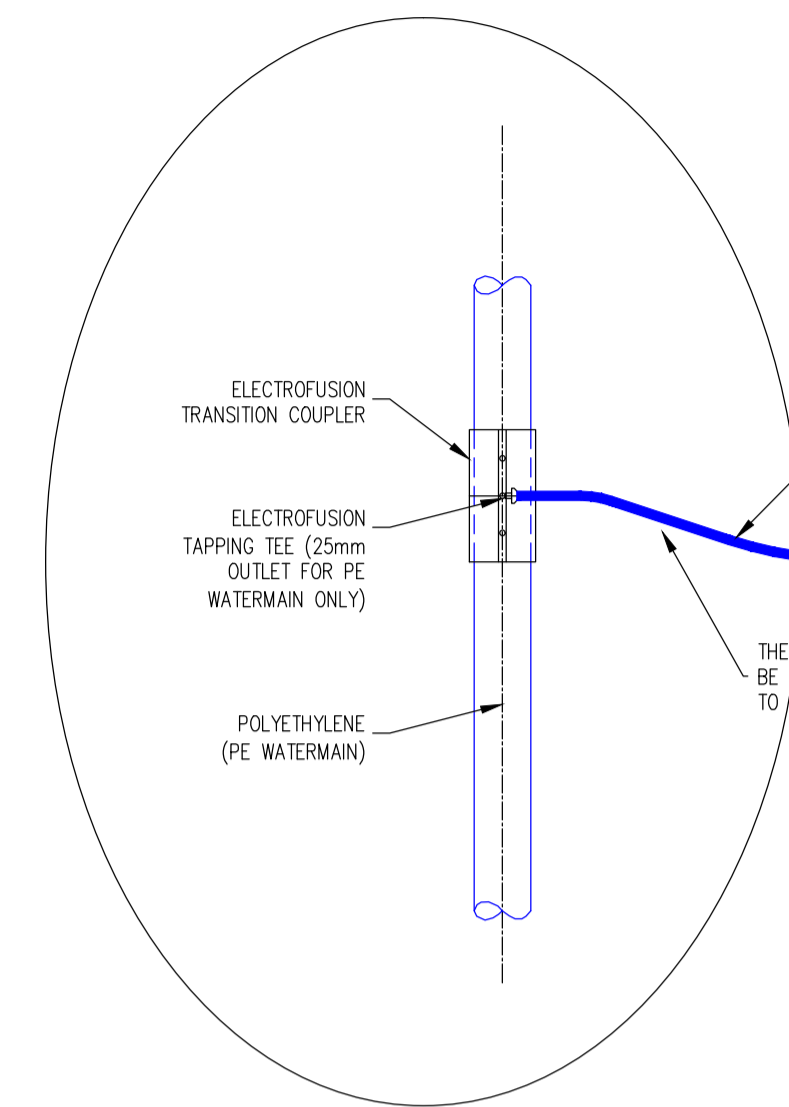


	MAINTENANCE RESPONSIBILITY
A-B SERVICE PIPE	IRISH WATER
METER/BOUNDARY BOX	IRISH WATER
B-C (DISTRIBUTION SYSTEM)	PROPERTY OWNER
INTERNAL PLUMBING	PROPERTY OWNER

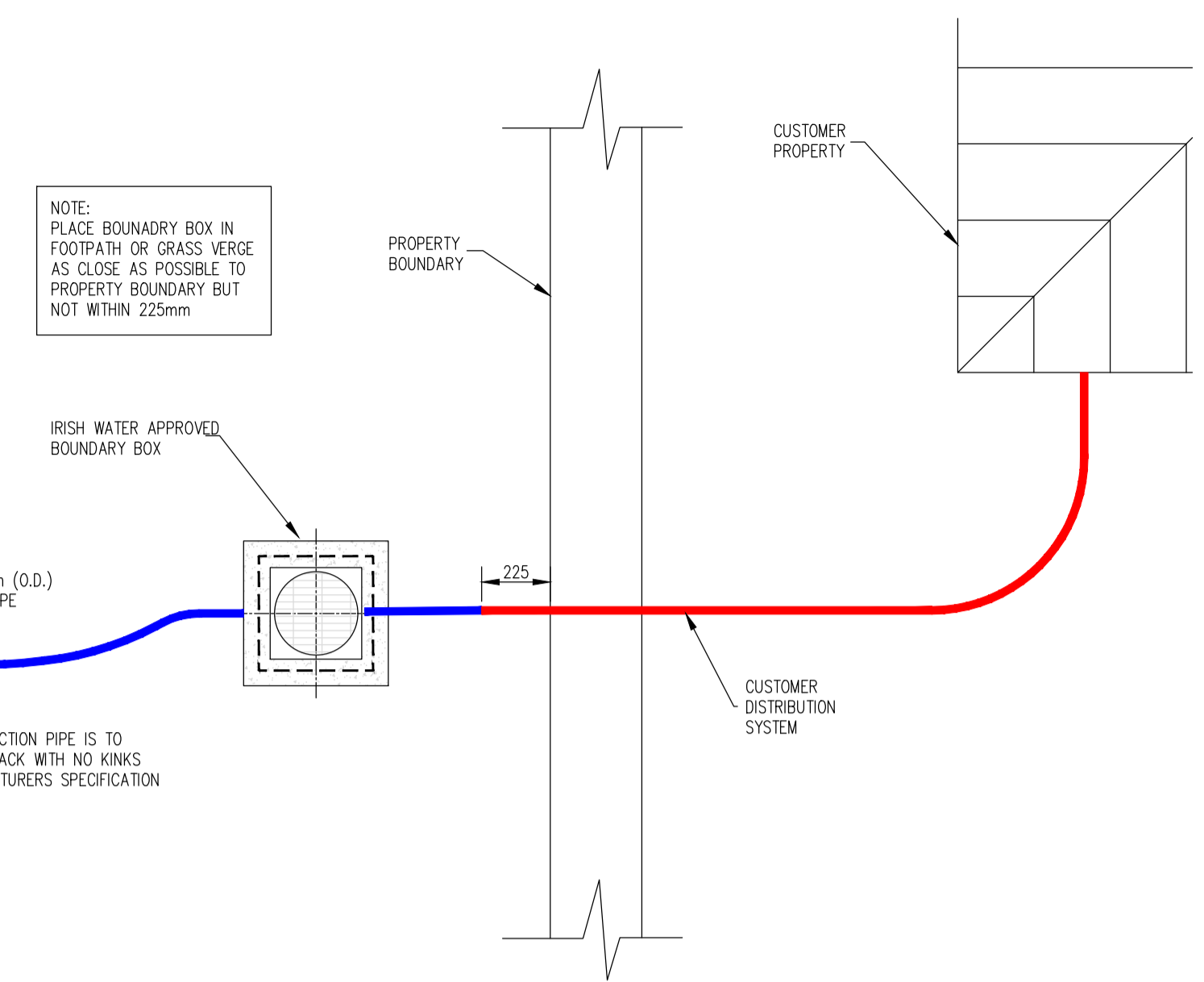
WATER SERVICE CONNECTION RESPONSIBILITY
SCALE 1:50



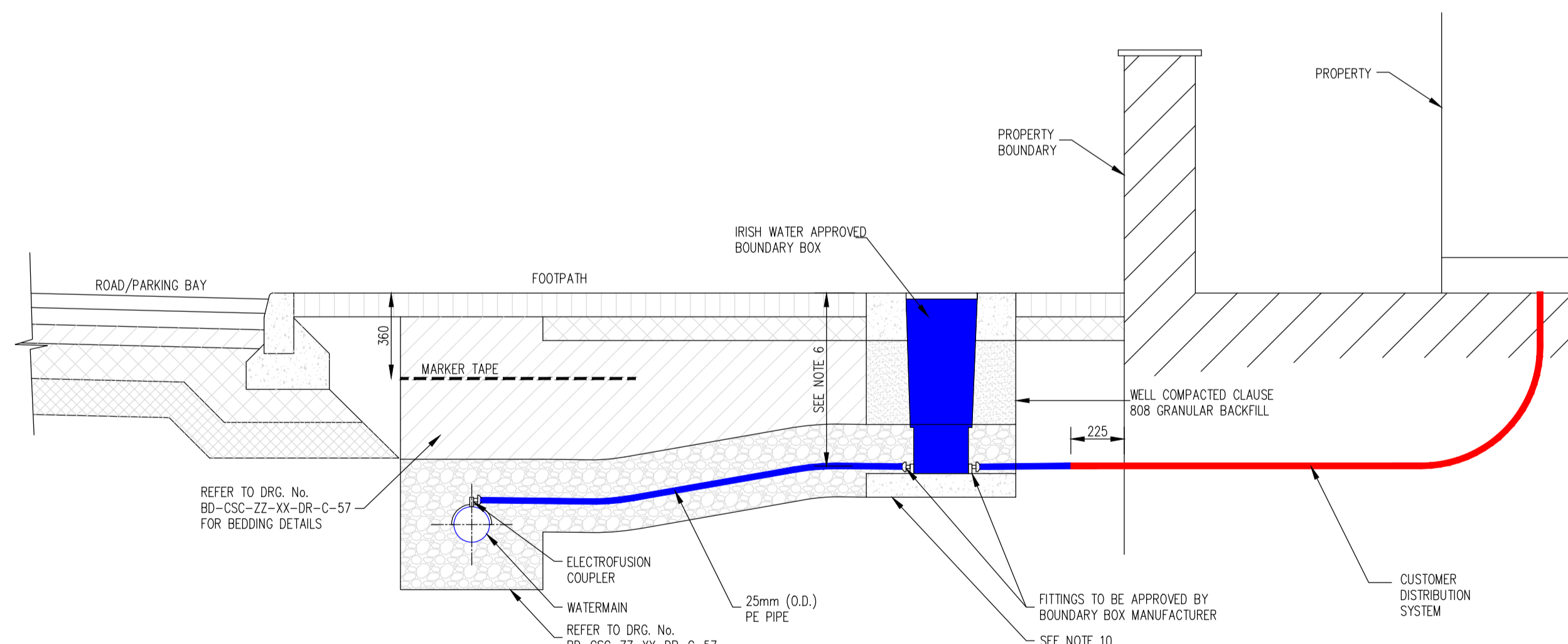
FOR DUCTILE IRON (DI) WATERMAIN ONLY
SCALE 1:20



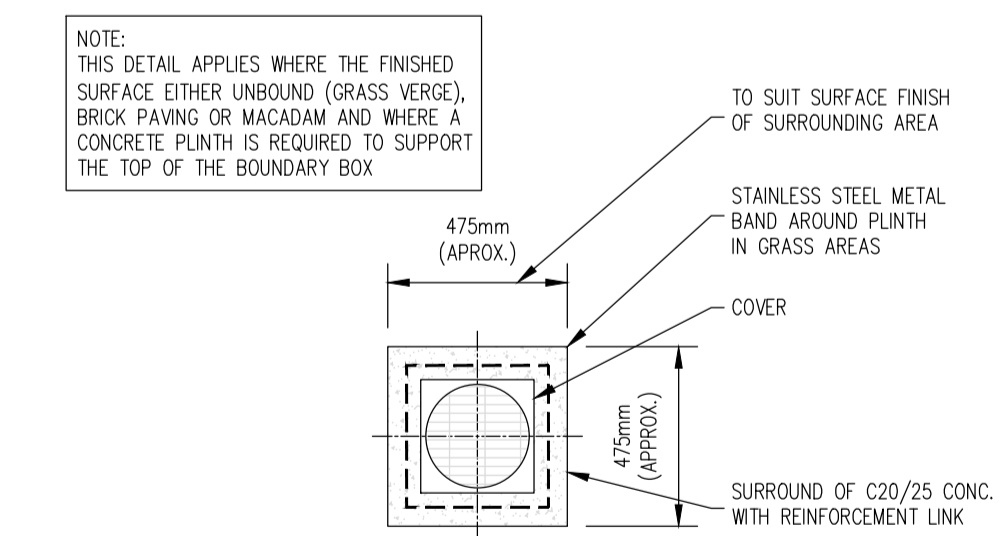
FOR POLYETHYLENE (PE) WATERMAIN ONLY
SCALE 1:20



PLAN (CUSTOMER CONNECTION AND BOUNDARY BOX)
SCALE 1:20



SECTION (CUSTOMER CONNECTION AND BOUNDARY BOX)
SCALE 1:20



PLAN (CONCRETE SURROUND TO BOUNDARY BOX)
SCALE 1:20

GENERAL NOTES:-

- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.
 - FOR CONNECTION TO AN EXISTING MAIN THE CONNECTION SHALL BE AS PER THE PIPE MANUFACTURERS SPECIFICATION.
 - ELECTROFUSION COUPLING TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN206.
- BOUNDARY BOX NOTES:-
- THE BOUNDARY BOX TO BE IN ACCORDANCE WITH THE IRISH WATER SPECIFICATION, INCORPORATING A G1.5 MANIFOLD, STOP-TAP, FROST PLUG AND NON RETURN VALVE.
 - THE BOUNDARY BOX SHALL BE POSITIONED IN PUBLIC SPACE AND AS CLOSE AS POSSIBLE TO THE PROPERTY BOUNDARY BUT NO PART OR FITTING TO BE WITHIN 225mm OF THE PROPERTY LINE.
 - THE BOUNDARY BOX SHALL BE LOCATED WHERE IT IS SAFE TO OPEN THE COVER AND ACCESS THE STOP TAP OR VISUALLY READ THE METER, I.E. ON A FOOTPATH OR VERGE AND NOT IN A CARRIAGEWAY.
 - THE SURFACE BOX COVER ON THE BOUNDARY BOX SHOULD BE NOT LESS THAN GRADE C (BS 5834:2-2011), AND THE BOUNDARY BOX SHOULD BE LOCATED SUCH THAT HEAVIER GRADES OF COVER WOULD NOT BE REQUIRED.

- THE SHAFT OF THE BOUNDARY BOX SHOULD BE INSTALLED VERTICALLY AND THE SURFACE BOX/COVER INCLINED TO MATCH THE SURFACE GRADIENT.
- THE BOUNDARY BOX IS TO BE INSTALLED AT A MINIMUM DEPTH OF 600mm (+/-25mm) TO THE CROWN OF THE INLET AND THE OUTLET FITTINGS ON THE OUTSIDE OF THE BOX.
- THE SERVICE CONNECTION PIPE SHALL NOT BE WRAPPED AROUND THE SHAFT OF THE BOUNDARY BOX OR BENT IN ANY RADIUS LESS THAN THAT APPROVED BY THE MANUFACTURER.
- THE PIPE FITTINGS TO THE BOUNDARY BOX SHALL BE APPROVED BY THE BOUNDARY BOX MANUFACTURER.
- THE BOUNDARY BOX SHALL BE INSTALLED HYGIENICALLY AND LEFT CLEAN AND FREE OF CONSTRUCTION WASTE OR DIRT FOR LATER METER INSTALLATION BY IRISH WATER.
- BOX TO BE FOUNDED ON 100mm DEPTH OF C12/15 CONCRETE AND SURROUNDED WITH CLAUSE 80B GRANULAR MATERIAL.
- THE DESIRABLE MINIMUM DEPTH OF COVER FROM THE FINISHED GROUND LEVEL TO THE EXTERNAL CROWN OF A SERVICE CONNECTION SHALL BE 750mm WITH AN ABSOLUTE MINIMUM DEPTH OF 600mm FOR SHORT DISTANCES (SUBJECT TO IRISH WATER AGREEMENT).

NOTES

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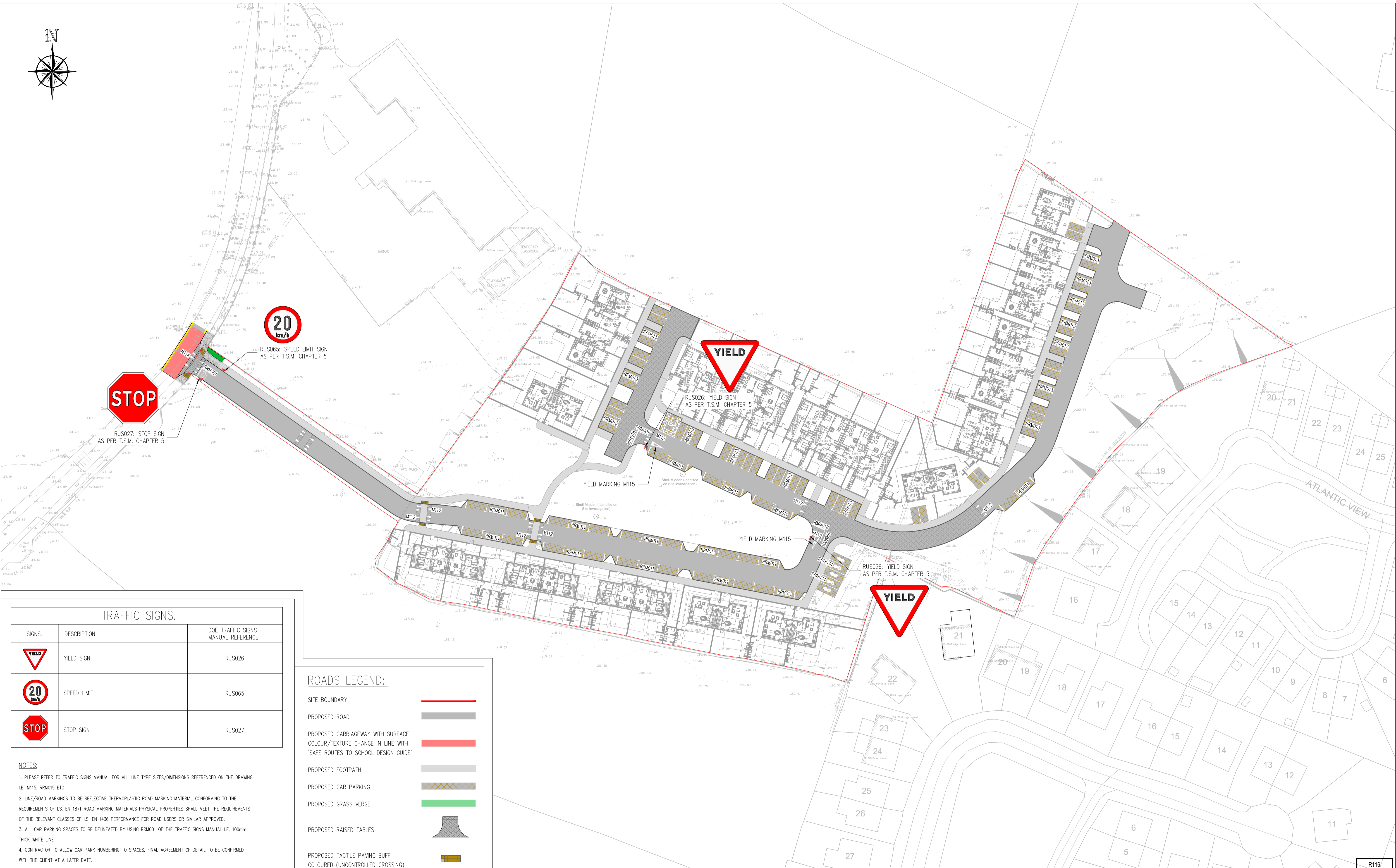
Architect	REDDY ARCHITECTURE & URBANISM
Project	51 UNIT HOUSING SCHEME AT CARROWBUNNAUN TD.
Title	Watermain Details Sheet 2 of 2
Dwg. No.	R116-CSC-ZZ-XX-DR-C-0016
Date	June 2023
Drn. by	AB
Chkd. by	GL
Aprvd. by	NB
Scale	AS SHOWN
Revision	

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DUBLIN | LONDON | LIMERICK

Head Office
19-22 Dame Street, Dublin 2.
T: +353 (0)1 5480863
e: info@csconsulting.ie
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TRAFFIC SIGNS.

SIGNS.	DESCRIPTION	DOE TRAFFIC SIGNS MANUAL REFERENCE.
	YIELD SIGN	RUS026
	SPEED LIMIT	RUS065
	STOP SIGN	RUS027

ROADS LEGEND:

SITE BOUNDARY	
PROPOSED ROAD	
PROPOSED CARRIAGEWAY WITH SURFACE COLOUR/TEXTURE CHANGE IN LINE WITH 'SAFE ROUTES TO SCHOOL DESIGN GUIDE'	
PROPOSED FOOTPATH	
PROPOSED CAR PARKING	
PROPOSED GRASS VERGE	
PROPOSED RAISED TABLES	
PROPOSED TACTILE PAVING BUFF COLOURED (UNCONTROLLED CROSSING)	

NOTES:

- PLEASE REFER TO TRAFFIC SIGNS MANUAL FOR ALL LINE TYPE SIZES/DIMENSIONS REFERENCED ON THE DRAWING I.E. M115, RRM019 ETC
- LINE/ROAD MARKINGS TO BE REFLECTIVE THERMOPLASTIC ROAD MARKING MATERIAL CONFORMING TO THE REQUIREMENTS OF I.S. EN 1871 ROAD MARKING MATERIALS PHYSICAL PROPERTIES SHALL MEET THE REQUIREMENTS OF THE RELEVANT CLASSES OF I.S. EN 1436 PERFORMANCE FOR ROAD USERS OR SIMILAR APPROVED.
- ALL CAR PARKING SPACES TO BE DELINEATED BY USING RRM001 OF THE TRAFFIC SIGNS MANUAL I.E. 100mm THICK WHITE LINE
- CONTRACTOR TO ALLOW CAR PARK NUMBERING TO SPACES, FINAL AGREEMENT OF DETAIL TO BE CONFIRMED WITH THE CLIENT AT A LATER DATE.

NOTES

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Rev. No	Date	REVISION NOTE	Dm. By	Chkd. By
P1	2024.01.15	REVISED SITE LAYOUT	AB	GL

Section 179A Planning

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Architect	REDDY ARCHITECTURE & URBANISM			
Project	51 UNIT HOUSING SCHEME AT CARROWBUNNAUN TD.			
Title	Proposed Road Markings And Signage			
Dwg. No.	R116-CSC-ZZ-XX-DR-C-0017			
Date	Dm by	Chkd by	Apprv by	Scale
June 2023	AB	GL	NB	1:500 @ A1
Revision	P1			

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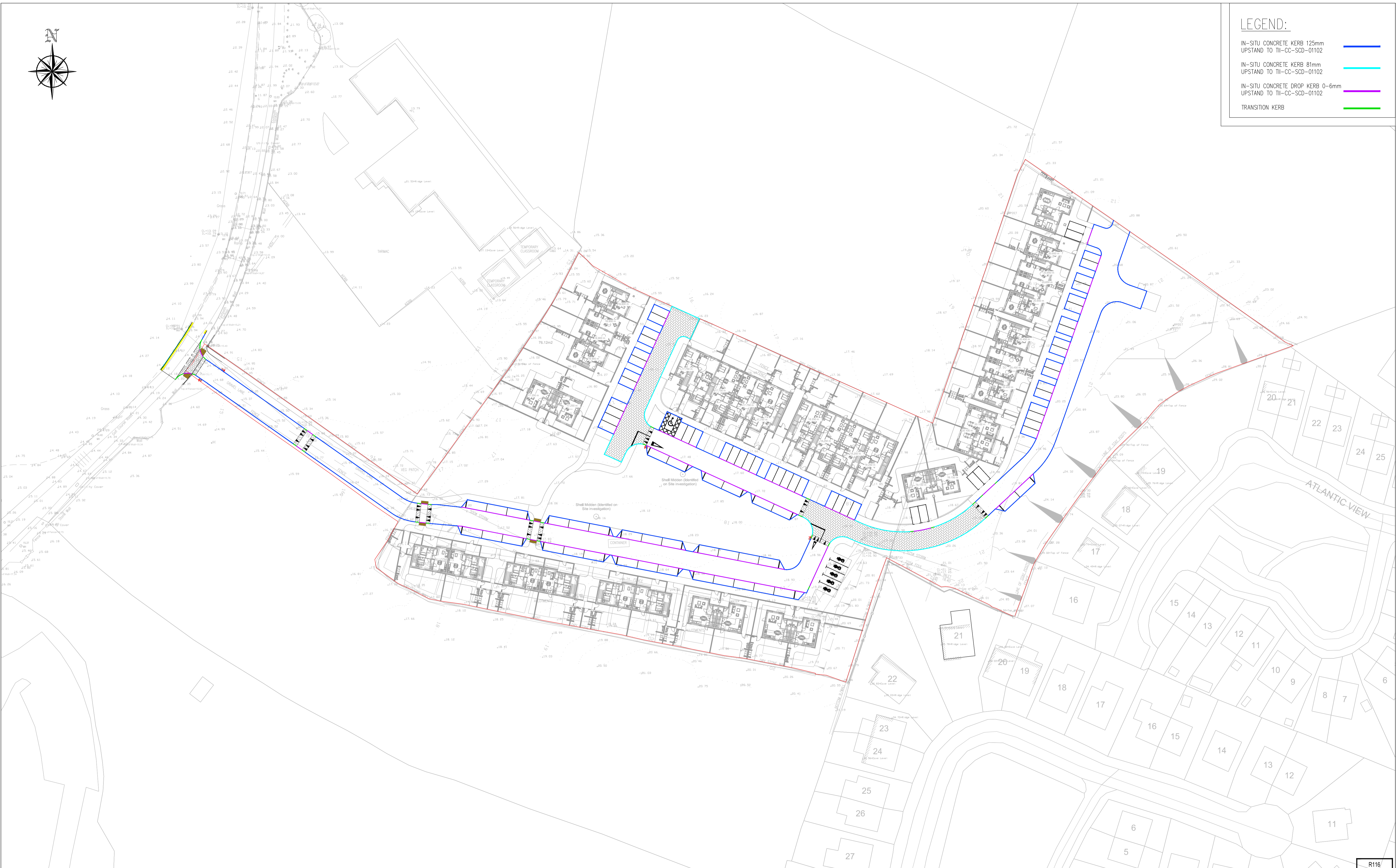
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NSAI Certified I.S. EN ISO 14001:2004
Health & Safety I.S. EN ISO 50001:2011
OHSAS 18001:2007



LEGEND:

- IN-SITU CONCRETE KERB 125mm UPSTAND TO TII-CC-SCD-01102 —
- IN-SITU CONCRETE KERB 81mm UPSTAND TO TII-CC-SCD-01102 —
- IN-SITU CONCRETE DROP KERB 0-6mm UPSTAND TO TII-CC-SCD-01102 —
- TRANSITION KERB —



R116

Section 179A Planning

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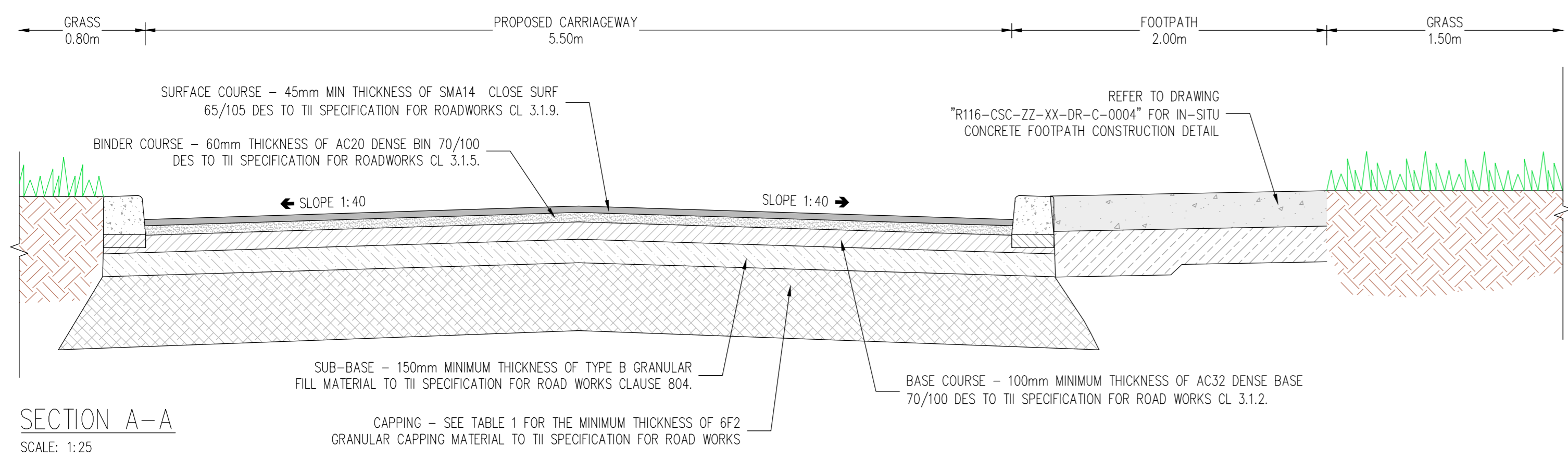
Rev. No.	Date	REVISION NOTE	Drn. By	Chkd. By
P1	2024.01.15	REVISED SITE LAYOUT	AB	GL

Architect	REDDY ARCHITECTURE & URBANISM			
Project	51 UNIT HOUSING SCHEME AT CARROWBUNNAUN TD.			
Title	Proposed Kerbs Layout			
Dwg. No.	R116-CSC-ZZ-XX-DR-C-0018			
Date	Drn by	Chkd by	Aprvd by	Scale
June 2023	AB	GL	NB	1:500 @ A1

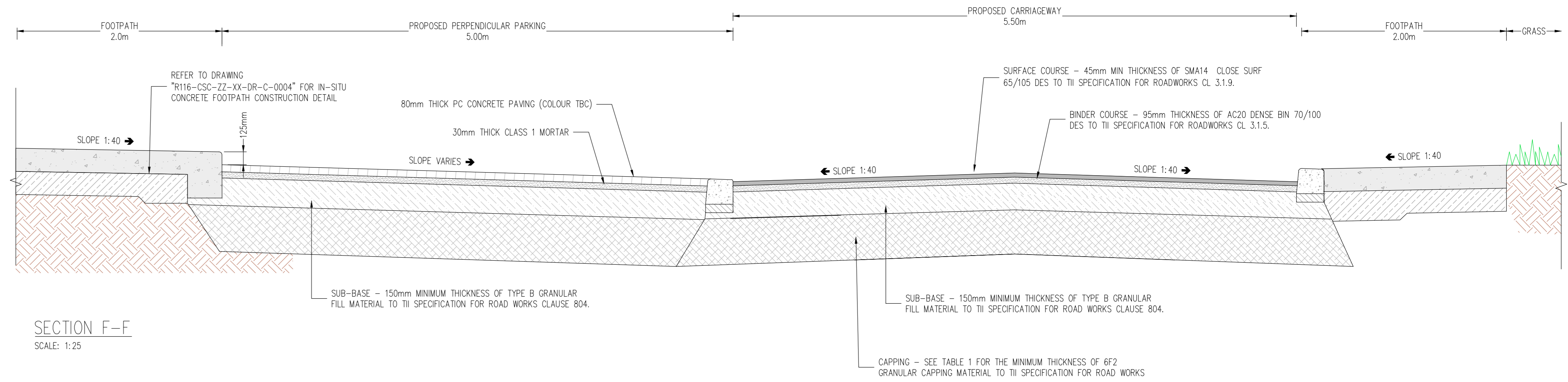
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DUBLIN | LONDON | LIMERICK

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T: +353 (0)1 5480863
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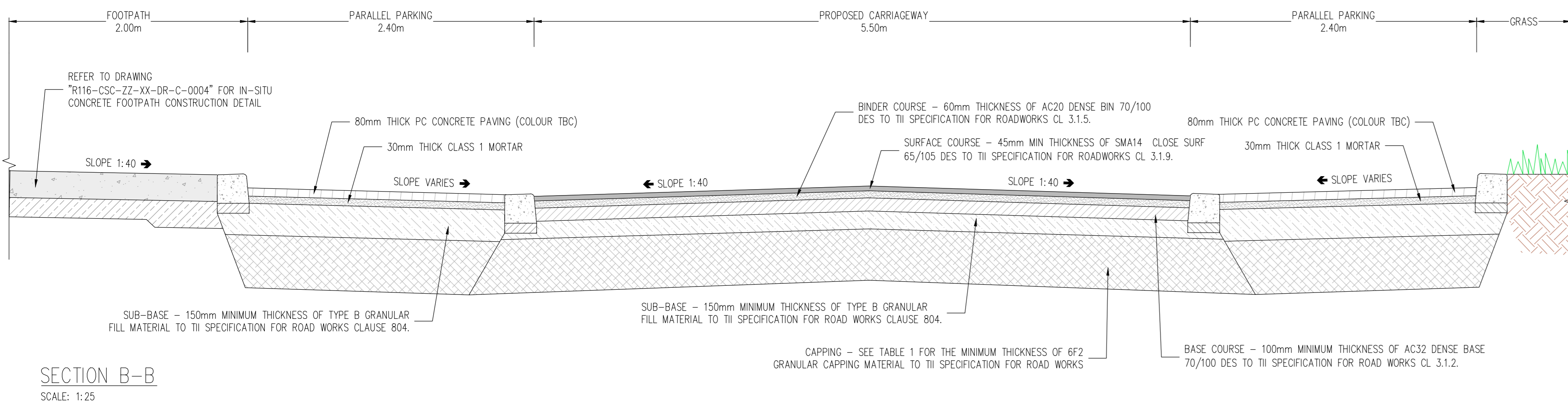
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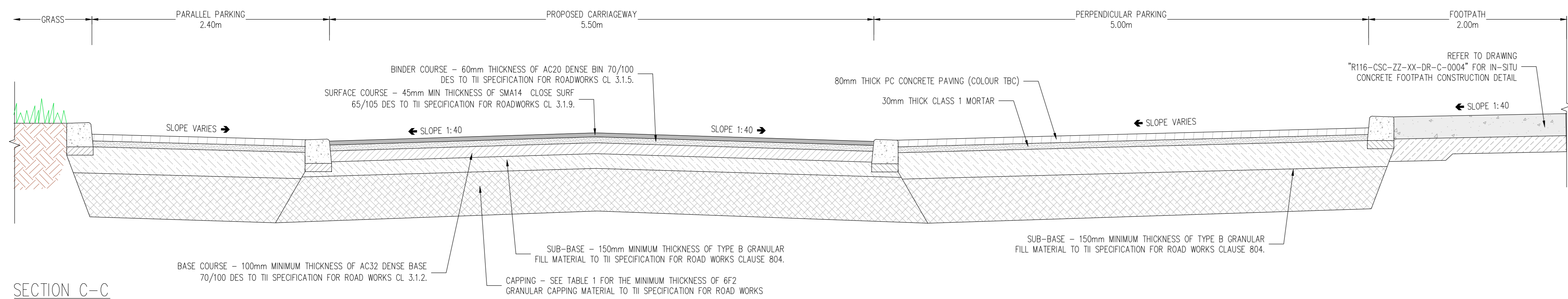
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SCALE: 1:25



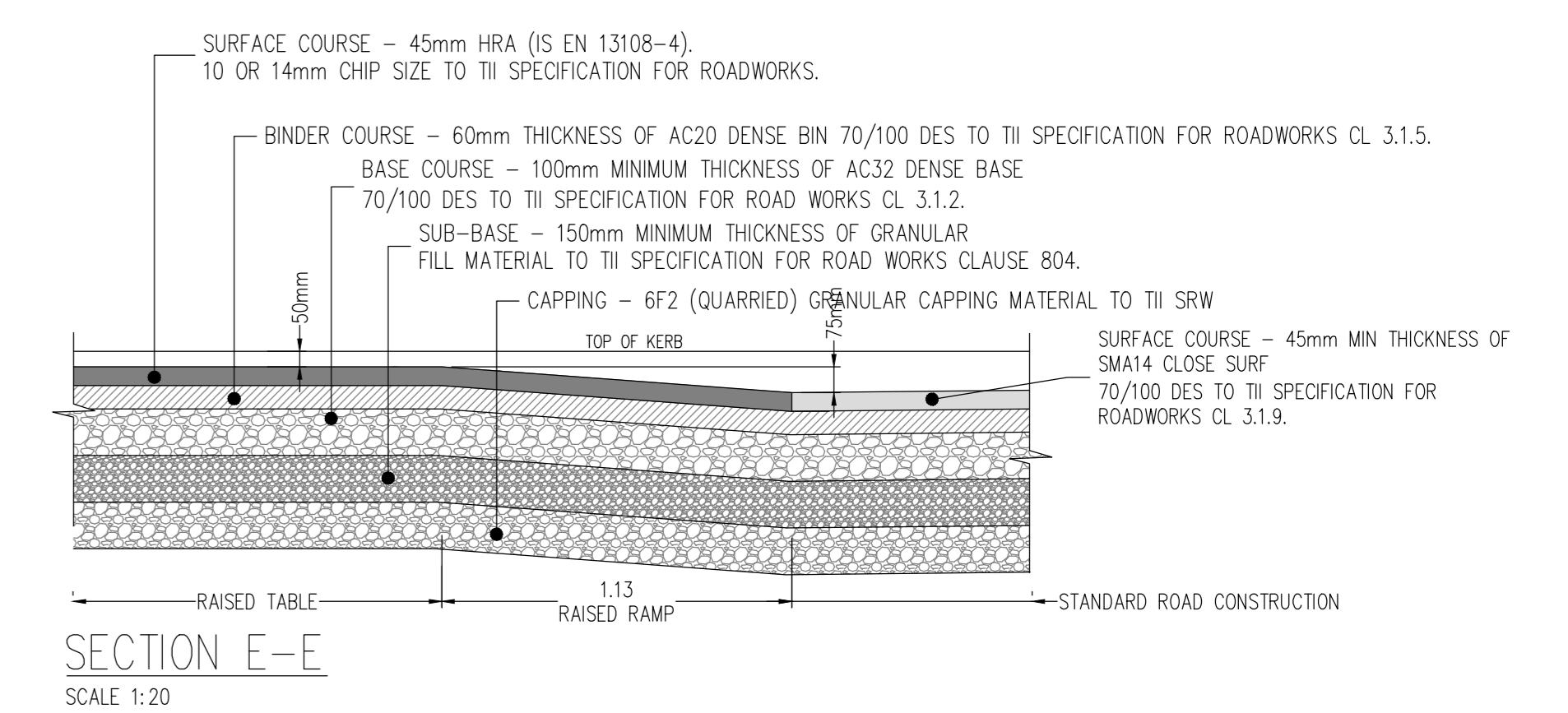
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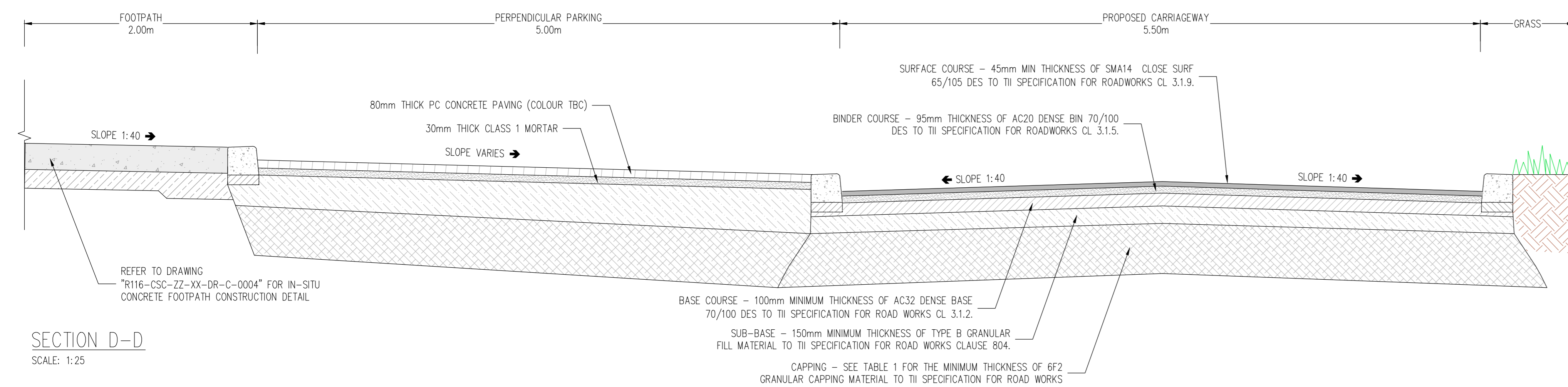
SECTION B-B
SCALE: 1:25



SECTION C-C
SCALE: 1:25



SECTION E-E
SCALE: 1:20



SECTION D-D
SCALE: 1:25

NOTE:
REFER TO DRAWING: R116-CSC-ZZ-XX-DR-C-0001 FOR CROSS SECTIONS LOCATIONS.

Section 179A Planning

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Rev. No.	Date	REVISION NOTE	Des. By	CHK. BY

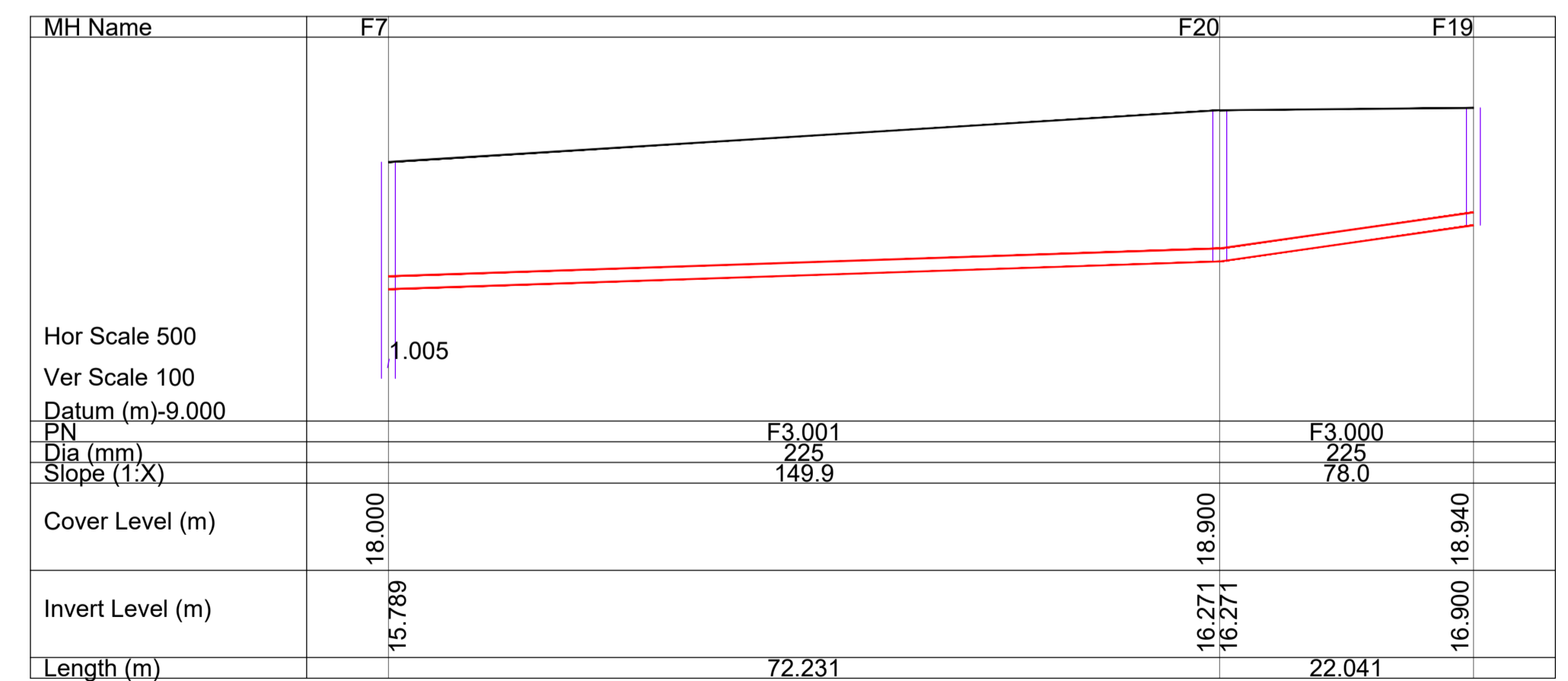
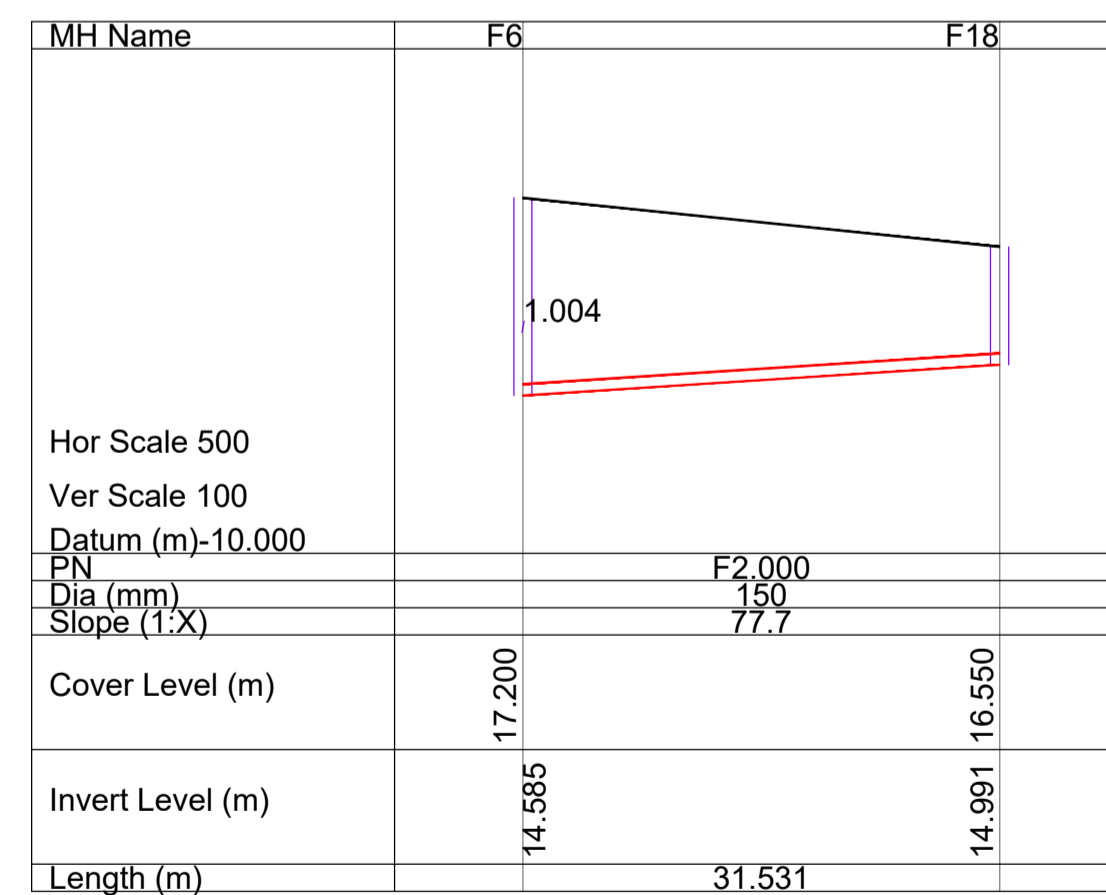
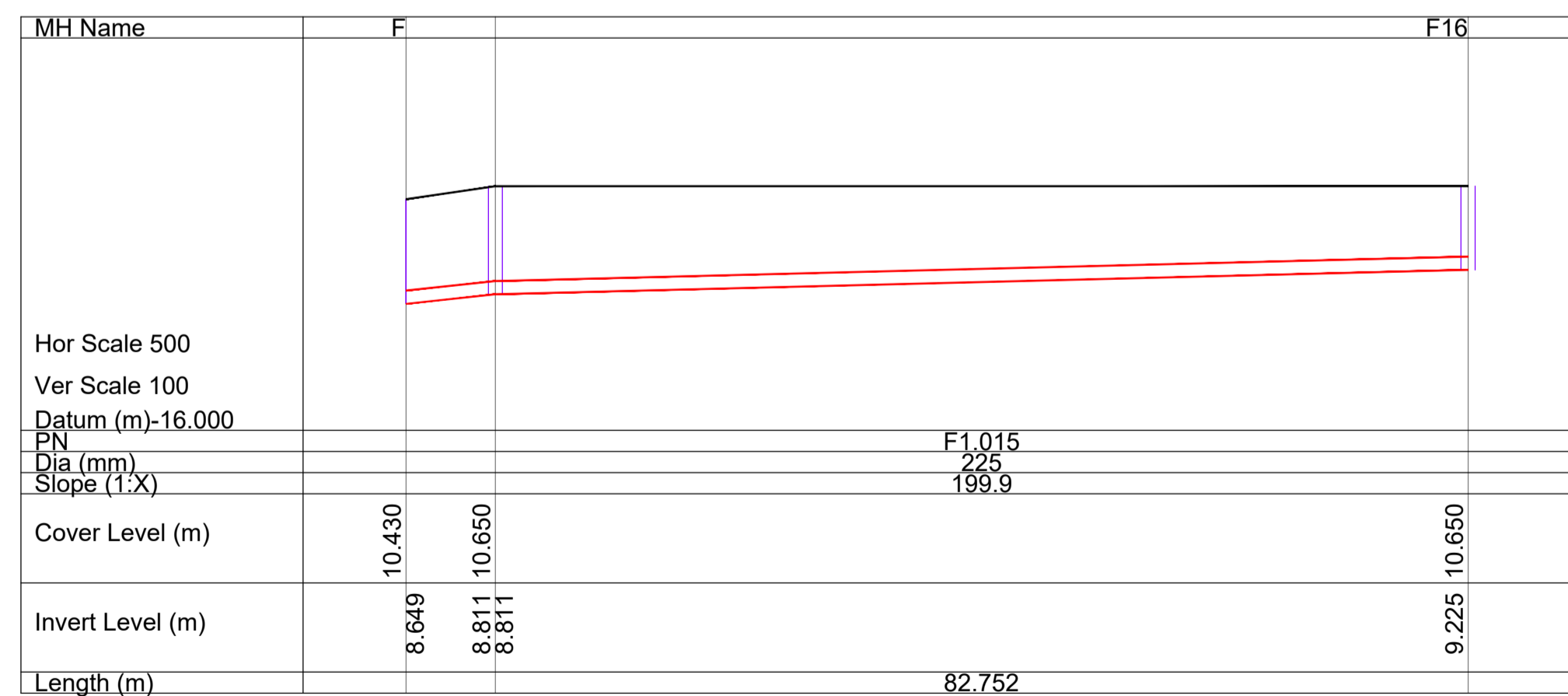
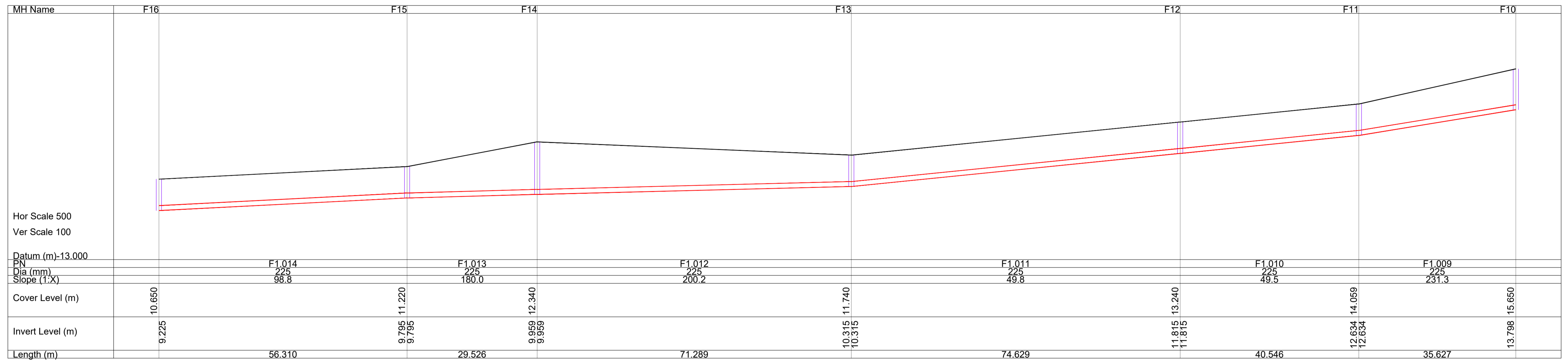
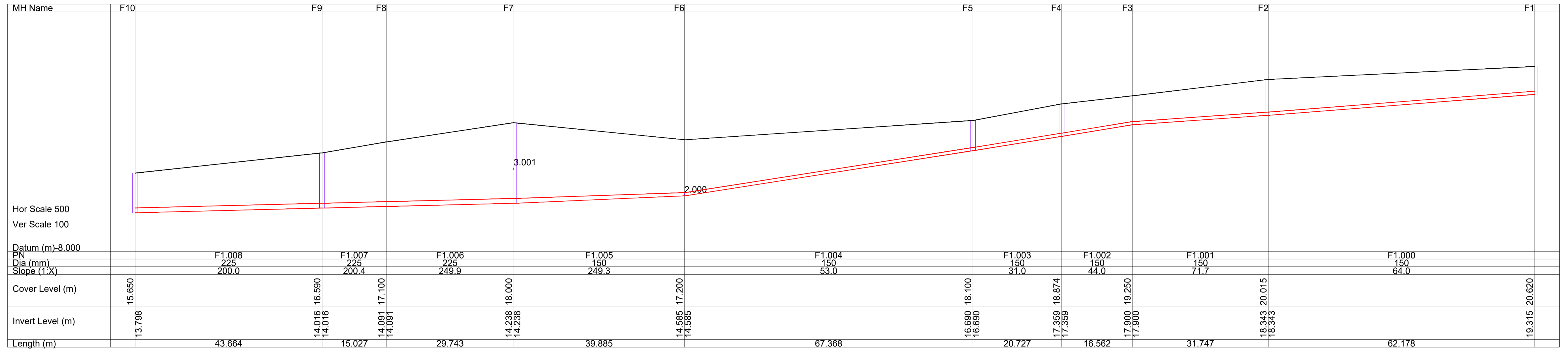
Architect	REDDY ARCHITECTURE & URBANISM
Project	51 UNIT HOUSING SCHEME AT CARROWBUNNAUN TD.
Title	Proposed Cross Sections
Dep. No.	R116-CSC-ZZ-XX-DR-C-0019
Date	June 2023
Drawn by	AB
Checked by	GL
Approved by	NB
Scale	AS SHOWN
Revision	

C/S Consulting Group
DUBLIN | LONDON | LIMERICK

Head Office
19-20 Crane Street, Dublin 2.
T: +353 (0)1 5480863 F: +353 (0)1 9011355
e: info@csconsulting.ie
w: www.csconsulting.ie

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R116



PROPOSED FOUL SEWER LONGITUDINAL SECTIONS

SCALE Horizontal 1 : 500; Vertical 1:100

Section 179A Planning

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Rev. No.	Date	REVISION NOTE
P1	18.07.2023	ISSUED FOR CONNECTION AGREEMENT
P2	17.01.2024	FOUL LONG SECTIONS UPDATED FOLLOWING RECEIPT OF NEW LAYOUT

Rev. No.	Date	REVISION NOTE	Drn. By	Chkd. By
			AD	SS
			AD	GL

Architect	REDDY ARCHITECTURE & URBANISM
Project	51 UNIT HOUSING SCHEME AT CARROWBUNNAUN TD.
Title	Proposed Foul Sewer Long Sections
Dwg. No.	R116-CSC-ZZ-XX-DR-C-0020
Date	June 2023
Drn. by	AD
Chkd. by	GL
Apprd. by	NB
Scale	AS SHOWN @A1
Revision	P2

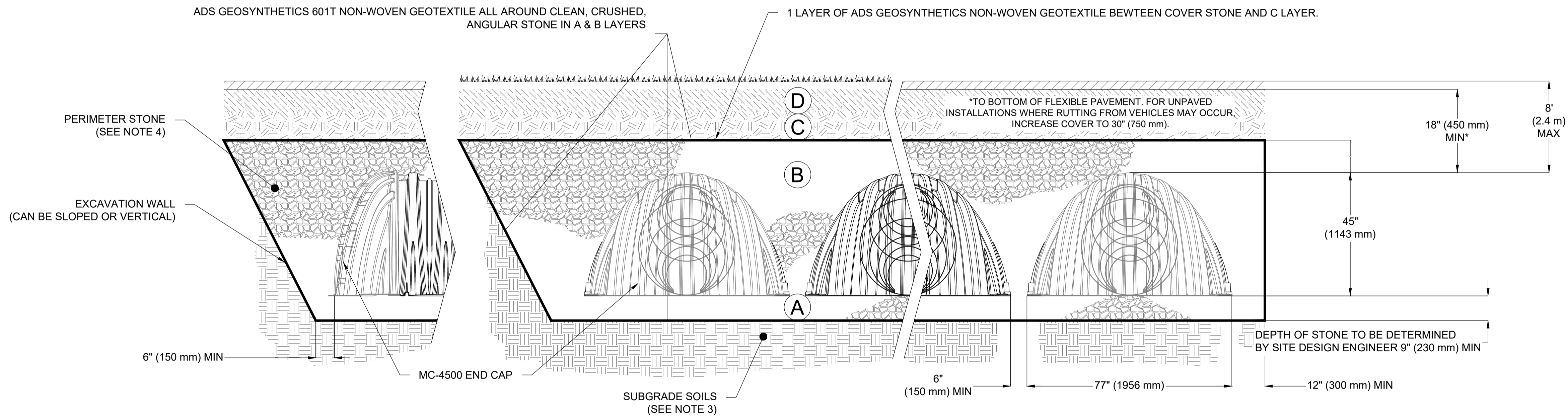
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ACCEPTABLE FILL MATERIALS: STORMTECH MC-4500 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145 ¹ A-1, A-2-4, A-3 OR AASHTO M43 ¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ¹ 3, 4	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ¹ 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

PLEASE NOTE:

- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
- STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
- WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
- ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
- MC-4500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

R116

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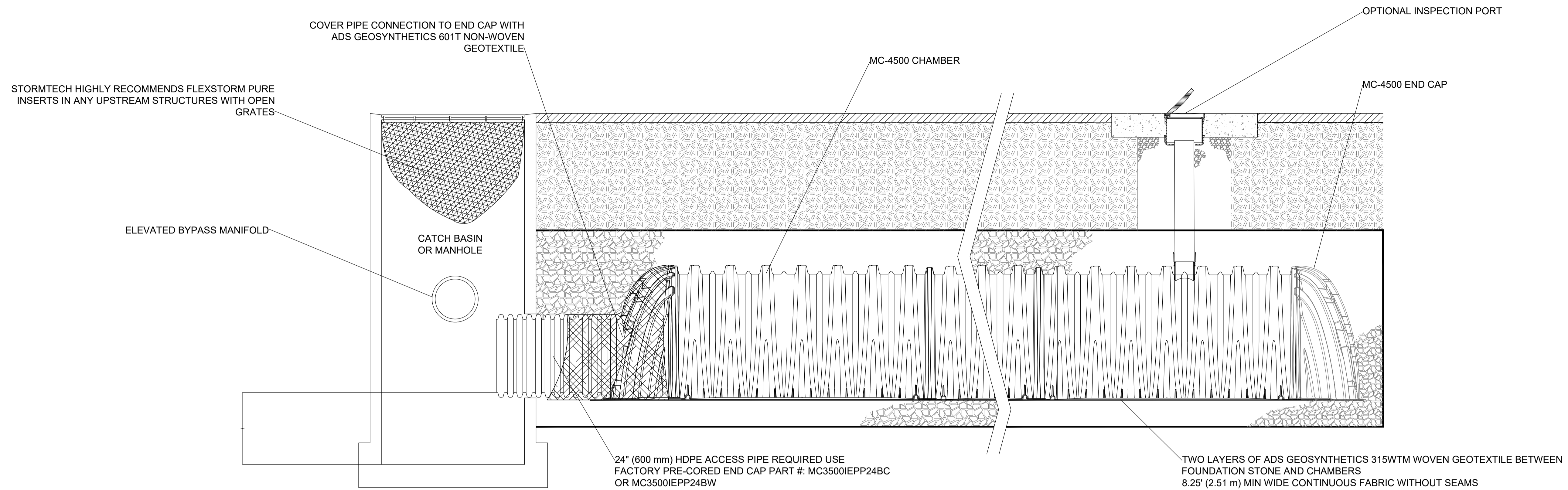
Rev. No.	Date	REVISION NOTE	Drn. By	Chkd. By

Architect	REDDY ARCHITECTURE & URBANISM
Project	51 UNIT HOUSING SCHEME AT CARROWBUNNAUN TD.
Title	MC-4500 Attenuation Tank Construction Details Sheet 1 of 3
Dwg. No.	R116-CSC-ZZ-XX-DR-C-0022
Date	June 2023
Drn. by	AB
Chkd. by	GL
Apprd. by	NB
Scale	NTS
Revision	

CS Consulting Group
DUBLIN | LONDON | LIMERICK

Head Office
19-22 Dame Street, Dublin 2.
T: +353 (0)1 5480863
E: info@csconsulting.ie
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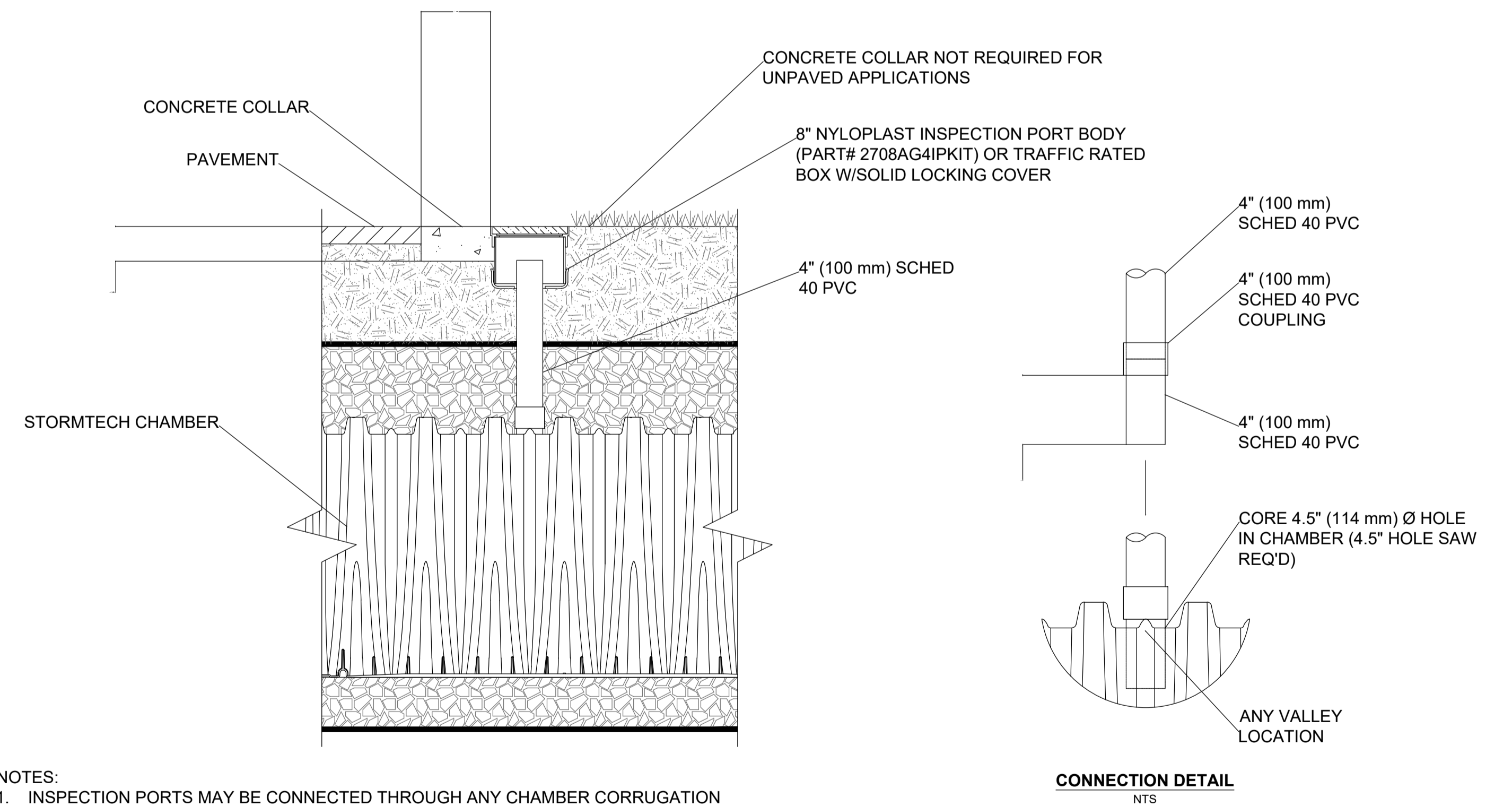
MC-4500 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
 - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
 - B. ALL ISOLATOR ROWS
 - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
 - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
 - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
 - B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
 - C. VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



4" PVC INSPECTION PORT DETAIL
NTS

- NOTES:
1. INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.
 2. ALL SCHEDULE 40 FITTINGS TO BE SOLVENT CEMENTED (4" PVC NOT PROVIDED BY ADS).

Section 179A Planning

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Project	51 UNIT HOUSING SCHEME AT CARROWBUNNAUN TD.
Title	MC-4500 Attenuation Tank Construction Details Sheet 2 of 3
Dwg. No.	R116-CSC-ZZ-XX-DR-C-0023
Date	June 2023
Dm. by	AB
Chkd. by	GL
Aprvd. by	NB
Scale	NTS
Revision	

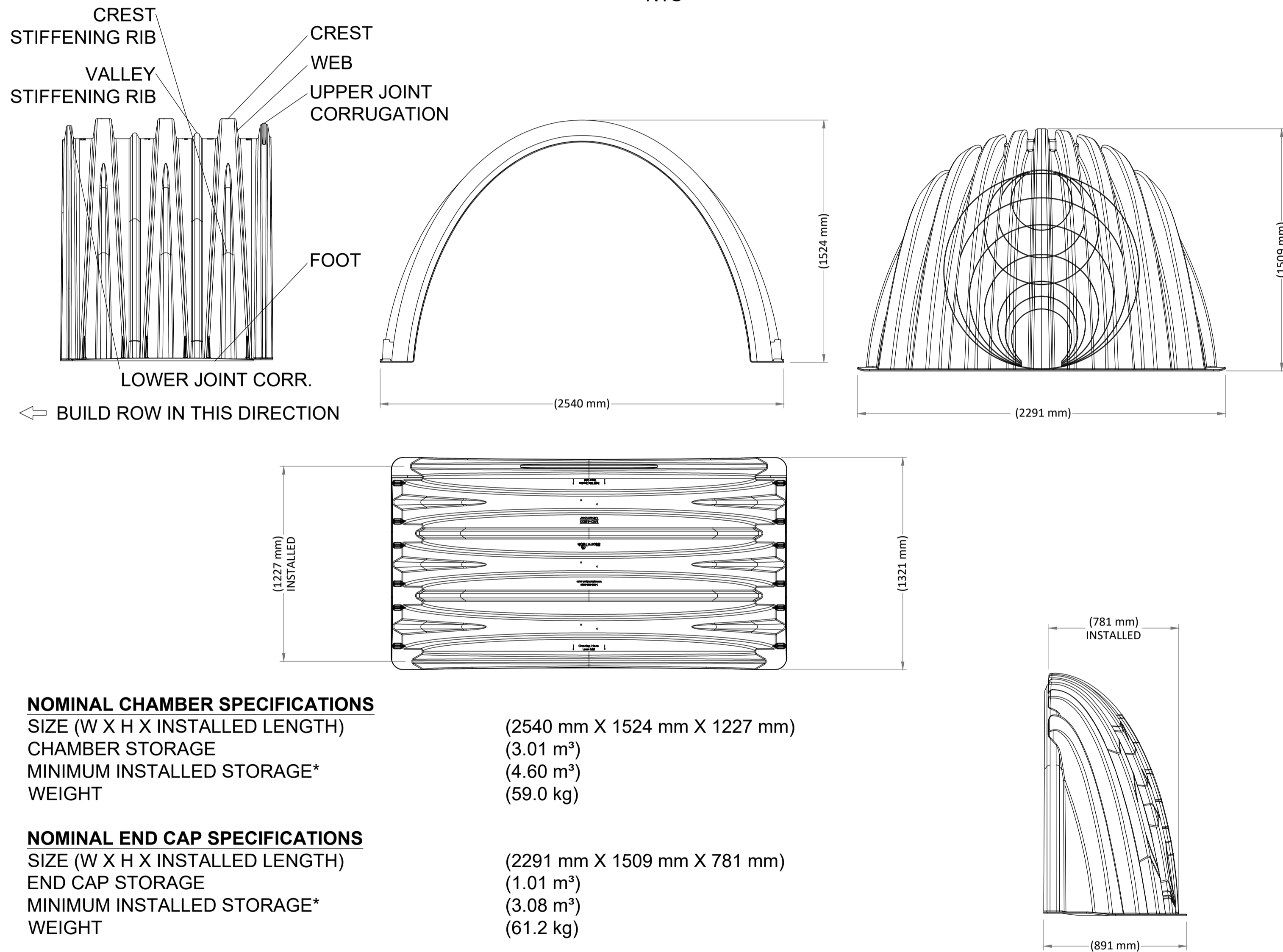
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MC-4500 TECHNICAL SPECIFICATION

NTS



NOMINAL CHAMBER SPECIFICATIONS

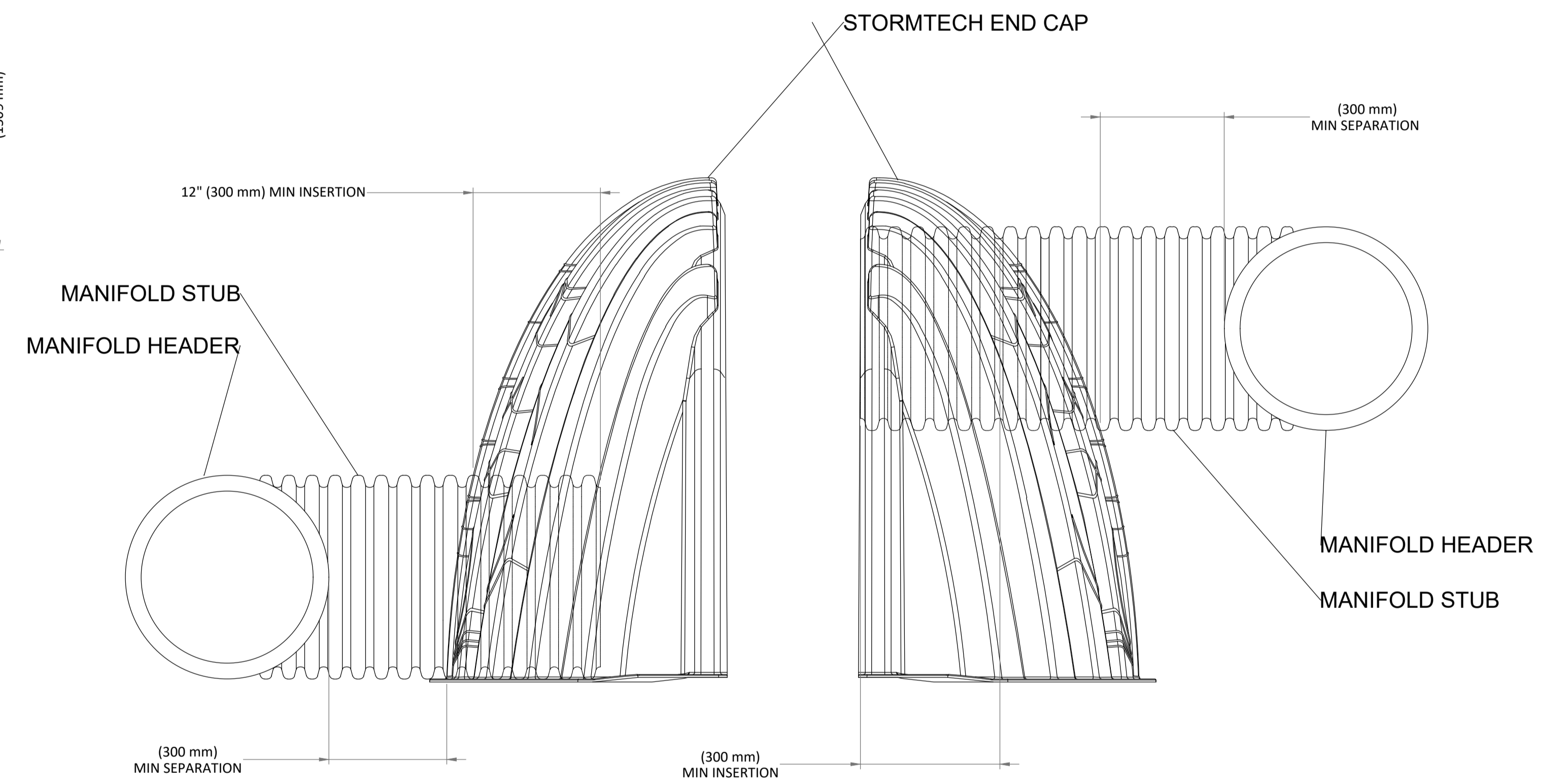
SIZE (W X H X INSTALLED LENGTH)	(2540 mm X 1524 mm X 1227 mm)
CHAMBER STORAGE	(3.01 m ³)
MINIMUM INSTALLED STORAGE*	(4.60 m ³)
WEIGHT	(59.0 kg)

NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	(2291 mm X 1509 mm X 781 mm)
END CAP STORAGE	(1.01 m ³)
MINIMUM INSTALLED STORAGE*	(3.08 m ³)
WEIGHT	(61.2 kg)

MC-SERIES END CAP INSERTION DETAIL

NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

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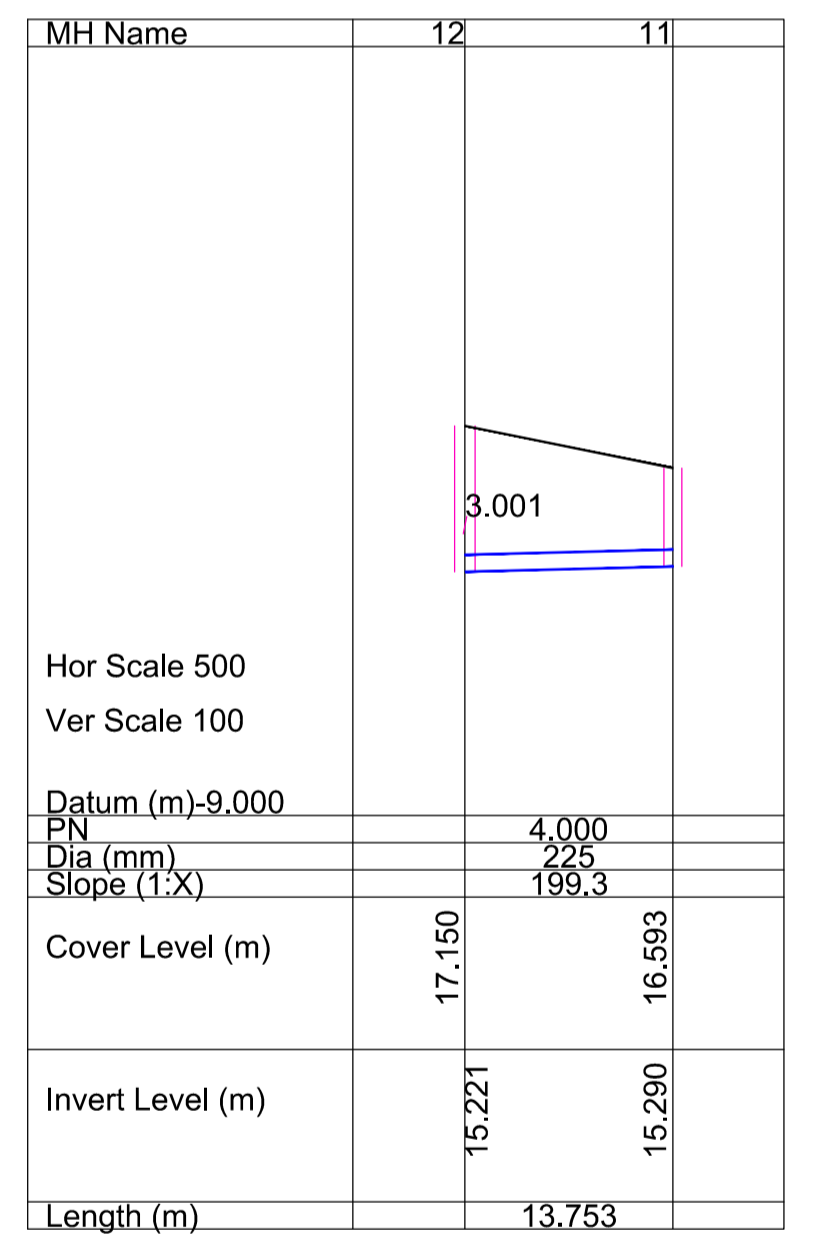
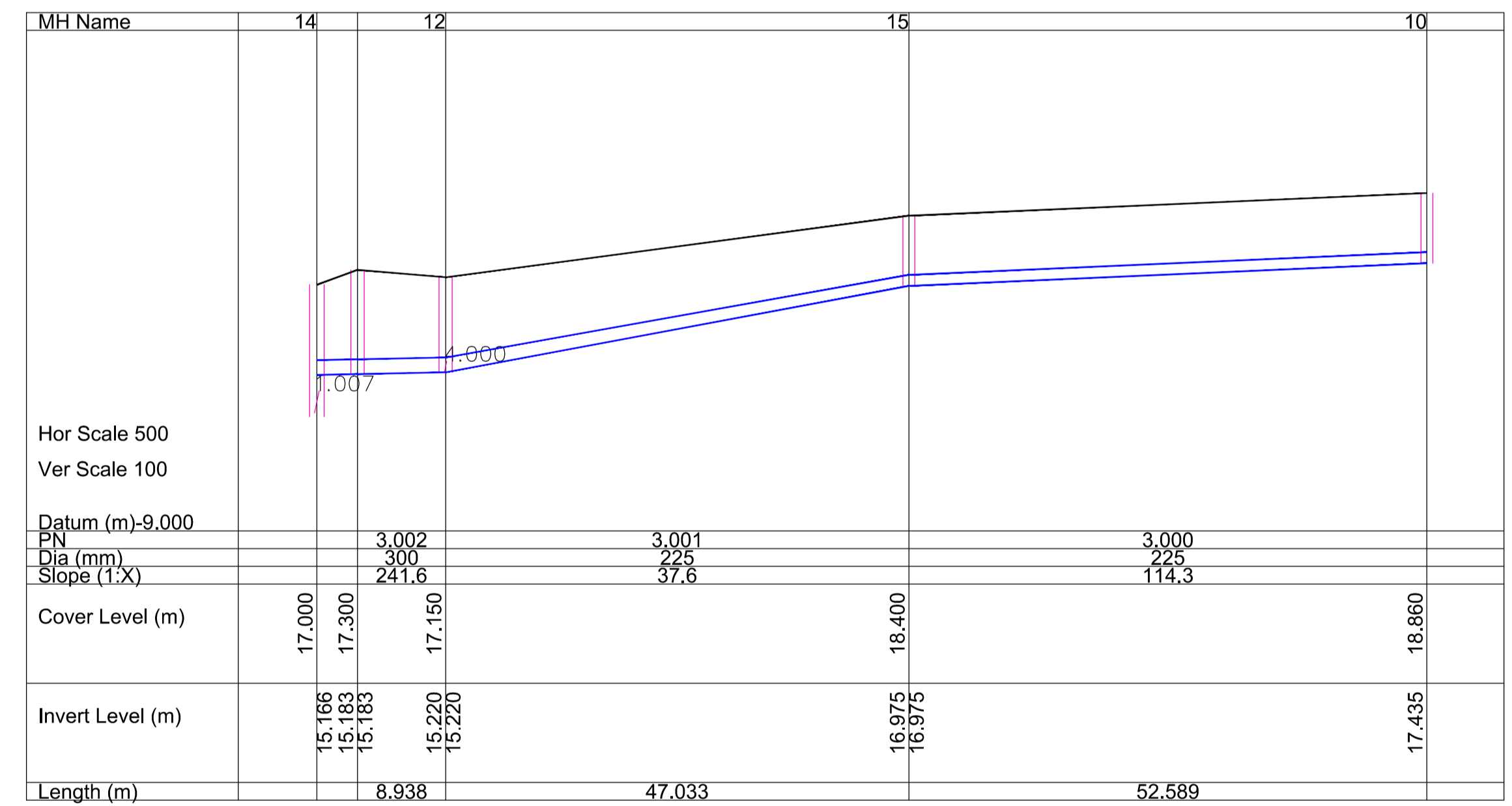
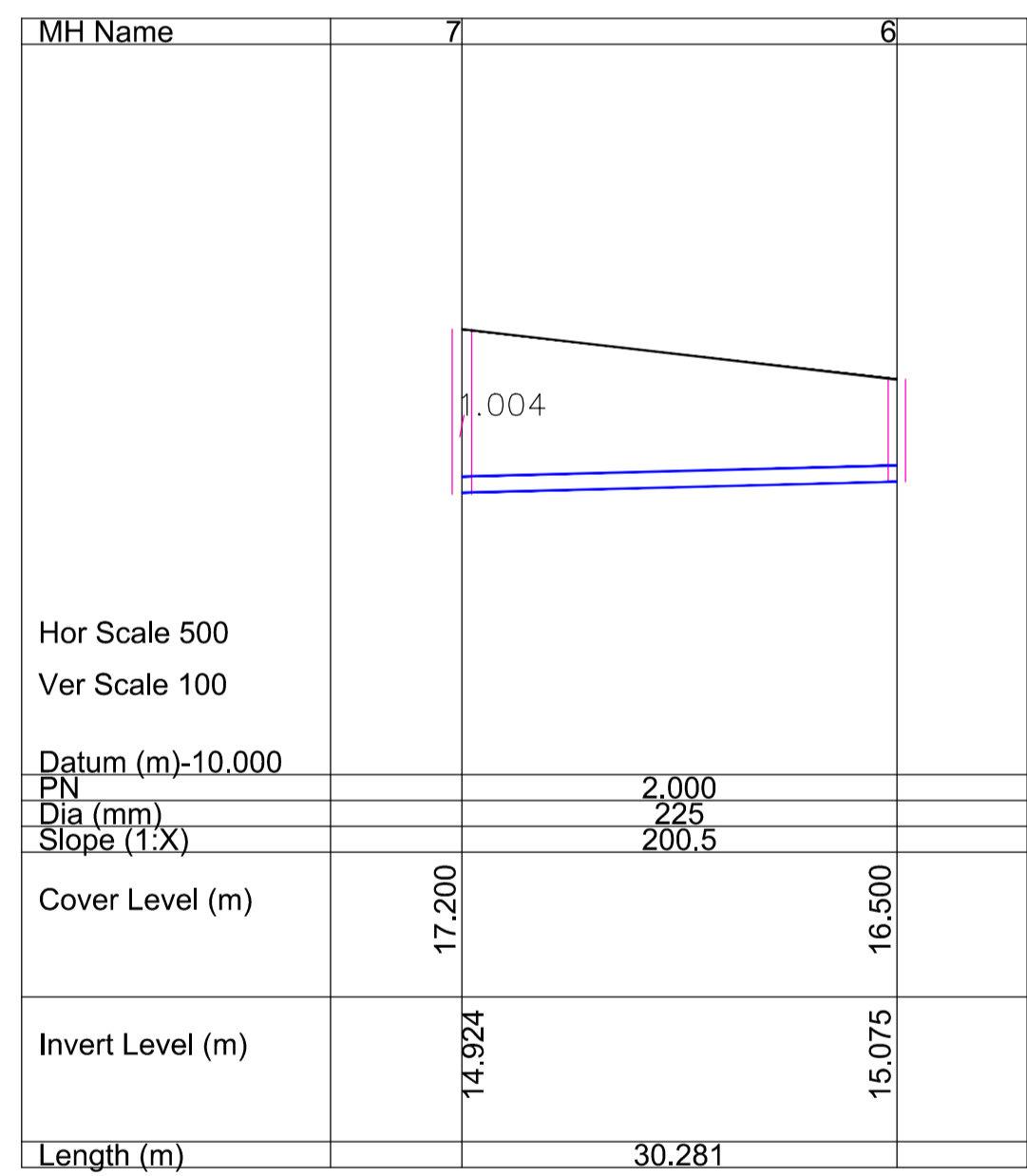
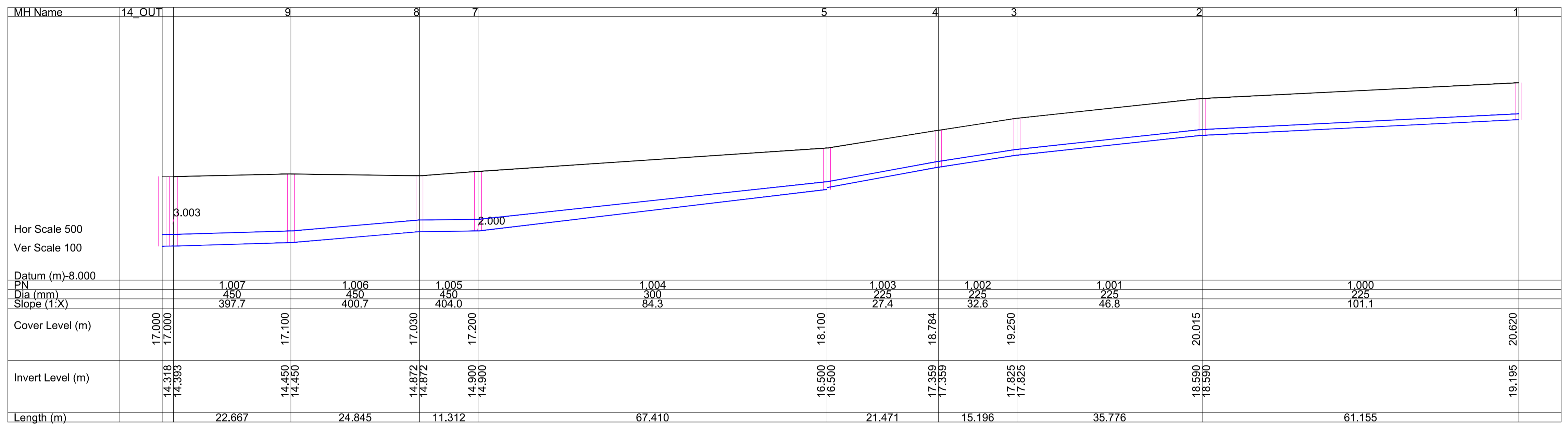
Rev. No.	Date	REVISION NOTE	Dm. By	Chkd. By

Architect	REDDY ARCHITECTURE & URBANISM			
Project	51 UNIT HOUSING SCHEME AT CARROWBUNNAUN TD.			
Title	MC-4500 Attenuation Tank Construction Details Sheet 3 of 3			
Dwg. No.	R116-CSC-ZZ-XX-DR-C-0024			
Date	Dm. by	Chkd. by	Aprvd. by	Scale
June 2023	AB	GL	NB	NTS
Revision				

CS Consulting Group
DUBLIN | LONDON | LIMERICK

Head Office
19-22 Dame Street, Dublin 2.
T: +353 (0)1 5480863
e: info@csconsulting.ie
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PROPOSED STORM WATER LONGITUDINAL SECTIONS
SCALE Horizontal 1 : 500; Vertical 1:100

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Rev. No.	Date	REVISION NOTE	Dim. By	Chkd. By
P1	18.07.2023	ISSUED FOR CONNECTION AGREEMENT	AD	GL
P2	17.01.2024	STORM WATER LONG SECTIONS UPDATED FOLLOWING RECEIPT OF NEW LAYOUT	AD	GL

Architect	REDDY ARCHITECTURE & URBANISM
Project	51 UNIT HOUSING SCHEME AT CARROWBUNNAUN TD.
Title	Proposed Storm Water Long Sections
Dwg. No.	R116-CSC-ZZ-XX-DR-C-0025
Date	June 2023
Dim by	AD
Chkd by	GL
Apprd by	NB
Scale	AS SHOWN @A1
Revision	P2

CS Consulting Group
DUBLIN | LONDON | LIMERICK

Head Office
19-22 Dame Street, Dublin 2.
T: +353 (0)1 5480863
e: info@csconsulting.ie
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