

NOTES


GENERAL

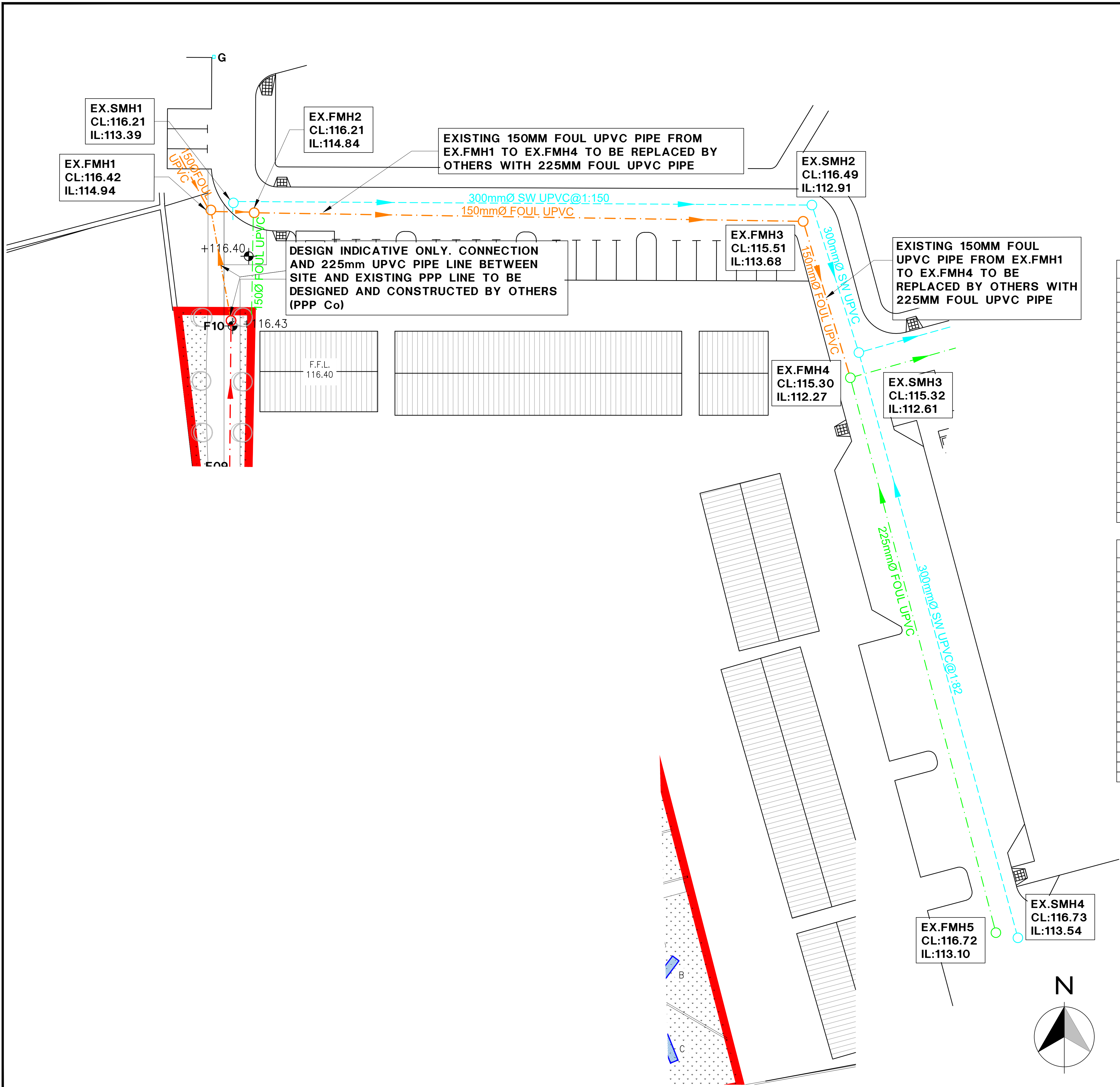
1.) THESE DRAWINGS TO BE READ IN CONJUNCTION WITH ALL RELEVANT HAYES HIGGINS ENGINEERING DRAWINGS AND SPECIFICATIONS.

2.) DO NOT SCALE. USE FIGURED DIMENSIONS ONLY.

LEGEND

- PROPOSED LEVELS
- PROPOSED SITE BOUNDARY
- BLISTER TACTILE PAVING IN ACCORDANCE WITH THE GUIDANCE ON THE USE OF TACTILE PAVING SURFACES DOCUMENT
- (RUS 027) STOP SIGN IN ACCORDANCE WITH FIGURE 7.1, TRAFFIC SIGN MANUAL
- ROAD TRANSVERSE JOINT
- ELEPHANT FEET MARKINGS (400mm WIDE, 400mm GAP, 400mm MARK)
- ZEBRA CROSSING IN ACCORDANCE WITH CHAPTER 7 SECTION 7.16, TRAFFIC SIGNS MANUAL
- FLAT TOP TRAFFIC CALMING RAMP IN ACCORDANCE WITH ROADS TRANSPORTATION AND PUBLIC SAFETY DEPT. AND TRAFFIC SIGN MANUAL. REFER TO ROAD DETAIL DRAWINGS.
- STOP LINE MARKING IN ACCORDANCE WITH CHAPTER 7, TRAFFIC SIGN MANUAL

P		ISSUED FOR PLANNING		LR	LW
REV	DATE	DESCRIPTION		DWG BY	APP. BY
ISSUED					
PLANNING					
CLIENT KILDARE COUNTY COUNCIL					
PROJECT NAME CRADDOCKSTOWN HOUSING DEVELOPMENT					
DRAWING NAME PROPOSED ROAD LAYOUT					
PROJECT No. 24D024					
DRAWING No. 02		REVISION P			
SCALE 1:250		DRAWN DATE 27.07.24			
CAD DRAWN BY P.N.	CHECKED BY L.M.	APPROVED BY D.H.			
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DRAINAGE LEGEND

- EXISTING SURFACE WATER SEWER
- EXISTING FOUL SEWER
- EXISTING 150mmØ FOUL SEWER TO BE REPLACED WITH 225mmØ UPVC SEWER (BY OTHERS)
- PROPOSED SURFACE WATER SEWER (UPVC)
- PROPOSED FOUL SEWER (UPVC)
- EXISTING SURFACE WATER MANHOLE
- EXISTING SURFACE WATER MANHOLE
- PROPOSED SURFACE WATER MANHOLE
- PROPOSED FOUL MANHOLE
- PROPOSED SURFACE WATER GULLY
- PROPOSED SURFACE INSPECTION CHAMBER
- PROPOSED FOUL INSPECTION CHAMBER
- PROPOSED SURFACE WATER ACCESS JUNCTION
- PROPOSED LEVELS
- PROPOSED SWALE / AQUATIC PLANTING TO ARCH. SPEC.

FOUL SEWER DRAINAGE TABLE						
MANHOLE	COVER LEVEL	INVERT LEVEL	MH – MH	PIPE DIA.	MIN. PIPE GRAD.	MATERIAL
F01	118.022	116.186	F01–F02	150mm	1:60	uPVC
F02	118.093	115.985	F02–F03	150mm	1:60	uPVC
F03	118.183	115.771	F03–F04	150mm	1:60	uPVC
F04	117.851	115.197	F04–F09	225mm	1:200	uPVC
F09	117.380	115.108	F09–F10	225mm	1:200	uPVC
F10	116.430	115.010	F10–EX.FMH1	225mm	1:200	uPVC
EX.FMH1	116.420	114.940	–	–	–	–
F08A	118.573	116.200	F08A–F08B	150mm	1:60	uPVC
F08B	118.735	115.688	F08B–F08	150mm	1:60	uPVC
F08	118.535	115.582	F08–F06	150mm	1:60	uPVC
F06	118.659	115.473	–	–	–	–
F07	118.545	115.640	F07–F06	150mm	1:60	uPVC
F06	118.659	115.473	–	–	–	–
F06	118.659	115.473	F06–F05	225mm	1:200	uPVC
F05	117.799	115.258	F05–F04	225mm	1:200	uPVC
F04	117.851	115.197	–	–	–	–
F03A	118.512	116.262	F03A–F03B	150mm	1:60	uPVC
F03B	118.270	115.909	F03B–F03	150mm	1:60	uPVC
F03	118.183	115.771	–	–	–	–

STORM WATER DRAINAGE TABLE						
MANHOLE	COVER LEVEL	INVERT LEVEL	MH – MH	PIPE DIA.	MIN. PIPE GRAD.	MATERIAL
S01	118.022	116.597	S01–S02	225mm	1:200	uPVC
S02	118.093	116.527	S02–S03	225mm	1:200	uPVC
S03	118.183	116.443	S03–S04	225mm	1:200	uPVC
S04	117.934	116.299	–	–	–	–
S10	118.589	117.464	S10–S09	225mm	1:200	uPVC
S09	118.703	117.344	S09–S08	225mm	1:200	uPVC
S08	118.535	117.295	S08–S06	225mm	1:200	uPVC
S06	118.659	117.277	–	–	–	–
S07	118.565	117.330	S07–S06	225mm	1:200	uPVC
S06	118.659	117.277	–	–	–	–
S06	118.659	117.277	S06–S05	225mm	1:200	uPVC
S05	117.799	116.370	S05–S04	225mm	1:200	uPVC
S04	117.934	116.299	S04–SOAKAWAY	225mm	1:200	uPVC
SOAKAWAY	116.461	114.961	–	–	–	–
S11	118.535	116.605	S11–S12	225mm	1:200	uPVC
S12	118.270	116.496	S12–S03	225mm	1:200	uPVC
S03	118.183	116.443	–	–	–	–

SOAKAWAY TYPE A
1.2(w)×0.6(dp)×1.75(L) m
SOAKAWAY TYPE B
1.0(w)×0.8(dp)×3.0(L) m
SOAKAWAY TYPE C
1.0(w)×0.8(dp)×3.5(L) m

- NOTES**
- GENERAL**
- THESE DRAWINGS TO BE READ IN CONJUNCTION WITH ALL RELEVANT HAYES HIGGINS ENGINEERING DRAWINGS AND SPECIFICATIONS.
 - DO NOT SCALE. USE FIGURED DIMENSIONS ONLY.
- DRAINAGE**
- ALL DRAINAGE WORKS ARE TO BE DESIGNED TO KILDARE COUNTY COUNCIL TAKING IN CHARGE STANDARDS. PLEASE CONSULT WITH KCC WATER SERVICES DEPARTMENT.
 - ALL WASTEWATER INFRASTRUCTURE TO BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH IRISH WATERS REQUIREMENTS & THEIR STANDARD DETAILS JULY 2020 (REVISION 2); IW-CDS-5030-01.
 - ALL DRAINAGE WORK TO BE CARRIED OUT IN ACCORDANCE WITH "KILDARE COUNTY DEVELOPMENT PLAN 2023–2029".
 - ALL DRAINAGE CONNECTIONS FROM BUILDINGS TO CONFORM TO THE BUILDING REGULATIONS 2010, PART H.
 - THE SURFACE/STORM WATER DRAINAGE TO CONSIST OF A SUSTAINABLE URBAN DRAINAGE (SUDS) TREATMENT MANAGEMENT TRAIN APPROACH, REFER TO THE CIRIA SUDS MANUAL & WWW.IRISHSUDS.COM. THE CONTRACTORS DESIGN TEAM TO FORWARD THE SUDS TREATMENT STRATEGY FOR APPROVAL TO WICKLOW COUNTY COUNCIL WATER SERVICES DEPARTMENT.
 - CLASS E BEDDING TO ALL PIPES WITH COVER GREATER THAN 1.2m UNDER ROAD & 0.9m UNDER OTHER AREAS.
 - LADDERS ARE REQUIRED IN MANHOLES WHERE DEPTH FROM COVER LEVEL EXCEEDS 2.5m.
 - ALL ABANDONED PIPE RUNS AND MANHOLES TO BE BROKEN OUT AND BACKFILLED WITH 15/20N LEAN MIX CONCRETE.
 - ROAD GULLIES TO BE PROVIDED ALONG THE CARRIAGEWAY AT APPROPRIATE INTERVALS TO BE DESIGNED BY THE CONTRACTORS DESIGN TEAM.
 - ALL ROAD GULLIES AND MANHOLES COVERS TO EN 124 D400 IN ROADS AND B125 IN ALL OTHER PAVED AREAS, FOOTWAYS AND LANDSCAPED AREAS.
 - ALL PROPOSED SEWERS SHALL BE CLEANED, CCTV SURVEYED AND TESTED IN ACCORDANCE WITH WICKLOW COUNTY COUNCIL'S "REQUIREMENTS FOR THE CONNECTION TO PUBLIC SEWERS". KCC SHALL BE GIVEN THE OPPORTUNITY TO WITNESS THE TESTING.
 - THE CONTRACTOR ON COMPLETION SHALL PROVIDE AS CONSTRUCTED DRAWINGS OF INSTALLED DRAINAGE GIVING DETAILS OF TESTING RESULTS AND RE-TESTING IF NECESSARY.
 - CONTRACTOR TO REFER TO SERVICE/UTILITY PROVIDER FOR FURTHER SPECIFICATIONS & DETAILS ON COVER & SEPARATION DISTANCES TO SERVICES.
 - ALL FOUL AND SURFACE HHP SPECIFICATIONS TO CORRESPOND WITH KILDARE CC. REQUIREMENTS FOR CONNECTION TO PUBLIC SEWERS.

P	13.03.25	ISSUED FOR PLANNING	LR	LM	
REV	DATE	DESCRIPTION	DWG BY	APPR BY	
ISSUED					
PLANNING					
CLIENT KILDARE COUNTY COUNCIL					
PROJECT NAME CRADDOCKSTOWN HOUSING DEVELOPMENT					
DRAWING NAME PROPOSED DRAINAGE LAYOUT UPGRADE PPP					
PROJECT No. 24D024					
DRAWING No. 03A			REVISION P		
SCALE 1:250			DRAWN DATE 20.02.25		
CAD DRAWN BY L.R.		CHECKED BY L.M.		APPROVED BY D.H.	
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WATERMAIN LEGEND

- EXISTING WATERMAIN
- PROPOSED 100mm ϕ HDPE
- PROPOSED 100mm ϕ HDPE BY OTHERS (PPP Co / IRISH WATER)
- NEW OFFLINE FIRE HYDRANT IN ACCORDANCE WITH SECTION 3.16.5 OF IRISH WATER CODE OF PRACTICE (IW-CDS-5020-03)
- NEW SLUICE VALVE IN ACCORDANCE WITH SECTION 3.16.2 OF IRISH WATER CODE OF PRACTICE (IW-CDS-5020-03)
- SCOUR VALVE IN ACCORDANCE WITH SECTION 3.16.4 OF IRISH WATER CODE OF PRACTICE (IW-CDS-5020-03)
- ONLINE AIR VALVE IN ACCORDANCE WITH SECTION 3.16.6 OF IRISH WATER CODE OF PRACTICE (IW-CDS-5020-03)
- BOUNDARY BOX
- THRUST BLOCKS TO BE PROVIDED IN ACCORDANCE WITH SECTION 4.6 OF IRISH WATER CODE OF PRACTICE (IW-CDS-5020-03)
- PROPOSED BY-PASS FLOW METER CHAMBER (ACCORDING TO IRISH WATER DETAILS: STD-WE-26F)

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- WATERMAIN**
- ALL WATERMAINS AND SUPPLY SHOULD BE CONSTRUCTED TO IRISH WATER REQUIREMENTS AND IN ACCORDANCE WITH IRISH WATER CONNECTIONS & DEVELOPER SERVICES WATER INFRASTRUCTURE STANDARD DETAILS IW-CDS-5020-03 JULY 2020.
 - THE CONTRACTOR SHOULD CONFIRM THE LOCATIONS OF ALL EXISTING WATERMAIN INFRASTRUCTURE ON SITE AND REPORT TO THE ENGINEER.
 - WATERMAIN PIPES SHOULD HAVE A MINIMUM NOMINAL PRESSURE CLASSIFICATION OF 10 BAR. MOPVC PRESSURE PIPES SHALL CONFORM TO UK WATER INDUSTRY SPECIFICATION NO 4-31-08 OR EQUIVALENT. MANUFACTURERS SHALL OPERATE A QUALITY SYSTEM IN COMPLIANCE WITH BS 5750 PART 2 (EN29002).
 - WATERMAIN PIPES SHOULD HAVE A MINIMUM COVER OF 900mm
 - AN APPROVED MARKER TAPE CONTAINING A TRACER WIRE SHOULD BE AFFIXED TO THE TOP SURFACE OF ALL WATERMAINS
 - CONCRETE THRUST BLOCKS SHOULD BE PROVIDED ON WATERMAINS AT DEAD ENDS, TEES, BENDS OF CURVATURE GREATER THAN $22\frac{1}{2}^\circ$ AND AT BOTH SIDES OF A SLUICE VALVE CHAMBER. ANCHOR BLOCKS SHOULD ENCASE THE PIPE IN CONCRETE (CLASS E, CLAUSE 1502, SPECIFICATION FOR ROADWORKS) TO A MINIMUM THICKNESS OF 150mm ALL ROUND AND SHOULD BE A MINIMUM LENGTH OF 750mm
 - SLUICE VALVES SHOULD COMPLY WITH THE REQUIREMENTS OF BS 5163. THE DEPTH OF THE SLUICE VALVE SPINDLE CAP BELOW FINISHED GROUND LEVEL SHOULD NOT EXCEED 300mm
 - HYDRANTS SHOULD BE OF THE MALE THREAD SCREW DOWN TYPE IN COMPLIANCE WITH THE REQUIREMENTS OF BS 750. HYDRANT OUTLETS SHOULD COMPLY WITH THE CHIEF FIRE OFFICERS REQUIREMENTS. THE DEPTH OF THE HYDRANT OUTLET BELOW FINISHED GROUND LEVEL SHOULD NOT EXCEED 200mm
 - SCOUR VALVES TO BE LOCATED AT LOW POINTS AND AIR VALVES AT HIGH POINTS ALONG THE VERTICAL PROFILE OF THE WATERMAIN. CONTRACTOR TO AGREE SPECIFICATION FOR VALVES WITH KILDARE COUNTY COUNCIL.
 - CONTRACTOR TO ALLOW FOR ROAD OPENING UP LICENCE FOR WORKS IN PUBLIC ROAD, WHERE NECESSARY.

REV	DATE	DESCRIPTION	DWG BY	APP. BY
P	13.03.25	ISSUED FOR PLANNING	LR	LM

PLANNING

CLIENT
KILDARE COUNTY COUNCIL

PROJECT NAME
CRADDOCKSTOWN HOUSING DEVELOPMENT

DRAWING NAME
PROPOSED WATERMAIN LAYOUT

PROJECT No.
24D024

DRAWING No. 04	REVISION P
SCALE 1:250	DRAWN DATE 27.07.24

CAD DRAWN BY P.N.	CHECKED BY L.M.	APPROVED BY D.H.
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NOTES

GENERAL

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- 3.) FOUL WATER/WASTE WATER TO CURRENT IRISH WATER SPECIFICATION AND DETAILS (W-CDS-5030-01).

NOTES

<p>DETAIL 01 – DRAIN AND SERVICE CONNECTION PIPINGWORK</p> <p>NOTES:</p> <p>1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.</p> <p>2. 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, CONSULT WITH IRISH WATER ON ALTERNATIVE LOCATIONS.</p> <p>3. ANY PIPE AND ASSOCIATED ACCESS UPSTREAM OF THE POINT OF CONNECTION TO A PUBLIC SEWER WITHIN THE CONFINES OF A PRIVATE BOUNDARY IS A PRIVATE DRAIN AND SHOULD BE CONSTRUCTED IN ACCORDANCE WITH BUILDING REGULATIONS.</p>	<p>DETAIL 02 – TYPICAL SERVICE LAYOUT INDICATING SEPARATION DISTANCES</p> <p>NOTES:</p> <p>1. THE SEPARATION DISTANCES OUTLINED ARE MINIMUM REQUIREMENTS.</p> <p>2. SPECIFIC SEPARATION CLEARANCE DISTANCES IN EXCESS OF THESE MINIMA SHALL BE PROVIDED FOR SERVICES SUCH AS GAS, ELECTRICITY, FIBRE-OPTIC OR OIL FILLED CABLES AS THE CASE MAY BE. THE PARTICULAR UTILITY PROVIDERS SHALL BE CONSULTED TO DETERMINE THESE MINIMUM SEPARATION DISTANCES AND EVIDENCE OF THIS CONSULTATION, WITH THE SPECIFIED SEPARATION DISTANCES, SHALL BE PROVIDED TO IRISH WATER AT DESIGN STAGE.</p> <p>3. <u>NOTIFICATION IN WRITING IS REQUIRED SHOULD WORKS BE WITHIN THE FOLLOWING DISTANCES FROM AN EXISTING WATER MAIN OR WASTEWATER RISING MAIN WHERE THE DEPTH OF THE EXISTING INFRASTRUCTURE DOES NOT EXCEED 15m:-</u></p> <p>HORIZONTAL</p> <p>1m AT EITHER SIDE OF AN EXISTING PIPE LESS THAN 200mm IN DIAMETER.</p> <p>2m AT EITHER SIDE OF AN EXISTING PIPE OF 200mm TO 350mm IN DIAMETER.</p> <p>5m AT EITHER SIDE OF AN EXISTING PIPE OF 350mm OR GREATER IN DIAMETER.</p> <p>WHERE DUCTS OR PIPES ARE TO BE LAID CLOSE TO AN EXISTING WATERMAIN OR SEWER IN THE OWNERSHIP OR IRISH WATER, NOTIFICATION IN WRITING SHALL BE PROVIDED A MINIMUM OF 10 DAYS AHEAD OF ADVANCEMENT OF THE WORK.THIS ALSO APPLIES WHERE THE DEPTH OF THE IRISH WATERMAIN OR SEWER EXCEEDS 1.5m IN ALL OF THESE INSTANCES.</p>	<p>SPECIFIC WRITTEN APPROVAL WILL BE REQUIRED FROM IRISH WATER BEFORE PROCEEDING WITH THE WORK</p> <p>NOTIFICATION IN WRITING IS REQUIRED SHOULD WORKS BE WITHIN 1.5m DISTANCE OF A WASTEWATER SEWER.</p> <p>REQUIREMENTS SHALL ALSO APPLY TO TRIAL HOLES OR SLIT TRENCHES TO LOCATE THE MAIN OR GAIN GROUND INFO DATA.</p> <p>LARGER DIAMETERS >350mm DISTRIBUTION AND TRUNK MAINS, IRISH WATER MUST BE NOTIFIED AT LEAST 1 MONTH IN ADVANCE.</p> <p>DEVELOPERS SHALL ALSO COMPLY WITH ANY NOTIFICATION REQUIREMENTS OF OTHER UTILITY PROVIDERS (ESB, GAS MAIN, TELECOMMUNICATION ETC.).</p> <p>DETAILED PROPOSALS, INCLUDING WORK METHOD STATEMENTS, INSURANCE CONFIRMATION AND DETAILS OF WORK COMPLETED OF A SIMILAR NATURE MUST BE SUBMITTED TO IRISH WATER FOR ITS CONSIDERATION BEFORE AGREEMENT WILL ISSUE. ALL SUCH WORKS IN THE VICINITY OF ARTERIAL WATER MAINS AND SEWERS (MAINS GREATER THAN 400mm) SHALL BE SUBJECT TO WRITTEN AGREEMENT WITH IRISH WATER BEFORE CONSTRUCTION COMMENCES ON SITE. THIS AGREEMENT SHALL ALSO INCLUDE ANY NECESSARY PROTECTION FOR WATER MAINS.</p> <p>ANY DAMAGE SHALL BE NOTIFIED IMMEDIATELY TO IRISH WATER. THE PERSON WHO CAUSES THE DAMAGE TO A SEWER MAIN OR FITTING WILL BE DEEMED TO HAVE COMMITTED AN OFFENCE UNDER SECTION 45 OF THE WATER SERVICES ACT 2007.</p> <p>UNDER NO CIRCUMSTANCES WILL IRISH WATER ACCEPT SEWER MAIN INSTALLATIONS UNDER STRUCTURES, EXISTING OR PROPOSED, OR IN CLOSE PROXIMITY TO ANY EXISTING STRUCTURES OR FEATURES THAT</p>	<p>WILL INHIBIT ACCESS FOR POST INSTALLATION MAINTENANCE AND ACCESS.</p> <p>THE MINIMUM CLEAR HORIZONTAL DISTANCES WILL BE INCREASED IF THE SEWER IS GREATER THAN 3m DEEP OR IF THE DIAMETER IS GREATER THAN 375mm. THE MINIMUM CLEAR DISTANCES FOR PIPE DIAMETERS OF 450mm AND GREATER OR FOR DEPTHS EXCEEDING 4.0m SHALL BE BASED ON SPECIFIC CONSULTATION WITH IRISH WATER.THESE SEPARATION DISTANCES SHALL ALSO APPLY TO SEPARATION FROM EXISTING STRUCTURES, INCLUDING ATTENUATION TANKS AND SWALES.</p> <p>THE EXTERNAL FACES OF MANHOLE SHALL BE AT LEAST 0.5m FROM THE EXTERNAL FACE OF THE KERB LINE.</p> <p>THE EXTERNAL WALL OF THE SEWER IS TO BE AT LEAST 1.0m FROM THE EXTERNAL FACE OF THE KERB LINE.</p> <p>WHERE DESIGN DEVIATES FROM TYPICAL DETAILS, THE LAYOUT SHALL BE SUBMITTED TO IRISH WATER FOR REVIEW AND AGREEMENT, WHICH IS TO BE OBTAINED IN WRITING BEFORE WORK COMMENCES.</p>	<p>DETAIL 03 – TYPICAL SEWER/SERVICE PIPE CONNECTION</p> <p>NOTES:</p> <p>1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.</p> <p>2. AS FAR AS PRACTICABLE, JUNCTIONS AND SERVICE CONNECTIONS SHALL BE BUILT IN FOR ALL PLANNED USERS WHEN THE SEWER IS BEING CONSTRUCTED, WHERE IT IS NECESSARY TO MAKE A POST-CONSTRUCTION CONNECTION THE DEVELOPER SHALL BRING THE SERVICE CONNECTION TO THE INSPECTION CHAMBER, INSTALL THE INSPECTION CHAMBER AND SEAL THE UPSTREAM END UNTIL THE CONNECTION IS REQUIRED.</p> <p>3. THE VERTICAL ANGLE BETWEEN THE SERVICE CONNECTING PIPE AND THE HORIZONTAL SHALL BE WITHIN THE ACCEPTABLE RANGE OF 30° TO 90°</p> <p>4. WHERE THE SERVICE PIPE CONNECTION WITHIN THE FOOTPRINT OF THE SELF LAY AGREEMENT IS BEING MADE TO A SEWER WITH A NOMINAL INTERNAL DIAMETER OF 300mm DIAMETER OR LESS, CONNECTIONS SHALL BE MADE USING 45° ANGLE JUNCTIONS.</p> <p>5. WHERE THE CONNECTION IS BEING MADE TO A SEWER WITH A NOMINAL INTERNAL DIAMETER GREATER THAN 300mm, THE FOLLOWING SHALL APPLY:</p> <p>A)WHERE THE DIAMETER OF THE CONNECTING PIPE IS GREATER THAN HALF THE DIAMETER OF THE SEWER, AN ACCESS MANHOLE SHALL BE CONSTRUCTED TO FORM THE CONNECTION POINT; OR</p> <p>B)WHERE THE DIAMETER OF THE CONNECTION PIPE IS LESS THAN OR EQUAL TO HALF THE DIAMETER OF THE SEWER, THEN THE CONNECTION SHALL BE MADE USING A PREFORMED Y-BRANCH FITTING WITH A 45° SLOW BEND TO FORM THE CONNECTION TO</p>	<p>THE WORKS.</p> <p>6. CONNECTION USING SADDLES MAY ONLY BE USED IN EXCEPTIONAL CIRCUMSTANCES AND ONLY TO WHERE THE CONNECTION IS TO AN EXISTING SEWER. CONNECTIONS MADE WITH 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 WATERTIGHT JOINT. THE CONNECTING PIPE SHALL NOT PROTRUDE INTO THE SEWERS.</p> <p>7. THE USE OF 90° "Y"-BRANCH OR SADDLE CONNECTIONS TO THE SEWER MAY BE ALLOWED PROVIDED THE SADDLE OR BRANCH INCORPORATES A SWEPT TEE CONNECTION TOWARDS THE DIRECTION OF FLOW OF THE SEWER.</p>	<p>DETAIL 04 – PRIVATE SIDE INSPECTION CHAMBER</p> <p>NOTES:</p> <p>1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.</p> <p>2. 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, CONSULT WITH IRISH WATER ON ALTERNATIVE LOCATIONS.</p> <p>3. SERVICE CONNECTION FROM PUBLIC SEWER TO PROPERTY BOUNDARY IS A PUBLIC ASSET. PIPE UPSTREAM OF THE PROPERTY BOUNDARY IS A PRIVATE DRAIN AND SHOULD BE CONSTRUCTED IN ACCORDANCE WITH THE BUILDING.</p> <p>4. ACCESS POINTS SHOULD BE LOCATED SO THAT THEY ARE ACCESSIBLE AND APPARENT TO THE MAINTENANCE AT ALL TIMES FOR USE. THEY SHOULD AVOID REAR GARDENS OR ENCLOSED LOCATIONS AND SHOULD NEVER BE OVERLAIN WITH SURFACE DRESSING, TOPSOIL, ETC.</p> <p>5. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW BY IRISH WATER.</p> <p>6. 200mm ALL AROUND, 100mm DEEP CONCRETE PLINTH AROUND COVERS IN GREEN AREAS.</p> <p>7. PREFABRICATED PREFABRICATED CHAMBER UNITS MAY ALSO BE USED, SUBJECT TO REVIEW BY IRISH WATER.</p> <p>8. CHAMBERS SHALL BE SURROUNDED BY A MINIMUM OF 150mm COMPACTED CLAUSE 804 OR CLAUSE 808 MATERIAL AS PER DRAWING DETAIL – 05.</p> <p>9. MAXIMUM DEPTH FROM COVER LEVEL TO INVERT OF PIPE = 1.2m. INTERNAL DIMENSIONS GREATER THAN 600 x 600mm OR 600mm ø REQUIRED WHERE DEPTH EXCEEDS 1.2m- CONSULT WITH IRISH WATER.</p> <p>10. SMALLER INSPECTION CHAMBERS WITH INTERNAL DIMENSIONS OF 450mm ø OR 450 x 450mm MAY BE PERMITTED SUBJECT TO APPROVAL BY IRISH WATER WHERE CONFINED PHYSICAL CONDITIONS EXIST.</p> <p>11.PREFABRICATED UNITS SHOULD HAVE WATER TIGHT JOINTS AND SHOULD BE INTERLOCKING TO PREVENT LATERAL MOVEMENT OF INDIVIDUAL SECTIONS OF THE UNIT.</p>	<p>DETAIL 05 – TRENCH BACKFILL AND BEDDING</p> <p>NOTES:</p> <p>1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.</p> <p>2. THE MINIMUM DEPTH OF COVER FROM THE FINISHED SURFACE TO THE CROWN OF GRAVITY PIPES WITHOUT PROTECTION SHOULD BE AS FOLLOWS:</p> <p>A)GARDENS AND PATHWAYS WITHOUT ANY POSSIBILITY OF VEHICULAR ACCESS – DEPTH NOT LESS THAN 0.5M (THIS WOULD NORMALLY RELATE TO DRAINS IN PRIVATE PROPERTY, SHALLOW PIPES OF THIS NATURE ARE UNDESIRABLE AND SHOULD BE INSTALLED IN ACCORDANCE WITH THE CURRENT BUILDING REGULATIONS).</p> <p>B)DRIVEWAYS, PARKING AREAS AND YARDS WITH HEIGHT RESTRICTIONS TO PREVENT ENTRY BY VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5 TONNES – DEPTH NOT LESS THAN 0.75m.</p> <p>C)DRIVEWAYS, PARKING AREAS AND NARROW STREETS WITHOUT FOOTWAYS (EG MEWS DEVELOPMENTS) WITH LIMITED ACCESS FOR VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5 TONNES – DEPTH NOT LESS THAN 0.9m.</p> <p>A. DEPTHS OF SEWERS IN GATED ESTATES SHALL BE SIMILAR TO THAT OUTLINED ABOVE.</p> <p>B. AGRICULTURAL LAND AND PUBLIC OPEN SPACE – DEPTH NOT LESS THAN 0.9m.</p> <p>C. OTHER HIGHWAYS AND PARKING AREAS WITH UNRESTRICTED ACCESS TO VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5 TONNES – DEPTH NOT LESS THAN 1.2m.</p> <p>3. CLAUSE 804/808 MATERIAL IN ACCORDANCE WITH THE TRANSPORT INFRASTRUCTURE IRELAND SPECIFICATION FOR ROAD WORKS IS TO BE USED AS BACKFILL MATERIAL WHERE THE SEWER MAIN IS LOCATED IN ROADS, FOOTPATHS OR WHEN THE</p>	<p>NEAREST PART OF THE TRENCH IS WITHIN 1M OF THE PAVED EDGE OF THE ROADWAY. CLAUSE 804/808 IS TO BE COMPACTED AS PER CLAUSE 802 OF THE TRANSPORT INFRASTRUCTURE IRELAND SPECIFICATION FOR ROAD WORKS. CLAUSE 808 IS TO BE USED WITHIN 500mm OF CEMENT BOUND MATERIALS, CONCRETE PAVEMENTS, CONCRETE STRUCTURES OR CONCRETE PRODUCTS, OTHERWISE CLAUSE 804 MAY BE USED. ALTERNATIVE BACKFILL MATERIAL TO THAT DESCRIBED ABOVE (CLAUSE 804 OR 808) OF THE PIPE. TRENCH WILL ONLY BE ALLOWED BY IRISH WATER WHERE THE ROADS AUTHORITY IN WHOSE FUNCTIONAL AREA THE DEVELOPMENT IS LOCATED, PROVIDES WRITTEN APPROVAL TO THE DEVELOPER TO THE USE SUCH ALTERNATIVE MATERIAL EVIDENCE OF THE WRITTEN APPROVAL TO BE PROVIDED TO IRISH WATER IN ADVANCE OF THE COMMENCEMENT OF WORKS.</p> <p>4. SELECTED EXCAVATED MATERIAL COMPLYING WITH THE REQUIREMENTS OF "ACCEPTABLE MATERIAL" AS OUTLINED ON CLAUSE 601 OF THE TII SPECIFICATION FOR ROAD WORKS. TABLE 6/1 CLASS 8, CLASS 2 MAY BE USED IN GREEN-FIELD AREAS ABOVE GRANULAR PIPE SURROUND MATERIAL SUBJECT TO REVIEW BY IRISH WATER.</p> <p>5. PIPE BEDDING SHALL COMPLY WITH WS 4-08-02 AND ISN 4-08-01</p> <p>THE PIPE BEDDING GRANULAR MATERIAL SHALL BE 14mm TO 5mm (4/D 8) GRADED AGGREGATE OR 10mm (4/D 8) SINGLE SIZED AGGREGATE TO IS EN 12422. CONCRETE BED, HAUNCH & SURROUND, WHERE REQUIRED, SHALL BE TO DRAWING DETAIL – 06.</p> <p>6. IN SOFT GROUND CONDITIONS (CBR < 5) THE MATERIAL SHOULD BE EXCAVATED AND DISPOSED OF IN ACCORDANCE WITH THE WASTE MANAGEMENT ACT AND CLAUSE 804 / 808 MATERIAL IN ACCORDANCE WITH THE TRANSPORT INFRASTRUCTURE IRELAND SPECIFICATION FOR ROAD WORKS SHALL REPLACE THE EXCAVATED MATERIAL, WRAPPED IN</p>	<p>GEO-TEXTILE WRAPPING. ALTERNATIVELY,SPECIAL PIPE SUPPORT ARRANGEMENTS, INCLUDING PILING ETC MAY BE REQUIRED WHERE THE DEPTH OF SOFT MATERIAL IS EXCESSIVE. SUCH ARRANGEMENTS SHALL BE SUBJECT TO ASSESSMENT BY IRISH WATER BEFORE ADVANCING WITH THE WORK.</p> <p>7. IN GREENFIELD AREAS, TYPE B BACKFILL (SELECTED EXCAVATED MATERIAL) WILL BE ALLOWED ABOVE THE SIDE HAUNCH GRANULAR MATERIAL IN THE CASE OF RIGID PIPES. A GRANULAR SURROUND OF A MINIMUM DEPTH OF 150mm ABOVE THE CROWN OF THE PIPE IS REQUIRED FOR FLEXIBLE PIPES, AND TYPE B MATERIAL MAY BE USED AS BACKFILL ABOVE THIS. ALL RISING MAINS IN GREENFIELD AREAS SHALL HAVE A MINIMUM COVER OF 300mm OF GRANULAR MATERIAL ABOVE THE EXTERNAL CROWN OF THE PIPE.</p> <p>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 VOID FILLED WITH CLAUSE 804/808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS. THE GRANULAR MATERIAL SHALL BE LAID ABOVE THIS VOID BACKFILL MATERIAL.</p> <p>9. NON DEGRADABLE MARKER TAPE SHOULD BE INSTALLED AT THE 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.</p> <p>10. TRENCH WIDTHS FOR PIPE SIZES <=80mm MAY BE <500mm SUBJECT TO CONSIDERATION BEING GIVEN TO THE TRENCH DEPTH, HEALTH & SAFETY & CONSTRUCTION ACCESS REQUIREMENTS</p> <p>11. NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.</p> <p>12. EXISTING ROAD REINSTATEMENT TO COMPLY WITH CURRENT VERSION OF 'GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS' BY THE DEPT. OF TRANSPORT, TOURISM & SPORT OR TRANSPORT INFRASTRUCTURE IRELAND REQUIREMENTS.</p>
<p>DETAIL 06 – CONCRETE BED, HAUNCH AND SURROUND TO WASTEWATER PIPES</p> <p>NOTES:</p> <p>1. FOR ANY SLABBING WORKS TO BE CARRIED OUT WITHIN THE VICINITY OF THE PIPE LINE A METHOD STATEMENT IS TO BE SUBMITTED FOR REVIEW BY IRISH WATER.</p> <p>2. MARKER TAPE TO BE PLACED ABOVE THE SLAB AND ALONG THE DIRECTION OF THE PIPELINE.</p> <p>3. CONCRETE TO BE GRADE C30/35</p> <p>4. MINIMUM COVER TO STEEL REINFORCEMENT =40mm.</p> <p>5. SLABS TO BE DESIGNED FOR USE UNDER A H255 LOAD IN ACCORDANCE WITH BS5400-2. DESIGN TO BE SUBMITTED TO IRISH WATER FOR ASSESSMENT PRIOR TO INSTALLATION.</p> <p>6. THE SOIL ON WHICH THE SLAB RESTS MUST HAVE A CBR OF 4% OR GREATER.WHERE THE CBR IS LESS THAN 4% THE MATERIAL SHALL BE REMOVED AND REPLACED WITH IMPORTED GRANULAR MATERIAL AS APPROVED BY IRISH WATER.</p> <p>7. IF DIRECTION OF PIPELINE & DIRECTION OF TRAFFIC FLOW ARE PARALLEL, THE DIRECTION OF LAY OF THE SLAB IS TO BE AGAINST THE DIRECTION OF TRAFFIC FLOW.</p> <p>8. IF PIPE PROTECTION SLAB IS TO BE USED SOLELY FOR IMPACT PROTECTION & OVERALL DEPTH OF COVER IS GREATER THAN 1.2m, THE DISTANCE BETWEEN UNDER SIDE OF SLAB AND TOP OF PIPE MAY BE INCREASED AFTER CONSULTATION WITH IRISH WATER.</p> <p>9. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.</p>	<p>10. CONCRETE BED AND HAUNCHES MAY BE REQUIRED TO PROVIDE ADDITIONAL SUPPORT IN POOR GROUND CONDITIONS. PROPOSALS TO BE PROVIDED TO IRISH WATER WITH GEOTECHNICAL REPORT SURROUNDING THEIR USE.</p> <p>11. CONCRETE SURROUNDS SHALL HAVE A MINIMUM THICKNESS OF 150mm WITH AN ABSOLUTE MINIMUM DEPTH OF COVER ABOVE THE EXTERNAL CROWN OF THE PIPE OF 750mm.</p> <p>12. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206 & TO BE GRADE C16/20 TO IS EN206.</p> <p>13. THE HAUNCHES AND SURROUNDS TO BE FORMED USING FORM WORK TO PROVIDE A ROUGH CAST FINISH.</p> <p>14. EXPANSION JOINTS IN THE CONCRETE SHALL BE PROVIDED AT ALL PIPE JOINTS TO ALLOW FOR PIPE FLEXIBILITY. COMPRESSIBLE FILLER BOARD TO BE IN ACCORDANCE WITH BS EN 622-1 AND BS EN 622-4, AND TO BE 18mm THICK.</p> <p>15. POLYETHYLENE AND UPVC PIPES SHALL BE WRAPPED IN PLASTIC SHEETING HAVING A COMPOSITION IN ACCORDANCE WITH BS 6076 BEFORE BEING CAST INTO CONCRETE. BITUMINOUS MATERIAL SHALL NOT BE PUT IN CONTACT WITH PE OR PVC PIPES.</p>	<p>DETAIL 07 – BLOCKWORK MANHOLE (<450mm ø)</p> <p>NOTES:</p> <p>1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.</p> <p>2. SOLID BLOCKWORK TO BE OF HIGH STRENGTH (20N/mm²) TO IS EN 771.</p> <p>3. MAXIMUM DEPTH OF BLOCK WORK MANHOLE IS 1.20m (THE USE OF BLOCK WORK IN DEEPER MANHOLES WILL BE CONSIDERED BUT SUCH USE WILL REQUIRE DETAILED STRUCTURAL DESIGN AND BE SUBJECT TO IRISH WATER REVIEW).</p> <p>4. WALLS TO BE FLUSH POINTED AND NOT PLASTERED INTERNALLY, INTERNAL LINING OF BLOCKWORK USING ENGLISH GARDEN WALL BOND.</p> <p>5. STRUCTURAL DESIGN AND REINFORCEMENT DETAILS FOR ROOF AND BASE SLABS TO BE PROVIDED BY THE DEVELOPER AND SUBMITTED TO IRISH WATER FOR REVIEW. MANHOLE ROOFS SHALL CONSIST OF A REINFORCED 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 REVIEW AND COMPLIANCE WITH IS EN 1917 AND IS 420.</p> <p>6. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW FROM IRISH WATER.</p> <p>7. 200M ALL AROUND x 100mm DEEP C20/25</p>	<p>CONCRETE PLINTH COMPLETE WITH BULL NOSE FINISH TO BE PROVIDED COMPLETE WITH MILD STEEL REINFORCEMENT LINK AROUND COVERS IN GREEN AREAS.</p> <p>ALL CHAMBERS TO BE CHECKED FOR UPLIFT BY THE DEVELOPER BASED ON GROUND CONDITIONS WITHIN THE SITE. SHOULD ANTI-FLOATATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO REVIEW BY IRISH WATER.</p> <p>ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206: 2013.</p> <p>ANY SPECIAL ROAD REINSTATEMENT AROUND COVER & FRAME SHALL BE TO ROAD AUTHORITY'S REQUIREMENTS.</p> <p>NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.</p> <p>EXISTING ROAD REINSTATEMENT TO COMPLY WITH CURRENT VERSION OF 'GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS' BY THE DEPT. OF TRANSPORT, TOURISM & SPORT OR TRANSPORT INFRASTRUCTURE IRELAND REQUIREMENTS.</p> <p>COVERS SHALL BE SET WITH RAPID HARDENING CEMENTITIOUS, EPOXY RESIN OR POLYESTER RESIN MORTAR FOR SETTING MANHOLE COVERS & FRAMES, & SHALL HAVE A MINIMUM WORKING TIME OF 15 MINUTES. THE MORTAR SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 30N/mm² & A MINIMUM TENSILE STRENGTH OF 5N/mm² WITHIN 3 HOURS OF MIXING.</p>	<p>DETAIL 08 – PRECAST CONCRETE MANHOLE</p> <p>NOTES:</p> <p>1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.</p> <p>2. PRE-CAST MANHOLES UNITS: COMPLYING WITH REQUIREMENTS OF IS EN 1917 AND IS 420.</p> <p>3. THICKER MANHOLE BASES REQUIRED FOR SEWERS IN EXCESS OF 3m DEEP WHERE THE SIZE IS GREATER THAN THE STANDARD MINIMUM SIZE.</p> <p>4. APPROVED PRE-CAST CONCRETE BASES MAY BE USED INCORPORATING CHANNELS, BENCHING ETC. SUBJECT TO IRISH WATER REVIEW AND COMPLYING WITH ISEN 1719 AND IS 420.</p> <p>5. STRUCTURAL DESIGN AND REINFORCEMENT DETAILS TO BE PROVIDED BY THE DEVELOPER AND SUBMITTED TO IRISH WATER FOR REVIEW.</p> <p>6. MANHOLES GREATER THAN 3m IN DEPTH WILL REQUIRE A DETAILED STRUCTURAL DESIGN AND BE SUBJECT TO IRISH WATER REVIEW.</p> <p>7. MANHOLE ROOFS SHALL CONSIST OF A 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 REVIEW AND COMPLIANCE WITH IS EN 1917.</p> <p>8. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW BY IRISH WATER.</p> <p>9. 200mm ALL AROUND x 100mm DEEP C20/25 CONCRETE PLINTH COMPLETE WITH BULL NOSE FINISH FINISH AND TO BE</p>	<p>PROVIDED COMPLETE WITH MILD STEEL REINFORCEMENT LINK AROUND COVERS IN GREEN AREAS.</p> <p>ALL CHAMBERS TO BE CHECKED FOR UPLIFT BY THE DEVELOPER BASED ON GROUND CONDITIONS WITHIN THE SITE. SHOULD ANTI-FLOATATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO REVIEW BY IRISH WATER.</p> <p>ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206: 2013.</p> <p>ANY SPECIAL ROAD REINSTATEMENT AROUND COVER & FRAME SHALL BE TO ROAD AUTHORITY'S REQUIREMENTS.</p> <p>NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.</p> <p>EXISTING ROAD REINSTATEMENT TO COMPLY WITH CURRENT VERSION OF 'GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS' BY THE DEPT. OF TRANSPORT, TOURISM & SPORT OR TRANSPORT INFRASTRUCTURE IRELAND REQUIREMENTS.</p> <p>IF DEPTH FROM GROUND TO PIPE SOFFIT IS GREATER THAN 6m DEEP, A SITE SPECIFIC ENGINEERED SOLUTION FOR ACCESS SHALL BE PROVIDED.</p> <p>PROPRIETARY WATERTIGHT PCC MANHOLE RING SYSTEMS WITH A WALL THICKNESS >125mm, & A WATER TIGHT JOINT SEALING SYSTEM, MAY BE USED WITHOUT CONCRETE SURROUND, SUBJECT TO THE GROUND WATER LEVEL AT THE MANHOLE BEING LOW, & SUBJECT TO REVIEW BY IRISH WATER.</p> <p>THE INTERNAL MANHOLE DIAMETERS SHOWN IN TABLE – SEE DRAWING DETAIL 08 ARE MINIMUM DIMENSIONS AND WILL INCREASE DEPENDING ON THE NUMBER AND DIAMETER OF ADDITIONAL INLETS AND FINISHED WITH A 1:3 SAND/CEMENT FINISH TO INLETS AND OUTLET.</p>	<p>DETAIL 09 – IN-SITU CONCRETE MANHOLE</p> <p>NOTES:</p> <p>1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.</p> <p>2. IN-SITU MANHOLES TO HAVE A MINIMUM WALL AND FLOOR THICKNESS OF 225mm FOR MANHOLE DEPTHS UP TO 3.0m AND 300mm OR MORE WHEN THE MANHOLE DEPTH EXCEEDS 3.0m.</p> <p>3. STRUCTURAL DESIGN AND REINFORCEMENT DETAILS TO BE PROVIDED BY THE DEVELOPER AND SUBMITTED TO IRISH WATER FOR REVIEW. MANHOLE ROOFS SHALL CONSIST OF A REINFORCED 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 IS 420.</p> <p>4. MANHOLES GREATER THAN 3m IN DEPTH WILL REQUIRE A DETAILED STRUCTURAL DESIGN AND BE SUBJECT TO IRISH WATER REVIEW.</p> <p>5. COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW BY IRISH WATER.</p> <p>6. 200M ALL AROUND x 100mm DEEP C20/25 CONCRETE PLINTH COMPLETE WITH BILL NOSE FINISH AND TO BE PROVIDED COMPLETE WITH MILD STEEL REINFORCEMENT LINK AROUND COVERS IN GREEN AREAS.</p> <p>7. ALL CHAMBERS TO BE CHECKED FOR UPLIFT BY THE DEVELOPER BASED ON GROUND CONDITIONS WITHIN THE SITE. SHOULD ANTI-FLOATATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO REVIEW BY IRISH WATER.</p> <p>8. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206: 2013</p>	<p>9. ANY SPECIAL ROAD REINSTATEMENT AROUND COVER & FRAME SHALL BE TO ROAD AUTHORITY'S REQUIREMENTS.</p> <p>10. NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.</p> <p>11. EXISTING ROAD REINSTATEMENT TO COMPLY WITH CURRENT VERSION OF 'GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS' BY THE DEPT. OF TRANSPORT, TOURISM & SPORT OR TRANSPORT INFRASTRUCTURE IRELAND REQUIREMENTS.</p> <p>12. IF DEPTH FROM GROUND TO PIPE SOFFIT EXCEEDS 6m, A SITE SPECIFIC ENGINEERED SOLUTION FOR ACCESS SHALL BE PROVIDED.</p> <p>13. THE INTERNAL MANHOLE DIMENSIONS SHOWN IN THE TABLE DRAWING DETAIL-09 ARE MINIMUM DIMENSIONS AND WILL INCREASE DEPENDING ON THE NUMBER AND DIAMETER OF ADDITIONAL INLETS AND FINISHED WITH A 1:3 SAND/CEMENT FINISH TO SUIT FLOW OF INLETS AND OUTLET.</p>	<p>DETAIL 10 – BACKDROP MANHOLES</p> <p>NOTES:</p> <p>1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.</p> <p>2. RODDING EYE, VERTICAL PIPE SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVERS TO IS 261 AND BS 5834. COVER AND FRAME SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS AND IS SUBJECT TO REVIEW BY IRISH WATER.</p> <p>3. ALL CHAMBERS TO BE CHECKED FOR UPLIFT BY THE DEVELOPER BASED ON GROUND CONDITIONS WITHIN THE SITE. SHOULD ANTI-FLOATATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO REVIEW BY IRISH WATER.</p> <p>4. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.</p> <p>5. MANHOLE DETAILS TO BE IN ACCORDANCE WITH DRAWING DETAIL – 07, 08 & 09.</p> <p>6. ALL BACKDROPS SHOULD TERMINATE AT THEIR LOWER END WITH A BEND INTO THE MAIN CHANNEL TO ENSURE THE DISCHARGE IS 45° OR LESS ON PLAN.</p> <p>7. 200mm ALL ROUND x 100mm DEEP C20/25 CONCRETE PLINTH COMPLETE WITH BULL NOSE FINISH AND TO BE PROVIDED COMPLETE WITH MILD STEEL REINFORCEMENT LINK AROUND COVERS IN GREEN AREAS.</p>	

P	13.03.25	ISSUED FOR PLANNING	LR L.M
REV	DATE	DESCRIPTION	DWG BY APPR BY

ISSUED

PLANNING

CLIENT
KILDARE COUNTY COUNCIL

PROJECT NAME
CRADDOCKSTOWN HOUSING DEVELOPMENT

IRISH WATER FOUL
& SURFACE DRAINAGE
DETAILS 1 OF 4

PROJECT No.
24D024

DRAWING No. 05	REVISION P
SCALE AS SHOWN	DRAWN DATE 21.01.2025

CAD DRAWN BY L.R.	CHECKED BY L.M	APPROVED BY D.H.
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**Hayes Higgins
Partnership**

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GENERAL

- 1.) THESE DRAWINGS TO BE READ IN CONJUNCTION WITH ALL RELEVANT HAYES HIGGINS ENGINEERING DRAWINGS AND SPECIFICATIONS.
- 2.) DO NOT SCALE. USE FIGURED DIMENSIONS ONLY.
- 3.) FOUL WATER/WASTE WATER TO CURRENT IRISH WATER SPECIFICATION AND DETAILS (IW-CDS-5030-01).



TYPE 'A'

TYPE "C" OR TYPE "D" CONCRETE SURROUND TO BE PROVIDED WHERE DEPTH OF COVER IS LESS THAN 900mm IN FIELD OR 1200mm IN ROAD AS AN ALTERNATIVE TO PROVISION OF SUPPORT SLAB, SUBJECT TO FISH WATER AGREEING TO THE OMISSION OF THE SLAB IN LIEU OF THE SURROUND.

TYPE 'B'

EXTERNAL DIAMETER OF PIPE

EXTERNAL DIAMETER OF PIPE

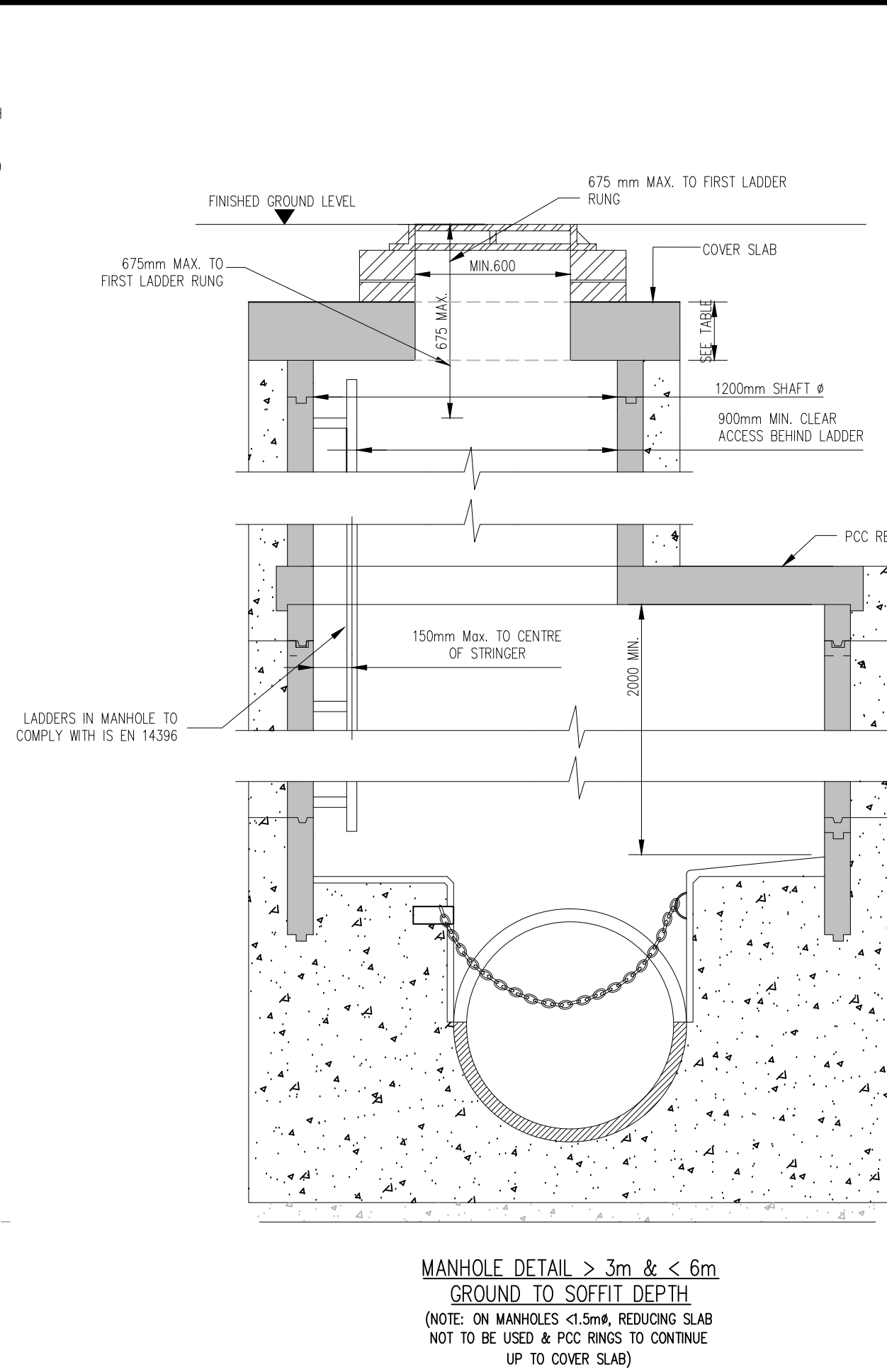
EXTERNAL DIAMETER OF PIPE

EXTERNAL DIAMETER OF PIPE

TYPE 'C'

TYPE 'D'

P	13.03.25	ISSUED FOR PLANNING		LR	LM
REV	DATE	DESCRIPTION		DWG BY	APPR. BY
ISSUED					
PLANNING					
CLIENT KILDARE COUNTY COUNCIL					
PROJECT NAME CRADDOCKSTOWN HOUSING DEVELOPMENT					
DRAWING NAME IRISH WATER FOUL & SURFACE DRAINAGE DETAILS 2 OF 4					
PROJECT NO. 24D024					
DRAWING NO. 05A			REVISION P		
SCALE AS SHOWN			DRAWN DATE 21.01.2025		
CAD DRAWN BY L.R.		CHECKED BY L.M		APPROVED BY D.H.	
 Hayes Higgins Partnership					
The Glass House, 11 Coke Lane Smithfield, Dublin 7. Tel: 01 6612321 E-mail: admin@hayeshiggins.ie Gos House Lane, Kilkenny. Tel: (056) 7764710 Email: info@hps.ie					

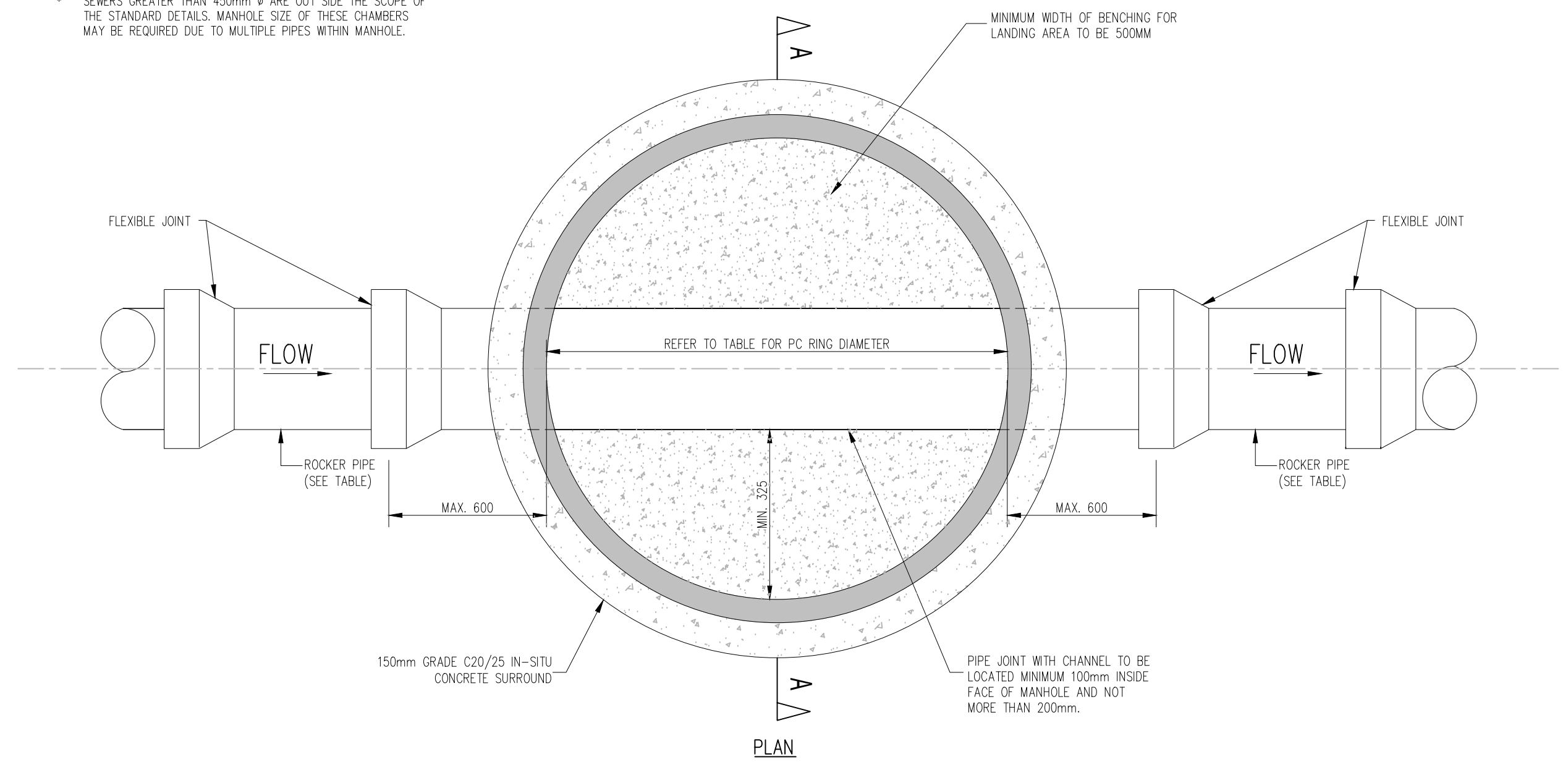


MINIMUM MANHOLE DIAMETERS			
DIAMETER OF LARGEST PIPE IN MANHOLE (mm)	INTERNAL DIAMETER OF MANHOLE (mm)	MIN. PRECAST ROOF SLAB EFFECTIVE THICKNESS (mm)	MIN. IN-SITU ROOF SLAB THICKNESS (mm)
< 375	1200	160	225
375 TO 450	1350	160	225
500 TO 750 *	1500	170	225

NOTES

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DETAIL 08 - PRE-CAST CONCRETE MANHOLE

SECTION A-A

COVER TO BE SET IN CEMENTITIOUS EPOXY RESIN/POLYESTER MORTAR 30N/mm²

MANHOLE COVER AND FRAME SHALL COMPLY TO IS EN 124 AND BS 7903 (ALL CLASS D400 COVERS SHALL HAVE MIN. FRAME DEPTH 100 OR 150mm) MIN. OPE 600 X 600mm or 600 ϕ .

SEE NOTES 10, 11 & 12

1 MIN. TO 3 Max. COURSES OF CLASS B SOLID ENGINEERING BRICKS SET IN M30 MORTAR TO IS EN 998 (PROPRIETARY PRECAST RISER PIECES BEDDED ON M30 MORTAR MAY BE USED TO ACHIEVE CORRECT TOP OF COVER LEVEL 2 No Max.)

20N/mm² CONCRETE BLOCKS TO COMPLY WITH IS EN 771-3.

1:3 SAND-CEMENT MORTAR WITH STEEL TROWEL FINISH AT A 1:30 SLOPE TOWARDS THE CHANNEL

75mm GRADE C12/15 RUNDING CONCRETE

REINFORCED CONCRETE BASE GRADE C30/37

600 MAX.

75 ϕ

675 MAX.

675mm MAX. TO FIRST STEP

ENGINEERING BRICK WORK LINING 100mm ABOVE BENCHING

225

300 C/C

225

600 MAX.

ROCKER PIPE (SEE TABLE)

FLOW

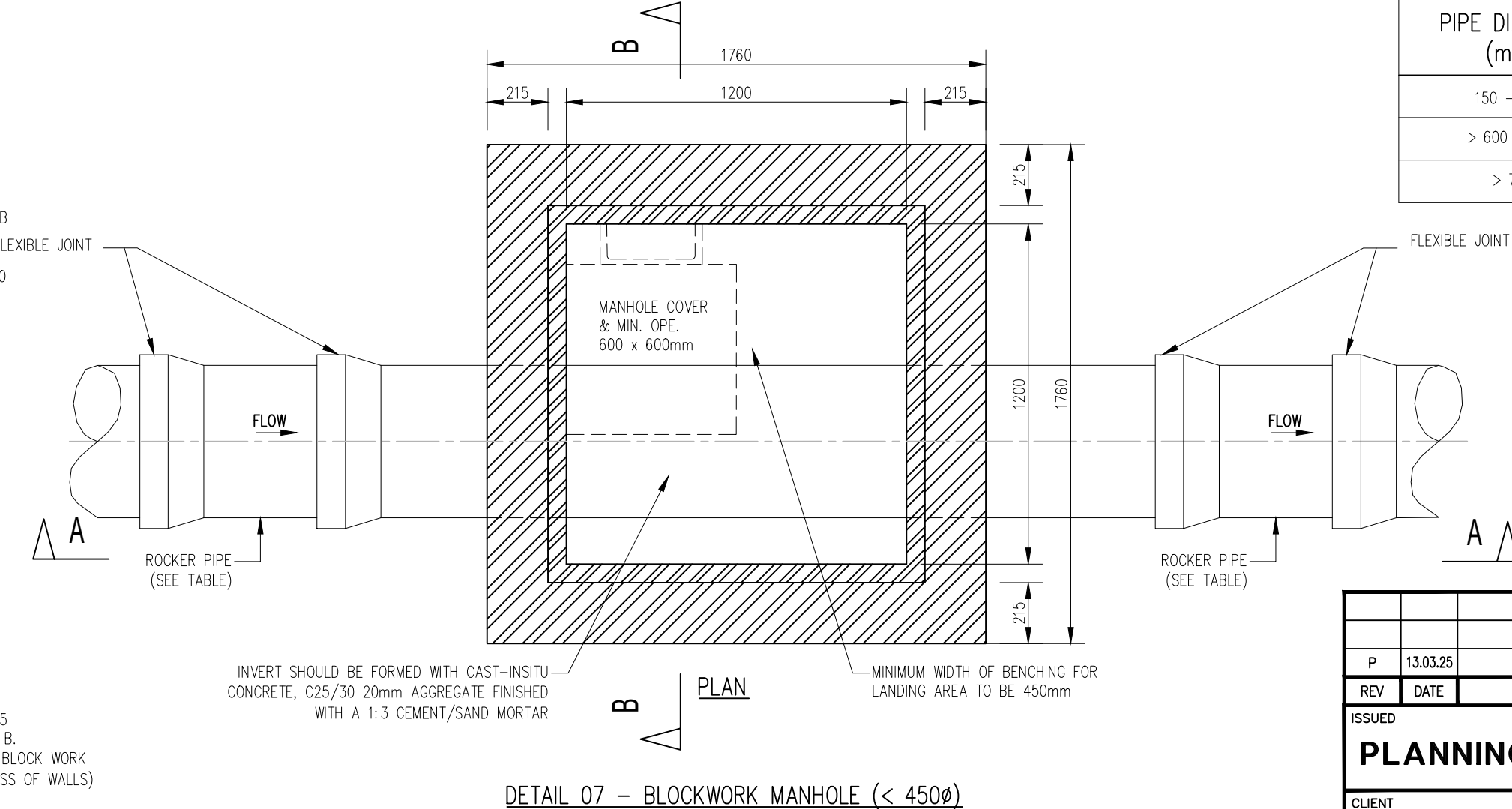
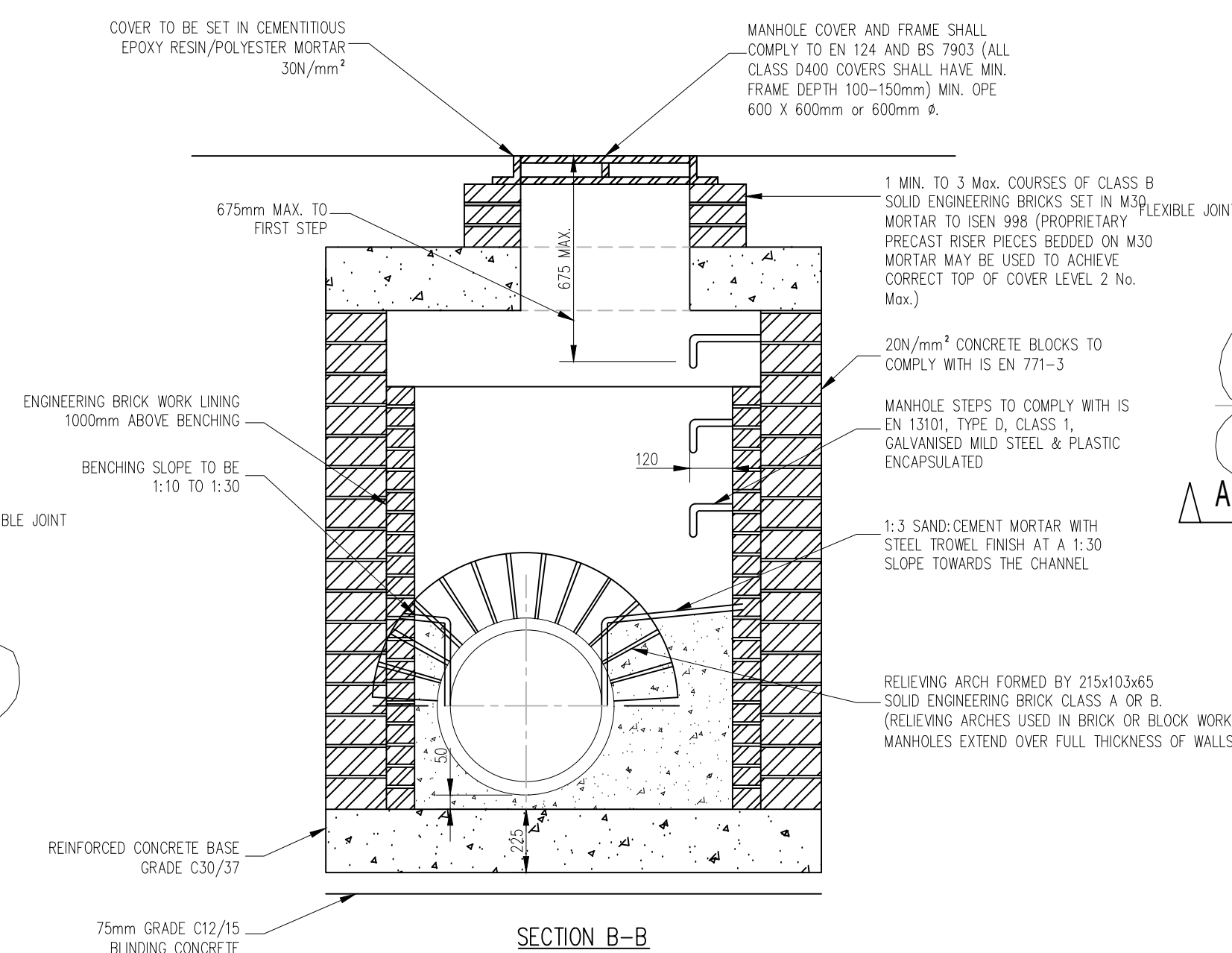
STEEL TROWEL FINISH AT A 1:30 SLOPE TOWARDS THE CHANNEL

600 MAX.

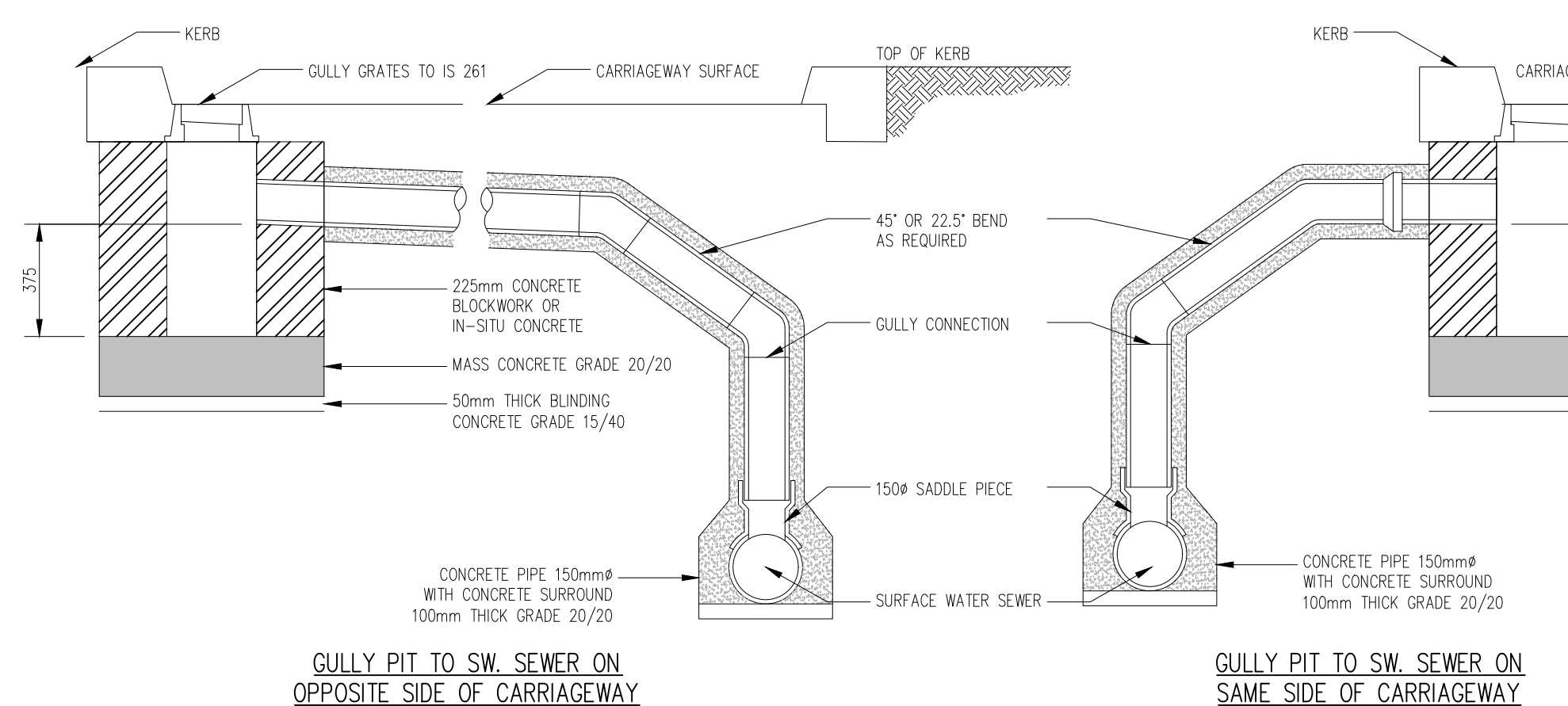
ROCKER PIPE (SEE TABLE)

FLOW

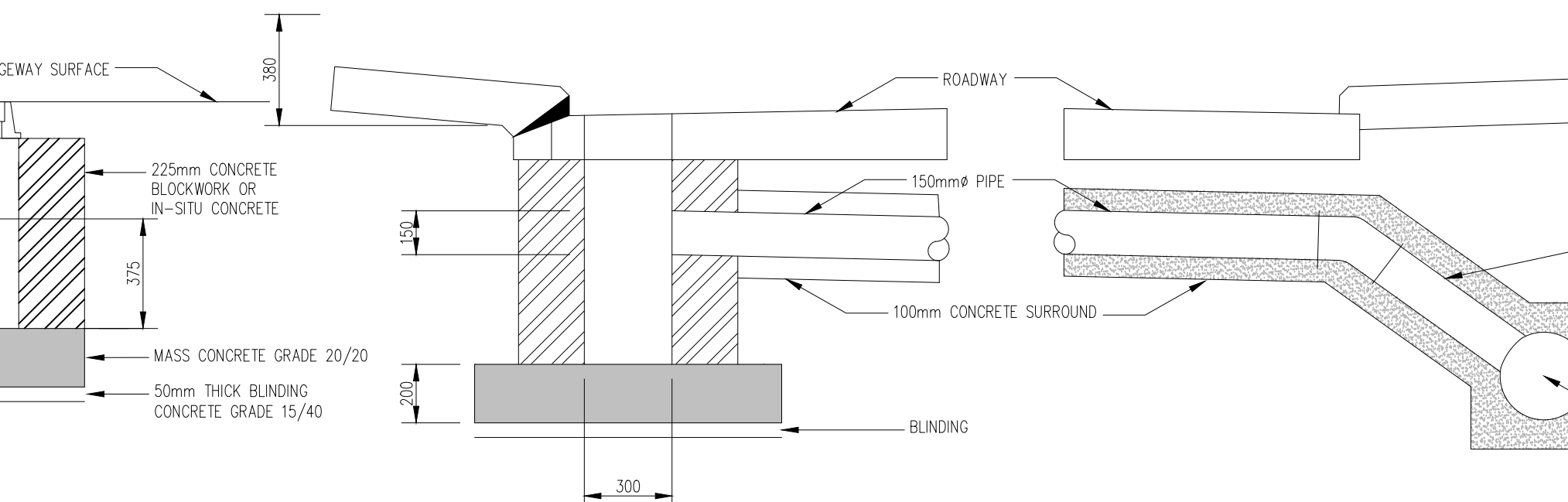
SECTION A-A



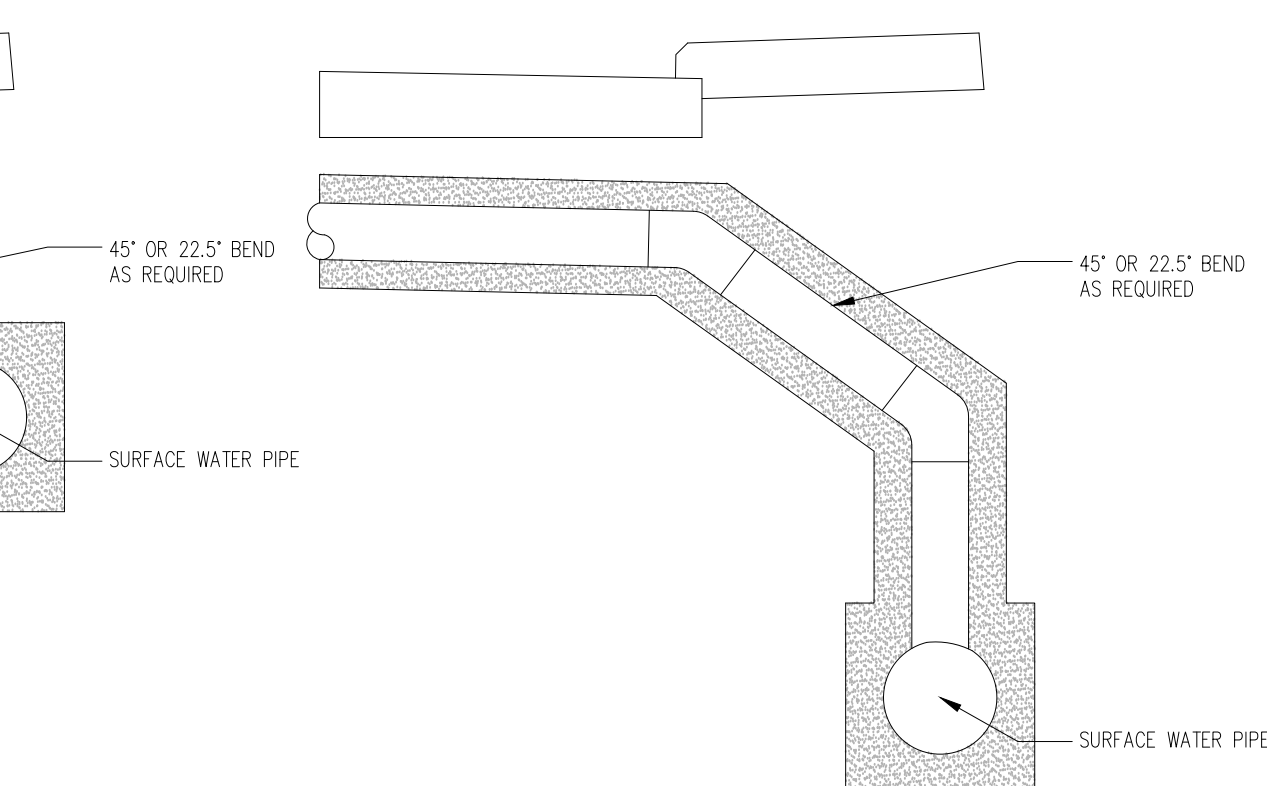
DETAIL 07 – BLOCKWORK MANHOLE (< 450Ø)



GULLY PIT TO SW. SEWER ON
OPPOSITE SIDE OF CARRIAGEWAY



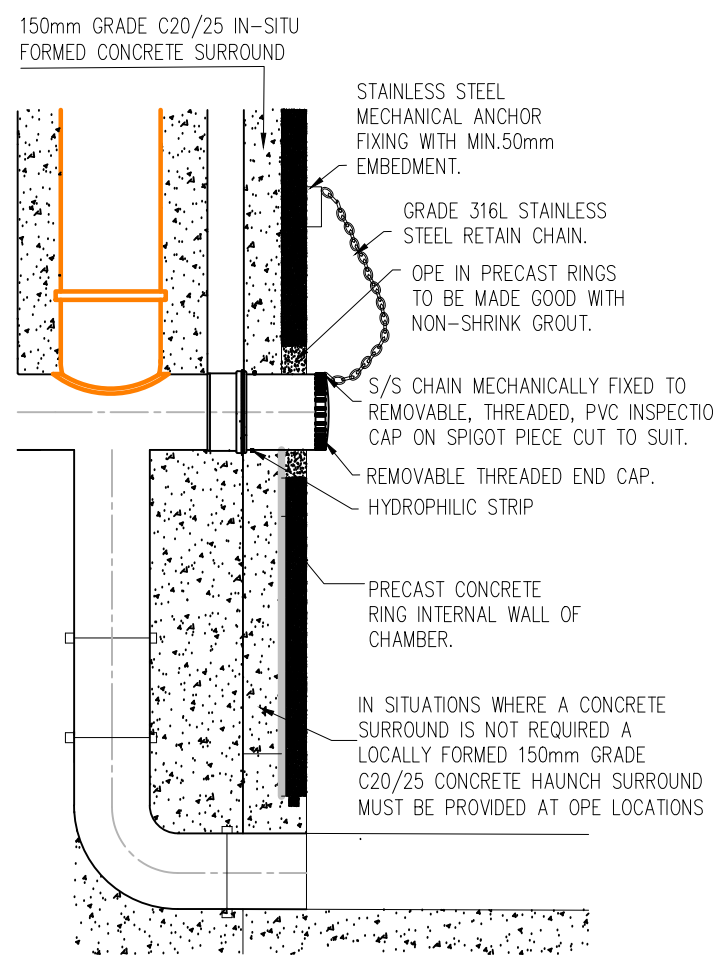
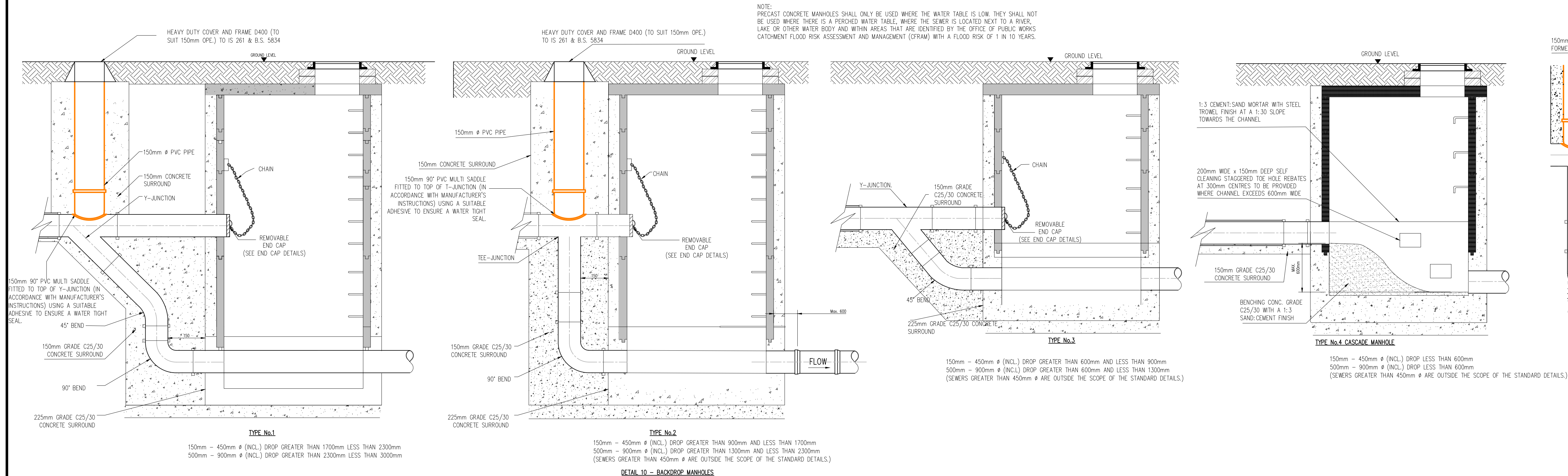
GULLY CONNECTION TO SW. SEWER
ACROSS ROADWAY



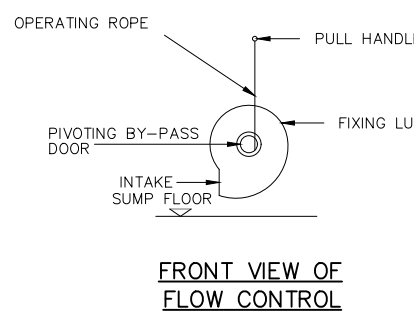
NOTES

GENERAL

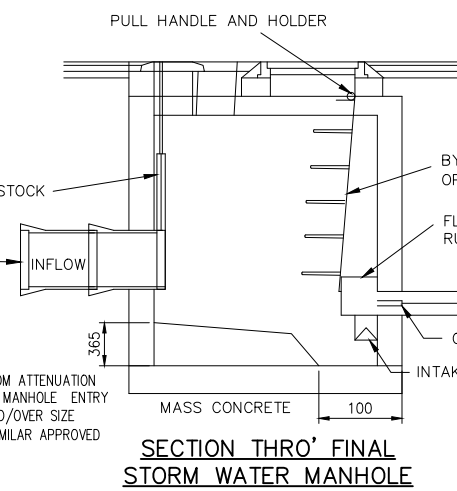
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- DO NOT SCALE. USE FIGURED DIMENSIONS ONLY.
- FOUL WATER/WASTE WATER TO CURRENT IRISH WATER SPECIFICATION AND DETAILS (W-CDS-5030-01).



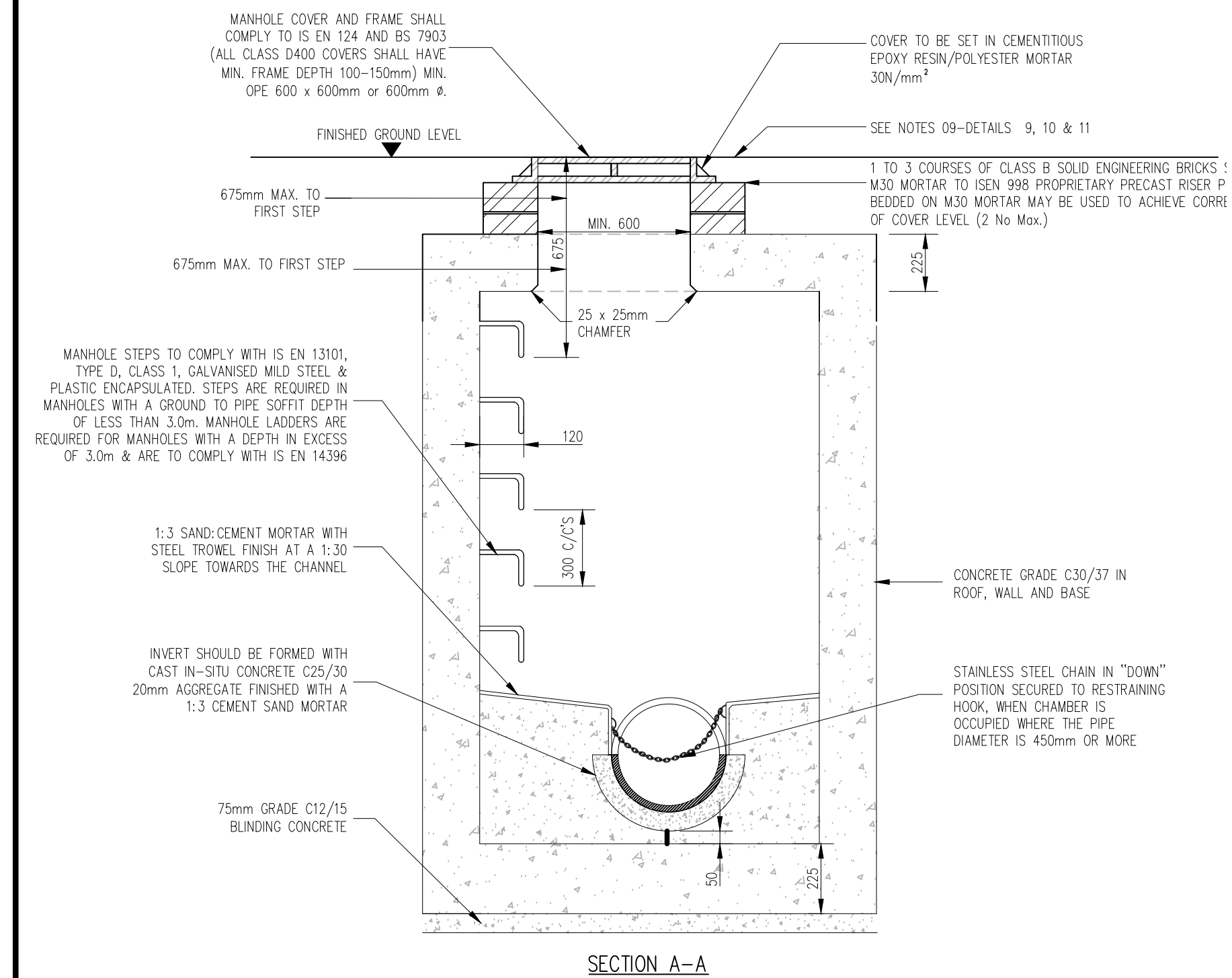
Rodding Eye End Cap Details



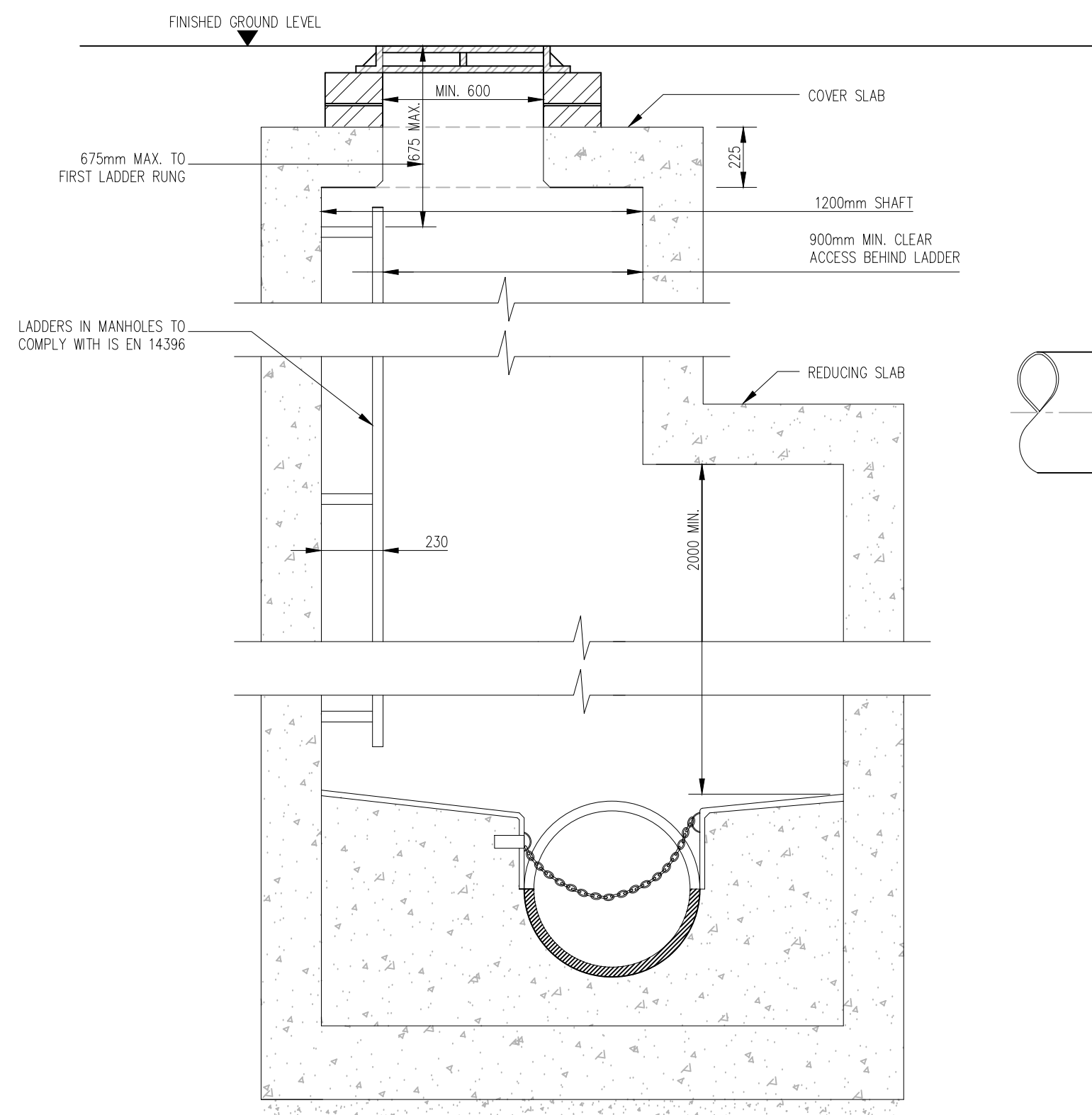
FRONT VIEW OF FLOW CONTROL



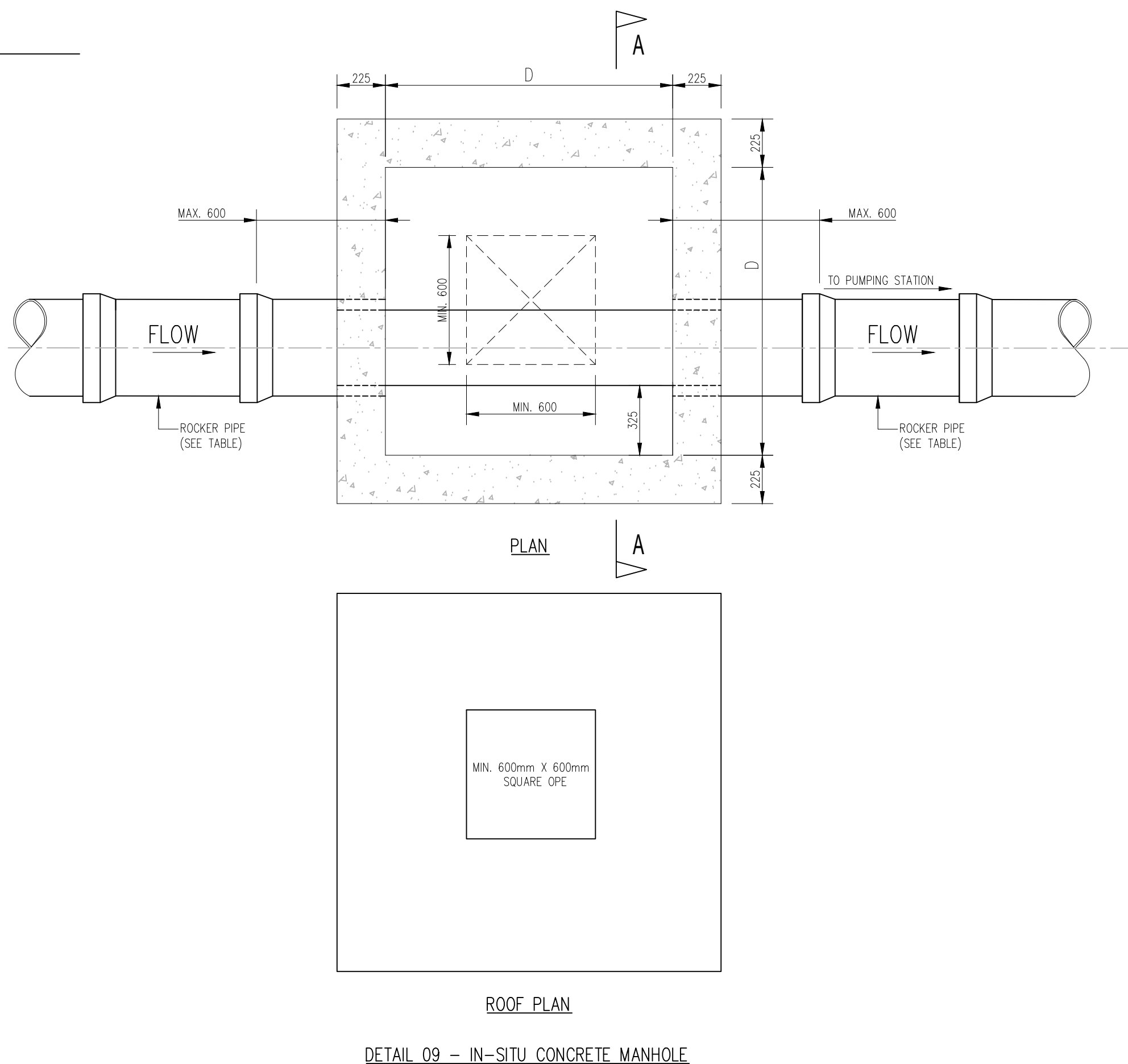
SECTION THRO' FINAL STORM WATER MANHOLE



SECTION A-A



MANHOLE DETAIL > 3m & < 6m
GROUND TO PIPE SOFFIT DEPTH
(NOTE: ON MANHOLES < 1.5m SHAFT DIMENSION,
REDUCING SLAB NOT TO BE USED & SHAFT TO
CONTINUE UP TO COVER SLAB)




ROOF PLAN

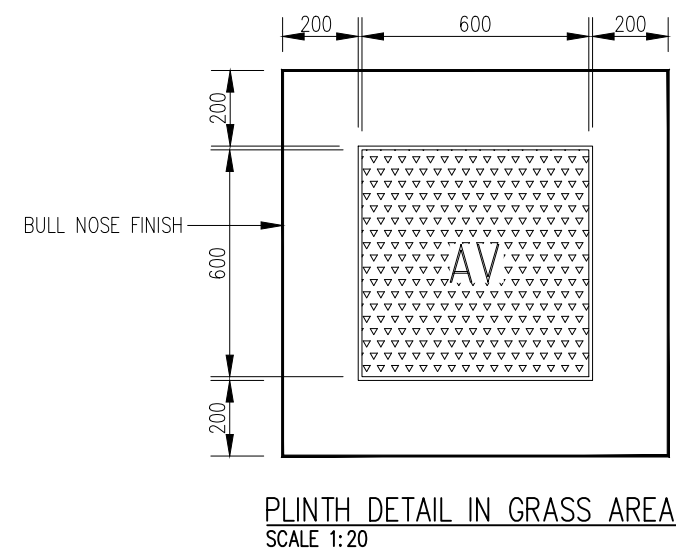
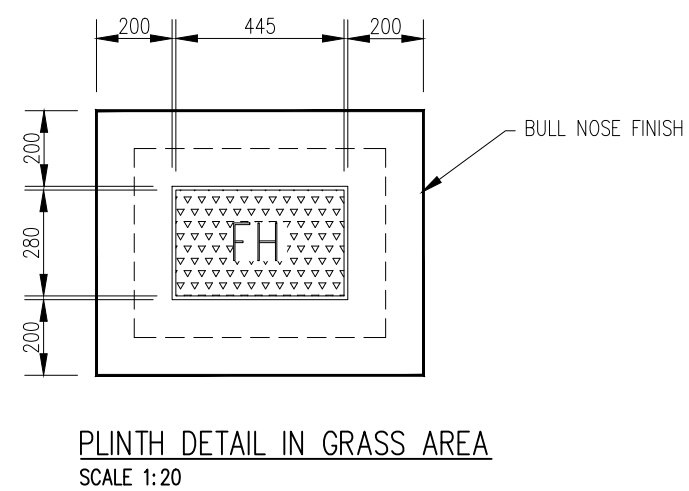
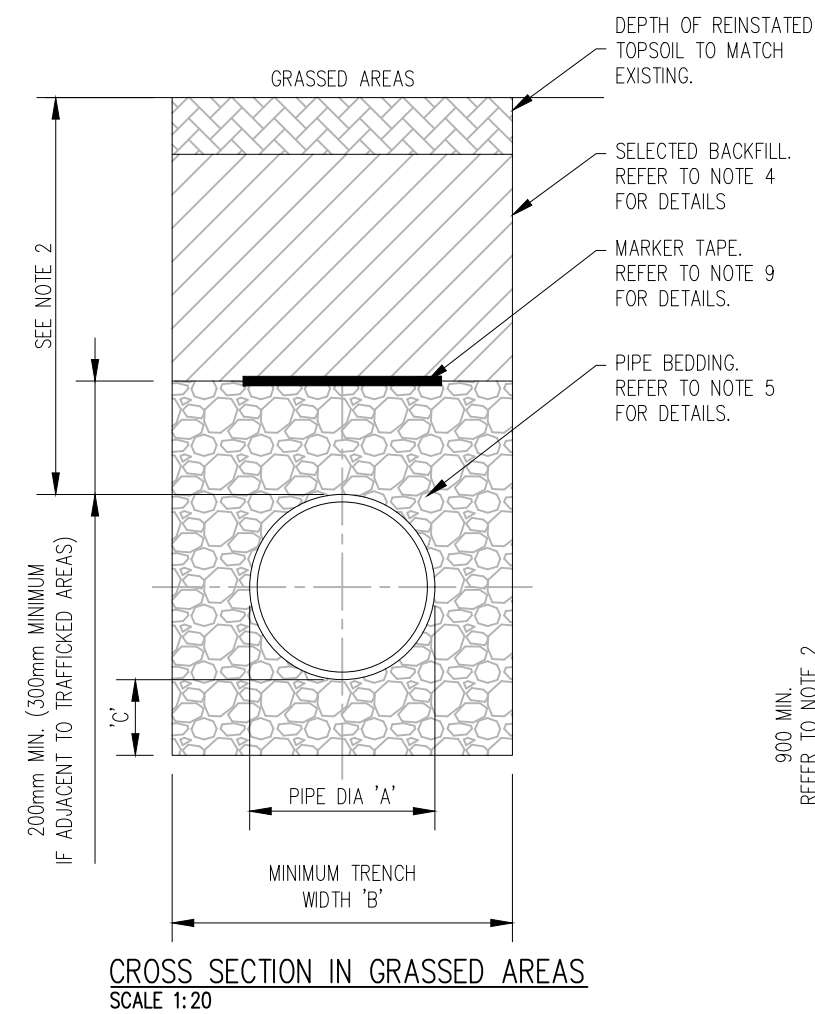
ROCKER PIPE LENGTH		MINIMUM MANHOLE DIMENSIONS "D"	
PIPE DIAMETER (mm)	ROCKER PIPE LENGTH (mm)	DIAMETER OF LARGEST PIPE IN MANHOLE (mm)	INTERNAL DIMENSION OF MANHOLE (mm)
150 - 600	600	< 375	1200
> 600 - 750	1000	375 - 450	1350
> 750	1250	500 - 750	1500

P	13.03.25	ISSUED FOR PLANNING		LR	LW
REV	DATE	DESCRIPTION		DWG BY	APPR. BY
ISSUED					
PLANNING					
CLIENT					
KILDARE COUNTY COUNCIL					
PROJECT NAME					
CRADDOCKSTOWN HOUSING DEVELOPMENT					
DRAWING NAME					
IRISH WATER FOUL & SURFACE DRAINAGE DETAILS 4 OF 4					
PROJECT No.					
24D024					
DRAWING No.			REVISION		
05C			P		
SCALE			DRAWN DATE		
AS SHOWN			21.01.2025		
CAD DRAWN BY		CHECKED BY	APPROVED BY		
L.R.		L.M	D.H.		
					
The Glass House, 11 Coke Lane Smithfield, Dublin 7. Tel: 01 6612321 E-mail: admin@hayeshiggins.ie					
Gas House Lane, Kilkenny. Tel: (056) 7764710 Email: info@hhp.ie					

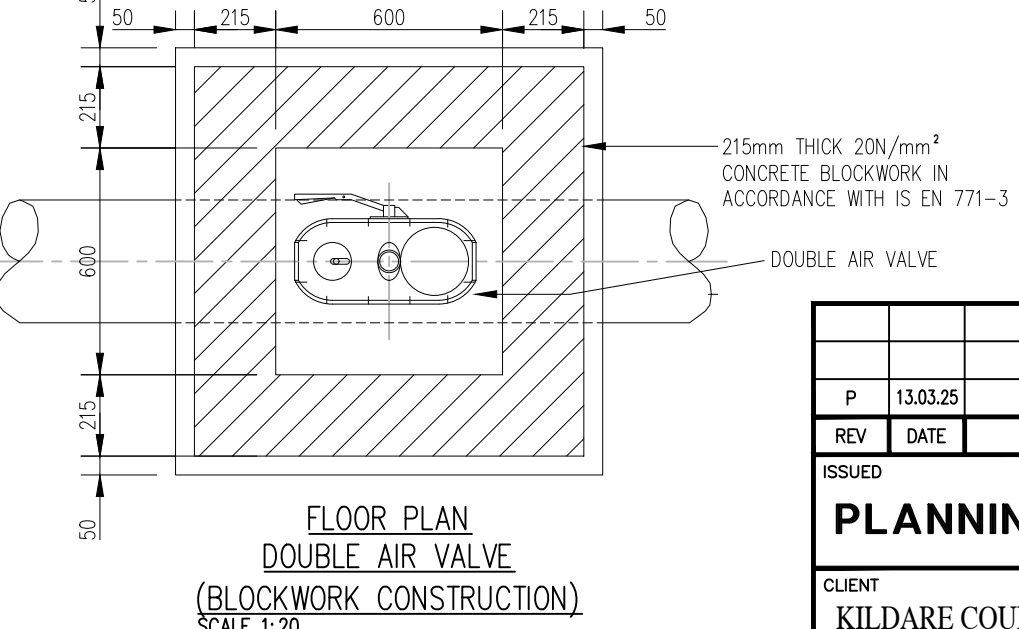
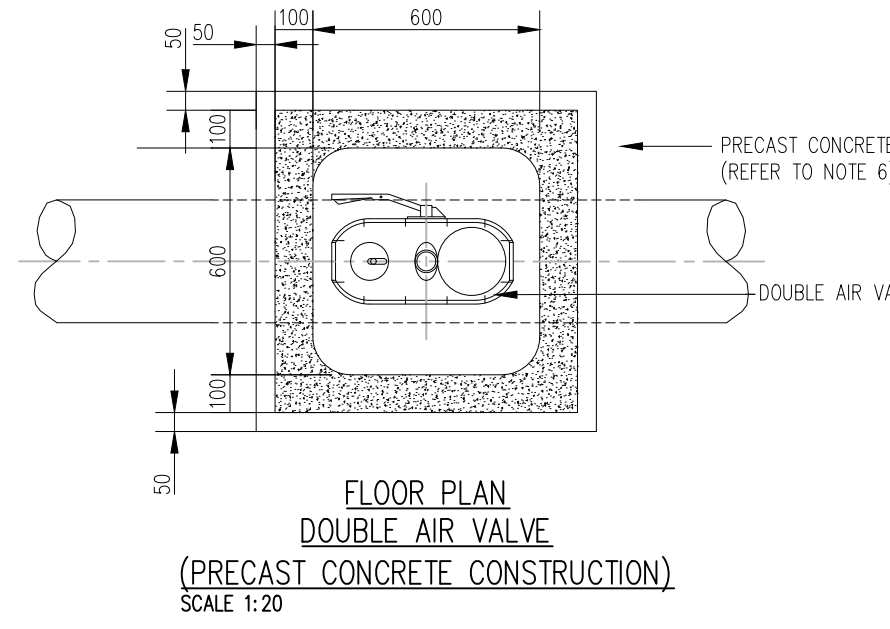
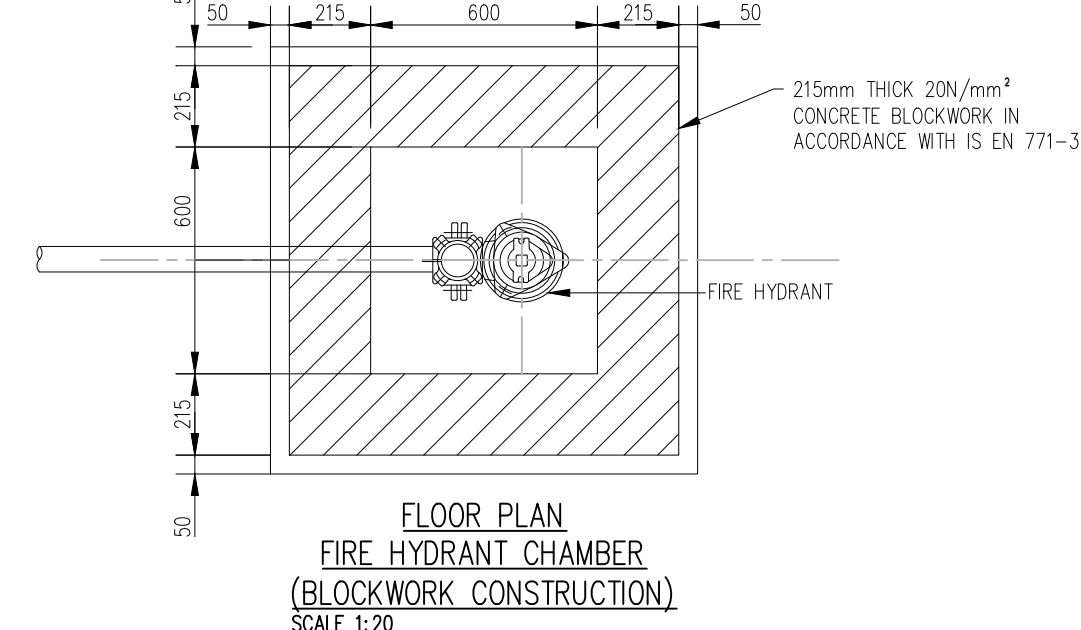
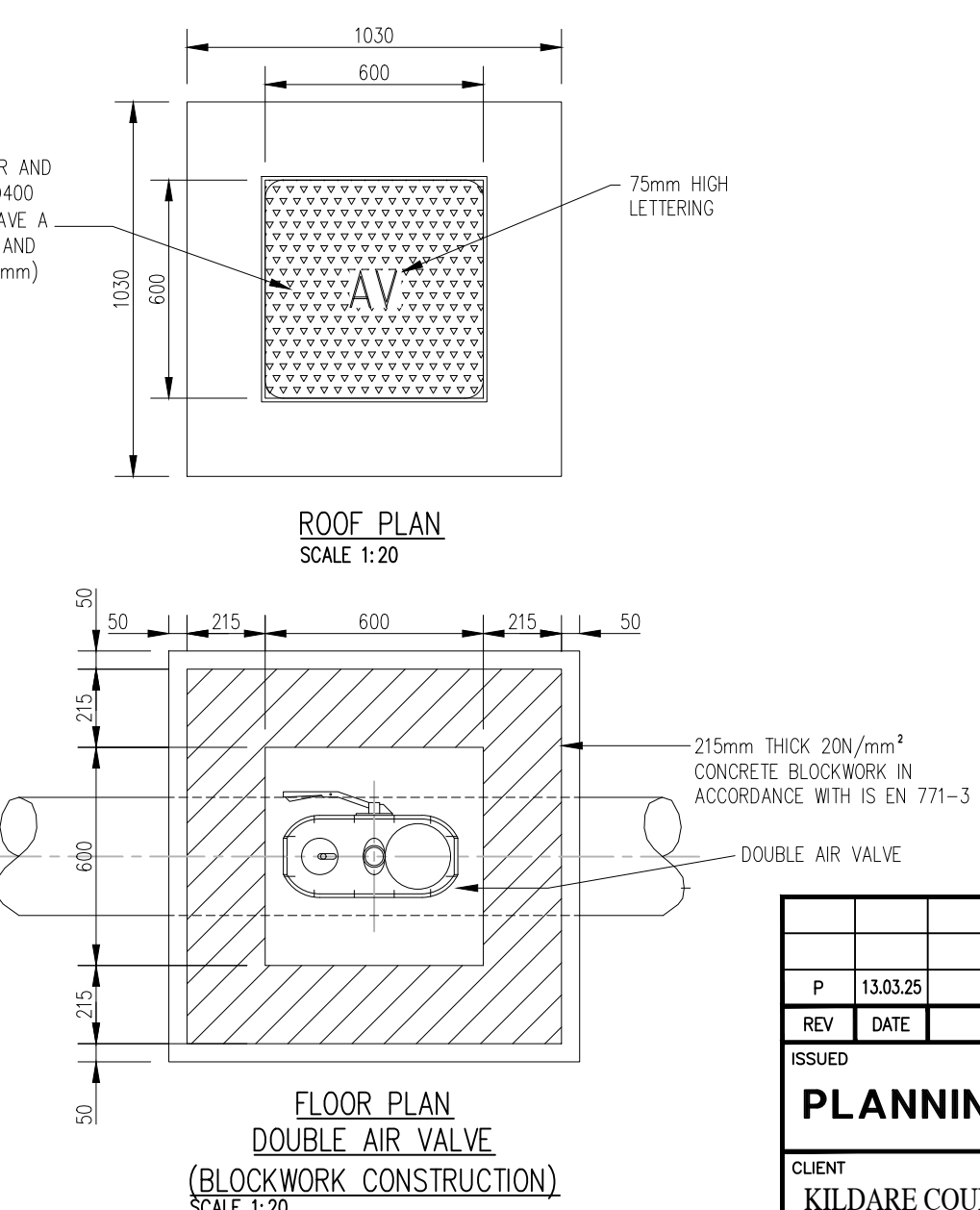
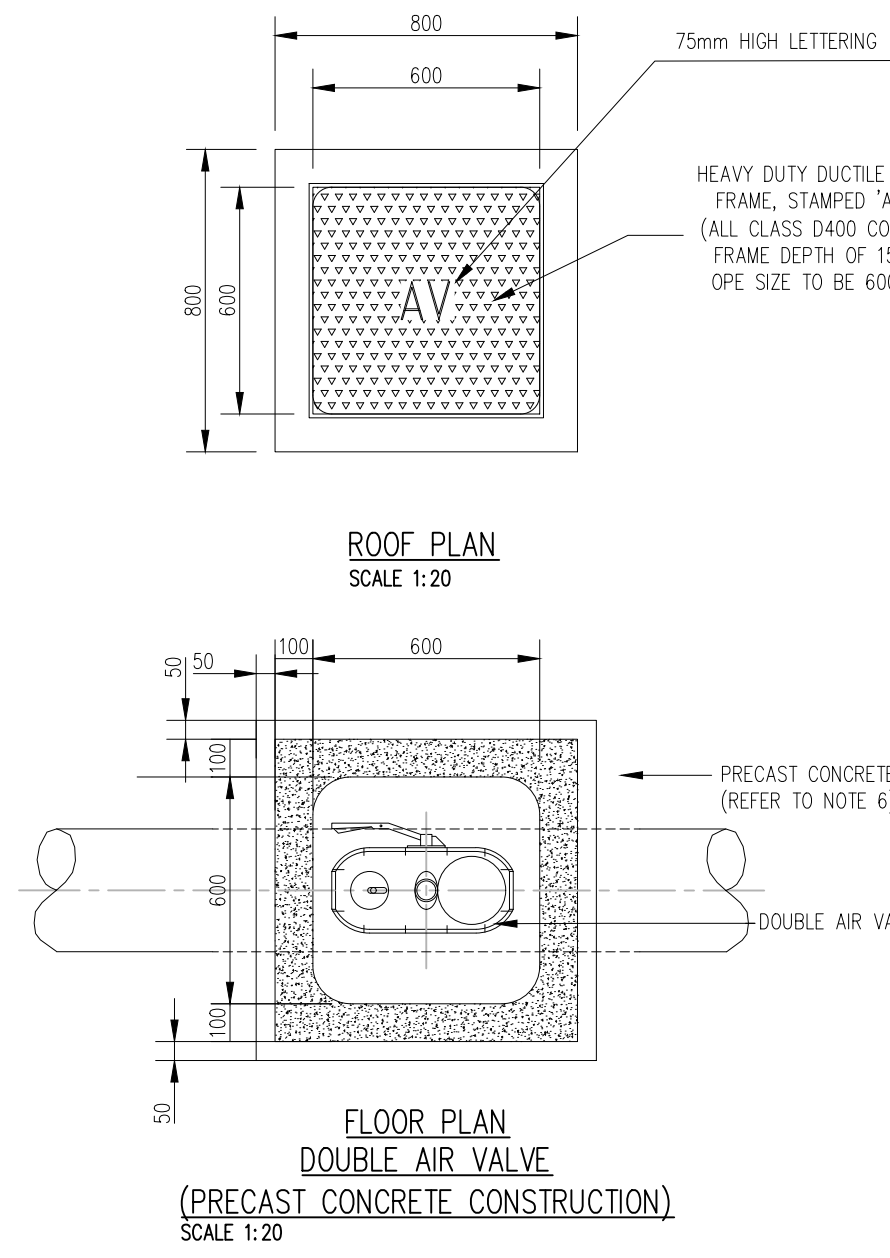
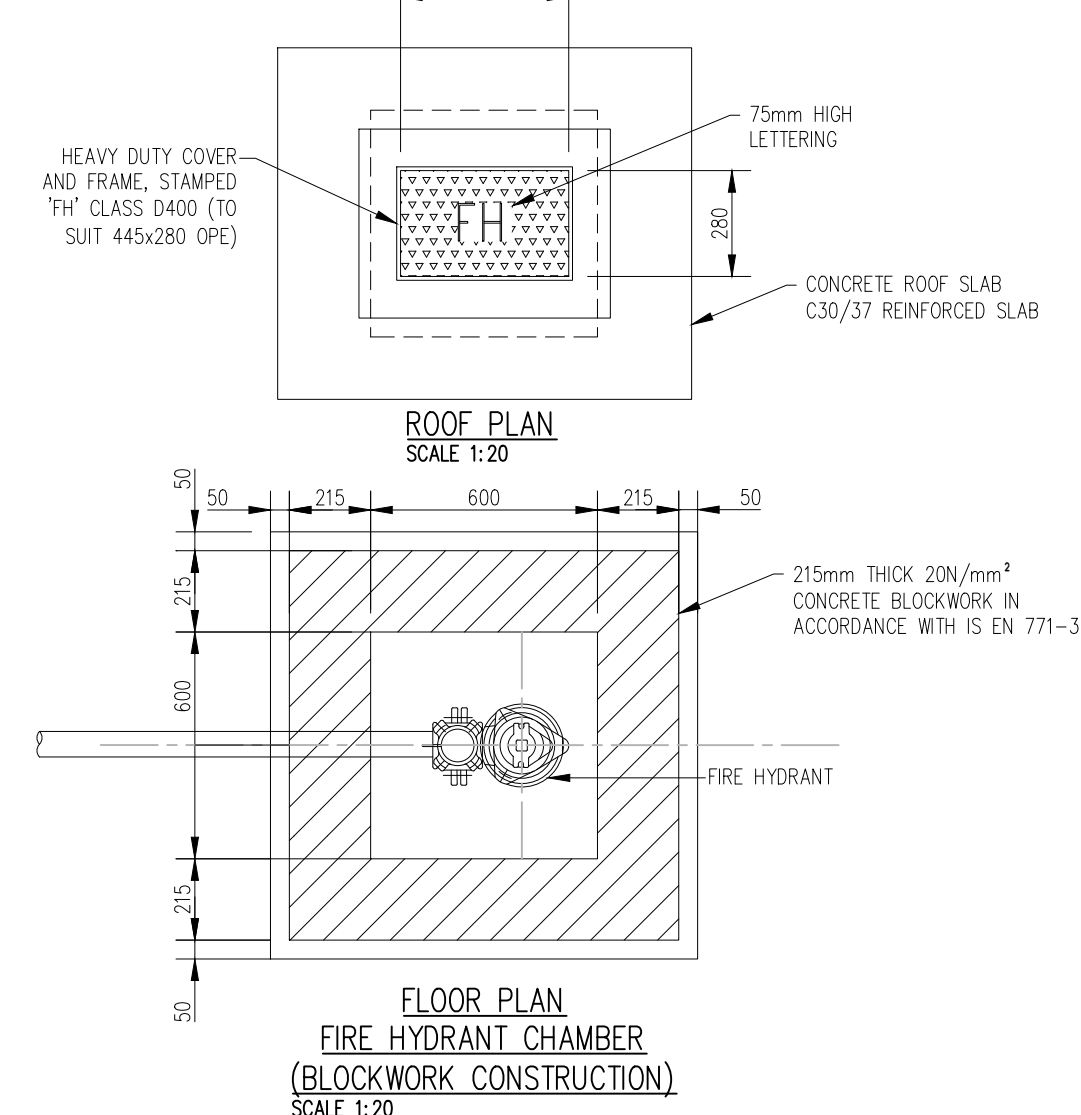
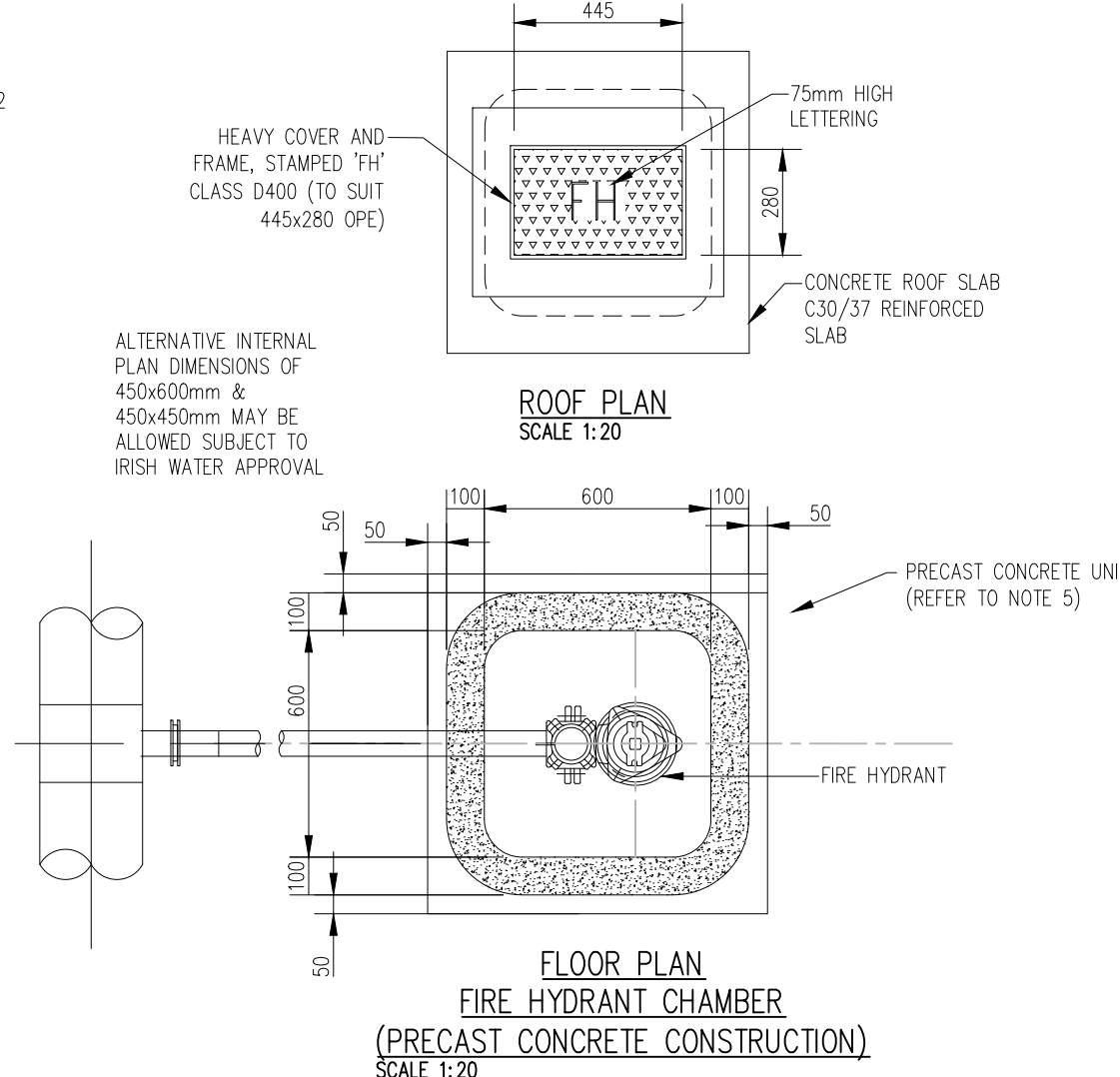
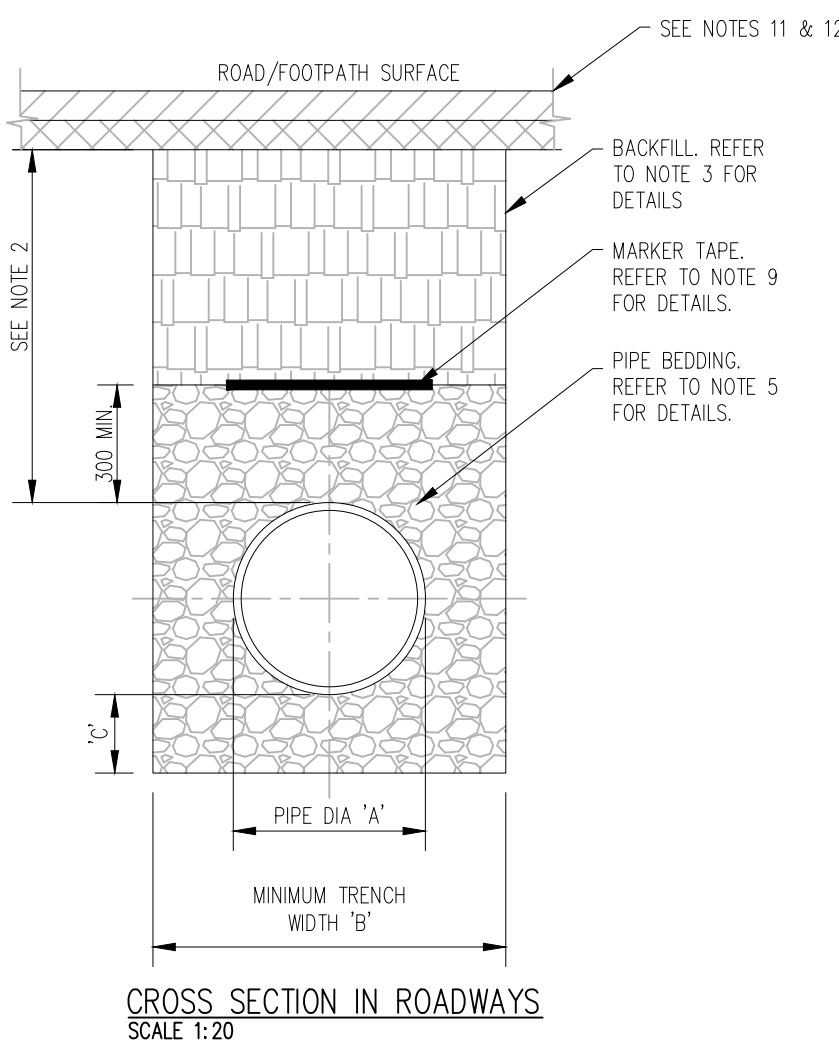
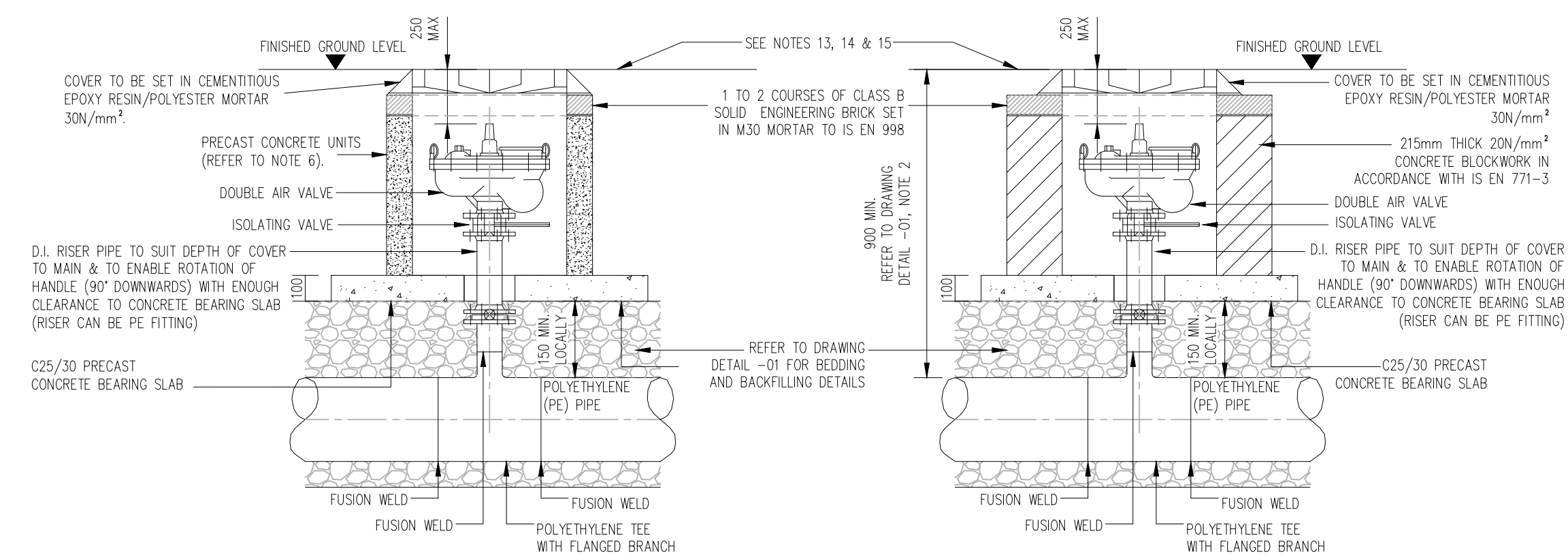
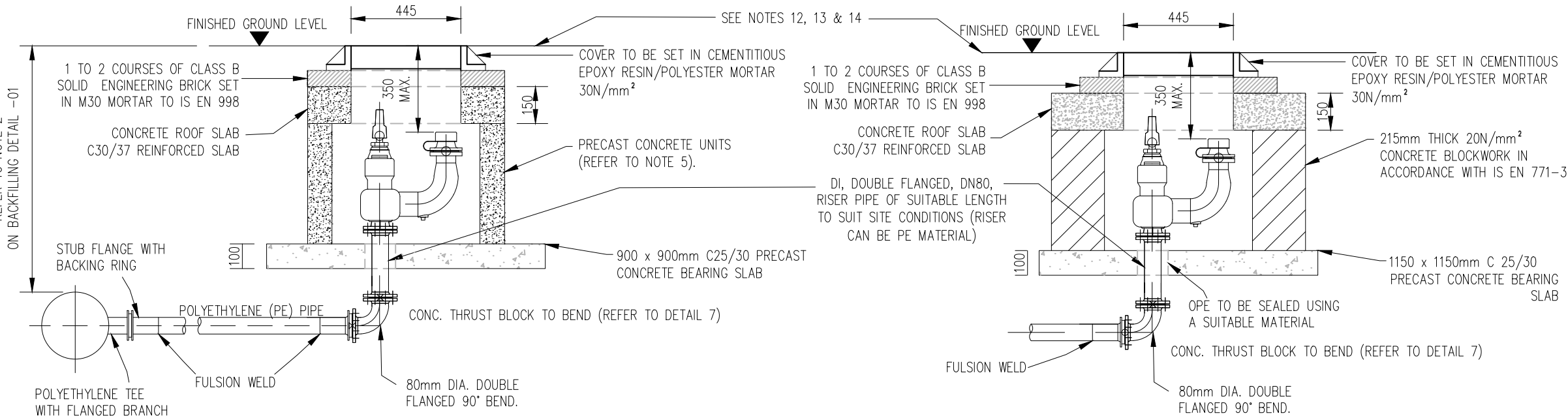
<div>DETAIL_01 – TRENCH BACKFILL & BEDDING</div> <div>NOTES:</div> <div><div>1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.</div><div>2. THE MINIMUM DEPTH OF COVER FROM THE FINISHED GROUND LEVEL TO THE EXTERNAL CROWN OF THE PIPE SHALL BE 900mm WHERE THE PIPE IS TO BE LOCATED IN HOUSING ESTATE ROADS. GREATER DEPTHS OF COVER AND/OR PIPE STRENGTH AND/OR A HIGHER CLASS OF BEDDING MATERIAL MAY BE REQUIRED WHERE HIGH TRAFFIC LOADING IS ANTICIPATED. THE DESIRABLE COVER FOR A WATERMAIN SHOULD BE 1200mm, WHERE PRACTICABLE & SHOULD NOT EXCEED 3.0m.</div><div>3. CLAUSE 804/808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS IS TO BE USED AS BACKFILL MATERIAL WHERE THE WATER 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 804/808 IS TO BE COMPACTED AS PER CLAUSE 802 OF THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS. CLAUSE 808 IS TO BE USED WITHIN 500mm OF CEMENT BOUND MATERIALS, CONCRETE PAVEMENTS, CONCRETE STRUCTURES OR CONCRETE PRODUCTS. OTHERWISE CLAUSE 804 MAY BE USED.ALTERNATIVE BACKFILL MATERIAL TO THAT DESCRIBED ABOVE (CLAUSE 804 OR CLAUSE 808) OF THE PIPE TRENCH WILL ONLY BE ALLOWED BY IRISH WATER WHERE THE ROADS AUTHORITY IN WHOSE FUNCTIONAL AREA THE DEVELOPMENT IS</div></div> <div><div>LOCATED, PROVIDES WRITTEN APPROVAL TO THE DEVELOPER TO THE USE SUCH ALTERNATIVE MATERIAL.</div><div>4. SELECTED EXCAVATED MATERIAL MAY BE USED IN GREEN-FIELD AREAS ABOVE GRANULAR PIPE SURROUND MATERIAL SUBJECT TO REVIEW BY IRISH WATER.</div><div>5. PIPE BEDDING SHALL COMPLY WITH WS 4-08-02 AND IGN 4-08-01 GRANULAR MATERIAL SHALL BE 14mm TO 5mm(d/2 2/14) GRADED AGGREGATE OR 10mm(d/4 7/10) SINGLE SIZED AGGREGATE TO IS EN 1242.</div><div>6. IN SOFT GROUND CONDITIONS (CBR <5) THE MATERIAL SHOULD BE EXCAVATED OUT AND DISPOSED OF IN ACCORDANCE WITH THE WASTE MANAGEMENT ACT AND CLAUSE 804/808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROADS WORKS SHALL REPLACE THE EXCAVATED MATERIAL, WRAPPED IN GEO-TEXTILE WRAPPING. ALTERNATIVELY, SPECIAL PIPE SUPPORT ARRANGEMENTS, INCLUDING PILING ETC. MAY BE REQUIRED WHERE THE DEPTH OF SOFT MATERIAL IS EXCESSIVE. SUCH ARRANGEMENTS SHALL BE SUBJECT TO ASSESSMENT BY IRISH WATER BEFORE ADVANCING WITH THE WORK.</div><div>7. PIPES SHALL NOT BE SUPPORTED ON STONES OR ROCKS, OR ANY HARD OBJECT 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 804/808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD</div></div>	<div>WORKS. THE GRANULAR MATERIAL SHALL BE LAID ABOVE THIS VOID BACKFILL MATERIAL.</div> <div>16. MINIMUM COVER TO STEEL REINFORCEMENT =40mm</div> <div>17. SLABS TO BE DESIGNED FOR USE UNDER A HB25 LOAD IN ACCORDANCE WITH BS5400-2. DESIGN TO BE SUBMITTED TO IRISH WATER FOR ASSESSMENT PRIOR TO INSTALLATION</div> <div>18. THE SOIL ON WHICH THE SLAB RESTS MUST HAVE A CBR OF 4%. THE MATERIAL SHALL BE REMOVED AND REPLACED WITH IMPORTED GRANULAR MATERIAL AS APPROVED BY IRISH WATER.</div> <div>19. IF DIRECTION OF PIPELINE AND DIRECTION OF TRAFFIC FLOW ARE PARALLEL, THE DIRECTION OF LAY OF THE SLAB IS TO BE AGAINST THE DIRECTION OF TRAFFIC FLOW.</div> <div>20. IF PIPELINE PROTECTION SLAB IS TO BE USED SOLELY FOR IMPACT PROTECTION & OVERALL DEPTH OF COVER IS GREATER THAN 1.2m, THE DISTANCE BETWEEN UNDERSIDE OF SLAB & TOP OF PIPE MAY BE INCREASED AFTER CONSULTATION WITH IRISH WATER.</div>	<div>DETAIL_02 – ON-LINE HYDRANT FOR POLYETHYLENE (P.E.) PIPE</div> <div>NOTES:</div> <div><div>1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.</div><div>2. HYDRANT CHAMBERS SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVERS TO IS 261 OR BS 5834. COVER AND FRAME SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS AND IS SUBJECT TO REVIEW BY IRISH WATER.</div><div>3. ALL HYDRANTS, SURFACE BOX FRAMES & COVERS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF IS EN 14339, IS EN 1074-6 & BS 750. FIRE HYDRANTS SHALL BE TYPE 2. THE HYDRANT INLET SHALL BE 80mm DIAMETER WITH PN16.</div><div>4. ALL HYDRANTS SHALL BE CLOCKWISE CLOSING.</div><div>5. HYDRANT CHAMBER TO BE CONSTRUCTED OF PRECAST CONCRETE UNITS OR HIGH DENSITY BLOCKWORK. ALTERNATIVELY PROPRIETARY PREFABRICATED CHAMBER UNITS MAY ALSO BE USED, SUBJECT TO REVIEW BY IRISH WATER. ROOF SLABS SHALL BE DESIGNED TO CARRY ALL LIVE LOADS & DEAD LOADS, & CONSIST OF A REINFORCED CONCRETE SLAB OF IN-SITU CONCRETE, GRADE C30/37, WITH A MINIMUM THICKNESS OF 150mm. ALTERNATIVELY, PRE-CAST CONCRETE ROOFS MAY BE USED, SUBJECT TO IRISH WATER REVIEW, & COMPLIANCE WITH IS EN 1917 & IS 420. PCC CHAMBER RISER UNIT SHOULD BE INTERLOCKING WHEN STACKED TO PREVENT LATERAL MOVEMENT OF INDIVIDUAL UNITS.</div><div>6. CONCRETE CHAMBERS SHALL BE SURROUNDED BY A MINIMUM OF 150mm COMPACTED</div></div> <div><div>DIRECTION OF TRAFFIC FLOW</div><div>DIRECTION OF PIPE</div></div>	<div>CLAUSE 808 MATERIAL AS PER DRAWING DETAIL – 01.</div> <div>7. DUCTILE IRON PIPES AND FITTINGS TO BE IN ACCORDANCE WITH IS EN 545. PE PIPES AND FITTINGS TO BE IN ACCORDANCE WITH IS EN 12201:2011.</div> <div>17. 450 x 600mm INTERNAL DIMENSION CHAMBERS MAY BE PROVIDED SUBJECT TO REVIEW BY IRISH WATER. SUCH CHAMBERS SHALL BE PROVIDED WITH GRADE "A" HEAVY DUTY COVER & FRAME & STAMPED 'SV'.</div>	<div>DETAIL_03 – ON-LINE AIR VALVE FOR POLYETHYLENE (P.E.) PIPE</div> <div>NOTES:</div> <div><div>1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.</div><div>2. AIR VALVE CHAMBERS SHALL BE COVERED WITH APPROVED VENTILATED HEAVY DUTY DUCTILE IRON COVERS TO IS EN 124. RATING D400. COVER AND FRAME SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS AND IS SUBJECT TO REVIEW BY IRISH WATER.</div><div>3. AIR VALVES SHALL COMPLY WITH THE REQUIREMENTS OF IS EN 1074-4. AIR VALVES SHALL BE DOUBLE ORIFICE TYPE AND SHALL INCLUDE AN ISOLATING VALVE. THE ISOLATING VALVE SHALL BE EITHER A GATE VALVE CONFORMING TO IS EN 1074-2 & SHALL BE OF A BOLTLESS BONNET DESIGN, OR A BUTTERFLY VALVE TO IS EN 1074-2.</div><div>4. SERVICE CONNECTIONS SHALL NOT BE PROVIDED WITHIN 2m OF THE AIR VALVE LOCATION.</div><div>5. AIR VALVE CHAMBERS TO BE OF PRECAST CONCRETE UNITS OR HIGH DENSITY BLOCKWORK. ALTERNATIVE PROPRIETARY PREFABRICATED CHAMBER UNITS MAY ALSO BE USED, SUBJECT TO REVIEW BY IRISH WATER.</div><div>6. PRECAST CONCRETE CHAMBERS SHALL BE SURROUNDED BY A MINIMUM OF 150mm COMPACTED CLAUSE 808 MATERIAL AS PER DRAWING DETAIL –01.</div><div>7. DUCTILE IRON PIPES/FITTINGS AND PE PIPES/FITTINGS TO BE IN ACCORDANCE WITH</div></div> <div><div>IS EN 545 AND IS EN 12201:2011.</div><div>8. 200mm ALL AROUND, 100mm DEEP CONCRETE PLINTH AROUND COVERS IN GREEN AREAS.</div><div>9. THRUST BLOCKS (NOT SHOWN ON DRAWING), TO BE PROVIDED AS PER STANDARD DRAWING DETAIL –06 AT ALL TEES, BENDS, TAPERS, DEAD ENDS AND PIPES AT STEEP SLOPES.</div><div>10. ANTI-CORROSION TAPE TO BE PROVIDED AROUND BURIED FLANGES.</div><div>11. THE LOCATION OF THE AIR VALVE SHALL BE THE SUBJECT OF PARTICULAR AGREEMENT WITH IRISH WATER TO ENSURE THAT THE RISK OF CONTAMINATION THROUGH THE VALVE IS ELIMINATED.</div><div>12. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.</div><div>13. ANY SPECIAL ROAD REINSTATEMENT AROUND COVER & FRAME SHALL BE TO ROAD AUTHORITY'S REQUIREMENTS.</div><div>14. NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.</div><div>15. EXISTING ROAD REINSTATEMENT TO COMPLY WITH CURRENT VERSION OF 'GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS' BY THE DEPT. OF TRANSPORT, TOURISM & SPORT, OR TRANSPORT INFRASTRUCTURE IRELAND REQUIREMENTS.</div><div>16. PRECAST CONCRETE CHAMBERS SHALL BE SURROUNDED BY A MINIMUM OF 150mm COMPACTED CLAUSE 808 MATERIAL AS PER DRAWING DETAIL –01.</div><div>17. DUCTILE IRON PIPES/FITTINGS AND PE PIPES/FITTINGS TO BE IN ACCORDANCE WITH</div></div>	<div>DETAIL_04 – SLUICE VALVE FOR POLYETHYLENE (P.E.) PIPE (≥350mm Ø)</div> <div>NOTES:</div> <div><div>1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.</div><div>2. SLUICE VALVE CHAMBERS SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVERS TO IS 261 OR BS 5834. COVER AND FRAME SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS AND IS SUBJECT TO REVIEW BY IRISH WATER.</div><div>3. SLUICE VALVES SHALL BE RESILIENT SEATED AND SHALL COMPLY WITH BS 5163-1, BS 5163-2, IS EN 1074-1, IS EN 1074-2, OR EQUIVALENT E.U. SPECIFICATIONS.</div><div>4. ALL SLUICE VALVES SHALL BE ANTI-CLOCKWISE CLOSING.</div><div>5. VALVE CHAMBER TO BE CONSTRUCTED OF PRECAST CONCRETE UNITS OR HIGH DENSITY BLOCKWORK. ALTERNATIVELY, PROPRIETARY PREFABRICATED CHAMBER UNITS MAY ALSO BE USED, SUBJECT TO REVIEW BY IRISH WATER. ROOF SLABS SHALL BE DESIGNED TO CARRY ALL LIVE LOADS & DEAD LOADS, & CONSIST OF A REINFORCED CONCRETE SLAB OF IN-SITU CONCRETE, GRADE C30/37, WITH A MINIMUM THICKNESS OF 150mm. ALTERNATIVELY, PRE-CAST CONCRETE ROOFS MAY BE USED, SUBJECT TO IRISH WATER REVIEW, & COMPLIANCE WITH IS EN 1917 & IS 420. PCC CHAMBER RISER UNITS SHOULD BE INTER LOCKING WHEN STACKED TO PREVENT LATERAL MOVEMENT OF INDIVIDUAL UNITS.</div><div>6. CONCRETE CHAMBERS SHALL BE SURROUNDED BY A MINIMUM OF 150mm COMPACTED CLAUSE 808 MATERIAL AS PER DRAWING DETAIL –01.</div><div>7. DUCTILE IRON PIPES AND FITTINGS TO BE IN ACCORDANCE WITH IS EN 545. PE PIPES</div></div> <div><div>AND FITTINGS TO BE IN ACCORDANCE WITH IS EN 12201:2011.</div><div>8. 200mm ALL AROUND, 100mm DEEP CONCRETE PLINTH AROUND COVERS IN GREEN AREAS.</div><div>9. THRUST BLOCKS (NOT SHOWN ON DRAWING), TO BE PROVIDED AS PER STANDARD DRAWING DETAIL –06 AT ALL TEES, BENDS, TAPERS, DEAD ENDS AND PIPES AT STEEP SLOPES.</div><div>10. ANTI-CORROSION TAPE TO BE PROVIDED AROUND BURIED FLANGES.</div><div>11. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.</div><div>12. 450x450mm INTERNAL DIMENSION CHAMBERS MAY BE PROVIDED SUBJECT TO REVIEW BY IRISH WATER. SUCH CHAMBERS SHALL BE PROVIDED WITH GRADE "A" HEAVY DUTY COVER & FRAME & STAMPED 'SV'. BEARING SLABS TO BE 900 x 900mm IN ALL CASES.</div><div>13. ANY SPECIAL ROAD REINSTATEMENT AROUND COVER AND FRAME SHALL BE TO ROAD AUTHORITY'S REQUIREMENTS.</div><div>14. NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.</div><div>15. EXISTING ROAD REINSTATEMENT TO COMPLY WITH CURRENT VERSION OF 'GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS' BY THE DEPT. OF TRANSPORT, TOURISM & SPORT, OR TRANSPORT INFRASTRUCTURE IRELAND REQUIREMENTS.</div></div>	
<div>DETAIL_05 – ELECTROMAGNETIC METER CHAMBER (80 – 250mm Ø)</div> <div>NOTES:</div> <div><div>1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.</div><div>2. STRUCTURAL DESIGN AND REINFORCEMENT DETAIL TO BE PROVIDED BY THE DEVELOPER AND SUBMITTED TO IRISH WATER FOR REVIEW. ROOF SLABS SHALL BE DESIGNED TO CARRY ALL LIVE LOADS & DEAD LOADS, & CONSIST OF A REINFORCED CONCRETE SLAB OF IN-SITU CONCRETE, GRADE C30/37, WITH A MINIMUM THICKNESS OF 225mm. ALTERNATIVELY, PRE-CAST CONCRETE ROOFS MAY BE USED, SUBJECT TO IRISH WATER REVIEW, & COMPLIANCE WITH IS EN 1917 & IS 420.</div><div>3. CONCRETE FOR FLOW METER CHAMBER TO BE C30/37.</div><div>4. PRECAST UNITS COMPLETED WITH RUBBER SEALING GASKET BETWEEN UNITS, COMPLYING WITH THE REQUIREMENTS OF IS EN 1917 AND IS 420, COMPLETE WITH 150mm CONCRETE SURROUND MAY BE USED AS AN ACCEPTABLE ALTERNATIVE. CONCRETE SURROUND TO BE GRADE C20/25 IN ACCORDANCE WITH IS EN 206.</div><div>5. METER CHAMBER SHALL BE COVERED WITH APPROVED HEAVY DUTY METAL COVERS TO IS EN 124 RATING D400. COVER AND FRAME SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS AND IS SUBJECT TO REVIEW BY IRISH WATER.</div><div>6. 200mm ALL AROUND, 100mm DEEP CONCRETE PLINTH AROUND COVER IN GRASS AREAS.</div><div>7. ANTI-CORROSION TAPE TO BE PROVIDED AROUND BURIED FLANGES.</div><div>8. DUCTILE IRON PIPES AND FITTINGS TO BE IN</div></div> <div><div>ACCORDANCE WITH IS EN 545. PE PIPES AND FITTINGS TO BE IN ACCORDANCE WITH IS EN 12201:2011.</div><div>9. ALL CHAMBERS TO BE CHECKED FOR UPLIFT BY THE DEVELOPER BASED ON GROUND CONDITIONS WITHIN THE SITE. SHOULD ANTI-FLOATATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO REVIEW BY IRISH WATER.</div><div>10. PIPEWORK TO BE DOWNSIZED TO ACCOMMODATE THE REQUIRED RANGE OF THE FLOW METER. STRAIGHT PIPE LENGTHS UPSTREAM AND DOWNSTREAM OF THE METER TO BE PROVIDED. THE METER SHALL BE CAPABLE OF ACCURATE NIGHT FLOW MEASUREMENTS.</div><div>11. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.</div><div>12. ANY SPECIAL ROAD REINSTATEMENT AROUND COVER & FRAME SHALL BE TO ROAD AUTHORITY'S REQUIREMENTS.</div><div>13. NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.</div><div>14. EXISTING ROAD REINSTATEMENT TO COMPLY WITH CURRENT VERSION OF 'GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS' BY THE DEPT. OF TRANSPORT, TOURISM & SPORT, OR TRANSPORT INFRASTRUCTURE IRELAND REQUIREMENTS.</div><div>15. DEVELOPER TO PROVIDE SPOOL PIECE, IRISH WATER TO PROVIDE METER.(SEE TABLE FOR SPOOL PIECE LENGTHS).</div></div>	<div>DETAIL_06 – WATER MAIN THRUST AND SUPPORT BLOCKS</div> <div>NOTES:</div> <div><div>1. ALL DIMENSIONS IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.</div><div>2. CONCRETE THRUST BLOCKS (ANCHORAGE) SHALL BE POSITIONED SYMMETRICALLY WITH RESPECT TO THE CONNECTING PIPE & BENDS.</div><div>3. TRENCH DIMENSIONS: REFER TO DRAWING DETAIL –01.</div><div>4. THRUST BLOCKS SHALL BEAR ON UNDISTURBED SOIL. IF FOR ANY REASON THEY CANNOT THEN THE DEVELOPER SHALL NOTIFY IRISH WATER IMMEDIATELY WITH A PROPOSED SOLUTION.</div><div>5. THRUST BLOCK REINFORCEMENT REQUIRES SPECIFIC DESIGN.</div><div>6. FOR TEST PRESSURES GREATER THAN 18 BAR, THRUST BLOCK DESIGN IS TO BE SUBMITTED TO IRISH WATER FOR REVIEW.</div><div>7. THRUST BLOCKS ARE DESIGNED FOR AN AVERAGE BEARING PRESSURE OF 100KN/m² (TYPICAL FOR SOFT CLAY) FOR OTHER CONDITIONS, ACTUAL DIMENSIONS MAY BE ALTERED ON INSTRUCTIONS FROM IRISH WATER.</div><div>8. CONCRETE IN THRUST BLOCKS SHALL BE GRADE C20/25.</div><div>9. COMPRESSIBLE FILLER FOR CONCRETE PROTECTION TO BE IN ACCORDANCE WITH BS EN 622-1 AND BS EN 622-4 BITUMINOUS MATERIAL SHALL NOT BE PUT IN CONTACT WITH PLASTIC PIPES. THE THICKNESS OF COMPRESSIBLE FILLER FOR MAINS < 450mm IN DIAMETER IS TO BE</div></div> <div><div>18mm.</div><div>10. CONCRETE THRUST BLOCKS FOR POLYETHYLENE PIPE TO COMPLY WITH THE MANUFACTURER'S REQUIREMENTS.</div><div>11. POLYETHYLENE PIPES SHALL BE WRAPPED IN PLASTIC SHEETING HAVING A COMPOSITION IN ACCORDANCE WITH BS 6076 BEFORE BEING CAST INTO CONCRETE.</div><div>12. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.</div></div>	<div>DETAIL_07 – MARKER POSTS/PLATES</div> <div>NOTES:</div> <div><div>1. WHERE PRACTICAL MARKER PLATES SHALL BE FIXED TO ADJACENT WALLS OR ALTERNATIVELY ATTACHED TO MARKER POSTS.</div><div>2. PLATES TO BE FIXED IN POSITION USING WALL PLUGS AND STAINLESS STEEL SCREWS.</div><div>3. MARKER PLATES TO BE MANUFACTURED IN ACCORDANCE WITH BS 3251.</div><div>4. FOR HYDRANT PLATE ALL CHARACTERS SHOULD BE BLACK AND THE REMAINDER OF THE FRONT FACE SHOULD CONFORM TO COLOUR REFERENCE RAL 0858080.</div><div>5. PIPE DIAMETER ON HYDRANT PLATE TO REFER TO WATERMAIN NOT BRANCH.</div><div>6. SLUICE VALVE, AIR VALVE, SCOUR VALVE, AND WASHOUT HYDRANT ETC. SHOULD BE CAST ALUMINUM. ALL CHARACTERS SHOULD BE BLACK ON WHITE PAINT BACKGROUND. ALTERNATIVE MATERIAL MAY BE USED SUBJECT TO ACCEPTANCE BY IRISH WATER.</div><div>7. CONCRETE MARKER POST TO BE GRADE C25/30 AND IN ACCORDANCE WITH IS EN 206/2013.</div></div>	<div>DETAIL_08 – CUSTOMER CONNECTION AND BOUNDARY BOX (25mm OD PIPE)</div> <div>NOTES:</div> <div><div>GENERAL NOTES:</div><div>1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.</div><div>2. FOR CONNECTION TO AN EXISTING MAIN THE CONNECTION SHALL BE AS PER THE PIPE MANUFACTURER'S SPECIFICATION.</div><div>3. ELECTRO FUSION COUPLING TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.</div><div>4. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.</div><div>BOUNDARY BOX NOTES:</div><div>1. THE BOUNDARY BOX IS TO BE IN ACCORDANCE WITH THE IRISH WATER SPECIFICATION, INCORPORATING A G1.5 MANIFOLD, STOP-TAP, FROST PLUG & NON-RETURN VALVE.</div><div>2. THE BOUNDARY BOX SHALL BE POSITIONED IN PUBLIC SPACE & AS CLOSE AS POSSIBLE TO THE PROPERTY BOUNDARY BUT NO PART OF THE FITTING TO BE WITHIN 225mm OF THE</div></div> <div><div>PROPERTY LINE.</div><div>3. THE BOUNDARY BOX SHALL BE LOCATED WHERE IT IS SAFE TO OPEN THE COVER & ACCESS THE STOP TAP OR VISUALLY READ THE METER, i.e. ON A FOOTPATH OR VERGE, & NOT IN A CARRIAGEWAY.</div><div>4. THE SURFACE BOX COVER ON THE BOUNDARY BOX SHOULD BE NOT BE LESS THAN GRADE C (BS 5834-2:2011); & THE BOUNDARY BOX SHOULD BE LOCATED SUCH THAT HEAVIER GRADES OF COVER WOULD NOT BE REQUIRED.</div><div>5. THE SHAFT OF THE BOUNDARY BOX IS TO BE INSTALLED VERTICALLY, & THE SURFACE BOX/COVER INCURED TO MATCH THE SURFACE GRADIENT.</div><div>6. THE BOUNDARY BOX IS TO BE INSTALLED AT A MINIMUM DEPTH OF 600mm (+/- 25mm) TO THE CROWN OF THE INLET & OUTLET FITTINGS ON THE OUTSIDE OF THE BOX.</div><div>7. 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.</div><div>8. THE PIPE FITTINGS TO THE BOUNDARY BOX SHALL BE APPROVED BY THE BOUNDARY BOX MANUFACTURER.</div><div>9. THE BOUNDARY BOX SHALL BE INSTALLED HYDRAULICALLY & LEFT CLEAN & FREE OF CONSTRUCTION WASTE OR DIRT FOR LATER METER INSTALLATION BY IRISH WATER.</div><div>10. BOX TO BE FOUNDED ON 100mm DEPTH OF C12/15 CONCRETE AND SURROUNDED WITH CLAUSE 808 GRANULAR MATERIAL.</div><div>11. THE DESIRABLE MINIMUM COVER FROM THE</div></div>	<div>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). THE DESIRABLE MAXIMUM COVER FOR A SERVICE CONNECTION PIPE SHOULD BE 1200mm, WHERE PRACTICABLE.</div> <div>12. CUSTOMER'S DISTRIBUTION PIPEWORK WITHIN THE PREMISES SHOULD BE SUITABLY SIZED TO ACCOMMODATE FLOW FROM 20mm INTERNAL DIAMETER SERVICE PIPE.</div> <div>13. WHERE A GRASS VERGE IS NOT AVAILABLE AND A FOOTPATH IS LESS THAN 1.5m WIDE, THE WATERMAIN IS PERMITTED ON THE ROADWAY</div> <div>14. THE POSITION OF THE METER DOES NOT REPRESENT THE CHANGE OF OWNERSHIP IN THE SERVICE PIPE THAT POINT IS NORMALLY AT THE PROPERTY BOUNDARY.</div> <div>15. THE BOUNDARY BOX ACCOMMODATES DN15, DN20 & DN25 CONCENTRIC METERS. A G1 1/2" MANIFOLD IS TO BE USED FOR DN15 & DN20 METERS. A G2" MANIFOLD IS TO BE USED FOR DN25 METERS.</div>	<div>PIPES SHALL BE AS OUTLINED IN SECTION 3.27 OF THE CODE OF PRACTICE.THE SEPARATION DISTANCES SPECIFIED ARE MINIMUM DISTANCES.</div> <div>2. SPECIFIC SEPARATION CLEARANCE DISTANCES IN EXCESS OF THESE MINIMA SHALL BE PROVIDED FOR SERVICES SUCH AS GAS, ELECTRICITY, FIBRE-OPTIC OR OIL FILLED CABLES AS THE CASE MAY BE. THE PARTICULAR UTILITY PROVIDERS SHALL BE CONSULTED TO DETERMINE THESE MINIMUM SEPARATION DISTANCES AND EVIDENCE OF THIS CONSULTATION, WITH THE SPECIFIED SEPARATION DISTANCES, SHALL BE PROVIDED TO IRISH WATER AT DESIGN STAGE.</div> <div>3. WATERMAIN (PROPOSED) SEPARATION DISTANCES</div> <div><div>HORIZONTAL</div><div>300mm to DISTRIBUTION MAINS OF LESS THAN 300mm DIAMETER.</div><div>500mm to TRUNK MAINS BETWEEN 300mm AND 450mm DIAMETER.</div><div>3m to ARTERIAL WATER MAINS OF GREATER THAN 450mm DIAMETER.</div></div> <div><div>VERTICAL</div><div>300mm to DISTRIBUTION MAINS OF LESS THAN 300mm DIAMETER.</div><div>500mm to TRUNK/ARTERIAL MAINS OF DIAMETER GREATER THAN 300mm.</div><div>ANY PROPOSED PIPE CROSSING SHOULD BE LOCATED MID-WAY BETWEEN THE WATER JOINTS WITH MINIMUM CLEAR DISTANCE OF 300mm AND UP TO 500mm. ALL CROSSINGS SHOULD BE AT LEAST 500mm AWAY FROM FITTINGS OR JOINTS.</div></div> <div>4. WATERMAIN (EXISTING) SEPARATION</div>	<div>DISTANCES</div> <div><div>HORIZONTAL</div><div>IN THE CASE OF INSTALLATIONS IN CLOSE PROXIMITY TO EXISTING WATER MAINS AND SEWERS, THE FOLLOWING MINIMUM HORIZONTAL DISTANCES SHALL BE MAINTAINED BETWEEN PIPES/DUCTS, CABINETS, POLES, MANHOLES, JUNCTION BOXES, CHAMBERS, ETC. WHERE THE DEPTH OF THE EXISTING INFRASTRUCTURE DOES NOT EXCEED 1.5m.</div><div>600mm at EITHER SIDE OF MAINS UP TO AND INCLUDING 150mm DIAMETER.</div><div>1m at EITHER SIDE OF MAINS OF 200mm TO 250mm DIAMETER.</div><div>2m at EITHER SIDE OF MAINS OF 300mm AND 375mm DIAMETER.</div><div>5m at EITHER SIDE OF MAINS OF 400mm AND 450mm DIAMETER.</div><div>SPECIFIC IRISH WATER ADVISED DISTANCES FOR MAINS IN EXCESS OF 450mm;</div><div>600mm at EITHER SIDE OF GRAVITY SEWER UP TO & INCLUDING 225mm DIAMETER;</div><div>1m at EITHER SIDE OF GRAVITY SEWER OF 300mm AND UP TO 450mm DIAMETER;</div><div>1.5m at EITHER SIDE OF GRAVITY SEWER OF 600mm DIAMETER & GREATER;</div><div>5. NOTIFICATION IN WRITING IS REQUIRED SHOULD WORKS BE WITHIN THE FOLLOWING DISTANCES FROM AN EXISTING WATERMAIN OR WASTEWATER RISING MAIN:</div><div>WHERE THE DEPTH OF THE EXISTING INFRASTRUCTURE DOES NOT EXCEED 1.5m:-</div><div><div>HORIZONTAL</div><div>1m at EITHER SIDE OF EXISTING PIPES</div></div></div> <div><div>LESS THAN 200mm DIAMETER;</div><div>2m at EITHER SIDE OF EXISTING PIPES OF 200mm TO 350mm DIAMETER;</div><div>5m at EITHER SIDE OF EXISTING PIPES OF 350mm OR GREATER;</div><div>WHERE DUCTS OR PIPES ARE TO BE LAID CLOSE TO AN EXISTING WATERMAIN OR SEWER IN THE OWNERSHIP OF IRISH WATER, NOTIFICATION IN WRITING SHALL BE PROVIDED A MINIMUM OF 10 DAYS AHEAD OF ADVANCEMENT OF THE WORKS. THIS ALSO APPLIES WHERE THE DEPTH OF THE IRISH WATER WATERMAIN OR SEWER EXCEEDS 1.5m. IN ALL OF THESE INSTANCES, SPECIFIC WRITTEN APPROVAL WILL BE REQUIRED FROM IRISH WATER BEFORE PROCEEDING WITH THE WORK</div><div>NOTIFICATION IN WRITING IS REQUIRED SHOULD WORKS BE WITHIN 1.5m DISTANCE OF A WASTEWATER SEWER.</div><div>REQUIREMENTS SHALL ALSO APPLY TO TRIAL HOLES OR SILT TRENCHES TO LOCATE THE MAIN OR GAIN GROUND INFO DATA. LARGER DIAMETERS >300mm DISTRIBUTION AND TRUNK MAINS, IRISH WATER MUST BE NOTIFIED AT LEAST 1 MONTH IN ADVANCE.</div><div>DEVELOPERS SHALL ALSO COMPLY WITH ANY NOTIFICATION REQUIREMENTS OF OTHER UTILITY PROVIDERS (ESB, GAS MAIN, TELECOMMUNICATION ETC.)</div><div>6. DETAILED PROPOSALS, INCLUDING WORK METHOD STATEMENTS, INSURANCE CONFIRMATION AND DETAILS OF WORK COMPLETED OF A SIMILAR NATURE MUST BE SUBMITTED TO IRISH WATER FOR ITS CONSIDERATION BEFORE AGREEMENT WILL ISSUE. ALL SUCH WORKS IN THE VICINITY OF ARTERIAL WATER MAINS AND SEWERS (MAINS GREATER THAN 400mm) SHALL BE</div></div>

NOTES
GENERAL
1.) THESE DRAWINGS TO BE READ IN CONJUNCTION WITH ALL RELEVANT HAYES HIGGINS ENGINEERING DRAWINGS AND SPECIFICATIONS.
2.) DO NOT SCALE. USE FIGURED DIMENSIONS ONLY.

P	13.03.25	ISSUED FOR PLANNING	LR	LW
REV	DATE	DESCRIPTION	DWG BY	APP. BY
ISSUED				
PLANNING				
CLIENT KILDARE COUNTY COUNCIL				
PROJECT NAME CRADDOCKSTOWN HOUSING DEVELOPMENT				
DRAWING NAME IRISH WATER WATERMAIN DETAILS SHEET 1 OF 5				
PROJECT No. 24D024				
DRAWING No. 06		REVISION P		
SCALE AS SHOWN		DRAWN DATE 29.01.25		
CAD DRAWN BY L.R	CHECKED BY L.M.	APPROVED BY D.H.		
<div><div></div><div><div>HAYES HIGGINS PARTNERSHIP</div><div>The Glass House, 11 Coke Lane Smithfield, Dublin 7. Tel: 01 6612321 E-mail: admin@hayeshiggins.ie Gas House Lane, Kilkenny. Tel: (056) 7764710 Email: info@hhp.ie</div></div></div>				



DIAMETER OF MAIN	UP TO 250 (mm)	250 TO 350 (mm)
DIAMETER OF BRANCH	80mm	100mm
BORE OF VALVE INLET	80mm	100mm

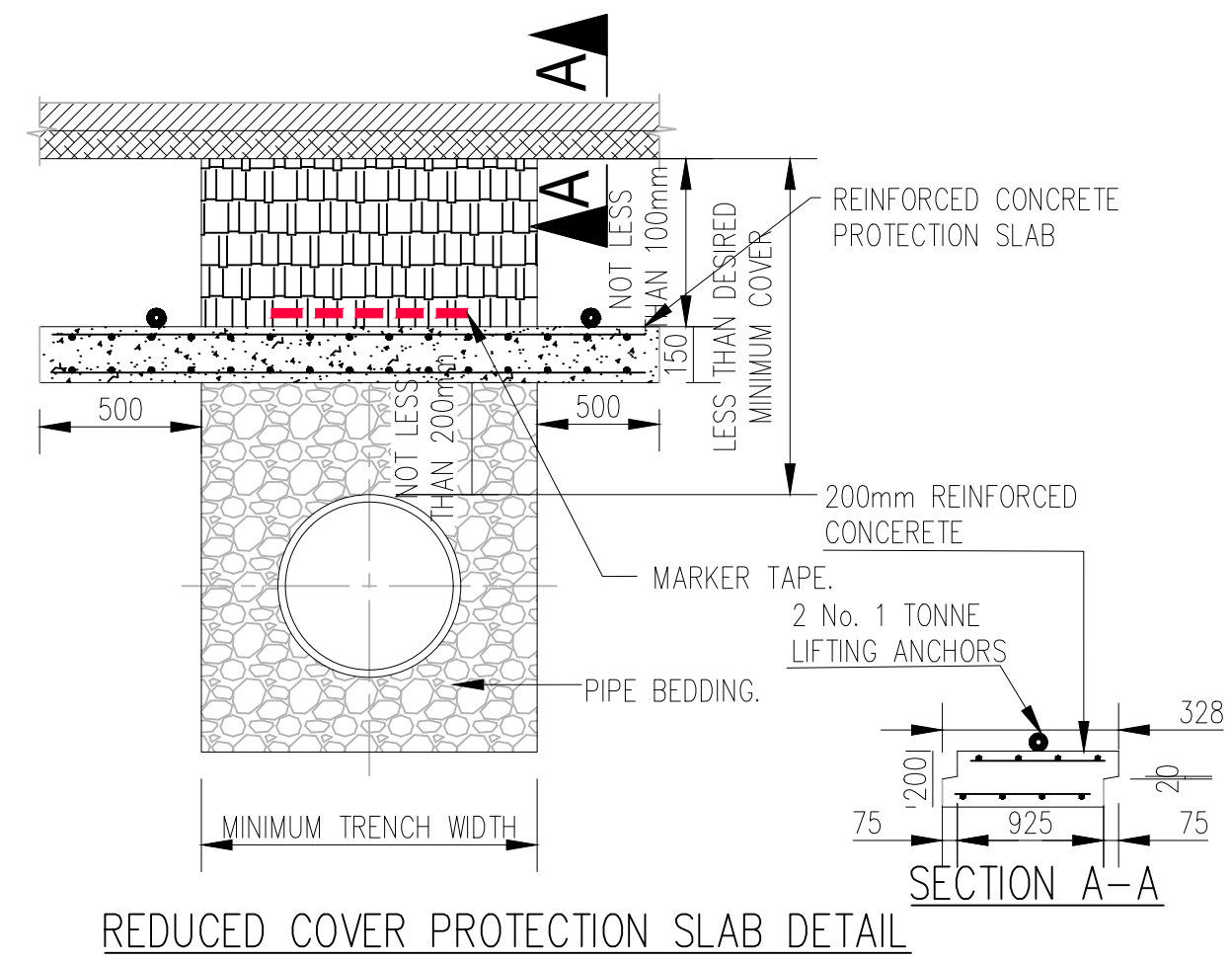



DETAIL 02 - OFF-LINE HYDRANT FOR POLYETHYLENE (P.E.) PIPE

DETAIL 03 - ON-LINE AIR VALVE FOR POLYETHYLENE (P.E.) PIPE

PIPE DIAMETER 'A' (mm)	DEPTH OF BEDDING 'C' (mm)
≤ 200	150
≥ 250	200
PIPE DIAMETER 'A' (mm)	TRENCH WIDTH 'B' (mm)
≤ 80	SEE NOTE 10.
100	500
150	600
200	600
250	750
300	750
350	750
400	900
450	900

DETAIL 01 - TRENCH BACKFILL AND BEDDING



P 13.03.25		ISSUED FOR PLANNING		LR	LW
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ISSUED					
PLANNING					
CLIENT KILDARE COUNTY COUNCIL					
PROJECT NAME CRADDOCKSTOWN HOUSING DEVELOPMENT					
DRAWING NAME IRISH WATER WATERMAIN DETAILS SHEET 2 OF 5					
PROJECT No. 24D024					
DRAWING No. 06A		REVISION P			
SCALE AS SHOWN		DRAWN DATE 29.01.25			
CAD DRAWN BY L.R.	CHECKED BY L.M.	APPROVED BY D.H.			
 HAYES HIGGINS PARTNERSHIP The Glass House, 11 Coke Lane Smithfield, Dublin 7. Tel: 01 6612321 E-mail: admin@hayeshiggins.ie Gas House Lane, Kilkenny. Tel: (056) 7764710 Email: info@hhp.ie					

GENERAL

2.) DO NOT SCALE. USE FIGURED DIMENSIONS ONLY



FLOOR PLAN
SLUICE VALVE CHAMBER
(PRECAST CONCRETE CONSTRUCTION)

FLOOR PLAN
SLUICE VALVE CHAMBER
(BLOCKWORK CONSTRUCTION)

($<350\text{mm } \phi$)

ELECTROMAGNETIC WATER METER SPOOL PIECE LENGTHS							
Ømm	DN50	DN80	DN100	DN125	DN150	DN200	DN250
Length mm	200		250		300	350	450



ROOF PLAN

METER DIAMETER 'A' (mm)	INTERNAL CHAMBER DIMENSIONS	COVER DIMENSIONS	FLOOR SLAB DEPTH	WALL THICKNESS
50 – 100	1200 x 1200	750 x 750	200mm	200mm
101 – 250	1500 x 1500	900 x 900	250mm	250mm



DETAIL 05 -ELECTROMAGNETIC
METER CHAMBER (80-250mm ϕ)

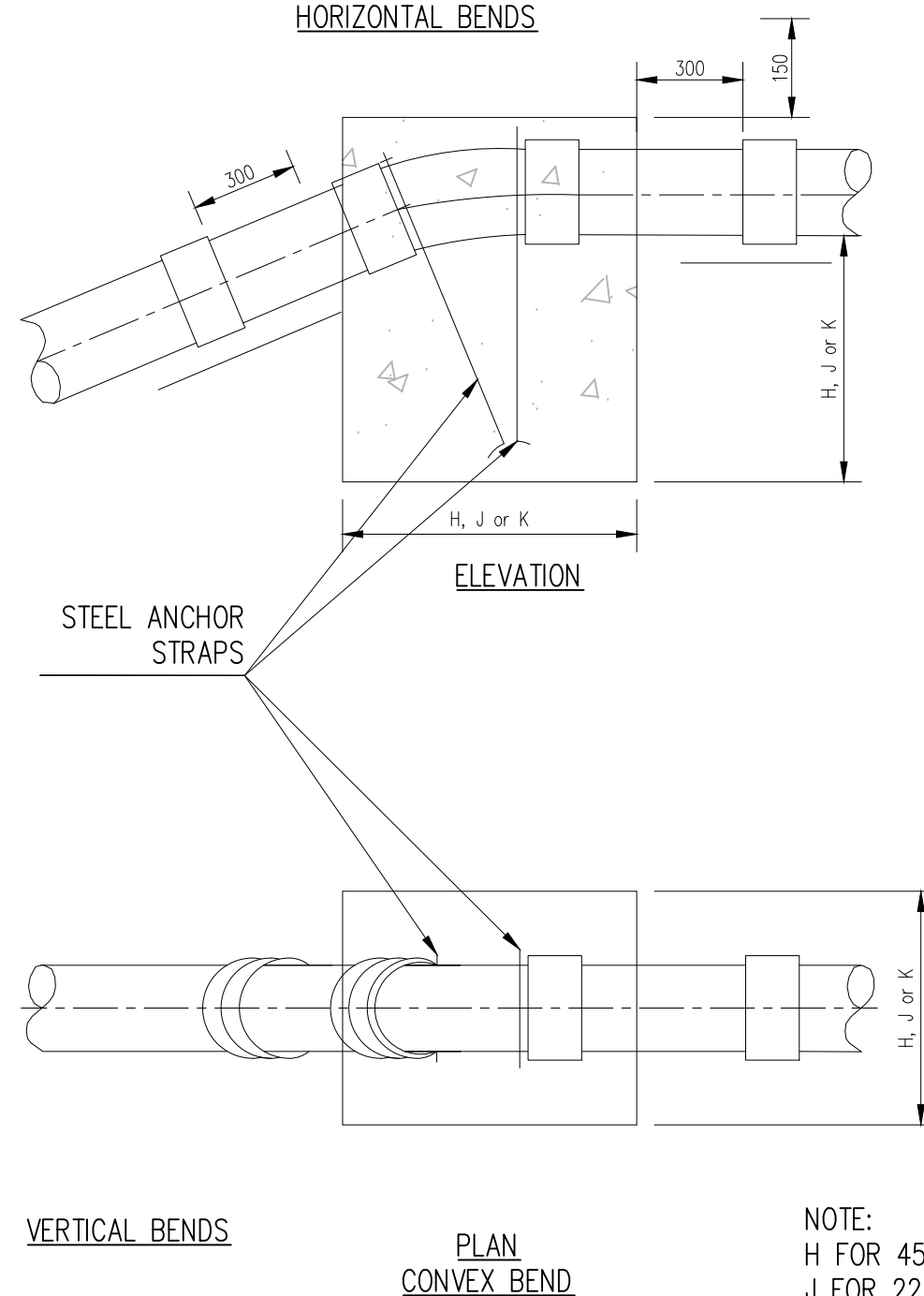
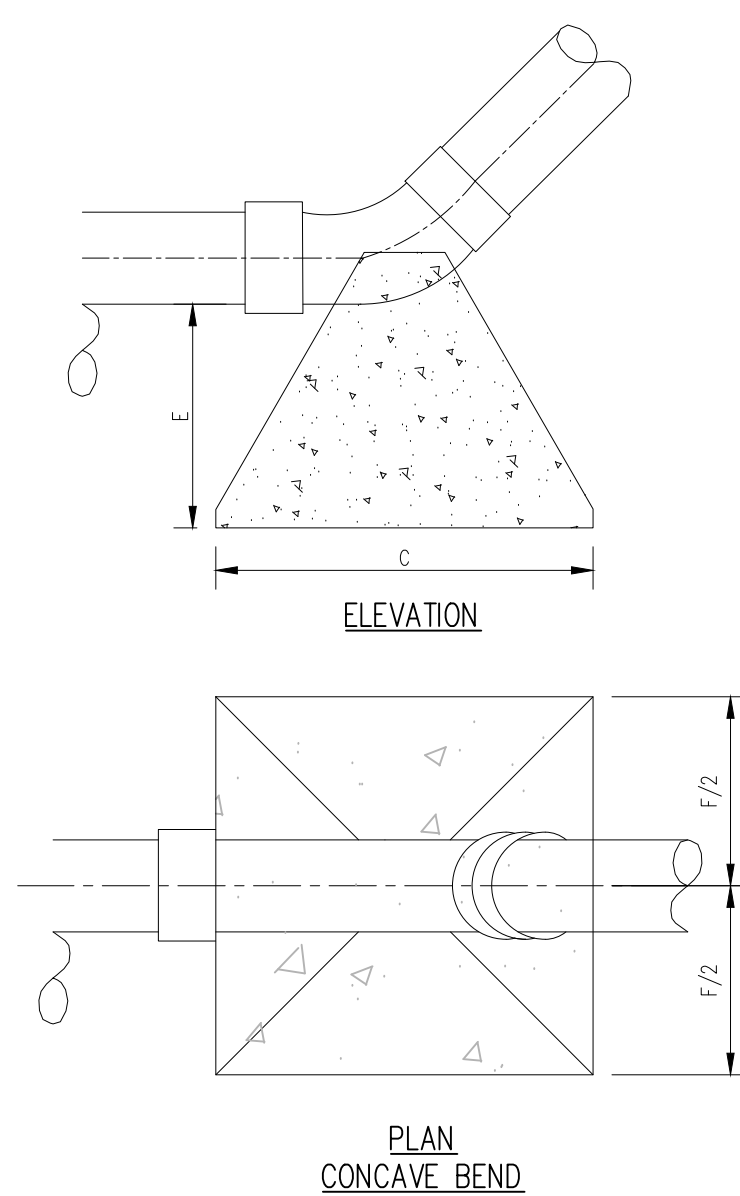
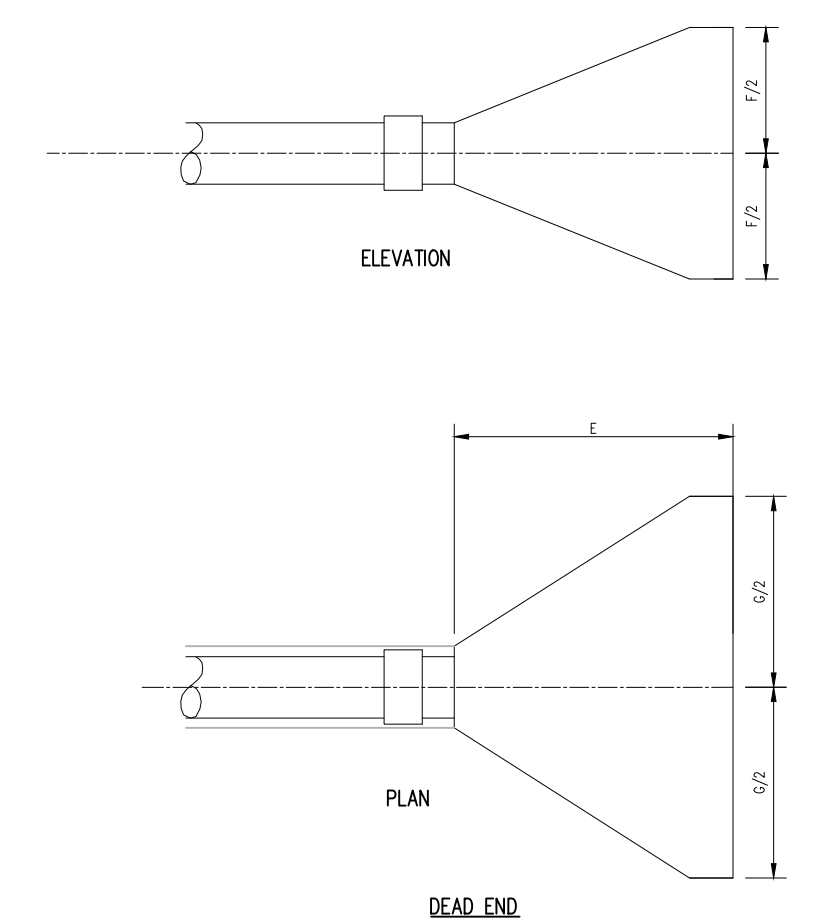
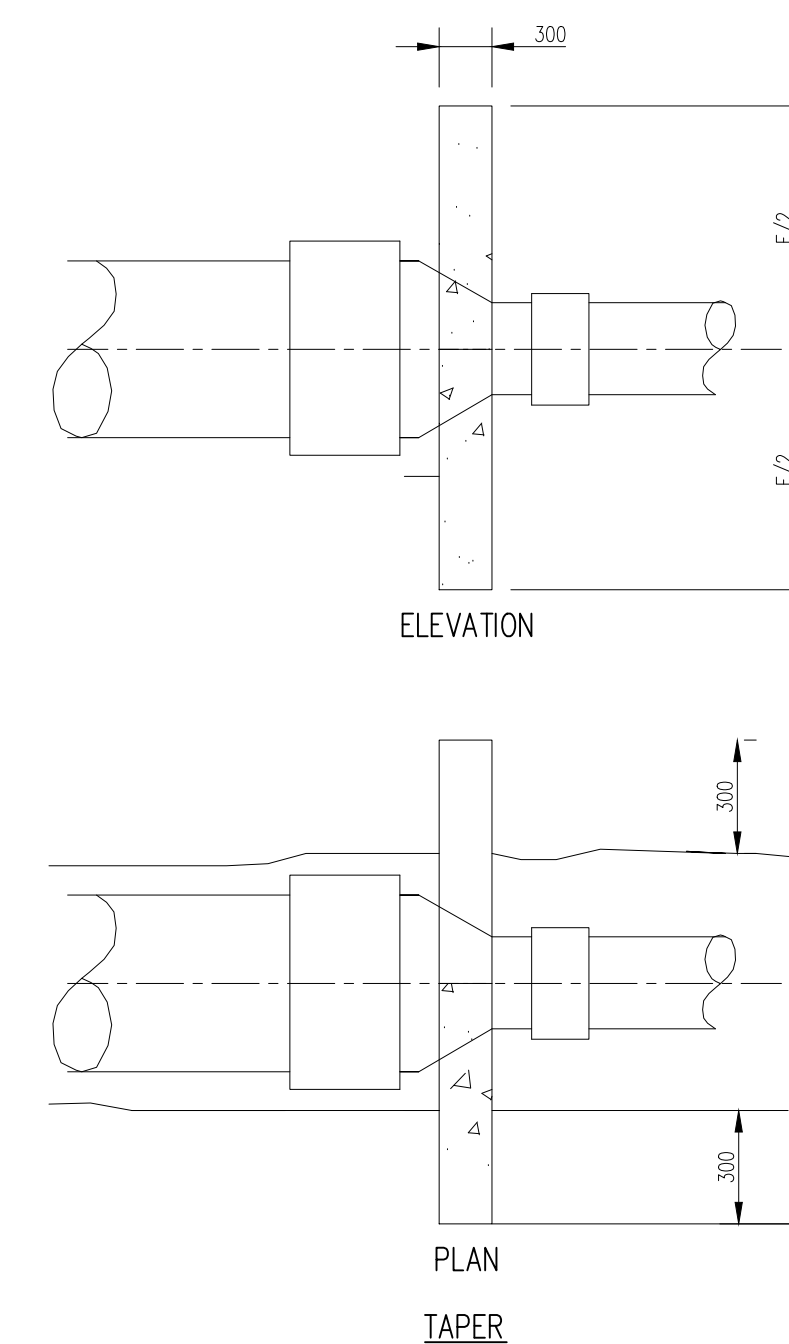
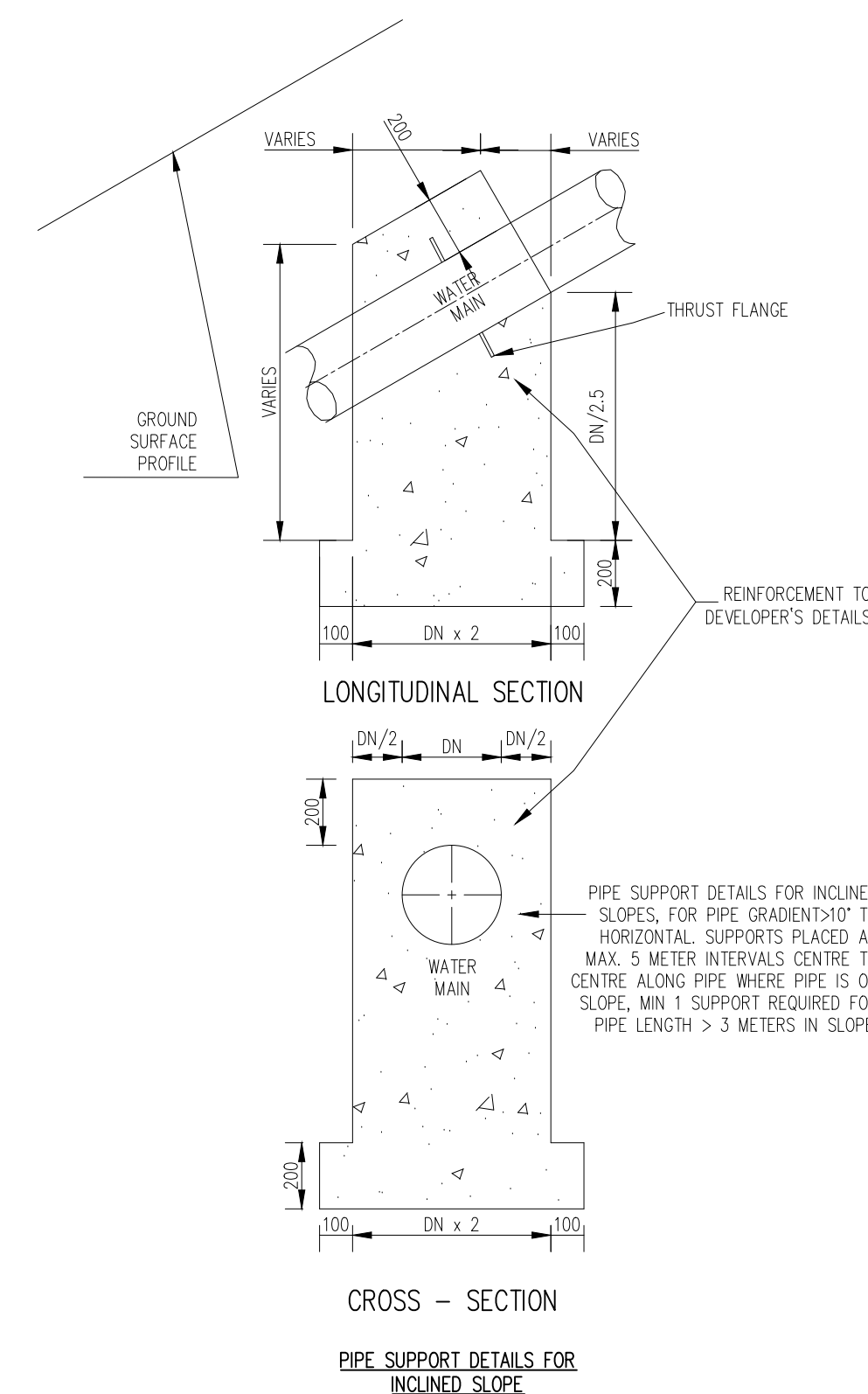
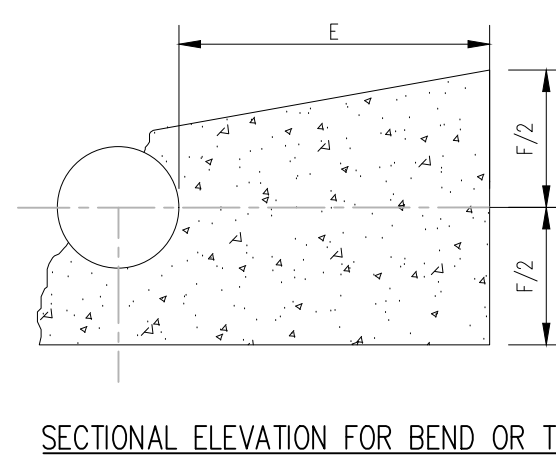
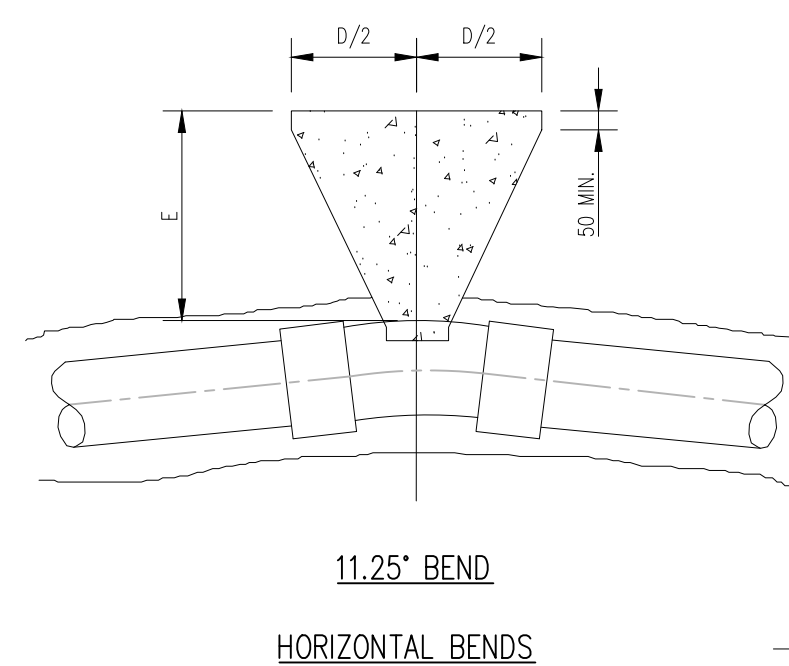
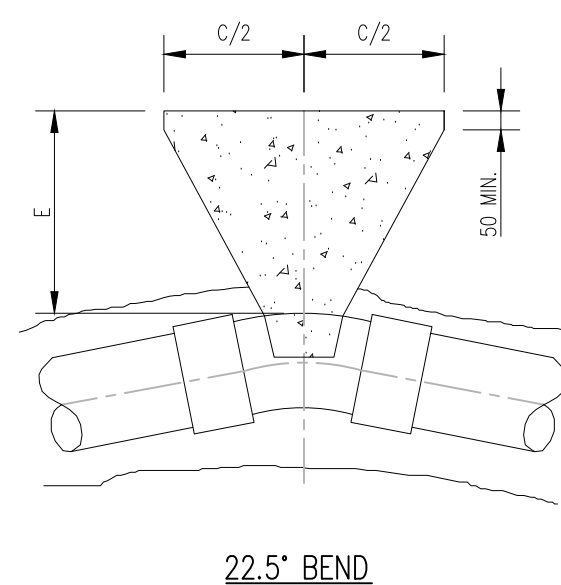
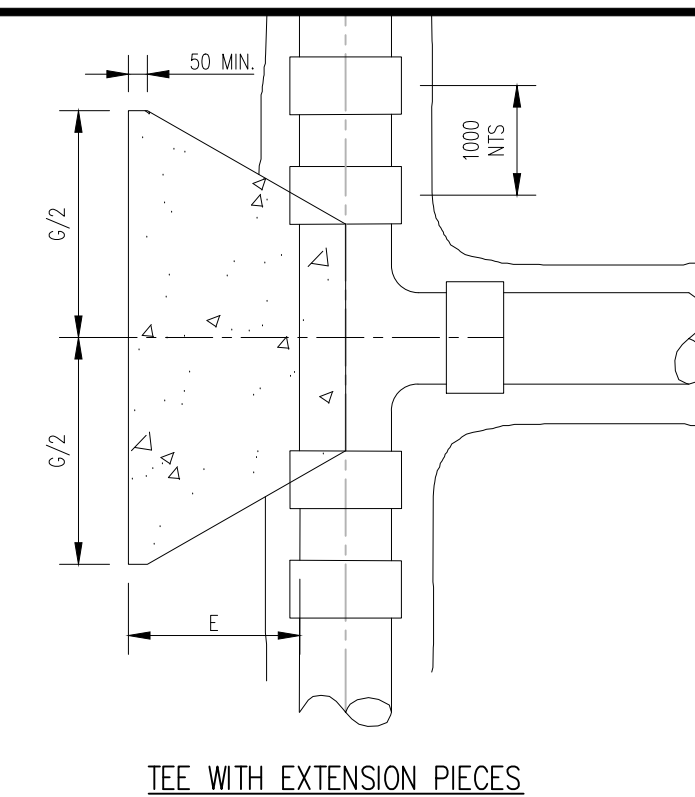
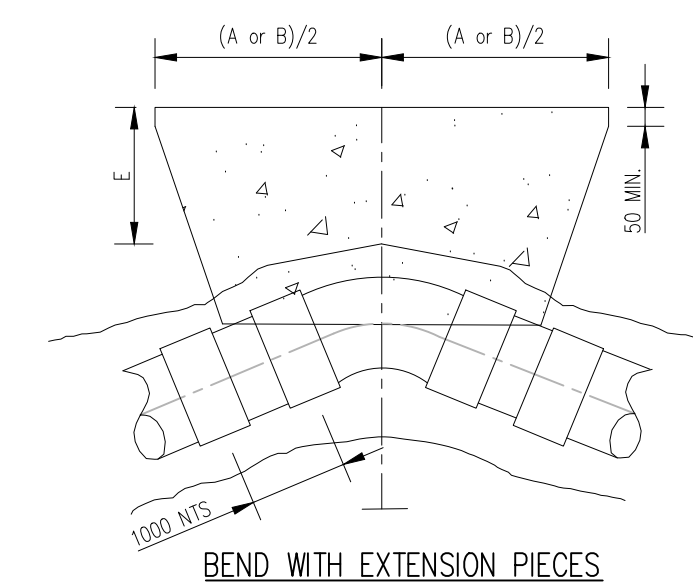
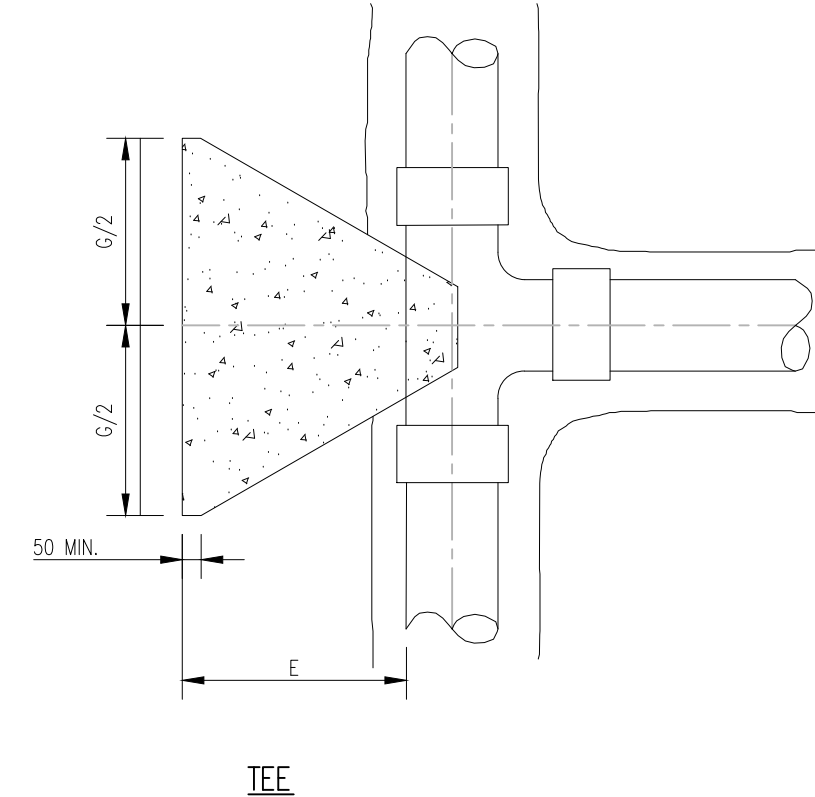
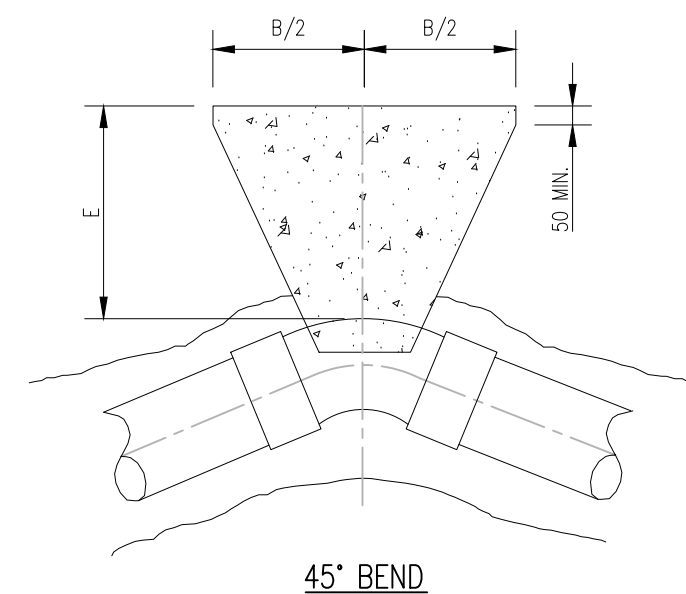
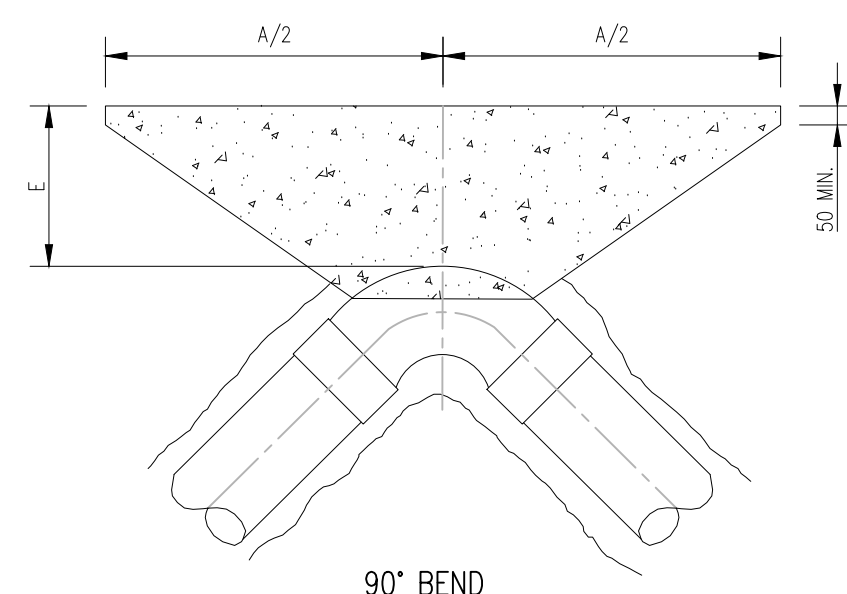
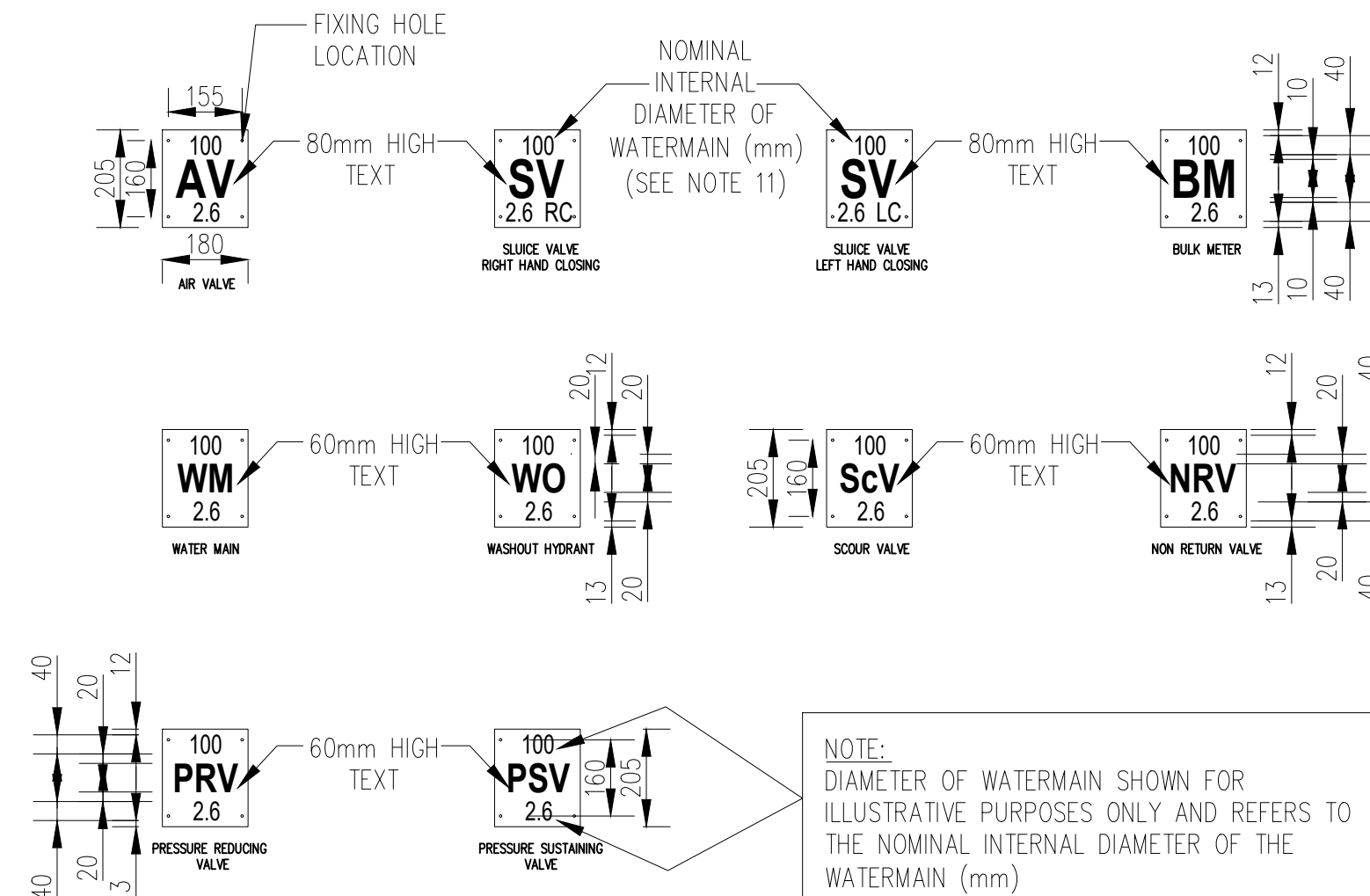
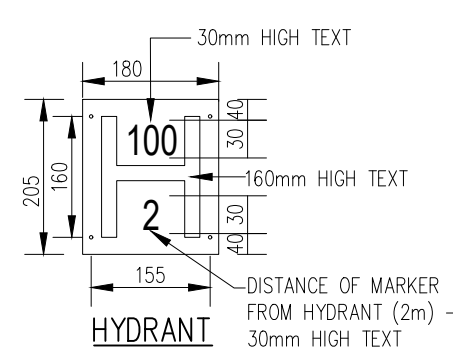
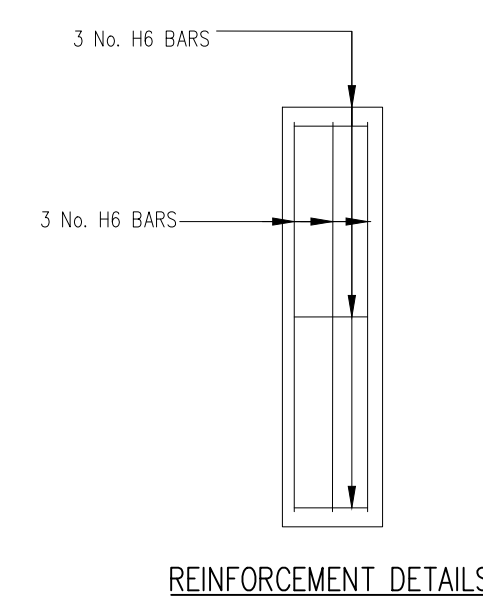
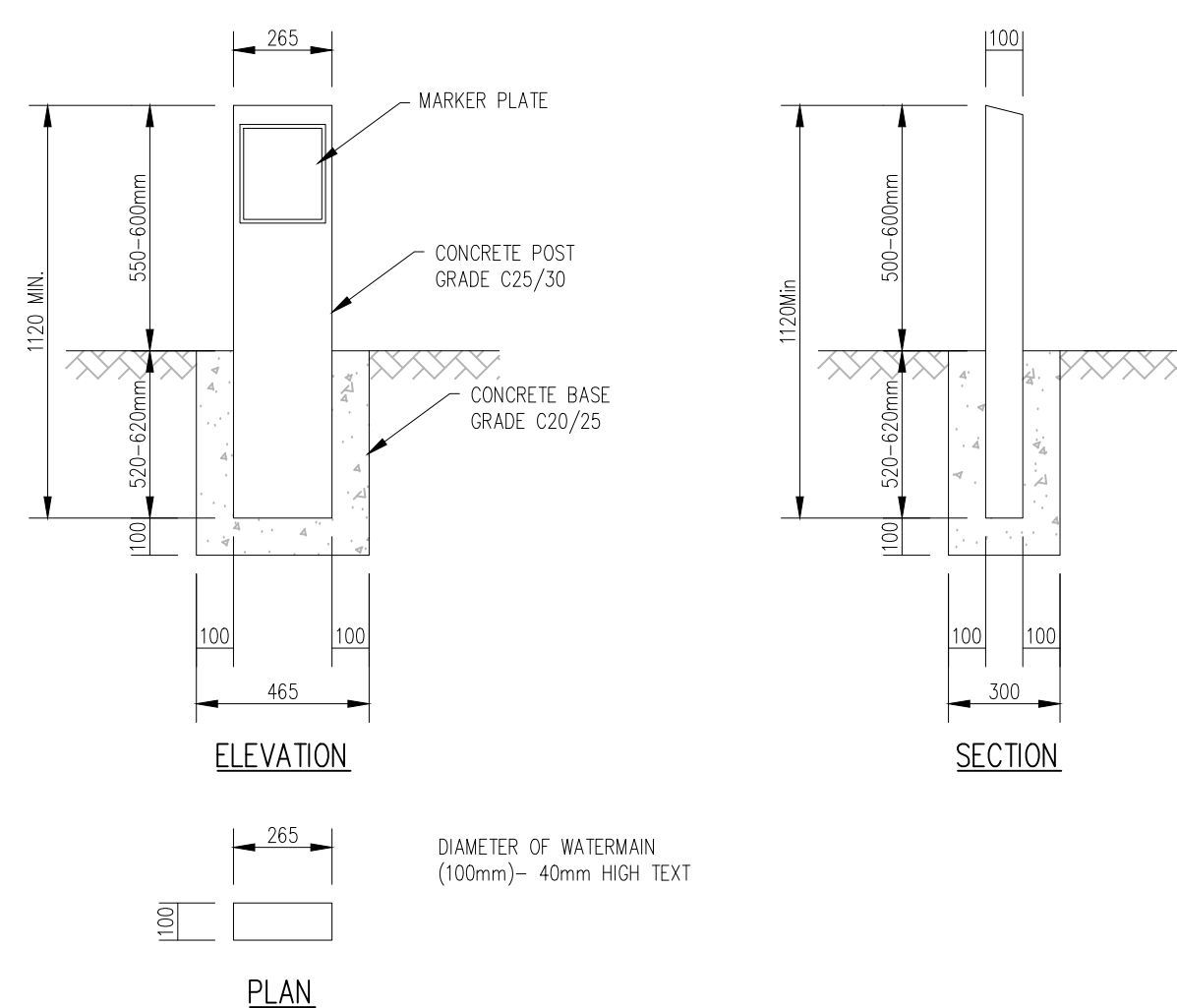


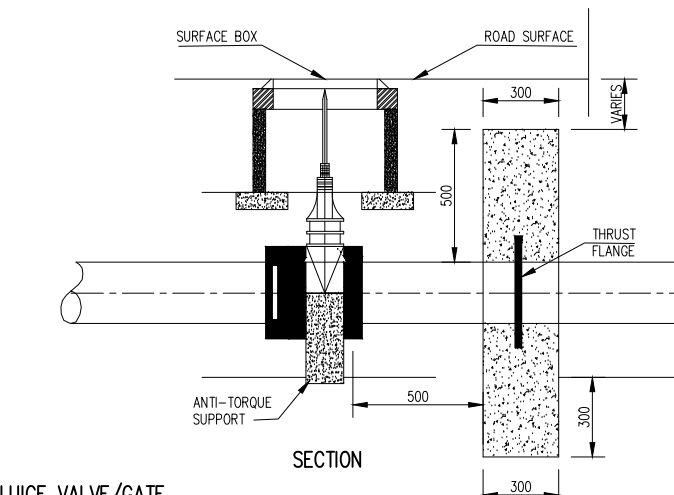
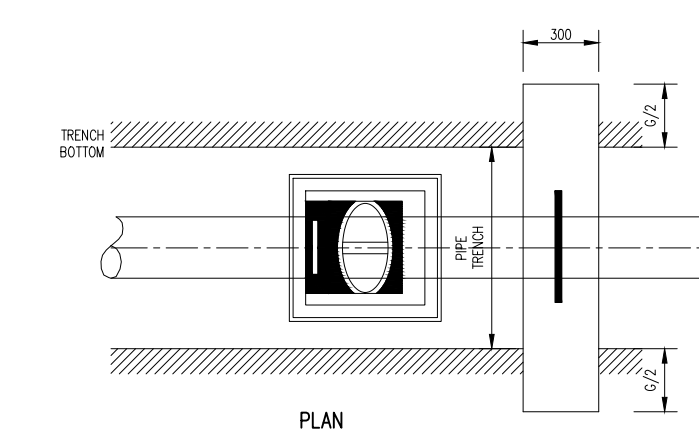
TABLE OF DIMENSIONS FOR STEEPLY INCLINED PIPELINES	
GRADIENT	SPACING
1 IN 2 & STEEPER	5.5m
BELOW 1 IN 2 TO 1 IN 4	11.0m
1 IN 4 TO 1 IN 5	16.6m
1 IN 5 TO 1 IN 6	22.0m

NOM. DIAMETER (mm)	15 BAR TO 18 BAR TEST PRESSURE						
	DIMENSIONS						
	'A'	'B'	'C'	'D'	'E'	'F'	'G'
100	750mm	400mm	205mm	100mm	220mm	400mm	530mm
150	1250mm	700mm	350mm	180mm	250mm	500mm	890mm

(REFER TO IRISH WATER DETAIL DRAWING STD-W-28 FOR MORE TABLE & DETAILS)



NOTE:
DIAMETER OF WATERMAIN SHOWN FOR
ILLUSTRATIVE PURPOSES ONLY AND REFERS TO
THE NOMINAL INTERNAL DIAMETER OF THE
WATERMAIN (mm)



THRUST BLOCK FOR SLUICE VALVE/GATE
VALVE FOR VALVE BOX ARRANGEMENT

NOTES

GENERAL

- 1.) THESE DRAWINGS TO BE READ IN CONJUNCTION WITH ALL RELEVANT HAYES HIGGINS ENGINEERING DRAWINGS AND SPECIFICATIONS.
- 2.) DO NOT SCALE. USE FIGURED DIMENSIONS ONLY.

P	13.03.25	ISSUED FOR PLANNING	L.R	L.M
REV	DATE	DESCRIPTION	DWG BY	APPR. BY

PLANNING

CLIENT
KILDARE COUNTY COUNCIL

PROJECT NAME	CRADDOCKSTOWN HOUSING DEVELOPMENT
--------------	-----------------------------------

DRAWING NAME

**IRISH WATER
WATERMAIN DETAILS
SHEET 4 OF 5**

PROJECT No. **24D024**

DRAWING No.	REVISION
06C	P

SCALE	DRAWN DATE
AS SHOWN	29.01.25

CAD DRAWN BY	CHECKED BY	APPROVED BY
L.R	L.M.	D.H



**HAYES HIGGINS
PARTNERSHIP**

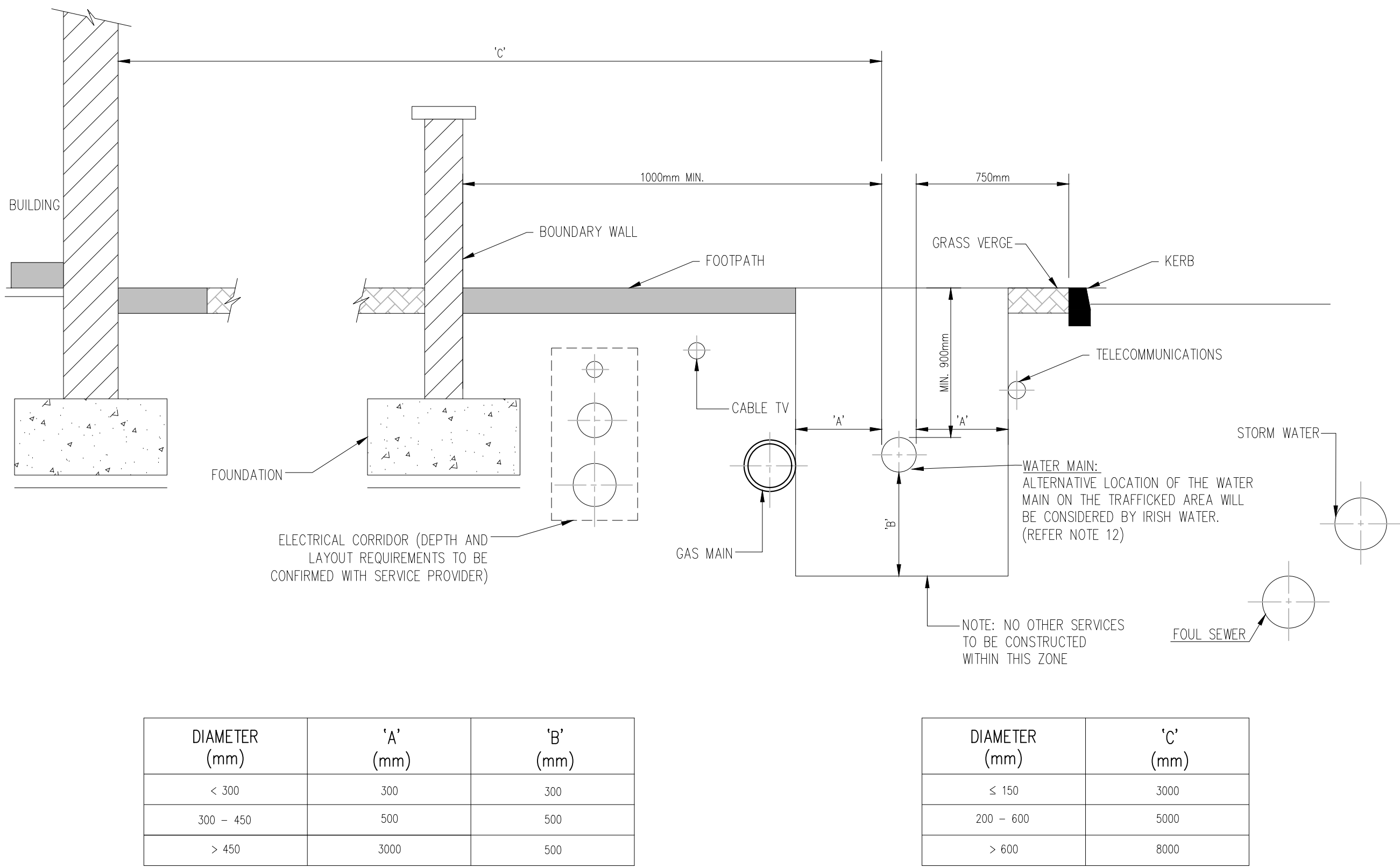
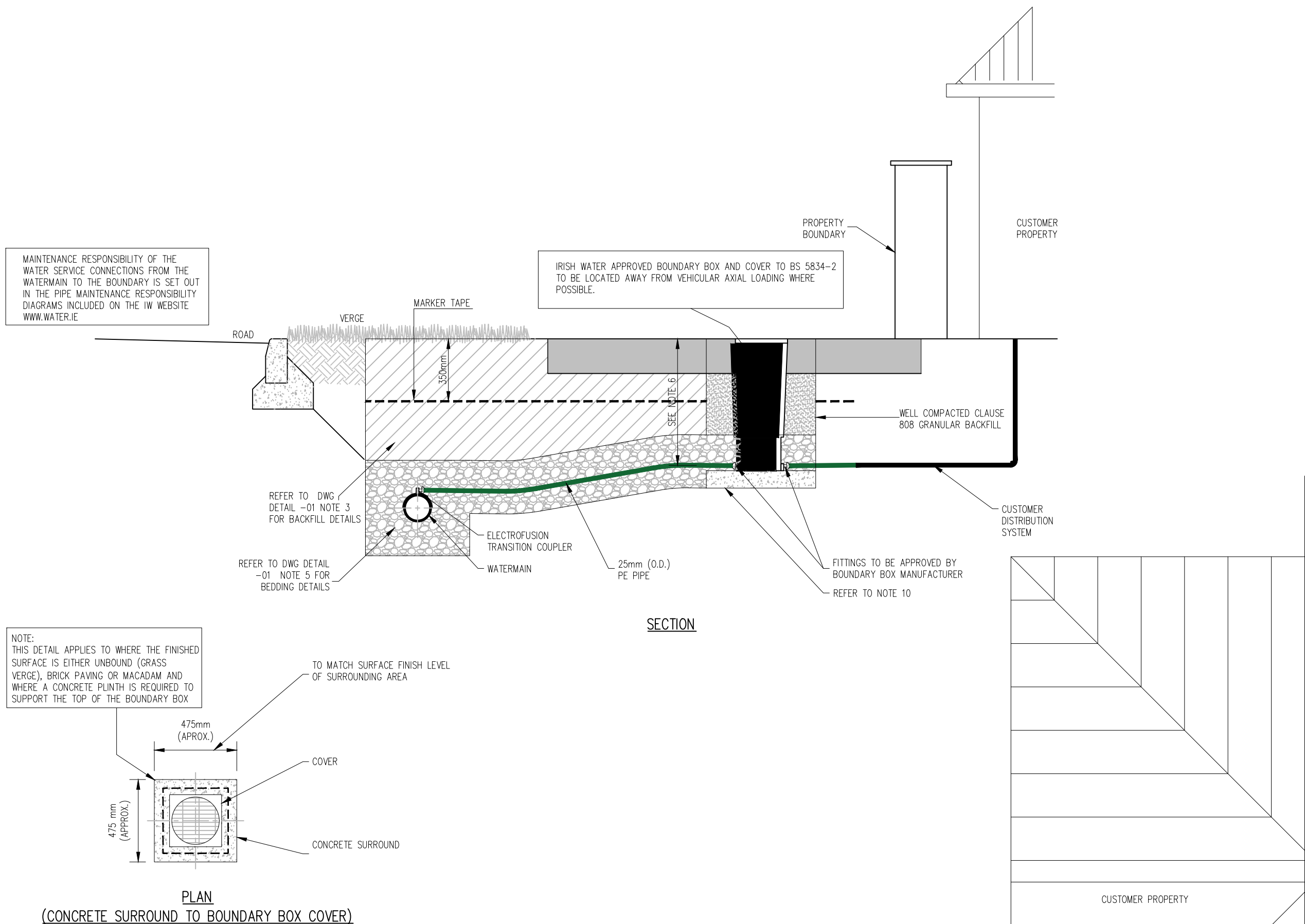
The Glass House, 11 Coke Lane
Smithfield, Dublin 7. Tel: 01 6612321
E-mail: admin@hayeshiggins.ie
Gas House Lane, Kilkenny. Tel: (056) 7764710
Email: info@hhp.ie

NOTES

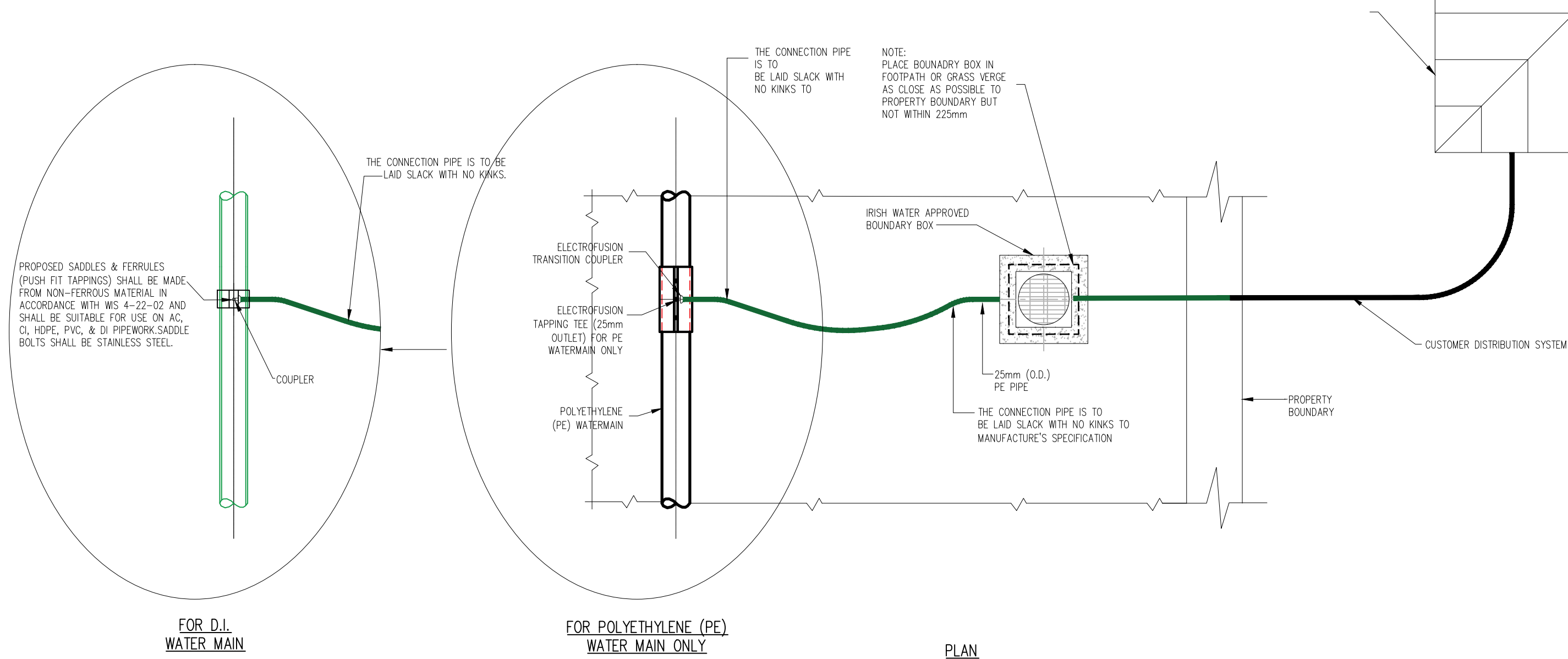
GENERAL

1.) THESE DRAWINGS TO BE READ IN CONJUNCTION WITH ALL RELEVANT HAYES HIGGINS ENGINEERING DRAWINGS AND SPECIFICATIONS.

2.) DO NOT SCALE. USE FIGURED DIMENSIONS ONLY.

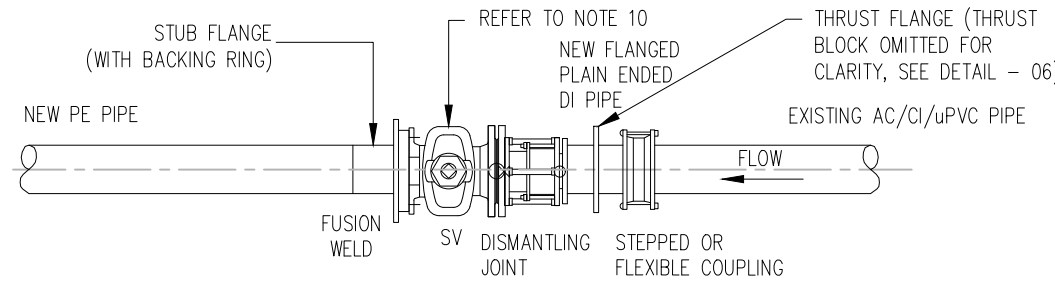


DETAIL 09 – TYPICAL SERVICE LAYOUT INDICATING SEPARATION DISTANCES

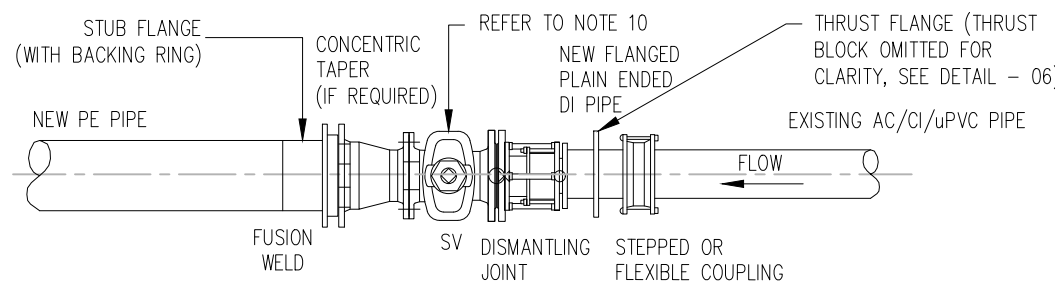


DETAIL 08 – CUSTOMER CONNECTION AND BOUNDARY BOX (25mm OD PIPE)

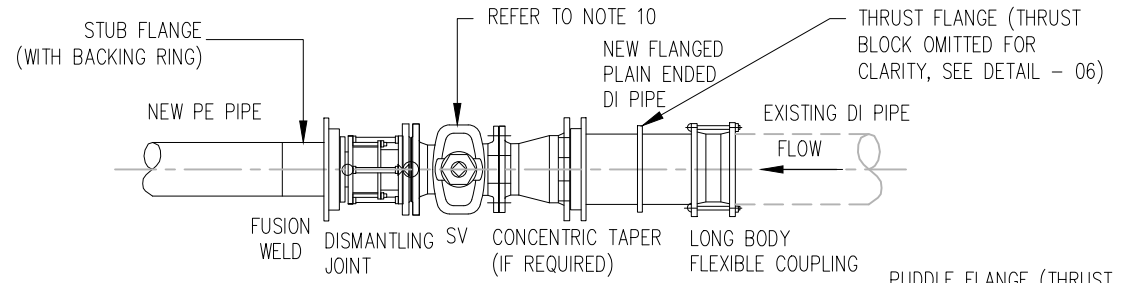
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REV	DATE	DESCRIPTION	DWG BY	APP. BY
ISSUED				
PLANNING				
CLIENT KILDARE COUNTY COUNCIL				
PROJECT NAME CRADDOCKSTOWN HOUSING DEVELOPMENT				
DRAWING NAME IRISH WATER WATERMAIN DETAILS SHEET 5 OF 5				
PROJECT No. 24D024				
DRAWING No. 06D		REVISION P		
SCALE AS SHOWN		DRAWN DATE 29.01.25		
CAD DRAWN BY L.R	CHECKED BY L.M.	APPROVED BY D.H.		
HAYES HIGGINS PARTNERSHIP The Glass House, 11 Coke Lane Smithfield, Dublin 7. Tel: 01 6612321 E-mail: admin@hayeshiggins.ie Gas House Lane, Kilkenny. Tel: (056) 7764710 Email: info@hhp.ie				



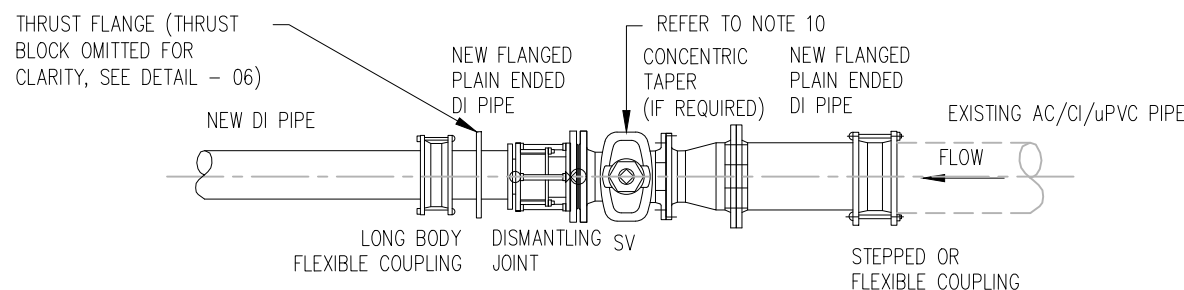
NEW PE – EXISTING AC/Cl/uPVC
(SAME SIZE AS NEW)
NTS



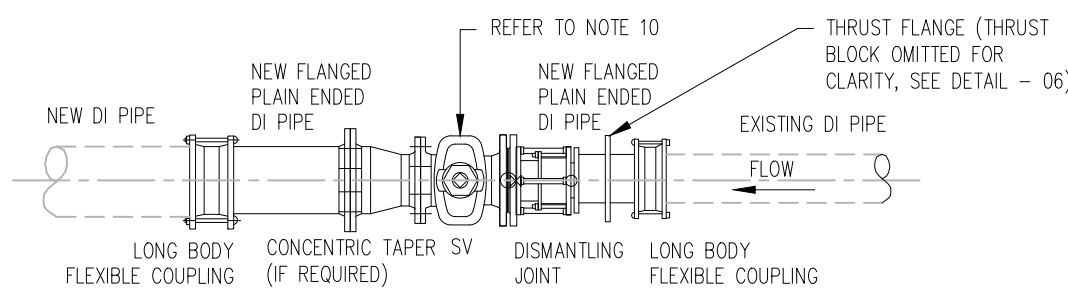
NEW PE – EXISTING AC/Cl/uPVC
(DIFFERENT SIZE AS NEW)
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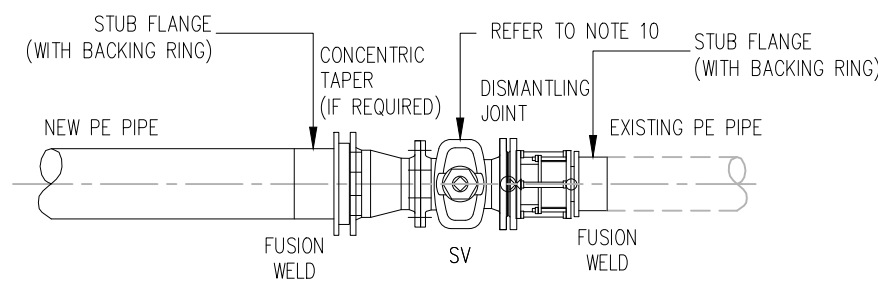
NEW PE – EXISTING DI
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NEW DI – EXISTING AC/Cl/uPVC
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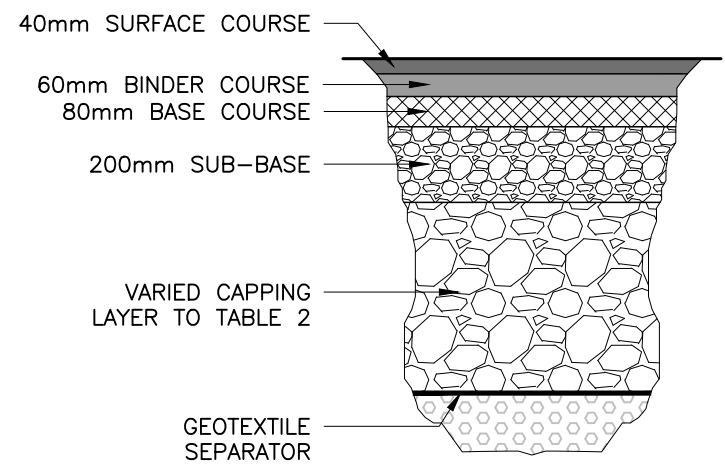


NEW DI – EXISTING DI
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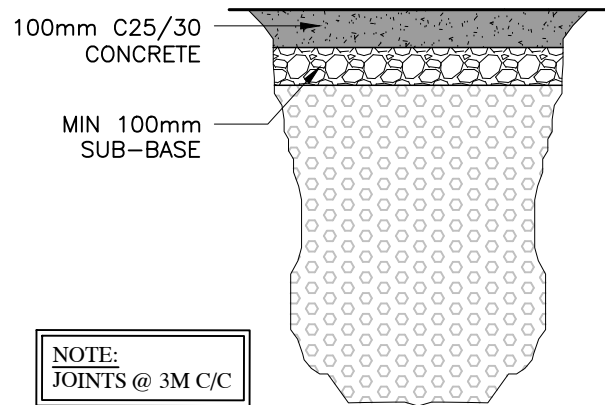


NEW PE – EXISTING PE
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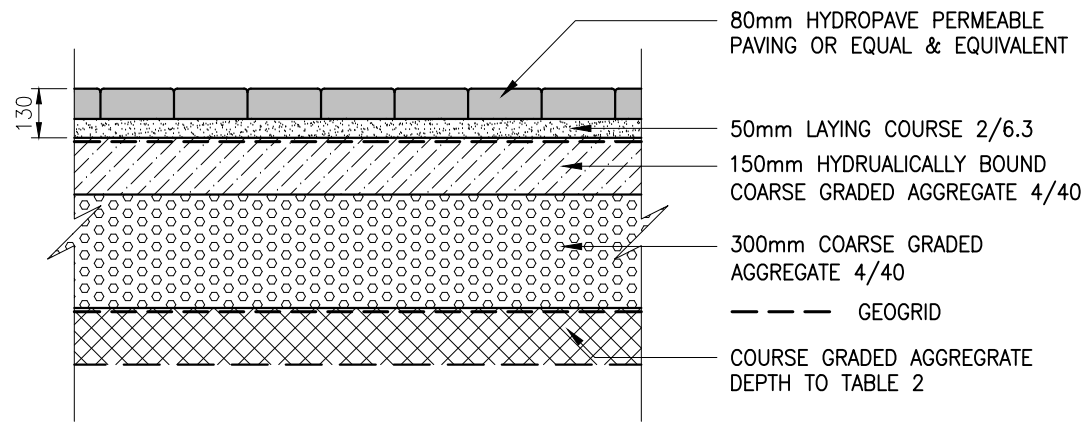
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REV	DATE	DESCRIPTION	DWG BY	APP BY
ISSUED				
PLANNING				
CLIENT				
KILDARE COUNTY COUNCIL				
PROJECT NAME				
CRADDOCKSTOWN HOUSING DEVELOPMENT				
DRAWING NAME				
IRISH WATER				
WATERMAIN DETAILS				
CONNECTION DETAILS				
PROJECT No.				
24D024				
DRAWING No.		REVISION		
06E		P		
SCALE		DRAWN DATE		
AS SHOWN		29.07.28		
CAD DRAWN BY		CHECKED BY	APPROVED BY	
D.W.		L.M.	D.H.	
		HAYES HIGGINS PARTNERSHIP		
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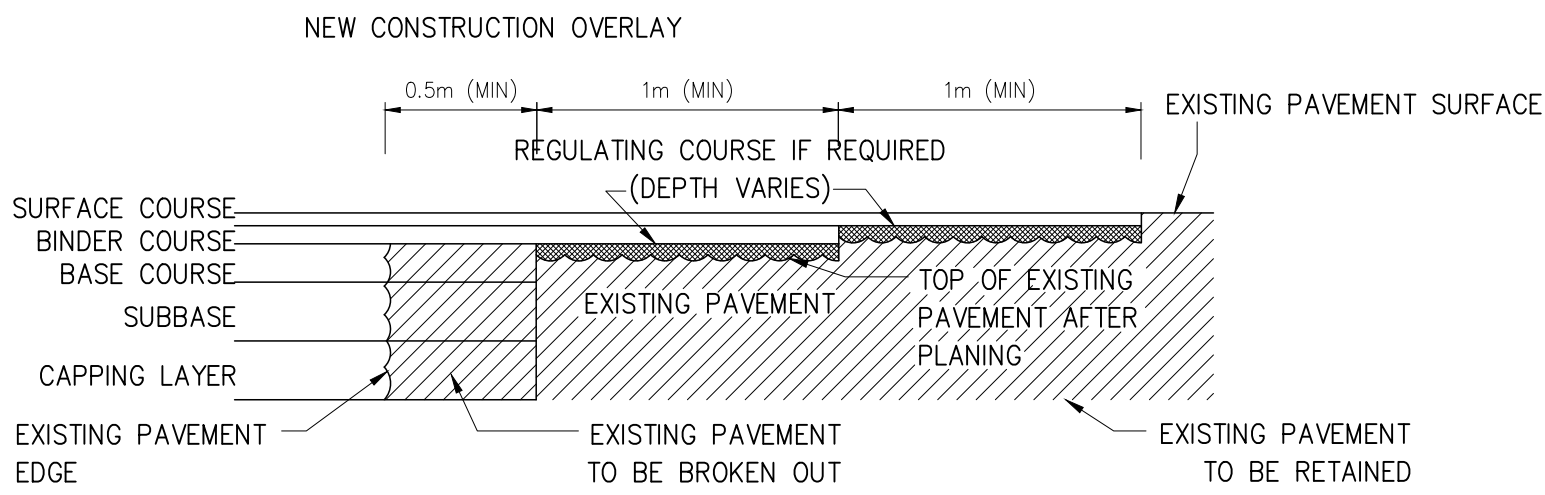
FLEXIBLE ROAD BUILD UP
SCALE: 1:20



CONCRETE FOOTPATH BUILD UP
SCALE: 1:20

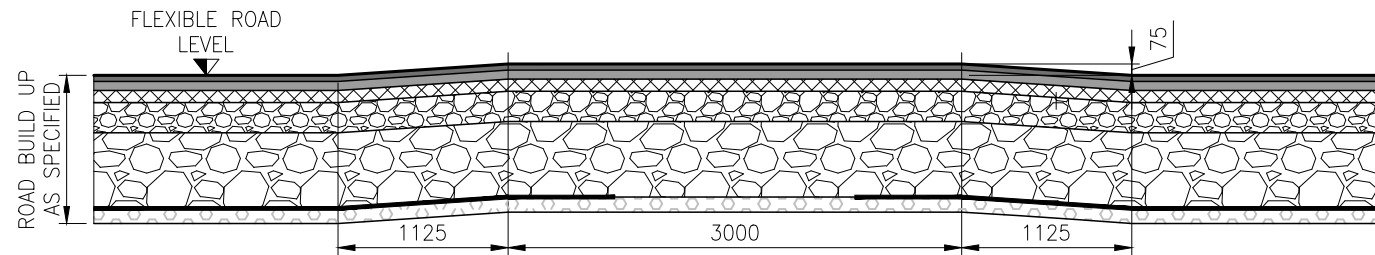


TYPICAL PERMEABLE PAVING DETAIL
SCALE 1:20

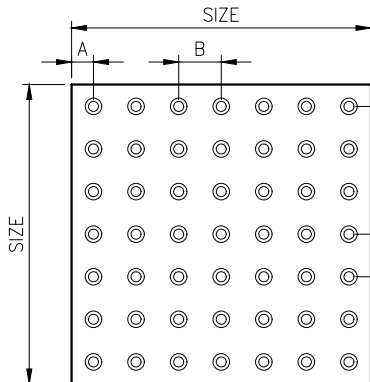


TRANSVERSE JOINT BETWEEN NEW CONSTRUCTION AND EXISTING ROAD

SCALE 1:10
NOTE: ALTERNATIVE KERB TYPES AT CARRIAGEWAY SHALL BE SUBJECT TO APPROVAL.

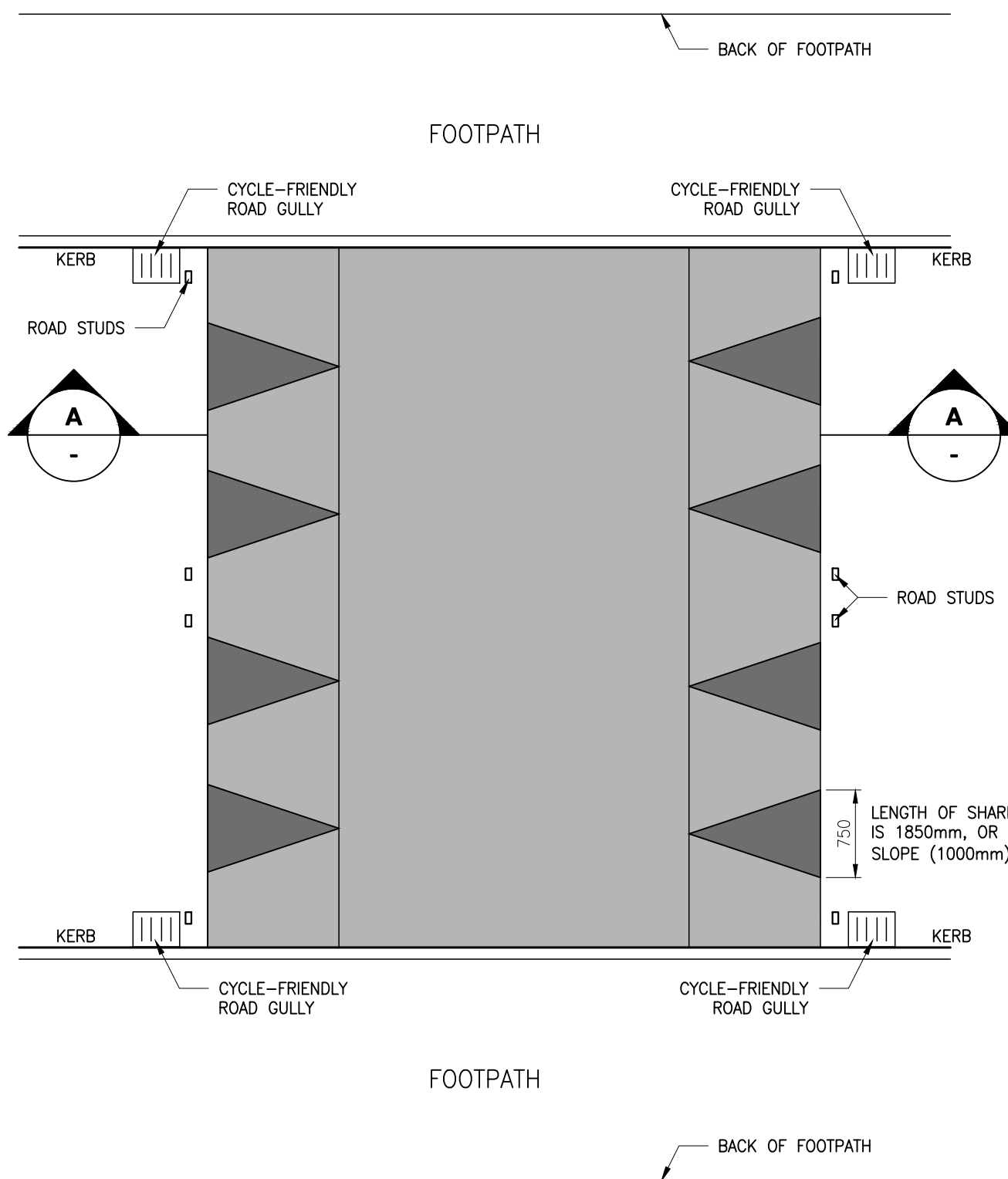


SECTION A-A
SCALE 1:50
(TYPICAL SECTION THRO' RAISED SPEED RAMP)

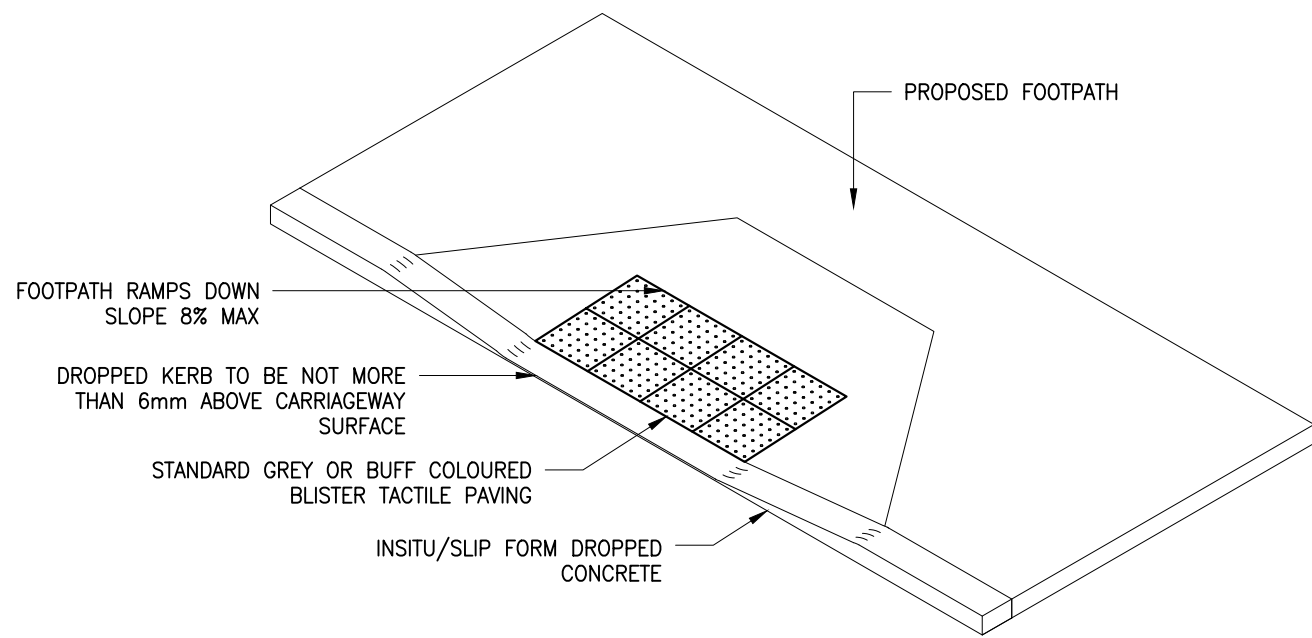


- NOTES:
1. THE SURFACE ARRANGEMENT WILL DEPEND ON THE CROSSING LOCATION AND MY BE DIFFERENT FROM THAT SHOWN.
 2. COLOUR - BUFF FOR UNCONTROLLED CROSSINGS.
 3. MATERIALS - THE TACTILE SURFACE MAY BE CONSTRUCTED FROM ANY MATERIAL SUITABLE FOR PAVING FOOTWAY SURFACES.
 4. DROPPER, STANDARD AND FLUSH KERBS AS DETAILED.
 5. TACTILE PAVING IS TO BE INSTALLED ACROSS THE FULL WIDTH OF THE DROPPED KERB.
 6. DOMES ARE SPHERICAL WITH FLATTENED TOP. OUTER DIAMETER IS APPROXIMATELY 25mm AND INNER DIAMETER 16mm.
 7. DEPTH OF DOMES IS 5mm.

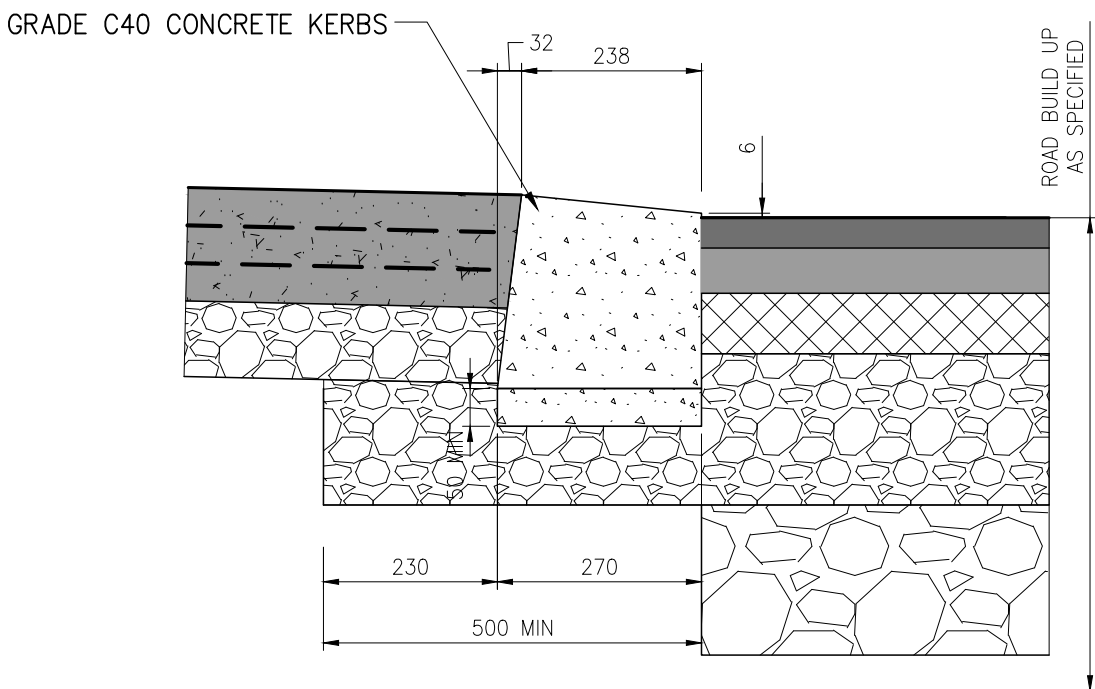
MODULE	SIZE (mm)	A	B
1	400X400	66.8	33
2	450X450	64.0	33



TYPICAL RAISED RAMP PLAN
SCALE 1:50

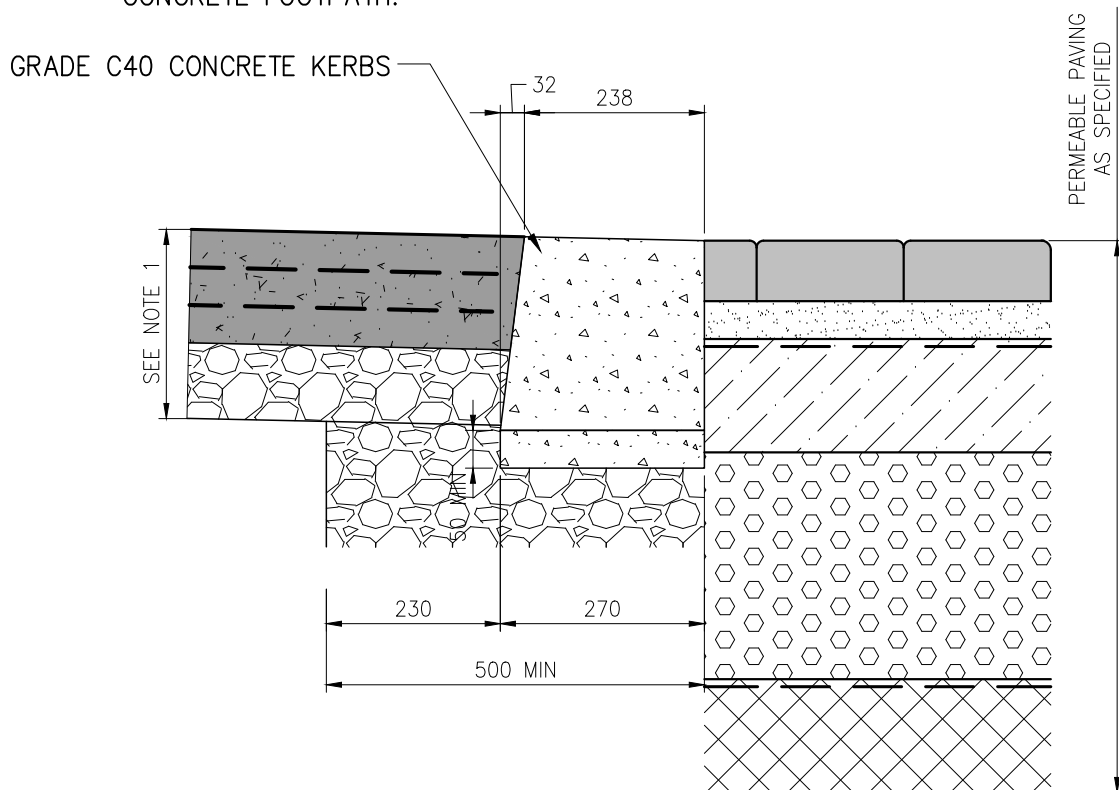


TYPICAL TACTILE PAVING WITH DROPPED KERB DETAIL
SCALE 1:50

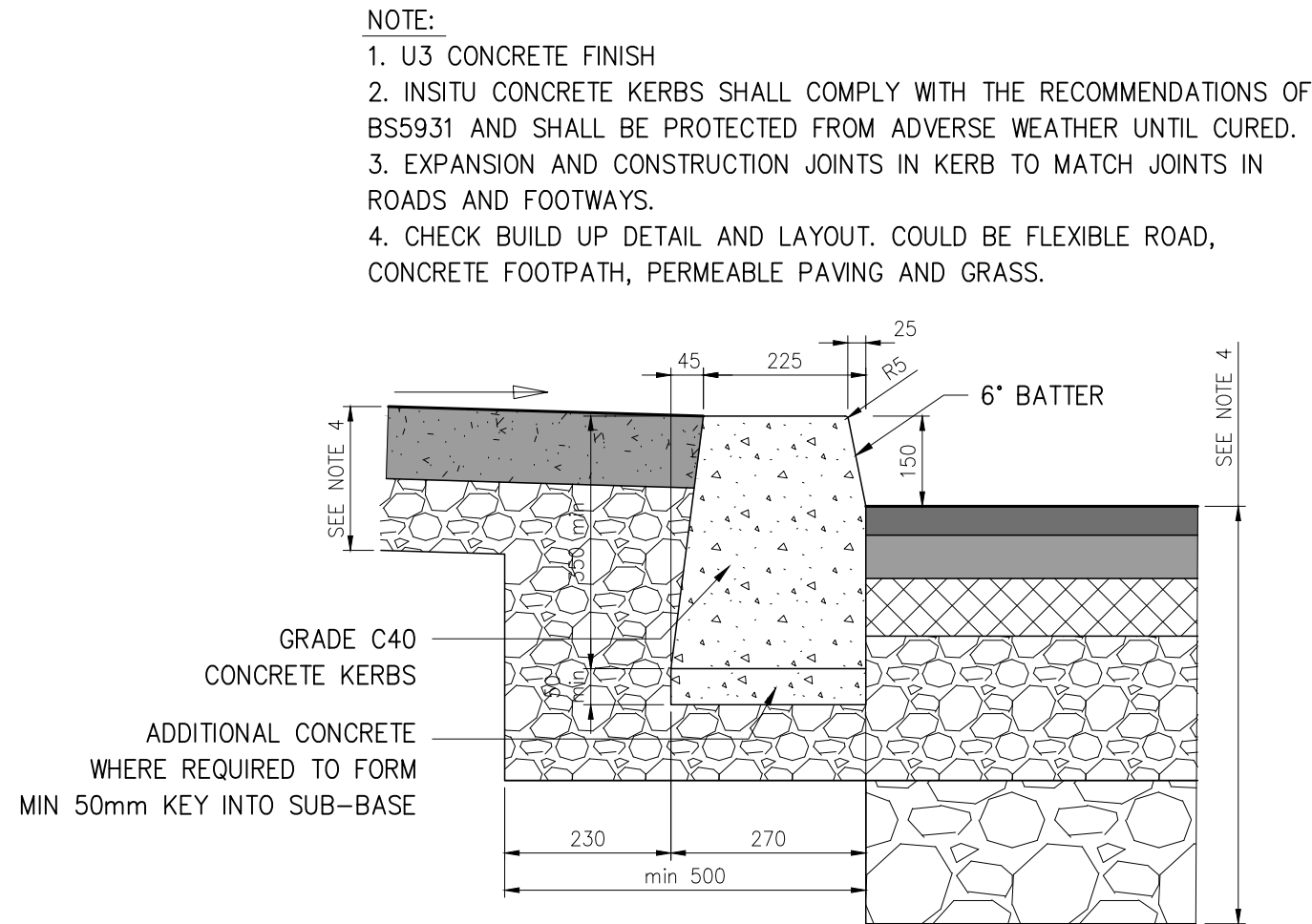


CAST IN-SITU CONCRETE KERB AT DROPPED KERB
SCALE 1:10
NOTE: ABOVE DETAIL AT SITE ENTRANCES AND WHERE KERB NOT SPECIFIED BY ARCHITECT.
ALTERNATIVE KERB TYPES AT CARRIAGEWAY SHALL BE SUBJECT TO APPROVAL.

- NOTE:
1. CHECK BUILD UP DETAIL AND LAYOUT. COULD BE FLEXIBLE ROAD OR CONCRETE FOOTPATH.



TYPICAL CONCRETE KERB AT PARKING BAY
SCALE 1:10
NOTE: ABOVE DETAIL AT SITE ENTRANCES AND WHERE KERB NOT SPECIFIED BY ARCHITECT.
ALTERNATIVE KERB TYPES AT CARRIAGEWAY SHALL BE SUBJECT TO APPROVAL. ROAD TO BE DISHED LOCALLY AT GULLIES.



TYPICAL CONCRETE KERB WITHOUT CHANNELS
SCALE 1:10
NOTE: ABOVE DETAIL AT SITE ENTRANCES AND WHERE KERB NOT SPECIFIED BY ARCHITECT.
ALTERNATIVE KERB TYPES AT CARRIAGEWAY SHALL BE SUBJECT TO APPROVAL.

NOTES

GENERAL


- 1.) THESE DRAWINGS TO BE READ IN CONJUNCTION WITH ALL RELEVANT HAYES HIGGINS ENGINEERING DRAWINGS AND SPECIFICATIONS.
- 2.) DO NOT SCALE. USE FIGURED DIMENSIONS ONLY.

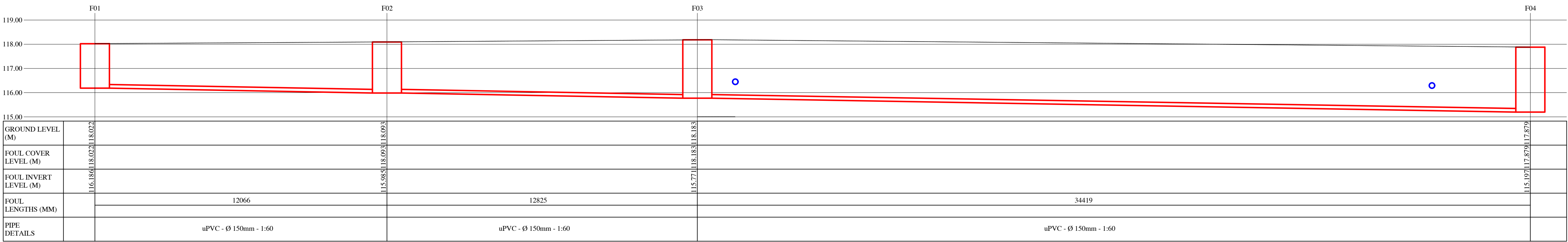
TABLE 1

LAYER	MATERIAL
SURFACE COURSE	STONE MASTIC ASPHALT
BINDER COURSE	DENSE BITUMEN MACADAM
BASE COURSE	DENSE BITUMEN MACADAM
SUB-BASE	TYPE B GRANULAR MATERIAL TO SR 21
CAPPING LAYER	CLASS 6F2 MATERIAL

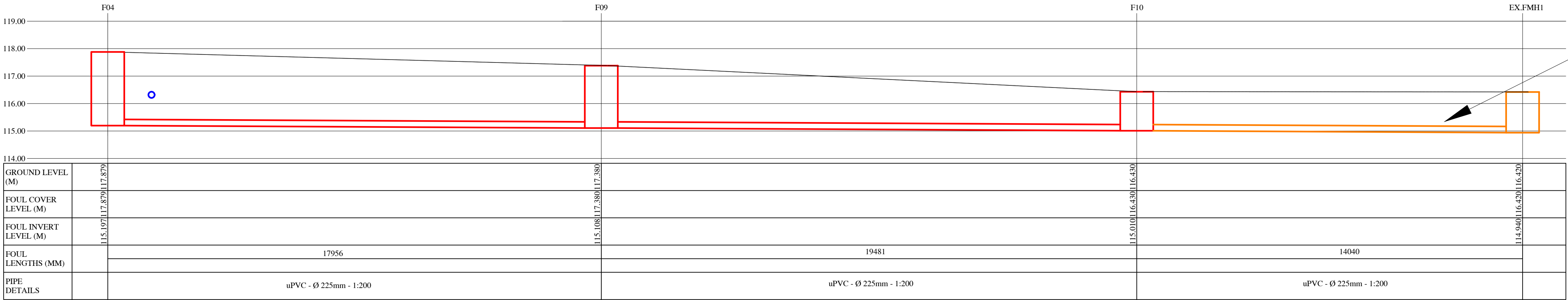
TABLE 2

CBR (%)	THICKNESS OF CAPPING LAYER (mm)
< 2	600
2-5	300
> 5	0

P	13.03.25	ISSUED FOR PLANNING	LR LM
REV	DATE	DESCRIPTION	DWG BY APPR BY
ISSUED			
PLANNING			
CLIENT			
KILDARE COUNTY COUNCIL			
PROJECT NAME			
CRADDOCKSTOWN HOUSING DEVELOPMENT			
DRAWING NAME			
PROPOSED ROAD DETAILS			
PROJECT No.			
24D024			
DRAWING No.		REVISION	
08		P	
SCALE		DRAWN DATE	
AS SHOWN		22.08.24	
CAD DRAWN BY		CHECKED BY	APPROVED BY
P.N.		L.M.	D.H.
 HAYES HIGGINS PARTNERSHIP			
The Glass House, 11 Coke Lane Smithfield, Dublin 7. Tel: 01 6612321 E-mail: admin@hayeshiggins.ie Gas House Lane, Kilkenny. Tel: (056) 7764710 Email: info@hhp.ie			

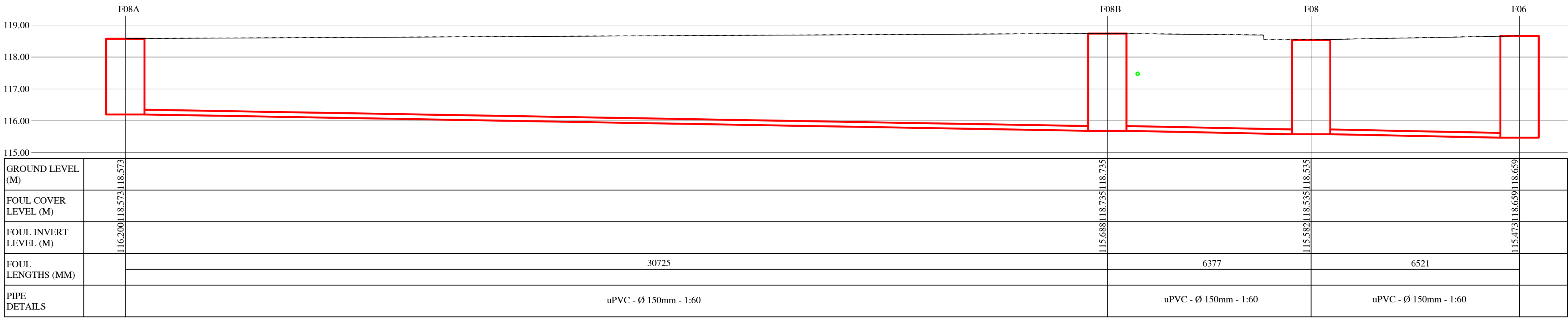


F01-F04
SCALE 1:100

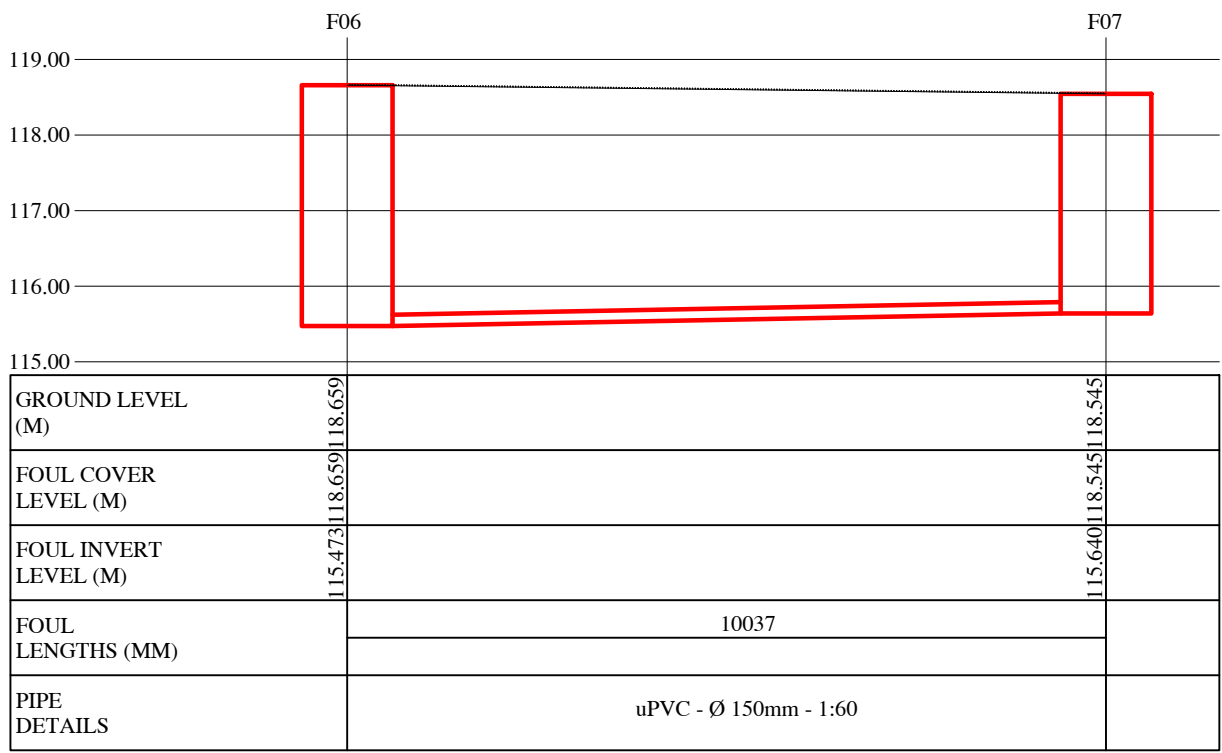


CONNECTION AND
225mm UPVC PIPE
LINE BETWEEN SITE
AND EXISTING PPP
LINE TO BE DONE BY
OTHERS (PPP Co)

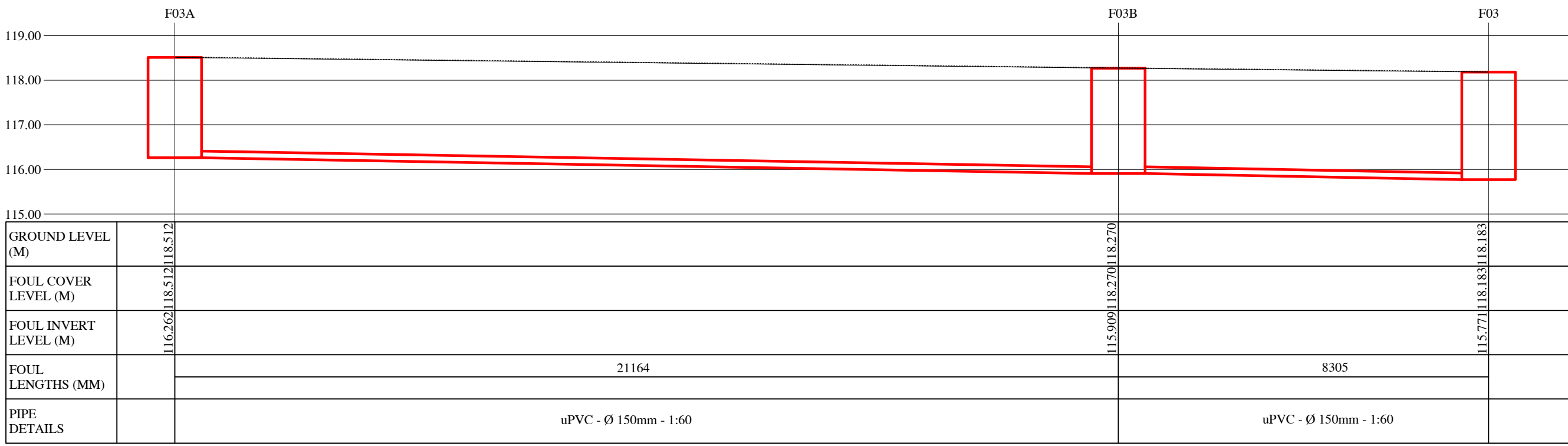
F04-EX.FMH1
SCALE 1:100



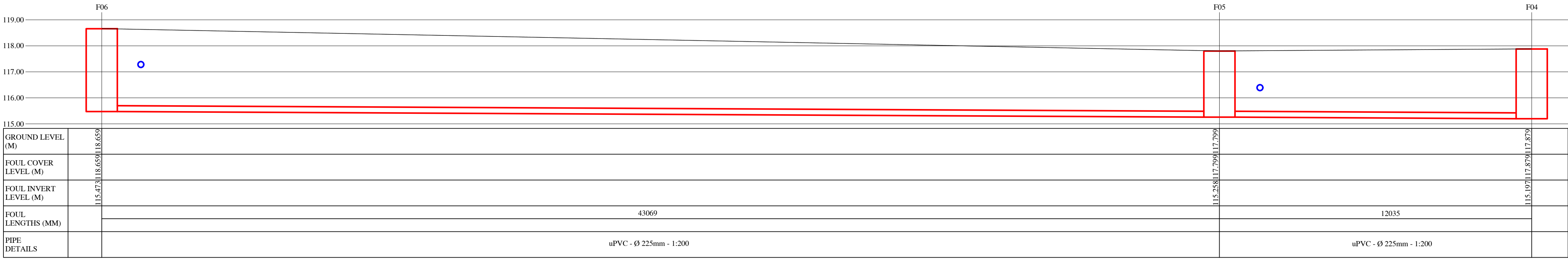
F08A-F06
SCALE 1:100



F06-F07
SCALE 1:100



F03A-F03
SCALE 1:100




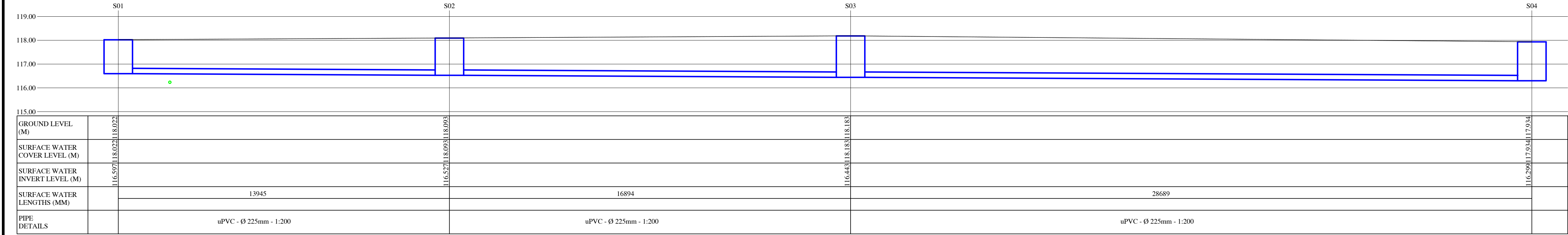
F06-F04
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NOTES

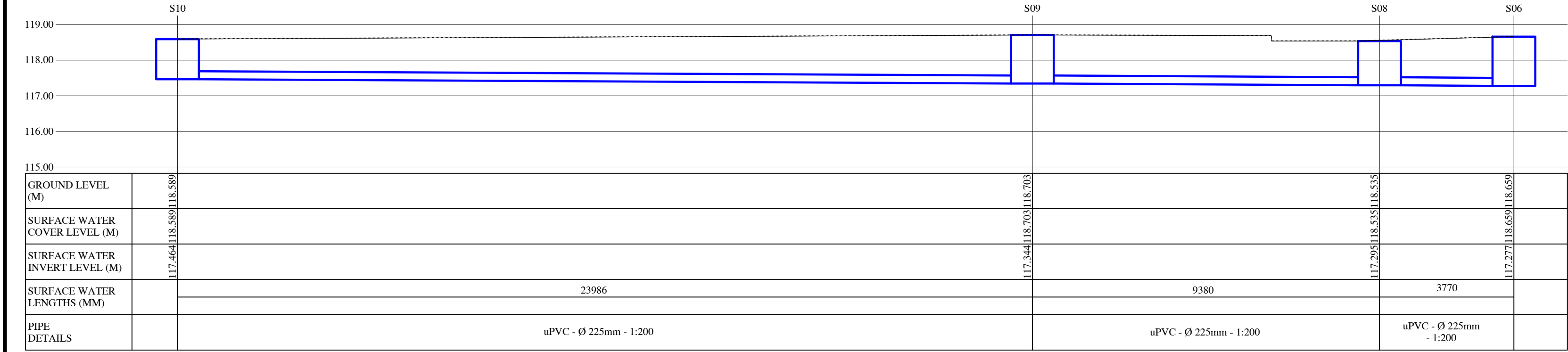
GENERAL

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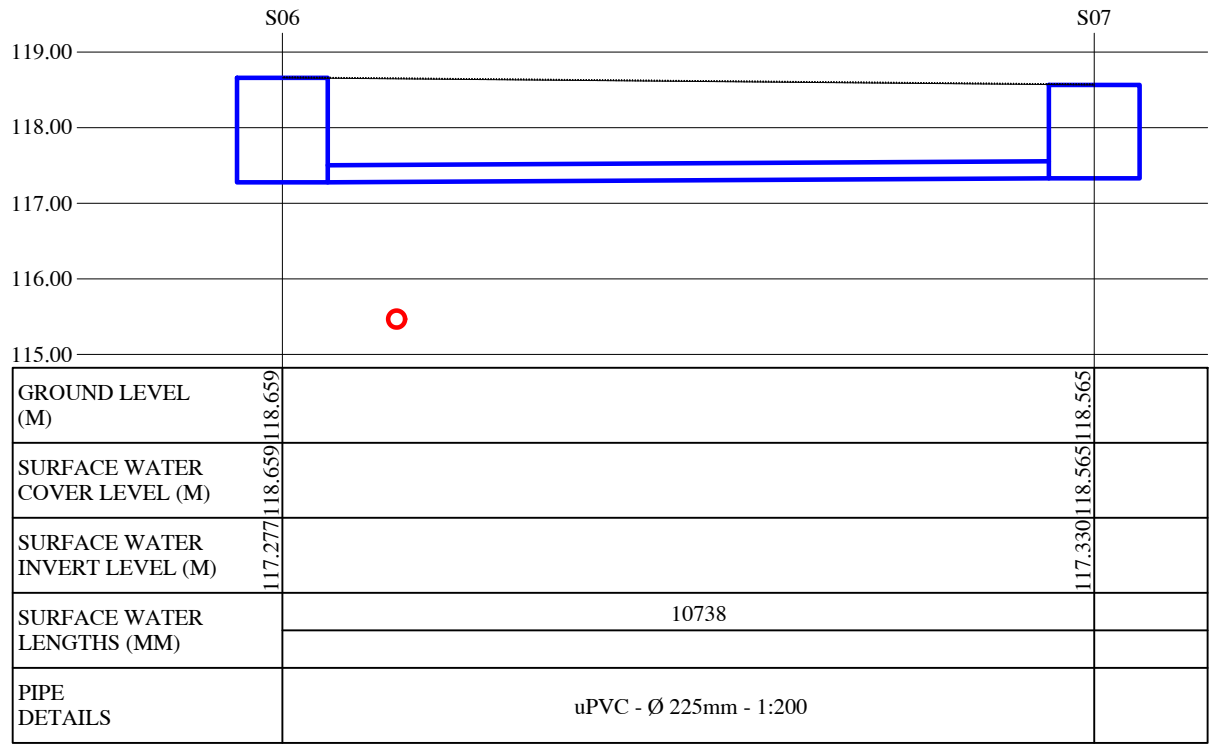
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REV	DATE	DESCRIPTION	DWG BY	APP BY	
ISSUED					
PLANNING					
CLIENT KILDARE COUNTY COUNCIL					
PROJECT NAME CRADDOCKSTOWN HOUSING DEVELOPMENT					
DRAWING NAME PROPOSED FOUL DRAINAGE LONGITUDINAL SECTIONS					
PROJECT No. 24D024					
DRAWING No. 09			REVISION P		
SCALE AS SHOWN			DRAWN DATE 21.08.24		
CAD DRAWN BY P.N.		CHECKED BY L.M.		APPROVED BY D.H.	
 HAYES HIGGINS PARTNERSHIP The Glass House, 11 Coke Lane Smithfield, Dublin 7. Tel: 01 6612321 E-mail: admin@hayeshiggins.ie Gas House Lane, Kilkenny. Tel: (056) 7764710 Email: info@hhp.ie					



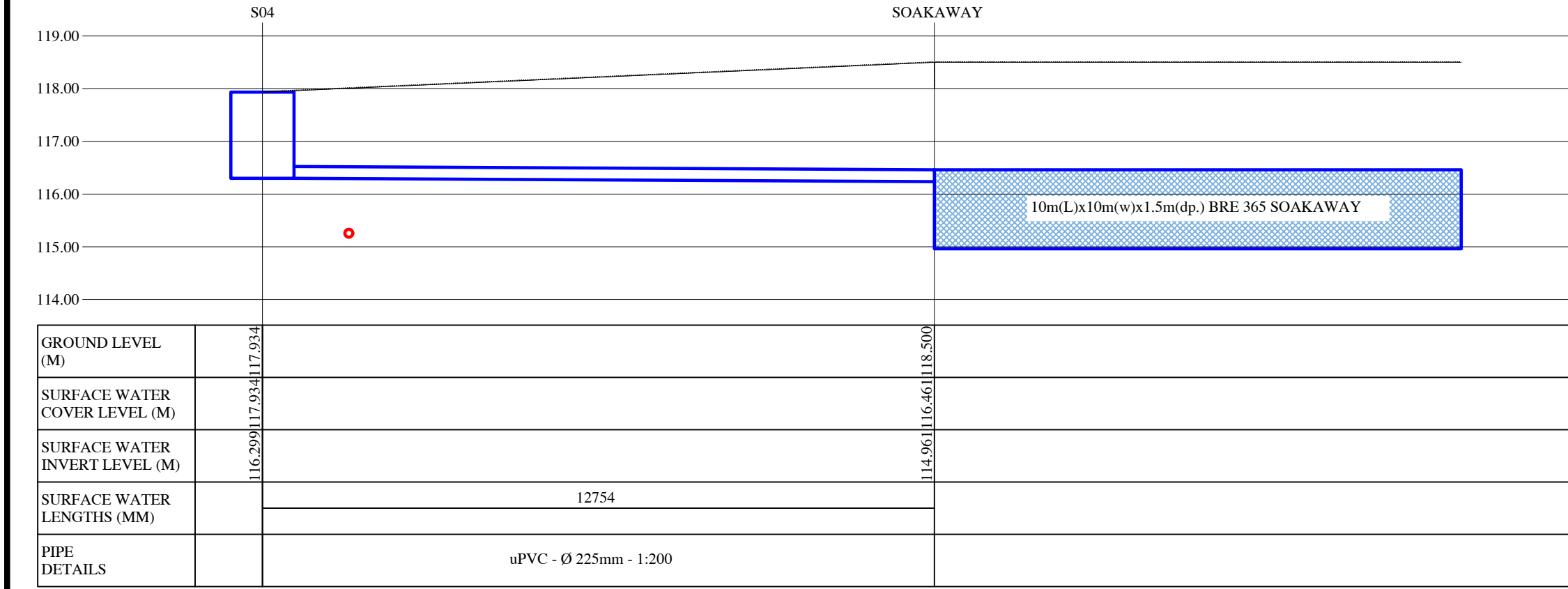
S01-S04
SCALE 1:100



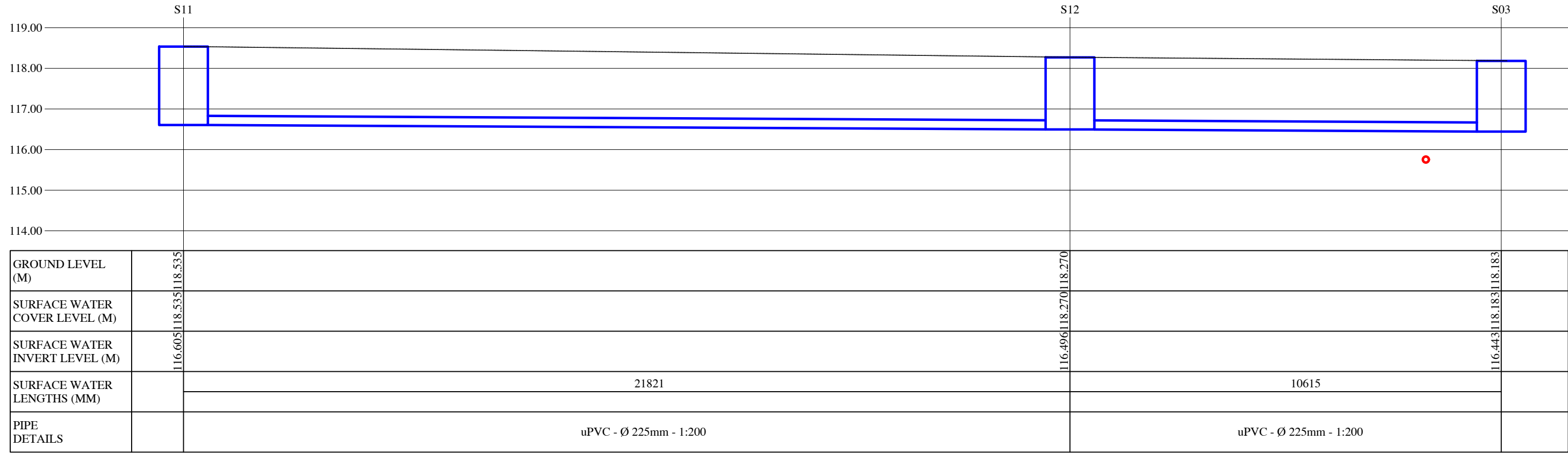
S10-S06
SCALE 1:100



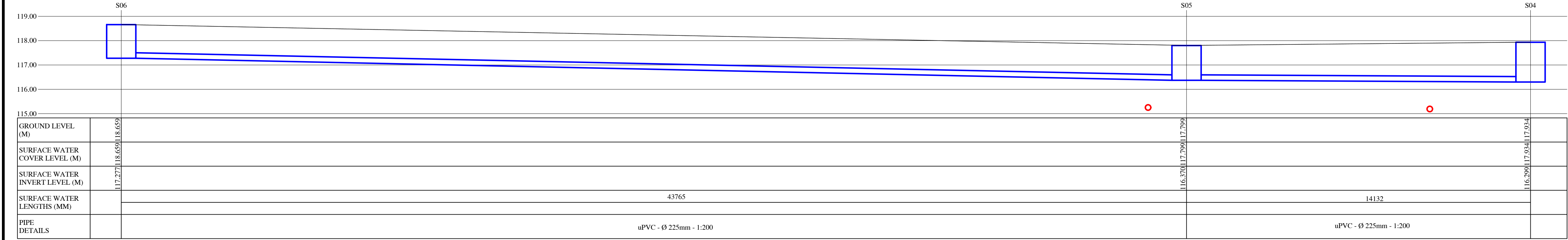
S06-S07
SCALE 1:100



S04-SOAKAWAY
SCALE 1:100




S11-S03
SCALE 1:100



S06-S04
SCALE 1:100

NOTES
GENERAL
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P	13.03.25	ISSUED FOR PLANNING	LR	LM
REV	DATE	DESCRIPTION	DWG BY	APP. BY
ISSUED				
PLANNING				
CLIENT				
KILDARE COUNTY COUNCIL				
PROJECT NAME				
CRADDOCKSTOWN HOUSING DEVELOPMENT				
DRAWING NAME				
PROPOSED SURFACE WATER DRAINAGE LONGITUDINAL SECTIONS				
PROJECT No.				
24D024				
DRAWING No.		REVISION		
10		P		
SCALE		DRAWN DATE		
AS SHOWN		21.08.24		
CAD DRAWN BY		CHECKED BY	APPROVED BY	
P.N.		L.M.	D.H.	
 HAYES HIGGINS PARTNERSHIP				
The Glass House, 11 Coke Lane Smithfield, Dublin 7. Tel: 01 6612321 E-mail: admin@hayeshiggins.ie Gas House Lane, Kilkenny. Tel: (056) 7764710 Email: info@hhp.ie				

Appendix A – Proposed Layout Drawings

