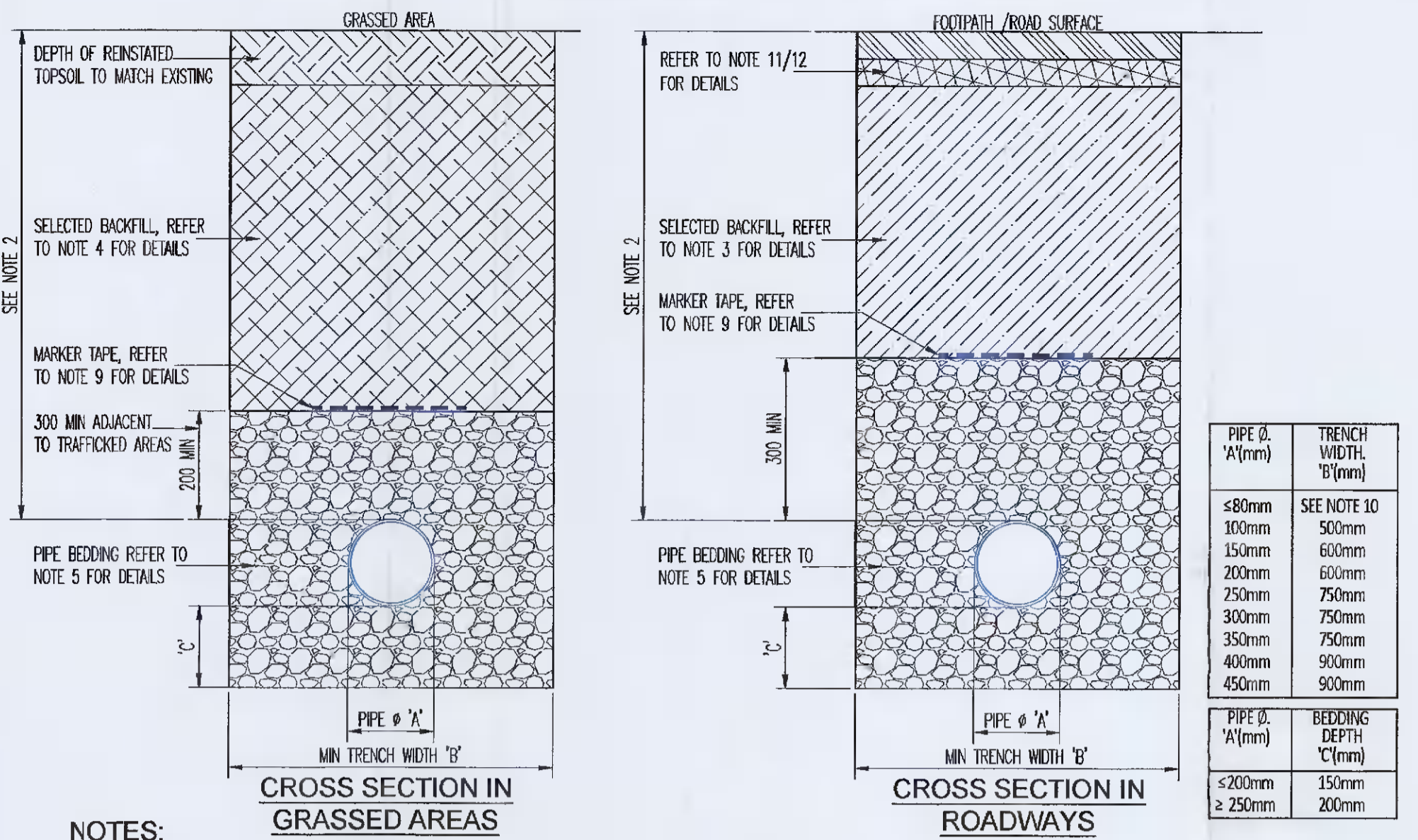


SEWER ϕ	INTERNAL ϕ (A mm)	MIN PRECAST ROOF (B mm)	MIN INSITU ROOF (B mm)
UP TO 375	1200	160	225
375 TO 450	1350	160	225
500 TO 750	1500	170	225

PIPE ϕ	ROCKER PIPE LENGTH
150 TO 600	600
600 TO 750	1000
> 750	1250

- NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETERS(mm) UNLESS NOTED OTHERWISE.
 - PRE-CAST MANHOLES UNITS: COMPLYING WITH REQUIREMENTS OF IS EN 1919 AND IS 420.
 - THICKER MANHOLE BASES REQUIRED FOR SEWERS IN EXCESS OF 3m DEEP WHERE THE SIZE IS GREATER THAN THE STANDING MINIMUM SIZE.
 - APPROVED PRE-CAST CONCRETE BASES MAY BE USED INCORPORATING CHANNELS, BENCHING ETC. SUBJECT TO IRISH WATER REVIEW AND COMPLYING WITH IS EN 1719 AND IS 420.
 - 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 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.
 - COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW BY IRISH WATER.
 - 200mm ALL AROUND x 100mm DEEP, C20/25 CONCRETE PLUMB COMPLETE WITH BULL NOSE FINISH AND TO BE PROVIDED COMPLETE WITH MILD STEEL REINFORCEMENT LINK 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 REVIEW BY IRISH WATER.
 - ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206:2013.
 - ANY SPECIAL ROAD REINSTATEMENT AROUND COVER & FRAME SHALL BE TO ROAD AUTHORITY REQUIREMENTS.
 - NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.
 - 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.
 - IF DEPTH FROM GROUND TO PIPE SOFFIT IS GREATER THAN 6m DEEP, A SITE SPECIFIC ENGINEERED SOLUTION FOR ACCESS SHALL BE PROVIDED.
 - PROPRIETARY WATERIGHT PCC MANHOLE RING SYSTEM WITH A WALL THICKNESS > 125mm & A WATER TIGHT JOINT SEALING SYSTEM, MAY BE USED WITHOUT CONCRETE SURROUND, SUBJECT TO GROUND WATER LEVEL AT THE MANHOLE BEING LOW & SUBJECT TO REVIEW BY IRISH WATER.
 - THE INTERNAL MANHOLE DIAMETER SHOWN IN THE TABLE 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 OUTLETS.

PRECAST CONCRETE MANHOLES - TO IRISH WATER
DOCUMENT No.IW-CDS-5030-01. DRAWING No. STD-VW-10 REV 3
 SCALE 1:20

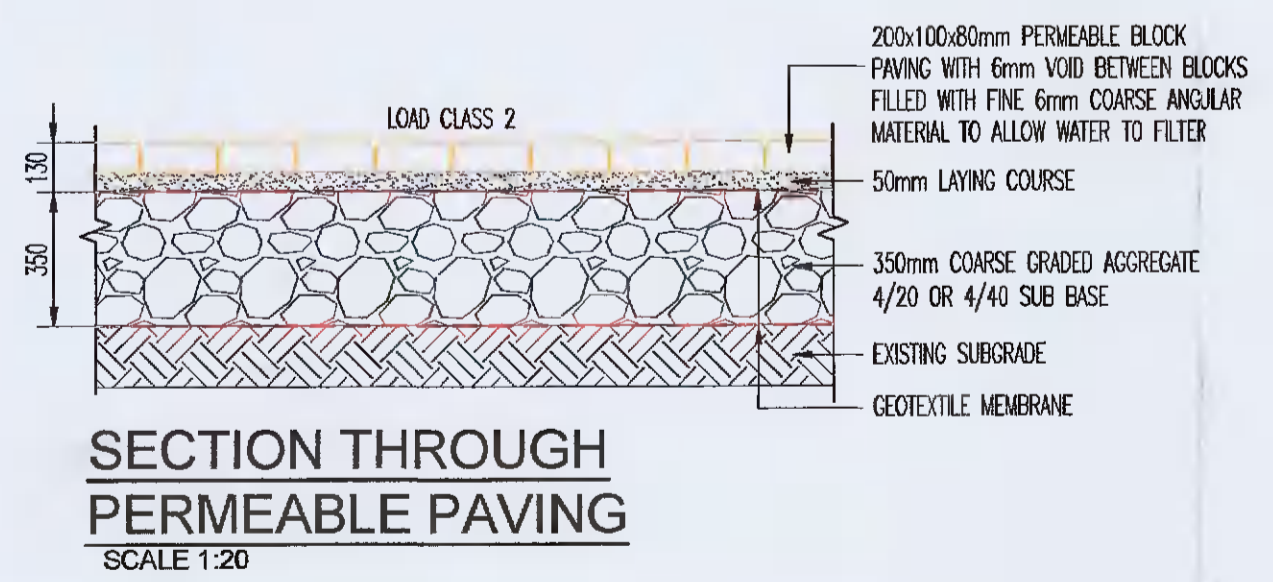


PIPE ϕ (A)(mm)	TRENCH WIDTH (B)(mm)
≤ 80 mm	SEE NOTE 10
100mm	500mm
150mm	600mm
200mm	600mm
250mm	750mm
300mm	750mm
350mm	900mm
400mm	900mm
450mm	900mm

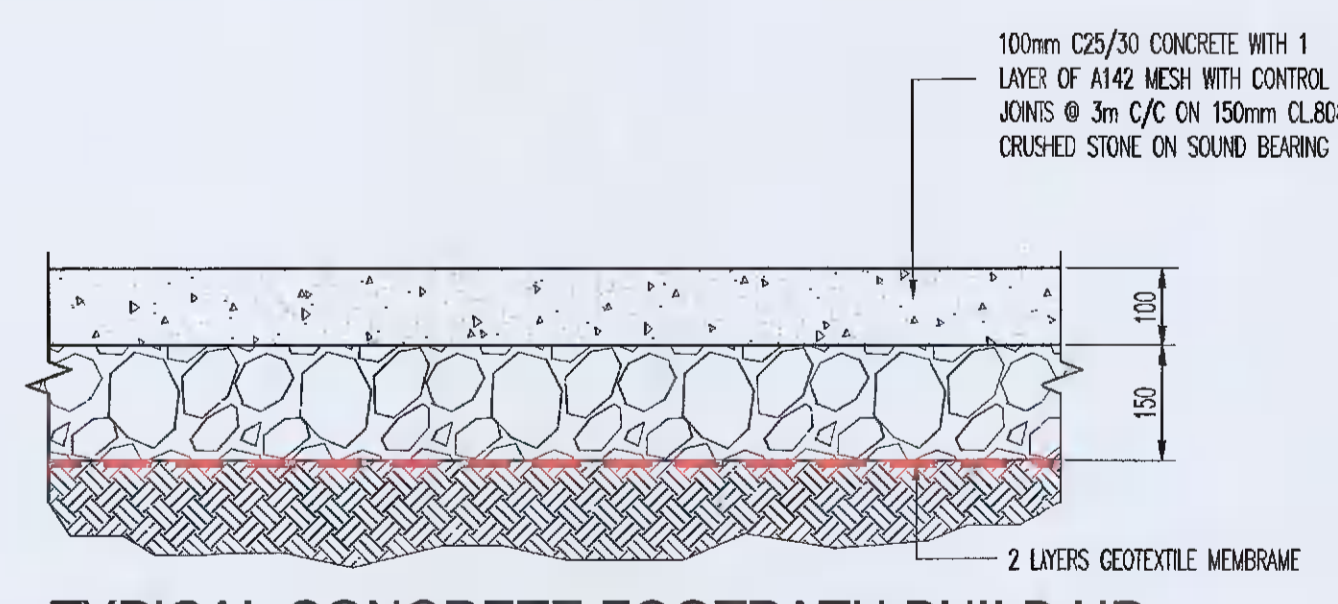
PIPE ϕ (A)(mm)	BEDDING DEPTH (B)(mm)
≤ 200 mm	150mm
≥ 250 mm	200mm

- NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETERS(mm) UNLESS NOTED OTHERWISE.
 - THE MINIMUM DEPTH OF COVER FROM THE FINISHED SURFACE TO THE CROWN OF THE GRAVITY PIPE WITHOUT PROTECTION SHOULD BE AS FOLLOWS:
 - 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)
 - DRIVEWAYS, FOOTWAYS, 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.
 - DRIVEWAYS, FOOTWAYS, PARKING AREAS AND NARROW STREETS WITHOUT FOOTWAYS (E.G. NEWS DEVELOPMENTS) WITH LIMITED ACCESS FOR VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5 TONNES - DEPTH NOT LESS THAN 0.9M.
 - DEPTHS OF SEWERS IN GATED ESTATES SHALL BE SIMILAR TO THAT OUTLINED ABOVE.
 - AGRICULTURAL LAND AND PUBLIC OPEN SPACE - DEPTH NOT LESS THAN 0.9M.
 - OTHER ROADWAYS, 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.
 - 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 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 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 OF THE TRENCH PIPE WILL ONLY BE ALLOWED BY IRISH WATER WHERE THE ROADS AUTHORITY IN WHOSE FUNCTIONAL AREA THE DEVELOPER IS LOCATED, PROVIDES WRITTEN APPROVAL TO THE DEVELOPER USE SUCH ALTERNATIVE MATERIAL. EVIDENCE OF THIS WRITTEN APPROVAL TO BE PROVIDED TO IRISH WATER IN ADVANCE OF THE COMMENCEMENT OF WORKS.
 - SELECTED EXCAVATED MATERIAL COMPLYING WITH THE REQUIREMENTS OF "ACCEPTABLE MATERIAL" AS OUTLINED ON CLAUSE 601 OF THE TI SPECIFICATION FOR ROADWORKS, TABLE 6/1, CLASS B, CLASS 2, MAY BE USED IN GREEN-FIELD AREAS ABOVE GRANULAR PIPE SURROUND MATERIAL SUBJECT TO REVIEW BY IRISH WATER.
 - PIPE BEDDING SHALL COMPLY WITH WS 4-08-02 AND ISN 4-08-01. GRANULAR MATERIAL SHALL BE 14mm TO 50mm GRADED AGGREGATE OR 10mm SINGLE SIZED AGGREGATE TO IS EN 12342.
 - 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 TRANSPORT INFRASTRUCTURE IRELAND SPECIFICATION FOR ROAD WORKS SHALL REPLACE THE EXCAVATED MATERIAL, WRAPPED IN GEO-TEXTILE WRAPPING. ALTERNATIVELY, SPECIAL PIPE SUPPORT ARRANGEMENTS MAY BE REQUIRED WHERE THE DEPTH OF SOFT MATERIAL IS EXCESSIVE. SUCH ARRANGEMENTS SHALL BE SUBJECT TO ASSESSMENT BY IRISH WATER BEFORE ADVANCING THE WORK.
 - IN GREEN FIELD AREAS, TYPE B BACKFILL (SELECTED EXCAVATED MATERIAL COMPLYING WITH THE REQUIREMENTS OF "ACCEPTABLE MATERIAL" AS OUTLINED ON CLAUSE 601 OF THE TI SPECIFICATION FOR ROADWORKS, TABLE 6/1, CLASS B, CLASS 2.) WILL BE ALLOWED ABOVE THE SIDE HAUNCH GRANULAR MATERIAL IN THE CASE OF RIGID PIPES. A GRANULAR SURROUND OF 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 MIN COVER OF 300mm GRANULAR MATERIAL ABOVE THE EXTERNAL CROWN OF THE PIPE.
 - PIPES SHALL NOT BE SUPPORTED ON STONES OR ROCK, 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 WORKS. THE GRANULAR MATERIAL SHALL BE LAID ABOVE THE VOID BACKFILL MATERIAL.
 - NON DEGRADABLE MARKER TAPE SHOULD BE INSTALLED AT THE TOP OF THE PIPE BEDDING LAYER FOR SEWERS AND RISING MAINS. IT SHOULD RUN CONTINUOUSLY AROUND MANHOLES. 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(IF PROVIDED) AND THE DISCHARGE MANHOLE.
 - TRENCH WIDTHS FOR PIPES ≤ 80 mm MAY BE ≤ 500 mm SUBJECT TO CONSIDERATION BEING GIVEN TO THE TRENCH DEPTH, HEALTH & SAFETY & CONSTRUCTION ACCESS REQUIREMENTS.
 - NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.
 - EXISTING ROAD REINSTATEMENT TO COMPLY WITH CURRENT VERSION OF GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS, BY DEPARTMENT OF TRANSPORT, TOURISM & SPORT OR TRANSPORT INFRASTRUCTURE IRELAND REQUIREMENTS.

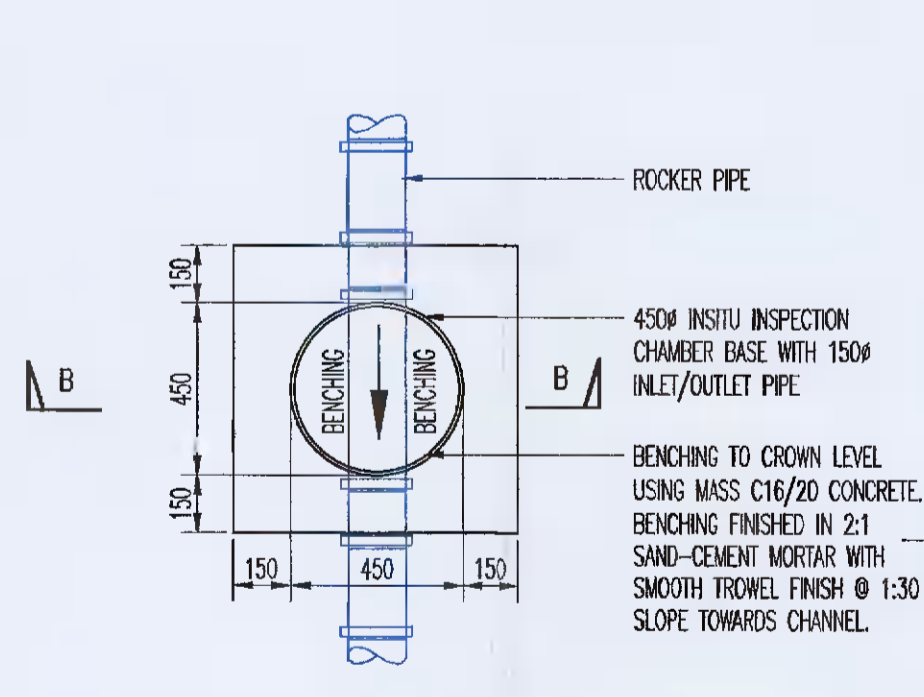
TRENCH BACKFILL/BEDDING
TO IRISH WATER DOCUMENT No.IW-CDS-5030-01. DRAWING No.
STD-VW-07 REV 2 & STD-VW-08 REV 1
 SCALE 1:10



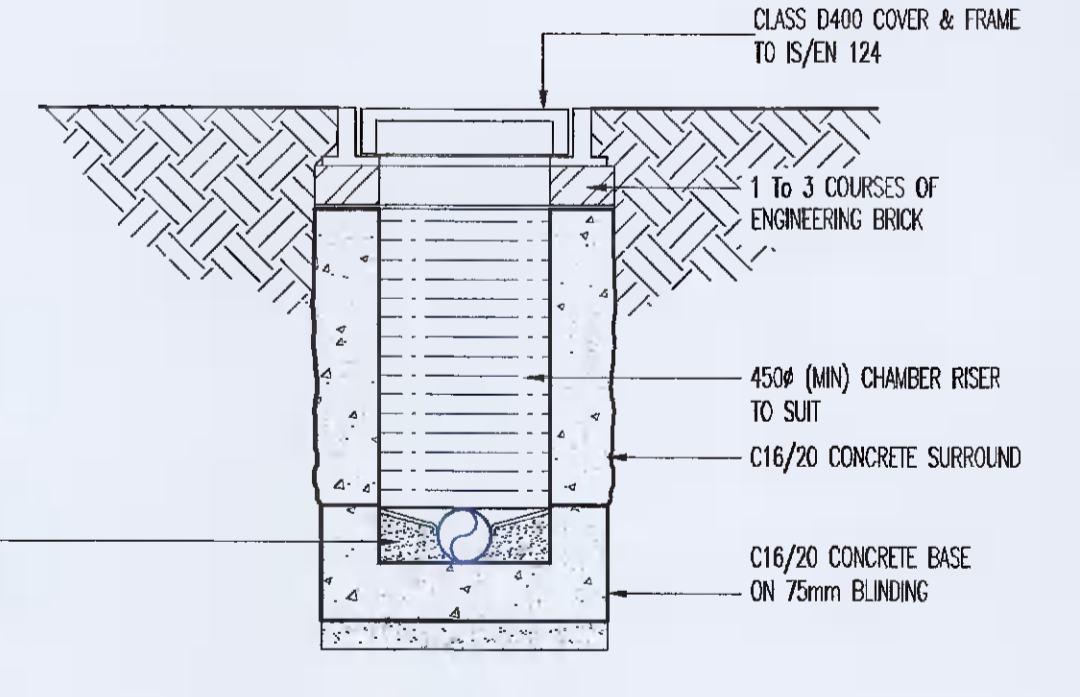
SECTION THROUGH PERMEABLE PAVING
 SCALE 1:20



TYPICAL CONCRETE FOOTPATH BUILD UP
 SCALE 1:10



INSPECTION CHAMBER PLAN
 SCALE 1:20



SECTION B-B
 SCALE 1:20

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Revision Schedule	Initial	Rev	Date

Revision Schedule	Initial	Rev	Date

ISSUED FOR PLANNING	DF	1	21/02/2022
Initial	Rev	Date	

ISSUED FOR PLANNING

Drawing Title: DRAINAGE SECTIONS & DETAILS

Client: JOHN PCPE

Date: FEB 22

Scale: 1:10/20

Job No. 21010

Drawing No. D-02

Checked: YC

CAD Ref.:

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