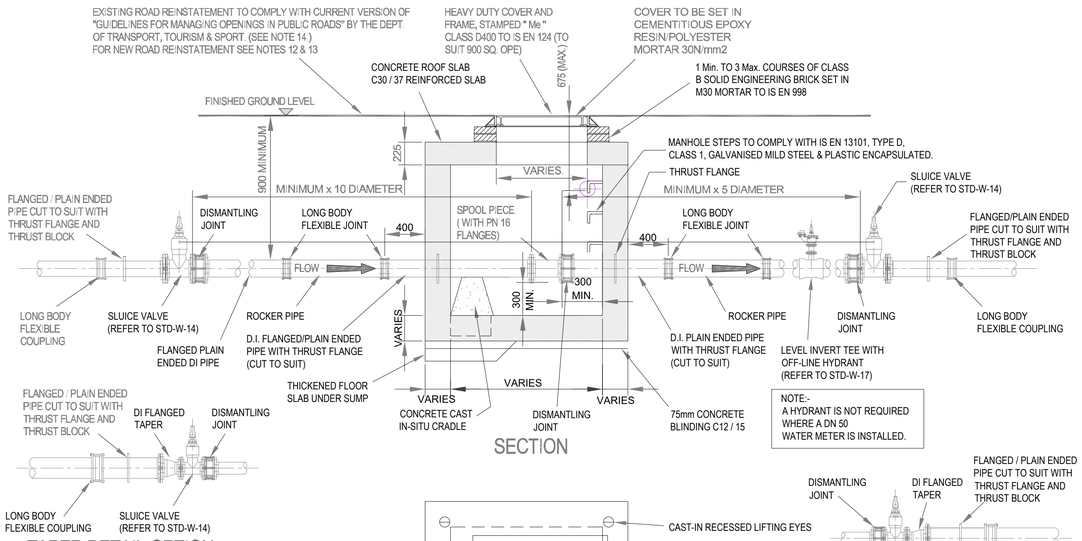
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
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
3. CONCRETE FOR FLOW METER CHAMBER TO BE C30 / 37.
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 .
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.
6. 200mm ALL ROUND, 100mm DEEP CONCRETE PLINTH AROUND COVER IN GRASS AREAS.
7. ANTI CORROSION TAPE TO BE PROVIDED AROUND BURIED FLANGES.
8. 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.
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.
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.
11. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.
12. ANY SPECIAL ROAD REINSTATEMENT AROUND COVER & FRAME SHALL BE TO ROAD AUTHORITY'S REQUIREMENTS.
13. NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.
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.
15. DEVELOPER TO PROVIDE SPOOL PIECE, IRISH WATER TO PROVIDE METER. (SEE TABLE BELOW FOR SPOOL PIECE LENGTHS)

ELECTROMAGNETIC WATER METER SPOOL PIECE LENGTHS

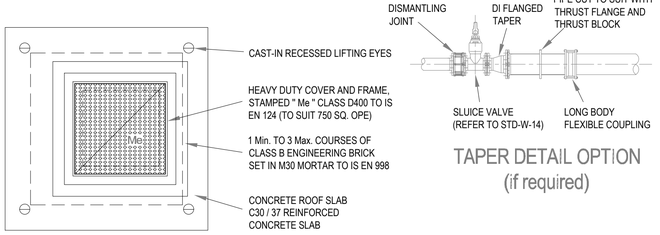
Ø mm	DN50	DN80	DN100	DN125	DN150	DN200	DN250
Length mm	200		250		300	350	450



NOTE:-
A HYDRANT IS NOT REQUIRED WHERE A DN 50 WATER METER IS INSTALLED.

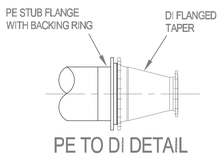
TAPER DETAIL OPTION
(if required)

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



ROOF PLAN

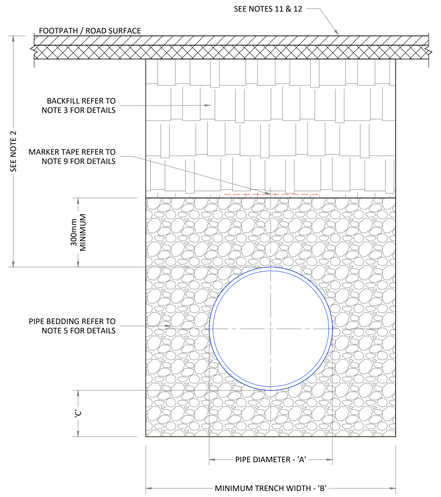
TAPER DETAIL OPTION
(if required)



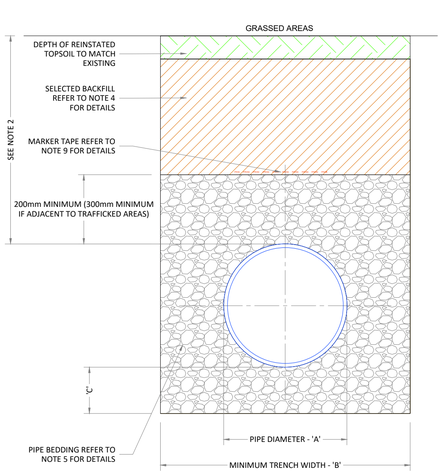
PE TO DI DETAIL

FLOOR PLAN

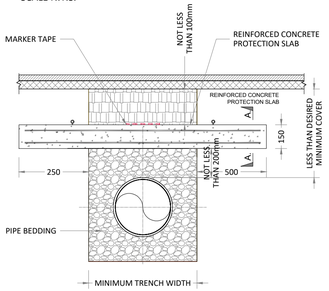
ELECTROMAGNETIC METER CHAMBER (80 - 250mm DIAMETER)
SCALE N.T.S.

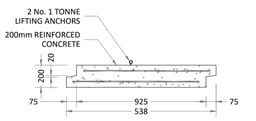


CROSS SECTION IN ROADWAYS
SCALE N.T.S.



CROSS SECTION IN GRASSED AREAS
SCALE N.T.S.





SECTION A-A
SCALE N.T.S.

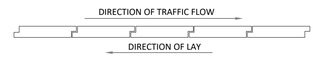
NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
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.
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 LOCATED, PROVIDES WRITTEN APPROVAL TO THE DEVELOPER TO THE USE SUCH ALTERNATIVE MATERIAL.
4. SELECTED EXCAVATED MATERIAL MAY BE USED IN GREEN-FIELD AREAS ABOVE GRANULAR PIPE SURROUND MATERIAL SUBJECT TO REVIEW BY IRISH WATER.
5. PIPE BEDDING SHALL COMPLY WITH WIS 4-08-02 AND IGN 4-08-01 GRANULAR MATERIAL SHALL BE 14mm TO 5mm (d/D 2/14) GRATED AGGREGATE OR 10mm (d/D 4/10) SINGLE SIZED AGGREGATE TO IS EN 13242.
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 ROAD 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.
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 WORKS. THE GRANULAR MATERIAL SHALL BE LAID ABOVE THIS VOID BACKFILL MATERIAL.
8. SHOULD MINIMUM COVER NOT BE ACHIEVABLE, CONCRETE GRADE C8/10 SHALL BE USED AS BACKFILL MATERIAL.
9. MARKER TAPE TO BE 400mm WIDE BLUE POLYETHYLENE MATERIAL IN ACCORDANCE WITH EN 12163, PLASTIC PIPES SHALL HAVE WARNING TAPE INCORPORATED A REINFORCED BAND BRACING WIRE. SERVICE PIPES SHALL HAVE 200mm WIDE MESH TAPE. MARKER TAPE TO BE LAID AT TOP OF PIPE BEDDING LAYER.
10. TRENCH WIDTHS FOR PIPE SIZES ≤80mm MAY BE <500mm, SUBJECT TO CONSIDERATION BEING GIVEN TO THE TRENCH DEPTH, HEALTH & SAFETY & CONSTRUCTION ACCESS REQUIREMENTS.
11. NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.
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.

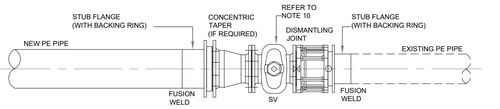
PIPE DIAMETER 'A' (mm)	TRENCH WIDTH 'B' (mm)
≤ 80	SEE NOTE 10
100	500
150	600
200	600
250	750
300	750
350	750
400	900
450	900

PIPE DIAMETER 'A' (mm)	DEPTH OF BEDDING 'C' (mm)
≤ 200	150
≥ 250	200

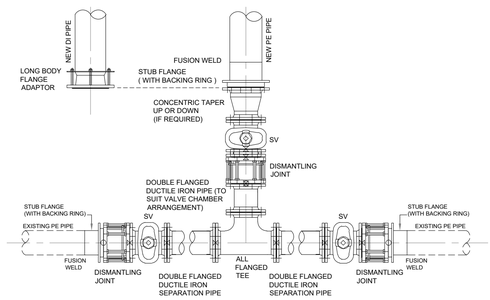
13. FOR ANY SLABBING WORKS TO BE CARRIED OUT WITHIN THE VICINITY OF THE PIPELINE, A METHOD STATEMENT IS TO BE SUBMITTED FOR APPROVAL BY IRISH WATER.
14. MARKER TAPE TO BE PLACED ABOVE THE PROTECTION SLAB ALONG THE DIRECTION OF THE PIPELINE.
15. CONCRETE TO BE GRADE C30/35.
16. MINIMUM COVER TO STEEL REINFORCEMENT = 40mm.
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
18. 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.
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.



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.



NEW PE - EXISTING PE



NEW PE - EXISTING PE
GENERAL PIPE CONNECTIONS
SCALE N.T.S.

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. ALL BENDS, TEES, DEAD ENDS, ETC. OF PIPELINES TO BE ADEQUATELY RESTRAINED BY THRUST BLOCKS AS PER DRAWING No. STD-W-28. THRUST BLOCKS NOT SHOWN FOR CLARITY.
3. BUTT FUSION WELDING AND ELECTRO FUSION JOINTING OF PIPES SHALL ONLY BE CARRIED OUT BY TRAINED OPERATIVES IN POSSESSION OF A CURRENT TRAINING CERTIFICATE, USING FULLY AUTOMATIC APPROVED JOINTING MACHINE/RIGS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. THE IDENTITY OF THE PE PIPELINE MANUFACTURER SHALL BE MADE KNOWN TO IRISH WATER PRIOR TO COMMENCEMENT OF THE INSTALLATION. CERTIFICATION AND TESTING (INCLUDING INDEPENDENT THIRD PARTY CERTIFICATION) SHALL BE PROVIDED TO CONFIRM QUALITY ASSURANCE COMPLIANCE. EACH JOINT SHALL BE CLEARLY MARKED WITH THE JOINT LOGGED AUTOMATICALLY ON THE JOINTING MACHINE. A PRINTOUT OF THE JOINT DETAILS, WITH A GPS LOCATION OF EACH JOINT, SHALL BE PROVIDED AND RETAINED FOR QUALITY ASSURANCE PURPOSES.
4. CONNECTING TO EXISTING MAINS IS TO BE CARRIED OUT BY IRISH WATER OR AN APPROVED IRISH WATER AGENT.
5. WHEN EXISTING AC WATERMAINS ARE PRESENT A SPECIFIC METHOD STATEMENT SHALL BE SUBMITTED TO IRISH WATER PRIOR TO WORKS TAKING PLACE AND SUBJECT TO WRITTEN APPROVAL, DETAILING THE PROTECTION TO BE PUT IN PLACE TO EXISTING MAINS, METHOD OF REMOVAL OF EXISTING AC, METHOD OF DISPOSAL OF EXISTING AC AND METHOD OF CONNECTION TO EXISTING AC.
6. PIPE MATERIAL REFERENCES AS FOLLOWS: AC - ASBESTOS CEMENT DI -DUCTILE IRON CI - CAST IRON PE - POLYETHYLENE uPVC - UNPLASTICISED POLY VINYL CHLORIDE ST - STEEL OTHER - REFERS TO ALL EXISTING PIPE MATERIALS OTHER THAN PE (TYPICALL AC, DI, CI, uPVC & ST).
7. SLUICE VALVE CHAMBERS TO BE IN ACCORDANCE WITH STD-W-14 (DI) AND STD-W-15 (PE). CHAMBERS NOT SHOWN FOR CLARITY.
8. ALL THRUST FLANGES TO BE ADEQUATELY RESTRAINED BY THRUST BLOCKS AS PER DRAWING No. STD-W-28. THRUST BLOCKS NOT SHOWN FOR CLARITY.
9. A HIGH LEVEL OF HEALTH & SAFETY PROCEDURES IS REQUIRED WHEN WORKING ON AC MAINS, & THE OPERATION OF DISMANTLING/ REMOVAL OF AC PIPES & JOINTS.
10. VALVES SHALL BE ARRANGED IN SUCH A MANNER TO ALLOW FOR THE NETWORK TO BE MANAGED TO ENSURE THAT NO MORE THAN 40 PROPERTIES LOSE WATER FROM A BURST ON THE SYSTEM AT ANY ONE TIME.

- THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DESIGN TEAM DRAWINGS AND SPECIFICATIONS.
- FOR SETTING OUT REFER TO ARCHITECT'S DRAWINGS. DO NOT SCALE THIS DRAWING. USE FIGURED DIMENSIONS ONLY.
- NO PART OF THIS DOCUMENT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR STORED IN ANY RETRIEVAL SYSTEM OF ANY NATURE WITHOUT THE WRITTEN PERMISSION OF O'CONNOR SUTTON CRONIN AS COPYRIGHT HOLDER EXCEPT AS AGREED FOR USE ON THE PROJECT FOR WHICH THE DOCUMENT WAS ORIGINALLY ISSUED.

Rev No.	Date	Revision Note	Drn by	Chkd by
P01	16.01.25	SUITABLE FOR INFORMATION	RC	IC
P02	03.11.26	SUITABLE FOR STAGE APPROVAL - TENDER	MC	IC

Rev No.	Date	Revision Note	Drn by	Chkd by

OCSC
O'CONNOR · SUTTON · CRONIN
MULTIDISCIPLINARY CONSULTING ENGINEERS
Civil / Structural / Environmental / Mechanical/Electrical / Sustainability
Dublin Office: 9 Prussia Street, Dublin 7. D07 KT57.
Tel: +353 (0)1 8682000 Web: www.ocsc.ie
Dublin · London · Belfast · Galway · Cork · Birmingham

Client: TIPPERARY COUNTY COUNCIL
Project: TIPPERARY COURTHOUSE

Title: WATERMAIN DETAILS
PAGE 1 OF 3

Code	Originator	Zone	Level	Type	Role	Number	Status	Revision
O708	OCSC	ZZ	ZZ	DR	S	0560	S4	P02

Date:JAN'25 Scale @ A1: 1:250 Drn by: RC Chkd by: IC Aprvd by: PH