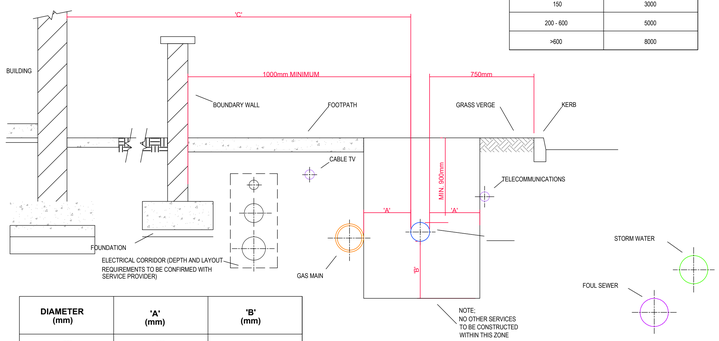
1. SEPARATION DISTANCES BETWEEN WATERMAINS ASSOCIATED WITH THE WORKS FROM OTHER UTILITY PIPES AND ACCESSORIES SHALL BE IN ACCORDANCE WITH SECTION 3.6 OF THE CODE OF PRACTICE. SEPARATION DISTANCES FOR ALL NEW INSTALLATIONS FROM EXISTING IRISH WATER PIPES SHALL BE AS OUTLINED IN SECTION 3.27 OF THE CODE OF PRACTICE. THE SEPARATION DISTANCES SPECIFIED ARE MINIMUM DISTANCES.
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.
3. WATERMAIN (PROPOSED) SEPARATION DISTANCES
   HORIZONTAL
   300mm TO DISTRIBUTION MAINS OF LESS THAN 300mm DIAMETER.
   500mm TO TRUNK MAINS BETWEEN 300mm AND 450mm DIAMETER.
   3m TO ARTERIAL WATER MAINS OF GREATER THAN 450mm DIAMETER.
   VERTICAL
   300mm TO DISTRIBUTION MAINS OF LESS THAN 300mm DIAMETER.
   500mm TO TRUNK/ARTERIAL MAINS OF DIAMETER GREATER THAN 300mm.

   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
4. WATERMAIN (EXISTING) SEPARATION DISTANCES
   HORIZONTAL
   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
   600mm AT EITHER SIDE OF MAINS UP TO AND INCLUDING 150mm DIAMETER;
   1m AT EITHER SIDE OF MAINS OF 200mm TO 250mm DIAMETER;
   2m AT EITHER SIDE OF MAINS OF 300mm AND 375mm DIAMETER;
   5m AT EITHER SIDE OF MAINS OF 400mm AND 450mm DIAMETER;
   SPECIFIC IRISH WATER ADVISED DISTANCES FOR MAINS IN EXCESS OF 450mm;
   600mm AT EITHER SIDE OF GRAVITY SEWER UP TO AND INCLUDING 225mm DIAMETER;
   1m AT EITHER SIDE OF GRAVITY SEWER OF 300mm AND UP TO 450mm DIAMETER;
   1.5m AT EITHER SIDE OF GRAVITY SEWERS OF 600mm DIAMETER AND GREATER ;
5. 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 1.5m:-
   HORIZONTAL
   1m AT EITHER SIDE OF EXISTING PIPES LESS THAN 200mm DIAMETER;
   2m AT EITHER SIDE OF EXISTING PIPES OF 200mm TO 350mm DIAMETER;
   5m AT EITHER SIDE OF EXISTING PIPES OF 350mm OR GREATER;
   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 WORK. 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
   NOTIFICATION IN WRITING IS REQUIRED SHOULD WORKS BE WITHIN 1.5m DISTANCE OF A WASTEWATER SEWER.
   REQUIREMENTS SHALL ALSO APPLY TO TRIAL HOLES OR SLIT 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.
   DEVELOPERS SHALL ALSO COMPLY WITH ANY NOTIFICATION REQUIREMENTS OF OTHER UTILITY PROVIDERS (ESB, GAS MAIN, TELECOMMUNICATION ETC).
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 SUBJECT TO WRITTEN AGREEMENT WITH IRISH WATER BEFORE CONSTRUCTION COMMENCES ON SITE. THIS AGREEMENT SHALL ALSO INCLUDE ANY NECESSARY PROTECTION FOR WATER MAINS.
7. ANY DAMAGE SHALL BE NOTIFIED IMMEDIATELY TO IRISH WATER. THE PERSON WHO CAUSES THE DAMAGE TO A WATER MAIN OR FITTING WILL BE DEEMED TO HAVE COMMITTED AN OFFENCE UNDER SECTION 45 OF THE WATER SERVICES ACT 2007.
8. WATERMAINS OF ANY SIZE SHALL NOT BE WITHIN 1m OF THE BOUNDARY TO A PREMISES
9. UNDER NO CIRCUMSTANCES WILL IRISH WATER ACCEPT WATER MAIN INSTALLATIONS UNDER STRUCTURES, EXISTING OR PROPOSED, OR IN CLOSE PROXIMITY TO ANY EXISTING STRUCTURES OR FEATURES THAT WILL INHIBIT ACCESS FOR POST INSTALLATION MAINTENANCE AND ACCESS.
10. WHERE THE DESIGN DEVIATES FROM THIS STANDARD DETAIL, THE DESIGN SHALL BE SUBJECT TO THE REVIEW OF IRISH WATER.
11. SEPARATION DISTANCES BETWEEN UTILITIES MAY BE INCREASED TO PROVIDE FOR CHAMBER & THRUST BLOCKS AT BENDS.
12. WHERE A GRASS VERGE IS NOT AVAILABLE AND A FOOTPATH IS LESS THAN 1.5m WIDE, THE WATERMAIN IS PERMITTED ON THE ROADWAY.

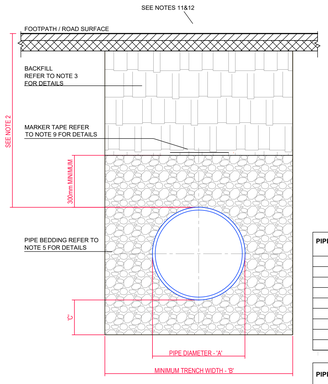
DIAMETER (mm)	'C' (mm)
150	3000
200 - 600	5000
>600	8000



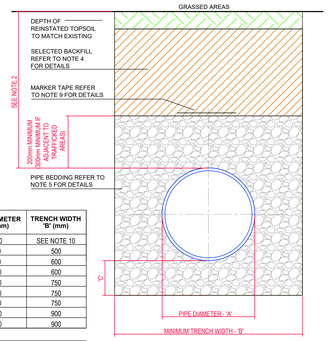
DIAMETER (mm)	'A' (mm)	'B' (mm)
<300	300	300
300 - 450	500	500
>450	3000	500

TYPICAL SERVICE LAYOUT
INDICATING SEPARATION DISTANCES
STD-W-11

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 / 809 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 IWS 4-08-02 AND 4-08-01 GRANULAR MATERIAL SHALL BE 14mm TO 5mm (*d* ... *D/Ø*4) GRADED 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 ≤600mm 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.



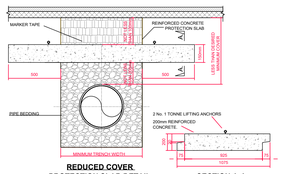
CROSS SECTION IN ROADWAYS



CROSS SECTION IN GRASSED AREAS

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

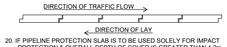
PIPE DIAMETER 'A' (mm)	DEPTH OF BEDDING 'C' (mm)
≤ 200	150
≥ 250	200



REDUCED COVER
PROTECTION SLAB DETAIL

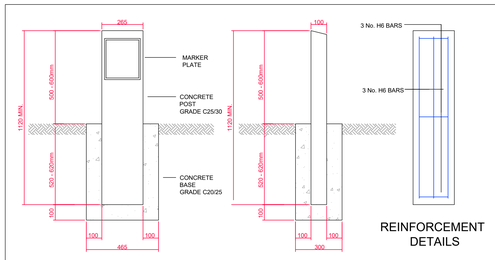
SECTION A-A

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.

TRENCH BACKFILL / BEDDING & REDUCED
COVER PROTECTION SLAB DETAIL
STD-W-13



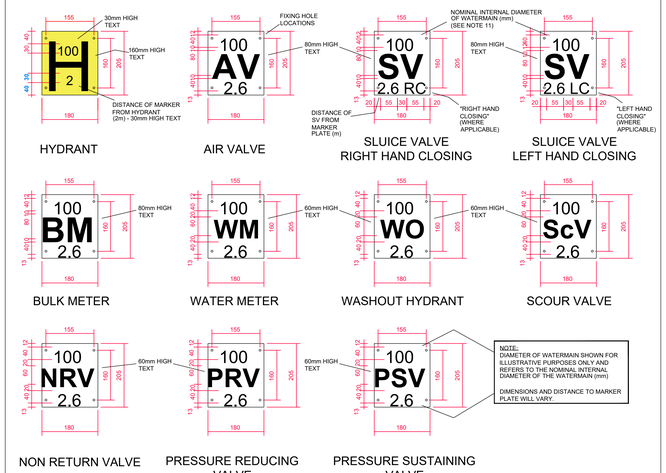
ELEVATION

SECTION

REINFORCEMENT DETAILS

PLAN

1. WHERE PRACTICAL MARKER PLATES SHALL BE FIXED TO ADJACENT WALLS OR ALTERNATIVELY ATTACHED TO MARKER POSTS.
2. PLATES TO BE FIXED IN POSITION USING WALL PLUGS AND STAINLESS STEEL SCREWS.
3. MARKER PLATES TO BE MANUFACTURED IN ACCORDANCE WITH BS 3251.
4. FOR HYDRANT PLATE ALL CHARACTERS SHOULD BE BLACK AND THE REMAINDER OF THE FRONT FACE SHOULD CONFORM TO COLOUR REFERENCE RAL 3000/65.
5. PIPE DIAMETER ON HYDRANT PLATE TO REFER TO WATERMAIN/NOT BRANCH.
6. SLUICE VALVE, AIR VALVE, SCOUR VALVE, AND WASHOUT HYDRANT, ETC., SHOULD BE CAST ALUMINIUM. ALL CHARACTERS SHOULD BE BLACK ON WHITE PAINT BACKGROUND. ALTERNATIVE MATERIAL MAY BE USED SUBJECT TO ACCEPTANCE BY IRISH WATER.
7. CONCRETE MARKER POST TO BE GRADE C25 / 30 AND IN ACCORDANCE WITH IS EN 206/2013.
8. CONCRETE BASE TO BE GRADE C25/35
9. PLASTIC MARKER POSTS ARE NOT ACCEPTABLE.
10. PAINTING SPECIFICATION: 2 PACK EPOXY PRIMER 40 - 45 MICRONS FOLLOWED BY 2 PACK HIGH GLOSS H.D. POLYETHANE TOP COAT APPLIED AT 40 - 45 MICRONS
11. REFERENCES TO PIPE DIAMETERS ON MARKER PLATES REFER SPECIFICALLY TO THE NOMINAL INTERNAL DIAMETER OF THE PIPE REGARDLESS OF PIPE MATERIAL.



MARKER POSTS / PLATES
STD-W-27

NOTES
DO NOT SCALE FROM THIS DRAWING. USE FIGURED DIMENSIONS IN ALL CASES.
VERIFY DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO BDB CONSULTING LTD.
THIS DRAWING TO BE READ IN CONJUNCTION WITH THE RELEVANT SPECIFICATION AND ARCHITECTS DRAWINGS.
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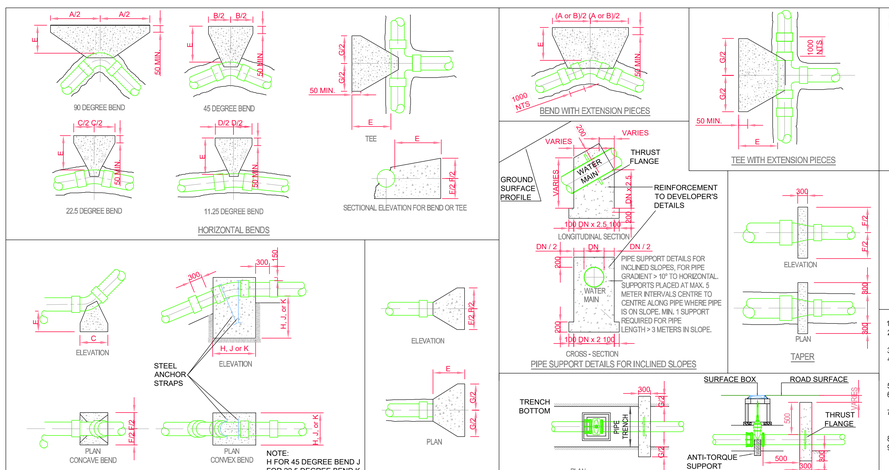


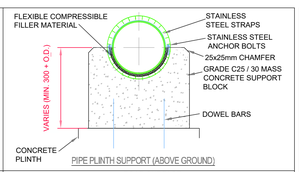
NOM. DIA. (mm)	< 12 BAR TEST PRESSURE DIMENSIONS A	B	C	D	E	F	G	H	J	K
100	800	330	180	80	200	350	390	700	600	400
150	950	510	260	130	225	450	660	900	750	600
200	1150	600	310	160	300	650	790	1150	900	700
250	1350	750	380	200	300	800	970	1200	1000	750
300	1580	850	450	220	320	950	1110	1300	1100	850
350	2100	1150	570	290	450	1000	1450	1550	1200	900
400	2550	1400	700	350	450	1250	1850	1700	1250	1000
450	3000	1630	830	420	680	1100	2130	1800	1450	1150
500	3590	1950	990	500	800	1200	2540	1950	1600	1250
600	4100	2200	1120	570	850	1400	2880	2100	1700	1300

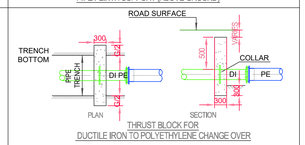
NOM. DIA. (mm)	12 BAR TO 15 BAR TEST PRESSURE DIMENSIONS A	B	C	D	E	F	G	H	J	K
100	700	380	190	100	200	350	510	750	650	400
150	1135	620	320	160	225	450	760	950	750	600
200	1400	750	380	190	300	650	980	1150	950	700
250	1730	940	480	240	320	800	1210	1350	1050	850
300	2090	1130	580	300	380	950	1480	1500	1200	950
350	2600	1410	720	360	500	1050	1840	1700	1350	1050
400	2980	1610	820	420	750	1200	2110	1850	1500	1150
450	3400	1840	940	470	900	1300	2330	2000	1600	1250
500	4090	2210	1130	570	1000	1400	2890	2200	1750	1350
600	5010*	2710*	1380	700	1000	1500	3550*	2350	1900	1500

NOM. DIA. (mm)	15 BAR TO 18 BAR TEST PRESSURE DIMENSIONS A	B	C	D	E	F	G	H	J	K
100	750	400	205	100	220	400	530	800	650	400
150	1250	700	350	180	250	500	890	1000	850	650
200	1650	890	450	230	320	700	1170	1250	1000	800
250	1980	1050	540	270	350	900	1370	1450	1150	900
300	2300	1200	640	320	500	1100	1630	1650	1300	1050
350	2530	1580	830	410	750	1200	2070	1850	1500	1150
400	3510	1900	970	190*	1000	1300	2490	2000	1600	1250
450	3810	2270	1160	680	1000	1300	2970	2150	1700	1350
500	4340*	2380	1210	610	1000	1400	3700	2250	1750	1400
600	6370*	3450*	1760	890	1000	1500	4500*	2400	2050	1650

WATER MAIN THRUST AND SUPPORT BLOCKS

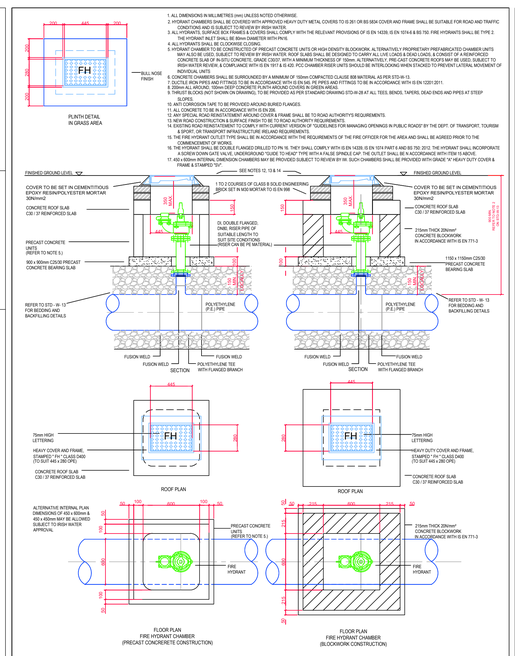
TABLE OF DIMENSIONS FOR STEEPLY INCLINED PIPELINES	
GRADIENT	SPACING
1 IN 2 & STEEPER	5.5m
BELOW 1 IN 2 TO 1 IN 4	11.0m
1 IN 4 TO 1 IN 5	16.6m
1 IN 5 TO 1 IN 6	22.0m



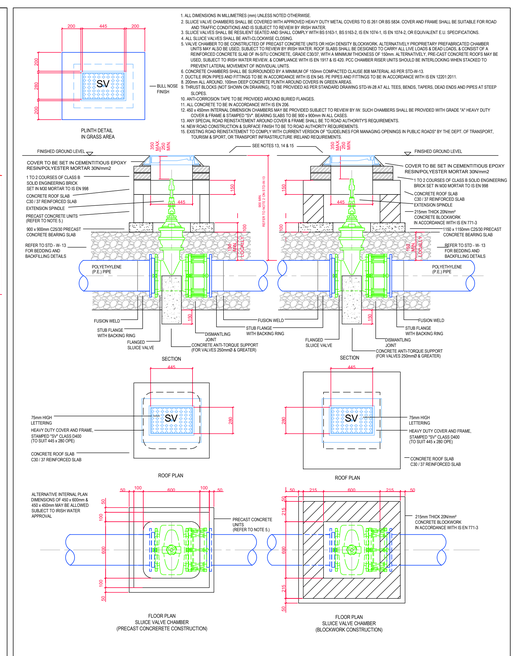


1. ALL DIMENSIONS IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. CONCRETE THRUST BLOCKS (ANCHORAGE) SHALL BE POSITIONED SYMMETRICALLY WITH RESPECT TO THE CONNECTING PIPE & BENDS.
3. TRENCH DIMENSIONS : REFER TO DRAWING No's. STD-W-13.
4. THRUST BLOCKS SHALL BEAR ON UNDISTURBED SOIL. IF FOR ANY REASON THEY CANNOT THEN THE DEVELOPER SHALL NOTIFY IRISH WATER IMMEDIATELY WITH A PROPOSED SOLUTION.
5. THRUST BLOCK REINFORCEMENT REQUIRES SPECIFIC DESIGN.
6. FOR TEST PRESSURES GREATER THAN 18 BAR, THRUST BLOCK DESIGN IS TO BE SUBMITTED TO IRISH WATER FOR REVIEW.
7. THRUST BLOCKS ARE DESIGNED FOR AN AVERAGE BEARING PRESSURE OF 100 KN/m (TYPICAL FOR SOFT CLAY) FOR OTHER CONDITIONS. ACTUAL DIMENSIONS MAY BE ALTERED ON INSTRUCTIONS FROM IRISH WATER.
8. CONCRETE IN THRUST BLOCKS SHALL BE GRADE C20/25.
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 10mm.
10. CONCRETE THRUST BLOCKS FOR POLYETHYLENE PIPE TO COMPLY WITH THE MANUFACTURES REQUIREMENTS.
11. POLYETHYLENE PIPES SHALL BE WRAPPED IN PLASTIC SHEETING HAVING A COMPOSITION IN ACCORDANCE WITH BS 6076 BEFORE BEING CAST INTO CONCRETE.
12. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.

THRUST BLOCKS
STD-W-17



ON - LINE HYDRANT
FOR POLYETHYLENE (P.E.) PIPE
STD-W-18



SLUICE VALVE
FOR POLYETHYLENE (P.E.) PIPE (< 350mm DIA.)
STD-W-15

REV.	DESCRIPTION	DATE

BDB Consulting
30 O'Connell St., Limerick, Co. Limerick
Ph: 061 - 468860
info@bdb.ie
www.bdb.ie

PROJECT
Limerick Student Residence

TITLE
Watermain Standard Detail

CLIENT
Ladys Lane PBSA

DRAWN BY	CHECKED BY	DATE
MB	CG	09/06/2026

SCALE (@A1) NTS
BDB PROJECT NUMBER 26-008
DRAWING NUMBER 26008-BDB-XX-XX-DR-CE-0007
REV P1.0