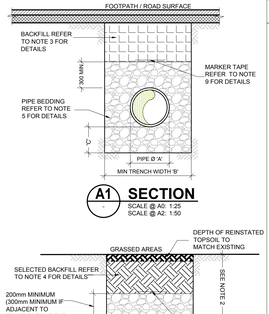


A1 SECTION
SCALE @ A0: 1:25
SCALE @ A2: 1:50

A2 SECTION
SCALE @ A0: 1:25
SCALE @ A2: 1:50

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS (MM) UNLESS NOTED OTHERWISE.
2. THE MINIMUM DEPTH OF COVER FROM THE FINISHED GROUND LEVEL TO THE EXTERNAL CROWN OF THE PIPE SHALL BE 750 mm FOR SERVICE CONNECTIONS , 900 mm FOR WATER MAINS . 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 MAXIMUM COVER SHOULD NOT EXCEED 1200 mm WHERE PRACTICABLE .
3. CLAUSE 808 MATERIAL IN ACCORDANCE WITH THE TII 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 1 m OF THE PAVED EDGE OF THE ROADWAY . CLAUSE 808 IS TO BE COMPACTED AS PER CLAUSE 802 OF THE TII SPECIFICATION FOR ROAD WORKS .
4. SELECTED EXCAVATED MATERIAL MAY BE USED IN GREEN - FIELD AREAS ABOVE GRANULAR PIPE SURROUND MATERIAL , SUBJECT TO THE APPROVAL OF THE EMPLOYERS REPRESENTATIVE .
5. PIPE BEDDING SHALL COMPLY WITH IW/S 4-08-02 AND IGN 4-08-01 GRANULAR MATERIAL SHALL BE 14 mm TO 5 mm GRADED AGGREGATE OR 10 mm 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 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 EMPLOYER REPRESENTATIVE 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 150 mm BELOW THE ACTUAL DEPTH OF THE TRENCH WITH THE VOID FILLED WITH CLAUSE 808 MATERIAL IN ACCORDANCE WITH THE TII 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 400 mm 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 200 mm WIDE MESH TAPE . MARKER TAPE TO BE LAID AT TOP OF PIPE BEDDING LAYER .
10. TRENCH WIDTHS FOR PIPE SIZES <= 80 mm MAY BE < 500 mm , SUBJECT TO CONSIDERATION BEING GIVEN TO THE TRENCH DEPTH , HEALTH & SAFETY & CONSTRUCTION ACCESS REQUIREMENTS .

TABLE A

PIPE DIAMETER 'A' (mm)	WIDTH OF TRENCH '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

A TYPICAL TRENCH BACKFILL & BEDDING DETAILS

NOTES

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 NO. 309 (CANARY YELLOW) OF BS 381 C .
5. PIPE DIAMETER ON HYDRANT PLATE TO REFER TO WATERMAIN NOT BRANCH .
6. SLUICE VALVE , AIR VALVE , SCOUR VALVE, WASHOUT HYDRANT AND METER PLATES SHOULD BE CAST IRON . ALL CHARACTERS SHOULD BE BLACK ON WHITE PAINT BACKGROUND .
7. CONCRETE SURROUND TO MARKER POST TO BE GRADE C25 / 30 AND IN ACCORDANCE WITH IS EN 206 / 2013 .
8. PLASTIC MARKER POSTS ARE NOT ACCEPTABLE .
9. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206

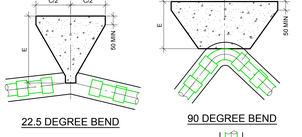
E1 ELEVATION
SCALE @ A0: 1:25
SCALE @ A2: 1:50

E1 SECTION
SCALE @ A0: 1:25
SCALE @ A2: 1:50

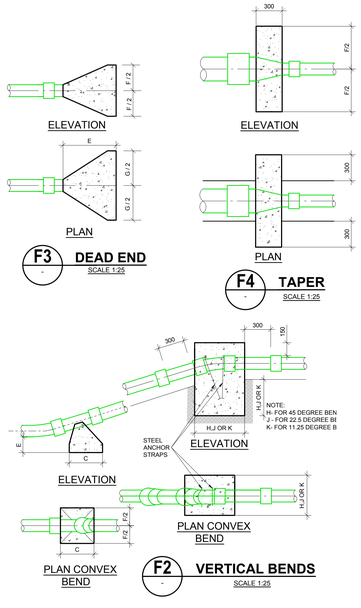
E TYPICAL MARKER POST / PLATE DETAILS

NOTES

1. ALL DIMENSION ARE IN MILLIMETERS (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 DETAIL A .
4. THRUST BLOCKS SHALL BEAR ON UNDISTURBED SOIL . IF FOR ANY REASON THEY CANNOT THEN THE CONTRACTOR SHALL NOTIFY THE EMPLOYER REPRESENTATIVE IMMEDIATELY WITH A PROPOSED SOLUTION .
5. THRUST BLOCK REINFORCEMENT REQUIRE SPECIFIC DESIGN .
6. FOR TEST PRESSURES GREATER THAN 18 BAR , THRUST BLOCK DESIGN IS TO BE SUBMITTED TO IRISH WATER FOR APPROVAL .
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 THE EMPLOYER REPRESENTATIVE .
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 < 450 MM IN DIAMETER IS TO BE 18 MM .
10. CONCRETE THRUST BLOCKS FOR POLYETHYLENE PIPE TO COMPLY WITH THE MANUFACTURES REQUIREMENTS .
11. POLYETHYLENE PIPE 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



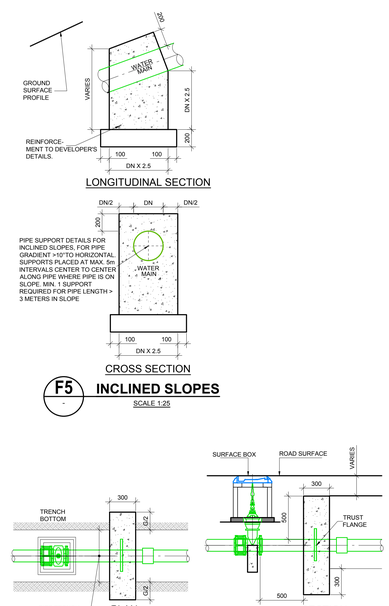
F1 HORIZONTAL BENDS
SCALE 1:25



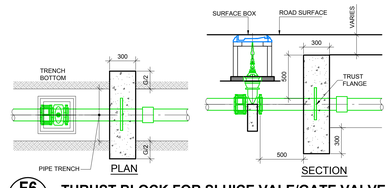
F3 DEAD END
SCALE 1:25

F4 TAPER
SCALE 1:25

F2 VERTICAL BENDS
SCALE 1:25



F5 INCLINED SLOPES
SCALE 1:25

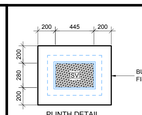


F7 THRUST BLOCK FOR DUCTILE IRON TO POLETHLENE CHANGE OVER
SCALE 1:25

F TYPICAL WATERMAINTHRUST AND SUPPORT BLOCK DETAILS

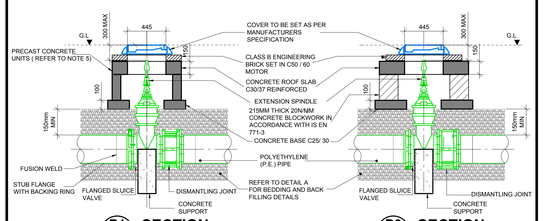
NOTES

1. ALL DIMENSIONS IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.
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 THE APPROVAL OF IRISH WATER.
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.
4. ALL SLUICE VALVES SHALL BE ANTI-CLOCKWISE CLOSING.
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 APPROVAL FROM IRISH WATER.
6. CONCRETE CHAMBERS SHALL BE SURROUNDED BY A MINIMUM OF 150mm COMPACTED CLAUSE 808 MATERIAL AS PER STD-W-13.
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.
8. 200mm ALL AROUND, 100mm DEEP CONCRETE PLINTH WITH PROTECTIVE STAINLESS STEEL METAL BAND AROUND COVER IN GREEN AREAS.
9. THRUST BLOCKS (NOT SHOWN ON DRAWING), TO BE PROVIDED AS PER STANDARD DRAWING STD-W-28 AT ALL TEES, BENDS, TAPERS, DEAD ENDS AND PIPES AT STEEP SLOPES.
10. ANTI-CORROSION TAPE TO BE PROVIDED AROUND BURIED FLANGES.
11. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.



PLINTH DETAIL IN GRASS AREAS

NOTE: FOR SLUICE VALVE DETAILS ON PIPES OF OTHER MATERIALS , PLEASE REFER TO IRISH WATER STANDARD DETAILS FOR MORE INFORMATION.

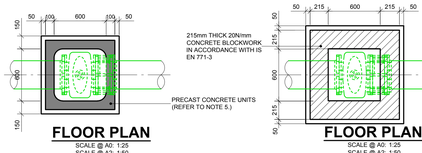


B1 SECTION
SCALE @ A0: 1:25
SCALE @ A2: 1:50

B2 SECTION
SCALE @ A0: 1:25
SCALE @ A2: 1:50

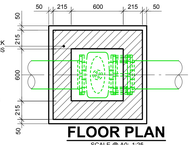
ROOF PLAN

ROOF PLAN



FLOOR PLAN
SCALE @ A0: 1:25
SCALE @ A2: 1:50

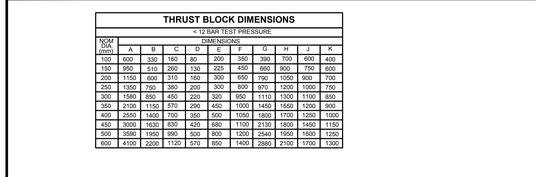
SLUICE VALVE CHAMBER (PRECAST CONCRETE CONSTRUCTION)

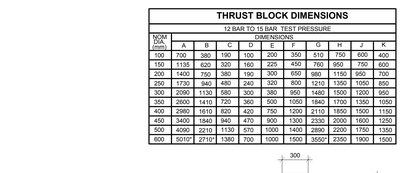


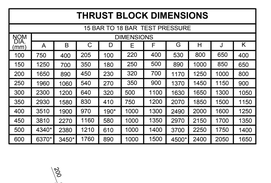
FLOOR PLAN
SCALE @ A0: 1:25
SCALE @ A2: 1:50

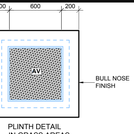
SLUICE VALVE CHAMBER (BLOCKWORK CONSTRUCTION)

B TYPICAL SLUICE VALVE DETAILS FOR A POLYETHYLENE (PE) PIPE







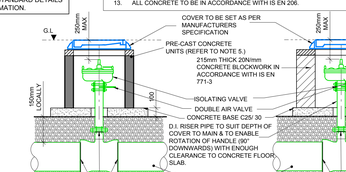


PLINTH DETAIL IN GRASS AREAS

TABLE D

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

NOTE: FOR AIR VALVE DETAILS ON PIPES OF OTHER MATERIALS . PLEASE REFER TO IRISH WATER STANDARD DETAILS FOR MORE INFORMATION.

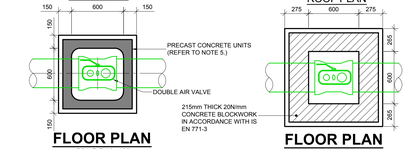


D1 SECTION
SCALE @ A0: 1:25
SCALE @ A2: 1:50

D2 SECTION
SCALE @ A0: 1:25
SCALE @ A2: 1:50

ROOF PLAN

ROOF PLAN



FLOOR PLAN
SCALE @ A0: 1:25
SCALE @ A2: 1:50

DOUBLE AIR VALVE (PRECAST CONCRETE CONSTRUCTION)

FLOOR PLAN
SCALE @ A0: 1:25
SCALE @ A2: 1:50

DOUBLE AIR VALVE (BLOCKWORK CONSTRUCTION)

D TYPICAL ON-LINE AIR VALVE DETAILS FOR A POLYETHYLENE (PE) PIPE

NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL ENGINEERS & ARCHITECT'S DRAWINGS.FIGURED DIMENSIONS ONLY (NOT SCALING) TO BE USED. WHERE A CONFLICT OF INFORMATION EXISTS OR IF IN ANY DOUBT - ASK .
2. CONSULTANTS TO BE INFORMED IMMEDIATELY OF ANY DISCREPANCIES BEFORE WORK PROCEEDS.

NOTES

1. ALL DIMENSIONS IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. AIR VALVE CHAMBERS SHALL BE COVERED WITH APPROVED VENTILATED 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 THE APPROVAL OF THE EMPLOYER REPRESENTATIVE
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 A GATE VALVE CONFORMING TO IS EN 1074-2 & SHALL BE OF A BOLTLESS BONNET DESIGN.
4. THE AIR VALVES SHALL HAVE BODIES AND COVERS OF CAST IRON TO BS EN 1563 WITH FLANGES DRILLED TO PN 16 IN ACCORDANCE WITH BS EN 1092. EACH VALVE SHALL HAVE A LARGE AND A SMALL AIR ESCAPE ORIFICE WITH AN ISOLATING VALVE.
5. SERVICE CONNECTIONS SHALL NOT BE PROVIDED WITHIN 2m OF THE AIR VALVE LOCATION.
6. AIR VALVE CHAMBERS TO BE OF PRECAST CONCRETE UNITS OR HIGH DENSITY BLOCKWORK. ALTERNATIVE PROPRIETARY PREFABRICATED CHAMBER UNITS MAY ALSO BE USED, SUBJECT TO APPROVAL FROM THE EMPLOYER REPRESENTATIVE.
7. PRECAST CONCRETE CHAMBERS SHALL BE SURROUNDED BY A MINIMUM OF 150mm COMPACTED CLAUSE 808 MATERIAL.
8. DUCTILE IRON PIPES AND FITTINGS TO BE IN ACCORDANCE WITH IS EN 545.
9. 200mm ALL AROUND, 100mm DEEP CONCRETE PLINTH WITH PROTECTIVE STAINLESS STEEL METAL BAND AROUND COVERS IN GREEN AREAS.
10. THRUST BLOCKS TO BE PROVIDED AS PER DETAIL F.T ALL TEES, BENDS, TAPERS, DEAD ENDS AND PIPES AT STEEP SLOPES.
11. ANTI CORROSION TAPE TO BE PROVIDED AROUND BURIED FLANGES.
12. THE LOCATION OF THE AIR VALVE SHALL BE THE SUBJECT OF PARTICULAR AGREEMENT WITH THE EMPLOYER REPRESENTATIVE TO ENSURE THAT THE RISK OF CONTAMINATION THROUGH THE VALVE IS ELIMINATED.
13. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206.

F6 THRUST BLOCK FOR SLUICE VALE/GATE VALVE
SCALE 1:25

ISSUE	DATE	DESCRIPTION	DRN	CHK	P.D
PL5	18.04.19	ISSUED FOR PLANNING	KG	CR	JC
PL4	06.03.19	ISSUED FOR PLANNING	MC	CR	JC
PL3	18.01.19	ISSUED FOR PLANNING	PR	CR	JC
PL2	07.01.19	DRAFT ISSUED FOR PLANNING	PR	CR	JC
PL1	02.11.18	DRAFT ISSUED FOR PLANNING	PR	CR	JC
P1	23.08.18	ISSUED FOR COMMENT	MA	CR	JC

DRAWING STAGE: **PLANNING**

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CLIENT: **DEVELOPMENT 8**

PROJECT TITLE: **CONCORDE RESIDENTIAL DEVELOPMENT**

BM PROJECT No.: **18.232**

MODEL REFERENCE: **CCRD-BMD-00-ZZ-DR-C-1010**

MODEL REV.: **P1** SUITABILITY: **S1**

DRAWING TITLE: **STANDARD WATERMAIN DETAILS (SHEET 1 OF 2)**

DRAWING No.: **CCRD-BMD-00-ZZ-DR-C-1220**

ISSUE: **PL5**