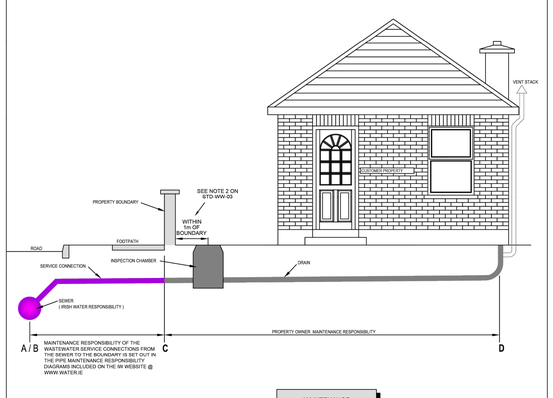


	MAINTENANCE RESPONSIBILITY
(A) SEWER	IRISH WATER
(B-C) SERVICE CONNECTION (INCLUDING SADDLE)	SEE NOTE ABOVE
INSPECTION CHAMBER	PROPERTY OWNER
(C-D) DRAIN	PROPERTY OWNER
INTERNAL PLUMBING	PROPERTY OWNER

REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

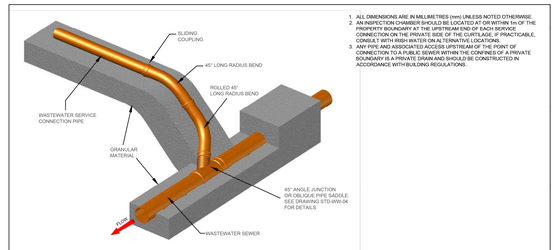
UISCE ÉIREANN : IRISH WATER

STANDARD DETAILS - WASTEWATER

TITLE: WASTEWATER SERVICE CONNECTION MAINTENANCE RESPONSIBILITY

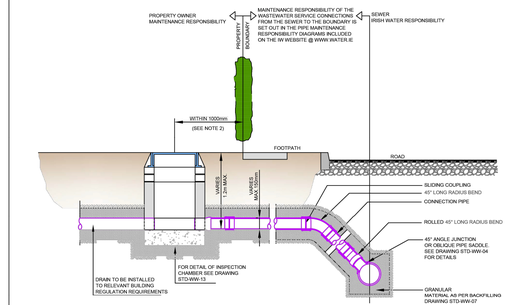
SCALE: NOT TO SCALE | DATE: SEPT. 2015 | DRAWING No.: STD-WW-01 | REV: 2

No	Date	Drn	Chk	Description	App
2	07/20/RH	TOC		B-C ownership revised	WD
1	11/17/	JMC	TOC	Note reference added	WD
0	09/15/	JMC	TOC	Initial Issue	SL



3D VIEW SHOWING SERVICE CONNECTION PIPEWORK

1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
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 CURTILAGE, IF PRACTICABLE. CONSULT WITH IRISH WATER ON ALTERNATIVE LOCATIONS.
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.



SECTION SHOWING DRAIN AND SERVICE CONNECTION PIPEWORK

PIPE SIZE (mm)	GRADIENT
100	1:40 - 1:80

REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

UISCE ÉIREANN : IRISH WATER

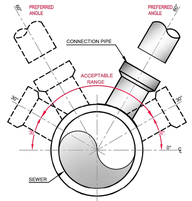
STANDARD DETAILS - WASTEWATER

TITLE: DRAIN AND SERVICE CONNECTION PIPEWORK

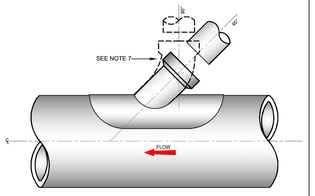
SCALE: NOT TO SCALE | DATE: SEPT. 2015 | DRAWING No.: STD-WW-03 | REV: 2

No	Date	Drn	Chk	Description	App
2	07/20/RH	TOC		Sewa connection responsibility revised. Concrete surround at saddle revised. 10 dwg added	WD
1	11/17/	JMC	TOC	Updated Notes	WD
0	09/15/	JMC	TOC	Initial Issue	SL

1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
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.
3. THE VERTICAL ANGLE BETWEEN THE SERVICE CONNECTING PIPE AND THE HORIZONTAL SHALL BE WITHIN THE ACCEPTABLE RANGE OF 30° to 90°.
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.
5. WHERE THE CONNECTION IS BEING MADE TO A SEWER WITH A NOMINAL INTERNAL DIAMETER GREATER THAN 300mm, THE FOLLOWING SHALL APPLY:
   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,
   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 DEG. SLOW BEND TO FORM THE CONNECTION TO THE WORKS.
6. CONNECTION USING SADDLES MAY ONLY BE USED IN EXCEPTIONAL CIRCUMSTANCES AND ONLY TO WHERE THE CONNECTION IS BEING MADE TO A SEWER. CUTTING MUST BE MADE WITH SADDLE FITTINGS SHALL BE MADE BY CUTTING AND NEATLY REMOVING A CORES FROM THE PIPE AND JOINTING THE SADDLE FITTING TO THE PIPE IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS TO ENSURE A WATERTIGHT JOINT. THE CONNECTING PIPE SHALL NOT PROTRUDE INTO THE SEWER.
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.

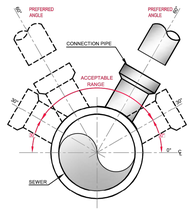


CROSS-SECTIONAL VIEW OF SEWER

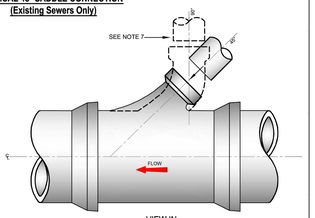


VIEW IN DIRECTION OF ARROW A

TYPICAL 45° SADDLE CONNECTION (Existing Sewers Only)



CROSS-SECTIONAL VIEW OF SEWER



VIEW IN DIRECTION OF ARROW A

45° "Y" BRANCH

REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

UISCE ÉIREANN : IRISH WATER

STANDARD DETAILS - WASTEWATER

TITLE: TYPICAL SEWER / SERVICE PIPE CONNECTION

SCALE: NOT TO SCALE | DATE: SEPT. 2015 | DRAWING No.: STD-WW-04 | REV: 2

No	Date	Drn	Chk	Description	App
2	07/20/RH	TOC		Updated connection detail & notes	WD
1	11/17/	JMC	TOC	Updated connection detail & notes	WD
0	09/15/	JMC	TOC	Initial Issue	SL

1. SEPARATION DISTANCES BETWEEN SEWERS ASSOCIATED WITH THE WORKS FROM OTHER UTILITY PIPES AND ACCESSORIES SHALL BE IN ACCORDANCE WITH SECTION 3.5.9 TO 3.5.21 OF THE CODE OF PRACTICE. SEPARATION DISTANCES FOR ALL NEW INSTALLATIONS FROM EXISTING IRISH WATER PIPES SHALL BE AS OUTLINED IN SECTION 3.20 OF THE CODE OF PRACTICE.
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. 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
   3m AT EITHER SIDE OF AN EXISTING PIPE LESS THAN 200mm IN DIAMETER
   3m AT EITHER SIDE OF AN EXISTING PIPE OF 200mm TO 300mm IN DIAMETER.
   5m AT EITHER SIDE OF AN EXISTING PIPE OF 350mm OR GREATER IN DIAMETER.

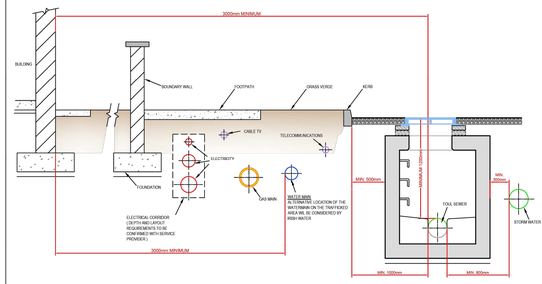
   WHERE DUCTS OR PIPES ARE TO BE LAID CLOSE TO AN EXISTING WATERMAIN OR SEWER IN THE OWNERSHIP OF IRISH WATER, NOTIFICATION IN WRITING SHALL BE PROVIDED A MINIMUM OF 10 DAYS AHEAD OF ADVANCEMENT OF THE WORK. THIS ALSO APPLIES WHERE THE DEPTH OF THE IRISH WATER WATERMAIN OR SEWER EXCEEDS 1.5m. IN ALL OF 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.).
4. 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.
5. 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.
6. 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 WILL INHIBIT ACCESS FOR POST INSTALLATION MAINTENANCE AND ACCESS.
7. THE MINIMUM CLEAR HORIZONTAL DISTANCE SHOWN BELOW WILL BE INCREASED IF THE DEPTH OF THE SEWER EXCEEDS 5M 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.
8. THE EXTERNAL FACES OF MANHOLES SHALL BE AT LEAST 0.5m FROM THE EXTERNAL FACE OF THE KERB LINE.
9. THE EXTERNAL WALL OF THE SEWER IS TO BE AT LEAST 1.0m FROM THE EXTERNAL FACE OF THE KERB LINE.
10. 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 ..



REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

UISCE ÉIREANN : IRISH WATER

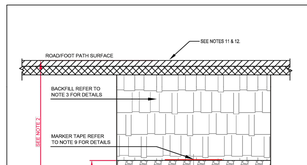
STANDARD DETAILS - WASTEWATER

TITLE: TYPICAL SERVICE LAYOUT INDICATING SEPARATION DISTANCES

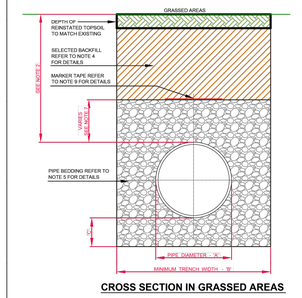
SCALE: NOT TO SCALE | DATE: SEPT. 2015 | DRAWING No.: STD-WW-05 | REV: 2

No	Date	Drn	Chk	Description	App
2	07/20/RH	TOC		Separation distances to sewers added, updated notes	WD
1	11/17/	JMC	TOC	Updated notes	WD
0	09/15/	JMC	TOC	Initial Issue	SL

1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. THE MINIMUM DEPTH OF COVER FROM THE FINISHED SURFACE TO THE CROWN OF GRAVITY PIPES **WITHOUT PROTECTION** SHOULD BE AS FOLLOWS:
   A) GARDENS AND PATHWAYS WITHOUT ANY POSSIBILITY OF VEHICULAR ACCESS - DEPTH NOT LESS THAN 0.5 M. (THIS WOULD NORMALLY RELATE TO DRAINS IN PRIVATE PROPERTY, SHALLOW PIPES OF THIN NATURE ARE UNDESIRABLE AND SHOULD BE INSTALLED IN ACCORDANCE WITH THE CURRENT BUILDING REGULATIONS).
   B) DRIVEWAYS, FOOTWAYS, PARKING AREAS AND YARDS WITH OCCASIONAL VEHICULAR ACCESS - DEPTH NOT LESS THAN 0.9 M. WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5 TONNES - DEPTH NOT LESS THAN 0.75 M.
   C) DRIVEWAYS, FOOTWAYS, PARKING AREAS AND NARROW STREETS WITHOUT FOOTWAYS (E.G. MEWS DEVELOPMENTS) WITH LIMITED ACCESS FOR VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5 TONNES - DEPTH NOT LESS THAN 0.9 M.
   D) THE MINIMUM DEPTH SHALL BE 600mm IN ESTATE ROADS AND TO THAT OUTLINED ABOVE.
   E) AGRICULTURAL LAND AND PUBLIC OPEN SPACE - DEPTH NOT LESS THAN 0.9 M.
   F) OTHER ROADWAYS, HIGHWAYS AND PARKING AREAS WITH UNRESTRICTED ACCESS TO VEHICLES OF ANY WEIGHT - DEPTH NOT LESS THAN THE EXCESS OF 7.5 TONNES AS PROVIDED IN PARAGRAPH C.
3. BEDDING OF 10mm / 6mm 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 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 WITH 120mm 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 USE ALTERNATIVE MATERIAL. DETAILS OF ALTERNATIVE MATERIAL SHALL HAVE TO BE PROVIDED TO IRISH WATER IN ADVANCE OF THE COMMENCEMENT OF WORKS.
4. SELECTED EXCAVATED MATERIAL, COMPLYING WITH THE REQUIREMENTS OF "ACCEPTABLE MATERIAL" AS OUTLINED IN CLAUSE 601 OF THE TII SPECIFICATION FOR ROADWORKS, TABLE 6/1,CLASS 6 (CLASS 2. MAY BE USED IN GREEN-FIELD AREAS ABOVE GRANULAR PIPE SURROUND MATERIAL SUBJECT TO REVIEW BY IRISH WATER.
5. PIPE BEDDING SHALL COMPLY WITH WW 4-08-02 AND IGN 4-08-01.
   THE PIPE BEDDING GRANULAR MATERIAL SHALL BE 14mm TO 5mm (⅜"/¼") GRADED AGGREGATE OR 10mm (⅜") SINGLE SIZED AGGREGATE TO IS EN 13242. CONCRETE TO BE IN ACCORDANCE WITH IS EN 206-1 AND IS 325 AND IGN 4-08-03 WW-08
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 GEOTEXTILE MATERIAL ALTERNATIVELY, SPECIAL PIPE SUPPORT ARRANGEMENTS MAY BE REQUIRED. THE NEED FOR THESE SHALL BE DEFINED BY THE DEPTH OF SOFT MATERIAL IS EXCESSIVE, SUCH ARRANGEMENTS SHALL BE SUBJECT TO ASSESSMENT BY IRISH WATER BEFORE ADVANCING WITH THE WORK.
7. IN GREEN FIELD AREAS, TYPE B BACKFILL (SELECTED EXCAVATED MATERIAL COMPLYING WITH THE REQUIREMENTS OF "ACCEPTABLE MATERIAL" AS OUTLINED ON CLAUSE 601 OF THE TII SPECIFICATION FOR ROADWORKS, TABLE 6/1,CLASS 6) 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.
8. PIPES SHALL NOT BE SUPPORTED ON STONES, ROCKS OR ANY HARD MATERIAL. WHERE ROCK IS ENCOUNTERED, THE TRENCH 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 TRANSPORT INFRASTRUCTURE IRELAND SPECIFICATION FOR ROAD WORKS. THE GRANULAR MATERIAL SHALL BE LAID ABOVE THIS VOID FILLING MATERIAL.
9. NON-RETURN VALVES SHALL ALSO BE INSTALLED AT THE TOP OF EACH BEDDING LAYER FOR STARTING 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.
10. TRENCH WIDTHS FOR PIPE SIZES ≤800mm MAY BE <500mm, SUBJECT TO CONSIDERATION BEING GIVEN TO THE TRENCH DEPTH, HEALTH & SAFETY AND THE NEED FOR ADEQUATE COMPACTION.
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 ROADS



CROSS SECTION IN GRASSED AREAS

PIPE DIAMETER 'A' (mm)	TRENCH WIDTH 'B' (mm)
≤ 80 RISING MAIN	SEE NOTE 10.
100	500
150 - 200	600
>200 - 350	750
>350 - 450	900

PIPE DIAMETER 'A' (mm)	DEPTH OF BEDDING 'C' (mm)
≤100	100
150 - 450	200

REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

UISCE ÉIREANN : IRISH WATER

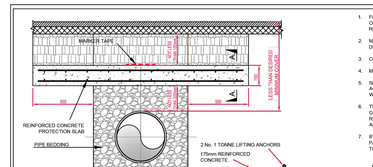
STANDARD DETAILS - WASTEWATER

TITLE: TRENCH BACKFILL AND BEDDING

SCALE: NOT TO SCALE | DATE: SEPT. 2015 | DRAWING No.: STD-WW-07 | REV: 2

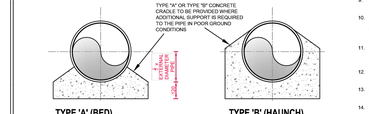
No	Date	Drn	Chk	Description	App
2	07/20/RH	TOC		Modified trench width table. Minor adj to note 5. Note 9 revised re marker tape	WD
1	11/17/	JMC	TOC	Updated & Added Notes	WD
0	09/15/	JMC	TOC	Initial Issue	SL

1. FOR ANY SLABBING WORKS TO BE CARRIED OUT WITHIN THE VICINITY OF THE PIPELINE, A METHOD STATEMENT IS TO BE SUBMITTED FOR REVIEW BY IRISH WATER.
2. MARKER TAPE TO BE PLACED ABOVE THE SLAB AND ALONG THE DIRECTION OF THE PIPELINE.
3. CONCRETE TO BE GRADE C30/35
4. MINIMUM COVER TO STEEL REINFORCEMENT =40mm
5. 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
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.
7. 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
8. IF PIPELINE PROTECTION SLAB IS TO BE USED SOLELY FOR IMPACT PROTECTION & OVERALL DEPTH OF COVER IS GREATER THAN 1.2m, THE SLAB MAY BE RETRACTED UNDERSIDE OF SLAB & TOP OF PIPE MAY BE INCREASED AFTER CONSULTATION WITH IRISH WATER.
9. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
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 SUPPORTING THEIR USE.
11. CONCRETE SURROUND SHALL HAVE A MINIMUM THICKNESS OF 150mm WITH AN ABSOLUTE MINIMUM DEPTH OF COVER ABOVE THE EXTERNAL CROWN OF PIPE OF 700mm.
12. ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206 AND TO BE GRADE C16/20 TO IS EN206
13. THE HAUNCHES AND SURROUNDS TO BE FORMED USING FORM WORK TO PROVIDE A ROUGH CAST FINISH.
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 19mm THICK.
15. POLYETHYLENE AND uPVC PIPES SHALL BE WRAPPED IN PLASTIC SHEETING HAVING A COMPOSITION IN ACCORDANCE WITH BS 6076 BEFORE BEING CAST INTO CONCRETE.
16. BITUMINOUS MATERIAL SHALL NOT BE PUT IN CONTACT WITH PE OR PVC PIPES.



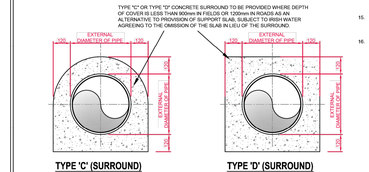
REDUCED COVER PROTECTION SLAB DETAIL

SECTION A-A



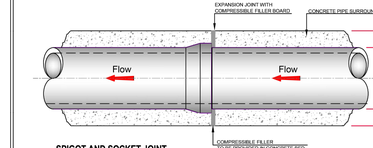
TYPE 'A' (BED)

TYPE 'B' (HAUNCH)



TYPE 'C' (SURROUND)

TYPE 'D' (SURROUND)



SPIGOT AND SOCKET JOINT

REFER TO INDEX SHEET FOR NOTES REGARDING DESIGN RESPONSIBILITY & RISK ASSESSMENT

UISCE ÉIREANN : IRISH WATER

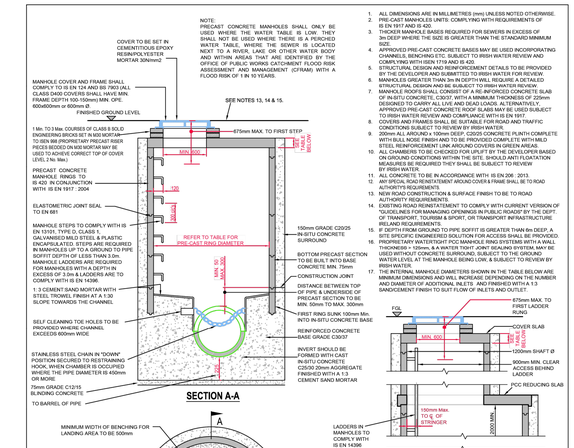
STANDARD DETAILS - WASTEWATER

TITLE: CONCRETE PROTECTION SLAB, BED, HAUNCH, AND SURROUND, TO WASTEWATER PIPES

SCALE: NOT TO SCALE | DATE: SEPT. 2015 | DRAWING No.: STD-WW-08 | REV: 1

No	Date	Drn	Chk	Description	App
1	07/20/RH	TOC		Protection slab detail added and notes updated. 9m updated.	WD
0	09/15/	JMC	TOC	Initial Issue	SL

NOTE:
PRECAST CONCRETE MANHOLES SHALL ONLY BE USED WHERE THE WATER TABLE IS LOW. THEY SHALL NOT BE USED WHERE THERE IS A PERCHED WATER TABLE. WHERE THE SEWER IS LOCATED ADJACENT TO A RIVER OR OTHER WATERCOURSE AND WITHIN AREAS THAT ARE IDENTIFIED BY THE OFFICE OF PUBLIC WORKS CATCHMENT FLOOD RISK ASSESSMENT AND MANAGEMENT (CFRAM) WITH A FLOOD RISK OF 1 IN 10 YEARS.


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,CLASS D400 COVERS SHALL HAVE MIN. FRAME DEPTH 150-159mm) MIN. OPE. 600x600mm or 600Ø
FINISHED GROUND LEVEL
SEE NOTES 13, 14 & 15.
1 No. TO 3 No. COURSES OF CLASS B SOLID ENGINEERING BRICKS SET IN M20 MORTAR TO BS EN 998 (PROPRIETARY PRECAST RISER PIECES BEDDED ON M20 MORTAR MAY BE USED TO ACHIEVE CORRECT TOP OF COVER LEVEL) No. 1No.)
675mm MAX. TO FIRST STEP
TRUNK MAINS
MIN 600
PRECAST CONCRETE MANHOLE RINGS TO IS 420 IN CONJUNCTION WITH IS EN 1917 : 2004
120
ELASTOMETRIC JOINT SEAL TO EN 681
MANHOLE STEPS TO COMPLY WITH IS EN 13101, TYPE D, CLASS 1. GALVANISED MILD STEEL & PLASTIC ENCAPSULATED. STEPS ARE REQUIRED IN MANHOLES UP TO A GROUND TO PIPE SOFFIT DEPTH OF LESS THAN 3.0m. MANHOLE LADDERS ARE REQUIRED FOR MANHOLES WITH DEPTH IN EXCESS OF 3.0m. LADDERS ARE TO COMPLY WITH IS EN 14396
REFER TO TABLE FOR PRE-CAST RING DIAMETER
150mm GRADE C20/25 IN-SITU CONCRETE SURROUND
MIN. 150
1: 3 CEMENT SAND MORTAR WITH STEEL TROWEL FINISH AT A 1: 30 SLOPE TOWARDS THE CHANNEL
BOTTOM PRECAST SECTION TO BE BUILT INTO BASE CONCRETE MIN. 75mm
CONSTRUCTION JOINT
DISTANCE BETWEEN TOP OF PIPE & UNDERSIDE OF PRECAST SECTION TO BE MIN. 50mm TO MAX. 300mm
FIRST RING SUNK 100mm MIN. INTO IN-SITU CONCRETE BASE
SELF CLEANING TOE HOLES TO BE PROVIDED WHERE CHANNEL EXC