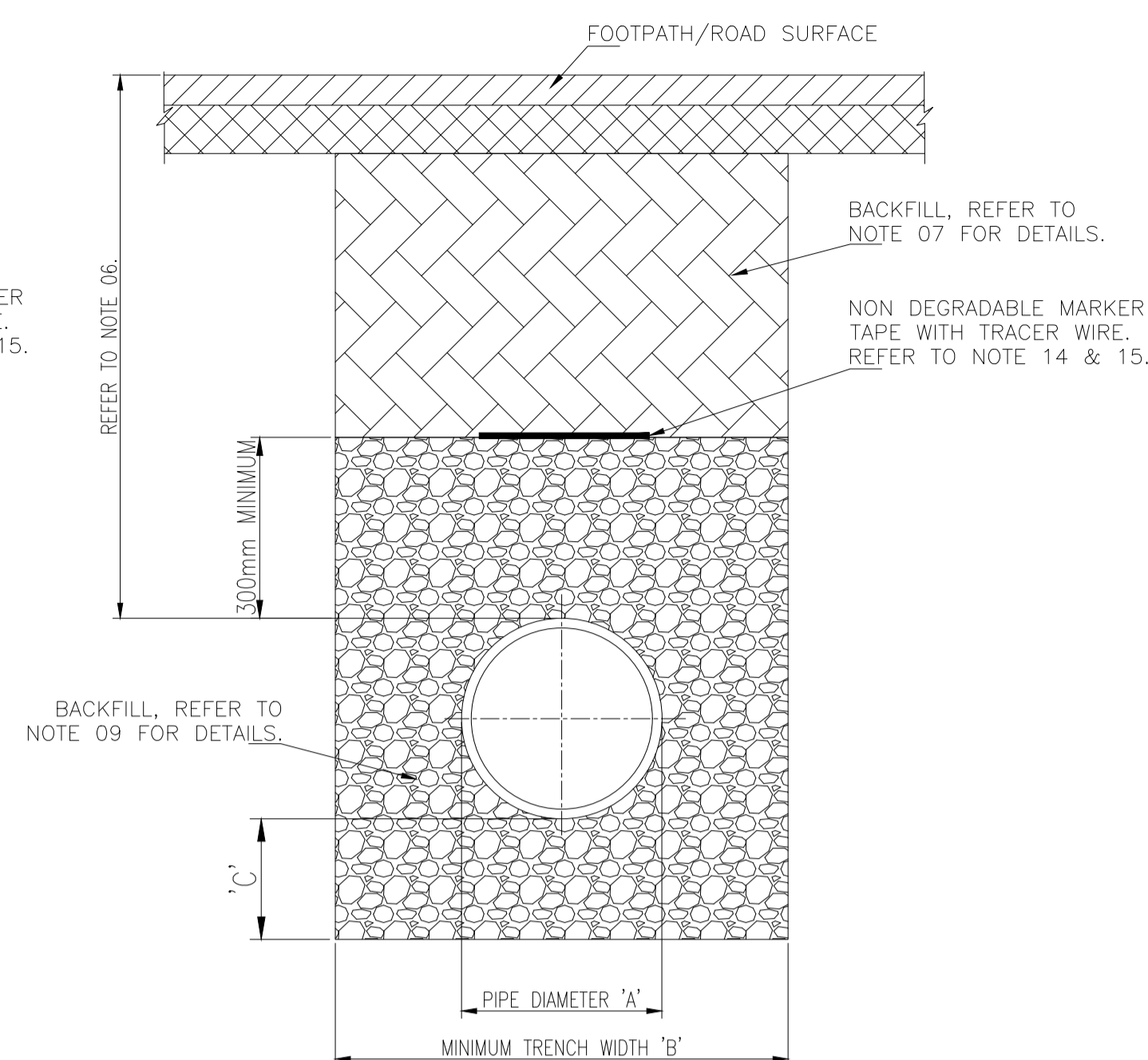
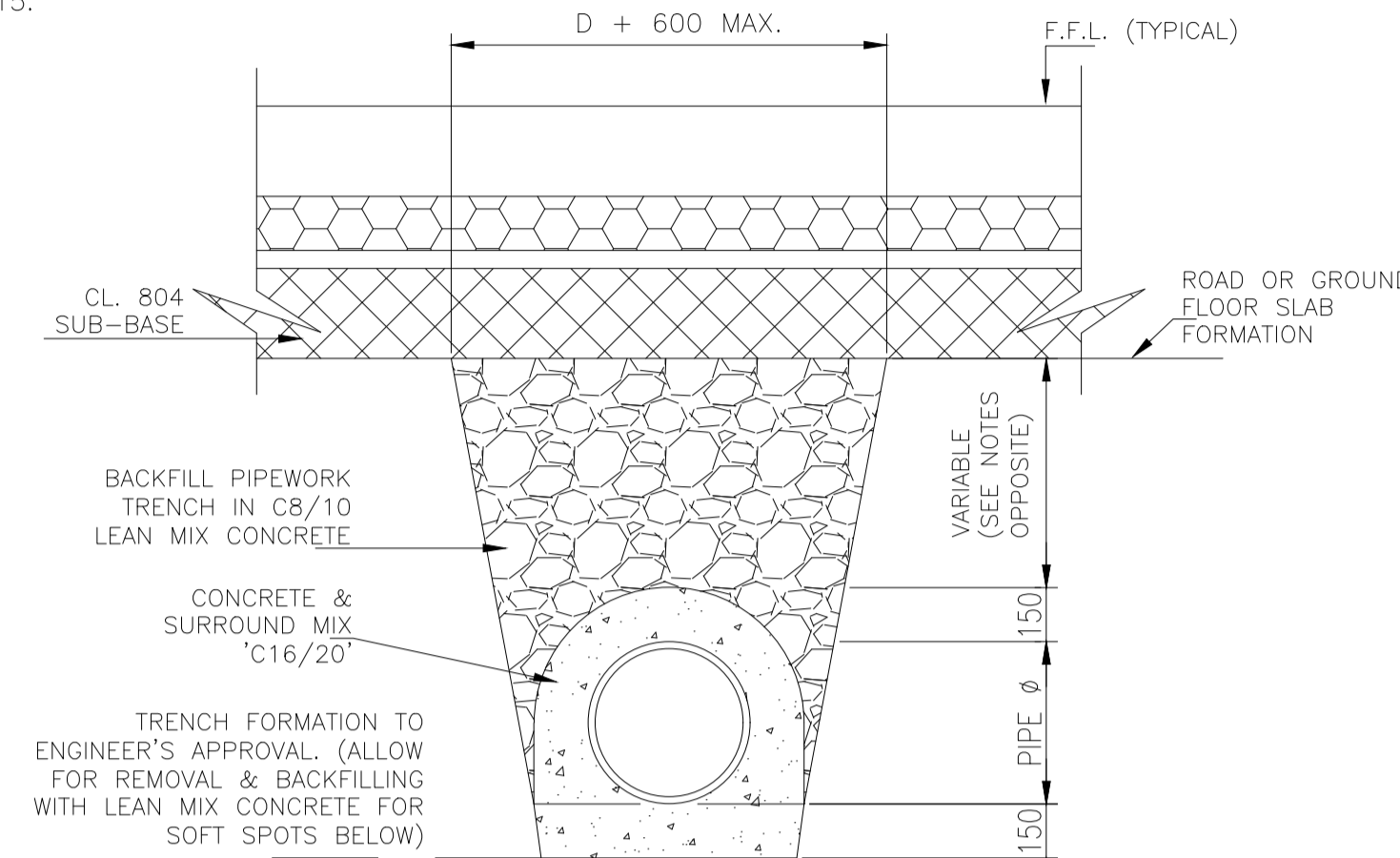


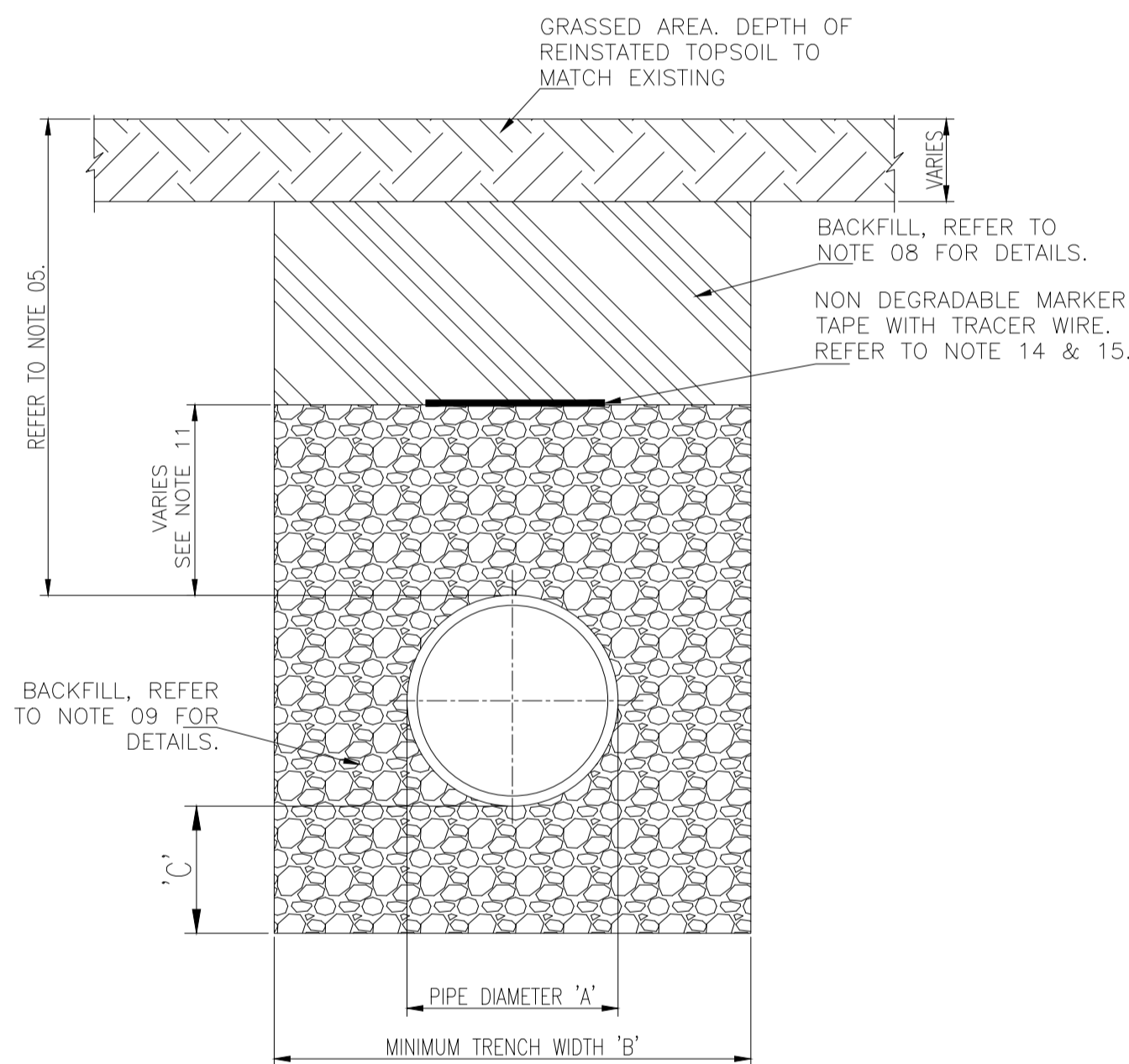
FOUL OR SURFACE WATER PIPES CROSS SECTION IN ROADWAYS.



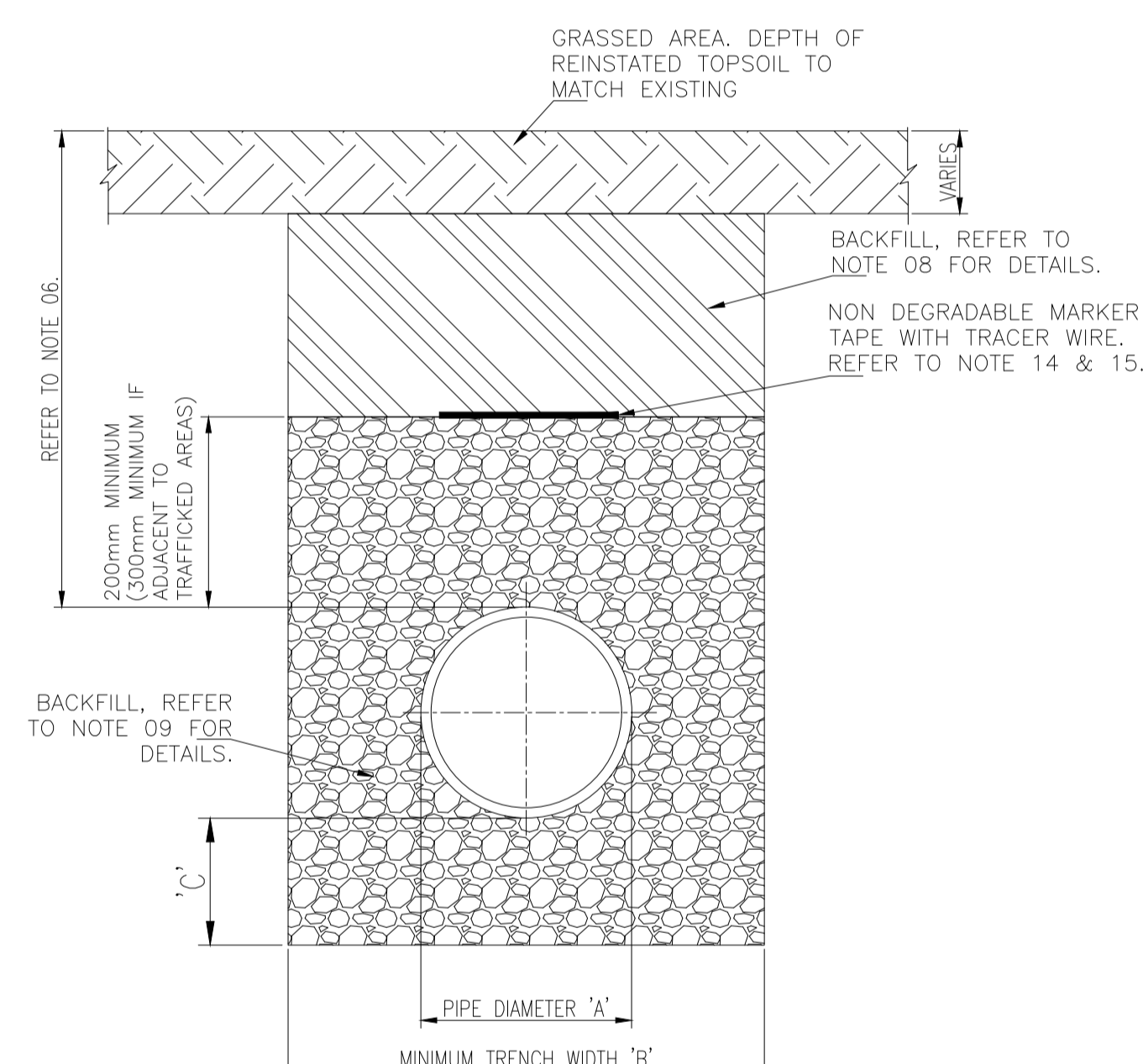
WATERMAIN CROSS SECTION IN ROADWAYS.



TYPICAL SECTION FOR CONCRETE SURROUND TO PIPEWORK UNDER BUILDINGS OR FOR PIPEWORK WITH LESS THAN MINIMUM COVER



FOUL OF SURFACE WATER PIPES CROSS SECTION IN GRASSED AREAS.



WATERMAIN CROSS SECTION IN GRASSED AREAS.

FOUL & SURFACE	
PIPE DIAMETER 'A' (mm)	TRENCH WIDTH 'B' (mm)
≤80 RISING MAIN	SEE NOTE 16.
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)
≤100	100
150 - 450	200

WATERMAIN	
PIPE DIAMETER 'A' (mm)	TRENCH WIDTH 'B' (mm)
≤80	SEE NOTE 16.
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

09. PIPE BEDDING SHALL COMPLY WITH WIS 4-08-02 AND IGN 4-05-01. GRANULAR MATERIAL SHALL BE 14mm TO 5mm GRADED AGGREGATE OR 10mm SINGLE SIZED AGGREGATE IS EN 1242. BEDDING & SURROUND SHALL BE IN LAYERS NOT EXCEEDING 100mm & BE COMPACTED BY HAND TAMPING. CONCRETE BED, HAUNCH & SURROUND, WHERE REQUIRED, SHALL BE MIN 150mm.
10. IN SOFT GROUND CONDITIONS (CBR < 5) THE MATERIAL SHOULD BE EXCAVATED 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 IRISH WATER BEFORE ADVANCING WITH THE WORK.
11. IN GREEN FIELD AREAS, TYPE B BACKFILL (SELECTED EXCAVATED MATERIAL) 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.
12. FOR FOUL & SURFACE LINES, PIPES SHALL NOT BE SUPPORTED ON STONES, ROCKS OR ANY HARD OBJECTS 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
A) CLAUSE 808 MATERIAL - FOR FOUL & SURFACE LINES
B) CLAUSE 804 MATERIAL - FOR WATERMAIN LINES. IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS. THE GRANULAR MATERIAL SHALL BE LAID ABOVE THIS VOID BACKFILL MATERIAL.
13. SHOULD MINIMUM PIPE COVER NOT BE ACHIEVABLE, CONCRETE GRADE C8/10 SHALL BE USED AS BACKFILL MATERIAL. PIPES SHALL HAVE MINIMUM 150mm C16 / 20 CONCRETE SURROUND. EXPANSION JOINTS IN THE CONCRETE SHALL BE PROVIDED AT ALL PIPE JOINTS TO ALLOW FOR PIPE FLEXIBILITY (USE 18mm COMPRESSIBLE FIBRE BOARD IN JOINTS). POLYETHYLENE PIPES SHALL BE WRAPPED IN PLASTIC SHEETING BEFORE BEING CAST INTO CONCRETE.
14. FOR FOUL & SURFACE LINES, NON DEGRADABLE MARKER TAPE SHOULD BE INSTALLED AT TOP OF PIPE BEDDING LAYER. 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 AND THE DISCHARGE MANHOLE.
15. FOR WATERMAIN LINES, MARKER TAPE TO BE 400mm WIDE BLUE POLYETHYLENE MATERIAL IN ACCORDANCE WITH EN 12163. PLASTIC PIPES SHALL HAVE WARNING TAPE INCORPORATED A REINFORCED BAND TRACING WIRE. SERVICE PIPES SHALL HAVE 200mm WIDE MESH TAPE. MARKER TAPE TO BE LAID AT TOP OF PIPE BEDDING LAYER.
16. TRENCH WIDTHS FOR PIPE SIZES <80 MAY BE 500mm, SUBJECT TO CONSIDERATION BEING GIVEN TO THE TRENCH DEPTH, HEALTH & SAFETY & CONSTRUCTION ACCESS REQUIREMENTS.
17. WATERMANS SUITABLE FOR WORK SHALL BE EITHER DUCTILE IRON (DI) POLYETHYLENE (PE), WITH PE80 OR PE100 RATING. (MDPE. HDPE. OR HPPE.)
18. ALL NEW WATERMAIN PIPE NETWORKS SHALL UNDERGO TESTING & COMMISSIONING. IN ACCORDANCE WITH THE REQUIREMENTS OF IRISH WATER DOC. IW-CDS-5020-03. INCLUDING CLEANSING & PRESSURE TESTING, PRIOR TO CONNECTING TO THE IRISH WATER NETWORK.
19. GRAVITY SEWER PIPE MATERIAL SHALL BE
A) CONCRETE SEWER PIPES WITH SPIGOT & SOCKET JOINTS & RUBBER RING FITTINGS, COMPLYING WITH IS EN 1916 (2002), BS5911 & IS 6 (2004) OR EQUIVALENT STANDARD.
B) THERMOPLASTIC STRUCTURED WALL PIPES, COMPLYING WITH THE PROVISIONS OF IS EN 13476 (2007 / 2009) & WITH WIS 4-35-01 (2000)
C) UNPLASTICISED PVC PIPES, JOINTS & FITTINGS FOR SERVICE CONNECTIONS SHALL COMPLY WITH THE PROVISIONS OF BS 4660 & BS EN 1401-PART 01.

TRENCH BACKFILL & BEDDING NOTES:

01. REFER TO IRISH WATER CONNECTION & DEVELOPER SERVICES CODE OF PRACTICE FOR WATER INFRASTRUCTURE DOCUMENT IW-CDS-5020-03 FOR DESIGN & CONSTRUCTION GUIDANCE ON LAYING OF WATERMAIN.
REFER TO IRISH WATER CONNECTION & DEVELOPER SERVICES CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE DOCUMENT IW-CDS-5030-03 FOR DESIGN & CONSTRUCTION GUIDANCE ON LAYING OF WASTEWATER SERVICES.
02. REFER TO IRISH WATER CONNECTION & DEVELOPER SERVICES, WATER INFRASTRUCTURE STANDARD DETAILS DOCUMENT IW-CDS-5020-01 FOR FURTHER INFORMATION ON WATERMAIN SERVICES.
03. REFER TO IRISH WATER CONNECTION & DEVELOPER SERVICES, WASTEWATER INFRASTRUCTURE STANDARD DETAILS DOCUMENT IW-CDS-5030-01 FOR FURTHER INFORMATION ON WASTE WATER SERVICES
04. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
05. FOR FOUL & SURFACE LINES, THE MINIMUM DEPTH OF COVER FROM THE FINISHED SURFACE TO THE CROWN OF GRAVITY PIPES **WITHOUT PROTECTION** (CONCRETE SURROUND) 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 THIS NATURE ARE UNDESIRABLE AND SHOULD BE INSTALLED IN ACCORDANCE WITH THE CURRENT BUILDING REGULATIONS).
B) DRIVEWAYS, 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 0.75 M.
C) DRIVEWAYS, 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) DEPTHS OF SEWERS IN GATED ESTATES SHALL BE SIMILAR TO THAT OUTLINED ABOVE.
E) AGRICULTURAL LAND AND PUBLIC OPEN SPACE - DEPTH NOT LESS THAN 0.9 M.
F) OTHER 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.
06. FOR WATERMAIN LINES, THE MINIMUM DEPTH OF COVER FROM THE FINISHED GROUND LEVEL TO THE EXTERNAL CROWN OF THE PIPE SHALL BE 750mm FOR SERVICE CONNECTIONS, 900mm 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 1,200mm WHERE PRACTICABLE.
07. CLAUSE 808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS IS TO BE USED AS BACKFILL MATERIAL WHERE THE WATER MAIN OR 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 808 IS TO BE COMPACTED AS PER CLAUSE 802 OF THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS.
08. SELECTED EXCAVATED MATERIAL MAY BE USED IN GREEN-FIELD AREAS ABOVE GRANULAR PIPE SURROUND MATERIAL SUBJECT TO THE APPROVAL OF IRISH WATER.

Rev	Sts	Description	Date
P01	S2	Issued for Planning	23.06.20
P02	S2	Issued for Planning	15.07.22
P03	S2	Issued for Planning	27.09.23
P04	S2	Issued for Planning	14.06.24

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PROJECT
Proposed Development at Courtstown, Little Island, Co. Cork

CLIENT
Ruden Homes Ltd.

TITLE
Typical Trench Details

DRAWN BY
A.R.

CHECKED BY
P.M.

APPROVED BY
P.M.

SCALE
NTS

PROJECT NUMBER
20093

DOCUMENT REFERENCE
20093-MMS-ZZ-DR-C-10018

STATUS
S2
REV
P04

PROJECT-ORIGINATOR-ZONE-LEVEL-TYPE-DICLINE-NUMBER