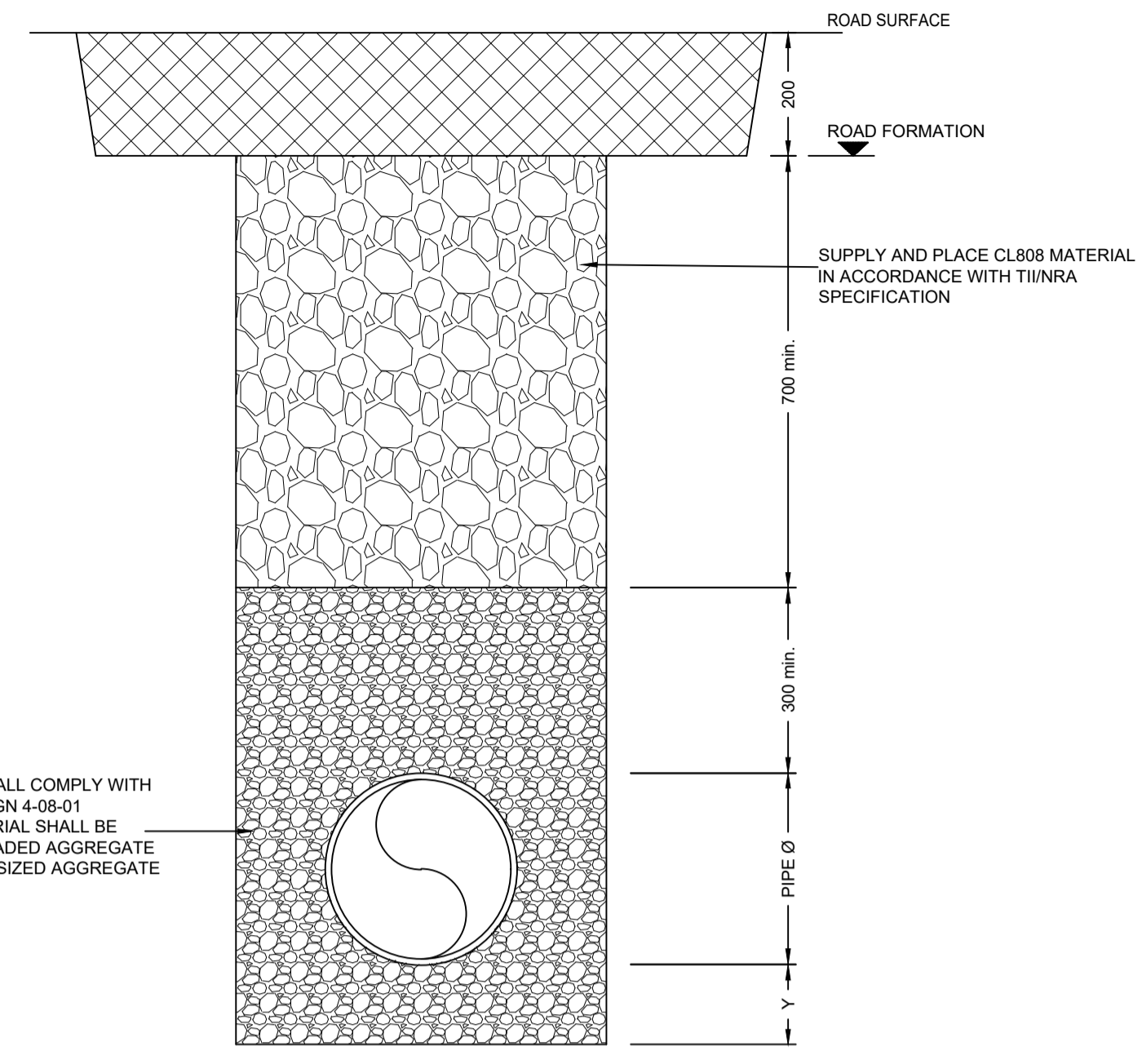
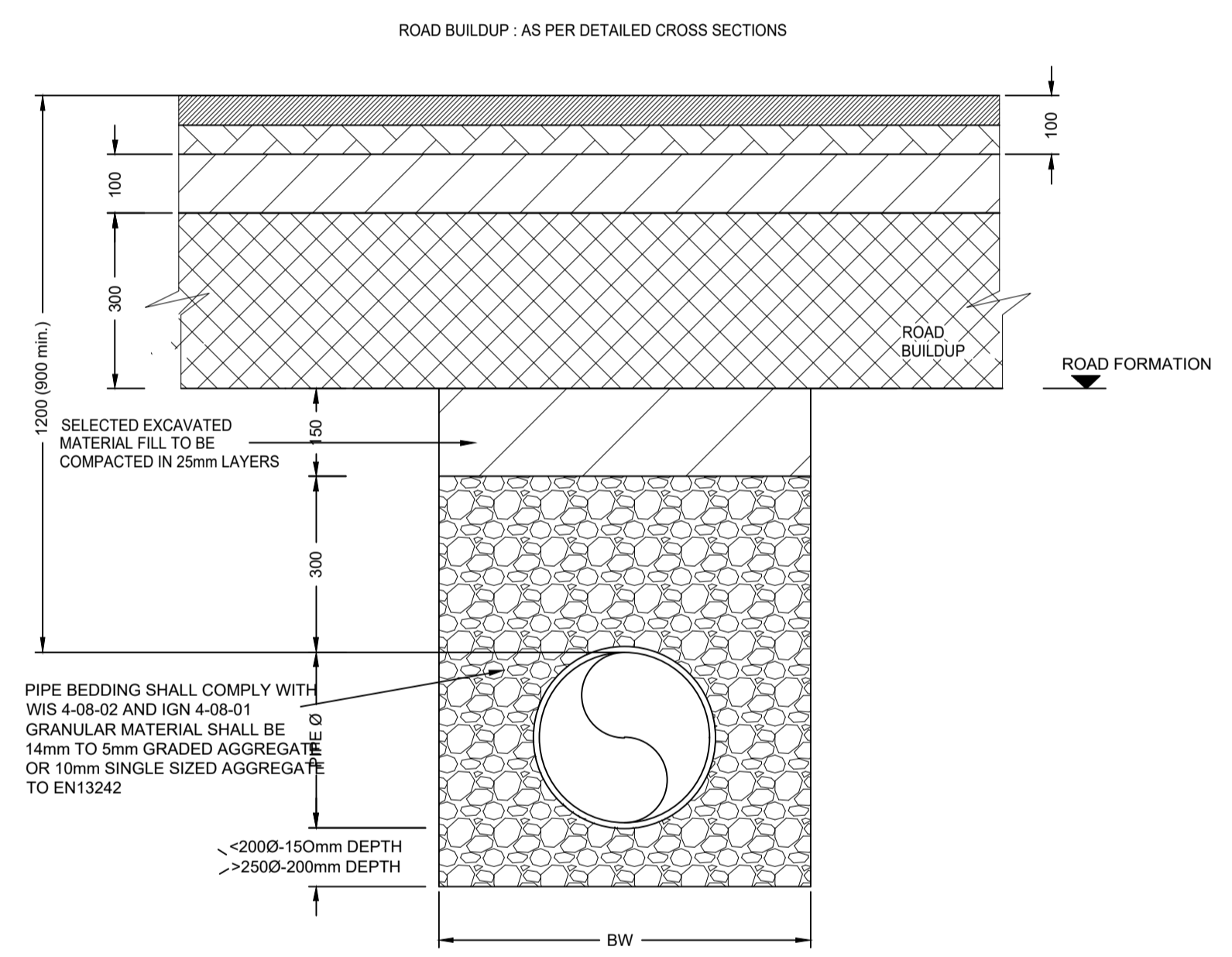


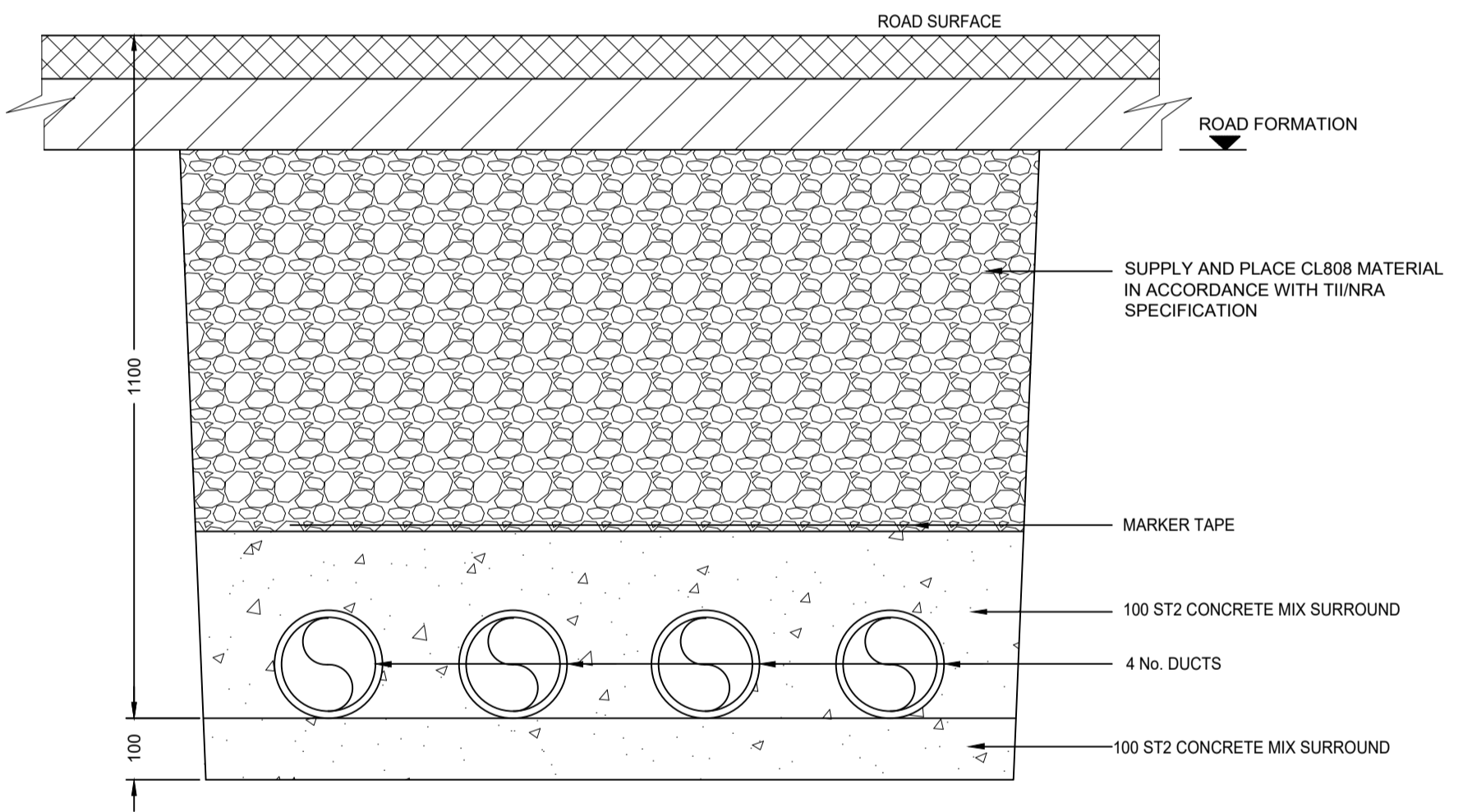
DETAIL DG 1 - FOR FOUL SEWAGE & SURFACE WATER UNDER LANDSCAPED AREAS



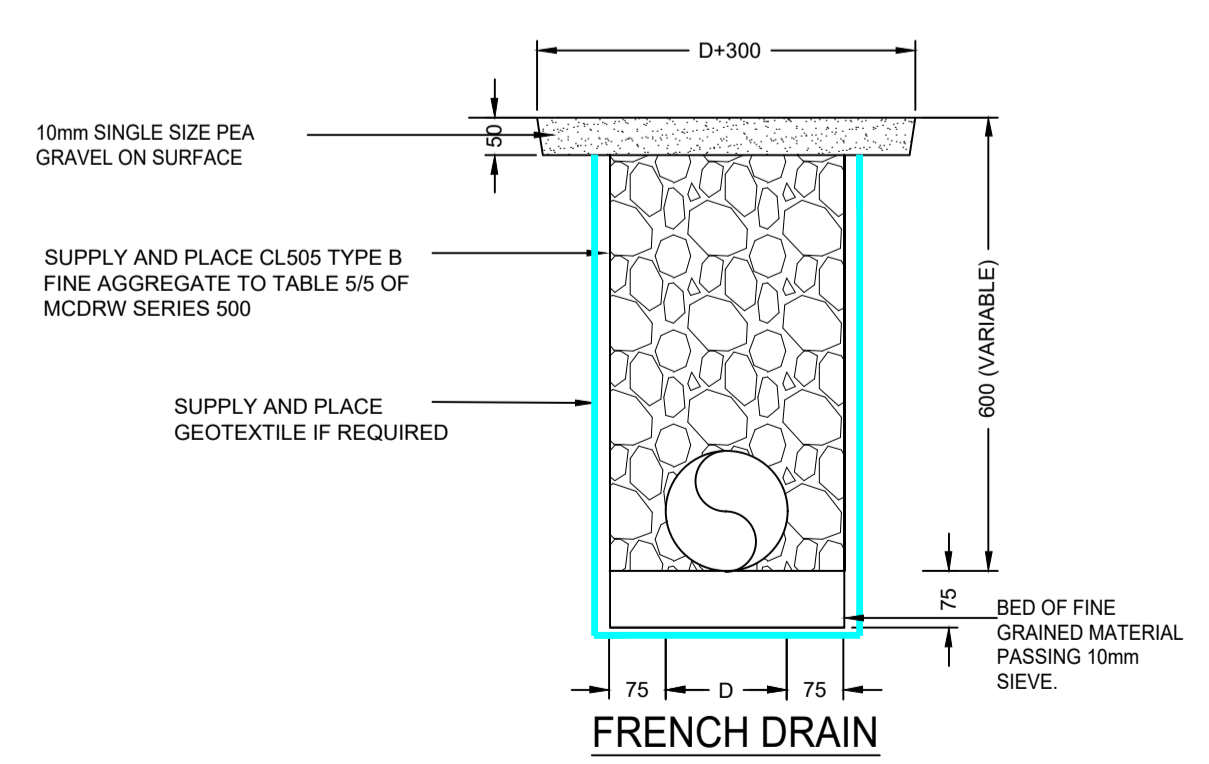
DETAIL DG 2 - FOUL AND SURFACE WATER UNDER ROADWAY



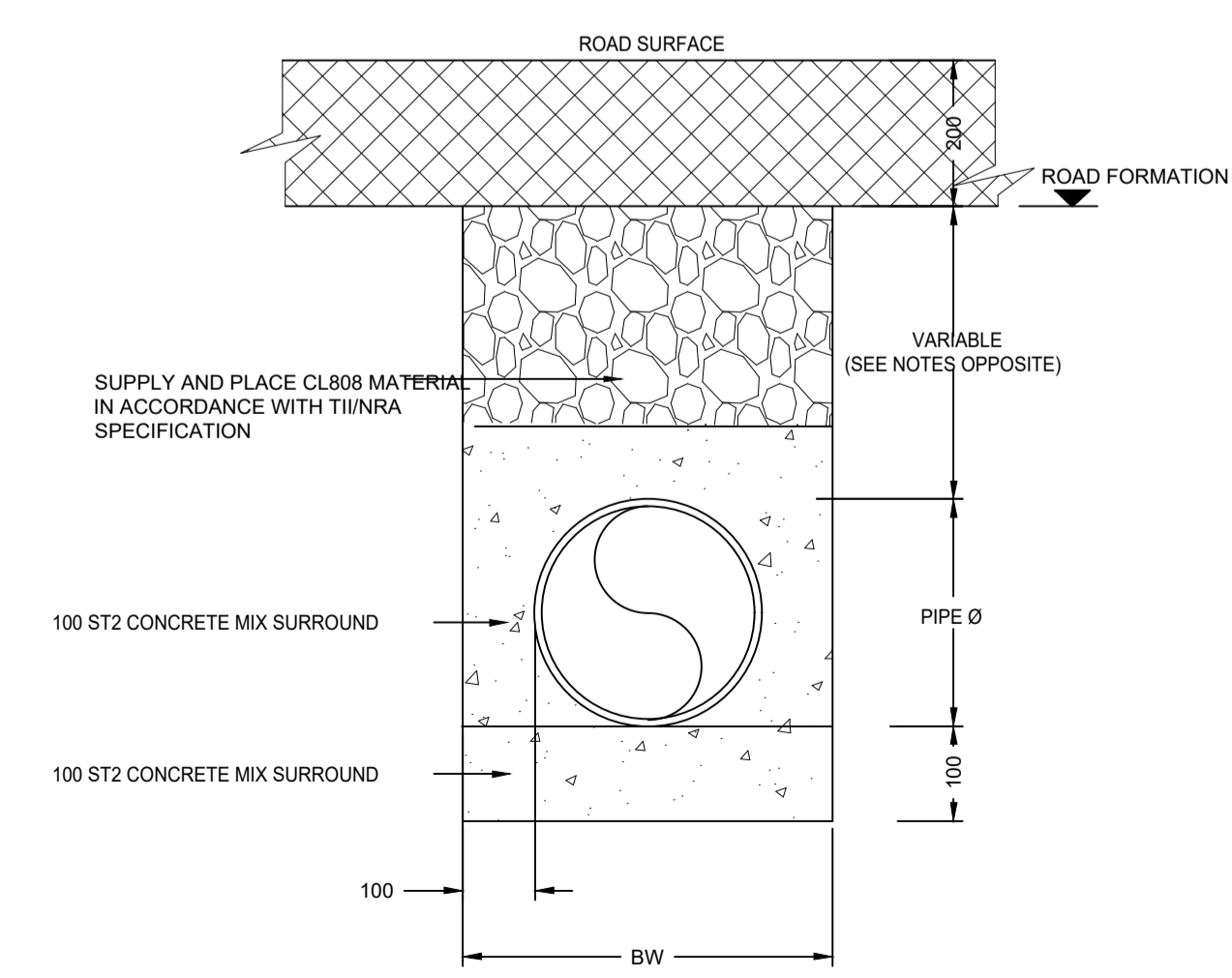
TYPICAL SECTION WATERMAIN



TYPICAL MULTI DUCTS ROAD CROSSING



FRENCH DRAIN



DETAIL DG 3 - FOR FOUL AND SURFACE WATER DRAINAGE IN ROADWAYS WITH CONCRETE SURROUND

TABLE 'B'  
GRANULAR BED & SURROUND FOR CONCRETE SEWER PIPES

PIPE Ø	BC OUTSIDE Ø	BW BED WIDTH	Y BED THK.NESS
150	215	415	100
225	300	500	100
300	400	600	100
375	560	760	100
450	635	835	110
525	710	910	130
600	800	1000	150
675	875	1080	170
750	970	1210	190
825	1060	1325	210
900	1155	1445	225
1050	1320	1650	260
1200	1475	1850	300
1350	1690	2100	340
1500	1830	2300	375

TABLE 'A'  
CONCRETE BED - CLASS B FOR CONCRETE SEWER PIPES

PIPE Ø	BC OUTSIDE Ø	BW BED WIDTH	Y-BED THK.NESS IN UNIFORM SOIL	Y-BED THK.NESS IN ROCK
150	215	600	100	200
225	300	700	100	200
300	400	750	100	200
375	560	1000	100	200
450	635	1100	110	200
525	710	1200	120	200
600	800	1200	130	200
750	970	1500	160	240
900	1160	1950	190	290
1050	1320	2100	220	330
1200	1475	2300	245	370
1350	1690	2400	280	420
1500	1745	2600	290	435

Y = 1/6 BC OR 100mm MIN. (UNIFORM SOIL)  
Y = 1/4 BC OR 200mm MIN. (TRENCH IN ROCK)

GENERAL NOTES

1. ROCK IN TRENCHES SHALL BE EXCAVATED AND TRIMMED TO UNDERSIDE LEVEL OF PIPE BED
2. GRANULAR MATERIAL CLASS 'B' TO BE USED FOR BEDDING AND HAUNCHING
3. CONCRETE MIX C25/20 TO BE USED FOR BEDDING, HAUNCHING AND SURROUND
4. SEE TABLE 'A' FOR CONCRETE BED WIDTHS
5. WHERE FLEXIBLE JOINTS ARE USED, VERTICAL MOVEMENT JOINTS SHALL BE PROVIDED IN THE BED AT MAX INTERVALS OF 5M AND ALIGNED WITH THE FACE OF PIPE SOCKET. JOINTS TO BE 12mm WIDE AND FILLED WITH FLEXCELL OR SIMILAR IN THE CONCRETE BED AND SURROUND
6. GRANULAR BEDS TO DRAINS SEE TABLE 'B'
7. IF COVER TO PIPE IS LESS THAN 1.2M IN ROADS AND DRIVEWAYS 0.9M IN OPEN SPACES AND PATHS NOT NEAR CARRIAGEWAYS SURFACE WATER AND FOUL DRAINS SHALL BE SURROUNDED BY 150 THK C25 CONCRETE
8. ALL CONCRETE TO BE MIX C25
9. WHERE PVC PIPES ARE ENCASED IN CONCRETE, THEY SHALL BE FIRST WRAPPED IN VISQUEEN 1000.
10. ALL SERVICES TO HAVE MARKER TAPE LAID OVER FULL WIDTH OF SERVICE MINIMUM 400mm BELOW FINISHED SURFACE LEVEL.

TRENCH: MINIMUM WIDTH TO BE PIPE Ø +300mm  
MAXIMUM WIDTH TO BE PIPE Ø + 600mm

WATERMAIN:

1. MINIMUM DEPTH FROM GROUND LEVEL TO TOP OF BARREL SHALL BE 900mm (1200mm typically) FOR WATERMAINS AND 600mm FOR SERVICE CONNECTIONS.
2. WHERE WATERMAIN IS IN ROCK, THE ROCK SHALL BE EXCAVATED AND TRIMMED TO A DEPTH OF 100mm BELOW PIPE. LAYER OF SELECTED FILL SHALL BE 125mm TO ALLOW PIPE TO BE WORKED INTO TRUE LINE.
3. WHERE WATERMAIN COVER IS LESS THAN 0.9m TRENCH BACKFILL AND REINSTATEMENT SHALL COMPLY WITH IRISH WATER STANDARD DETAIL NO. STD-W-13.
4. THE CONTRACTOR IS TO ENSURE THAT ALL TRENCHES ARE SUPPORTED TO HEALTH AND SAFETY GUIDELINES. PROVIDE DRAW WIRES WITH 150mm END RODS TO ALL DUCTS.

Rev	Description	Drawn	Checked	Date
P04	SID ISSUE	DM	PM	04.02.2022
P03	DRAFT SID ISSUE	DM	PM	10.12.2021
P02	SID SCHEME ISSUE	DM	PM	26.11.2021
P01	WIP	DM	PM	22.10.2021

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**VANTAGE DATA CENTERS**

Client: **KILCARBERY 110KV SUBSTATION & MV CLIENT COMPOUND**

Project: **TYPICAL DRAINAGE DETAILS**

Dwg. Title: **21\_115**

Drawn By: **DM** Date: **OCT 2021**

Checked By: **PM** AS INDICATED @ A1 Scale: **CSEA Job No.**

Project Code: **21\_115 - CSE - 00 - XX - DR - C - 2300**

S2 PRELIMINARY  
 Status Code: **S2** Suitability Description: **PRELIMINARY**

P04 PRELIMINARY  
 Revision: **P04** Project Status: **PRELIMINARY**