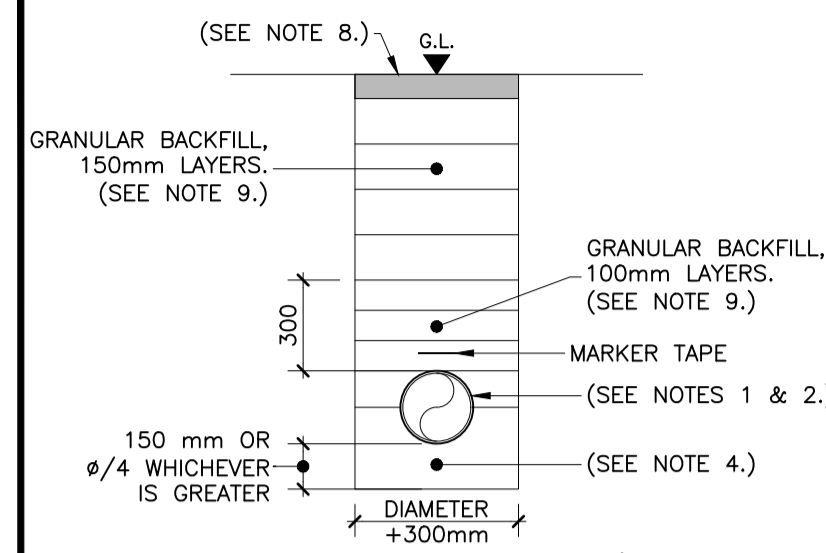


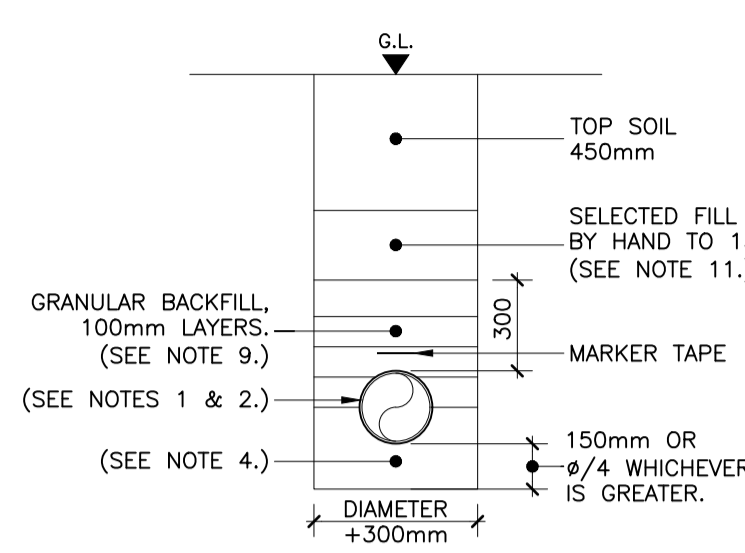
0.75 ABSOLUTE MINIMUM DEPTH OF COVER TO PIPES UNDER ROADS/HARDSTANDINGS/FOOTPATHS WHERE PIPES TO BE TAKEN IN CHARGE BY LOCAL AUTHORITY.



**UNDER ROADS/
HARDSTANDING/
FOOTPATHS**

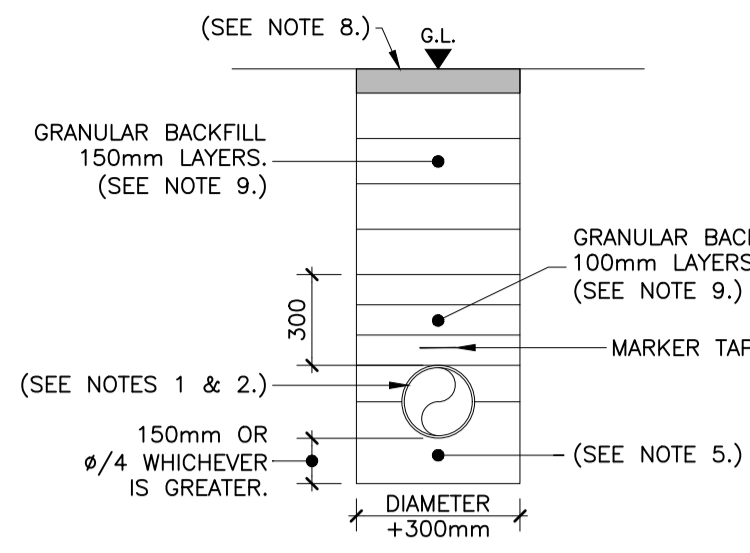
COVER ≥ 1.2*

DETAIL M
SCALE 1:25



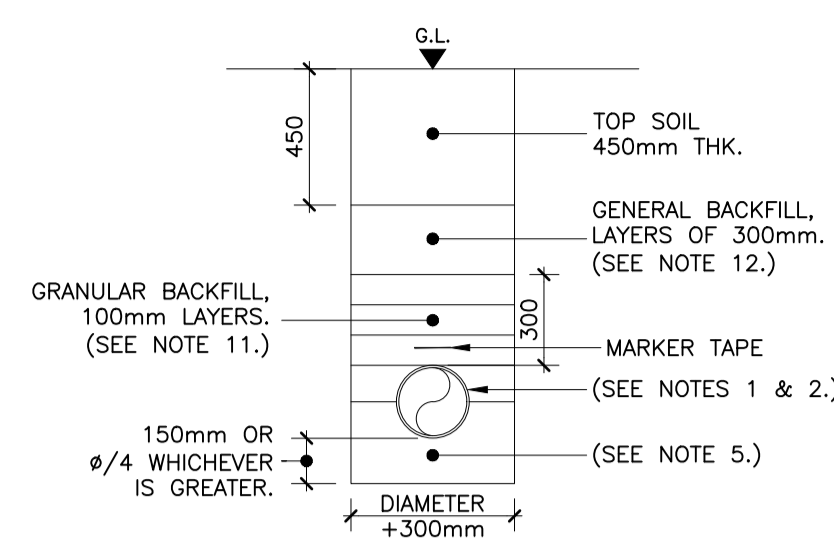
**UNDER LANDSCAPE
AREAS**

COVER ≥ 0.9*



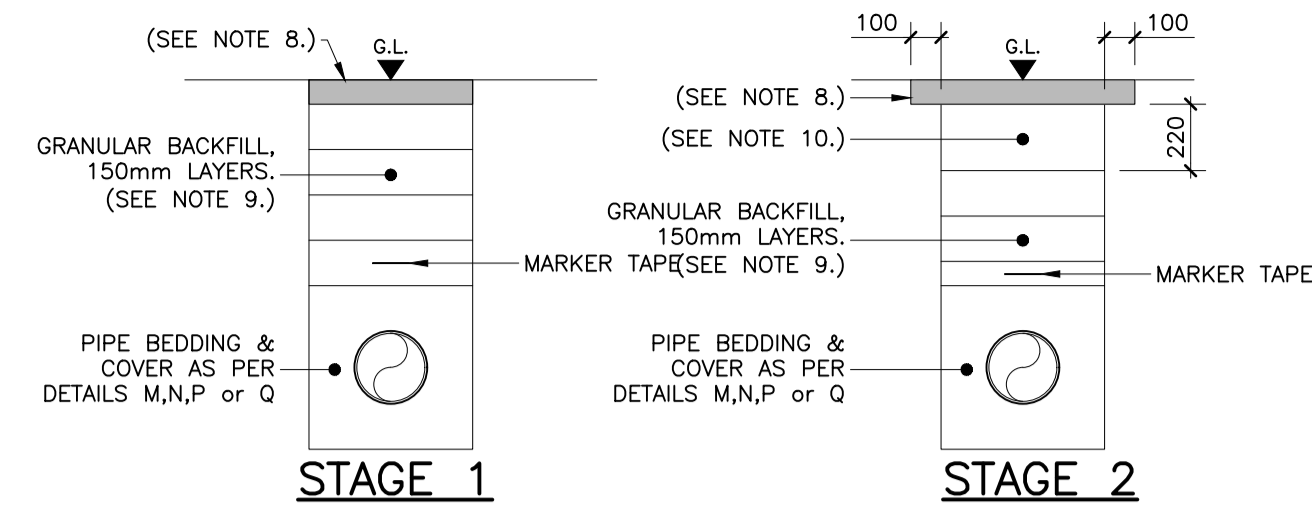
**UNDER ROADS/
HARDSTANDING/
FOOTPATHS**

RIGID PIPES WITH GRANULAR BED.
DETAIL N
SCALE 1:25



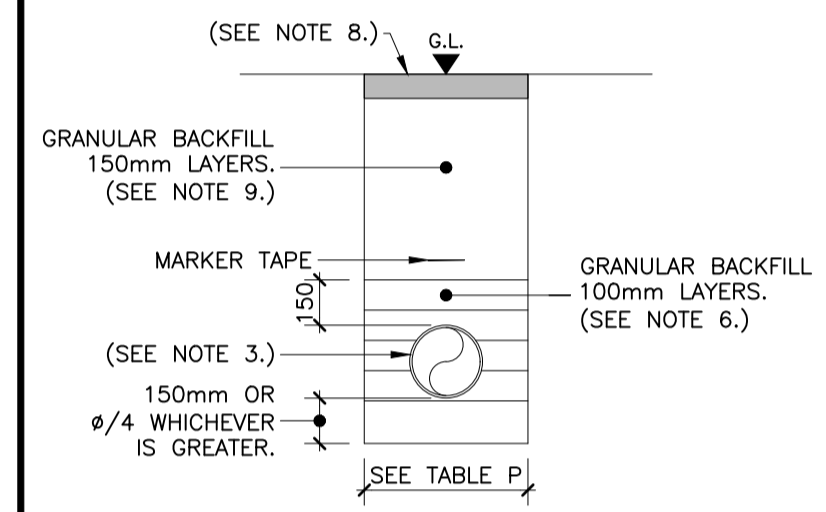
**UNDER LANDSCAPE
AREAS**

COVER ≥ 0.9*



REINSTATEMENT OF PIPE TRENCH IN EXISTING ROAD
DETAIL R
SCALE 1:25

RIGID PIPES WITH CONCRETE BED AND CONCRETE SURROUND

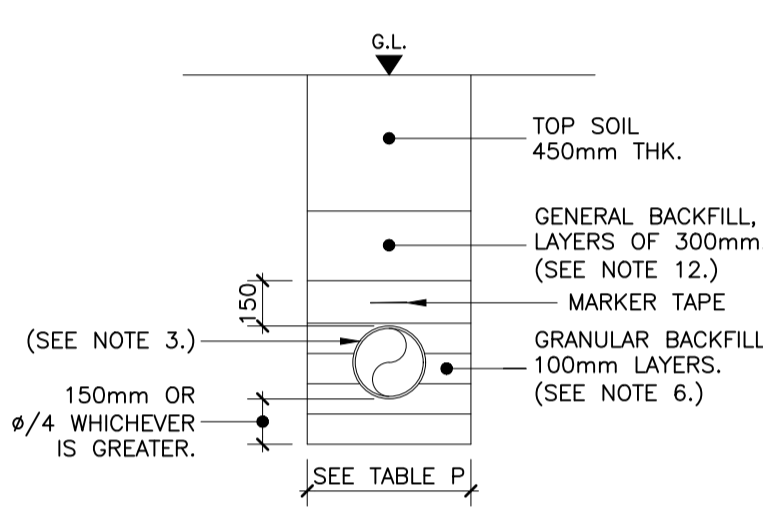


**UNDER ROADS/
HARDSTANDING/
FOOTPATHS**

COVER ≥ 1.2*

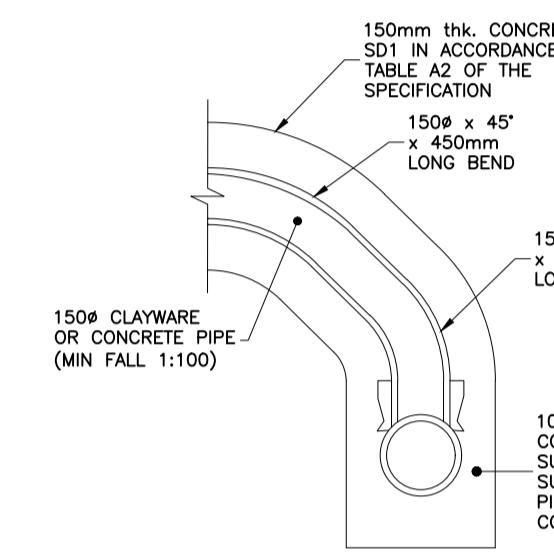
DETAIL P
SCALE 1:25

PIPE SIZE (mm)	WIDTH OF TRENCH (mm)	
	MINIMUM	MAXIMUM
110	450	600
160	450	600
200-250	600	700
315	700	850
355	750	900
400	800	950
450	850	1000

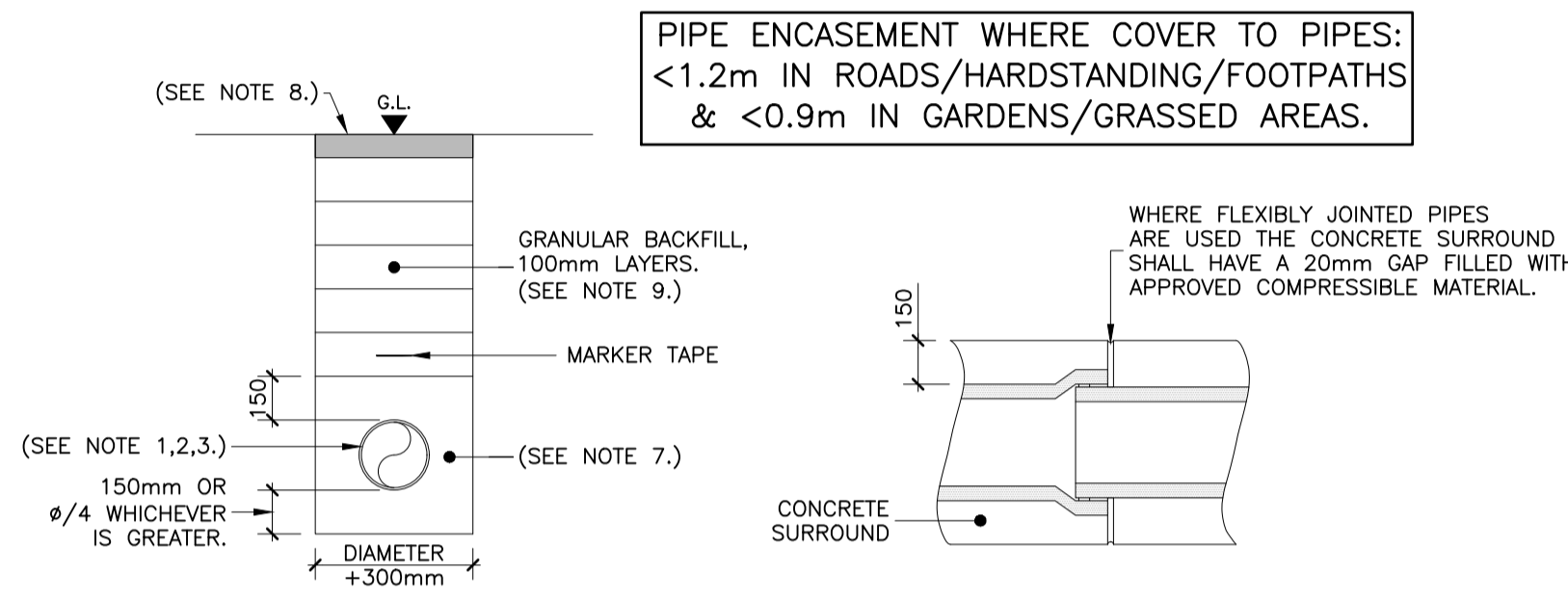


**UNDER LANDSCAPE
AREAS**

COVER ≥ 0.9*



**GULLY CONNECTION TO SURFACE
WATER SYSTEM**
SECTION B
SCALE 1:25



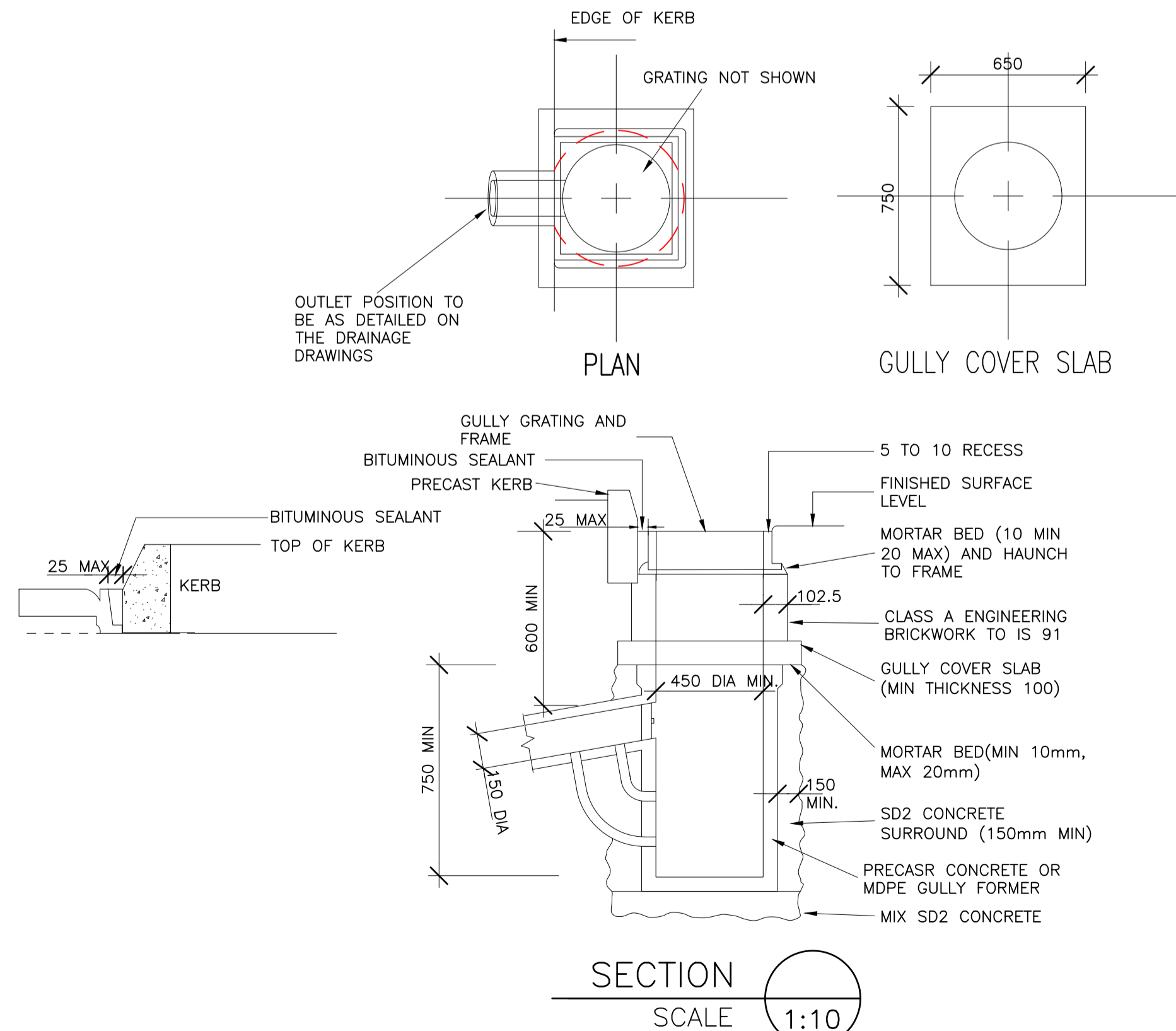
**CONCRETE PIPE
ENCASEMENT DETAIL**
DETAIL Q
SCALE 1:25

CONCRETE ENCASEMENT

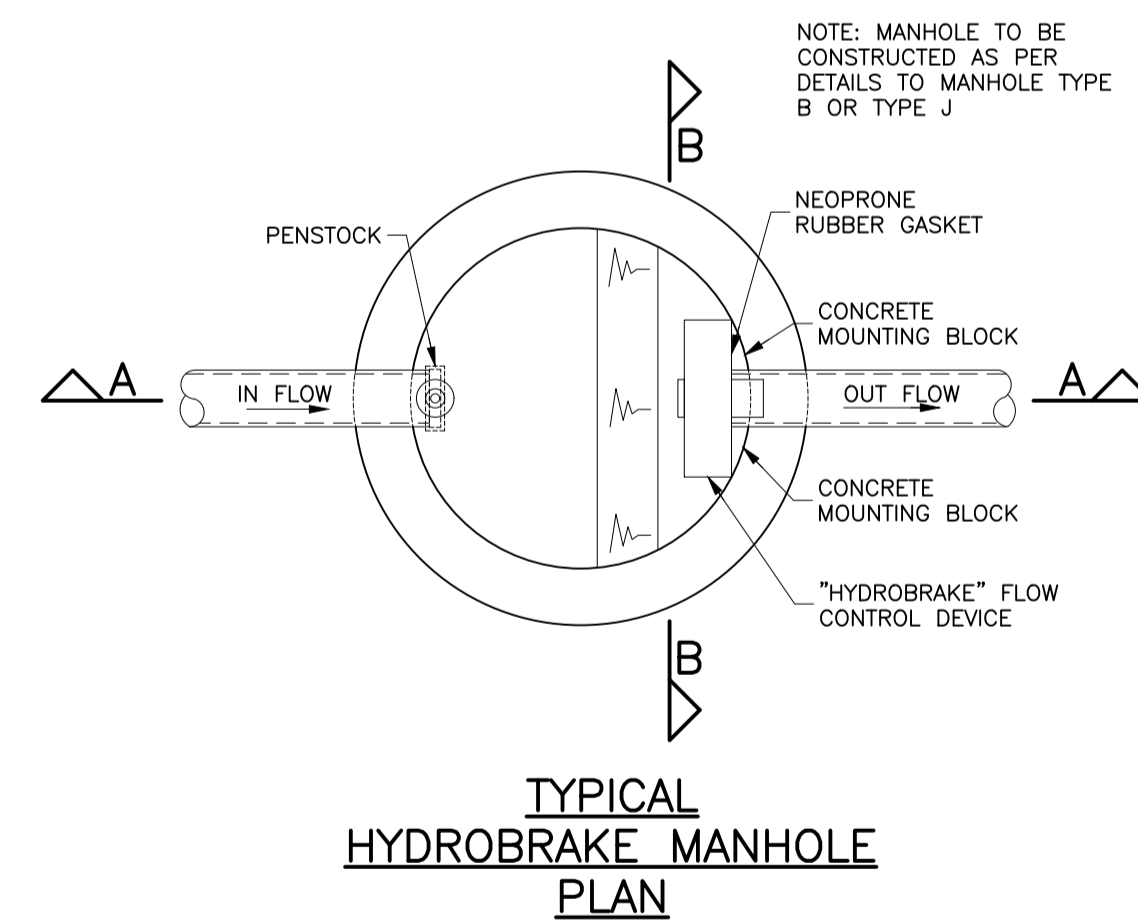
FLEXIBLE PIPES WITH GRANULAR BED & SURROUND

GULLY NOTES:

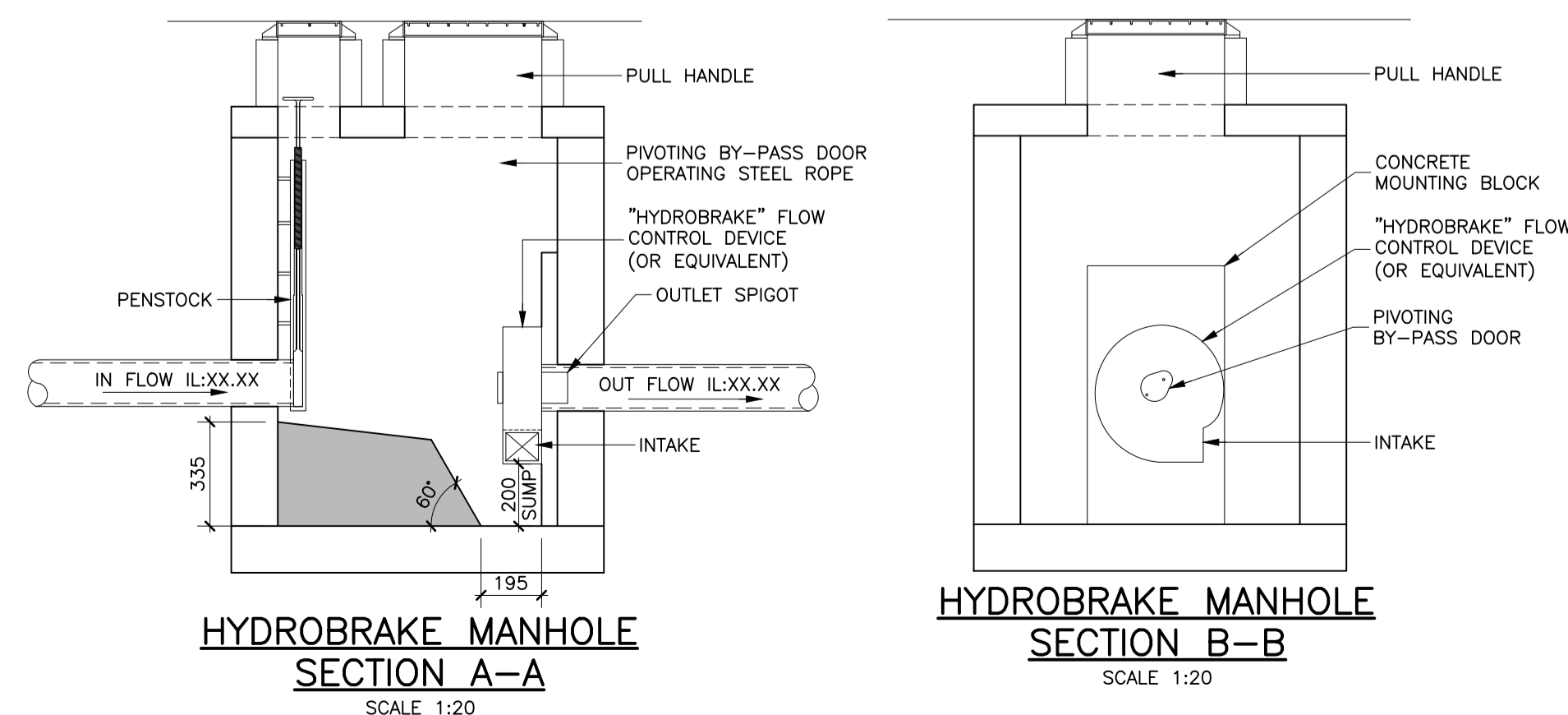
- ROAD GULLIES, GRATINGS AND FRAMES SHALL CONFIRM TO EN 124, CLASS D400 OR EQUIVALENT.
- POSITIONING OF GULLIES:** GULLIES MUST BE HINGED AT RIGHT ANGLES TO THE KERB LINE, SO THAT THEY CLOSE WITH THE DIRECTION OF TRAFFIC AND SLOTS MUST BE AT RIGHT ANGLES OR DIAGONAL TO THE KERB.
- UNSEALED GULLIES:** (OUTLETS TO SURFACE WATER SEWERS) UNSEALED GULLIES ARE TO HAVE SIDE OUTLETS.
- FOUNDATION SLABS:** FOUNDATION SLABS FOR GULLY PITS SHALL BE A MINIMUM THICKNESS OF 150mm AND BUILT IN CONCRETE MIX SD1 IN ACCORDANCE WITH TABLE A2 OF THE SPECIFICATION.
- GULLY FRAME AND GRATING:** EACH GRATING AND FRAME SHALL HAVE CLEARLY MARKED THEREON: I.S./EN 124:1994 - CLASS D400, THE NAME AND/OR IDENTIFICATION MARK OF THE MANUFACTURER AND THE PLACE OF MANUFACTURER, THE YEAR OF MANUFACTURER, MARK OF CERTIFICATION BODY. LOCKABLE FRAMES AND GRATINGS SHOULD BE LOCKABLE.
- GULLY CONNECTIONS:** EACH GULLY SHALL HAVE A SEPARATE 150mm CONNECTION SURROUNDED WITH 150mm CONCRETE MIX SD2 IN ACCORDANCE WITH TABLE A2 OF THE SPECIFICATION. GULLIES SHALL NOT BE INTERCONNECTED. WHEN CONNECTING TO PUBLIC SEWERS, BENDS FROM 7° UP TO 45° SHOULD BE USED AS REQUIRED AND A SADDLE JUNCTION FITTED TO MAKE THE CONNECTION TO THE SEWER. LONG RADIUS BENDS ARE PREFERRED. GULLY CONNECTIONS SHOULD NOT, IF POSSIBLE EXCEED 10m IN LENGTH AND CONNECT TO THE SEWER IN THE DIRECTION OF THE FLOW. GULLY CONNECTIONS GREATER THAN 30m LONG WILL REQUIRE AN ADDITIONAL MANHOLE ON THEM. IN UNSEALED GULLIES THE OUTLET PIPE SHALL BE 450mm ABOVE THE FLOOR OF THE GULLY PIT. WHERE GULLIES ARE CONNECTED TO MANHOLES, THEY SHALL BE CONNECTED AT THE BENCHING LEVEL OR A MAXIMUM OF 500mm ABOVE INVERT OF MAIN PIPE. CONNECTIONS SHALL BE TURNED WITH THE DIRECTION OF FLOW.



PRECAST CONCRETE/MDPE GULLY POT
SECTION
SCALE 1:10



**TYPICAL
HYDROBRAKE MANHOLE
PLAN**



**HYDROBRAKE MANHOLE
SECTION A-A**
SCALE 1:20

**HYDROBRAKE MANHOLE
SECTION B-B**
SCALE 1:20

- NOTES:**
- THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEER'S AND ARCHITECT'S DRAWINGS AND SPECIFICATIONS.
 - ALL LEVELS ARE IN METRES TO ORDNANCE DATUM, MALIN HEAD.
- GENERAL NOTES:**
- CONCRETE SEWER PIPES WITH SPIGOT AND SOCKET JOINTS AND RUBBER RING FITTINGS TO COMPLY WITH IS/EN 1916 AND IS 6 2004 OR EQUIVALENT STANDARD CLASS M OR CLASS H.
 - VITRIFIED CLAY PIPES AND FITTINGS COMPLYING WITH THE REQUIREMENTS OF IS/EN 295-1/2/3/ 1992 OR EQUIVALENT STANDARD CLASS 160 OR CLASS 200.
 - UNPLASTICIZED POLYVINYLCHLORIDE (UPVC) PIPES AND FITTINGS IN ACCORDANCE WITH THE REQUIREMENTS OF IS 424.
 - CONCRETE BED AND SURROUND TO BE A MINIMUM 150mm THICK IN-SITU CONCRETE MIX SD1 IN ACCORDANCE WITH TABLE A2 OF THE SPECIFICATION AND HAUNCHED HALF WAY UP THE BARREL OF THE PIPE.
 - GRANULAR BED AND SURROUND FOR RIGID PIPES TO BE EITHER:
 - 14mm TO 5mm GRADED AGGREGATE OR
 - 10mm SINGLE SIZED AGGREGATE.
 - ALL COMPLYING WITH THE REQUIREMENTS OF IS 5: PART 1: 1990, TABLE 7 AND SHOULD HAVE A COMPACTION FACTOR VALUE NOT GREATER THAN 0.2 WHEN MEASURED IN ACCORDANCE WITH BS 8301: 1985, APPENDIX D.
 - GRANULAR BED AND SURROUND AND COVER FOR UPVC TO BE:
 - (A) 14mm TO 5mm GRADED AGGREGATE (PIPE DIAMETER ≥ 315mm)
 - (B) 10mm SINGLE SIZED AGGREGATE (PIPE DIAMETER < 315mm)
 - PIPES WITH INADEQUATE COVER TO BE FULLY SURROUNDED IN 150mm THICK CONCRETE MIX SD1 IN ACCORDANCE WITH TABLE A2 OF THE SPECIFICATION. SURFACING TO BE IN ACCORDANCE WITH THE ROAD SPECIFICATION AND, IF APPROPRIATE, LOCAL AUTHORITY REQUIREMENTS.
 - GRANULAR BACKFILL MATERIAL SHALL BE IN COMPLIANCE WITH CLAUSE 804 (GRANULAR MATERIAL TYPE B) OF THE IRA SPECIFICATION FOR ROAD WORKS. GRANULAR BACKFILL SHOULD BE PLACED UNIFORMLY ON EITHER SIDE OF THE PIPE IN LAYERS NOT EXCEEDING 100mm, EACH LAYER BEING COMPACTED BY HAND TAMPING UNTIL THE PIPE HAS A MINIMUM OF 300mm COMPACTED COVER. CARE SHOULD BE TAKEN THAT THE PROCESS OF COMPACTION DOES NOT DISPLACE THE PIPE FROM ITS CORRECT LINE AND LEVEL. SUBSEQUENT LAYERS OF GRANULAR FILL TO BE WELL COMPACTED IN 150mm THICK LAYERS TO THE LOCAL AUTHORITY ROAD DIVISION SPECIFICATION. MECHANICAL COMPACTION EQUIPMENT SHOULD NOT BE USED UNTIL THERE IS A MINIMUM OF 450mm COMPACTED COVER OVER THE CROWN OF THE PIPE.
 - LEANMIX BACKFILL TO TRENCHES IN EXISTING ROAD, WHERE REQUIRED BY THE LOCAL AUTHORITY TO BE CONCRETE MIX SD1 IN ACCORDANCE WITH TABLE A2 OF THE SPECIFICATION.
 - SELECTED FILL SHOULD BE FREE FROM STONES LARGER THAN 37mm, LUMPS OF CLAY OVER 75mm, TIMBER, FROZEN MATERIAL AND VEGETABLE OR FOREIGN MATTER. SELECTED FILL SHOULD BE PLACED UNIFORMLY ON EITHER SIDE OF THE PIPE IN LAYERS NOT EXCEEDING 100mm, EACH LAYER BEING COMPACTED BY HAND TAMPING UNTIL THE PIPE HAS A MINIMUM OF 150mm COMPACTED COVER. CARE SHOULD BE TAKEN THAT THE PROCESS OF COMPACTION DOES NOT DISPLACE THE PIPE FROM ITS CORRECT LINE AND LEVEL. SUBSEQUENT SELECTED FILL CAN BE PLACED AND COMPACTED IN 150mm THICK LAYERS.
 - GENERAL BACKFILL MATERIAL SUITABLE FOR BACKFILL ABOVE SELECTED FILL MATERIAL SHOULD BE FREE FROM BOULDERS, LUMPS OF CONCRETE, TIMBER AND VEGETABLE OR FOREIGN/CONTAMINATED MATTER. GENERAL BACKFILL SHOULD BE PLACED IN LAYERS NOT EXCEEDING 300mm, EACH LAYER BEING WELL COMPACTED. MECHANICAL COMPACTION EQUIPMENT SHOULD NOT BE USED UNTIL THERE IS A MINIMUM OF 450mm COMPACTED COVER OVER THE CROWN OF THE PIPE.
 - AN APPROVED WARNING MARKER TAPE TO BE PROVIDED TO ALL PUBLIC SEWERS IN ACCORDANCE WITH SECTION R12 OF THE SPECIFICATION.
 - DRAINS UNDER PUBLIC ROADS TO BE CONCRETE PIPES.

No.	Revision	Date	By	Chkd	Appd
P01	ISSUED FOR PLANNING	05/06/20	SS	SS	

Drawing Status

PLANNING

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Client: **LAOIS COUNTY COUNCIL**

Project Title: **MOOREVILLE**

Drawing Title: **SURFACE WATER DETAILS
SHEET 1 OF 4**

Drawing Number: **MV-ROD-00-XX-DR-C-0060** Rev: **P02**

Scale: **VARIABLE** Date: **JUN 20** Job No: **19.109** Cast File: **S4 - STAGE APPROVAL**

Drawn: **SS** Checked: **SS** Approved: **SS**