

# ALL DIMENSIONS TO BE CONFIRMED ON SITE PRIOR TO ORDERING / FABRICATION OF MATERIALS AND COMMENCEMENT OF WORKS

**CDM 2015 DESIGNER NOTES**

IN ADDITION TO THE HAZARDS, AND RISKS NORMALLY ASSOCIATED WITH THE TYPE OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RISKS AND INFORMATION.

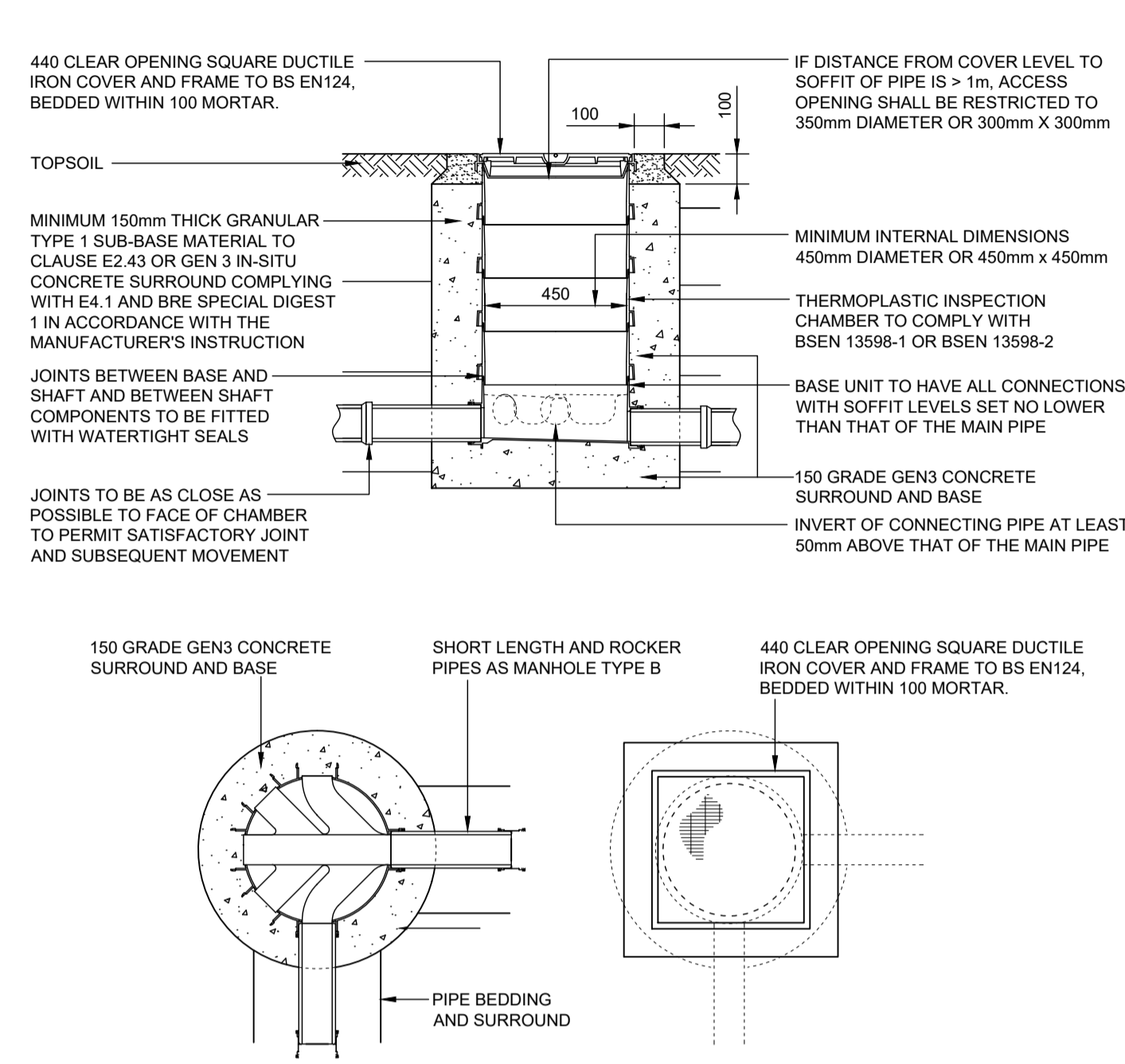
CONSTRUCTION:

1. N/A

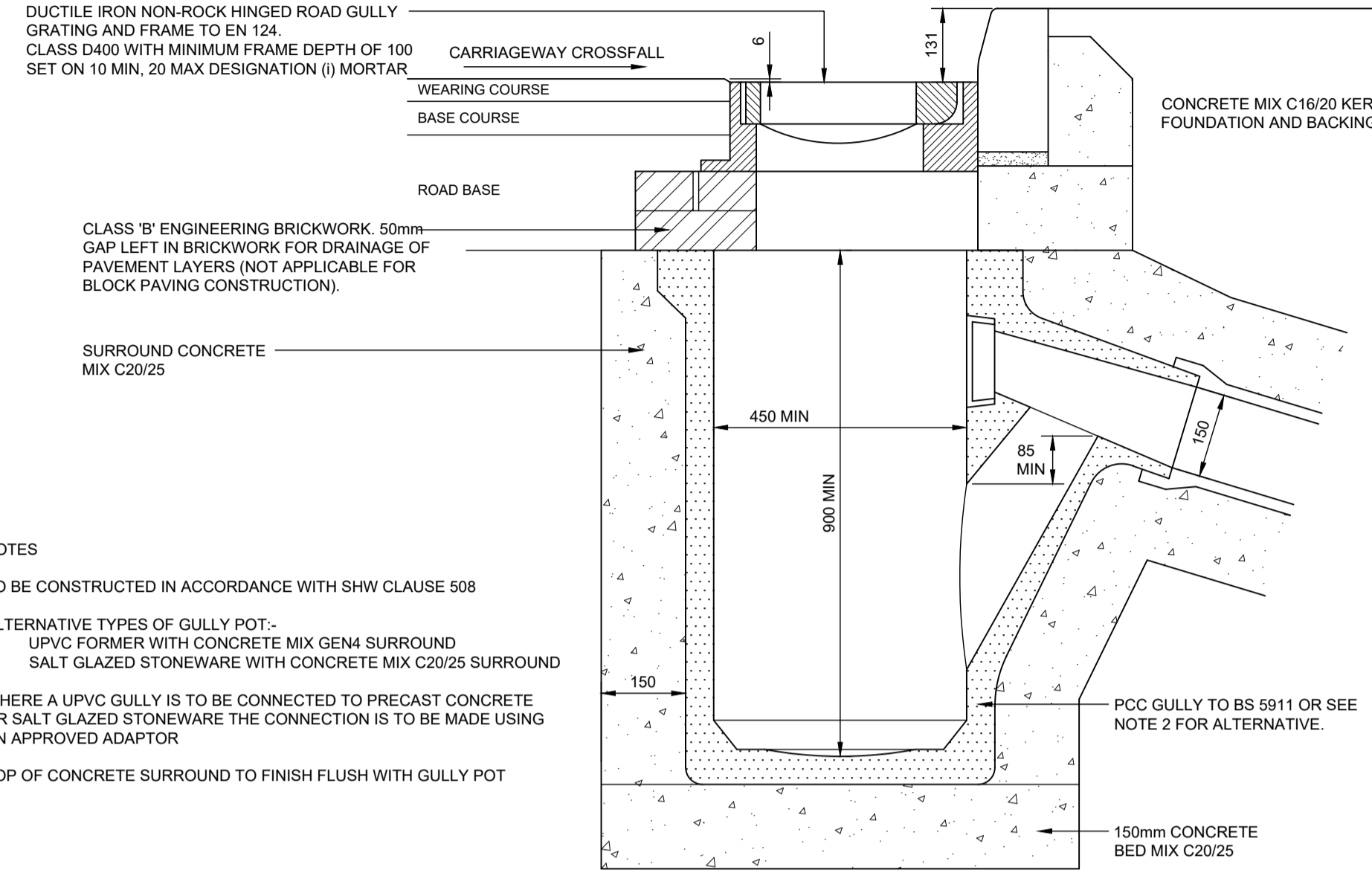
FOR INFORMATION RELATING TO END USE, MAINTENANCE, DEMOLITION, SEE THE HEALTH AND SAFETY FILE.

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT.

- Notes**
- IF IN DOUBT - ASK !!! DO NOT SCALE
  - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL ARCHITECTS AND ENGINEERS DRAWINGS.
  - ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT BRITISH STANDARDS, CODES OF PRACTICE AND BUILDING PRACTICE.
  - ALL DIMENSIONS TO BE CHECKED PRIOR TO STARTING THE WORKS ON SITE. ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
  - CONTRACTOR TO ASCERTAIN THE LOCATION OF SERVICES ON SITE PRIOR TO STARTING THE WORK.
  - ALL DIMENSIONS FOR CONSTRUCTION ARE TO BE OBTAINED FROM SITE MEASUREMENTS OR ARCHITECTS SETTING OUT DRAWINGS PRIOR TO MANUFACTURE/BUILDING.



**TYPICAL 450Ø MANHOLE DETAIL - TYPE D**  
1:20



**CHANNEL ENTRY, TRAPPED ROAD GULLY**  
1:10

**NOTES**

TO BE CONSTRUCTED IN ACCORDANCE WITH SHW CLAUSE 508

ALTERNATIVE TYPES OF GULLY POT:-

- UPVC FORMER WITH CONCRETE MIX GEN4 SURROUND
- SALT GLAZED STONEWARE WITH CONCRETE MIX C20/25 SURROUND

WHERE A UPVC GULLY IS TO BE CONNECTED TO PRECAST CONCRETE OR SALT GLAZED STONEWARE THE CONNECTION IS TO BE MADE USING AN APPROVED ADAPTOR

TOP OF CONCRETE SURROUND TO FINISH FLUSH WITH GULLY POT

## 1.1 Drainage Maintenance

### 1.1.1 Responsibilities

The on-site drainage systems shall be the responsibility of the property owner of the dwelling.

The receiving ditch shall remain the riparian responsibility of the land owner(s).

The rainwater harvesting system shall be the responsibility of the property owner of the dwelling.

### 1.1.2 Piped Drainage Systems and Manholes

6 monthly, when extreme rainfall is forecast, and after significant storm events

- Clear leaves litter and debris from all areas of the site and from visible surface features of the drainage system.
- Inspect all manholes, catchpits, gullies, ACO drains, threshold drains and roof gutters. Collect and dispose of any silt present. Contaminated silt and oils (e.g. from driveway) must be disposed of at a licenced waste recycling centre. Monitor the speed of silt build up and increase frequency of maintenance if required.
- Specifically inspect the hydrobrake chamber. Collect and dispose of any silt present in the base. Ensure the hydrobrake is in full working order, carrying out repairs or replacements as required.

### At 5-10 year intervals

- CCTV survey of drainage system. Removal of silt and debris as required. Replace or repair any areas of failure.

If blockages are noted, this may require more robust rodding, or a CCTV and jetting service. A CCTV survey could identify damage to pipes that would need repair.

### 1.1.3 Swale

- Grass

Mow amenity grass access paths and verges surrounding swales at 35-50mm minimum and 75mm maximum or as specified. Monthly or as Required

Mow filter strips and swales at 100mm with 150mm maximum to filter and control runoff in normal grass swales removing first and last cut in season if grass is longer than 150mm removing cuttings to wildlife piles on site. Monthly or as required.

Where marsh or wetland develops in the swale due to wet conditions then cut annually, or as required, at 100mm removing cuttings to wildlife piles on site. Annual or as required

- Occasional Tasks Frequency as required.

Where there is a build-up of silt on the filter strip, swale, under-drained swale or at inlets, i.e. 50mm or more above the design level, then remove and spread on site. Undertake when ground is damp in autumn or early spring and transplant turf and overseed to original design levels.

Spread excavated material on site above SuDS design profile, e.g. top of banks, in accordance with E.A. Waste Exemption Guidance.

- Remedial Work Frequency

All damage to be made good to design profile unless there is a design flaw. As required

### 1.1.4 Packaged Pumping Station / Treatment Plant

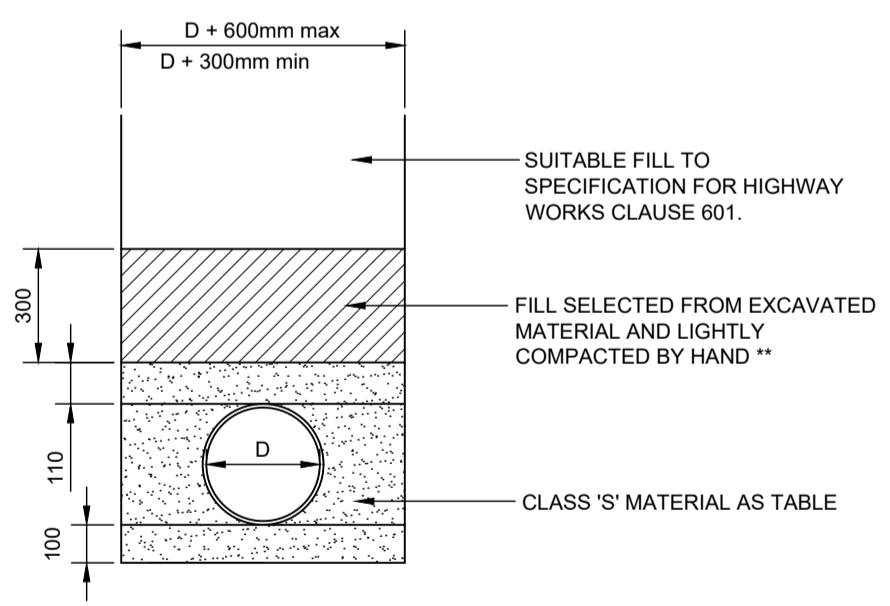
A maintenance contract shall be entered into with a specialist maintenance contractor. The manufacturer of the unit can make recommendations and advise on initial frequency of inspection and maintenance (usually 6-12 month intervals).

All manufacturers recommendations should be followed in the maintenance of these units.

### DRAINAGE NOTES

- ALL PIPEWORK TO BE IN ACCORDANCE WITH DESIGN & CONSTRUCTION GUIDANCE FOR FOUL & SURFACE WATER, APPROVED VERSION 2.1, 21 MAY 2021. VITRIFIED CLAY PIPES AND FITTINGS VITRIFIED CLAY PIPES AND FITTINGS SHALL HAVE FLEXIBLE MECHANICAL JOINTS. PIPES SHALL COMPLY WITH THE RELEVANT REQUIREMENTS OF BS EN295-1 AND BS 65 (SURFACE WATER PIPES ONLY). CONCRETE PIPES AND FITTINGS UNREINFORCED AND REINFORCED CONCRETE PIPES AND FITTINGS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN1916 AND BS 5911-1 AND SHALL BE MANUFACTURED FROM CONCRETE WITH A DESIGN CHEMICAL CLASS DC-4. THERMOPLASTICS SOLID WALL PIPES AND FITTINGS THERMOPLASTICS PIPES, JOINTS AND FITTINGS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN401-1 (PVC-U), BS EN1852-1 (PP) OR BS EN12566-1 (PE) AS APPROPRIATE. ANCILLARY DRAINAGE FITTINGS SHALL COMPLY WITH BS EN13598-1 OR BS 4660 AS APPROPRIATE. THERMOPLASTICS STRUCTURED WALL PIPE THERMOPLASTICS STRUCTURED WALL PIPE SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN13476-1 AND WS 4-35-01 AND BS EN13476-2 OR BS EN13476-3. PIPES SHALL BE KITEMARKED OR HAVE EQUIVALENT THIRD PARTY CERTIFICATION. JOINT SEALS AND LUBRICANTS ELASTOMERIC JOINT SEALS SHALL BE TYPE WC OR WG COMPLYING WITH THE RELEVANT PROVISIONS OF BS EN881-1 OR TPE SEALS COMPLYING WITH BS EN881-2 AND SHALL BE OBTAINED FROM THE PIPE MANUFACTURER. JOINT LUBRICANTS FOR SLIDING JOINTS SHALL HAVE NO DELETERIOUS EFFECT ON EITHER JOINT RINGS OR PIPES AND SHALL BE UNAFFECTED BY SEWERAGE.
- BACK FILL TO PIPE TRENCHES SHALL BE PLACED AND COMPACTED TO SHW CLAUSE 505.
- MANHOLE COVER LEVELS SHALL BE ADJUSTED WHERE NECESSARY TO SUIT FINISHED LEVELS.
- SQUARE DUCTILE IRON COVER AND FRAME TO BS EN124- TRAFFICKED AREAS: CLASS D400, AND PEDESTRIAN AREAS: CLASS B125 DOUBLE SEAL.
- BRICKWORK SHALL BE IN CLASS 'B' ENGINEERING BRICK TO BS 3821 IN ENGLISH BOND SET IN CLASS 1 MORTAR
- ALL PRECAST CONCRETE COMPONENTS SHALL BE IN ACCORDANCE WITH BS 5911 PART 200:1994
- CEMENT - SULPHATE RESISTING CEMENT TO BS4027:1991 SHALL BE USED IN ALL CASES (INCLUDING PRECAST CONCRETE PRODUCTS) UNLESS AGREED OTHERWISE WITH LOCAL AUTHORITY
- CONCRETE - CONCRETE MIX GEN3 SHALL HAVE A MINIMUM CEMENT CONTENT OF 330Kg/m<sup>3</sup>, A MAXIMUM FREE WATER/CEMENT RATIO OF 0.50 AND 20mm NOMINAL MAXIMUM SIZE AGGREGATE
- ALL MANHOLES TO BE MARKED WITH FW or SW AS APPROPRIATE.
- EXISTING PIPEWORK TO BE ABANDONED SHALL BE BROKEN OUT, OR BACKFILLED WITH CLASS C20 CONCRETE WITH ENDS GROUTED UP.
- ALL AFFECTED EXISTING DRAINS TO BE JETTED AND CAMERA SURVEYED. ANY REPAIRS TO PIPES IDENTIFIED ARE TO BE CARRIED OUT.

**NOTE:**  
DRAINAGE TO BE DESIGNED IN ACCORDANCE WITH THE SEWAGE SECTOR GUIDANCE, DESIGN AND CONSTRUCTION GUIDANCE (THE CODE) APPROVED VERSION 2.1, 21 MAY 2021

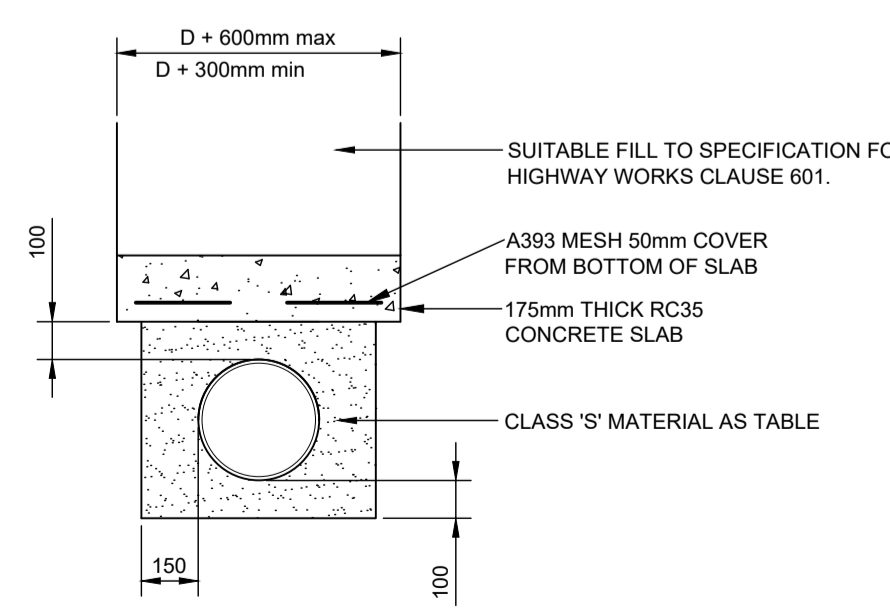


**CLASS S BEDDING DETAILS**

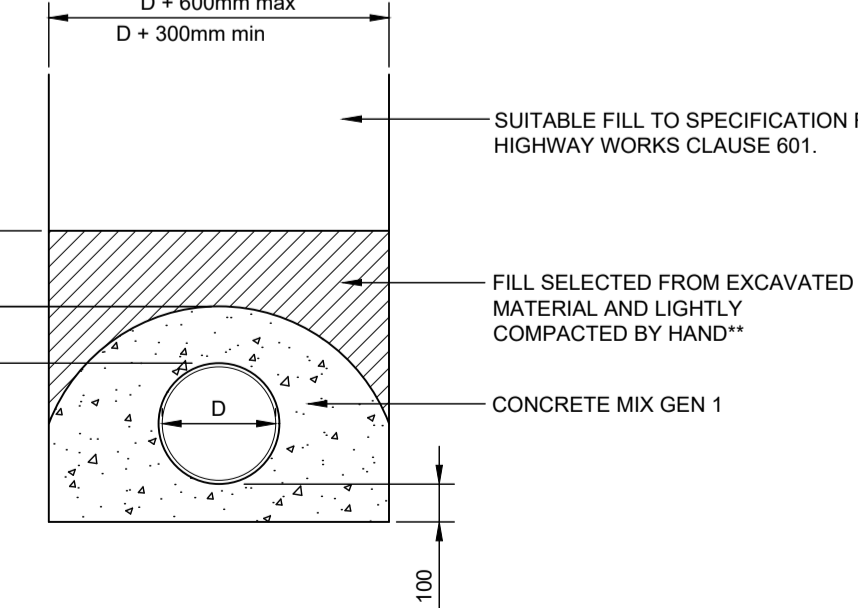
NOMINAL PIPE Ø (mm)	CLASS 'S' BEDDING AND SURROUND	
	BS882:1992 COARSE AGGREGATE (TABLE 3)	SINGLE SIZED AGGREGATE RANGES (mm)
NOT EXCEEDING 140	—	10
EXCEEDING 140 BUT NOT EXCEEDING 400	20 to 5 or 14 to 5	10, 14 or 20
EXCEEDING 400	14 to 5, 20 to 5 or 40 to 5	10, 14, 20 or 40

SELECTED FILL - SELECTED FILL SHOULD BE READILY COMPACTABLE, FREE FROM TIMBER, FROZEN MATERIAL, VEGETABLE AND FOREIGN MATTER AND EXCLUDE HARD LUMPS OF CLAY RETAINED ON A 100mm SIEVE AND STONES RETAINED ON A 40mm SIEVE.

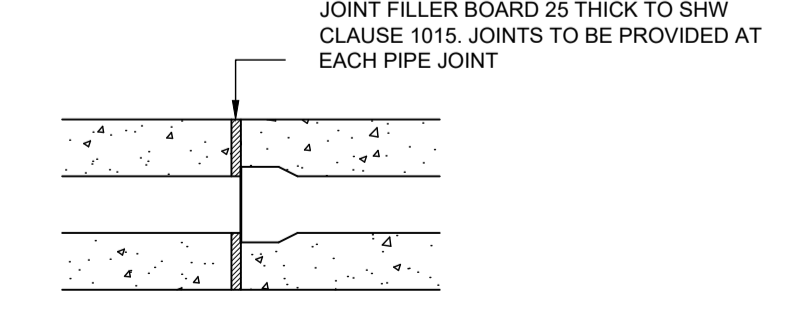
SITUATION AND COVER DEPTH Cover is from crown of pipe to finished ground surface (m)	BEDDING CLASS	
	MIN	MAX
PRIVATE DRAINAGE 0.6 - 5.5 LESS THAN 0.6 OR WITHIN 1000mm OF ANY NEW FOUNDATIONS AND GULLY CONNECTIONS	S	S
LESS THAN 0.9 BELOW ROADS/DRIVEWAYS	SLAB	SLAB
ADOPTABLE DRAINAGE PUBLIC OPEN SPACE 0.6 - 5.5 BENEATH PUBLIC HIGHWAY 1.2 - 5.5 LESS THAN 1.2	N/A	S
	N/A	SLAB



**CONCRETE SLAB PROTECTION**



**CLASS Z BEDDING DETAILS**



**CONCRETE SURROUND PIPE DETAIL**

## BACKFILL AND BEDDING DETAILS TO PIPES

P1	FIRST ISSUE	SZ	04.01.22
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