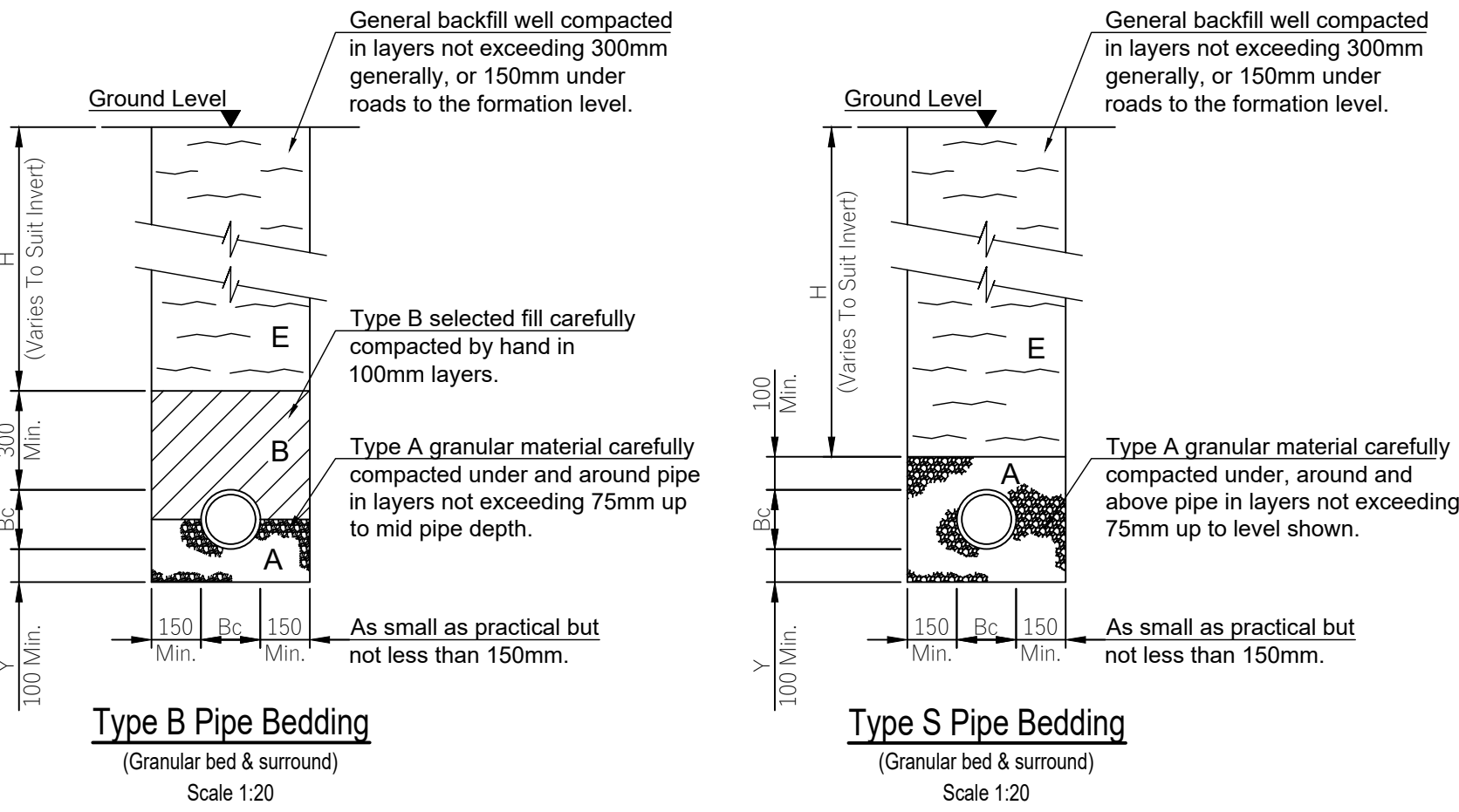
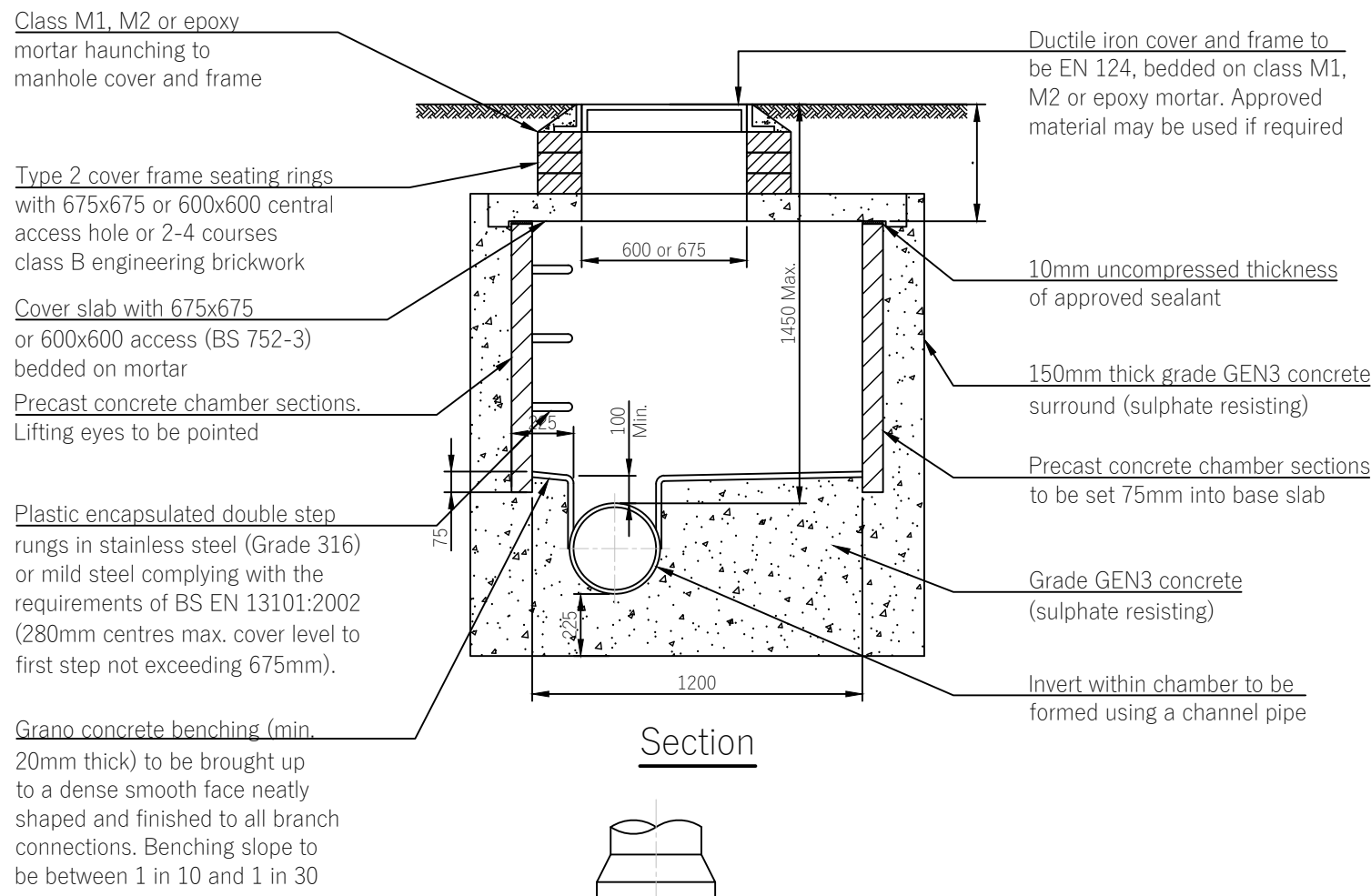
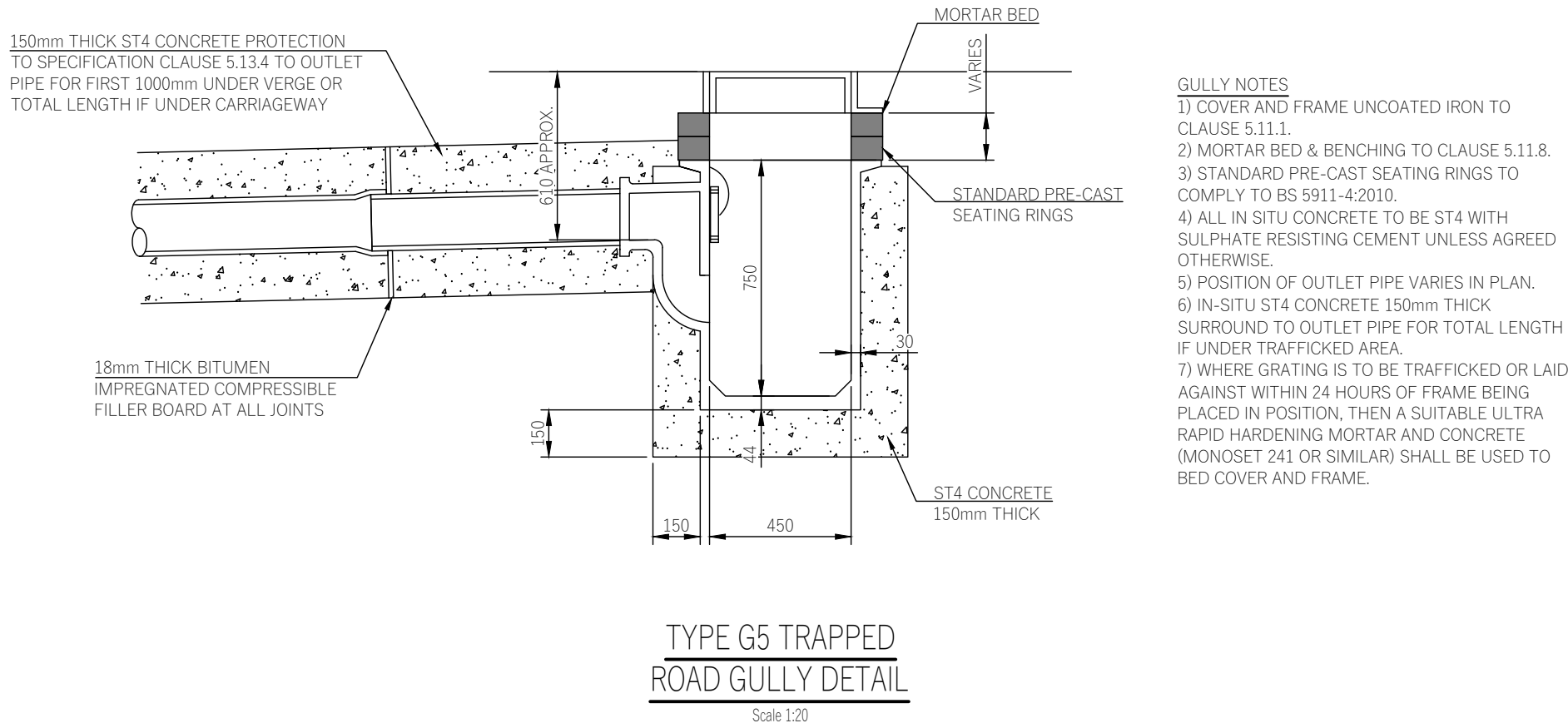
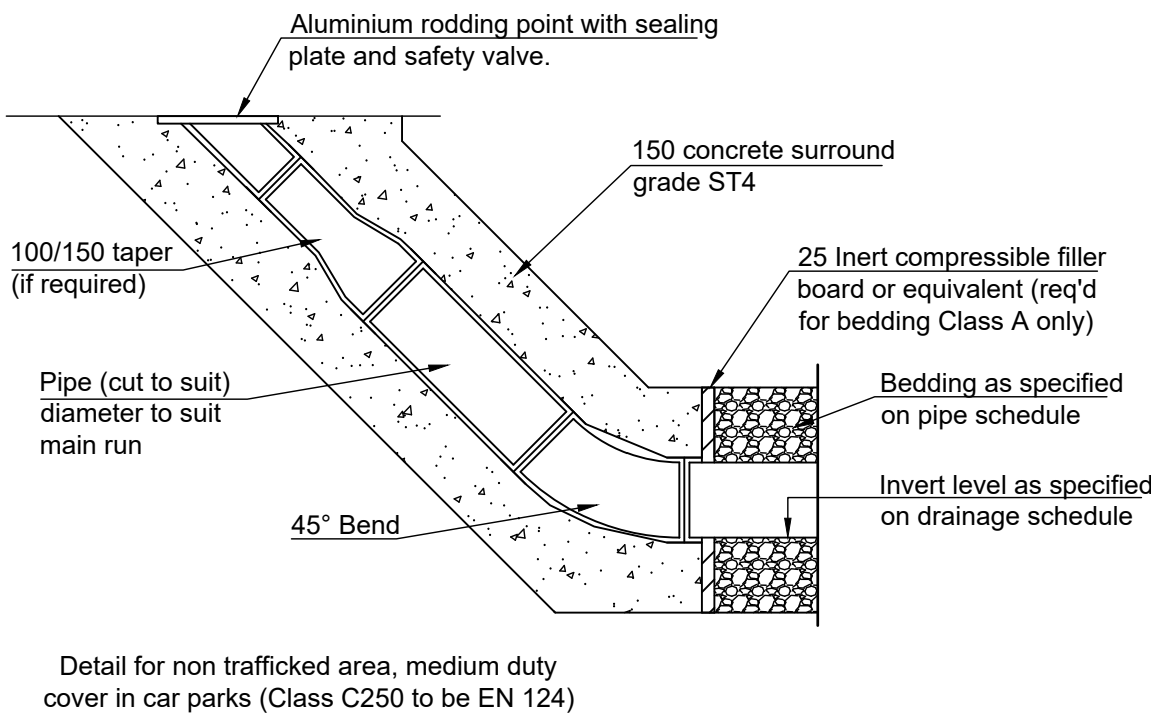
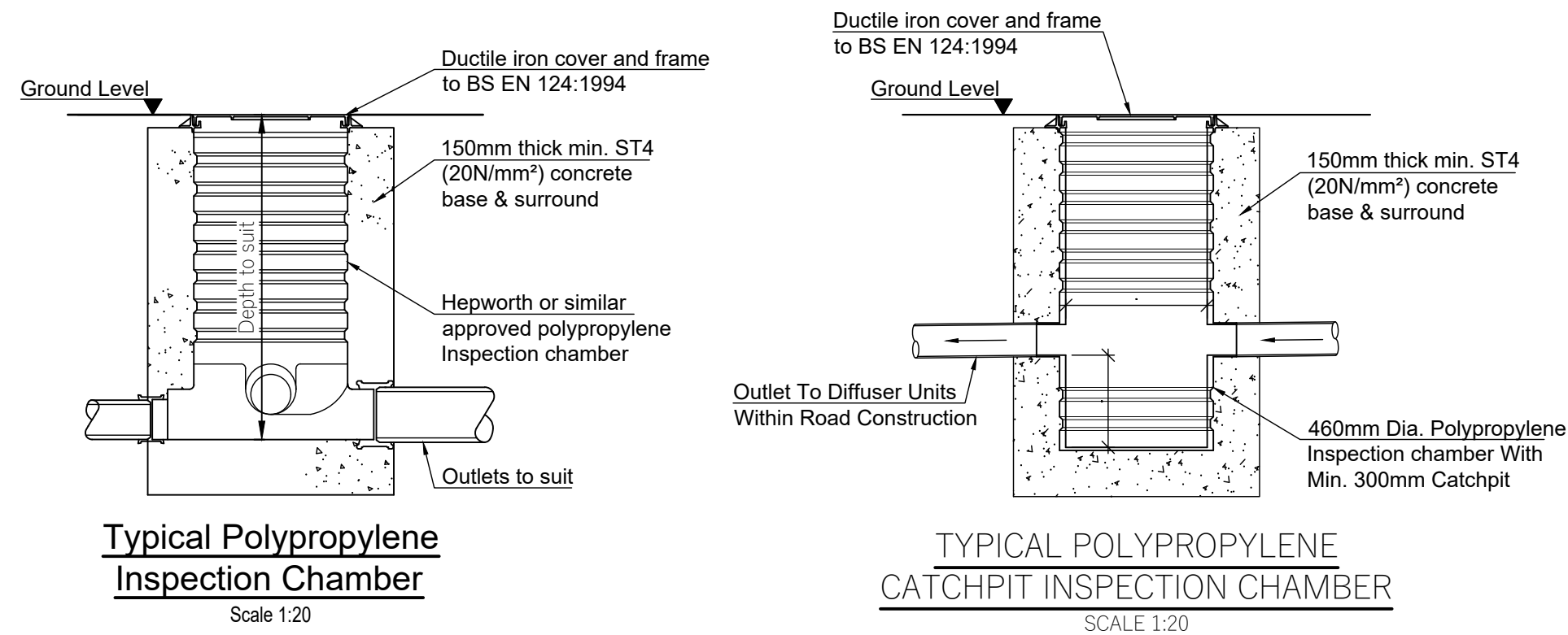
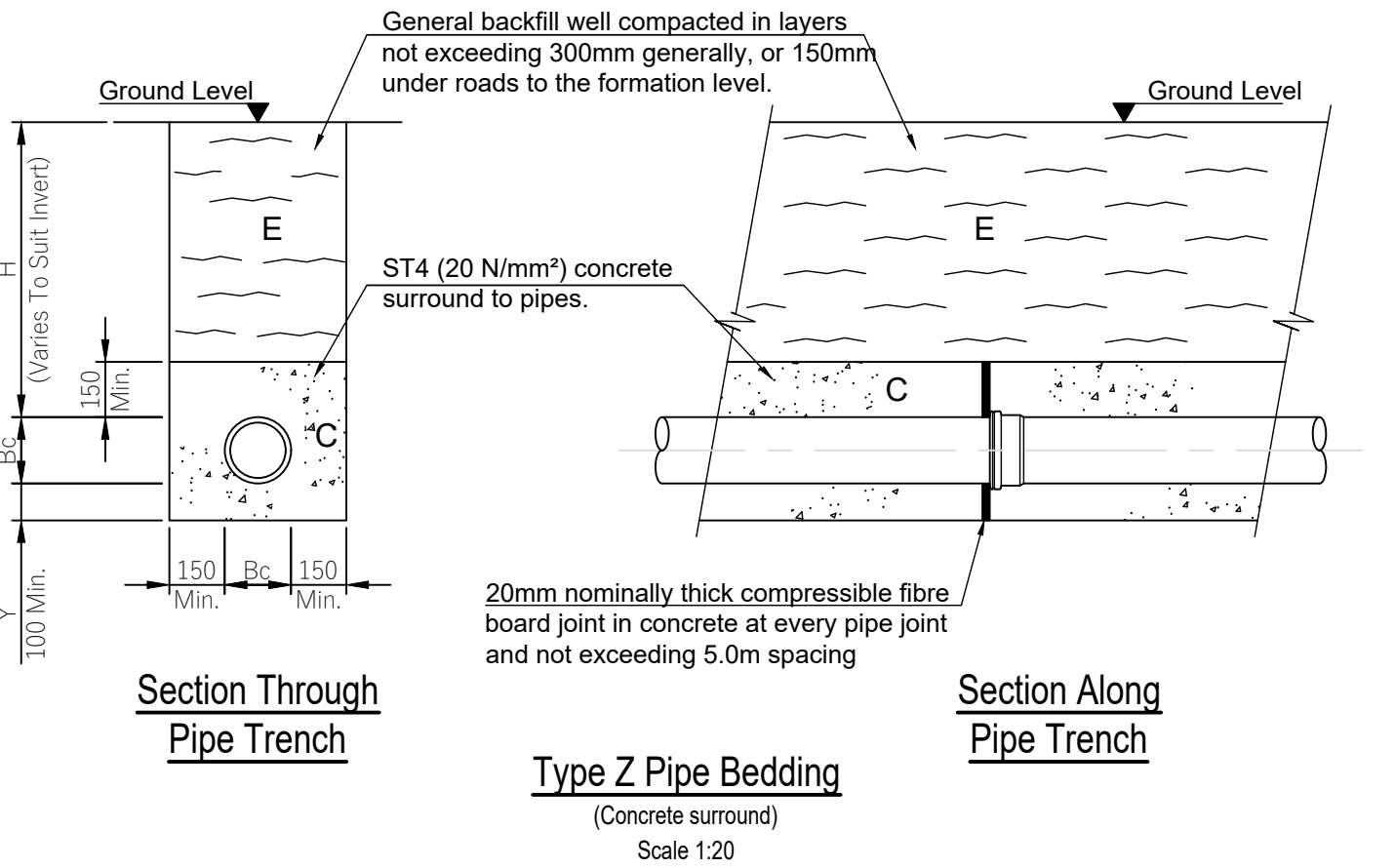




PERMITTED PIPE/BEDDING TYPES		
	DEPTH OF COVER WITHIN LIGHTLY TRAFFICKED AREAS	
	1.2m-3.5m	0.9m-3.5m
PIPE BEDDING	TYPE B	TYPE S
PIPE TYPE	VITRIFIED CLAY TO BS:65, WITH FLEXIBLE JOINTS SUPER STRENGTH CLASS FOR 225 AND 300mmØ. EXTRA STRENGTH CLASS FOR ALL OTHER SIZES.	THERMOPLASTIC: UPVC TO BS EN 1404+ PP TO BS EN 1852+ STRUCTURE WALL PLASTIC PIPE TO BS EN 13476 ALL WITH NOMINAL RING STIFFNESS SN4
COVER DEPTH	<1.2m	<0.9m
PIPE BEDDING	TYPE Z	TYPE Z
PIPE TYPE	VITRIFIED CLAY TO BS:65, WITH FLEXIBLE JOINTS SUPER STRENGTH CLASS FOR 225 AND 300mmØ. EXTRA STRENGTH CLASS FOR ALL OTHER SIZES.	THERMOPLASTIC: UPVC TO BS EN 1404+ PP TO BS EN 1852+ STRUCTURE WALL PLASTIC PIPE TO BS EN 13476 ALL WITH NOMINAL RING STIFFNESS SN4

Table A
Granular bedding and sidefill material for vitrified clay pipes

PIPE SIZE DN (mm)	MAX. PARTICLE SIZE (mm)	NOMINAL SINGLE SIZE (mm)	GRADED SIZE (mm)	MAXIMUM CFE VALUE FOR AS-DUG
110	10	10	NOT PERMITTED	0.15
OVER 110 to 160	15	10 or 14	14 to 5	0.15
OVER 160 to 300	20	10, 14 or 20	14 or 20 to 5	0.15
OVER 300 to 600	20	14 or 20	14 or 20 to 5	0.15



General Drainage Notes

- This drawing is to be read in conjunction with all other relevant Engineers and Architects details.
- All material & workmanship to be in accordance with 'Sewer Sector Guidance, Design and Construction Guidance'.
- All work is to be carried out in accordance with the current British Standards, B.S. codes of practice & Building Regulations.
- Refer to SFA Specification for concrete grades & sand/ cement mortar grades. All precast & in-situ concrete to contain a minimum Class 3 sulphate resisting cement.
- Pre-formed channels are to be used at manholes.
- Granolithic concrete benching to be steel trowelled to a dense smooth face neatly shaped & finished to all branch connections & laid in accordance with the Specification.
- All dimensions are in millimetres u.n.o.
- Pipe bends to suit direction of flow.
- Manhole covers and frames to be to EN 124.
- All trenches under carriageway to be backfilled with Type 1 Sub-base, well compacted in layers not exceeding 150mm loose depth.

Notes on Bedding Details

Generally vitrified clay drainage pipework should be laid in accordance with BS 65 and BS 8301.

A-Type A granular material shall comply with WIS No. 4-08-01 and shall be:-

- Imported single size or graded aggregate in accordance with BS 882 as shown in the table A.
 - Selected as-dug granular bedding and sidefill material shall be free from organic matter, combustible materials, frozen soil, clay lumps larger than 75mm and stones larger than the maximum permitted particle size specified in table A depending on pipe size. The selected material shall be evaluated using the compaction fraction test detailed in Appendix A of WIS No. 4-08-01.
- Material excavated from trenches dug through land contaminated with domestic, building or industrial waste should not be used.

B-Type B selected fill shall be:
Uniform readily compactable material which is free from tree roots, vegetable matter, building rubbish, frozen soil, clay lumps and material retained on a 40mm sieve.

C-Concrete protection to pipe. For concrete grade refer to note 4 and concrete mix specification

E-General backfill shall be:
Suitable excavated material from the trench (or imported) excluding boulders, lumps of concrete, timber and vegetable matter. Do not use heavy compactors before there is 600mm cover of material over the pipes.

Bc-External diameter of pipe.

H-When 'H' (depth of cover) is less than 0.9m below the finished surface of a road or less than 0.3m elsewhere use bedding class A or Z as appropriate for the material being used, or;
Elsewhere use bedding class B or P as appropriate for the pipe being used. Provide temporary protection during construction against mechanical damage and frost.

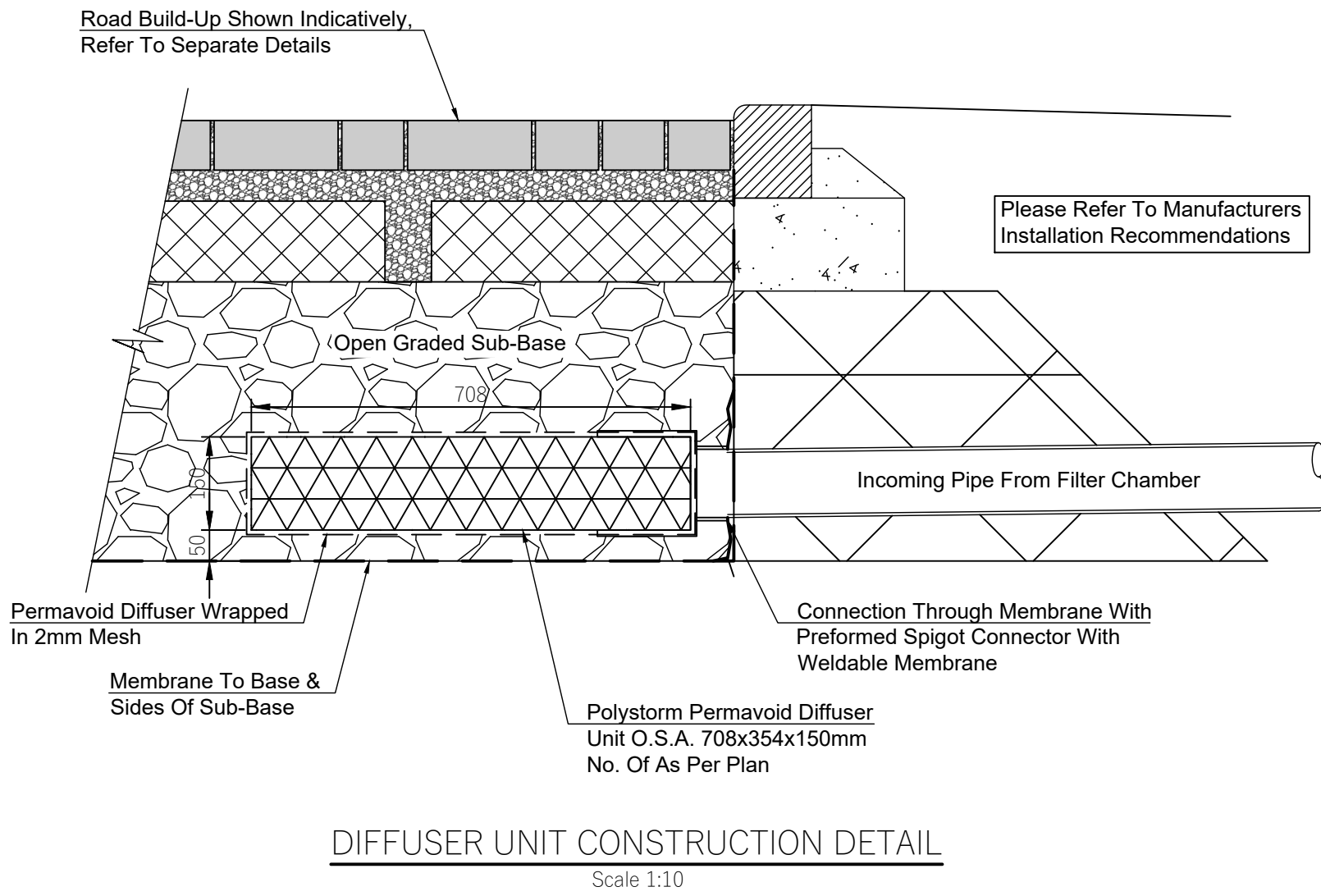
Y-Depth of granular bedding Y shall be not less than 100mm beneath pipe barrels and shall be greater in soft or wet conditions or where the trench bottom is irregular.

SURFACE WATER MANHOLE SCHEDULE

MANHOLE REFERENCE	COVER LEVEL	CONNECTS	INVERTS	PIPE DIA.	MANHOLE SIZE	MANHOLE TYPE	COVER TYPE
SW100	3.710		1 2.965 0 2.890	150 225	600Ø	PPIC	B125
SW101	3.625		1 2.905 2 2.905 3 2.905 0 2.830	150 150 150 225	1200Ø	PRE-CAST CONCRETE	D400
SW102	3.850		1 2.715 2 2.715 0 2.715	225 225 225	1200Ø	PRE-CAST CONCRETE	D400
SW103	3.600		1 2.525 2 2.600 3 2.600 0 2.525	225 150 150 225	1200Ø	PRE-CAST CONCRETE	D400
EX. SW01	3.580		1 2.480 0 2.480	225 225	AS EXISTING SUBJECT TO CONFIRMATION THAT CHAMBER IS PRE-CAST CONCRETE WITH D400 COVER		HYDROBRAKE CHAMBER IN ACCORDANCE WITH MANUFACTURERS DETAILS. SL5 DEVICE
SW110	3.715		1 2.880 2 2.880 0 2.880	150 150 150	450Ø	PPIC CATCH PIT	B125
SW120	3.590		1 2.700 0 2.700	150 150	450Ø	PPIC	B125
SW121	3.750		1 2.700 0 2.700	150 150	450Ø	PPIC	B125
SW122	3.700		1 2.700 0 2.700	150 150	450Ø	PPIC	B125
SW123	3.700		1 2.700 0 2.700	150 150	450Ø	PPIC	B125

FOUL WATER MANHOLE SCHEDULE

MANHOLE REFERENCE	COVER LEVEL	CONNECTS	INVERTS	PIPE DIA.	MANHOLE SIZE	MANHOLE TYPE	COVER TYPE
FW100	3.725		1 2.360 0 2.360	100 100	600Ø	PPIC	B125 (REDUCED ACCESS)
FW101	3.725		1 2.315 2 2.265 0 2.265	100 100 100	600Ø	PPIC	B125 (REDUCED ACCESS)
FW102	3.750		1 2.070 2 2.020 0 2.020	100 100 100	600Ø	PPIC	B125 (REDUCED ACCESS)
EX. FW01	3.850		1 1.880 0 1.830	100 150	AS EXISTING		EXISTING COVER AND INVERT LEVELS TO BE CONFIRMED



P1	PRELIMINARY – FOR APPROVAL			MP	APW 02/22
Rev	Revision			Drn	App Date
Status	FOR INFORMATION				
Client	AJS Automation				
Project	Proposed New Office & Workshop Plot 9 – SLFEZ, Holbeach, Lincs				
Title	Proposed Drainage Details				
Date	Feb. '22	Scale @A1	Drawing No.		Rev
Appr	APW	1:20 1:10	21–257–12		P1