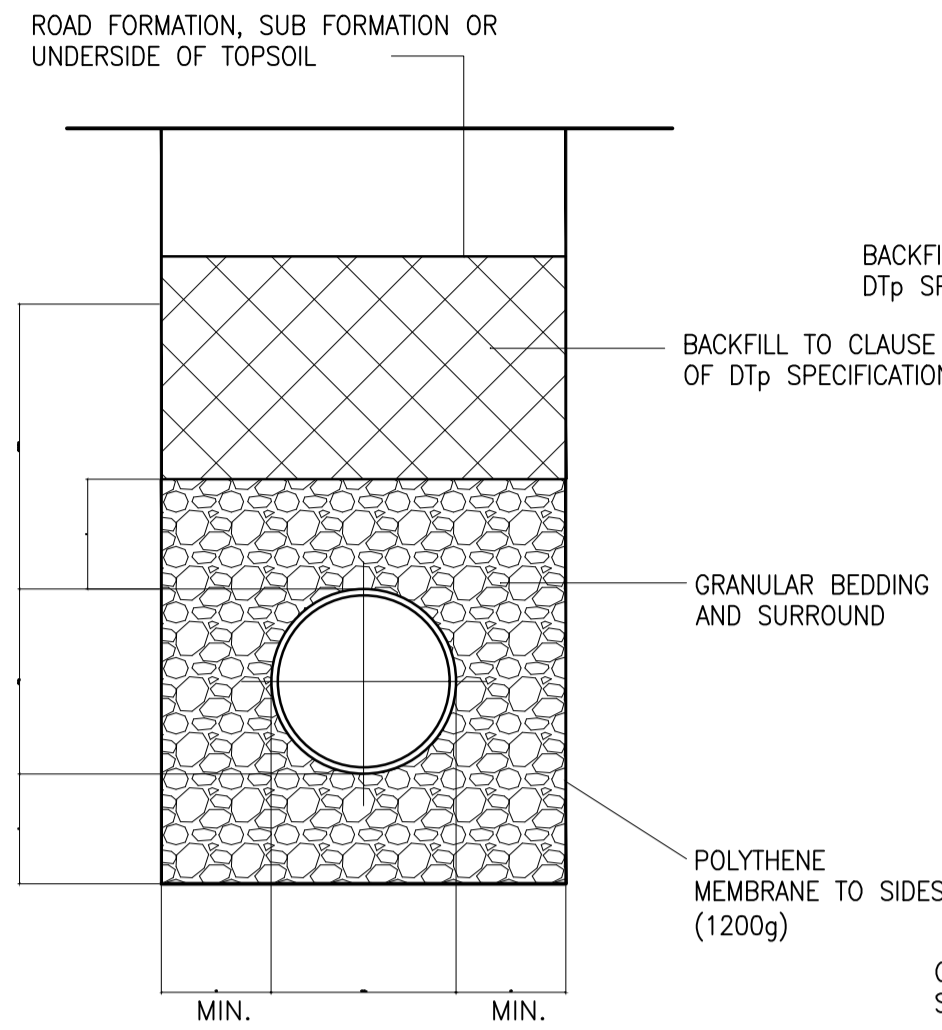


PIPE DIAMETER	CLASS OF BEDDING	IMPORTED GRANULAR MATERIAL (NOTE 1)
100	F S B	10mm nominal size
OVER 100 to 150	F S B	10 or 14mm nom. single size or 14 to 5mm graded
OVER 150 to 500	F S B	10,14,20mm nom. single size or 14 to 5mm graded or 20 to 5mm graded
OVER 500 (note 2)	F S B	10,14,20mm nom. single size crushed rock or 14 to 5mm graded or 20 to 5mm graded or 40 to 5mm graded

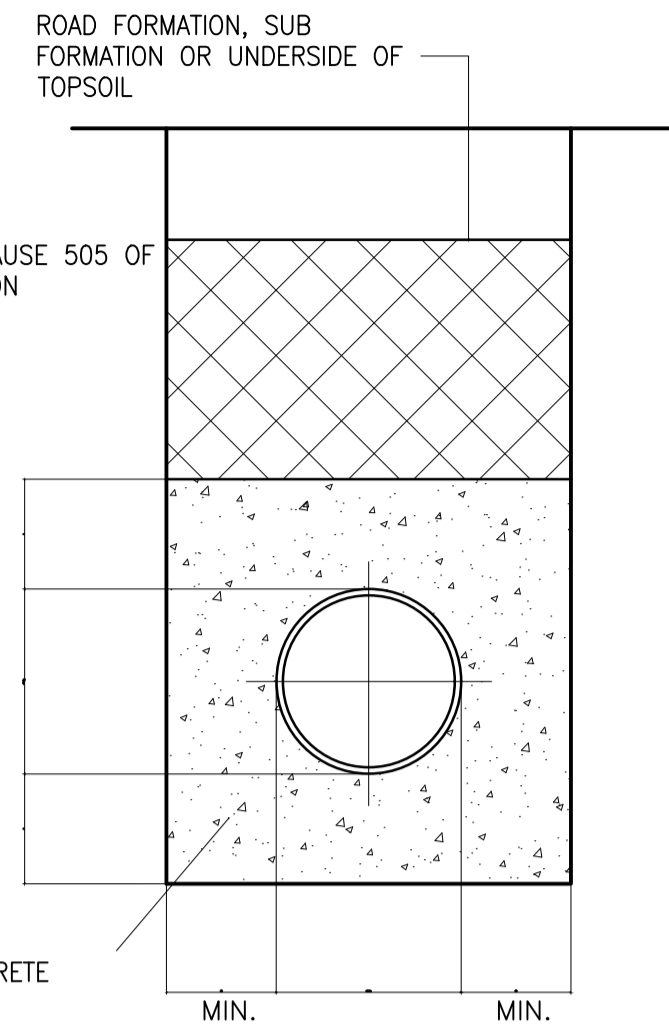
NOTES:

- IMPORTED GRANULAR MATERIALS TO INCLUDE AGGREGATES AND AIR COOLED BLAST FURNACE SLAG TO BSEN 12620:2002 AND SINTERED PULVERIZED FUEL ASH TO BSEN 13055-1:2002.
- ANGULAR MATERIALS SHOULD BE CHOSEN TO ENSURE SUFFICIENT SUPPORT IS PROVIDED TO HEAVIER PIPES
- CLASS S BEDDING SHALL BE USED WITH ALL FLEXIBLE PIPES

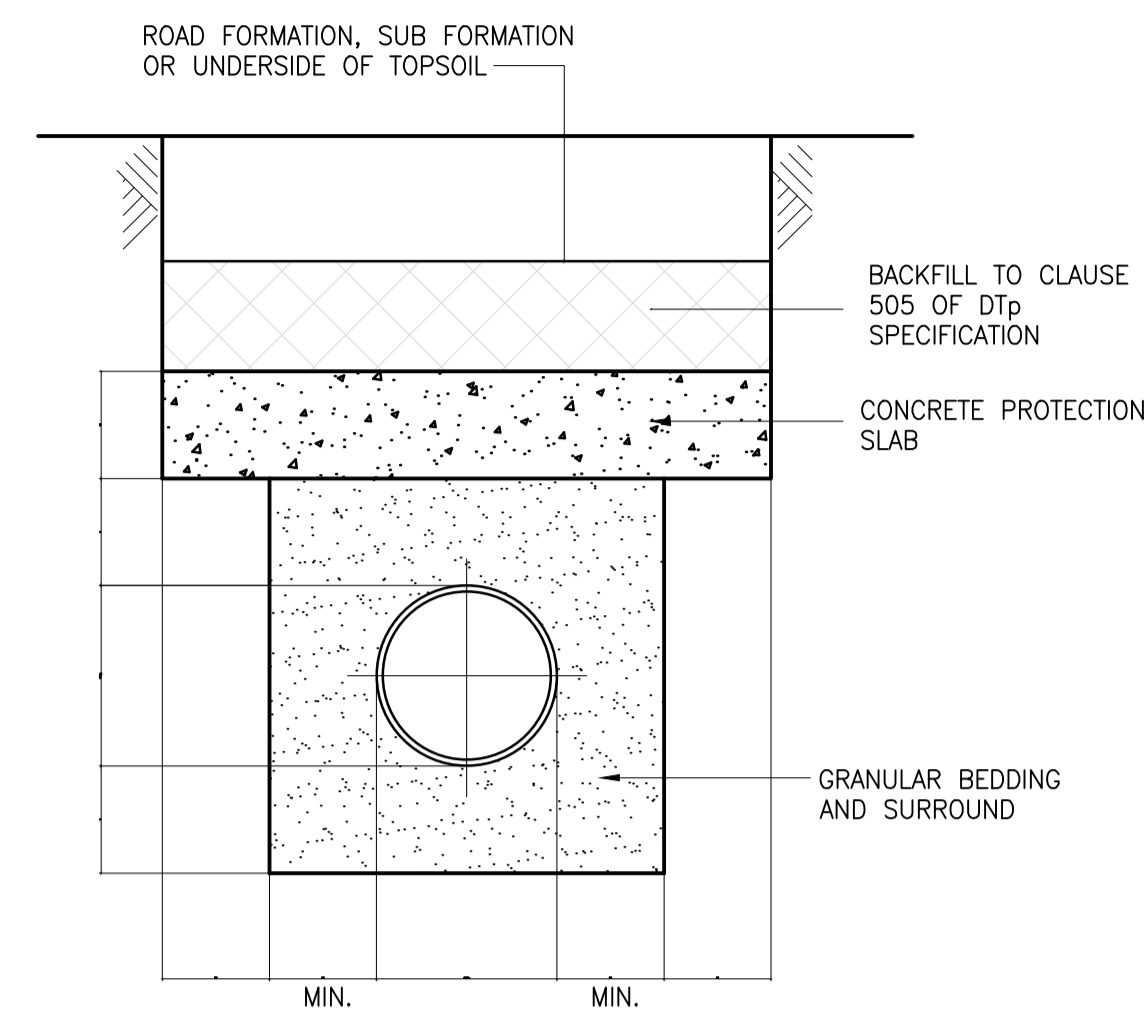
GRANULAR BEDDING & SIDEFILL MATERIALS FOR RIGID AND FLEXIBLE PIPES



CLASS S BEDDING
GRANULAR BED AND SURROUND
(COVER TO SOFFIT GREATER THAN 1200mm)
(BEDDING FACTOR = 2.2)



CLASS Z BEDDING
PLAIN CONCRETE BED & SURROUND
(COVER TO SOFFIT LESS THAN 1200mm)
(BEDDING FACTOR 4.5)



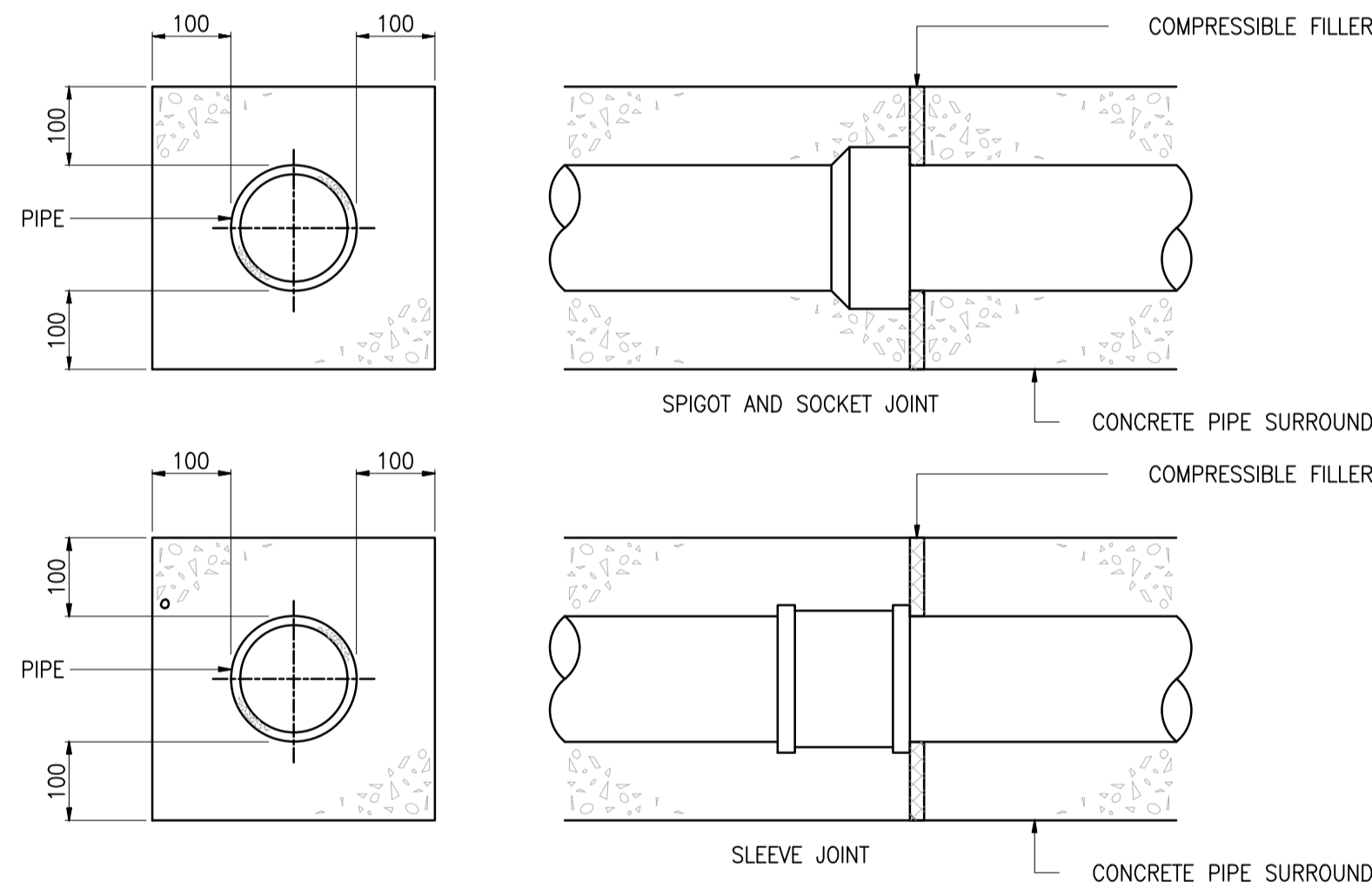
CONCRETE SLAB PROTECTION OF PIPES LAID AT SHALLOW DEPTHS

PIPE DIAMETER	Y minimum		MAXIMUM TRENCH WIDTH	L
	Y1 min.	Y2 min.		
100	100	200	700	18
150	100	200	750	18
200	100	200	800	18
225	100	200	825	18
300	100	200	925	18

NOTES:

- DIMENSION Y1 SHALL BE USED UNLESS Y2 IS SPECIFIED OR IS DIRECTED BY THE ENGINEER.
- DIMENSION Y2 SHALL BE USED IN PLACE OF Y1 WHERE THE EXCAVATION IS IN ROCK OR IN MIXED SOILS CONTAINING ROCK BEDS, BOULDERS, LARGE FLINTS OR OTHER IRREGULAR HARD SPOTS.
- DIMENSION Y2 SHALL BE INCREASE BY 40mm FOR EACH ADDITIONAL 1.0m OF COVER IN EXCESS OF 5.0m.
- DIMENSION L IS THE WIDTH OF THE COMPRESSIBLE FILLER REQUIRED AT JOINTS IN CONCRETE PROTECTION TO PIPES.

DIMENSIONS FOR PIPE BEDDING



JOINTS FOR CONCRETE ENCASED PIPES

NOTES:

- REFER TO TABLES FOR DIMENSIONS AND BEDDING DETAILS.
- IMPORTED GRANULAR MATERIALS TO INCLUDE AGGREGATES AND AIR COOLED BLAST FURNACE SLAG TO BSEN 12620:2002 AND SINTERED PULVERIZED FUEL ASH TO BSEN 13055-1:2002.
- ANGULAR MATERIALS SHOULD BE CHOSEN TO ENSURE SUFFICIENT SUPPORT IS PROVIDED TO HEAVIER PIPES
- CLASS S BEDDING SHALL BE USED WITH ALL FLEXIBLE PIPES
- BEDDING BENEATH AND AT THE SIDES OF THE PIPE TO BE WELL COMPACTED.
- THE FIRST 300mm OF FILL ABOVE THE CROWN OF THE PIPE IS TO BE LIGHTLY TAMPED BY HAND. MECHANICAL MAY BE USED ONLY ABOVE THIS LEVEL.
- GEOTEXTILES MAY BE USED WHERE DIRECTED OR APPROVED BY THE ENGINEER TO CONTAIN BEDDING MATERIAL IN CERTAIN SOILS, eg. RUNNING SAND, ETC.
- IN VERY WET CONDITIONS, WHERE DIRECTED OR APPROVED BY THE ENGINEER A TEMPORARY LAND DRAIN MAY BE LAID WITHIN THE GRANULAR BEDDING.
- CONCRETE CRADLES AND ARCHES MAY BE EXTENDED TO THE SIDES OF THE TRENCH.
- WHERE PIPES WITH FLEXIBLE JOINTS ARE USED THE CONCRETE PROTECTION IS TO BE INTERRUPTED OVER ITS FULL CROSS SECTION AT INTERVALS NOT EXCEEDING 5.0m (OR AS INDICATED BY THE ENGINEER) BY A SHAPED FORMER OF BITUMEN IMPREGNATED COMPRESSIBLE FILLER. THESE INTERRUPTIONS SHALL COINCIDE WITH PIPE JOINTS. SEE DIMENSIONS IN PIPE BEDDING TABLE FOR THICKNESS OF COMPRESSIBLE FILLER.
- CONCRETE TO BE CLASS 2 SULPHATE RESISTING CONCRETE (GRADE GEN3).
- WHERE FLEXIBLE PIPES ARE USED, CARE MUST BE TAKEN TO PREVENT THE PIPES FROM FLOATING.

GRANULAR BEDDING & SIDEFILL MATERIALS FOR RIGID + FLEXIBLE PIPES

P1	ISSUED FOR INFORMATION	MC	GW	06/04/17
Rev	Description	Qm	Chk	Date

kirksaunders associates
CONSULTING ENGINEERS
Templegate House, 115-123 High Street, Orpington, Kent, BR6 0LG
01899 896464 | www.kirksaunders.co.uk

Client:	JENNER
Architect:	OSG ARCHITECTS
Project:	RESIDENTIAL DEVELOPMENT ST.PHILIP HOWARD SCHOOL, KENT
Drawing Title:	BELOW GROUND DRAINAGE DETAILS SHEET 3

Drawn:	Chk/Appd:	Date:	Sheet Size:	Scale:
MC	GW	APRIL 17	A1	1:20

KSA Project Number:	6457	Sut:	S2	Revision:	P1
---------------------	------	------	----	-----------	----

Project:	Originator:	Zone:	Level:	Type:	Role:	Number:
SPH	KSA	Z0	ZZ	DR	C	6252