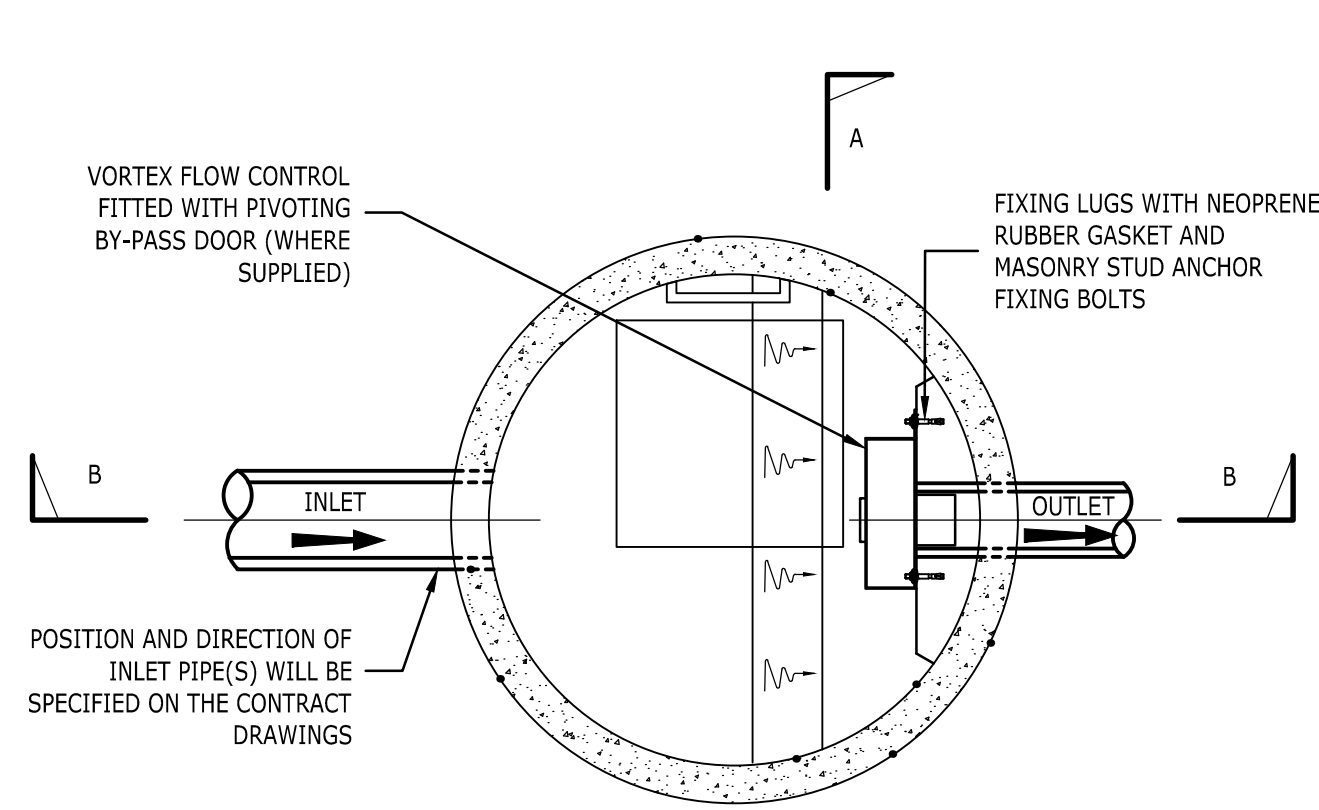
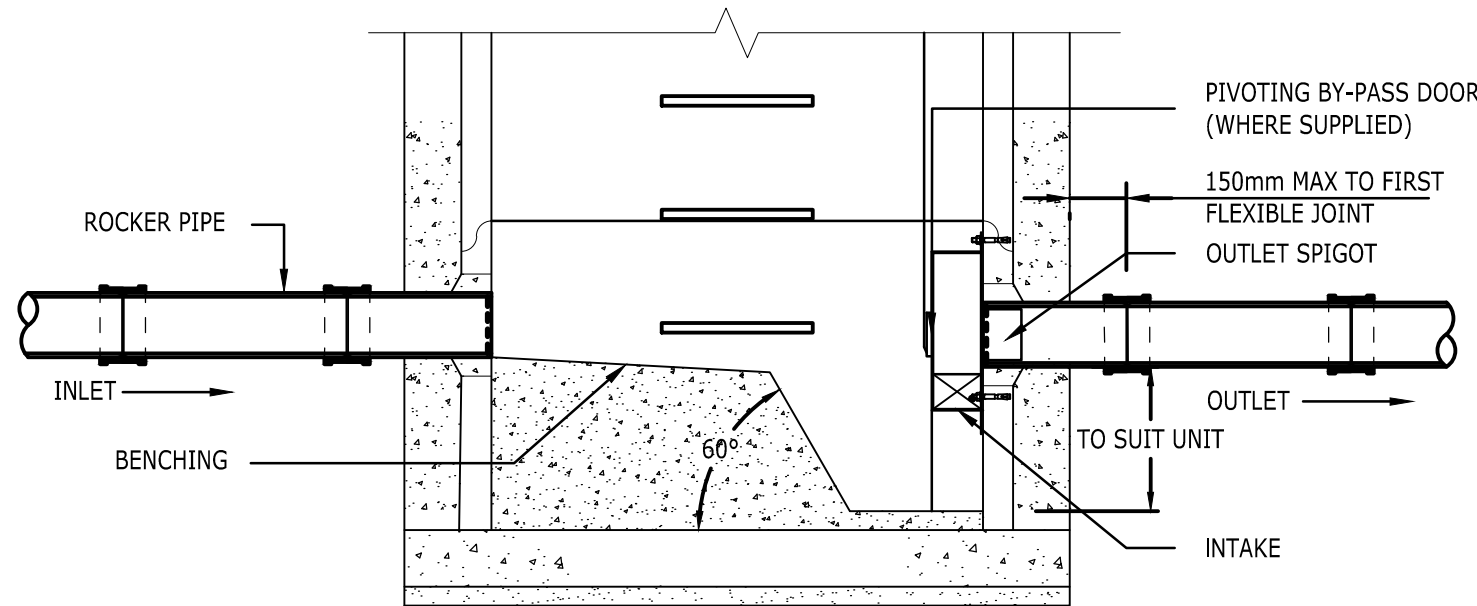




SECTION A-A



SECTION B-B

TYPICAL VORTEX FLOW CONTROL UNIT

NOT TO SCALE

PIPE BEDDING NOTES:

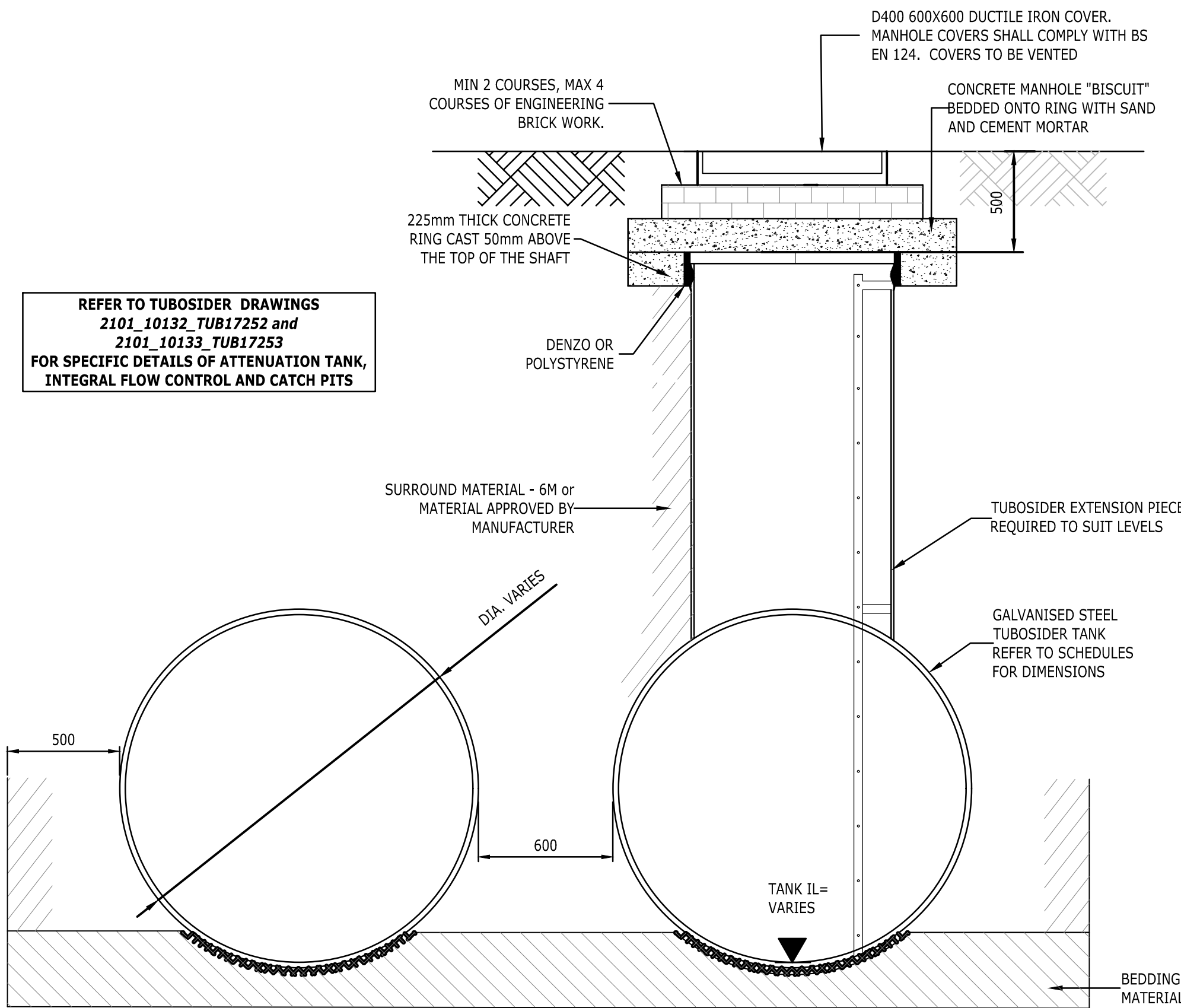
- ALL MATERIALS SHALL COMPLY WITH THE SPECIFICATION
- TYPE A BEDDING MATERIAL TO BE:-

NOMINAL BORE OF PIPE (mm)	SIZE (mm) SINGLE SIZED	GRADED
100-150	10-15	-
225-300	10, 14 OR 20	14 TO 5 OR 20 TO 5
375-500	14 OR 20	14 TO 5 OR 20 TO 5
OVER 500	10, 20 OR 40	14 TO 5, 20 TO 5, 40 TO 5

- TRENCH WIDTHS TO BE:-

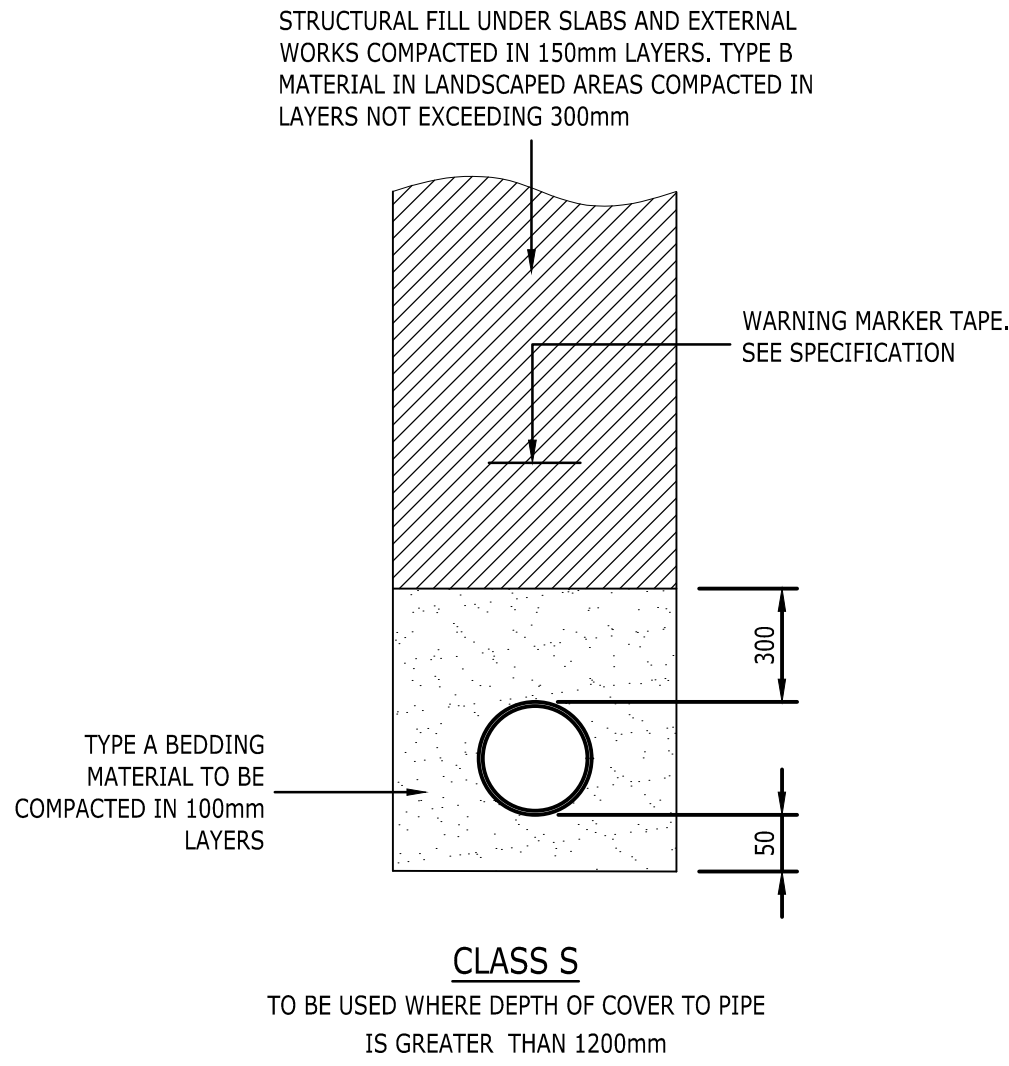
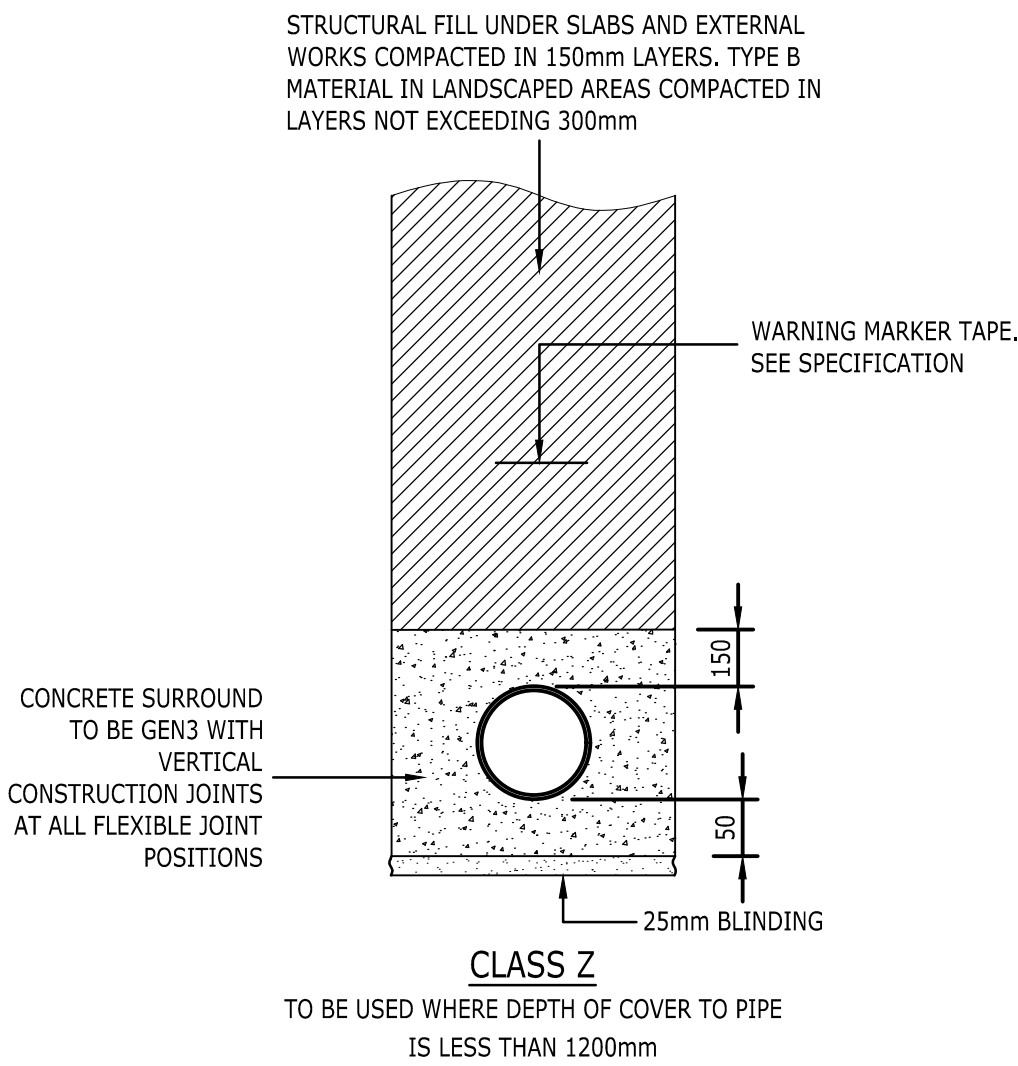
NOMINAL BORE OF PIPE (mm)	NOMINAL TRENCH WIDTH (METRES)
100	0.55
150	0.60
225	0.70
300	0.75
375	1.05
450	1.15
600	1.20

- UNLESS AGREED OTHERWISE STRUCTURAL FILL UP TO FORMATION TO BE MOT TYPE 1
- TYPE B FILL SHALL BE SELECTED OF READILY COMPACTABLE MATERIAL, FREE FROM TREE ROOTS, VEGETABLE MATTER, BUILDING RUBBISH, FROZEN SOIL, CLAY LUMPS OR OTHER MATTER WHICH WOULD BE RETAINED ON A 75mm SIEVE AND STONES WHICH WOULD BE RETAINED ON A 25mm SIEVE



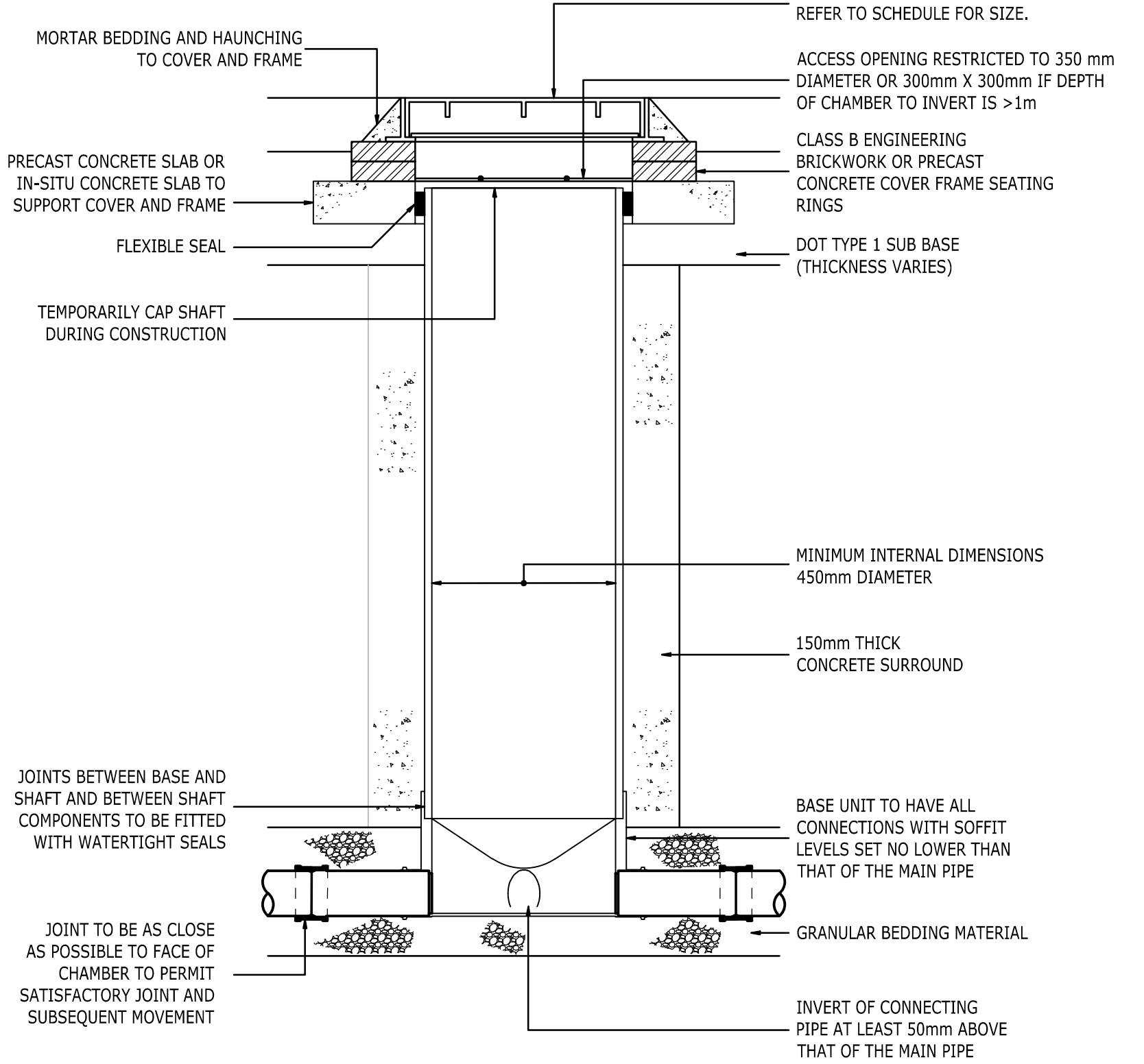
TYPICAL TUBOSIDER ATTENUATION SECTION

SCALE 1:20



PIPE BEDDING DETAILS

SCALE 1:20

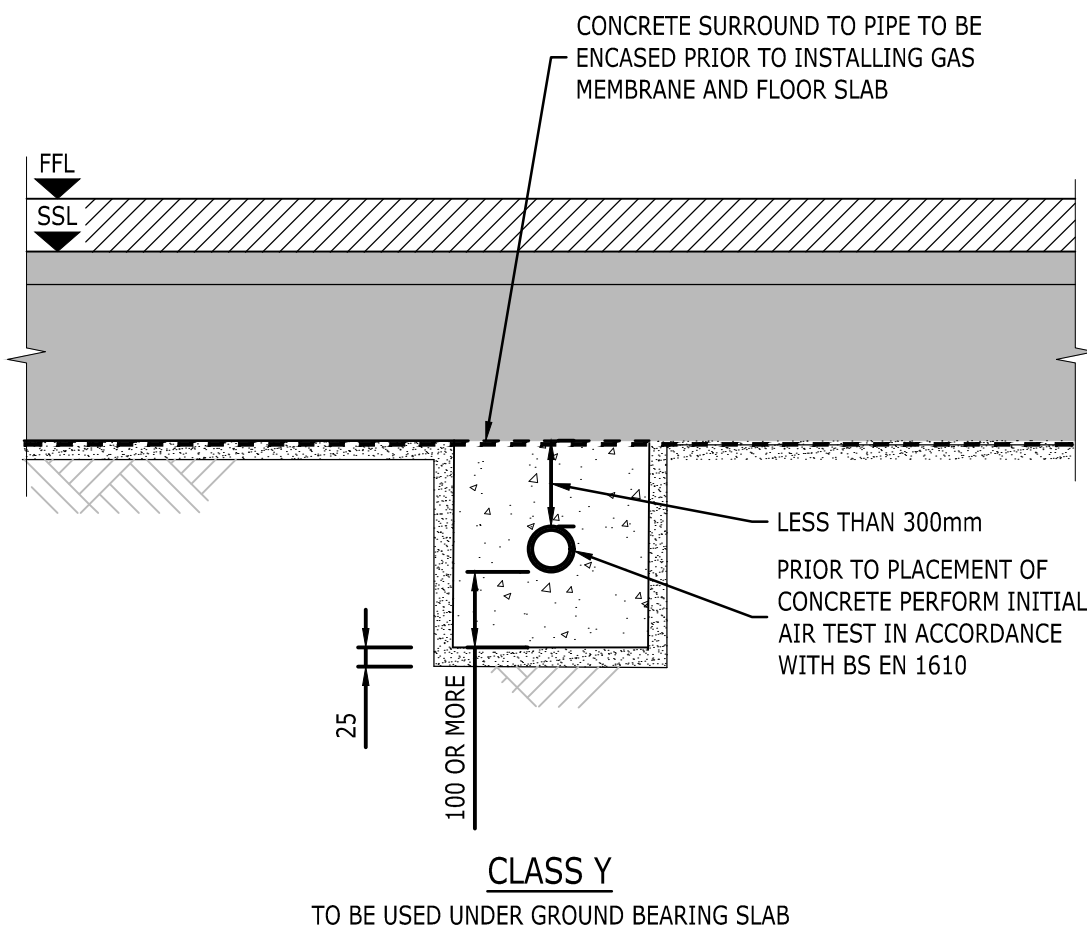


TYPICAL INSPECTION CHAMBER DETAIL - TYPE 3

MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE IN AREAS SUBJECT TO VEHICLE LOADING 3m, NON-ENTRY

PLASTIC CHAMBERS AND RINGS SHALL COMPLY WITH BS EN 13598-1 AND BS EN 13598-2 OR HAVE EQUIVALENT INDEPENDENT APPROVAL

SCALE 1:20



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C02	CONSTRUCTION ISSUE Previous revision history added	15/11 2021	SG GS	LS
C01	CONSTRUCTION ISSUE	11/08 2021	SG GS	LS
P02	STAGE 5 PR1 ISSUE	01/06 2021	SG GS	LS
P01	PRELIMINARY	15/11 2019	CO GS	LS
Rev	Description	Date	By Chk	App

CONSTRUCTION

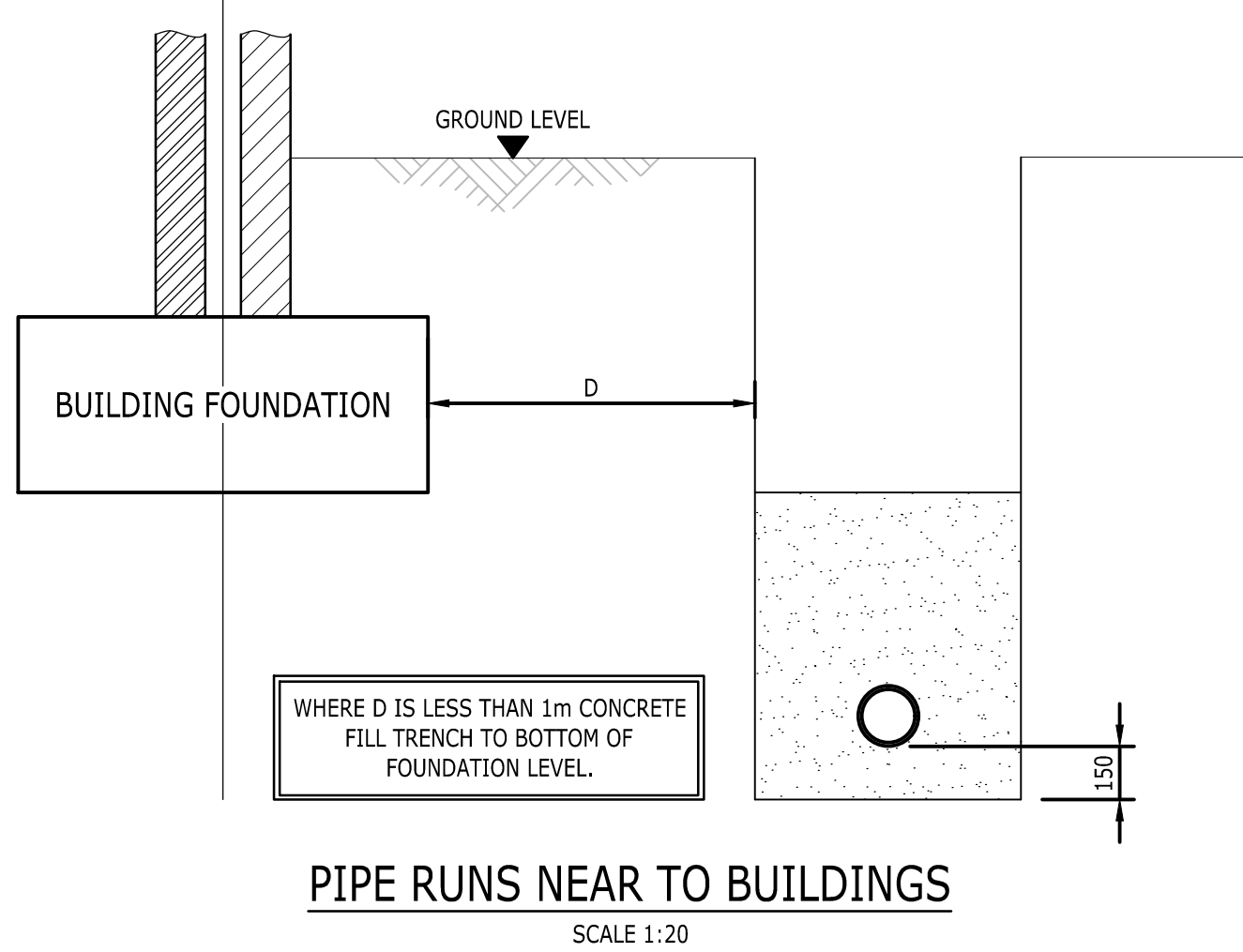
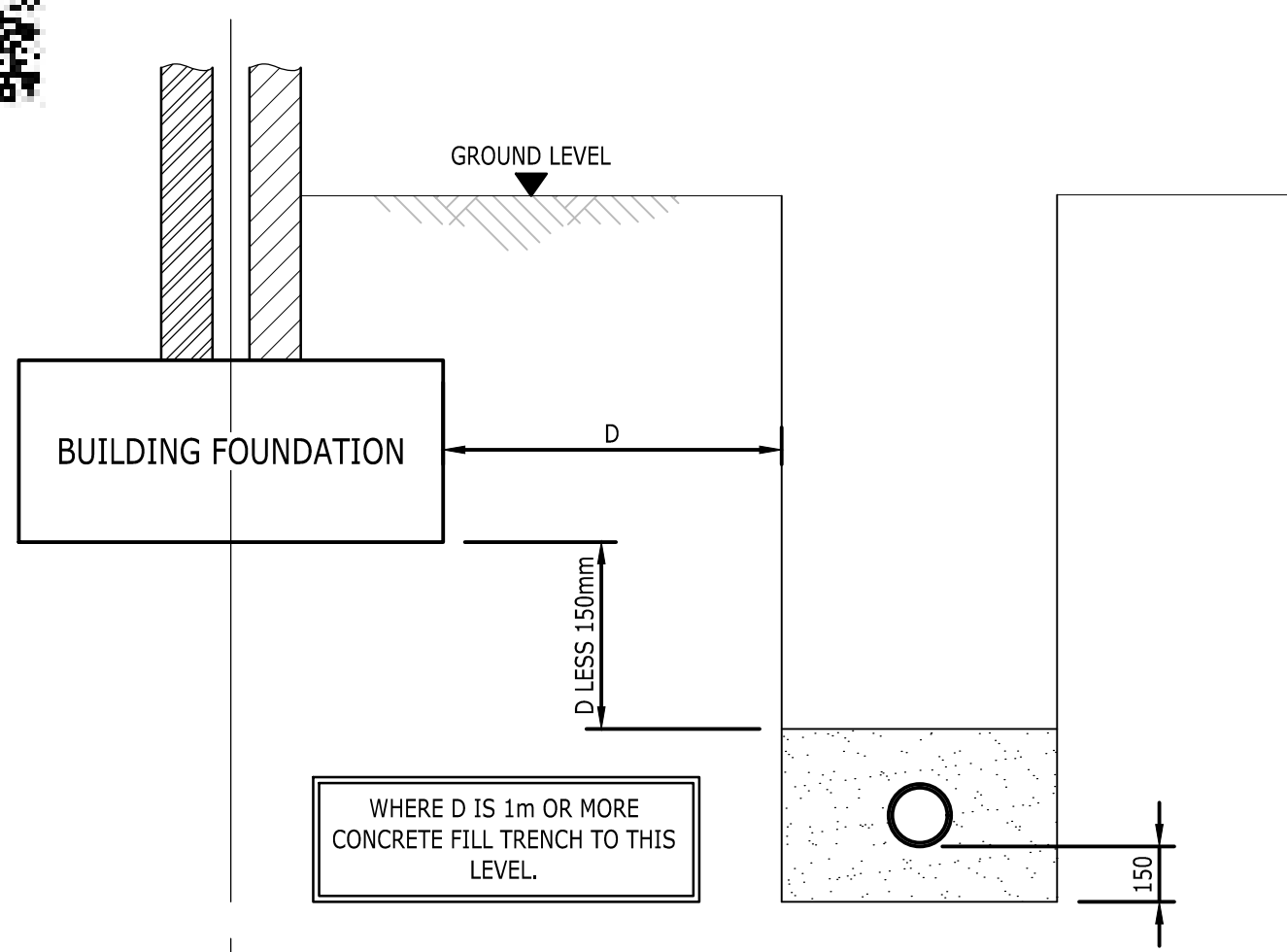
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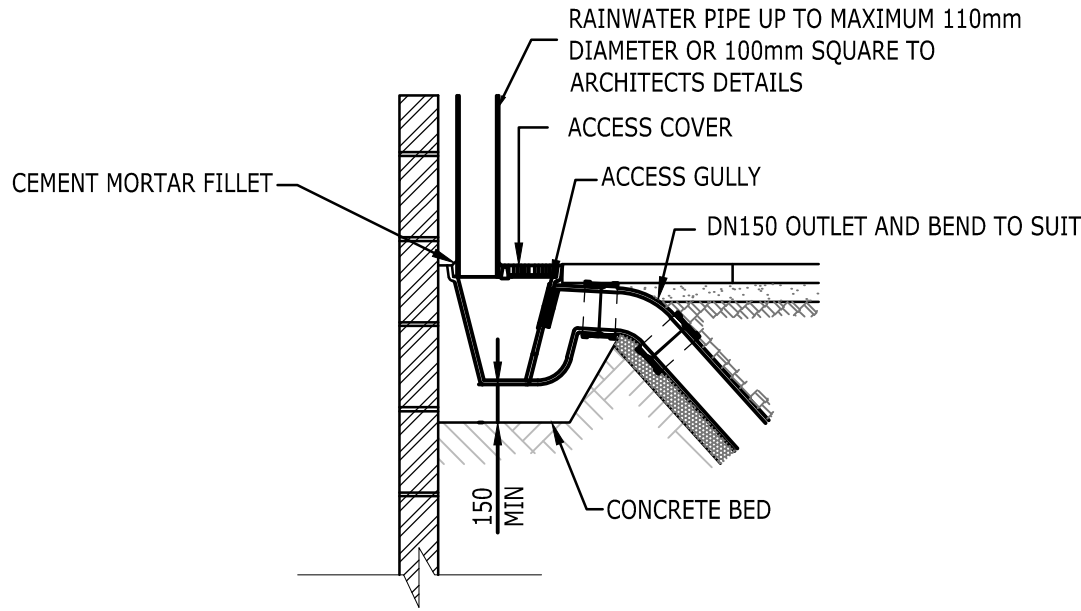
tel 01244 311855 chester@ramboll.co.uk
www.ramboll.co.uk

STANDARD DETAILS SHEET 2

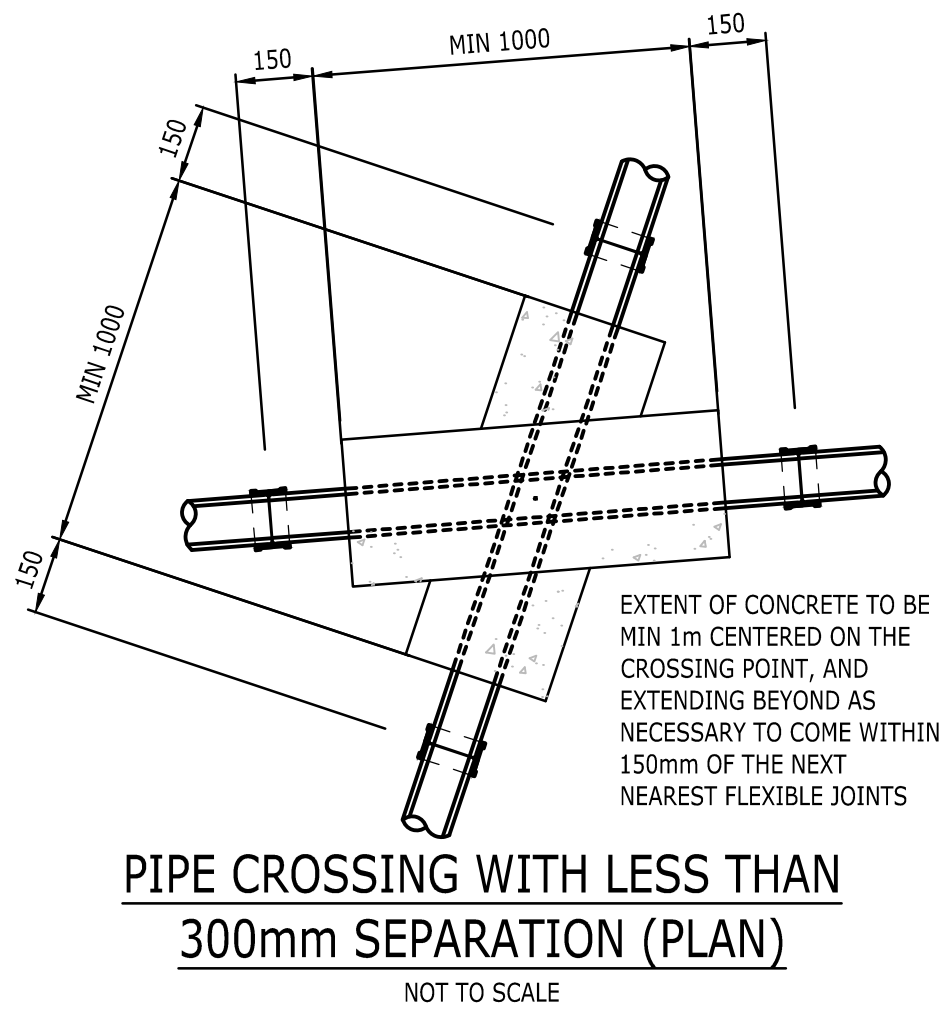
Project No: 1620005164	Scale (@A1): AS SHOWN	Drawn: CO	Date: JUN 19
Drawing No: LP44107-RAM-B01-XX-DR-D-51401	Rev: C02		



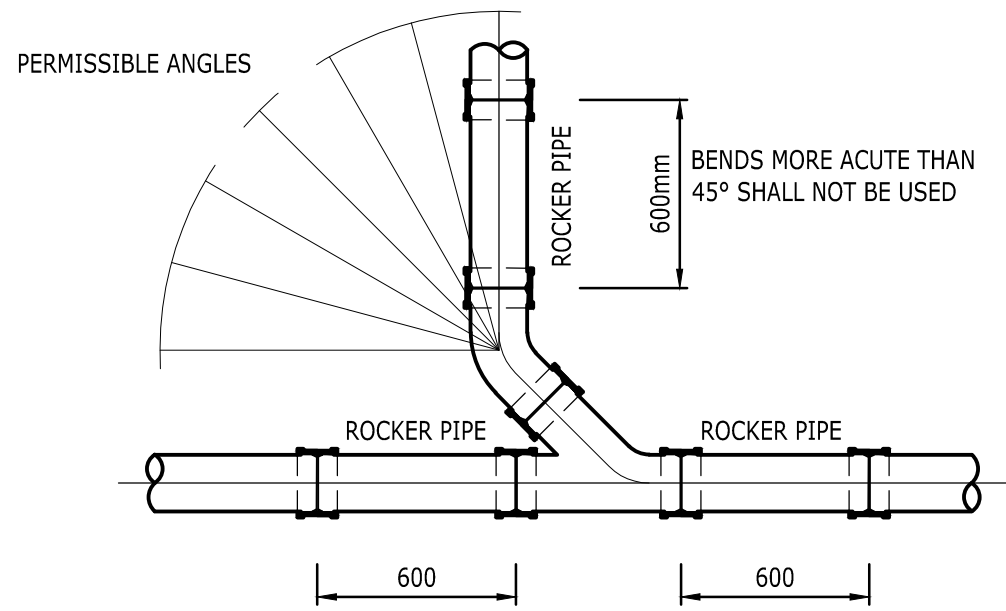
PIPE RUNS NEAR TO BUILDINGS
SCALE 1:20



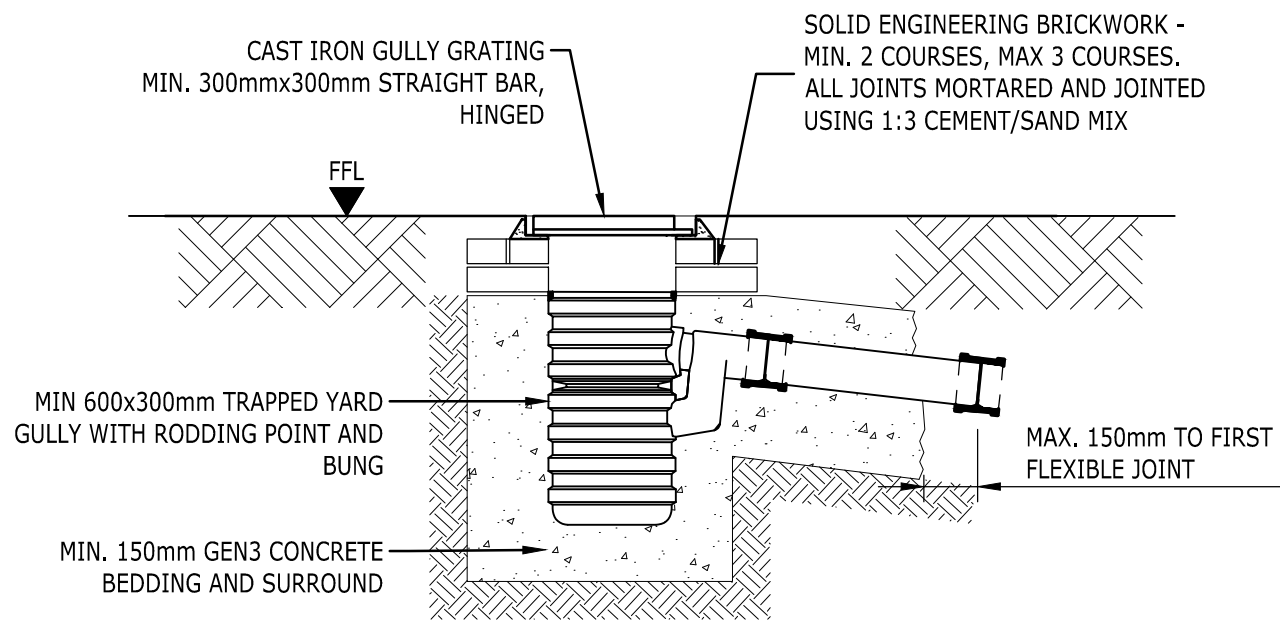
RWP BACK INLET GULLY
SCALE 1:20



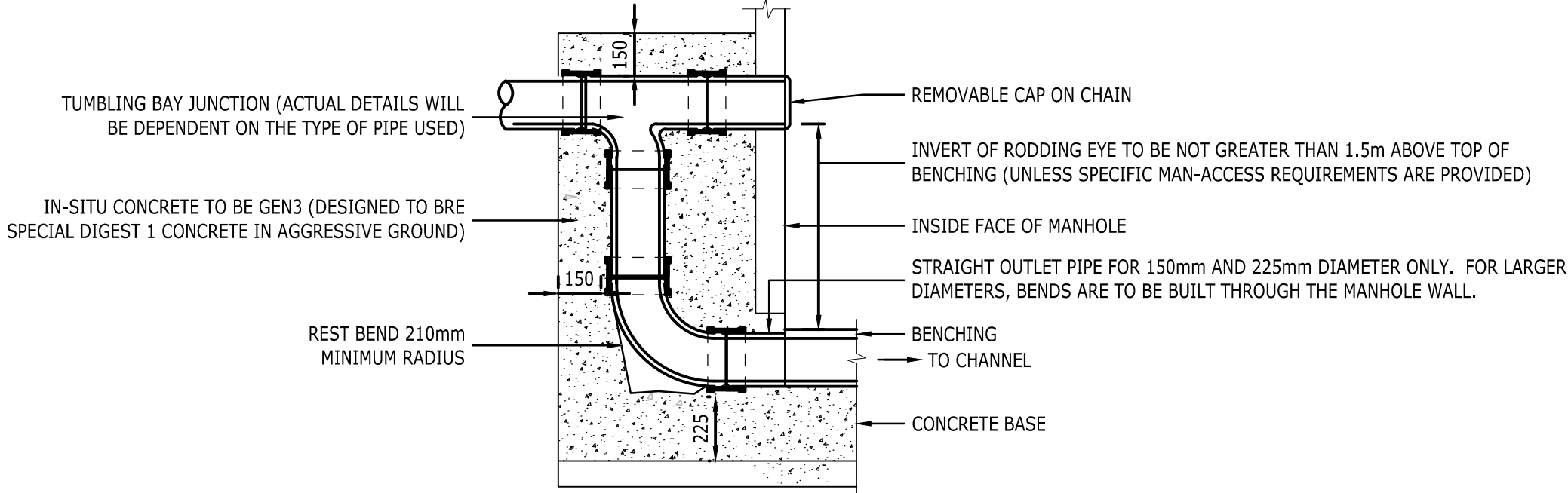
PIPE CROSSING WITH LESS THAN 300mm SEPARATION (PLAN)
NOT TO SCALE



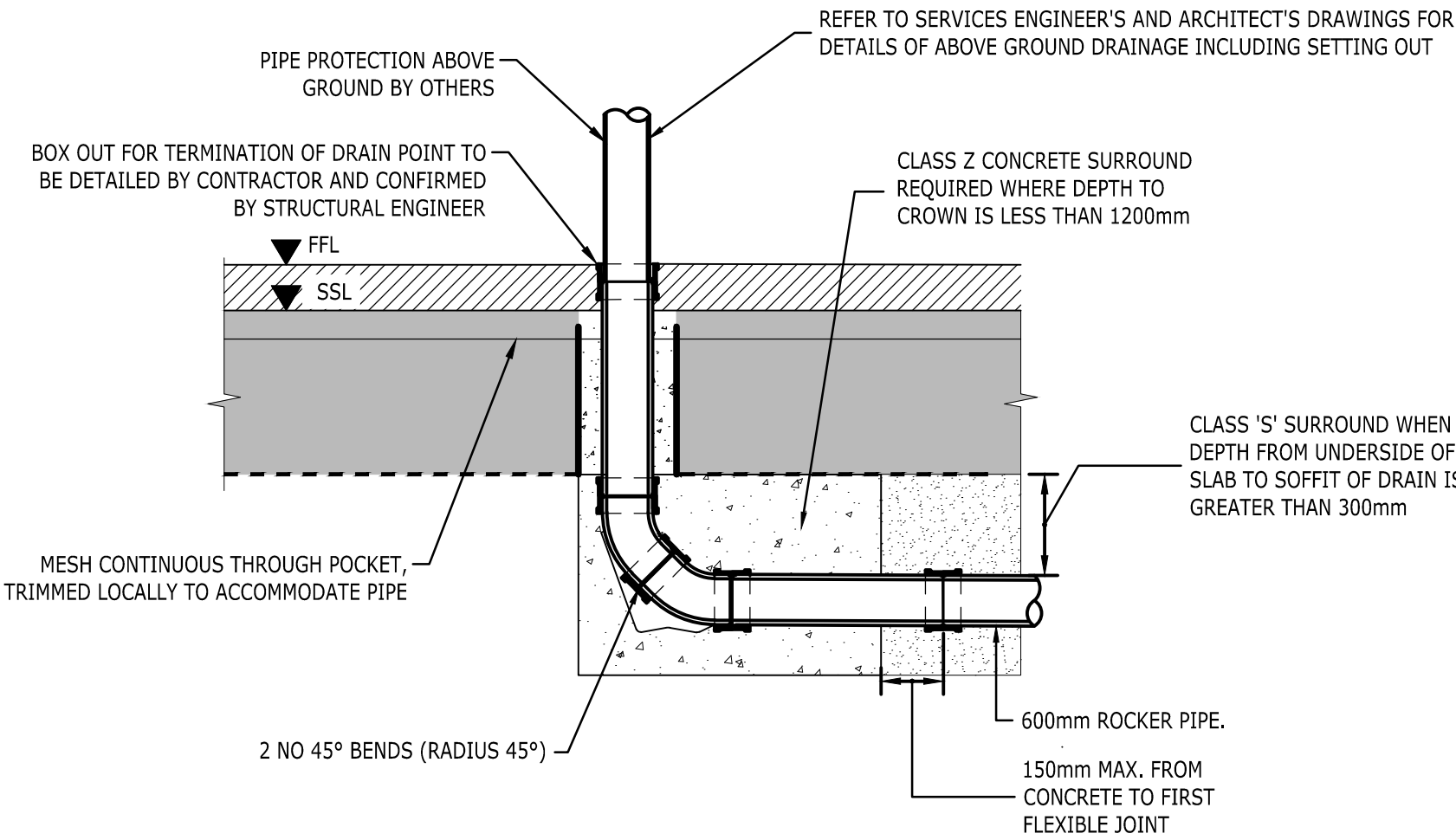
OBLIQUE JUNCTION ARRANGEMENT
NOT TO SCALE



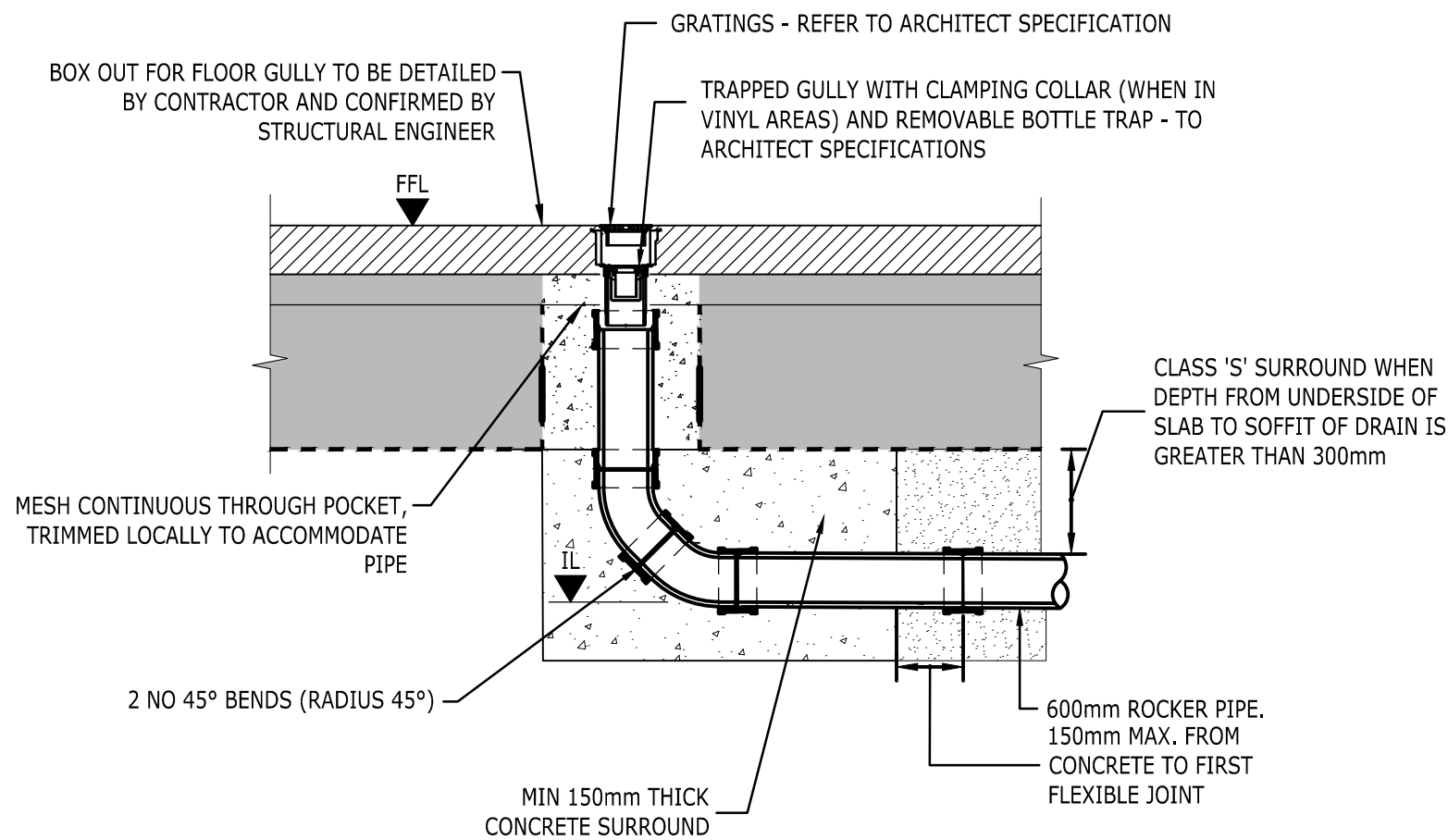
YARD GULLY
SCALE 1:20



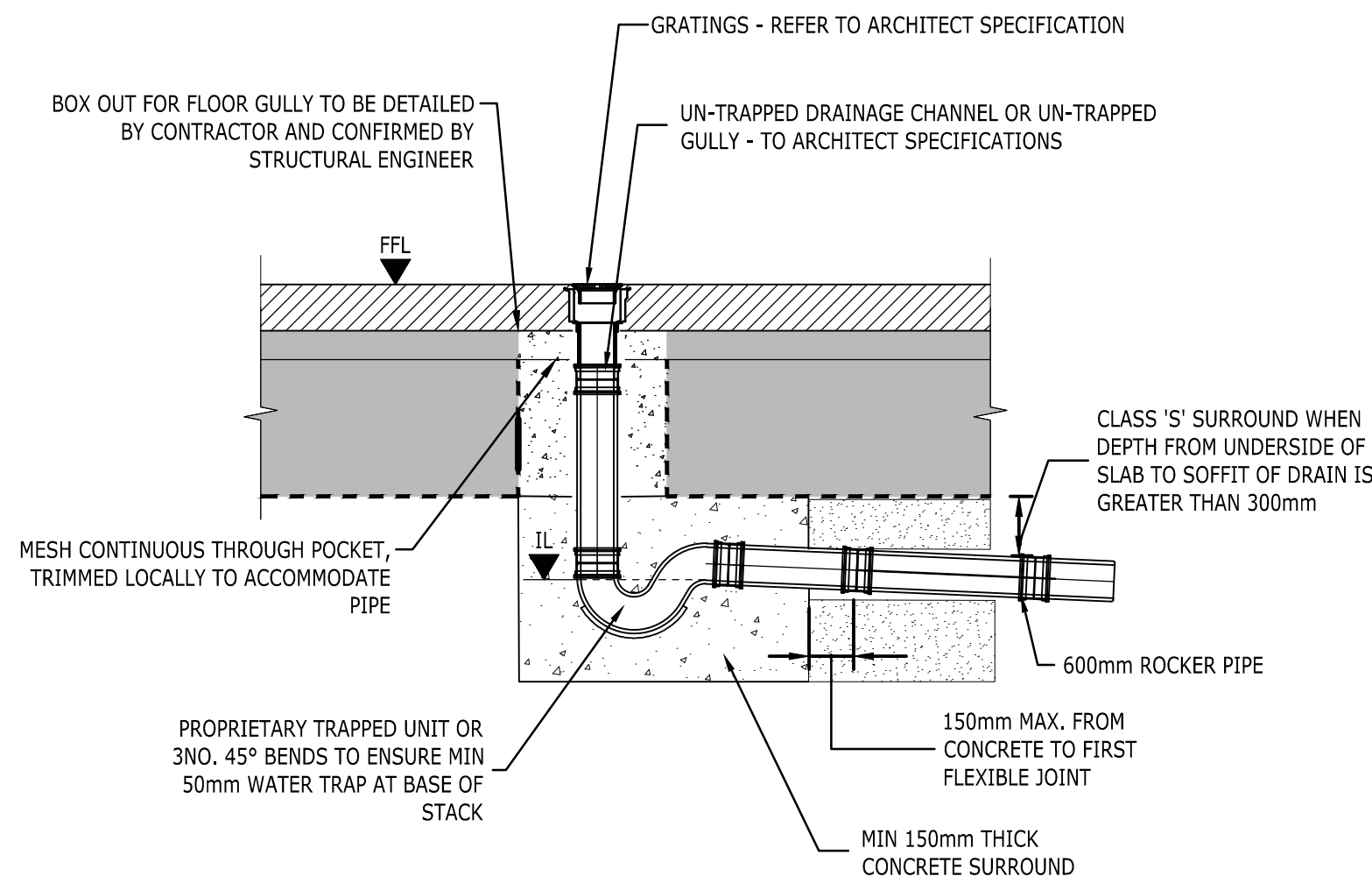
TYPICAL VERTICAL BACKDROP DETAIL
NOTE: STEEPER GRADIENTS ARE PREFERRED TO THE USE OF BACKDROPS.
TYPE OF BACKDROP TO BE USED TO BE AGREED WITH UNDERTAKER.
SCALE 1:20



GENERAL INTERNAL STACK CONNECTION DETAIL
SCALE 1:20



FLOOR GULLY DETAIL
GRATING TYPE VARIES FOR PLANT ROOMS AND OTHER SPACES
SCALE 1:20



FOUL WATER P-TRAP BELOW SLAB DETAIL
FOR CHANNELS OR GULLIES WITH NO INTEGRAL TRAP INSTALLED
SCALE 1:20

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P02	STAGE 5 PR1 ISSUE	01/06 2021	SG GS	LS
P01	PRELIMINARY	15/11 2019	CO GS	LS
Rev	Description	Date	By Chk	App

CONSTRUCTION

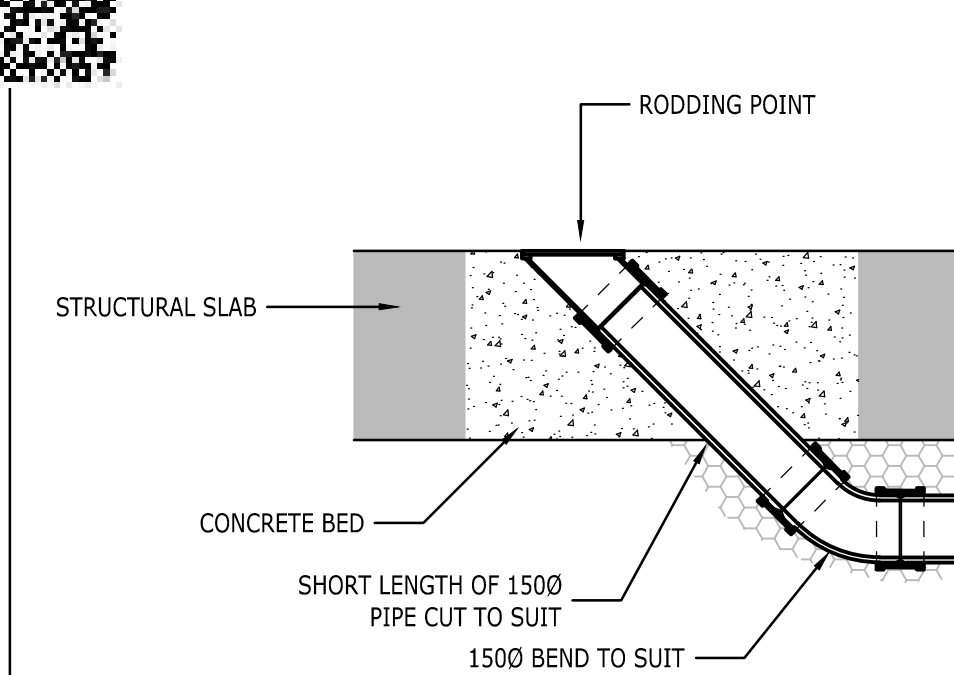
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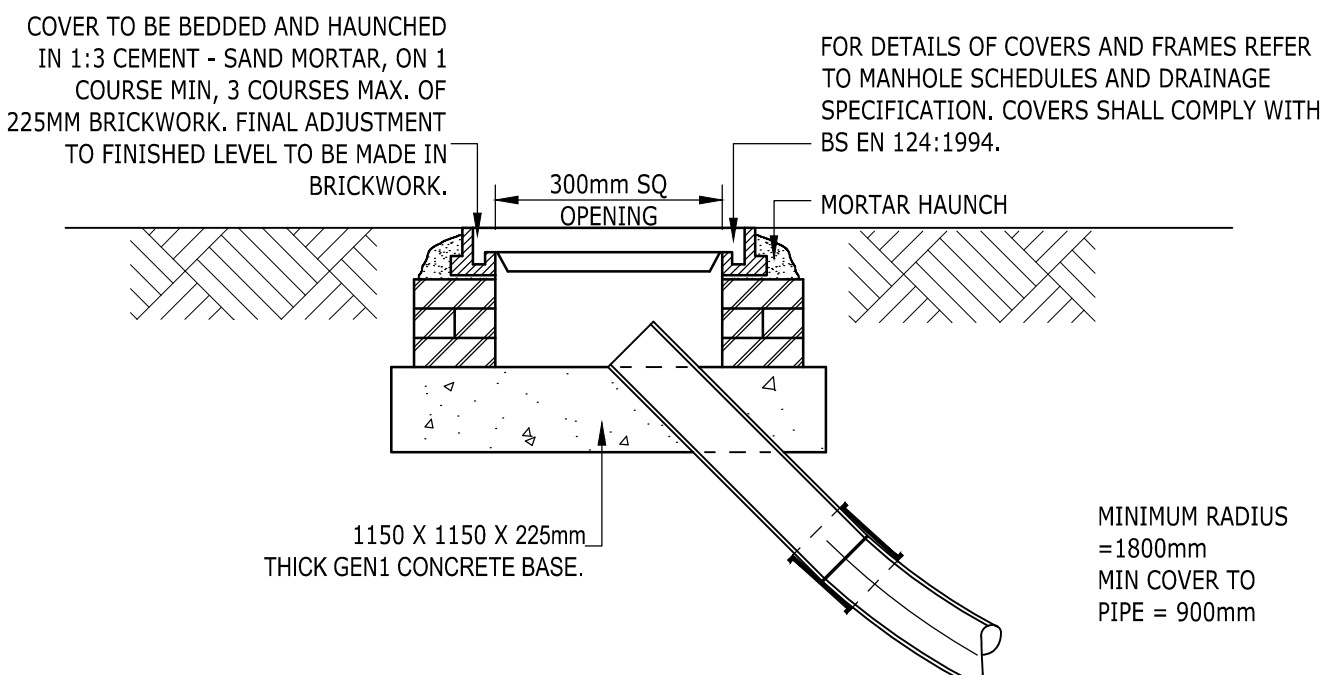
STANDARD DETAILS SHEET 3

Project No: 1620005164	Scale (@A1): AS SHOWN	Drawn: CO	Date: JUN 19
Drawing No: LP44107-RAM-B01-XX-DR-D-51402	Rev: C02		



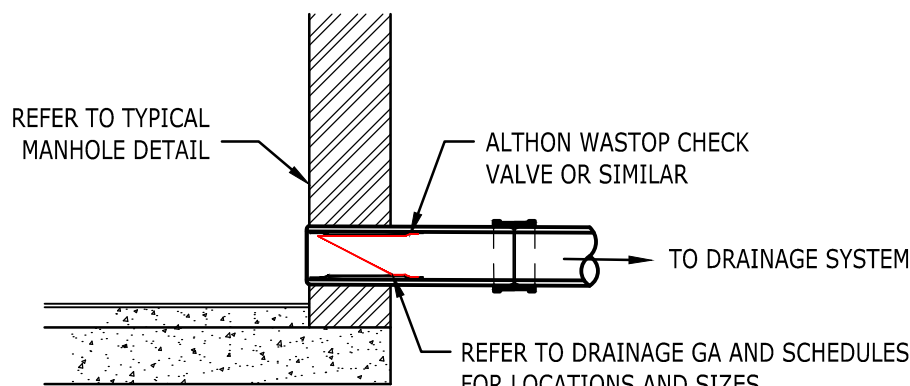
INTERNAL RODDING EYE

SCALE 1:20



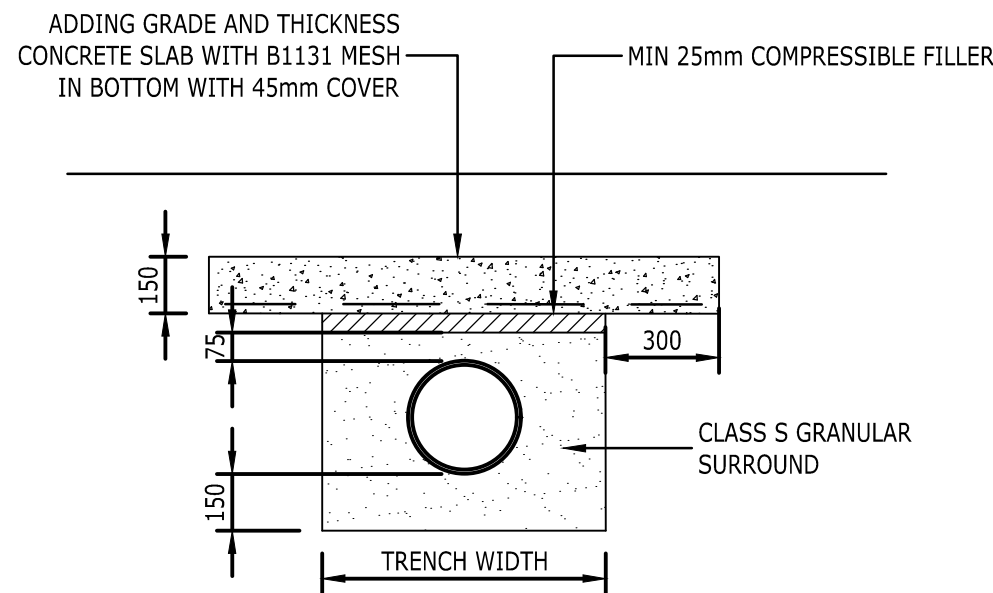
EXTERNAL RODDING EYE

NOT TO SCALE



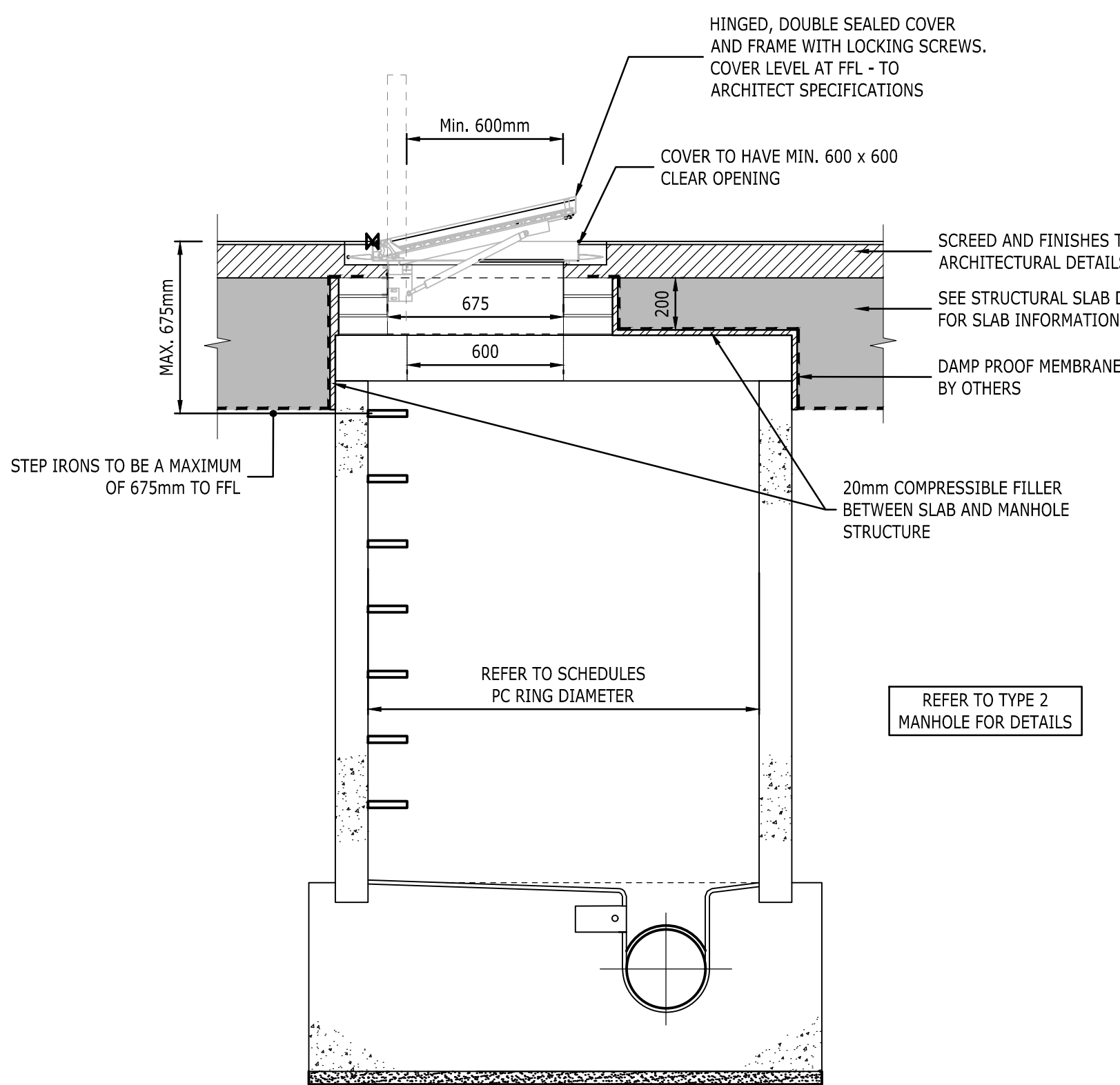
TYPICAL NON-RETURN VALVE DETAIL

SCALE 1:20



PROTECTION FOR SHALLOW PIPES
TO BE USED WHERE DEPTH OF COVER TO PIPE IS LESS THAN 600mm

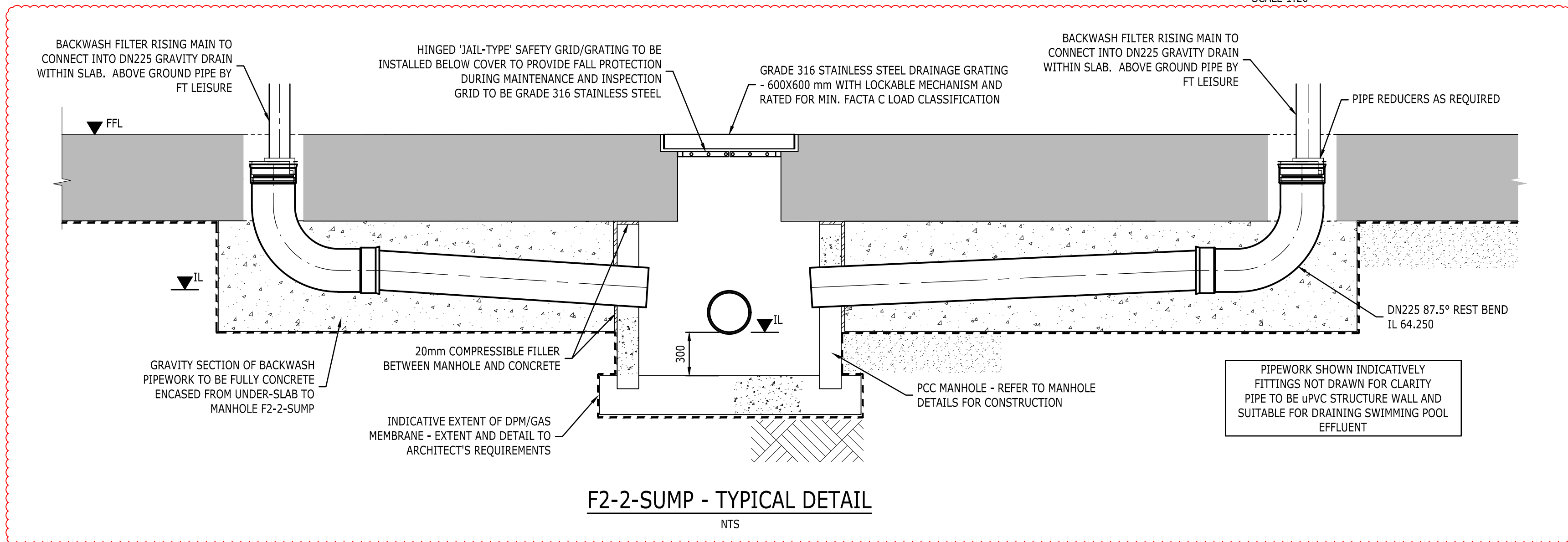
SCALE 1:20



INTERNAL PRECAST MANHOLE

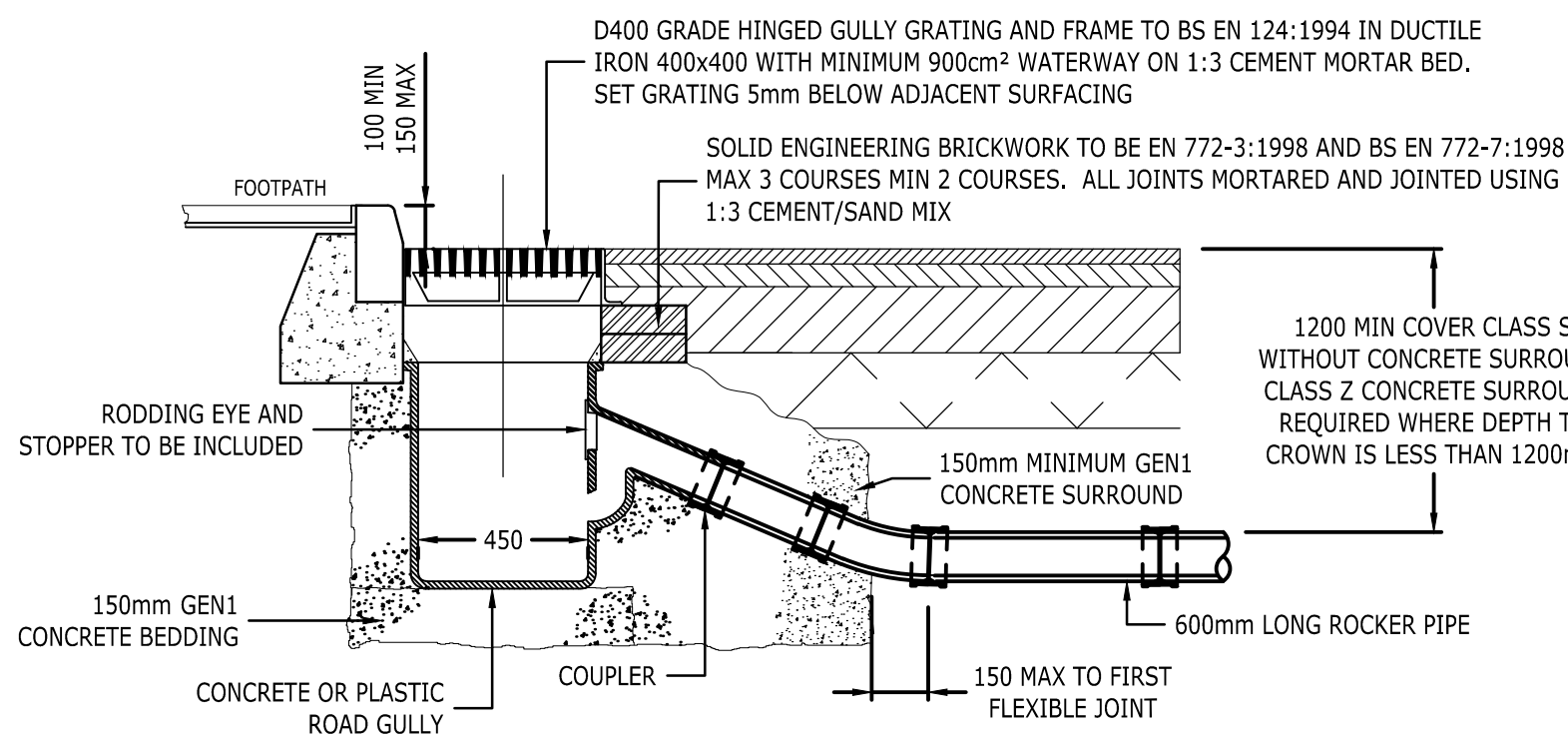
SCALE 1:20

REFER TO TYPE 2
MANHOLE FOR DETAILS



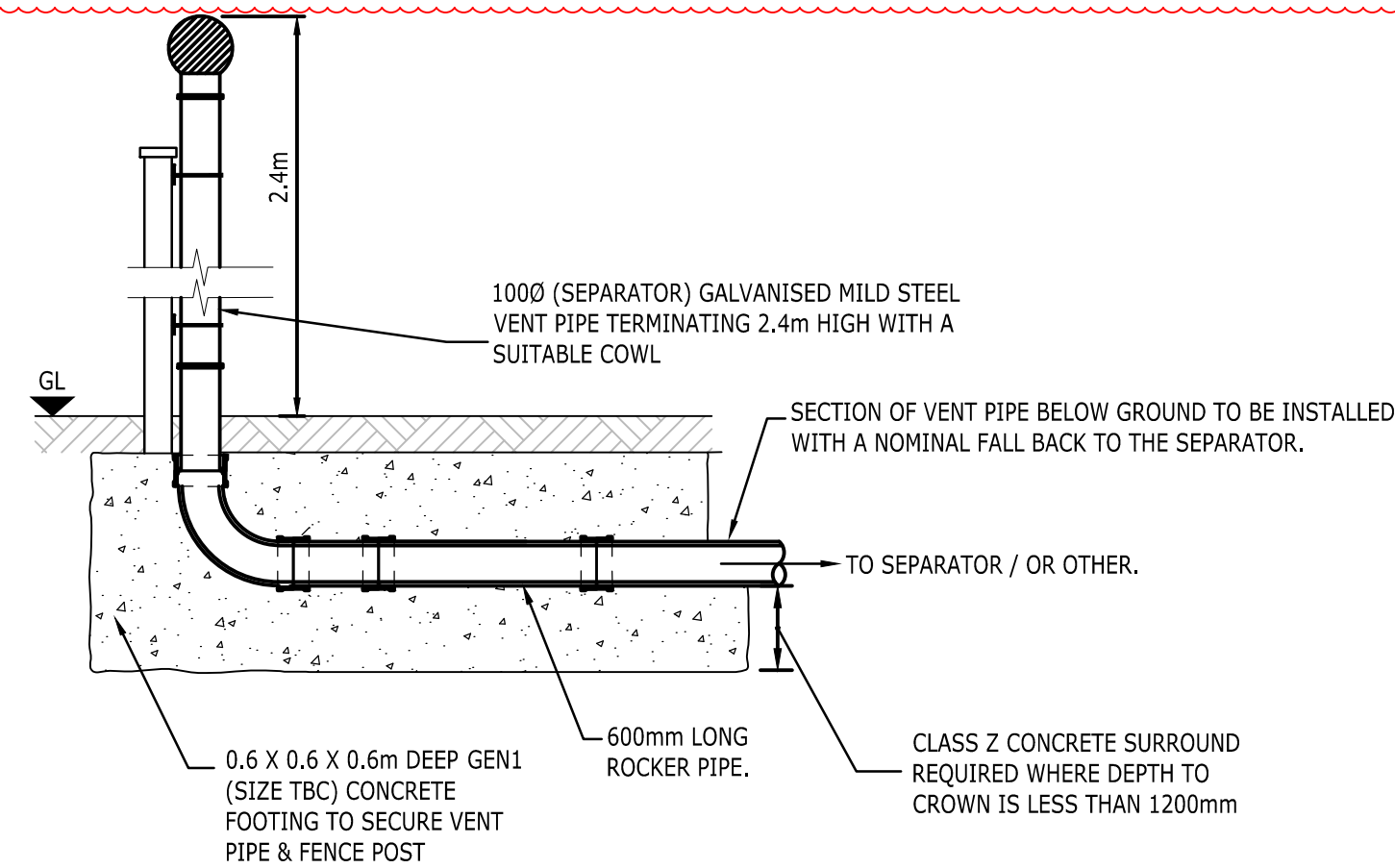
F2-2-SUMP - TYPICAL DETAIL

NTS

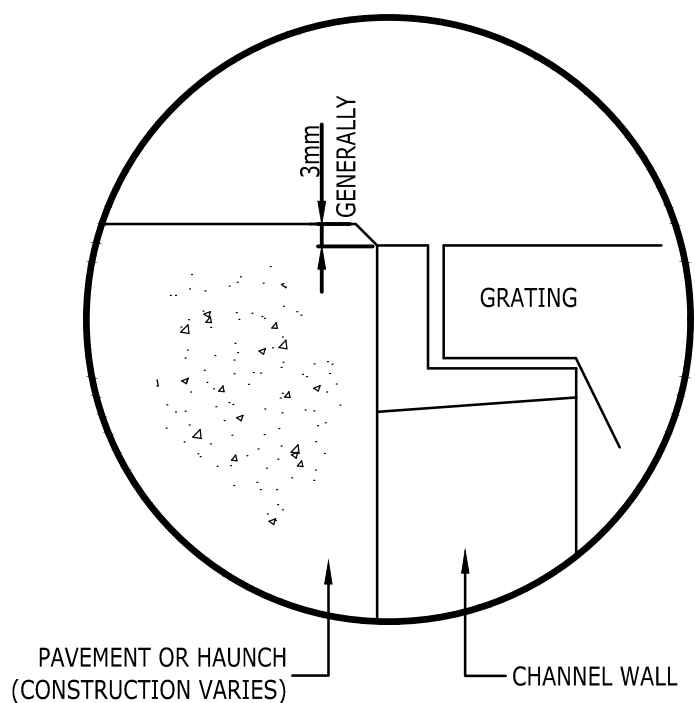


ROAD GULLY DETAIL

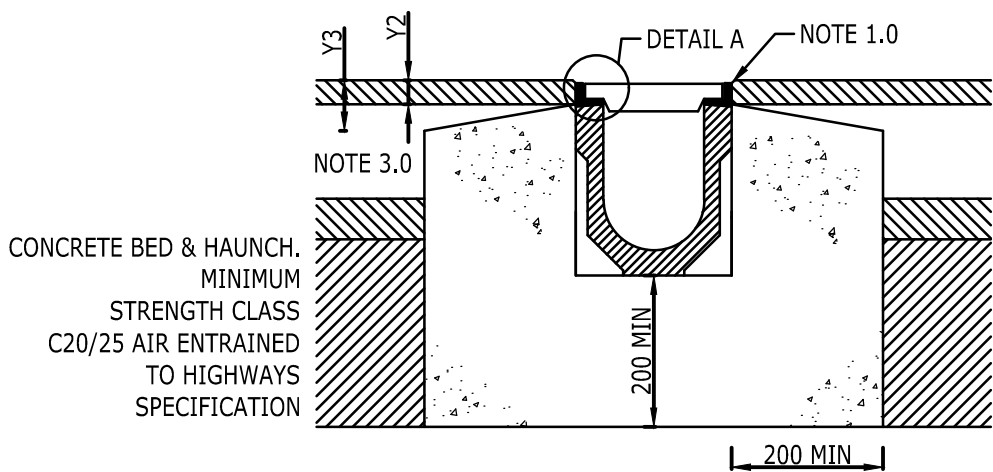
SCALE 1:20



TYPICAL SEPARATOR & ATTENUATION TANK VENT PIPE DETAIL
LOCATION OF ALL VENT PIPES ARE SUBJECT TO CONFIRMATION WITH THE LANDSCAPE ARCHITECT
(NOT TO SCALE)

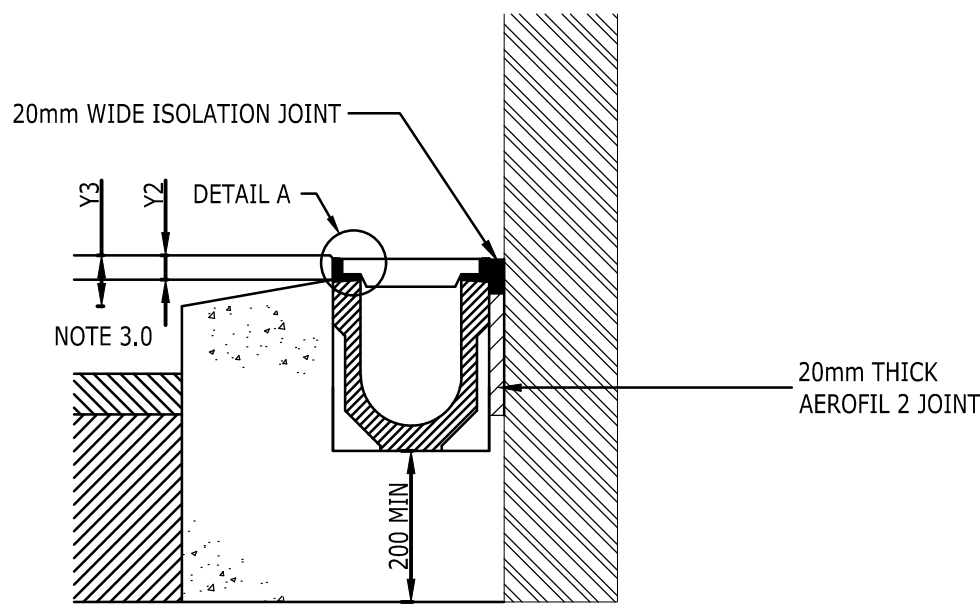


DETAIL A



TYPICAL CHANNEL DRAIN - ASPHALT PAVEMENT

SCALE 1:10



TYPICAL CHANNEL DRAIN - AGAINST STRUCTURE

SCALE 1:10

1.0 SURFACE PROTECTION: IN ASPHALT PAVEMENTS AVOID CONTACT BETWEEN COMPACTION EQUIPMENT AND CHANNEL/GRATING. THIS MAY BE ACHIEVED BY ENSURING THAT THE FINISHED SURFACE LEVEL LIES ABOVE THE GRATING LEVEL (BY AT LEAST 3mm). STONES SHOULD BE REMOVED FROM GRATING PRIOR TO LAYING/ROLLING WEARING COURSE.

2.0 A CHANNEL INSTALLATION IS NOT COMPLETE UNTIL THE FINAL SURFACING IS LAID. IN ANY TEMPORARY CONDITION, I.E WITH THE CHANNEL WALLS PROJECTING ABOVE AN ASPHALT BASE COURSE OR CONCRETE SUB-BASE, SITE TRAFFIC SHOULD NOT CROSS CHANNELS, LOOSE BOARDS; STONE FILL OR COVER PLATES WILL NOT PROTECT THE CHANNEL WALLS OR GRATING. A TEMPORARY CHANNEL CROSSING SHOULD BE FORMED BY RAISING THE ASPHALT BASE COURSE LOCALLY, TO 3 - 5mm ABOVE GRATING LEVEL, EITHER SIDE OF A CHANNEL FOR A DISTANCE OF 750 TO 1000mm SAY, TO FORM RAMPS. CONCRETE RAMPS SHOULD BE FORMED IN OTHER PAVEMENTS.

3.0 ASPHALT PAVEMENT: TOP OF CONCRETE HAUNCH
Y2 = 35mm MAXIMUM
Y3 = 70mm MAXIMUM

4.0 BOLTS: TO COMPLETE THE INSTALLATION, TIGHTEN THE GRATING FIXING BOLTS TO A TORQUE OF 40NM.

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C01	CONSTRUCTION ISSUE	11/08 2021	SG GS	LS
P01	STAGE 5 PR1 ISSUE	01/08 2021	SG GS	LS

Rev	Description	Date	By	App
			Chk	

CONSTRUCTION

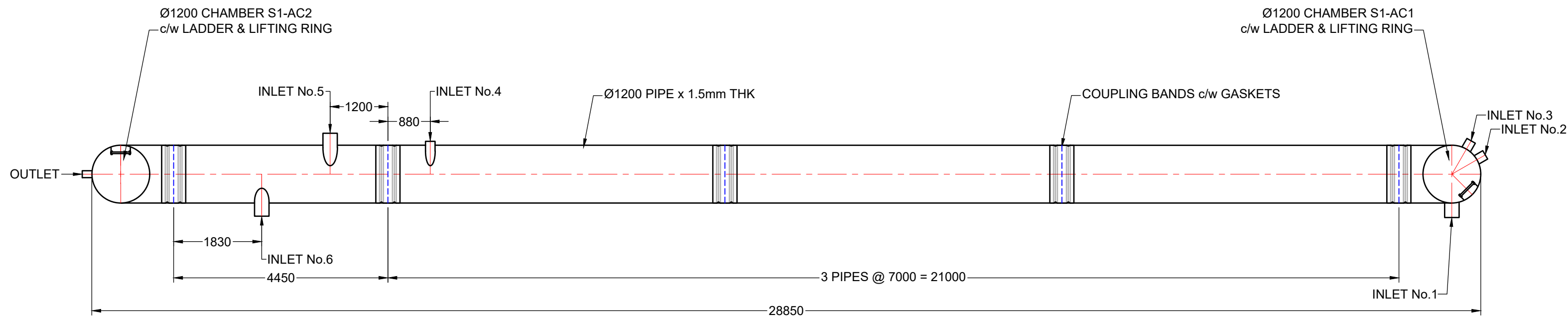
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STANDARD DETAILS SHEET 4

Project No:	Scale (@A1):	Drawn:	Date:
1620005164	AS SHOWN	SG	MAY 21
Drawing No:	Rev:		
LP44107-RAM-B01-XX-DR-D-51403	C02		



PLAN VIEW
SCALE 1:75

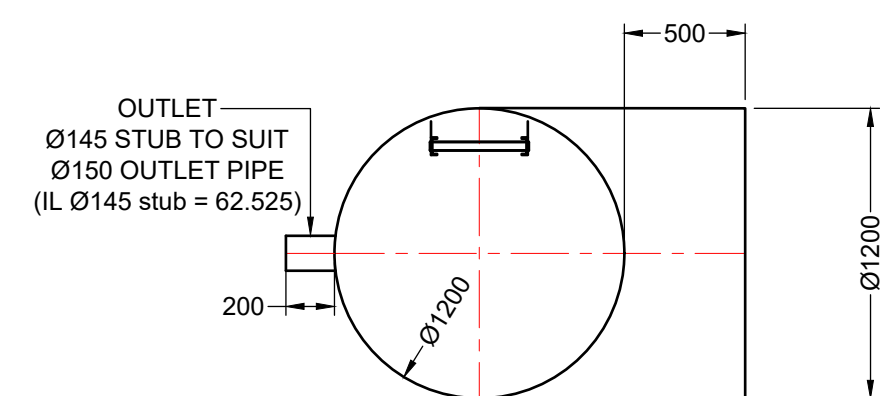
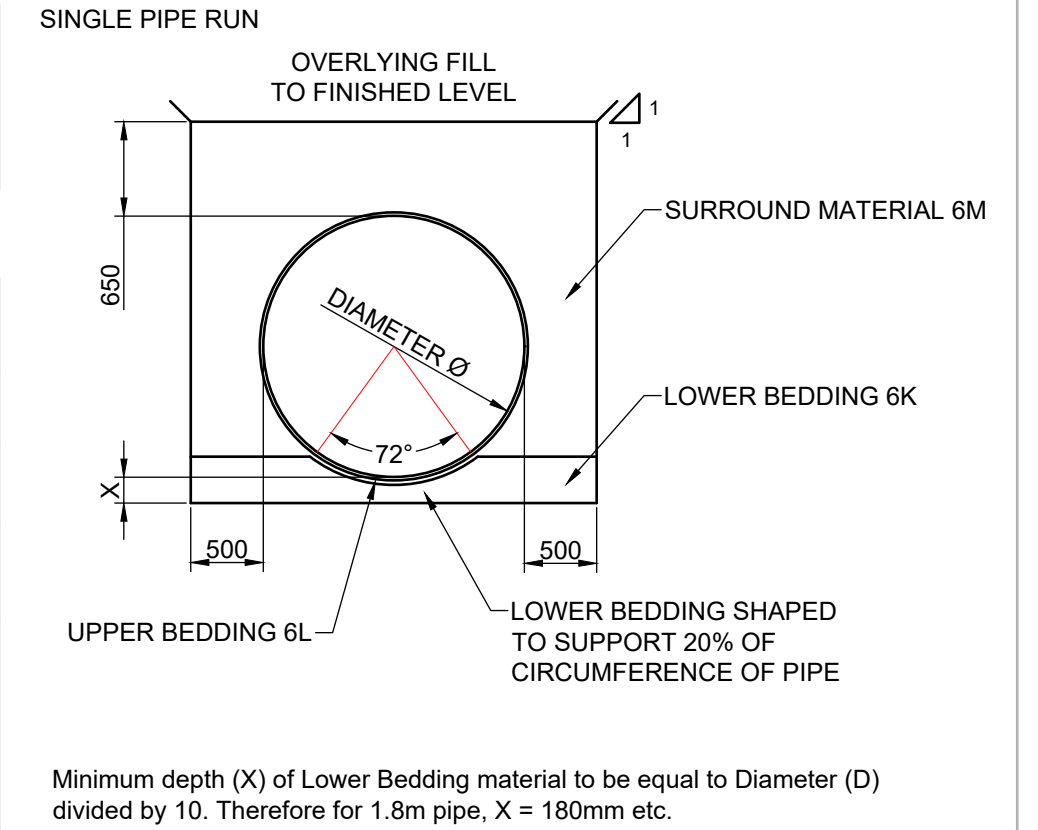
BACKFILL & BEDDING MATERIALS SPECIFICATION

Lower bedding material	6K	Natural gravel, natural sand, crushed gravel, crushed rock other than argillaceous rock, crushed concrete, well - burnt colliery spoil or any combination thereof.
Upper bedding material	6L	
Surround material	6M	

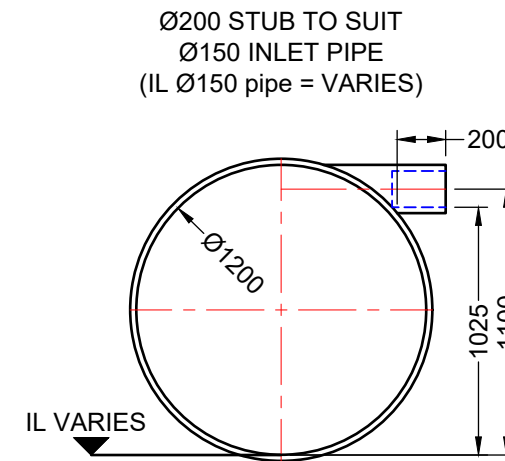
The above information is drawn from the design manual for roads and bridges. The materials listed below are as described in series 600 MCHW1.

Material	PERCENTAGE BY MASS PASSING THE SIZE SHOWN									
	Size (mm) BS Series						Size (um) BS Series			
	75	20	10	5	2	1.18	600	300	150	63
Lower bedding 6K		100								0-10
Upper bedding 6L			100	89-100	60-100	30-100	15-100	5-70	0-15 (except 0-20 for crushed rock)	
Surround 6M	100									0-10

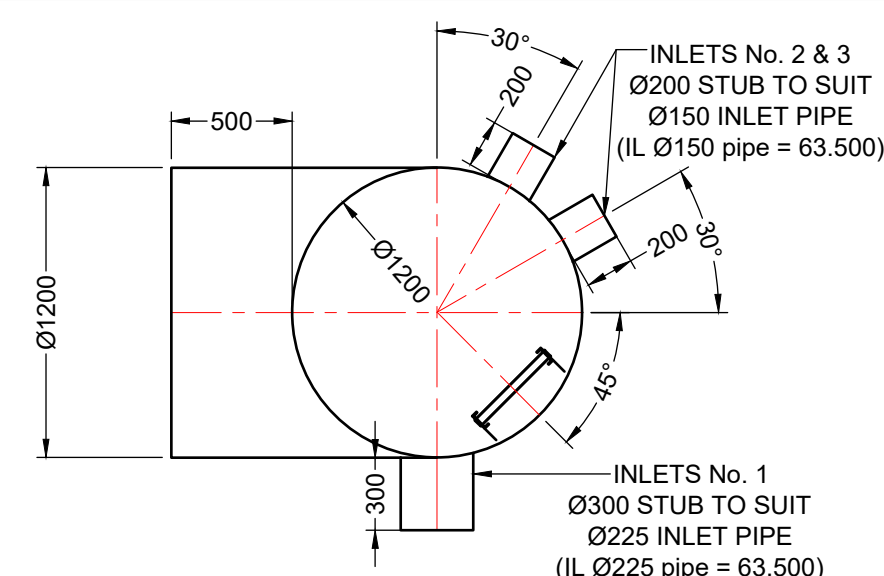
EXCAVATION AND BACKFILL REQUIREMENTS



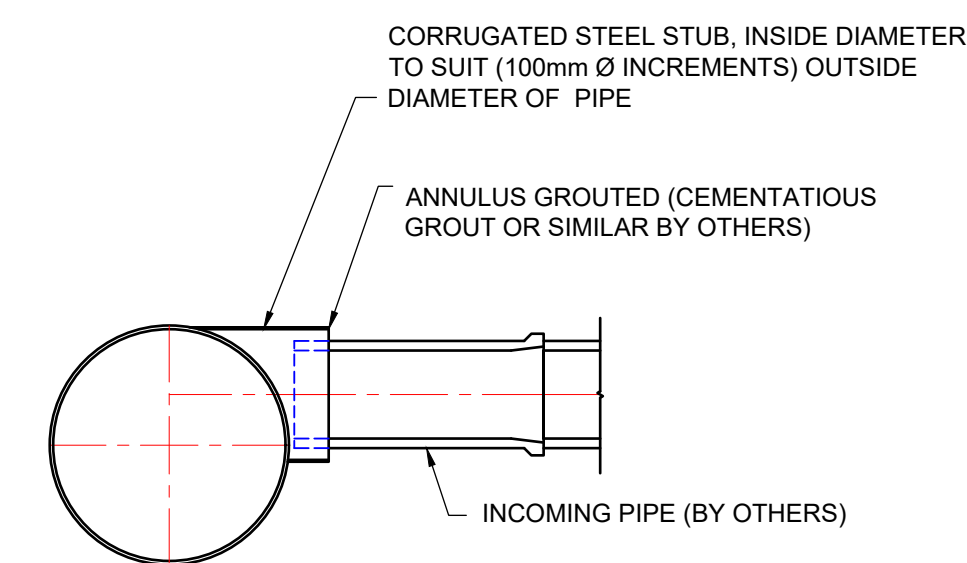
PLAN VIEW



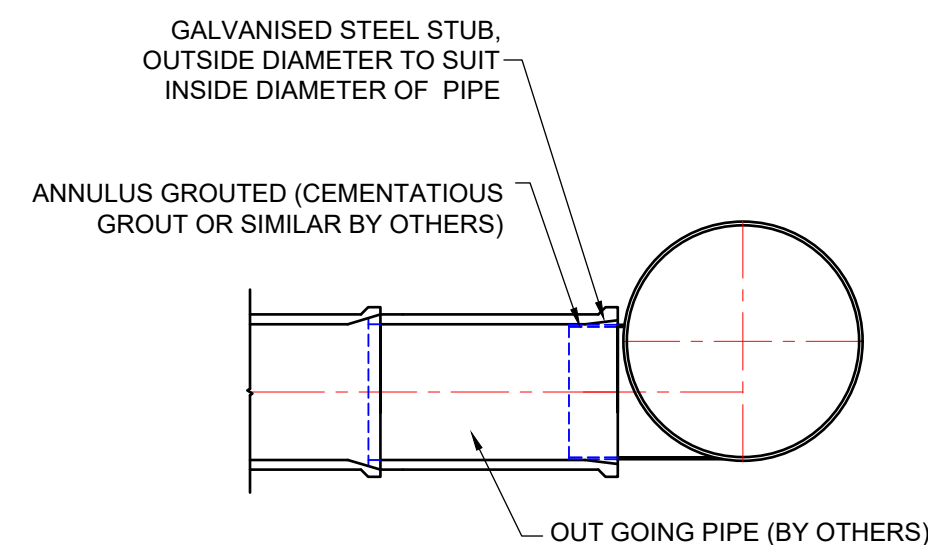
SECTION THROUGH
INLETS No. 4
SCALE 1:30



PLAN VIEW

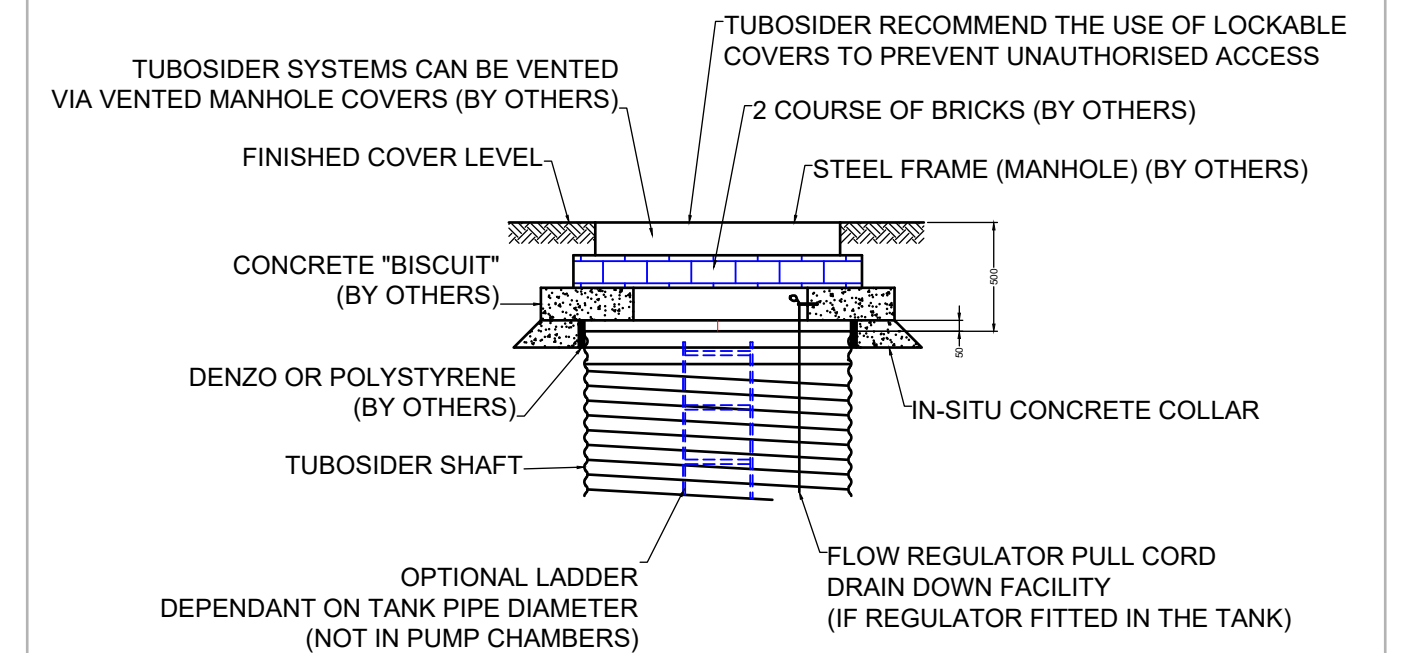


TYPICAL SECTION THROUGH
INLET CONNECTION

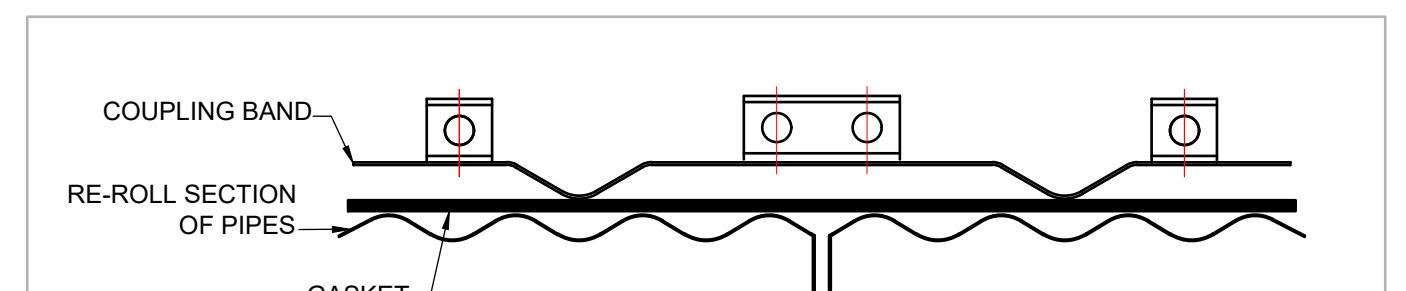


TYPICAL SECTION THROUGH
OUTLET CONNECTION

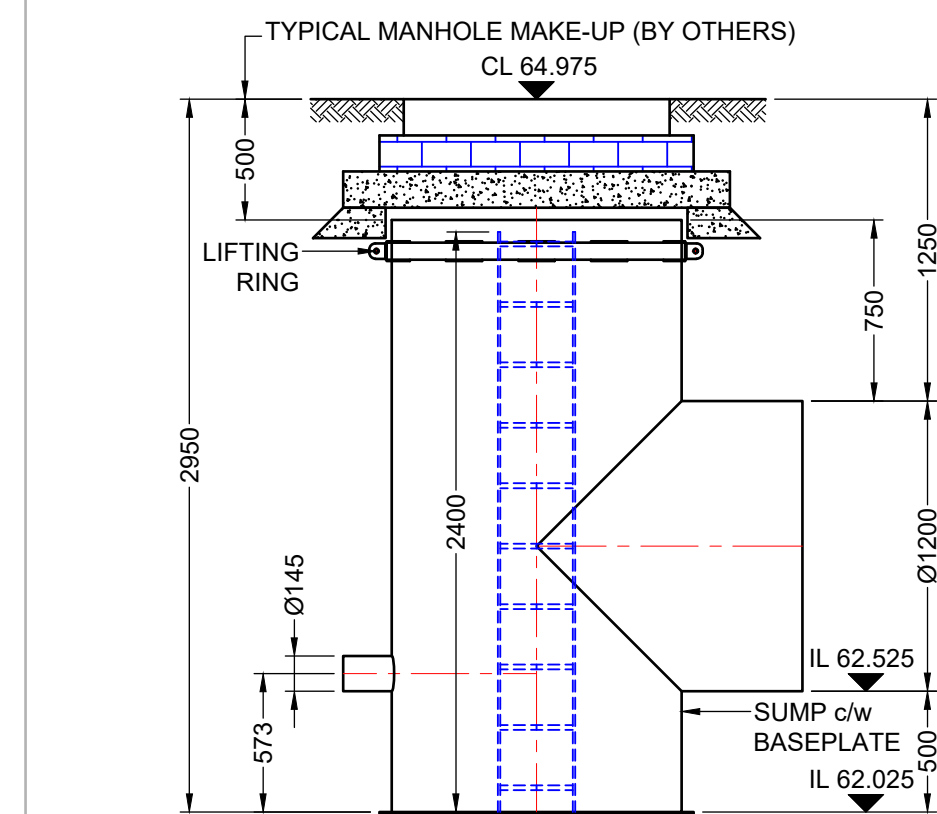
TYPICAL MAINTENANCE, ACCESS AND PUMP CHAMBER SHAFT FINISHING DETAIL



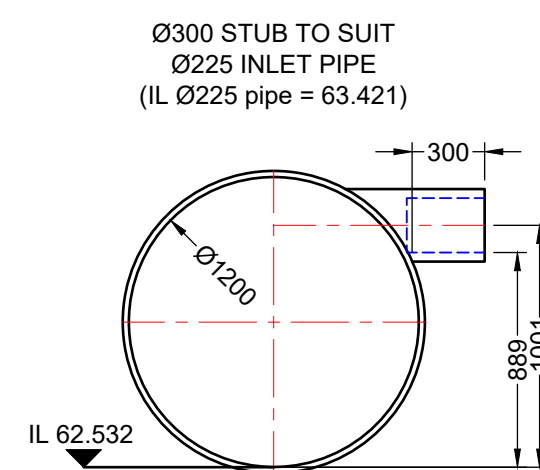
- NOTES:
- When calculating shaft heights Tubosider allow 500mm between finished cover level (FCL) and top of shaft.
 - The 500mm is typically made up of a concrete "biscuit" 2 courses of bricks and a steel manhole frame. Any discrepancy in levels can be taken up within the brickwork
 - Prior to placing the "biscuit" the top of the shaft should be wrapped with denzo or polystyrene and the concrete ring should be cast with the top approximately 50mm above the top of the shaft (the shaft must not become load bearing). The "biscuit" should then be bedded onto the concrete ring with sand and cement mortar.
 - Concrete "biscuit", bricks, cover and frame supplied by others.



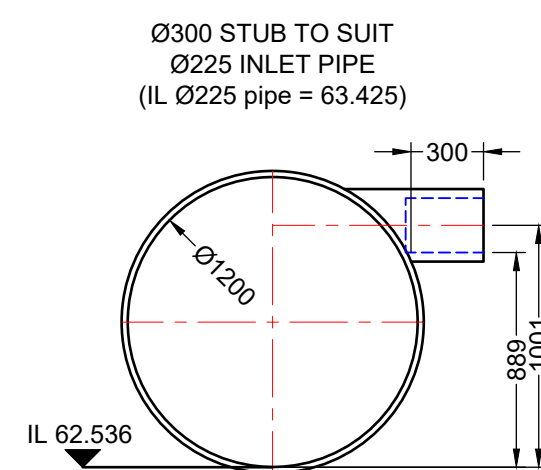
SECTION THROUGH
COUPLING BAND, c/w GASKET



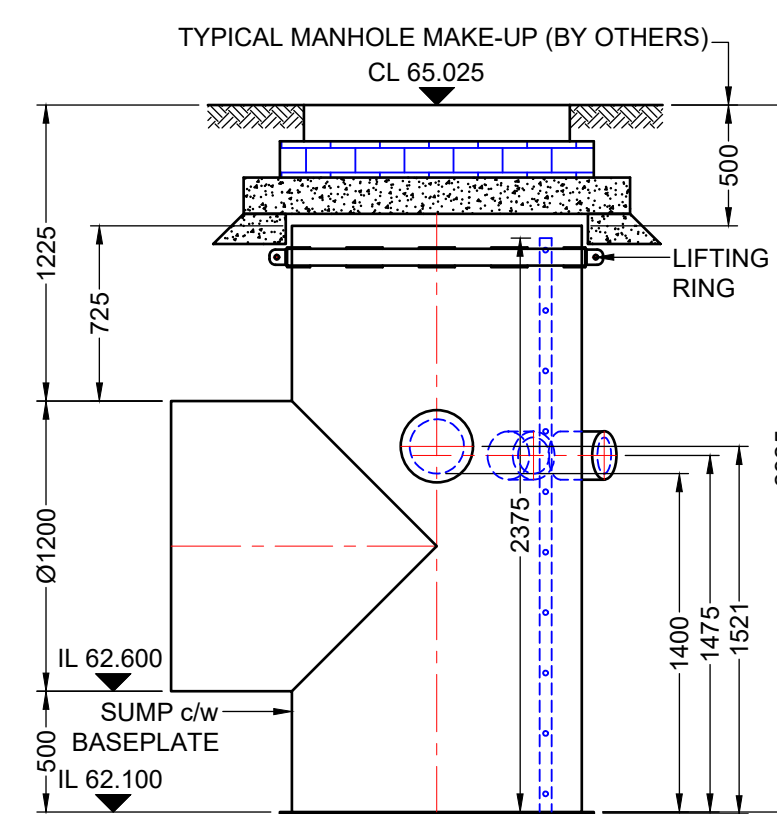
ELEVATION THROUGH
Ø1200 CHAMBER S1-AC2
SCALE 1:30



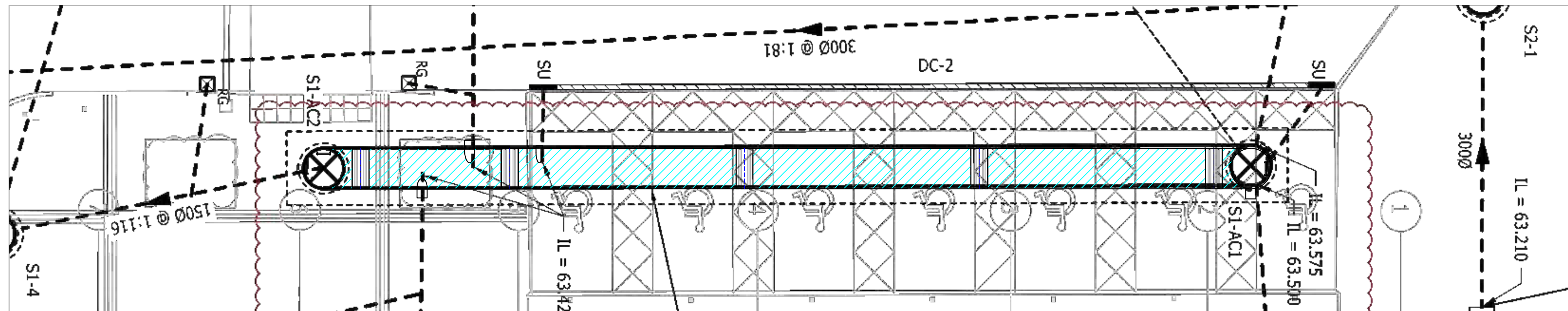
SECTION THROUGH
INLET No. 6
SCALE 1:30



SECTION THROUGH
INLET No. 5
SCALE 1:30



ELEVATION THROUGH
Ø1200 CHAMBER S1-AC1
SCALE 1:30



E	29.09.21	JS	Outlet updated
D	30.07.21	JS	Updated to suit comments
C	21.07.21	JS	Updated to suit latest drainage design
B	29.06.21	JS	For Comment/Approval
A	23.06.21	JS	Sales Drawing
-	08.06.21	JS	Sales Drawing

TITLE
Tubosider Tank For
Abraham Moss Library & Leisure Centre
Tank 1

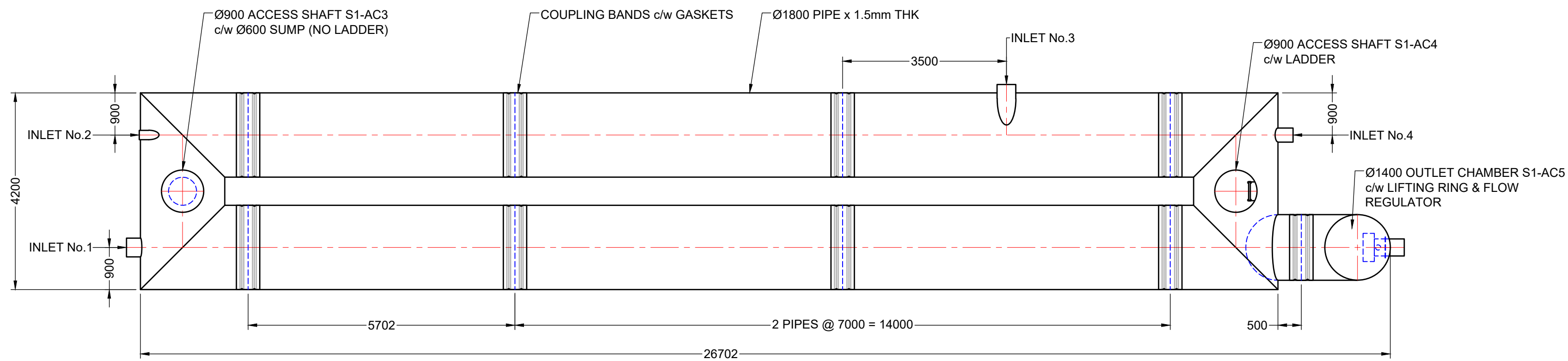
Cubic Capacity = 32.6m3
EN21_20598

SCALE @ AS SHOWN
TUBOSIDER DRAWING No.
2101_10132_TUB17252_E

REV | SHEET
1

TUBOSIDER
UNITED KINGDOM LTD

10 SUITTON FOLD INDUSTRIAL ESTATE, ST HELENS, WA9 3GL
TEL: 01744 452900 Fax: 01744 452949
Website: www.tubosider.co.uk Email: sales@tubosider.co.uk



PLAN VIEW
SCALE 1:75

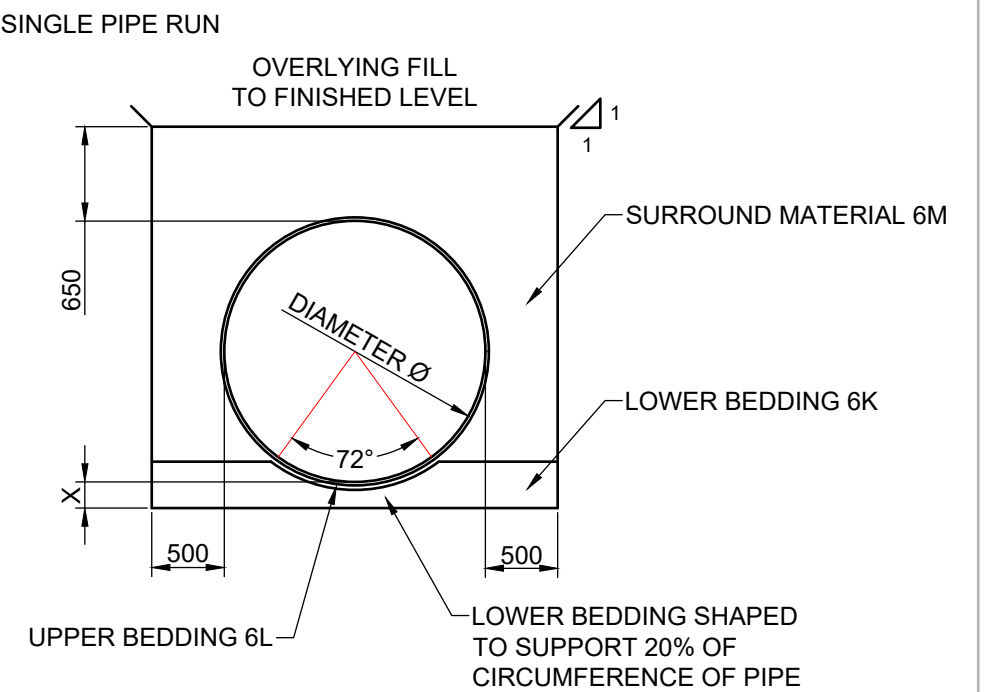
BACKFILL & BEDDING MATERIALS SPECIFICATION

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Upper bedding material	6L	
Surround material	6M	

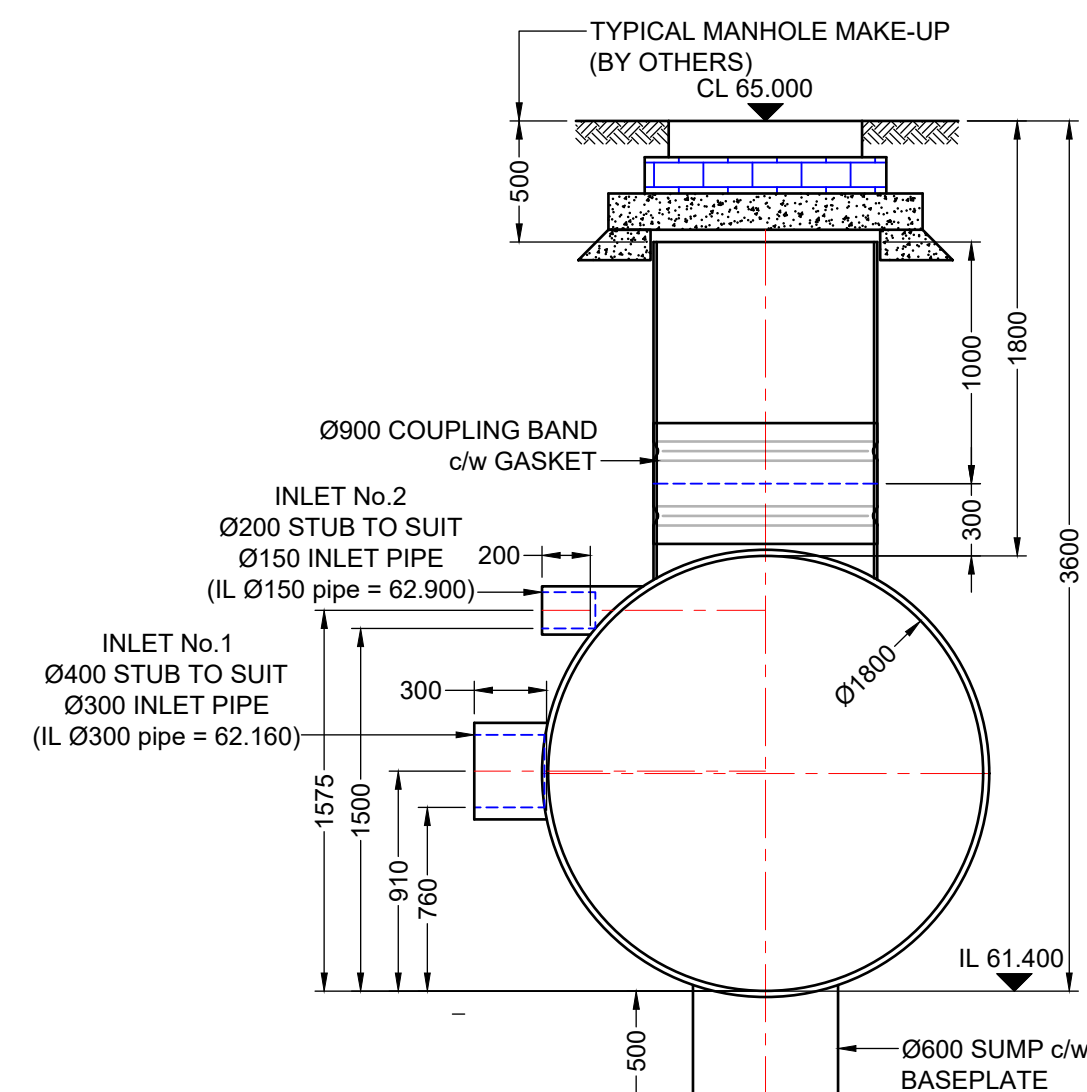
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	Size (mm) BS Series						Size (um) BS Series			
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Lower bedding 6K		100								0-10
Upper bedding 6L			100	89-100	60-100	30-100	15-100	5-70	0-15 (except 0-20 for crushed rock)	
Surround 6M	100									0-10

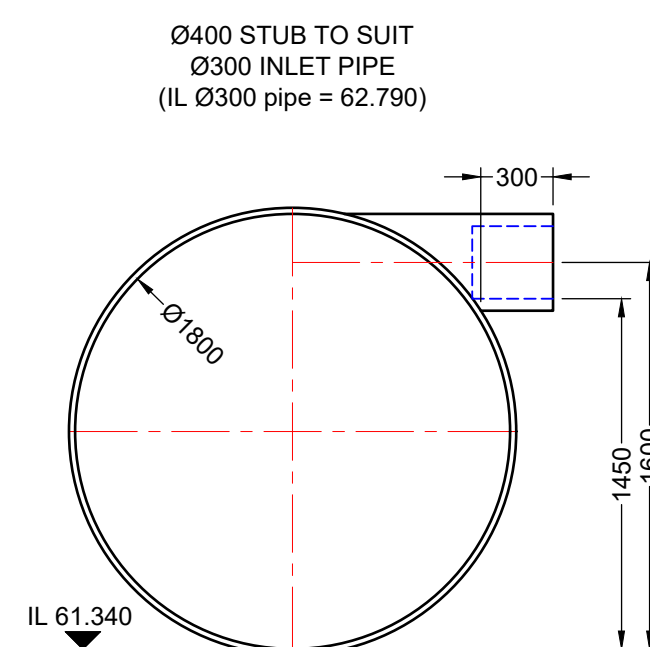
EXCAVATION AND BACKFILL REQUIREMENTS



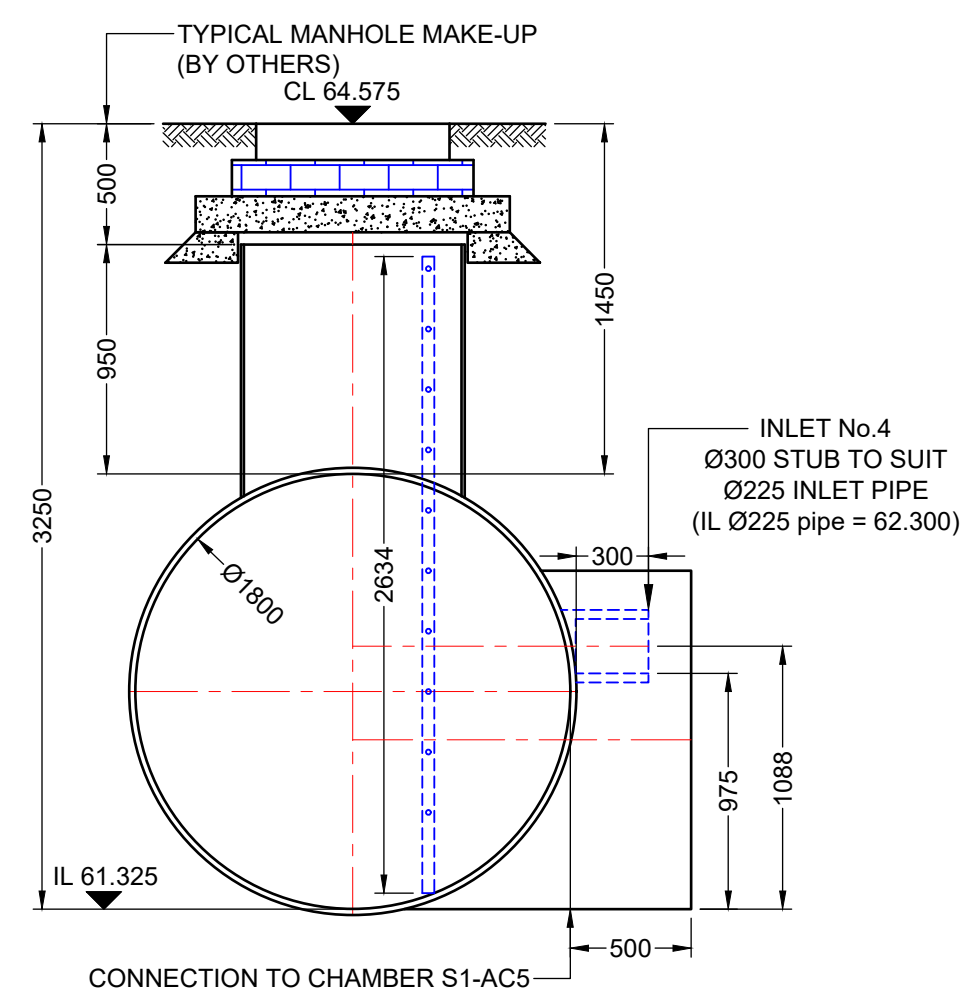
Minimum depth (X) of Lower Bedding material to be equal to Diameter (D) divided by 10. Therefore for 1.8m pipe, X = 180mm etc.



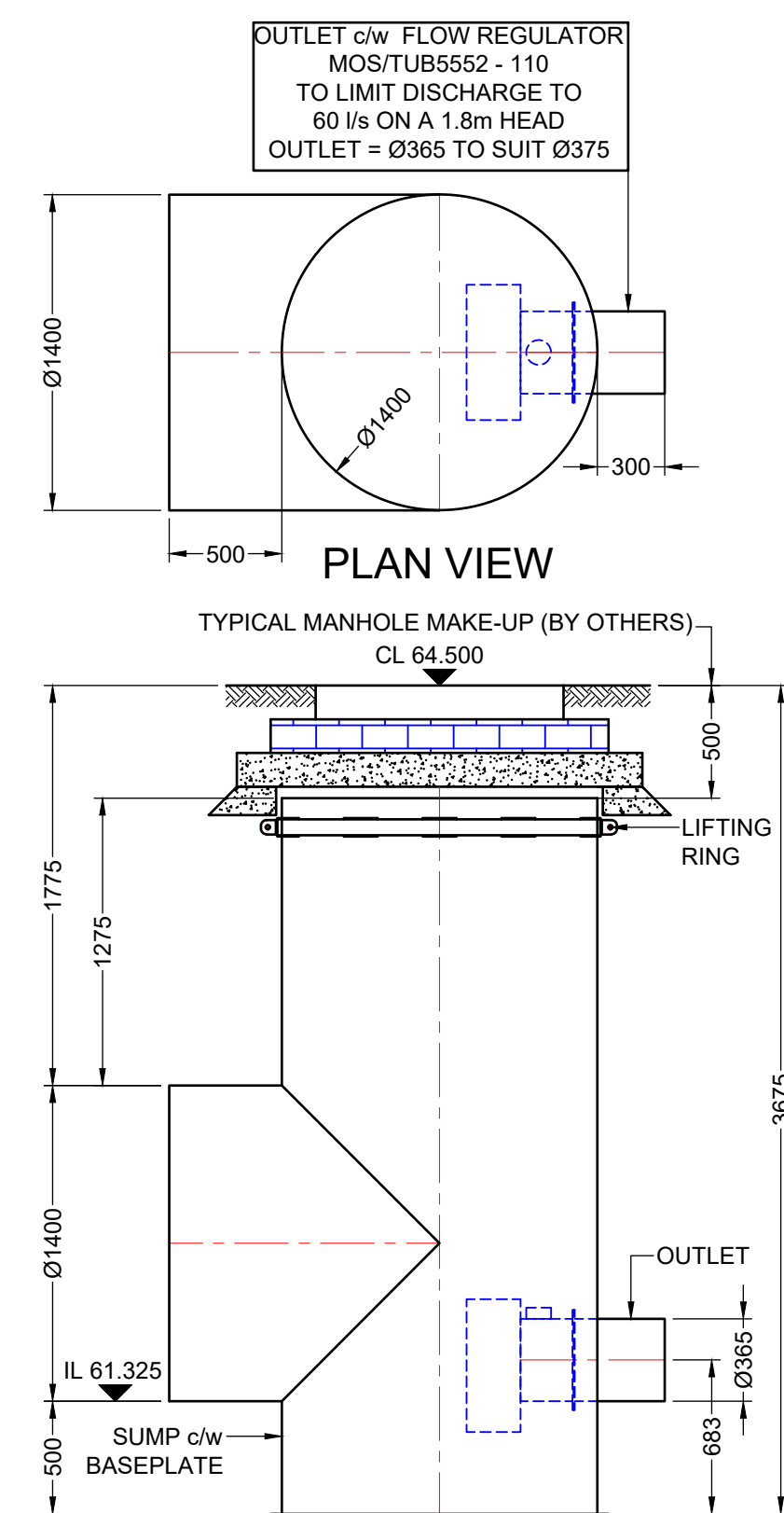
SECTION THROUGH
Ø900 ACCESS SHAFT S1-AC3
SCALE 1:30



SECTION THROUGH
INLET No.3
SCALE 1:30

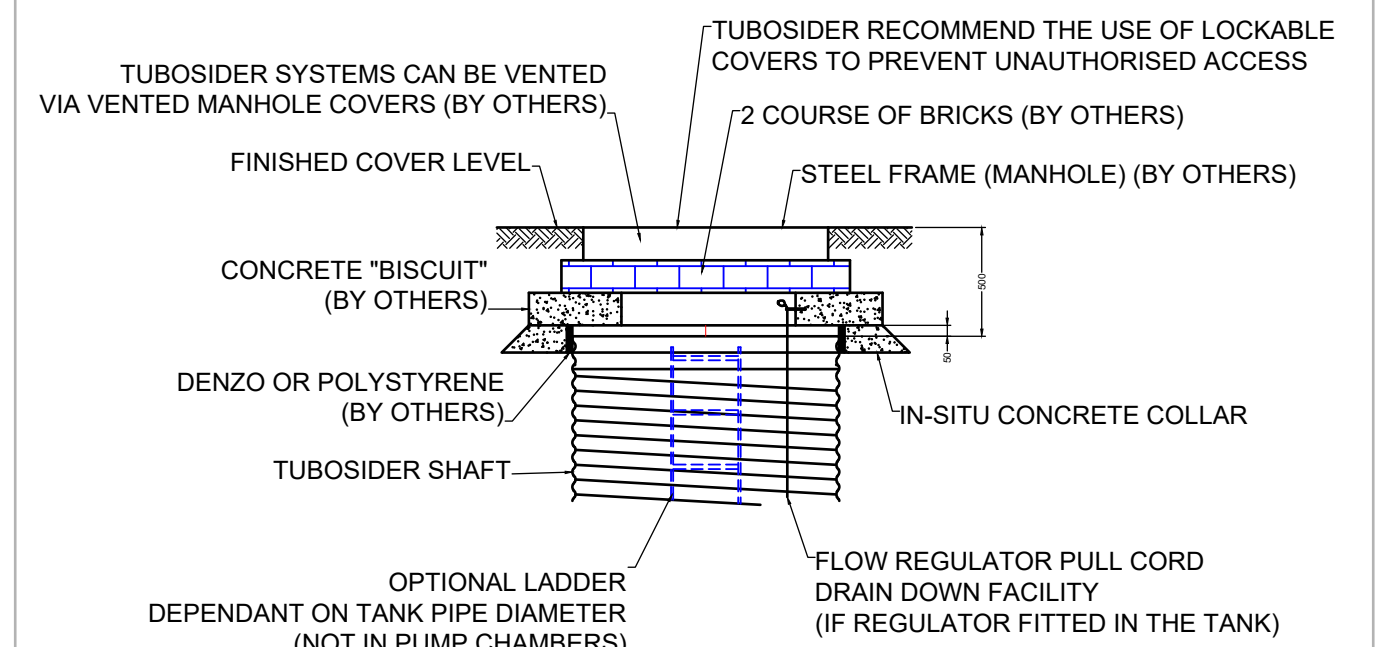


SECTION THROUGH
Ø900 ACCESS SHAFT S1-AC4
SCALE 1:30

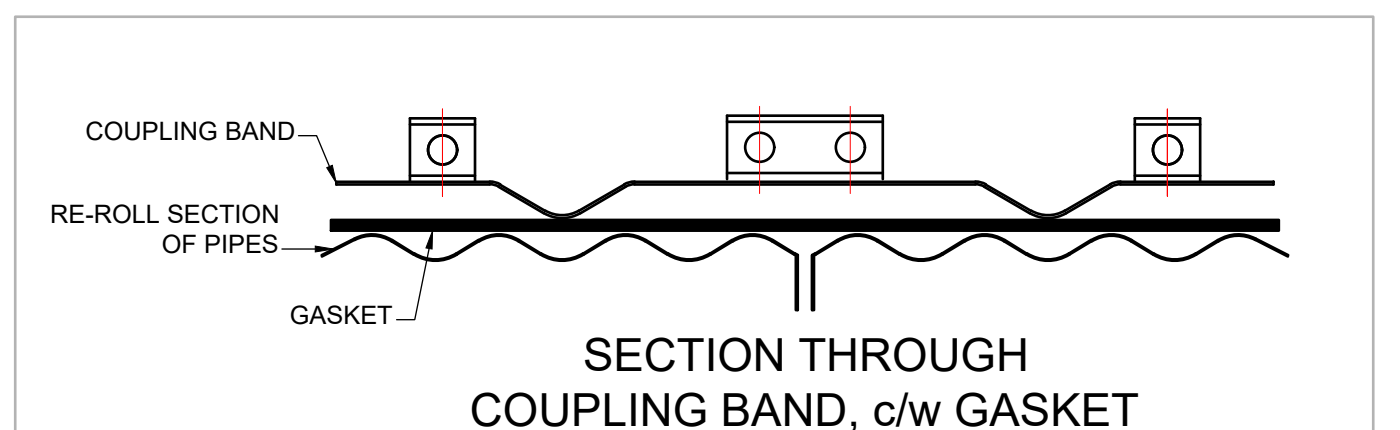


ELEVATION THROUGH
Ø1400 OUTLET CHAMBER S1-AC5
SCALE 1:30

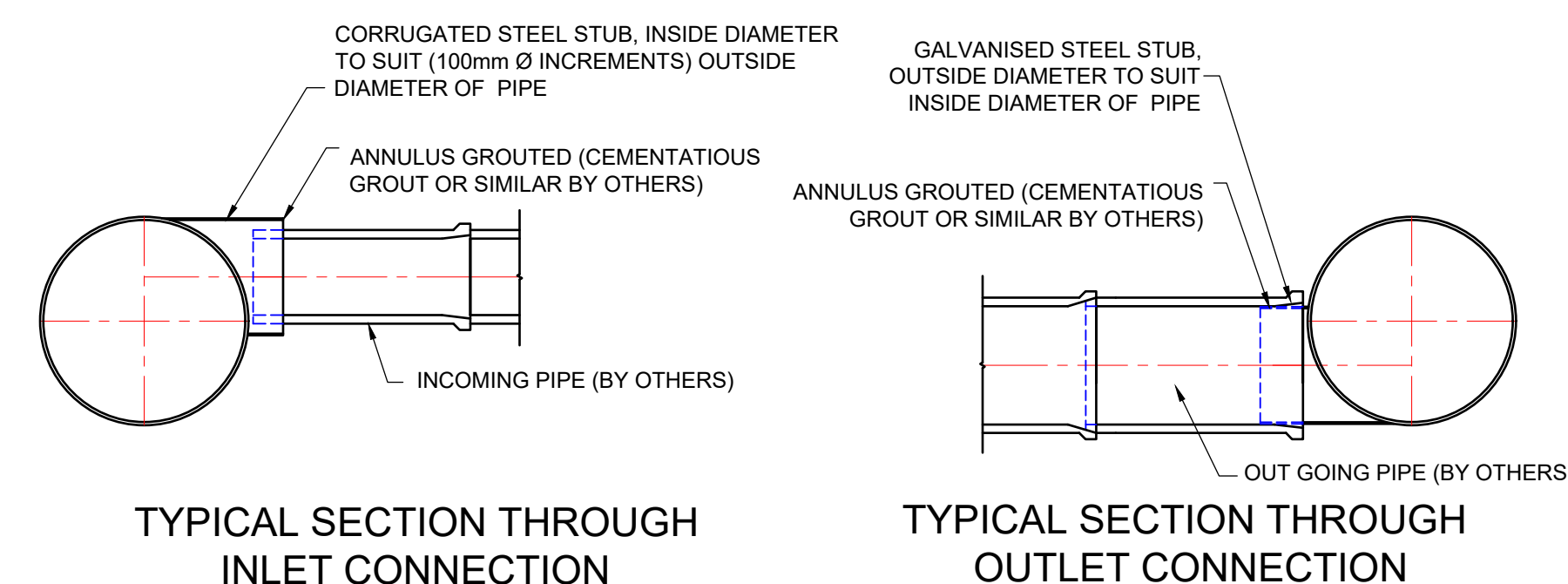
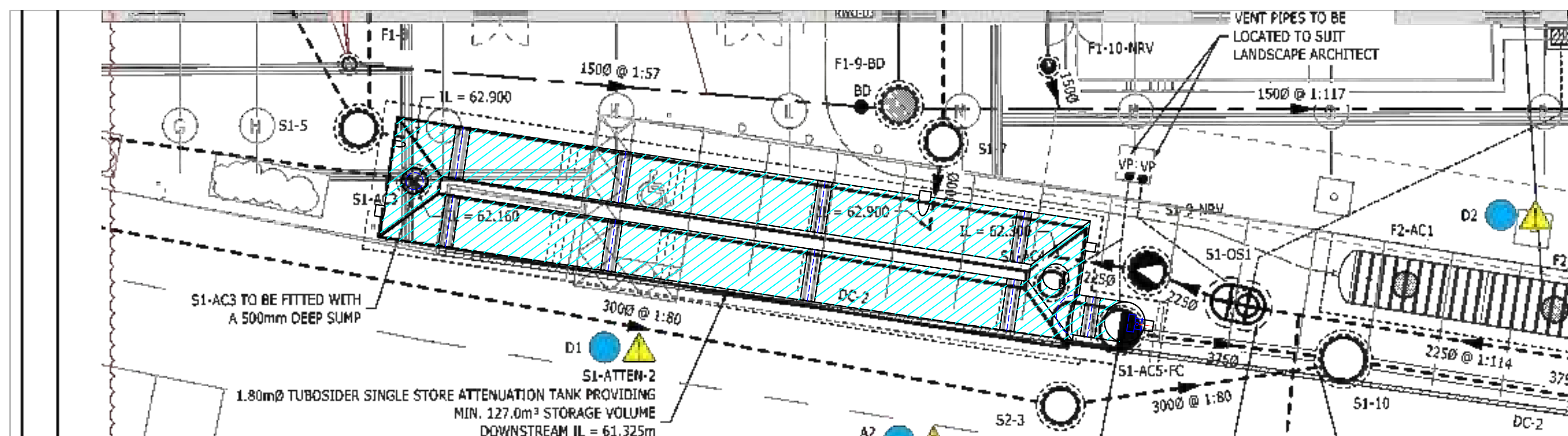
TYPICAL MAINTENANCE, ACCESS AND PUMP CHAMBER SHAFT FINISHING DETAIL



- NOTES:
- When calculating shaft heights Tubosider allow 500mm between finished cover level (FCL) and top of shaft.
 - The 500mm is typically made up of a concrete "biscuit" 2 courses of bricks and a steel manhole frame. Any discrepancy in levels can be taken up within the brickwork.
 - Prior to placing the "biscuit" the top of the shaft should be wrapped with denzo or polystyrene and the concrete ring should be cast with the top approximately 50mm above the top of the shaft (the shaft must not become load bearing). The "biscuit" should then be bedded onto the concrete ring with sand and cement mortar.
 - Concrete "biscuit", bricks, cover and frame supplied by others.



SECTION THROUGH
COUPLING BAND, c/w GASKET
SCALE 1:30



TYPICAL SECTION THROUGH
INLET CONNECTION
SCALE 1:30

TYPICAL SECTION THROUGH
OUTLET CONNECTION
SCALE 1:30

C	30.07.21	JS	Updated to suit comments
B	21.07.21	JS	Updated to suit latest drainage design
A	26.06.21	JS	For Comment/Approval
-	08.06.21	JS	Sales Drawing

Rev	Date	Drawn	Description
C	30.07.21	JS	Updated to suit comments
B	21.07.21	JS	Updated to suit latest drainage design
A	26.06.21	JS	For Comment/Approval
-	08.06.21	JS	Sales Drawing

TITLE
Tubosider Tank For
Abtatham Moss Library & Leisure Centre
Tank 2

Cubic Capacity = 127m³
EN21_20598

SCALE @ AS SHOWN
TUBOSIDER DRAWING No.
2101_10133_TUB17253_C
REV
SHEET
1



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