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Rev.	Date	Description	By



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AYRE CHAMBERLAIN GAUNT

Project title
PHASE 1 AND 2, NOVARTIS SITE,
HORSHAM,
WEST SUSSEX.

Drawing title
DRAINAGE,
CATCHMENT PLAN.

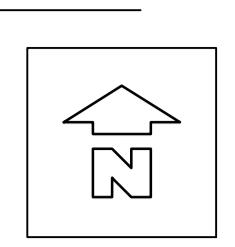
Scale	Paper size	Date	Drawn by	Checked by	Status
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Name
Project code
Originator
Functional breakdown
Spatial breakdown
Form breakdown
Number
Revision

AAL426-AAL-ED-XX-DP-C-5104-P01

GENERAL NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL THE APPROPRIATE ARCHITECTS, ENGINEERS AND SPECIALISTS DRAWINGS AND DETAILS.
2. ALL FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.
3. ANY DISCREPANCIES BETWEEN THIS DRAWING AND OTHER INFORMATION IS TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF THE WORKS ON SITE.
4. THE MAIN CONTRACTOR SHALL BE RESPONSIBLE FOR THE SETTING OUT AND ACCURACY OF ALL DIMENSIONS.
5. THE CONTRACTOR IS TO ENSURE THE STABILITY AND STRUCTURAL INTEGRITY OF THE EXISTING PROPERTY AT ALL TIMES DURING WORKS AND TO REMAIN RESPONSIBLE FOR ALL DROPPING AND SLOPING AS REQUIRED.
6. MAIN CONTRACTOR TO PROVIDE AND FIX SUITABLE BRACING AND PROPPING FOR ALL ELEMENTS IN THE TEMPORARY CONDITION DURING CONSTRUCTION STAGE, SUCH AS TO ENSURE STRUCTURE STABILITY AT ALL TIMES.
7. IT IS THE CONTRACTORS SOLE RESPONSIBILITY FOR ASCERTAINING SAFE DISPOSAL OF ANY OFF-SITE EXCAVATED SPOIL. NO CLAIM RESULTING FROM ABNORMAL TIP REQUIREMENTS WILL BE ENTERTAINED.



NOTES

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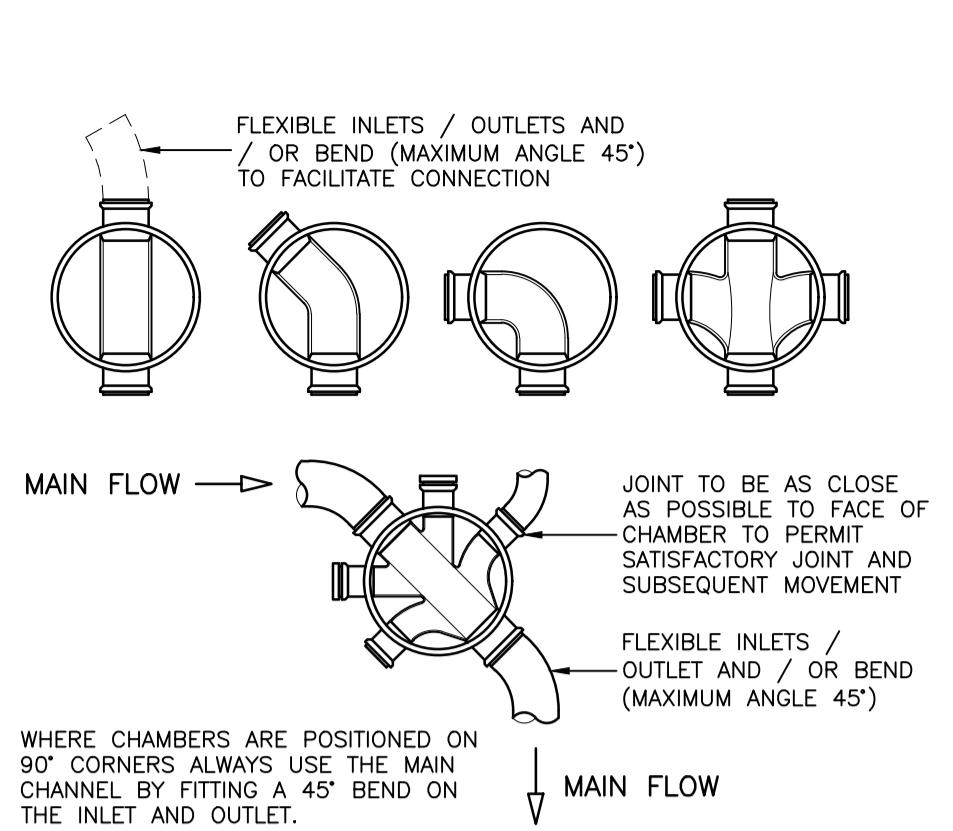
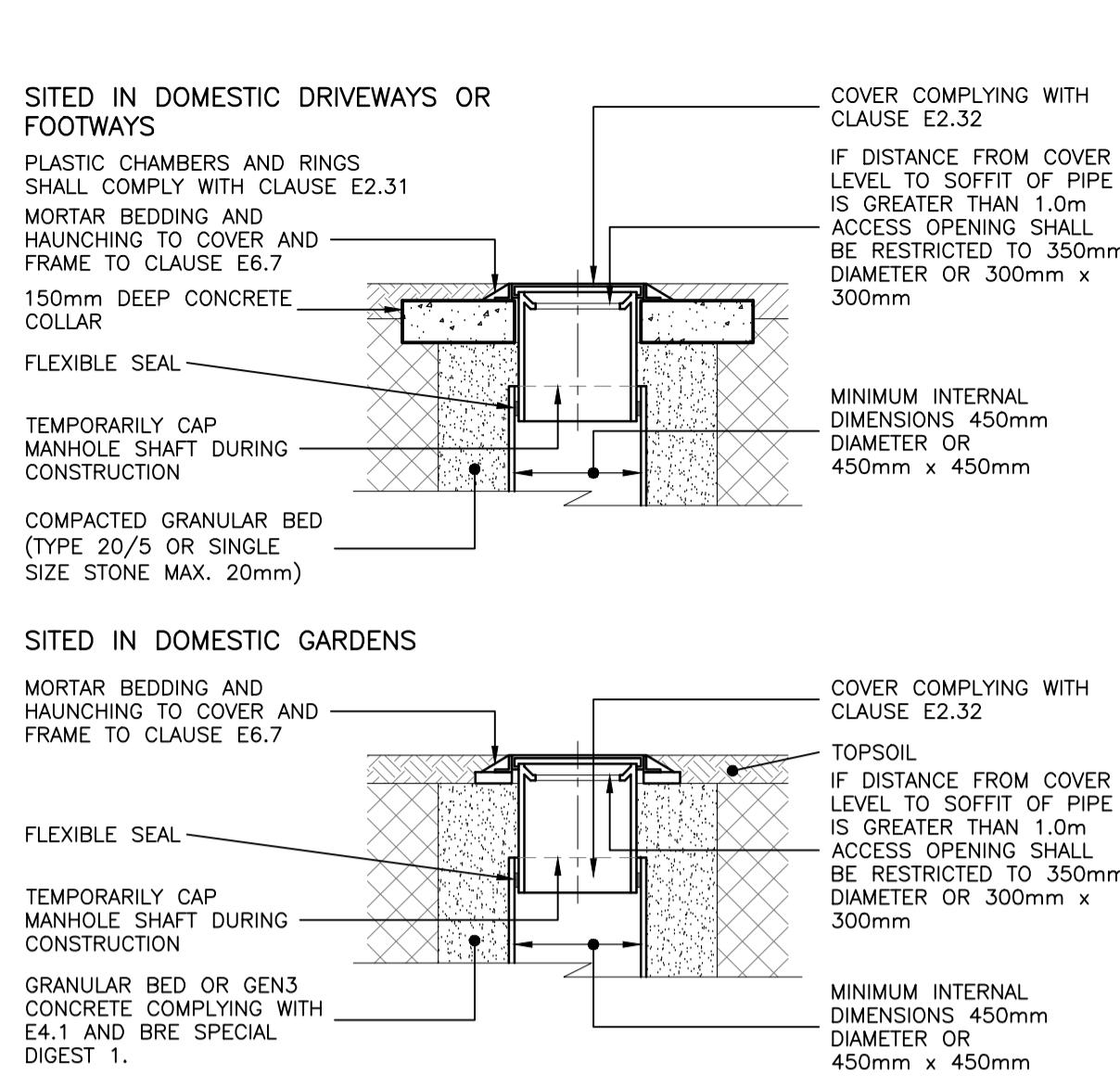
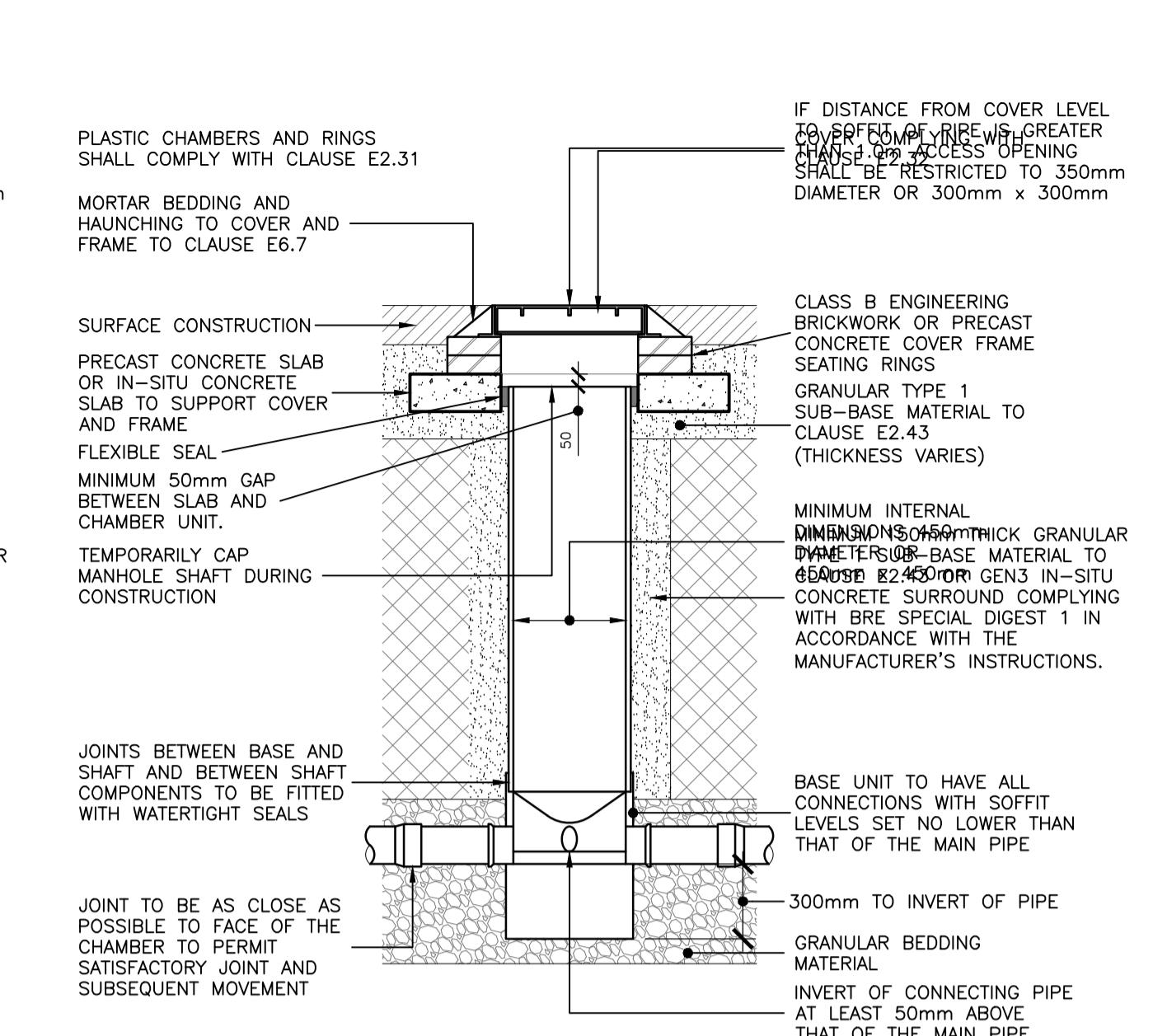
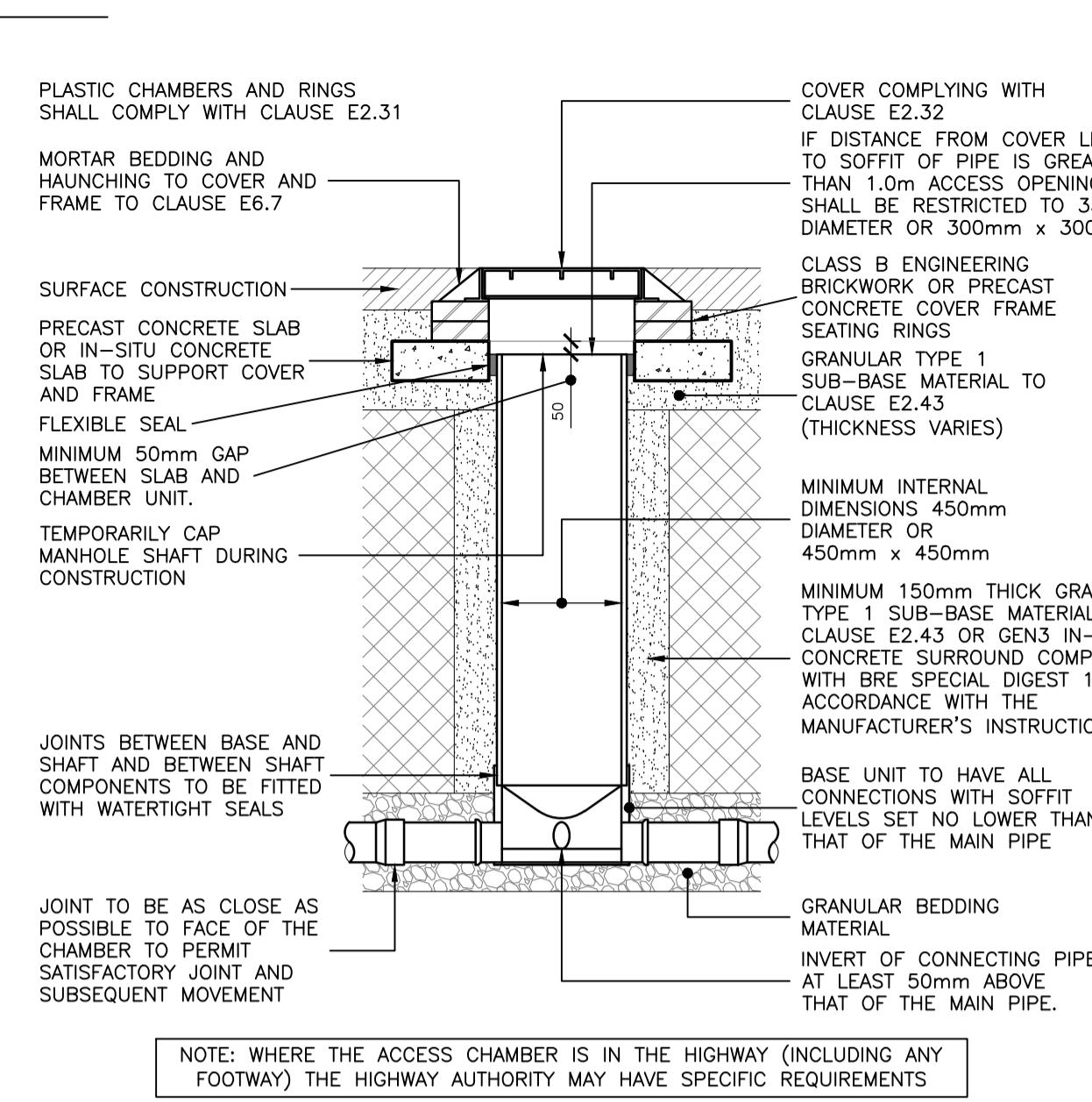
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DRAINAGE NOTES

1. ANY PIPES TO BE ADOPTED, OR CONNECTING TO ADOPTED SEWERS, AND/OR SITUATED UNDER THE HIGHWAY, TO BE VITRIFIED CLAY TO BS EN 295 & BS65 (SWS ONLY), OR CONCRETE PIPES TO BS EN 1916 & BS5811:PART 1, OR PLASTIC IN ACCORDANCE WITH THE FOLLOWING STANDARDS:
 • SDR 35 PVC PIPE TO BS EN 1401
 • SPIRAL WELDED HDPE TO BS EN 13476 PARTS 1 & 2
 • STRUCTURE-WALL THERMOPLASTIC TO BS EN 13476 PARTS 1, 2 & 3
 • POLYPROPYLENE TO BS EN 1852
2. FOR CONSTRUCTION DETAILS REFER TO THE RELEVANT ARCH ASSOCIATES DRAWING NUMBERS LISTED ON THE DRAWING ISSUE SHEET.
3. ADOPTABLE HIGHWAY WORKS ARE TO BE IN ACCORDANCE WITH LOCAL AUTHORITY DESIGN GUIDANCE.
4. ANY WORKS ASSOCIATED WITH THE HIGHWAY/EXTERNAL WORKS INCLUDING HIGHWAY DRAINAGE, SHALL BE IN ACCORDANCE WITH THE HIGHWAYS AGENCY 'MANUAL OF CONTRACT DOCUMENTS FOR HIGHWAY WORKS, VOL 1' (MCHW), UNLESS OTHERWISE SPECIFIED.
5. ALL ADOPTABLE DRAINAGE WORKS TO BE CONSTRUCTED AS DETAILED IN 'THE CODE' FOR ADOPTION DESIGN AND CONSTRUCTION GUIDANCE AND THE LOCAL WATER AUTHORITY'S LOCAL PRACTICE NOTE.
6. ALL ADOPTABLE SEWERS WITH LESS THAN 1.20m OF COVER WHEN LAID BENEATH THE ROADS, OR 0.90m OF COVER IN OTHER AREAS, SHALL HAVE CONCRETE PROTECTION IN ACCORDANCE WITH EITHER OF THE DETAILS SHOWN ON THE STANDARD DRAWING PROVIDED.
7. ALL DRAINAGE WORKS SHOULD COMMENCE AT THE PROPOSED DOWNSTREAM CONNECTION POINT, THE WORKS CONTINUING UPSTREAM FOLLOWING CONFIRMATION OF THE EXISTING LEVELS. THE ENGINEER: CONNECTIONS TO MANHOLES OR LARGER SIZED PIPES SHOULD SOFTEN TO SOFTEN UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER, IF THIS IS NOT POSSIBLE INFORM THE ENGINEER IMMEDIATELY.
8. COVER LEVELS SHOWN ARE APPROXIMATE. COVERS AND FRAMES SHALL BE SET TO FINISHED GROUND LEVELS AND FALLS.
9. ROAD GULLY PIPES ARE TO BE 150mm DIA. WITH CONCRETE SURROUND AND FLEXIBLE JOINTS, ALL OTHER UN-REFERENCED PIPES ARE ASSUMED TO BE 100mm DIA.
 • PW MIN GRADIENT - 1 IN 40 (100 DIA) NO WC'S
 • FW MIN GRADIENT - 1 IN 80 (100 DIA) MIN 1 WC CONNECTED
 • FW MIN GRADIENT - 1 IN 150 (150 DIA) MIN 5 WC'S CONNECTED
 • SW MIN GRADIENT - 1 IN 100 (100 DIA)
 • SW MIN GRADIENT - 1 IN 150 (150 DIA)
 ALL GULLIES SHALL BE FITTED WITH GRADE D400 GRATINGS AND FRAMES TO BS EN124, UNLESS OTHERWISE STATED.
14. IN ORDER TO MAINTAIN THE SATISFACTORY FUNCTIONING OF SURFACE WATER SEWERS, ALL ROAD AND YARD GULLIES ARE TO BE "TRAPPED".
15. ALL NON ADOPTABLE LATERALS BENEATH THE HIGHWAY SHALL BE BACK FILLED WITH A TYPE 1 GRANULAR MATERIAL AS CL.803 (MCHW) APPROVED BY THE ENGINEER.
16. ALL PRIVATE DRAINAGE TO BE IN ACCORDANCE WITH THE BUILDING REGULATIONS APPROVED DOCUMENT PART-H, AND TO THE SATISFACTION OF THE BUILDING CONTROL INSPECTOR.

17. WHERE DRAINS PASS THROUGH FOUNDATIONS OR CONNECT TO MANHOLES, A FLEXIBLE PIPE JOINT SHOULD BE PROVIDED TO FORM A ROCKER PIPE IN ACCORDANCE WITH THE STANDARD DETAIL PROVIDED.
18. SHALLOW PRIVATE DRAINS MAY REQUIRE PROTECTION USING CLASS 'Z' CONCRETE SURROUND OR PAVING SLABS BRIDGING THE TRENCH SUBJECT TO THE NHBC INSPECTOR'S REQUIREMENTS.
19. WHERE DRAINAGE RUNS PASS CLOSE TO BUILDINGS OR THEIR INVERT LEVELS ARE BELOW FOUNDATION LEVEL, THEN THE TRENCHES ARE TO BE BACK FILLED IN ACCORDANCE WITH THE STANDARD DETAIL PROVIDED.
20. REFERENCE SHOULD BE MADE TO THE STRUCTURAL ENGINEERS DETAILS FOR ALL ASPECTS OF FOUNDATION DESIGN AND CONSTRUCTION.
21. THE CONTRACTOR IS TO KEEP A RECORD OF ANY VARIACTIONS MADE ON SITE, INCLUDING THE RELOCATION OF SEWERS OR DRAINS, SO THAT AN AS CONSTRUCTED DRAWING CAN BE PREPARED UPON COMPLETION OF THE PROJECT.
22. THE CONTRACTOR SHOULD CHECK ALL DIMENSIONS ON SITE. NO DIMENSIONS ARE TO BE SCALED FROM THESE DRAWINGS.
23. IT IS THE CONTRACTORS/SUBCONTRACTORS RESPONSIBILITY TO ENSURE COMPLIANCE WITH THE CURRENT BUILDING REGULATIONS AND CODES OF PRACTICE.
24. STUB CONNECTIONS TO ADOPTABLE MANHOLES SHALL BE MADE FROM VITRIFIED CLAY AND CONSIST OF TWO ROCKER PIPES LAID AT THE SAME GRADIENT AS THE UP OR DOWNSTREAM PIPE.
25. ALL DOWNPIPES ARE TO BE SEALED, IE CONNECTED DIRECTLY TO THE STORMWATER DRAIN. ACCESS POINTS TO BE PROVIDED 1m ABOVE GROUND LEVEL FOR EXTERNAL RWP'S AND 1m ABOVE FFL FOR INTERNAL RWP'S.
26. ALL DOWNPIPES ARE TO BE CONNECTED TO DOWN PIPE GULLIES PRIOR TO CONNECTING TO THE STORMWATER DRAIN. ACCESS POINTS TO BE PROVIDED 1m ABOVE FFL FOR INTERNAL RWP'S.
27. UNLESS OTHERWISE NOTED OR SIMILAR APPROVED CHANNEL DRAINS TO BE ACO MULTI DRAIN WITH A15 GRATING IN PEDESTRIAN AREAS, C250 IN CAR PARKS AND D400 IN CARRIAGEWAYS. SLOTTED CHANNEL TO BE USED FOR AREAS WITH FALLS <1:15 MESH GRATING TO BE USED WHERE FALLS >1:15.
28. GULLY AND CHANNEL DRAIN POSITIONS ARE LIABLE TO AMENDMENT WHEN THE DESIGN LEVELS HAVE BEEN DETERMINED.
29. MODULAR GEOCELLULAR STORAGE/SOAKAWAY SYSTEM TO CONFORM WITH ACO C250, C400, S400, C600, C800, C1000, C1200, C1400, C1600, C1800, C2000, C2200, C2400, C2600, C2800, C3000, C3200, C3400, C3600, C3800, C4000, C4200, C4400, C4600, C4800, C5000, C5200, C5400, C5600, C5800, C6000, C6200, C6400, C6600, C6800, C7000, C7200, C7400, C7600, C7800, C8000, C8200, C8400, C8600, C8800, C9000, C9200, C9400, C9600, C9800, C10000, C10200, C10400, C10600, C10800, C11000, C11200, C11400, C11600, C11800, C12000, C12200, C12400, C12600, C12800, C13000, C13200, C13400, C13600, C13800, C14000, C14200, C14400, C14600, C14800, C15000, C15200, C15400, C15600, C15800, C16000, C16200, C16400, C16600, C16800, C17000, C17200, C17400, C17600, C17800, C18000, C18200, C18400, C18600, C18800, C19000, C19200, C19400, C19600, C19800, C20000, C20200, C20400, C20600, C20800, C21000, C21200, C21400, C21600, C21800, C22000, C22200, C22400, C22600, C22800, C23000, C23200, C23400, C23600, C23800, C24000, C24200, C24400, C24600, 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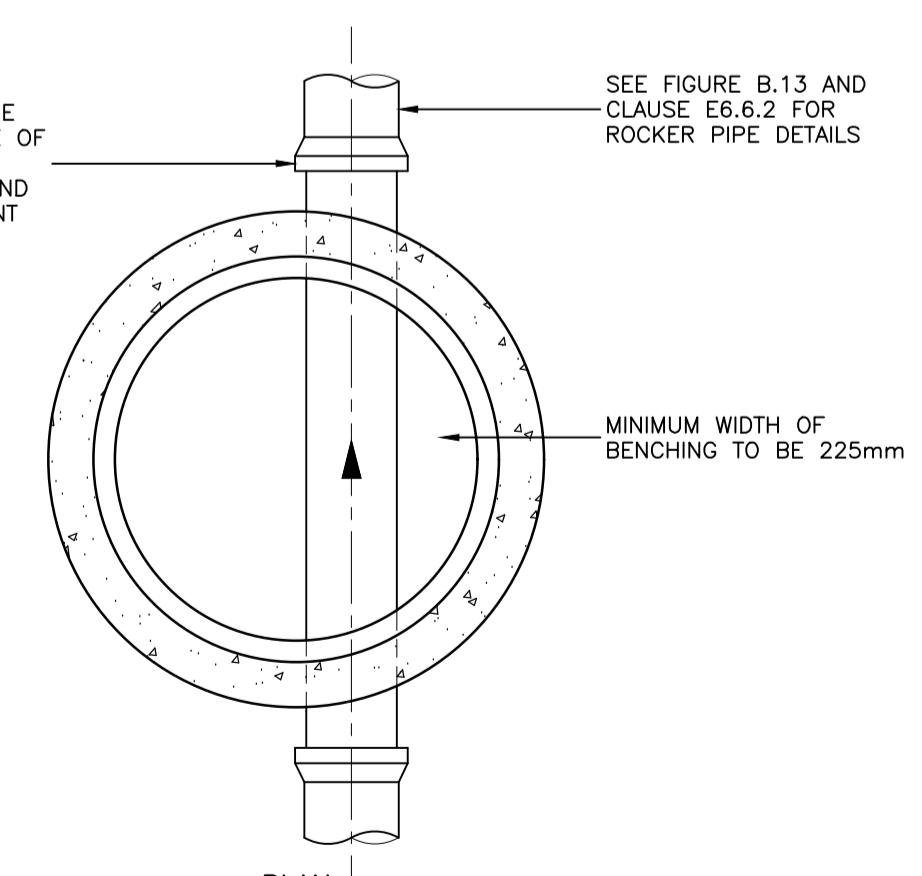
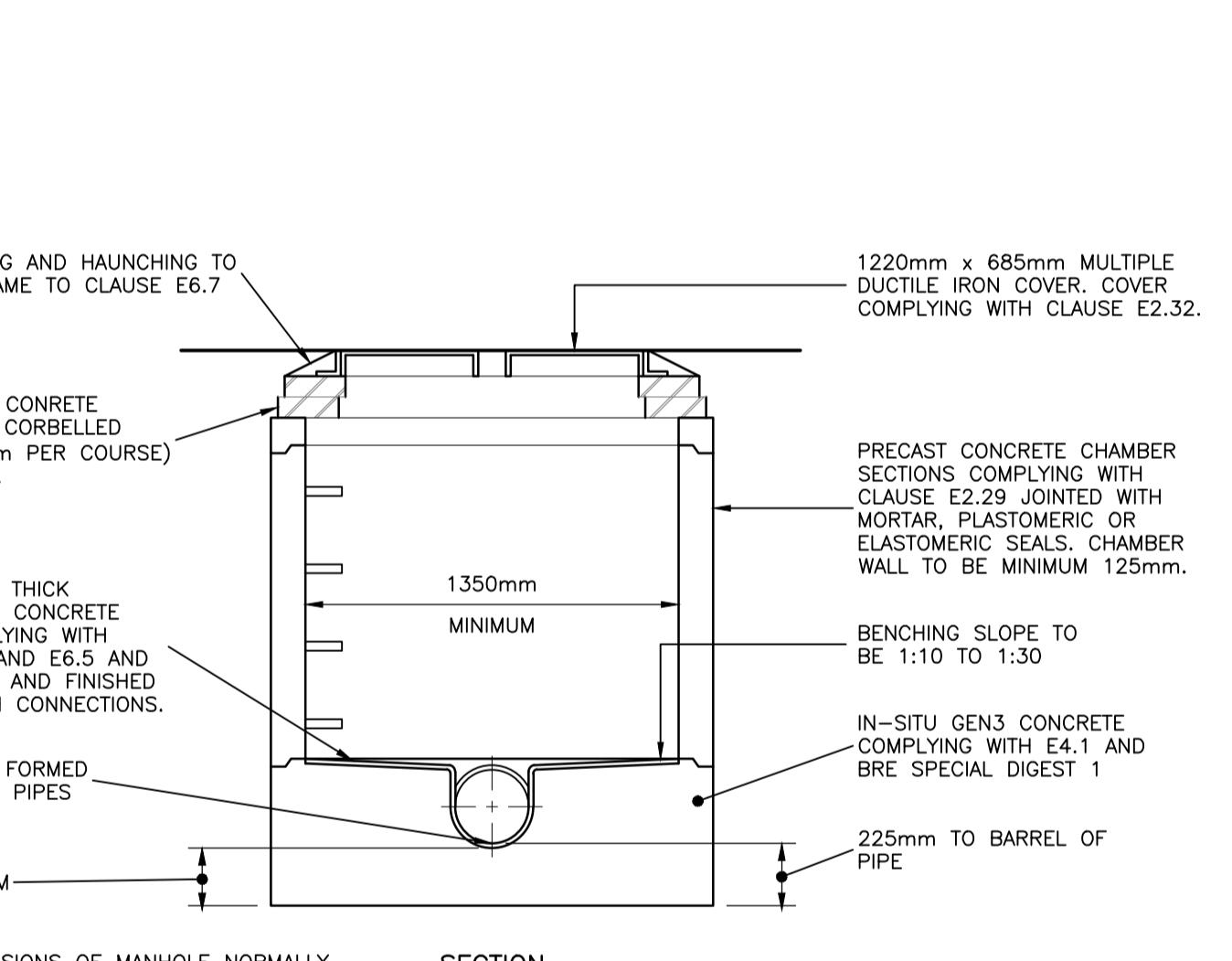
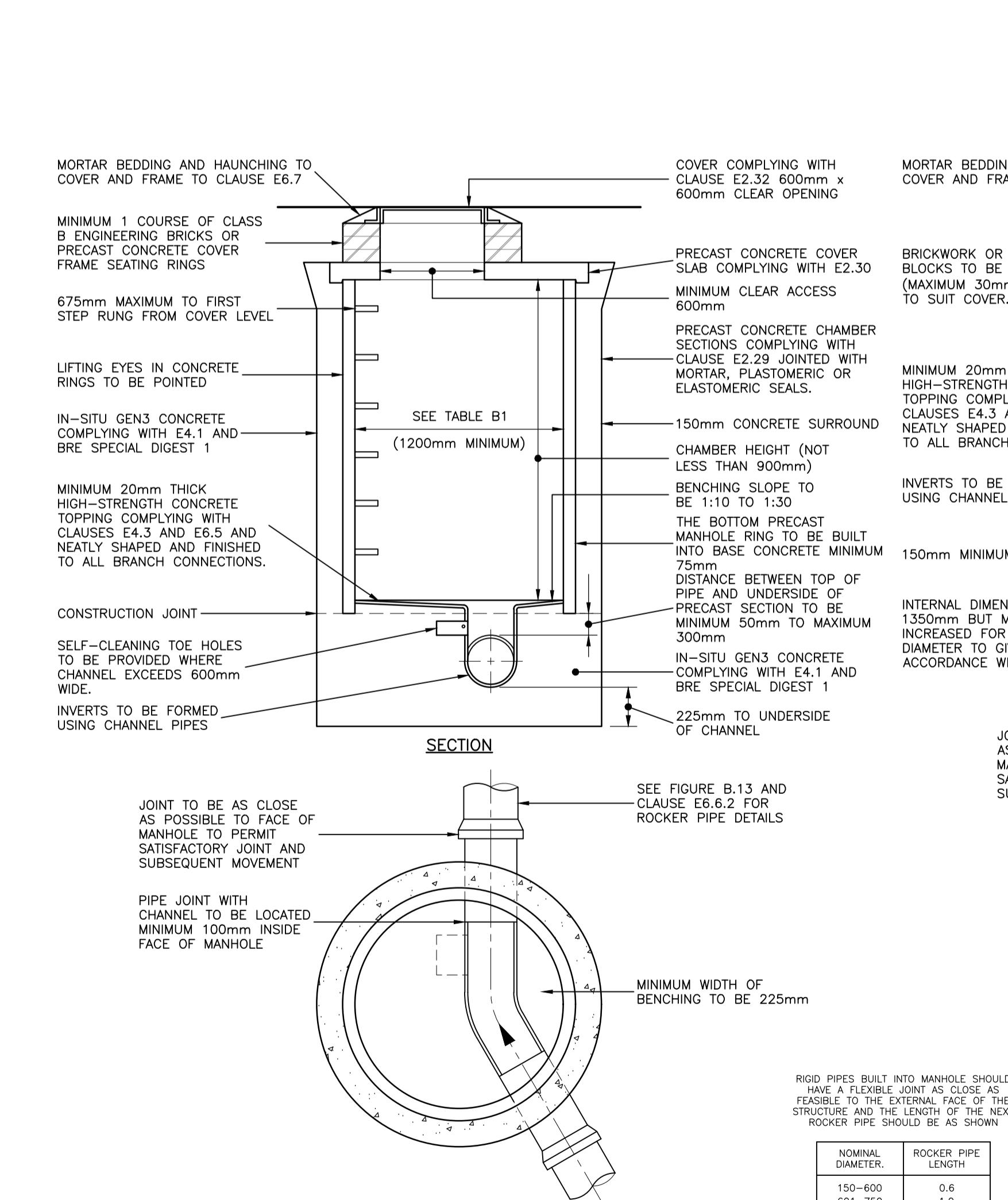
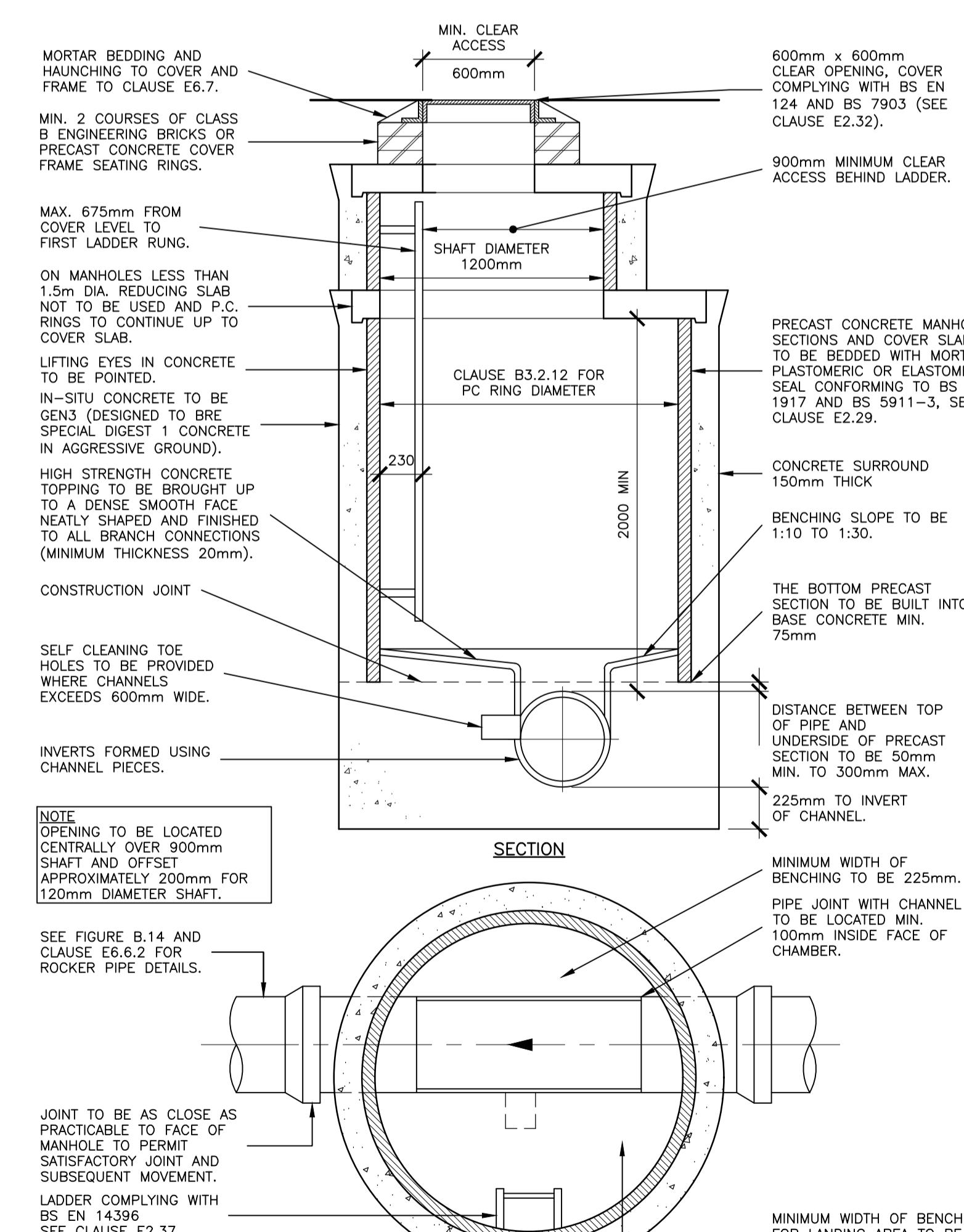
TYPICAL INSPECTION CHAMBER DETAIL - TYPE D

DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE UP TO 3m
FLEXIBLE MATERIAL CONSTRUCTION FOR USE IN AREAS SUBJECT
TO VEHICLE LOADING
(SCALE 1:25@A1)

TYPICAL INSPECTION CHAMBER DETAIL - TYPE D
DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE UP TO 3m
FLEXIBLE MATERIAL CONSTRUCTION FOR USE IN AREAS SUBJECT
TO VEHICLE LOADING
(SCALE 1:2500)

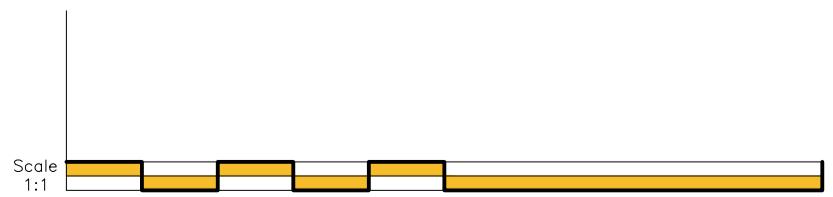
TYPICAL INSPECTION CHAMBER CATCHPIT DETAIL – TYPE D
DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE UP TO 3m

DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE UP TO 3m
FLEXIBLE MATERIAL CONSTRUCTION FOR USE IN AREAS SUBJECT TO
VEHICLE LOADING
(SCALE 1:25@A1)



TYPICAL MANHOLE DETAIL – TYPE A
DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 3.0m TO 6.0m
(SCALE 1:25@A1)

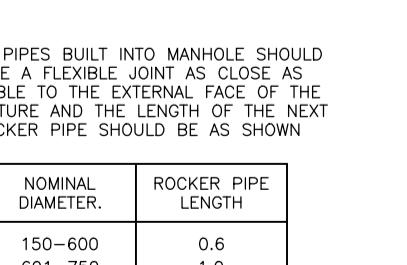
DEPTH FROM COVER LEVEL TO SIGHT OF PIPE 3.0m TO 6.0m
(SCALE 1:25@A1)



TYPICAL MANHOLE DETAIL – TYPE B

DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 1.5m–3.0m
(RIGID MATERIAL CONSTRUCTION WITH CONCRETE SURROUND)

DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 1.5m–3.0m
(RIGID MATERIAL CONSTRUCTION WITH CONCRETE SURROUND)



TYPICAL MANHOLE DETAIL - TYPE C

TH FROM COVER LEVEL TO SOFFIT OF PIPE LESS THAN 1.5m
(RIGID MATERIAL CONSTRUCTION)

(SCALE 1:25@A1)

(RIGID MATERIAL CONSTRUCTION)
(SCALE 1:25@A1)

