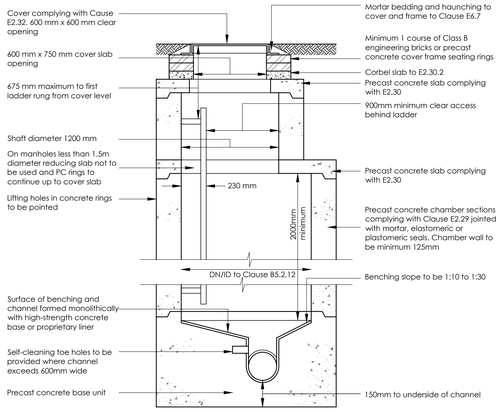
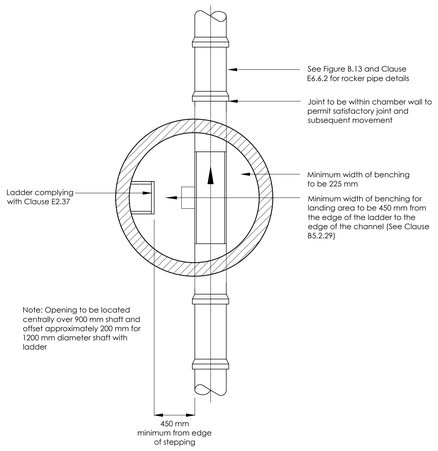
Typical Manhole Detail - Type A1

Depth from cover level to soffit of pipe 3m to 6m with ladder and reducing slab
Rigid material construction without concrete surround



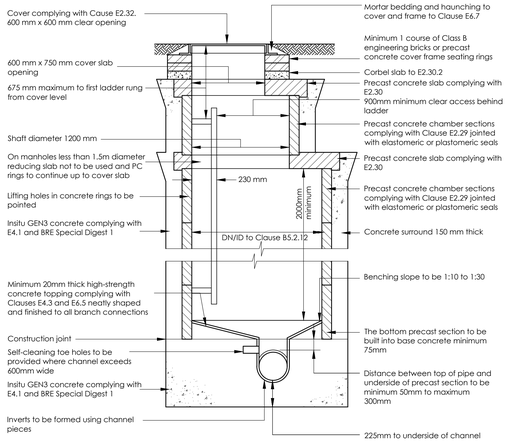
Typical Section Through the Manhole



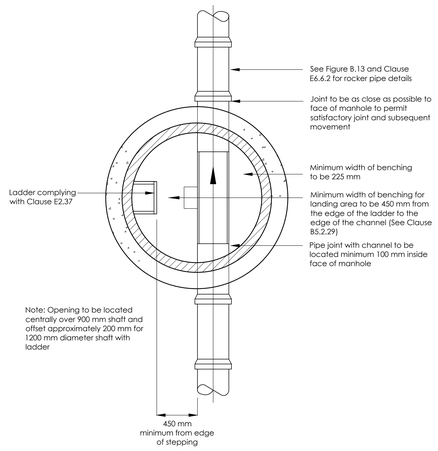
Typical Sectional Plan

Typical Manhole Detail - Type A1

Depth from cover level to soffit of pipe 3m to 6m with ladder and reducing slab
Rigid material construction with concrete surround



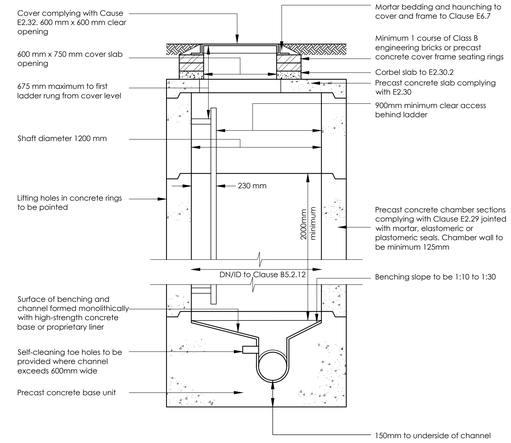
Typical Section Through the Manhole



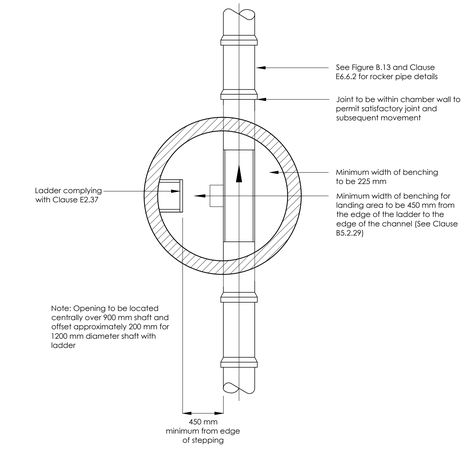
Typical Sectional Plan

Typical Manhole Detail - Type A2

Depth from cover level to soffit of pipe 3m to 6m with ladder
Alternative rigid material construction without concrete surround



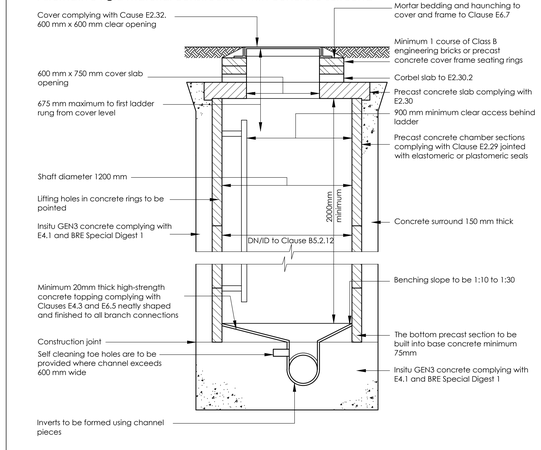
Typical Section Through the Manhole



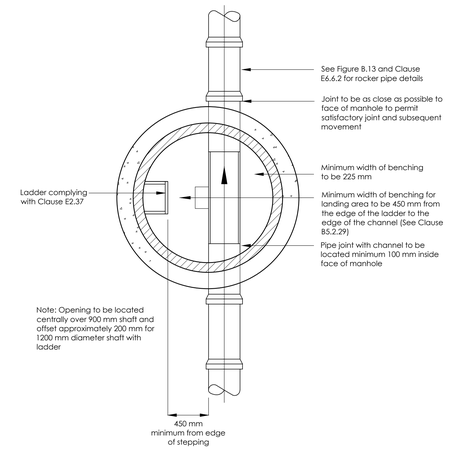
Typical Sectional Plan

Typical Manhole Detail - Type A2

Depth from cover level to soffit of pipe 3m to 6m with ladder
Alternative rigid material construction with concrete surround



Typical Section Through the Manhole



Typical Sectional Plan

NOTES:

1. DO NOT SCALE from this drawing as liable to distort
2. This drawing is to be read in conjunction with all other relevant Engineers, Architects and Specialists drawings and specifications
3. Any variations with line, level or specification of the proposed works should be reported to the Engineer prior to commencement

GENERAL NOTES:

1. Access cover grades to BS EN 124 as follows:

   Class D 400 - Carriageways of roads (including pedestrian streets), hard shoulders and parking areas.

   Class B 125 - Footways, pedestrian areas and comparible locations

2. Manhole covers and frames shall be ductile iron with a minimum suare opening of 600 x 600mm. Covers shall be double triangle for 600mm square openings and be provided with loose bolted connections. Frame depth shall be typically be 150mm but shall in all cases conform to Sewer Sector Guidance Appendix C Clause E2.32.

3. Opening to be located centrally over 900mm shaft and offset approximately 200mm for 1200mm diameter shaft with rungs/ladder.

4. Permissible chamber diameters for manhole types A and B are as follows:

Diameter of largest pipe in manhole (mm)	Chamber section diameter (mm)
Less than 375	1200
375 - 450	1350
500 - 700	1500
750 - 900	1800
Greater than 900	Pipe diameter + 900

5. Pipes built into manholes shall have a flexible joint as close as feasible to the external face of the structure and the length of the next pipe (rocker pipe) away from the structure shall be as follows:

Nominal Diameter (mm)	Effective Length (m)
150 - 600	0.60
601-750	1.00
Greater than 750	1.25

6. Where a future connection in shown in the manhole schedule the pipe shall be effectively sealed with an end cap.

7. The minimum size of sewer where guide bars, safety chains, or other safety devices are required in manholes shall be 375mm diameter.

8. Manholes less than 3m deep must have double encapsulated step rungs. Manholes greater than 3m deep must have access ladder, 230mm clearance wall to ladder.

9. The use of ladders or steps in manholes, wet wells and valve chambers shall comply with the following:
Steel plastic encapsulated manhole single steps shal not be used in manholes of a greater depth than 1.0m. Galvanised mild steel plastic encapsulated double steps may be provided in manholes up to 3.0m in depth. Galvanised mild steel or stainless steel ladders shall be provided in accordance with BS 4211 in manholes between 3.0 & 6.0m deep. Manholes greater than 6.0m deep shall be specially designed and have intermediate landings. Access holes in intermediate landings shall be provided with galvanised mild steel gratings to prevent persons falling through. The design of deep manholes shall permit the use of a winch or lifting gear mounted at ground level in case of emergencies. GRP ladders are not preferred.

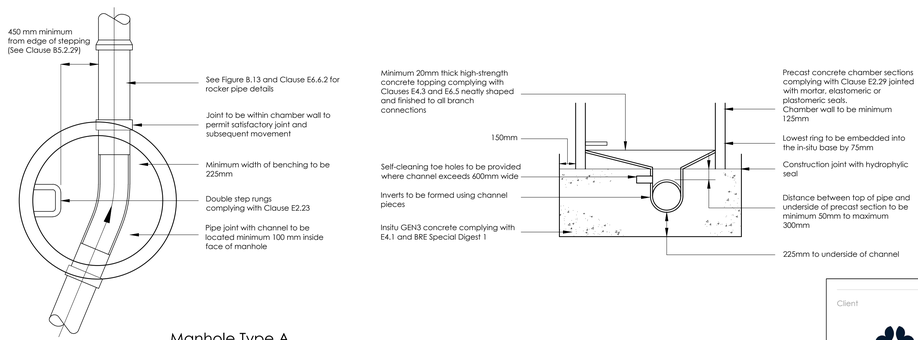
10. Only low carbon steel or stainless steel ladders for vertical fixing to manholes will be acceptable.

11. All ironwork to be kite marked by BSI or certificated by equal inspection authority.

12. DI pipes, fittings and joints shall comply with the reavant provisions of BS EN 598.

13. Manhole frames shall be set to level, bedded and haunched externally over the base and sides of the frame in mortar, in accordance with the manufacturer's instructions. The frame shall be seated on at least 2 courses of Class B Engineering bricks, on precast concrete masonry units or on precast concrete cover frame seating rings to regulate the distance between the top of the cover and the top rung to no greater then 675mm. A mortar fillet shall be provided where the corners to an opening in a slab are chamfered and the brickwork is not flush with the edges of the opening.

14. All type A, B and E manholes should have concrete surround. Concrete rings shall be sealed using "Tokstrip" (or similar approved proprietary bitumen or resin mastic sealant) and lifting eyes pointed with resin modified mortar.



Manhole Type A

Alternative base detail for Type A manholes without concrete surround

Rev	Date	Description	
PL01	19/04/24	Planning issue	GG/MG
			Drn/Chk

Drawing revision denotes the following stages: P - Preliminary, T - Tender, C - Construction, R - Record/As Built.

PLANNING

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Project Title

PROPOSED DEVELOPMENT AT
REDHILLS
EXETER
DEVON

Drawing Title

STANDARD PRECAST MANHOLE DETAILS - SHEET 1

Scale/Size	Date
NTS/A0	February 2024
Drawn	Checked
George Gardner	Max Gavaghan
Sands Project No.	Client Project No.
2023.318	-
Drawing No.	Revision
2801	PL01