

1. All private drainage must comply with the current edition of DTLR Building Regulations approved document H.
2. Where drainage is to be adopted it should meet with the requirements of Ofwat Code for Adoptions.
3. Drainage design to be to BS EN 752:2017

5. Before works commence the contractor should satisfy themselves that the details of the drainage system to be connected into are correct i.e. cover, invert levels, line, condition and type of sewer.
6. Private access chambers are to be appropriate to the depths and loadings as follows:-

Depth to invert	Access size
Up to 600mm	Manit access chamber 300mmØ
Up to 1200mm	Inspection chamber 475mm Ø (PPIC) 600mmx450mm Brick/P.C.C. units
1200 to 1500mm	P.C.C. ring manhole 1050mmØ
1500 to 3000mm	P.C.C. ring manhole 1200mmØ 1800x1200mm inserted if sewer

7. All manholes shall have a flexible joint within 150mm of the face of the structure and a "rocker pipe " which should not exceed 600mm in length.

8. Pipe materials shall be -
Vitrified clayware to BS EN 295
Cast iron to BS EN 545:2010
UPVC - BS EN 1401 PP - BS EN 1852
Structure wall -BS EN 13476

9. For private sewers having 900mm or less cover beneath carriageways & hardstanding or 600mm in landscape areas then they shall have concrete surround or slab protection. Slab protection to be 100mm thick C20 concrete slab with mesh reinforcement and a bearing of 150mm each side of the trench. Concrete surround to be 150mm C20 with flexible joints.

10. Trenches within 1.2m of load bearing walls should be filled with concrete at least to the underside of the foundation. Where the distance is more than 1.2m from the foundations the concrete should be taken at least up to a 45degree line from the bottom of the foundations. Alternatively, the foundations could be taken to a deeper level to avoid undermining by the drainage trench (check with the Engineer where this is required).

11. Pipe bed and surround to be granular Type S unless otherwise noted.

12. Drains passing through walls or foundations should have either an arched or lintelled opening to give 50mm clearance around the pipe. The opening shall be masked both sides with a rigid non-perishable material, or alternatively a short length of pipe may be built in solid if it is connected within 150mm to rocker pipes (max 600mm long) with flexible joints.

13. Drainage under buildings should be bedded and surrounded by at least 100mm of granular material.

14. Unless otherwise stated on the drawings or in the schedules then all private drainage shall be 100mmØ.

15. All road gully connections to be 150mmØ and surrounded with 150mm C20 concrete surround.

16. Where schemes require soakaways they shall not be positioned closer than 5m from the nearest dwelling or structure. Where solution features can occur in the underlying strata such as chalk then this distance will need to be increased to 10m.

17. New connections to existing public sewers should be carried in accordance with appropriate Section 106 (Water Industry Act) 'connection consent' and also under the supervision of the Water Authority.

18. Covers shall be to B.S. EN 124-2:2015
Class A15 - areas where only pedestrians have access.
Class B125 - for use in car parks and pedestrian areas
where occasional vehicular access is likely.

- Class D400 - areas where cars and lorries have access including carriageways, hard shoulders.

- Cover and frames to be 150mm deep except residential cul-de-sacs

19. It is recommended that drainage works should be constructed from the outfall particularly where the outfall depth is relatively shallow. If it is not possible to commence works from the outfall the contractor should satisfy themselves that the invert, line, position and type of existing outfall are correct.

20. Drainage works should be protected from possible damage by construction traffic loadings during the construction period. Protection may be provided by barriers, materials should not be stored over drainage works.

21. Buildings up to 3 storeys shall have a rest bend at the base of the soil stack 450mm min below the invert of the lowest incoming drain. Buildings over 3 storeys must be a minimum of 750mm below the lowest incoming drain. Buildings over 5 storeys then the ground floor drainage connections should have their own connections to the external drain.

22. Where piling works are undertaken the positions of existing sewers must be accurately located before piling takes place.

Mortar bed and haunching to cover and frame to Clause E6.7 of SA7th Edition

600mm x 600mm clear opening cover comply with BS EN 124 and BS 7903 Clause E2.32 of SA7th Edition

Minimum 2 courses of Class B engineering bricks or precast concrete cover and frame sealing rings

675mm maximum to first ladder rung from cover level

lifting eyes in concrete rings to be pointed

In-situ concrete to be Gen3 (designed to BRE Special Digest 1 Concrete in Aggressive Ground)

900mm clear access behind ladder

Clause B3.2.13 for PC ring diameter

High-strength concrete topping to be brought up to a dense smooth face, neatly shaped and finished to all branch connections (minimum thickness 20mm)

Construction joint

Self-cleaning toe holes to be provided where channel exceeds 600mm wide

Inverts to be formed using channel pipes

Minimum clear access 600mm

Precast concrete manhole sections and cover slab to be bedded with mortar, plastomeric or elastomeric seal conforming to BS EN 1917 and BS 5911-3 see Clause E2.29 SA7th Edition

Alternative
Precast concrete manhole sections and cover slab to be bedded with mortar, plastomeric or elastomeric seal conforming to BS EN 1917 and BS 5911-3 see Clause E2.29 SA7th Edition Chamber wall to be minimum 125mm with no concrete surround

150mm concrete surround (see also alternative construction shown above)

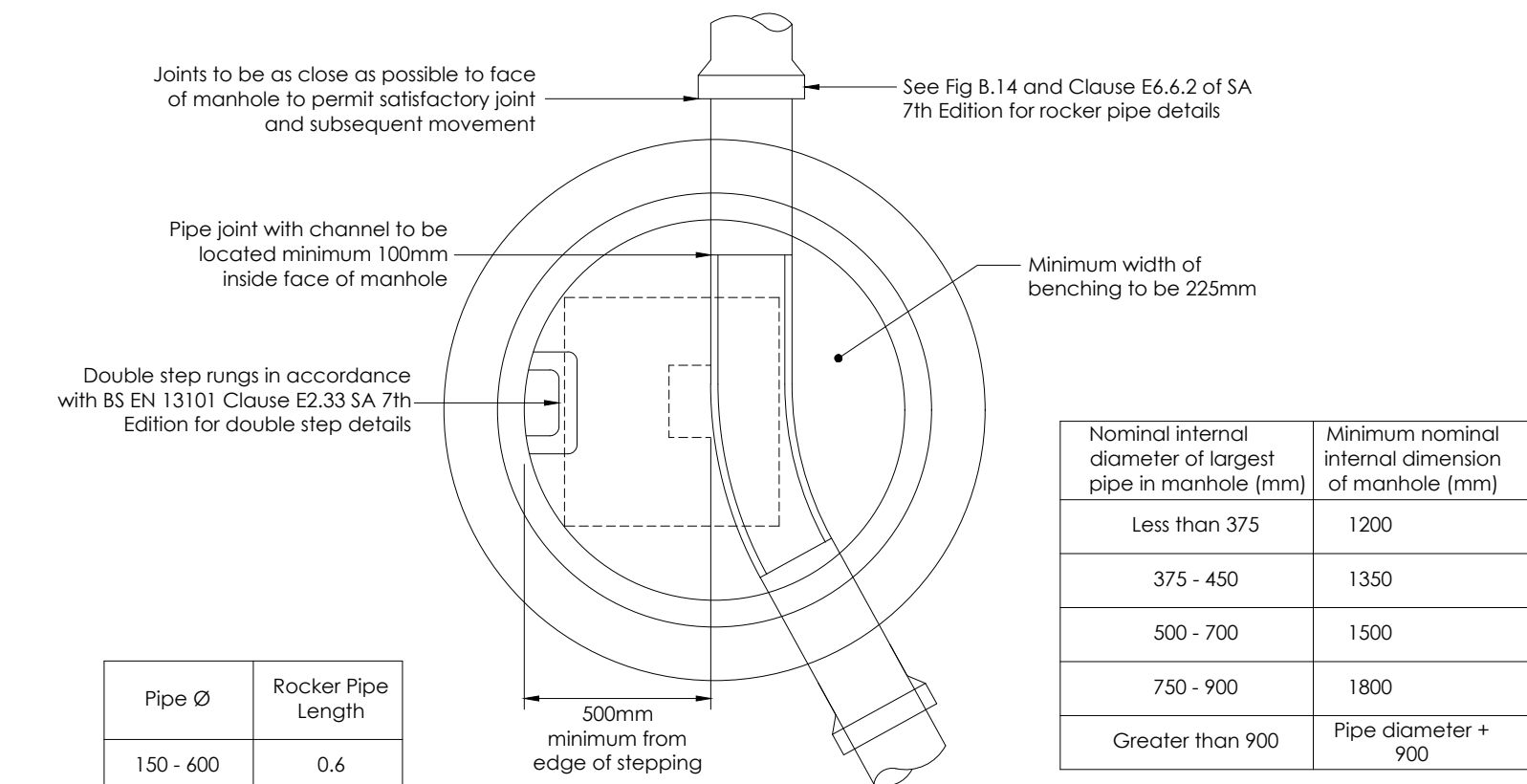
Chamber height (not less than 2000mm)

Benching slope to be 1:10 to 1:30

The bottom precast manhole ring to be built into base concrete minimum 75mm

Distance between top of pipe and underside of precast section to be minimum 50mm to maximum 300mm

225mm to underside of channel



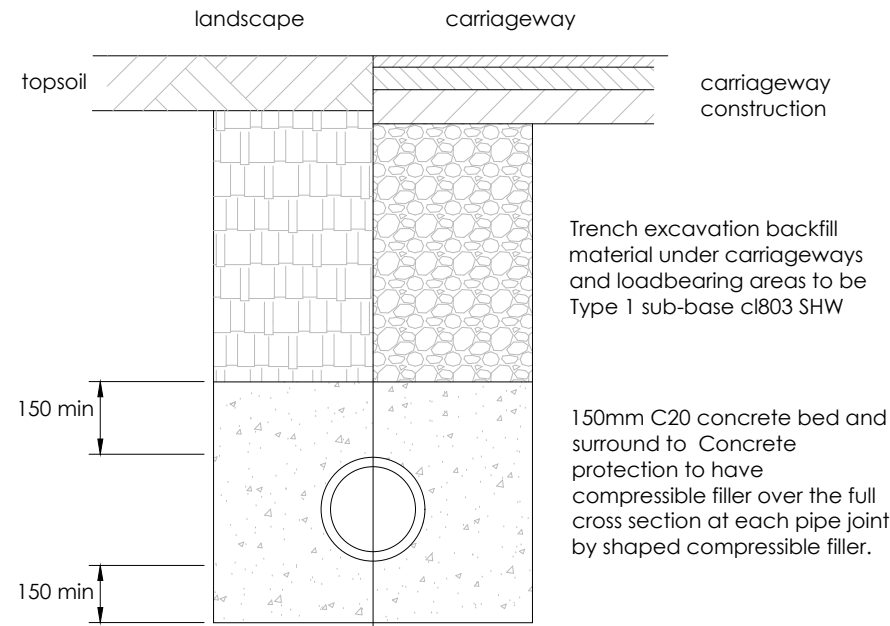
Pipe Ø	Rocker Pipe Length
150 - 600	0.6
601 - 750	1.0
over 750	1.25

Recommended rocker pipe length
away from structure Table E.12
from Clause E6.6 of SA 7th edition

Nominal Bore of Pipe (mm)	Alternative Aggregate Sizes (mm)		CF Value Max
	Single-Sized	Graded	
100-150	10	-	0.2
225-300	10 or 14	14 to 5	0.2
375-525	10,14 or 20 14 or 20	14 to 5 or 20 to 5	0.2
Exceeding	14,20 or 40	14 to 5 or 20 to 5 or 40 to 5	0.15 0.5

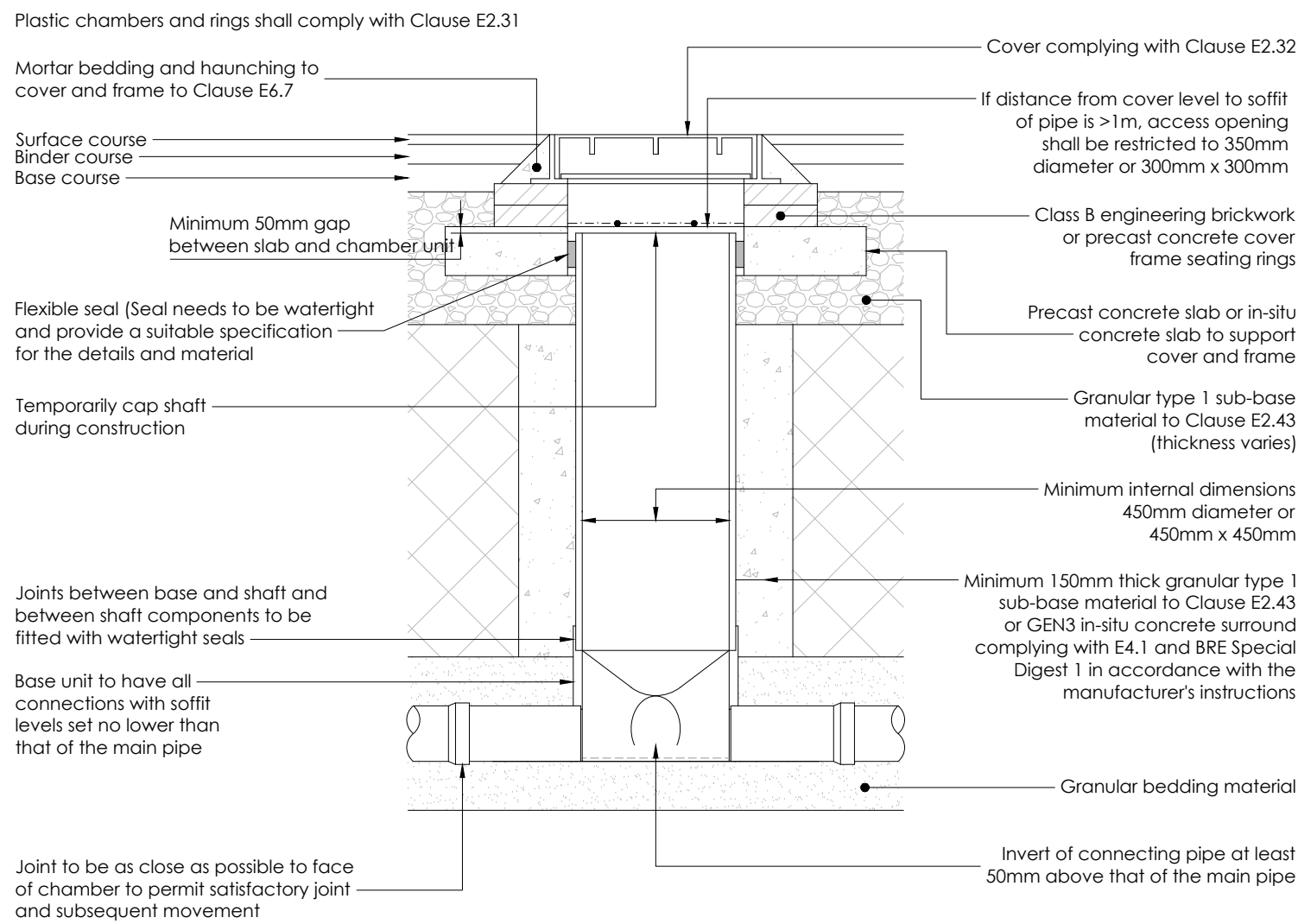
PIPE DIA	TRENCH WIDTH	Tw
150	600	
225	700	
300	750	
375	1050	
450	1150	
525	1200	
600	1350	
675	1450	
750	1500	
825	1600	
900	1900	
1050	2050	
1200	2300	

To be used where cover to pipe soffit is greater than 900mm in vehicular areas and greater than 600mm in non-trafficked areas (ie footpaths, verges, etc)

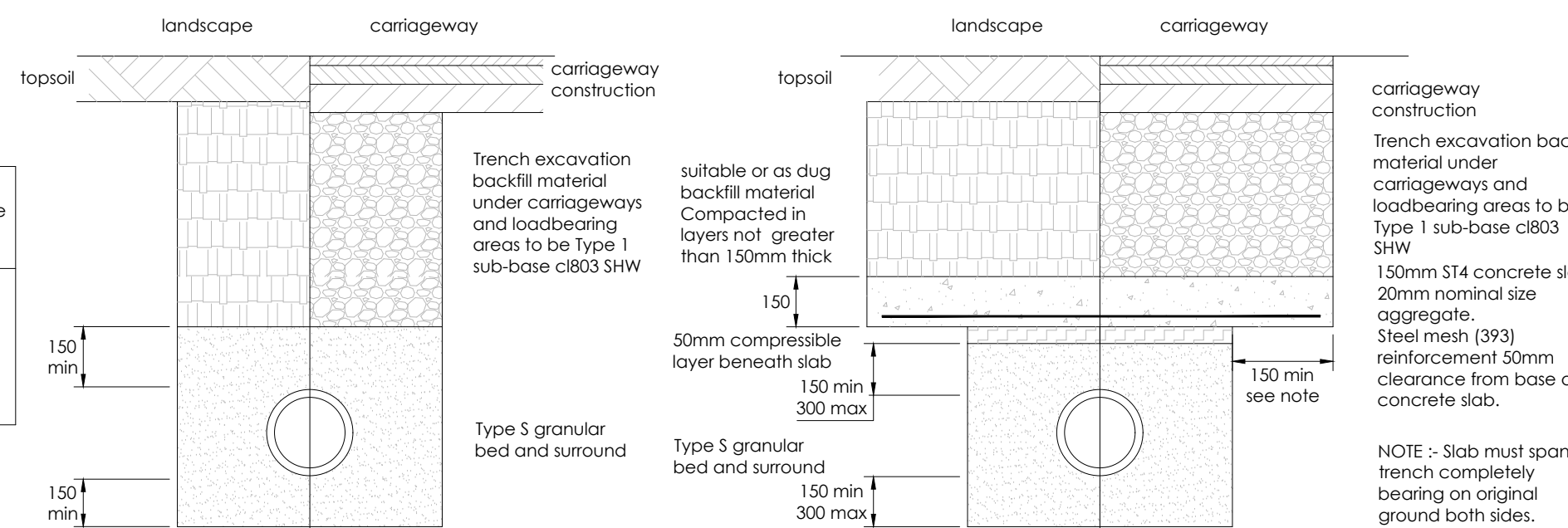


To be used where cover to pipe soffit is less than 900mm in vehicular areas and 600mm in non-trafficked areas (ie footpaths, verges, etc)

Depth from cover level to soffit of pipe up to 3m
Flexible material construction for use in areas subject to vehicle loading



Note: Where the access chamber is in the highway (including any footway), the highway authority can have specific requirements



To be used where cover to pipe soffit is less than 900mm in vehicular areas and 600mm in non-trafficked areas (ie footpaths, verges, etc)

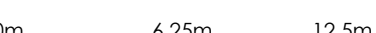
Pipe nominal size (DN)	Pipe Bedding Requirement (mm)
100	10 nominal single size
over 100 to 150	10 or 14mm nominal single size or 14mm to 5mm graded
over 150-300	10, 14 or 20mm nominal single-size or 14mm to 5mm graded or 20mm to 5mm graded
over 300 to 550	20, 40 or 40mm nominal single-size crushed rock or 14mm to 5mm graded or 20mm to 5mm graded
over 550	14, 20 or 40mm nominal single-size crushed rock or 14mm to 5mm graded or 20mm to 5mm graded or 40mm to 5mm graded

GRANULAR BEDDING AND SIDEFILL MATERIAL GRADINGS

NOTES

1. All dimensions and levels are in metres unless otherwise noted
2. This drawing is to be read in conjunction with the relevant Architect/Engineer's drawings, specifications and CDM documentation
3. This drawing has been produced electronically and may have been photo reduced or enlarged when copied. Work to figured dimensions only (DO NOT SCALE - EXCEPT FOR PLANNING PURPOSES). All dimensions to be checked on site. Any errors or omissions to be reported to the engineer immediately.
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5. Digital copies of this plan can only be considered accurate if supplied directly by Infrastructure CS Ltd.

All adoptable drainage works to be constructed as detailed in the Code for Adoption Design and Construction Guidance (DCG) and Thames Water's local practices.

P02	BMK	A/JG	Type D Manhole added	25/07/2024
P01	BMK	A/JG	Initial issue	16/07/2024
REV	DRAWN	CHECK	REVISION COMMENTS	ISSUE DATE
DRAWING TITLE				SHEET NO.
Adoptable details				1/1
PROJECT				
Land at Amethyst Lane Reading RG30 2EX				
CLIENT		 		
SCALE @ A1				
1:250				ENGINEER A/JG
PROJECT NUMBER 5725	STATUS S2	ISSUE PURPOSE INFORMATION		
PROJECT LAAL	ORIGIN ICS	PHASE 01	LEVEL XX	TYPE DR
ROLE C			NO. REVISION 0401 0020	