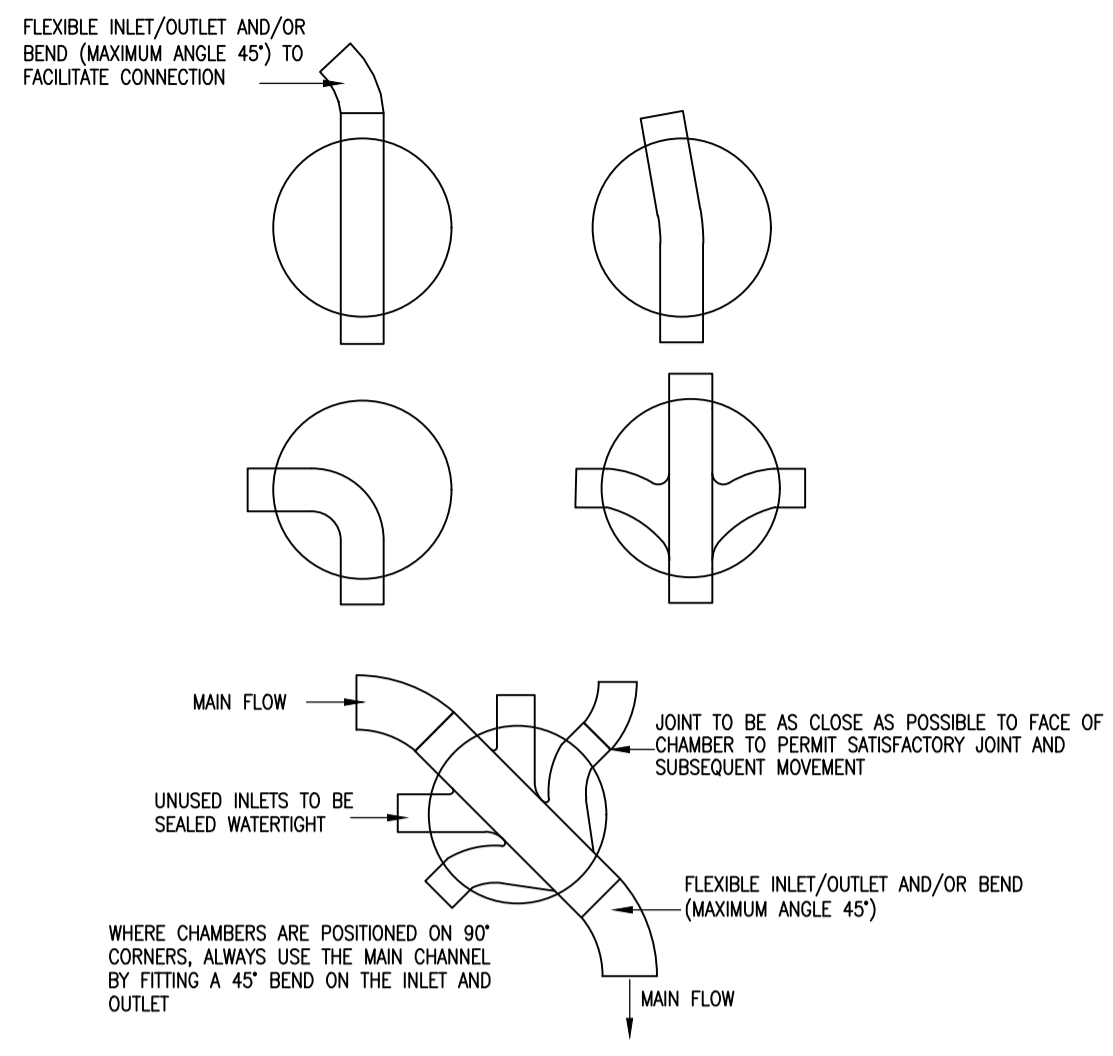
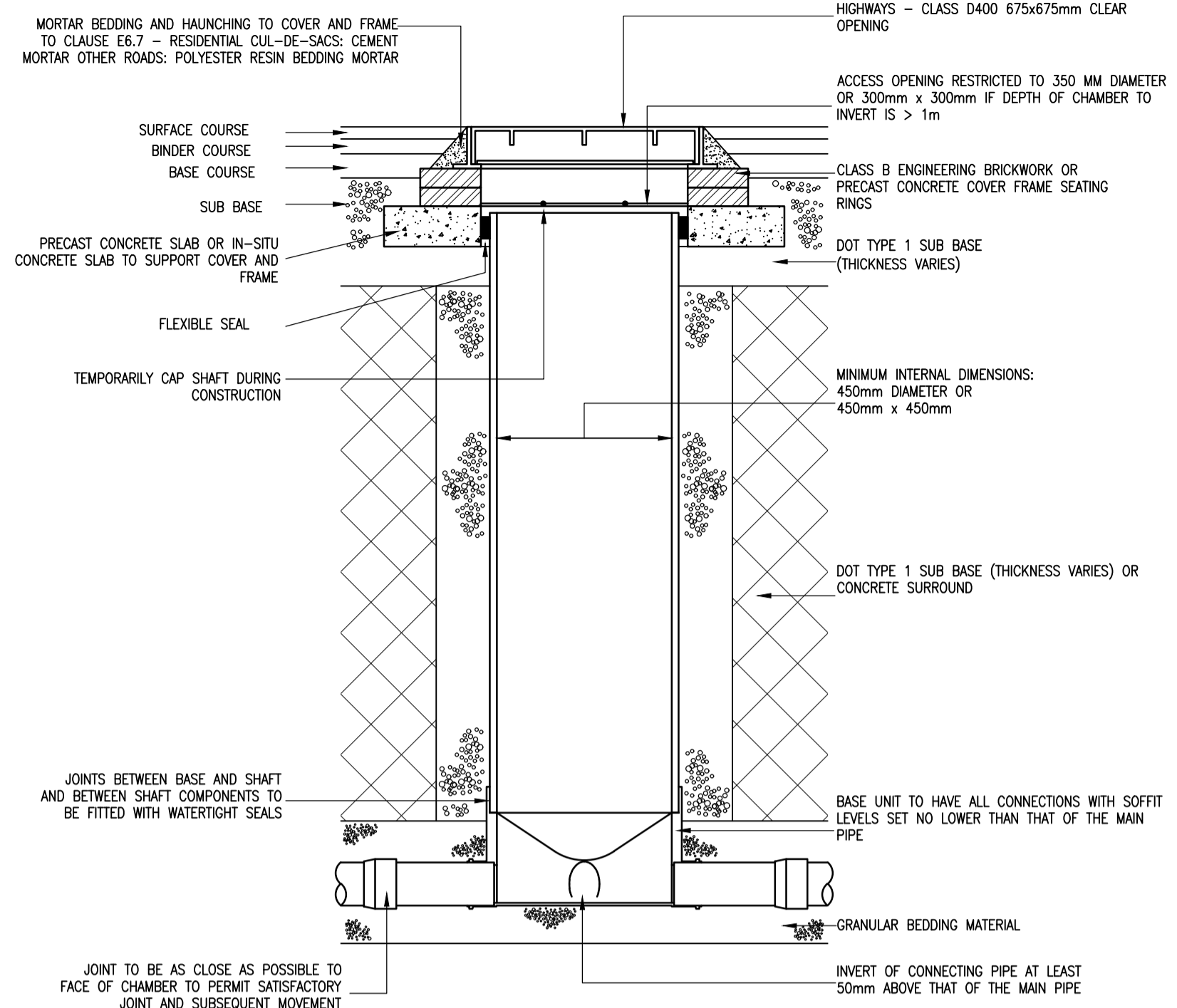


DO NOT SCALE

FIGURE B.20
ALTERNATIVE BASE LAYOUTS FOR TYPE 3 CHAMBERS

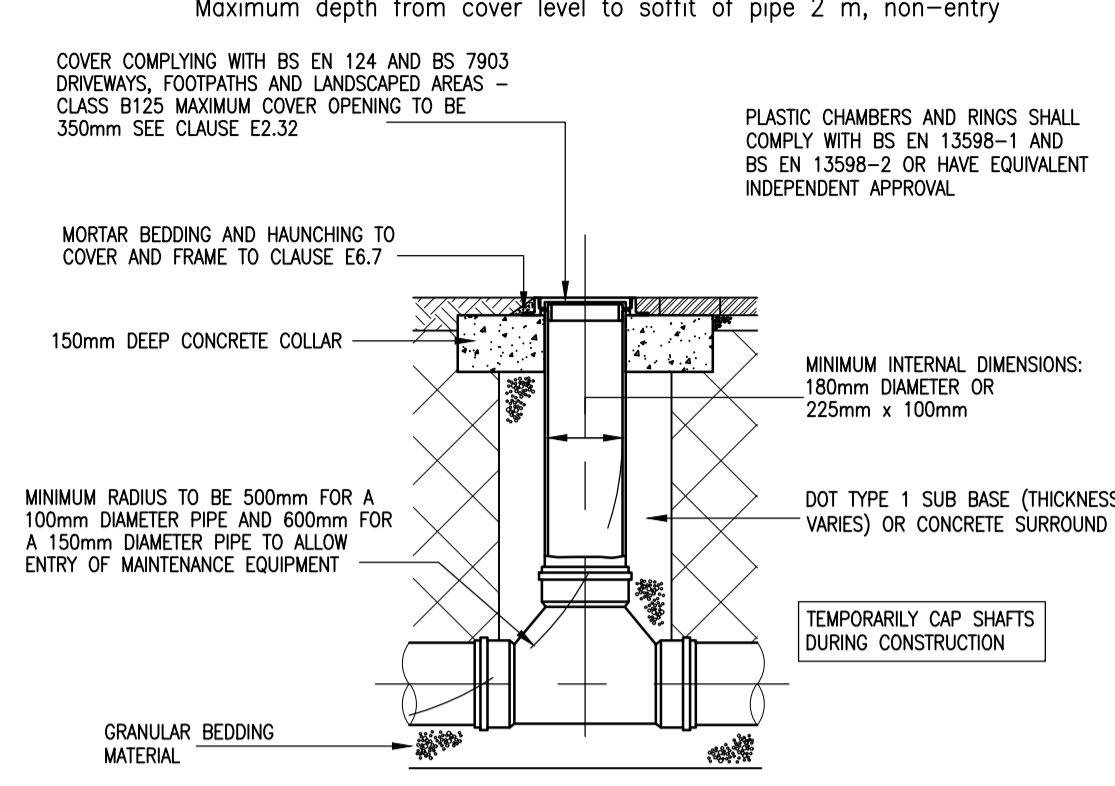


NOTE: PLASTIC CHAMBERS AND RINGS SHALL COMPLY WITH BS EN 13598-1 AND BS EN 13598-2 OR HAVE EQUIVALENT INDEPENDENT APPROVAL.



TYPICAL INSPECTION CHAMBER DETAIL - TYPE 3
(FLEXIBLE MATERIAL DETAIL)
MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE IN AREAS SUBJECT TO VEHICLE LOADING 3 M, NON-ENTRY

FIGURE B.22
TYPICAL INSPECTION CHAMBER DETAIL - TYPE 4 (Alternative construction detail)



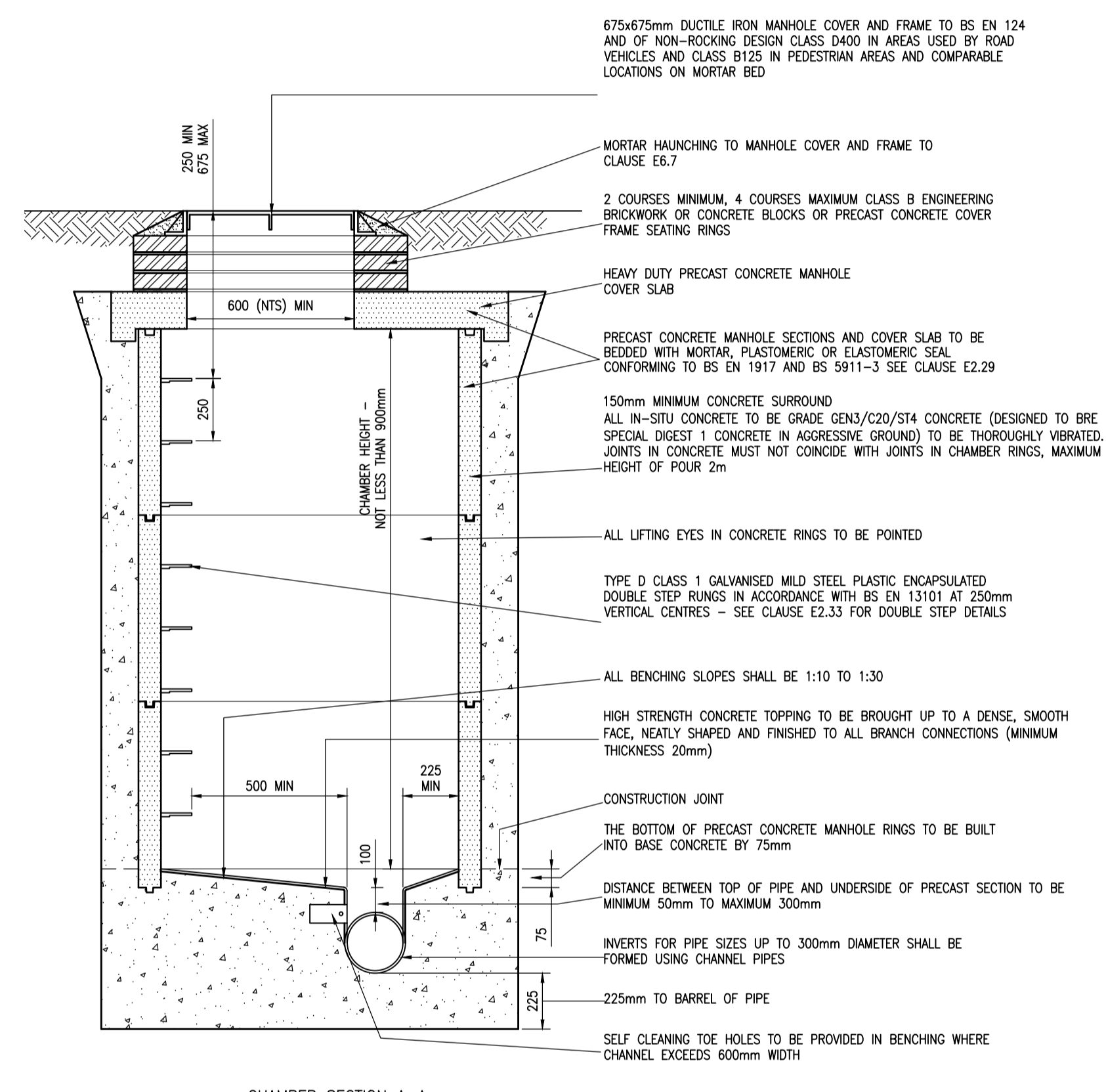
TYPICAL INSPECTION CHAMBER DETAIL - TYPE 4
(FLEXIBLE MATERIAL DETAIL)

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THE CONTRACTOR IS TO CHECK ALL LEVELS AND DIMENSIONS BEFORE WORK COMMENCES, AND ANY DISCREPANCIES TO BE REPORTED IMMEDIATELY TO THE CONSULTANTS.

WORK TO FIGURED DIMENSIONS IN PREFERENCE TO SCALING.

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CHAMBER SECTION A-A

CHAMBER PLAN

- NOTES:
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 - ALL DIMENSIONS SHALL BE CHECKED PRIOR TO CONSTRUCTION OR MANUFACTURE. ANY DISCREPANCY TO BE REPORTED TO THE ENGINEERS IMMEDIATELY.
 - DO NOT SCALE THIS CAD DRAWING WORK TO FIGURED DIMENSIONS ONLY - IF IN DOUBT ASK.
 - ALL DIMENSIONS ARE IN mm (MILLIMETRES) UNLESS OTHERWISE STATED.
 - THE ENGINEER MUST SELF-CHECK AND CERTIFY THAT THE DESIGN OBTAINS MATERIAL STANDARDS AND WORKMANSHIP SPECIFICATIONS FOR THE PROPOSED POTENTIALLY ADOPTABLE SEWERS ARE IN ACCORDANCE WITH THOSE SET OUT IN 'SEWERS FOR ADOPTION - A DESIGN AND CONSTRUCTION GUIDE FOR DEVELOPERS' 7th EDITION AND COMPLY WITH THE SAME IN WRITING TO THE ADOPTION AUTHORITY.
 - MATERIALS AND WORKMANSHIP - ALL WORK SHALL COMPLY WITH THE CURRENT RELEVANT BRITISH STANDARDS, BUILDING REGULATIONS, HEALTH & SAFETY REGULATIONS, SEWERS FOR ADOPTION AND THE SPECIFICATIONS SHOWN.
 - ALL PIPE CONNECTIONS TO BE 150mm UNLESS OTHERWISE STATED.
 - SEWERS WITH LESS THAN 1200mm COVER, CAR PARKS AND VEHICLE CROSS-OVERS OR 900mm ELEMENTS TO BE PROTECTED WITH 150mm GRADE GENS/C20/S14 CONCRETE SURROUND.
 - PIPEWORK TO CONFORM TO THE FOLLOWING - VITRIFIED CLAY DRAINAGE SYSTEMS WITH FLEXIBLE JOINTS TO BS68, PRECAST CONCRETE DRAINAGE SYSTEMS WITH FLEXIBLE JOINTS TO BS5811, UPVC DRAINAGE SYSTEMS WITH FLEXIBLE JOINTS TO BS4860 OR BS5481.
 - FLEXIBLE JOINTS SHALL BE PROVIDED TO ALL PIPES WITH 600mm OF INNER FACE OF MANHOLE. PROTECTIVE PIPES SHALL BE SURROUNDED WITH 150mm GRADE GENS/C20/S14 CONCRETE CAST MONOLITHICALLY WITH THE MANHOLE BASE.
 - WHERE PIPES WITH FLEXIBLE JOINTS ARE ENCASED IN CONCRETE THE CONCRETE PROTECTION SHALL BE INTERRUPTED OVER ITS FULL CROSS SECTION AT EACH PIPE JOINT BY A SHAPED COMPRESSIBLE FILLER THICKNESS (SEE TABLE C).
 - PIPES SHALL HAVE GRANULAR BED AND SURROUND UNLESS OTHERWISE DETAILED. GRANULAR MATERIAL SHALL CONFORM TO BS882 (TABLE 1) AND SHOULD BE CAREFULLY PLACED AND CONSOLIDATED BY HAND IN THIN LAYERS.
 - ALL PIPEWORK CONNECTIONS AT MANHOLES SHALL BE SOFFIT TO SOFFIT.
 - MANHOLE COVERS SHALL BE CO-GRANATED WITH THE SURROUNDING AREA AND SHALL BE AS SPECIFIED ON THE DRAWINGS.
 - TOLEANCES - COVERS SHALL BE SET AT, OR NOT MORE THAN 5mm BELOW THE SURROUNDING LEVEL IN PAVED AREAS. INVERTS SHALL BE WITHIN 5mm OF GIVEN LEVEL AND MAY NOT CAUSE THE AS-LAD GRADIENT OF THE PIPES TO VARY FROM THAT GIVEN ON THE DRAWING BY MORE THAN 10c.
 - MANHOLE COVERS AND FRAMES IN CARROUSAGES (INCLUDING PEDESTRIAN STREETS), WARD SHOULDERS AND PARKING AREAS USED BY ALL TYPES OF ROAD VEHICLES SHALL BE GRADE D400 TO BS EN 124 OF NON-ROCKING DESIGN. MANHOLE COVERS AND FRAMES IN FOOTPATHS, PEDESTRIAN AREAS, FIELDS AND COMPARABLE LOCATIONS SHALL BE GRADE B125 TO BS EN 124 OF NON-ROCKING DESIGN. ALL MANHOLES SHALL BE NON-VENTILATING TYPE WITH CLOSED KEYWAYS. MANHOLE COVERS, FRAMES AND COVER SLABS ON MANHOLES GREATER THAN 1.45m TO INVERT LEVEL SHALL HAVE 675mm CLEAR OPENING. MANHOLE COVERS, FRAMES AND COVER SLABS ON MANHOLES LESS THAN 1.45m TO INVERT SHALL HAVE MULTIPLE COVERS DETAILED. MINIMUM FRAME DEPTHS FOR NSRWIA ROAD CATEGORIES 1 TO 4 AS TABLE E.
 - ALL MANHOLE COVERS AND FRAMES TO INCORPORATE BS1 KITEMARK.
 - ADOPTABLE SEWERS LAID IN NON-ADOPTABLE AREAS I.E. GARDENS SHALL BE WITHIN A 6m EXISTENCE ZONE WITH 3m ON EITHER SIDE OF PIPE. NO BUILDING SHALL BE CONSTRUCTED IN THIS EXISTING ZONE.
 - ALL REDUNDANT / SURPLUS TO REQUIREMENTS INLET SPACES ON PROPOSED PLASTIC INSPECTION CHAMBER BASES SHALL BE / REMAIN SEALED TO PREVENT INGRESS OF GROUND WATER OR OTHER FLOWS INTO DRAINAGE NETWORKS.

TABLE C
NOMINAL PIPE DIAMETER (mm) THICKNESS OF COMPRESSIBLE FILLER (mm)

LESS THAN 450	18
450 - 1200	36
EXCEEDING 1200	54

TABLE D PIPE BEDDING

PIPE DIAMETER (mm)	GRANULAR MATERIAL SIZE (mm)
100	10 NOMINAL SINGLE SIZE
150	10 OR 14 NOMINAL SINGLE SIZE
150 - 500	10, 14 OR 20 NOMINAL SINGLE SIZE
OVER 500	10, 14, 20 OR 40 NOMINAL SINGLE SIZE

REV	DESCRIPTION	DESIGNED	CHECKED	DATE

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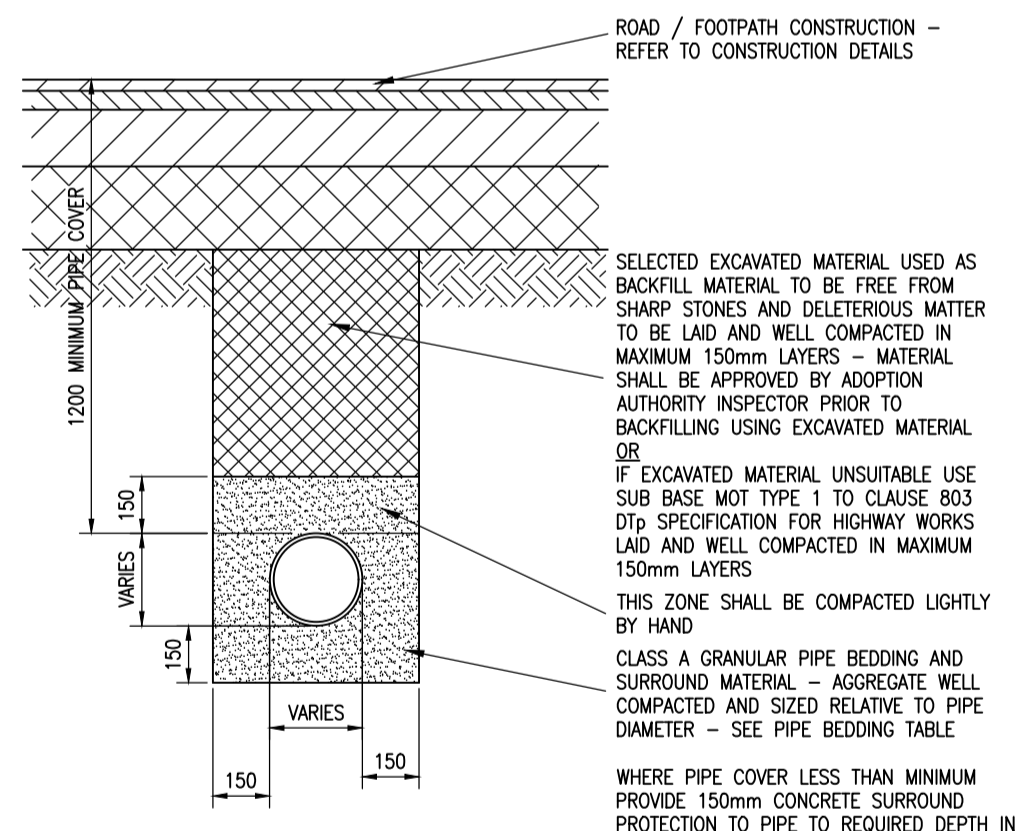
PROJECT:
Redevelopment of former CP School, MOORFIELD ROAD, NARBERTH, PEMBROKESHIRE SA67 7AG

DRAWING TITLE:
TYPICAL CONSTRUCTION DETAILS (DRAINAGE)

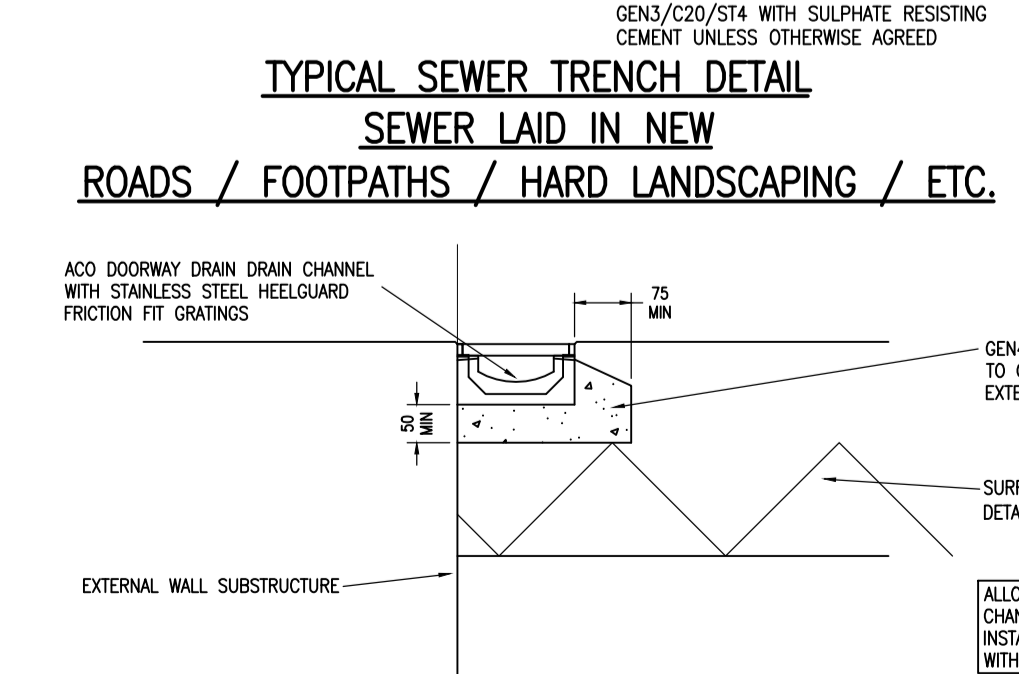
DRAWN BY: BWE	DESIGN BY: BWE	CHECKED BY: PWJL	DATE: 03/03/2021
SCALE: SHOWN	DRAWING No: 20447/07	REVISION: -	

ORIGINAL DRAWING A1
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TYPICAL SEWER TRENCH DETAIL
SEWER LAID IN EXISTING ROADS / FOOTPATHS / HARD LANDSCAPING / ETC.



TYPICAL SEWER TRENCH DETAIL
SEWER LAID IN NEW ROADS / FOOTPATHS / HARD LANDSCAPING / ETC.



ACO DOORWAY DRAIN CHANNEL
INSTALLATION SECTION AT PEDESTRIAN DOORS
SCALE 1:10

FIGURE B.1
PERMITTED LOCATION OF SEWERS AND LATERAL DRAINS IN PROXIMITY TO BUILDINGS

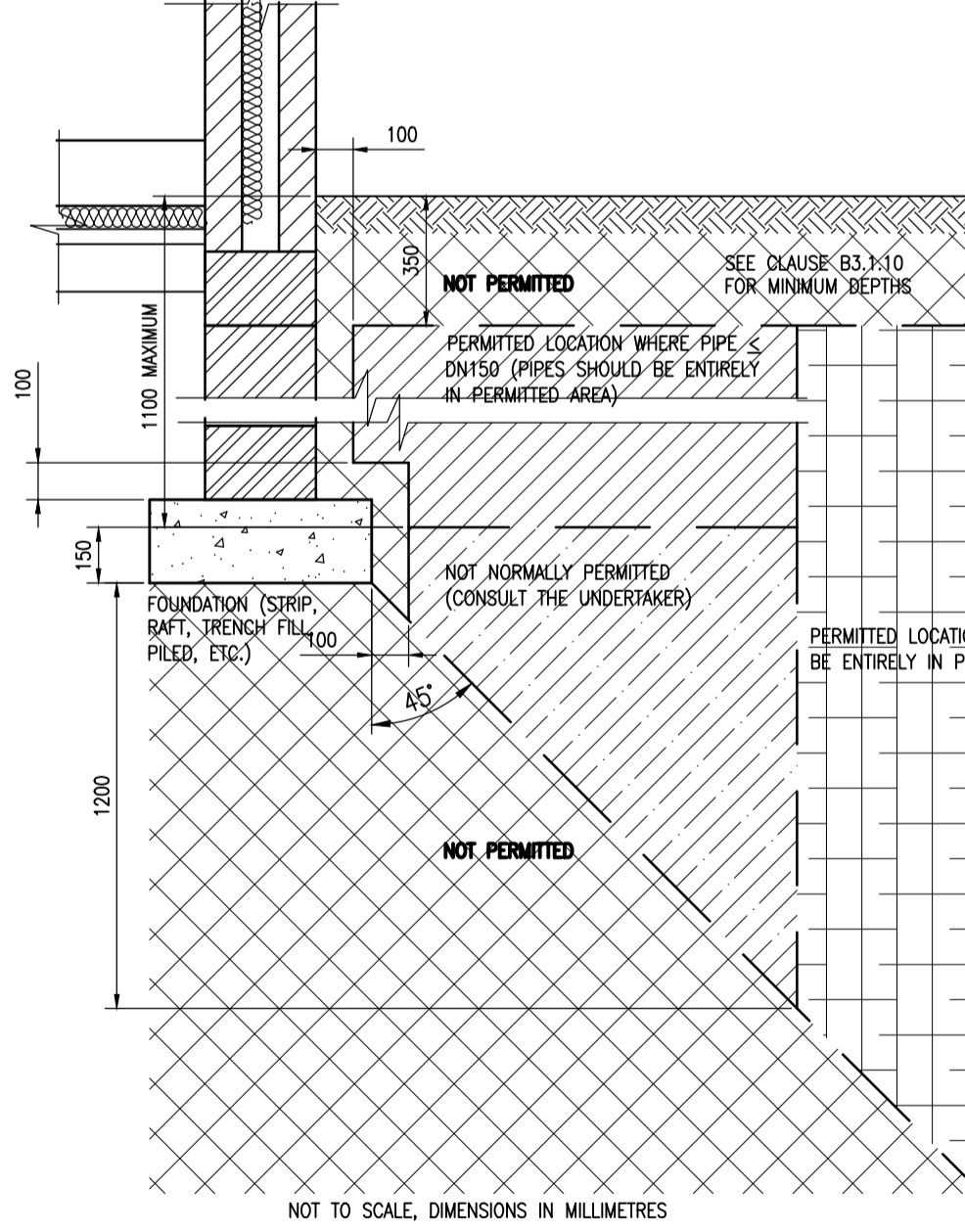
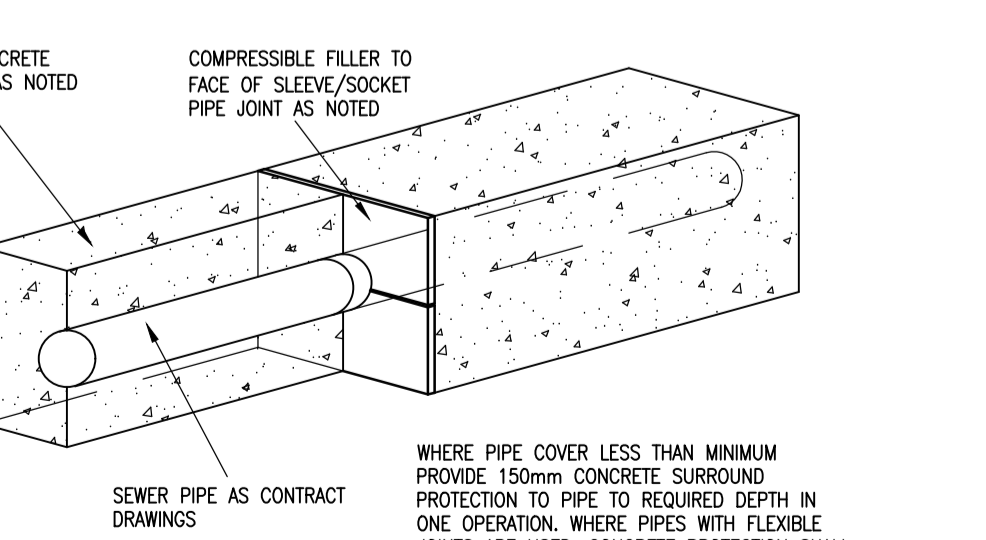
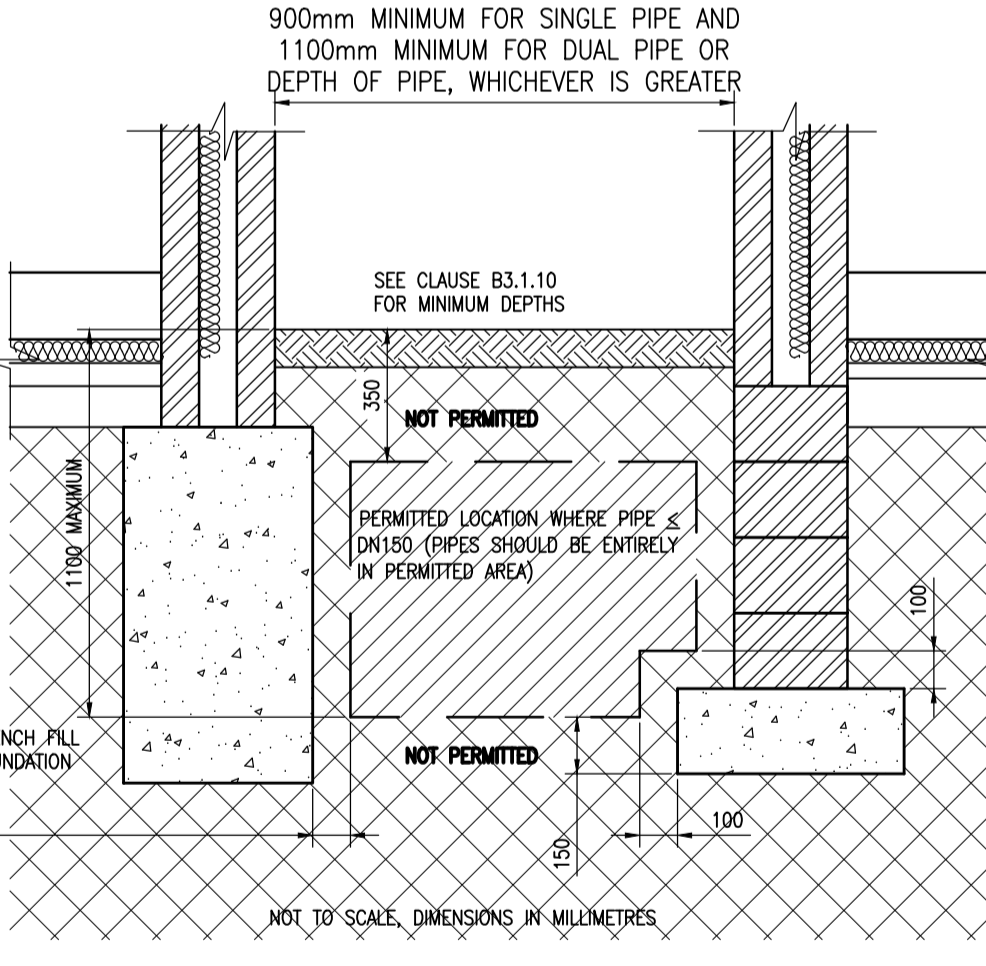


FIGURE B.2
ADDITIONAL DETAIL - PERMITTED LOCATION OF SEWERS AND LATERAL DRAINS BETWEEN BUILDINGS (where Figure B.1 is not applicable only)



TYPICAL FLEXIBLE JOINT IN CONCRETE SURROUND (ISOMETRIC)

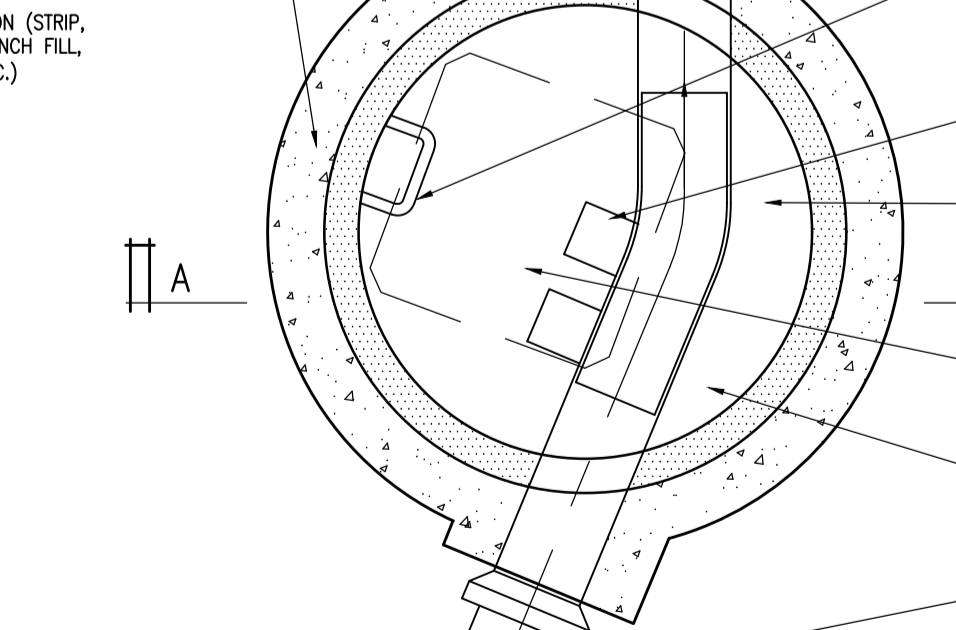
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150 - 500	10, 14 OR 20 NOMINAL SINGLE SIZE
OVER 500	10, 14, 20 OR 40 NOMINAL SINGLE SIZE

150mm CONCRETE SURROUND TO INCLUDE PIPE LENGTH CAST IN BASE EXCLUDING JOINT MINIMUM 300mm MASS CONCRETE SURROUND ALL IN-SITU CONCRETE TO BE GRADE GENS/C20/S14 WITH SULPHATE RESISTING CEMENT UNLESS OTHERWISE AGREED



TYPICAL MANHOLE DETAIL - TYPE 2
MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 3m

SEE DETAIL AND CLAUSE E6.6.2 FOR ROCKER PIPE DETAILS

PIPES ENTERING MANHOLES SHALL HAVE A FLEXIBLE JOINT TO BE AS CLOSE AS POSSIBLE TO FACE OF CONCRETE SURROUND TO PERMIT SATISFACTORY JOINT AND SUBSEQUENT MOVEMENT

TYPE D CLASS 1 GALVANISED MILD STEEL PLASTIC ENCAPSULATED DOUBLE STEP RUNGS IN ACCORDANCE WITH BS EN 13101 AT 250mm VERTICAL CENTRES - SEE CLAUSE E2.33 FOR DOUBLE STEP DETAILS

SELF-CLEANING TOE HOLES TO BE PROVIDED IN BENCHING OF SEWERS GREATER THAN 450mm DIAMETER FOR ACCESS TO INVERT

MINIMUM WIDTH OF BENCHING TO BE 225mm

MINIMUM WIDTH OF BENCHING FOR LANDING AREA TO BE 500mm FROM THE EDGE OF THE LADDER TO THE EDGE OF THE CHANNEL

PIPE JOINT WITH CHANNEL TO BE LOCATED MINIMUM 100mm INSIDE FACE OF MANHOLE

SEE DETAIL AND CLAUSE E6.6.2 FOR ROCKER PIPE DETAILS

- NOTES
- MANHOLES WITH OUTGOING PIPES GREATER THAN 600mm DIAMETER SHALL BE FITTED WITH GUARD BARS, SAFETY CHAINS OR OTHER SAFETY DEVICES - REFER TO ENGINEER.
 - PIPES TO BE LAID WITH THEIR SOFFITS LEVEL.
 - IF TWO (OR MORE) PIPES ENTER THE MANHOLE, THE CHAMBER DIAMETER SHALL BE OF SUFFICIENT DIAMETER TO ACCOMMODATE ADEQUATE BENCHING.
 - NO ROCKER PIPES REQUIRED FOR NOMINAL DIAMETER GREATER THAN 750mm.