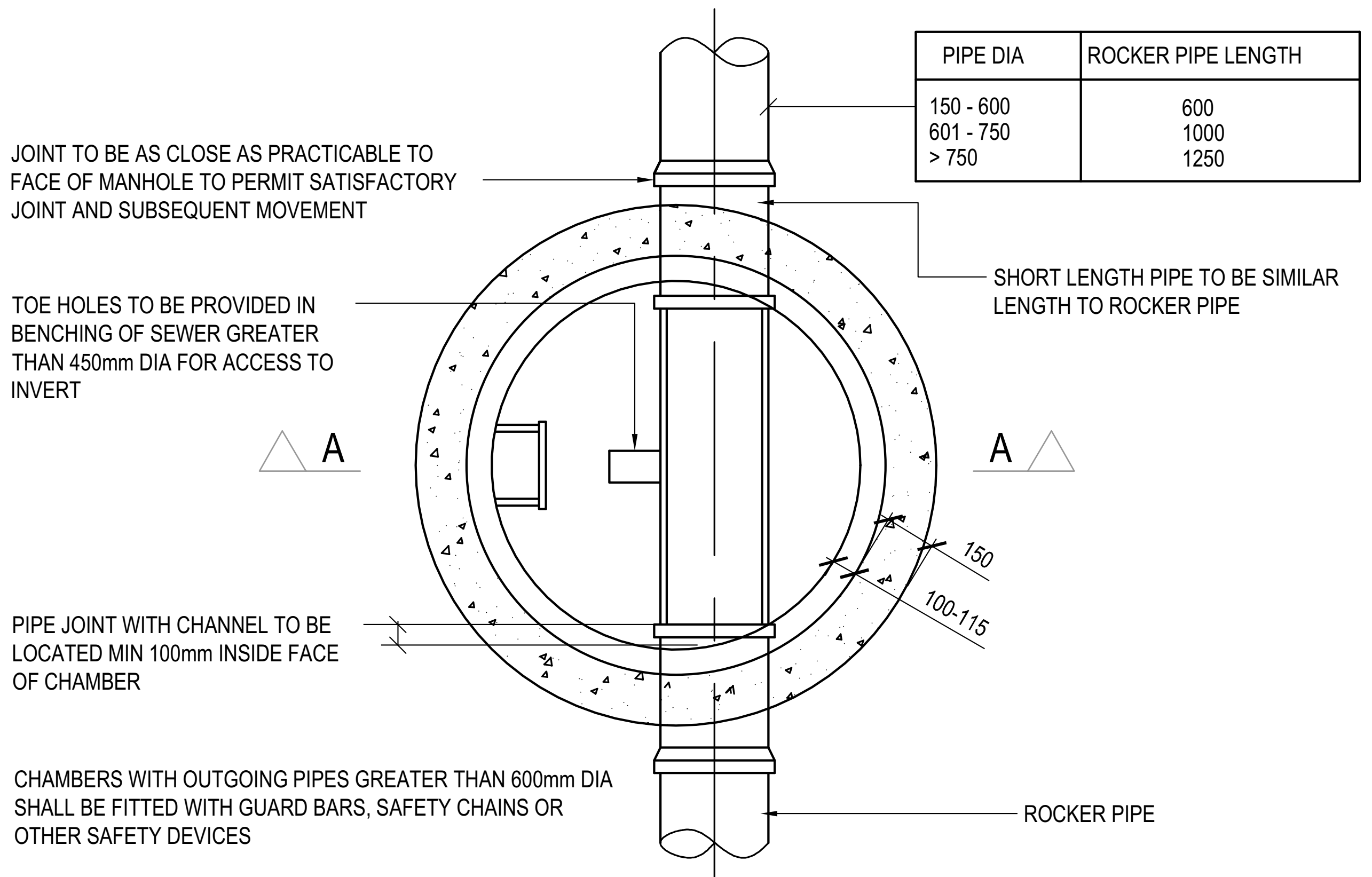
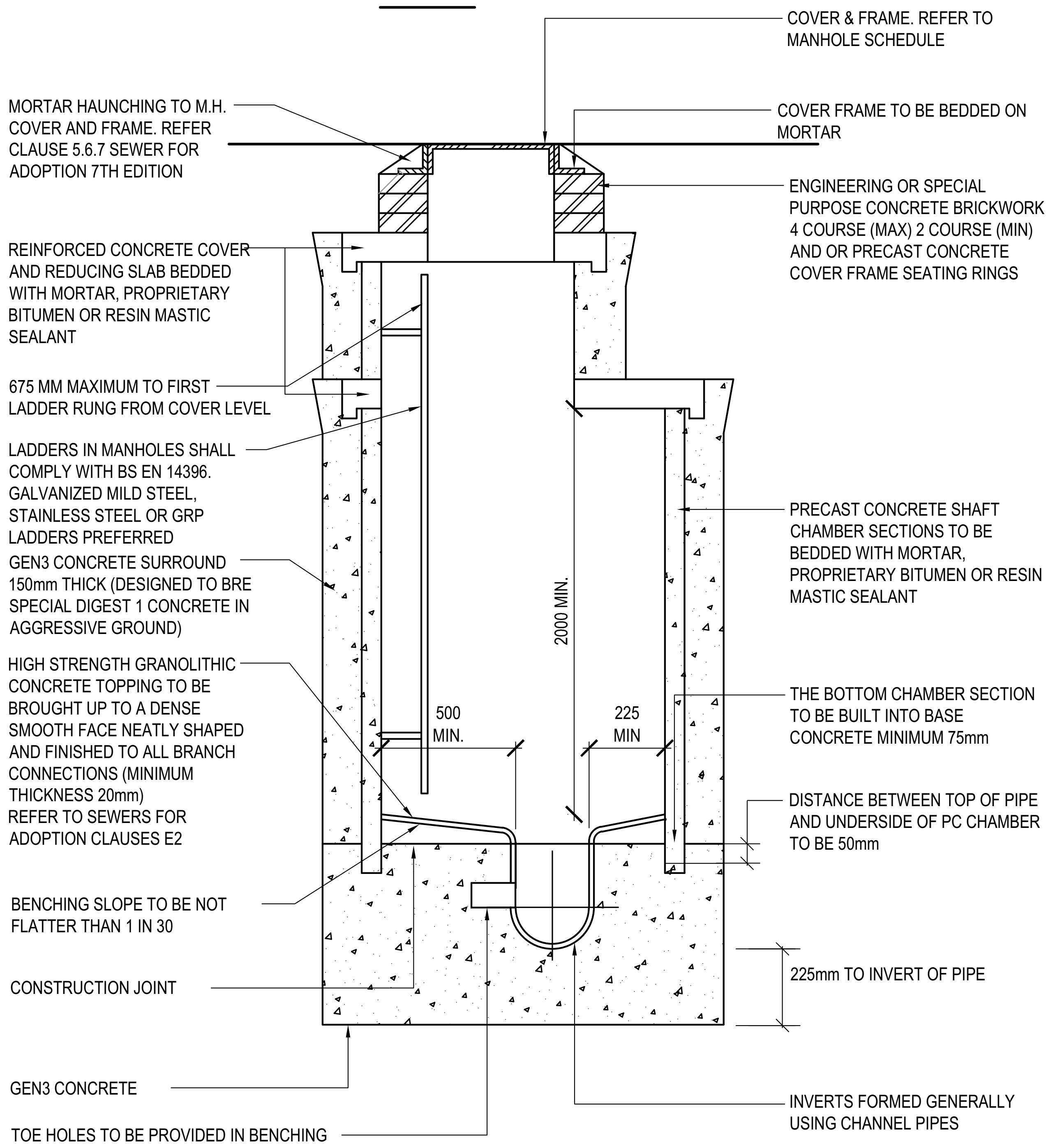

JOINT TO BE AS CLOSE AS PRACTICABLE TO FACE OF MANHOLE TO PERMIT SATISFACTORY JOINT AND SUBSEQUENT MOVEMENT
TOE HOLES TO BE PROVIDED IN BENCHING OF SEWER GREATER THAN 450mm DIA FOR ACCESS TO INVERT
SHORT LENGTH PIPE TO BE SIMILAR LENGTH TO ROCKER PIPE
A
A
150
100-115
PIPE JOINT WITH CHANNEL TO BE LOCATED MIN 100mm INSIDE FACE OF CHAMBER
CHAMBERS WITH OUTGOING PIPES GREATER THAN 600mm DIA SHALL BE FITTED WITH GUARD BARS, SAFETY CHAINS OR OTHER SAFETY DEVICES
ROCKER PIPE

PIPE DIA	ROCKER PIPE LENGTH
150 - 600	600
601 - 750	1000
> 750	1250

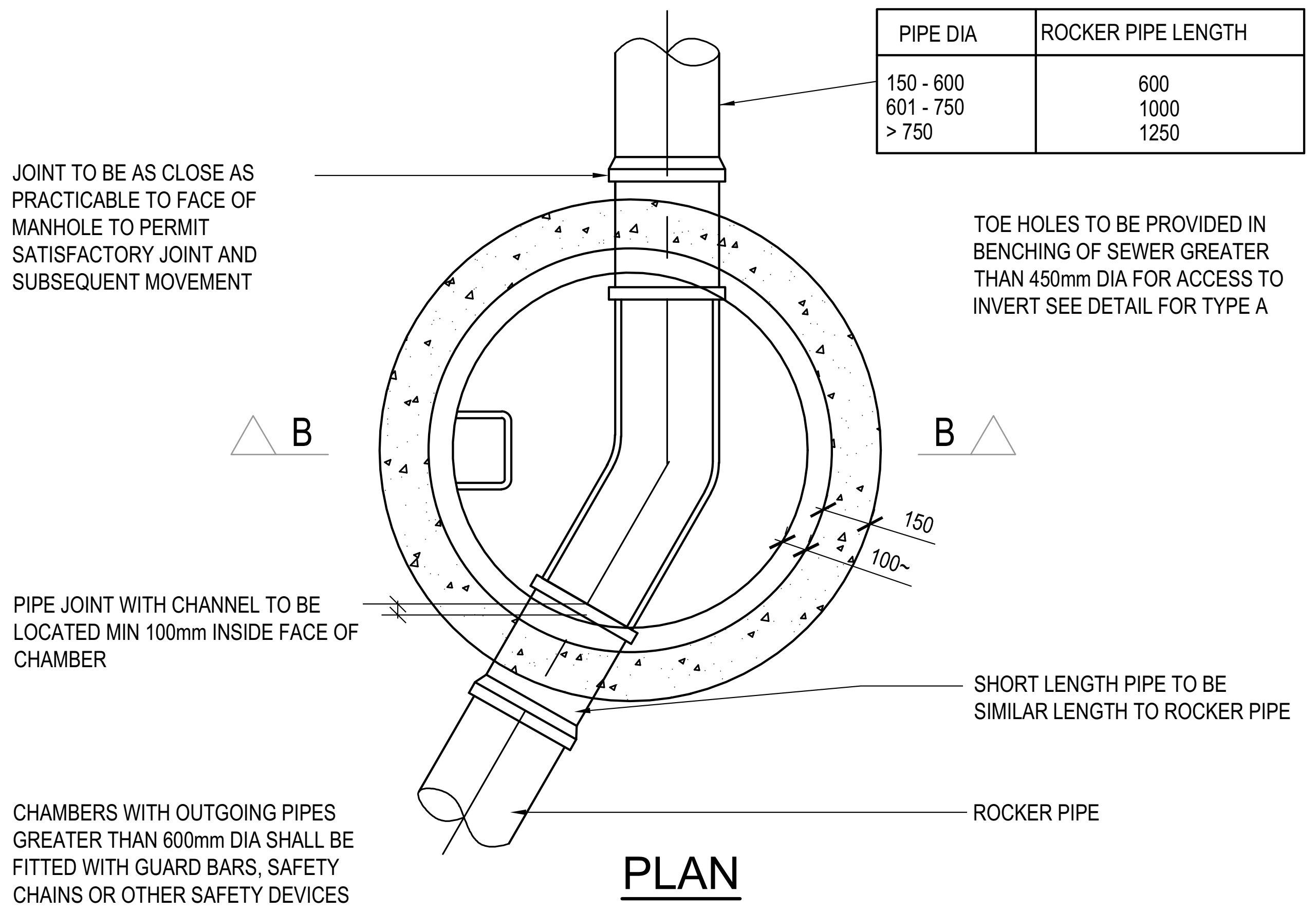
PLAN


COVER & FRAME. REFER TO MANHOLE SCHEDULE
MORTAR HAUNCHING TO M.H. COVER AND FRAME. REFER CLAUSE 5.6.7 SEWER FOR ADOPTION 7TH EDITION
COVER FRAME TO BE BEDDED ON MORTAR
ENGINEERING OR SPECIAL PURPOSE CONCRETE BRICKWORK 4 COURSE (MAX) 2 COURSE (MIN) AND OR PRECAST CONCRETE COVER FRAME SEATING RINGS
REINFORCED CONCRETE COVER AND REDUCING SLAB BEDDED WITH MORTAR, PROPRIETARY BITUMEN OR RESIN MASTIC SEALANT
675 MM MAXIMUM TO FIRST LADDER RUNG FROM COVER LEVEL
LADDERS IN MANHOLES SHALL COMPLY WITH BS EN 14396. GALVANIZED MILD STEEL, STAINLESS STEEL OR GRP LADDERS PREFERRED
GEN3 CONCRETE SURROUND 150mm THICK (DESIGNED TO BRE SPECIAL DIGEST 1 CONCRETE IN AGGRESSIVE GROUND)
PRECAST CONCRETE SHAFT CHAMBER SECTIONS TO BE BEDDED WITH MORTAR, PROPRIETARY BITUMEN OR RESIN MASTIC SEALANT
2000 MIN.
HIGH STRENGTH GRANOLITHIC CONCRETE TOPPING TO BE BROUGHT UP TO A DENSE SMOOTH FACE NEATLY SHAPED AND FINISHED TO ALL BRANCH CONNECTIONS (MINIMUM THICKNESS 20mm) REFER TO SEWERS FOR ADOPTION CLAUSES E2
500 MIN.
225 MIN
THE BOTTOM CHAMBER SECTION TO BE BUILT INTO BASE CONCRETE MINIMUM 75mm
DISTANCE BETWEEN TOP OF PIPE AND UNDERSIDE OF PC CHAMBER TO BE 50mm
BENCHING SLOPE TO BE NOT FLATTER THAN 1 IN 30
225mm TO INVERT OF PIPE
CONSTRUCTION JOINT
GEN3 CONCRETE
INVERTS FORMED GENERALLY USING CHANNEL PIPES
TOE HOLES TO BE PROVIDED IN BENCHING OF SEWER GREATER THAN 450mm DIA FOR ACCESS TO INVERT

SECTION A-A

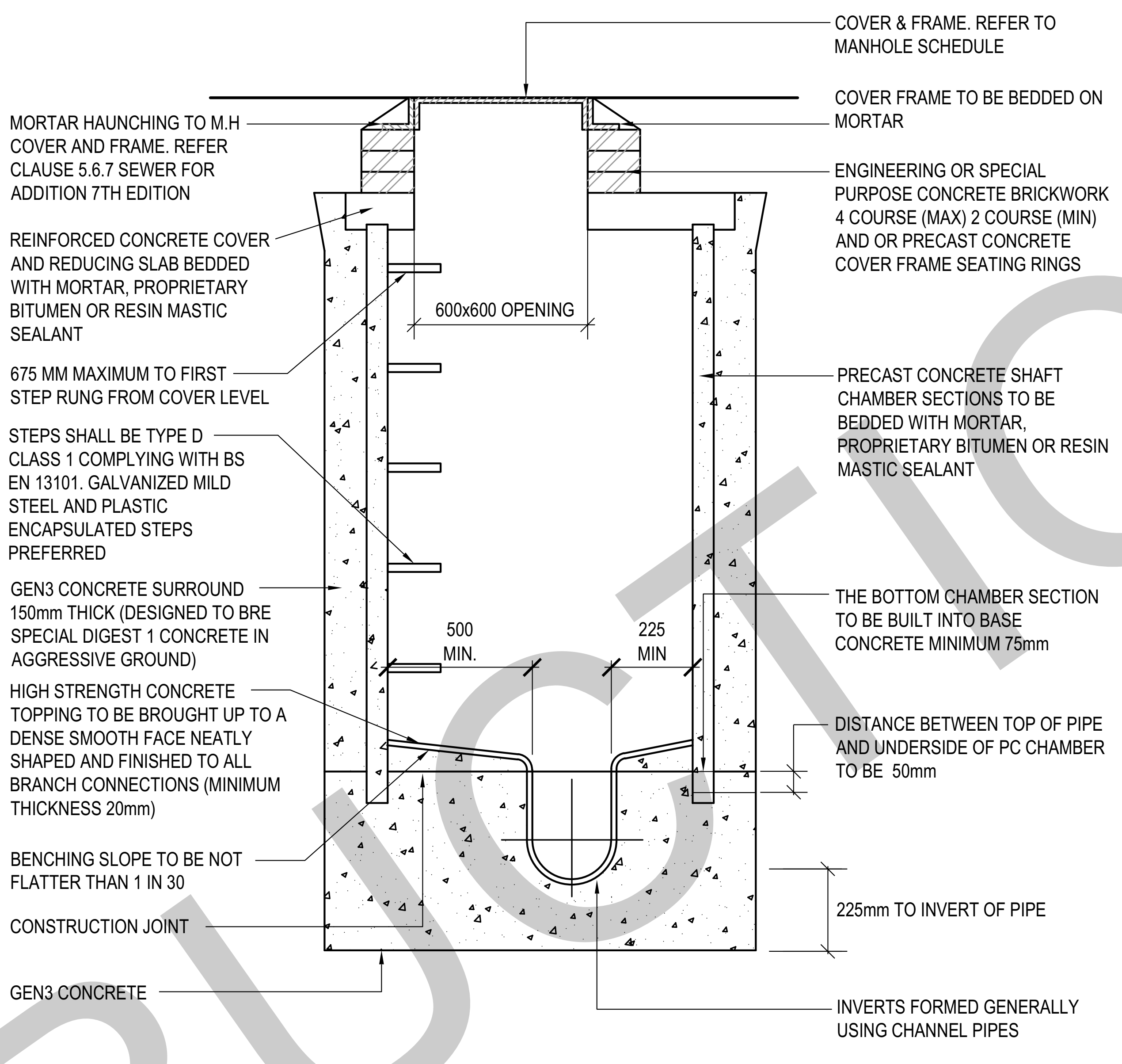
MANHOLE DETAIL TYPE 1

DEPTH TO SOFFIT 3 TO 6m


JOINT TO BE AS CLOSE AS PRACTICABLE TO FACE OF MANHOLE TO PERMIT SATISFACTORY JOINT AND SUBSEQUENT MOVEMENT
TOE HOLES TO BE PROVIDED IN BENCHING OF SEWER GREATER THAN 450mm DIA FOR ACCESS TO INVERT SEE DETAIL FOR TYPE A
B
B
150
100~
PIPE JOINT WITH CHANNEL TO BE LOCATED MIN 100mm INSIDE FACE OF CHAMBER
SHORT LENGTH PIPE TO BE SIMILAR LENGTH TO ROCKER PIPE
ROCKER PIPE
CHAMBERS WITH OUTGOING PIPES GREATER THAN 600mm DIA SHALL BE FITTED WITH GUARD BARS, SAFETY CHAINS OR OTHER SAFETY DEVICES

PIPE DIA	ROCKER PIPE LENGTH
150 - 600	600
601 - 750	1000
> 750	1250

PLAN

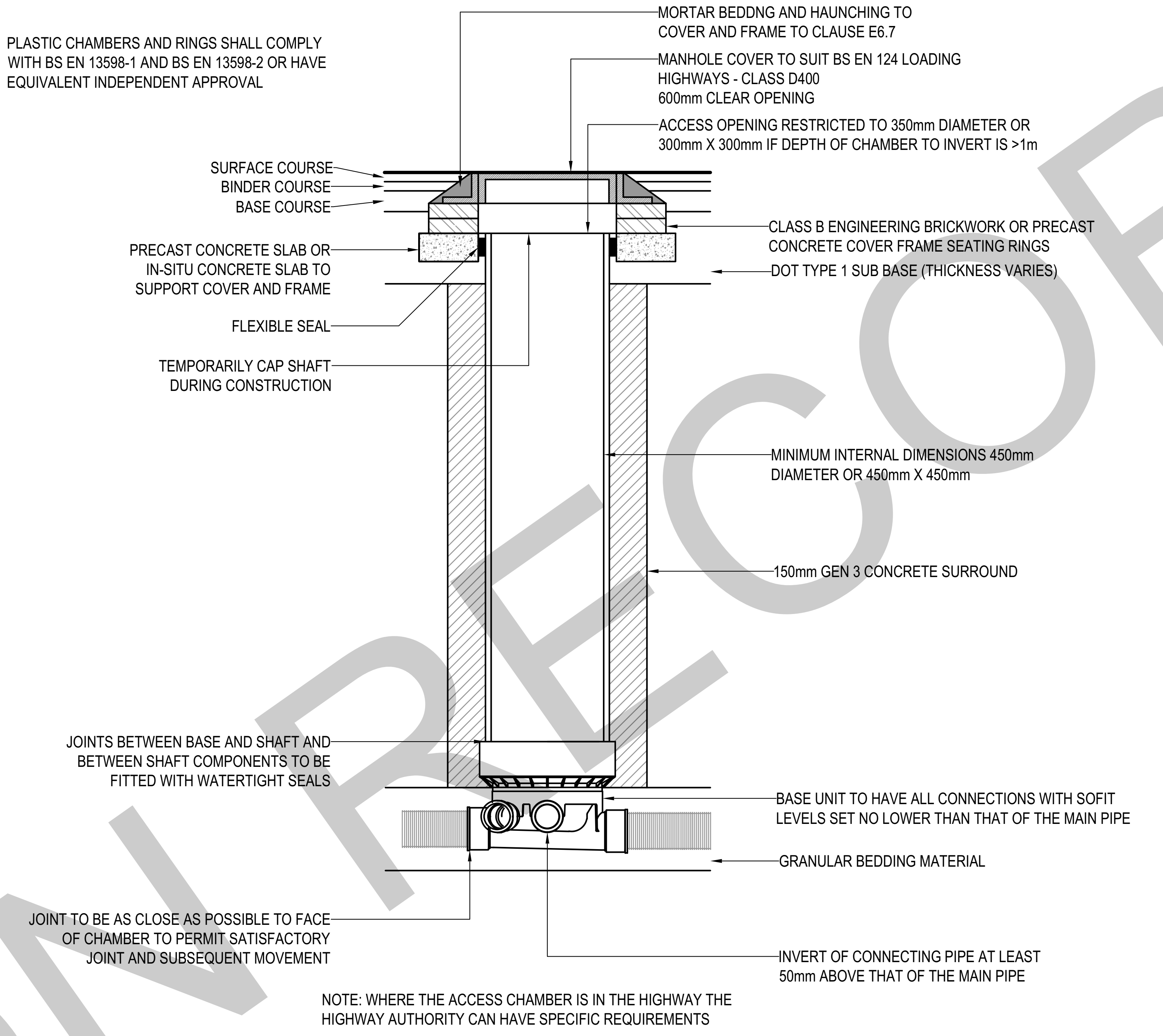

COVER & FRAME. REFER TO MANHOLE SCHEDULE
COVER FRAME TO BE BEDDED ON MORTAR
MORTAR HAUNCHING TO M.H COVER AND FRAME. REFER CLAUSE 5.6.7 SEWER FOR ADOPTION 7TH EDITION
ENGINEERING OR SPECIAL PURPOSE CONCRETE BRICKWORK 4 COURSE (MAX) 2 COURSE (MIN) AND OR PRECAST CONCRETE COVER FRAME SEATING RINGS
REINFORCED CONCRETE COVER AND REDUCING SLAB BEDDED WITH MORTAR, PROPRIETARY BITUMEN OR RESIN MASTIC SEALANT
600x600 OPENING
675 MM MAXIMUM TO FIRST STEP RUNG FROM COVER LEVEL
PRECAST CONCRETE SHAFT CHAMBER SECTIONS TO BE BEDDED WITH MORTAR, PROPRIETARY BITUMEN OR RESIN MASTIC SEALANT
STEPS SHALL BE TYPE D CLASS 1 COMPLYING WITH BS EN 13101. GALVANIZED MILD STEEL AND PLASTIC ENCAPSULATED STEPS PREFERRED
GEN3 CONCRETE SURROUND 150mm THICK (DESIGNED TO BRE SPECIAL DIGEST 1 CONCRETE IN AGGRESSIVE GROUND)
500 MIN.
225 MIN
THE BOTTOM CHAMBER SECTION TO BE BUILT INTO BASE CONCRETE MINIMUM 75mm
HIGH STRENGTH CONCRETE TOPPING TO BE BROUGHT UP TO A DENSE SMOOTH FACE NEATLY SHAPED AND FINISHED TO ALL BRANCH CONNECTIONS (MINIMUM THICKNESS 20mm)
DISTANCE BETWEEN TOP OF PIPE AND UNDERSIDE OF PC CHAMBER TO BE 50mm
BENCHING SLOPE TO BE NOT FLATTER THAN 1 IN 30
225mm TO INVERT OF PIPE
CONSTRUCTION JOINT
GEN3 CONCRETE
INVERTS FORMED GENERALLY USING CHANNEL PIPES

SECTION B-B

MANHOLE DETAIL TYPE 2

MAX DEPTH FROM COVER LEVEL TO PIPE SOFFIT 3.0m

SCALE 1:20

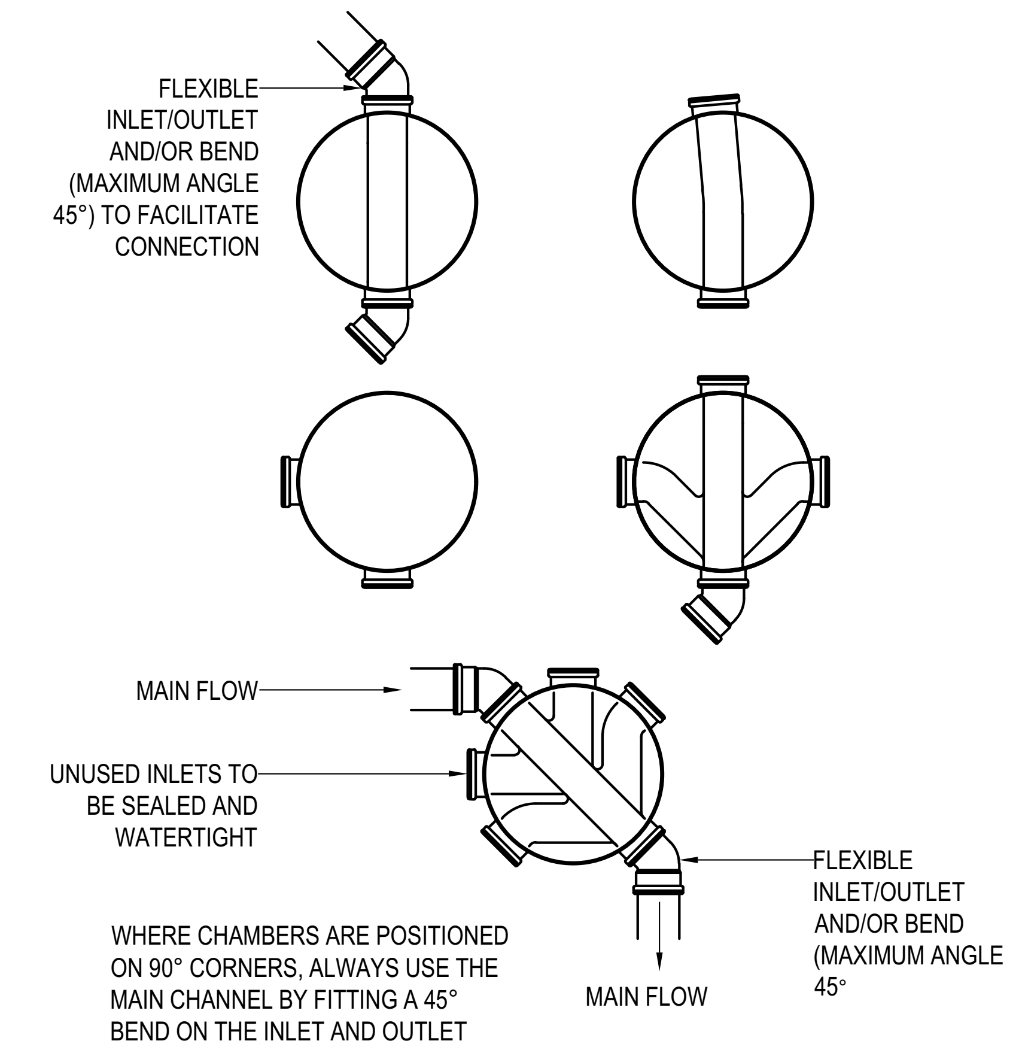

PLASTIC CHAMBERS AND RINGS SHALL COMPLY WITH BS EN 13598-1 AND BS EN 13598-2 OR HAVE EQUIVALENT INDEPENDENT APPROVAL
MORTAR BEDDNG AND HAUNCHING TO COVER AND FRAME TO CLAUSE E6.7
MANHOLE COVER TO SUIT BS EN 124 LOADING HIGHWAYS - CLASS D400 600mm CLEAR OPENING
ACCESS OPENING RESTRICTED TO 350mm DIAMETER OR 300mm X 300mm IF DEPTH OF CHAMBER TO INVERT IS >1m
SURFACE COURSE
BINDER COURSE
BASE COURSE
PRECAST CONCRETE SLAB OR IN-SITU CONCRETE SLAB TO SUPPORT COVER AND FRAME
CLASS B ENGINEERING BRICKWORK OR PRECAST CONCRETE COVER FRAME SEATING RINGS
DOT TYPE 1 SUB BASE (THICKNESS VARIES)
FLEXIBLE SEAL
TEMPORARILY CAP SHAFT DURING CONSTRUCTION
MINIMUM INTERNAL DIMENSIONS 450mm DIAMETER OR 450mm X 450mm
150mm GEN 3 CONCRETE SURROUND
JOINTS BETWEEN BASE AND SHAFT AND BETWEEN SHAFT COMPONENTS TO BE FITTED WITH WATERTIGHT SEALS
BASE UNIT TO HAVE ALL CONNECTIONS WITH SOFIT LEVELS SET NO LOWER THAN THAT OF THE MAIN PIPE
GRANULAR BEDDING MATERIAL
JOINT TO BE AS CLOSE AS POSSIBLE TO FACE OF CHAMBER TO PERMIT SATISFACTORY JOINT AND SUBSEQUENT MOVEMENT
INVERT OF CONNECTING PIPE AT LEAST 50mm ABOVE THAT OF THE MAIN PIPE

NOTE: WHERE THE ACCESS CHAMBER IS IN THE HIGHWAY THE HIGHWAY AUTHORITY CAN HAVE SPECIFIC REQUIREMENTS

TYPICAL INSPECTION CHAMBER DETAIL - TYPE 3 (FLEXIBLE MATERIAL DETAIL)

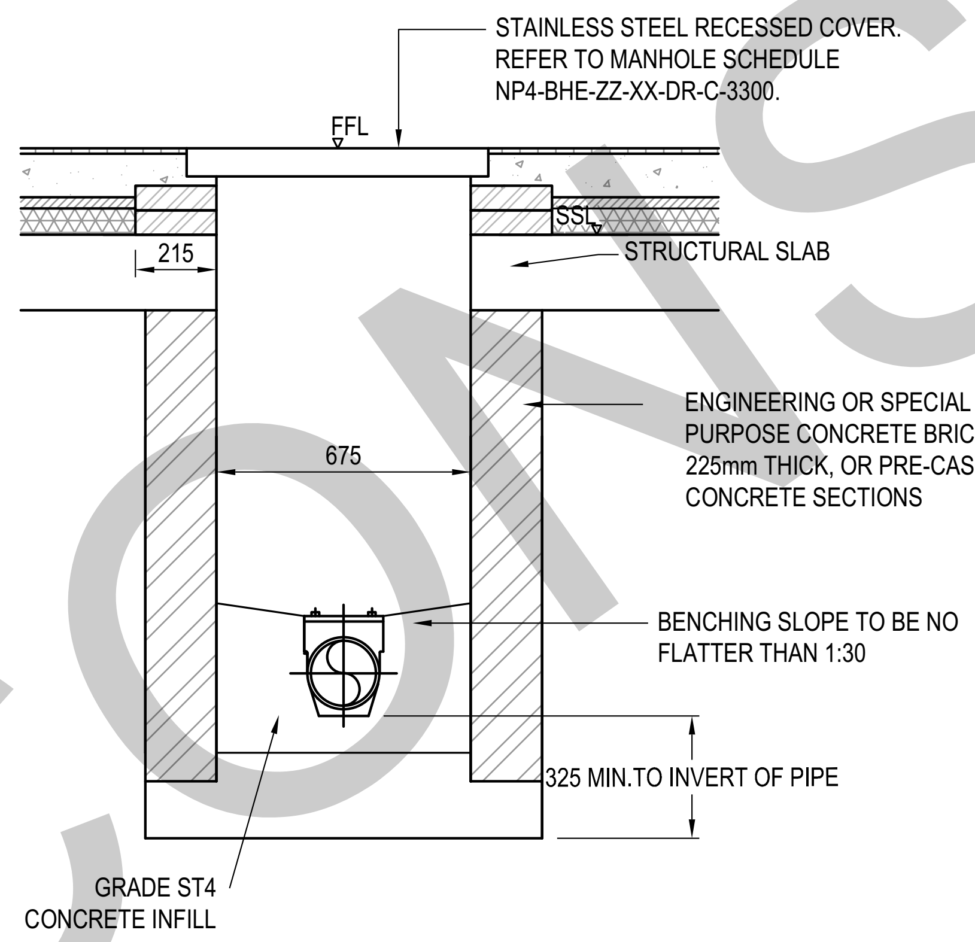
MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE IN AREAS SUBJECT TO VEHICLE LOADING 3m, NON ENTRY

NOT TO SCALE

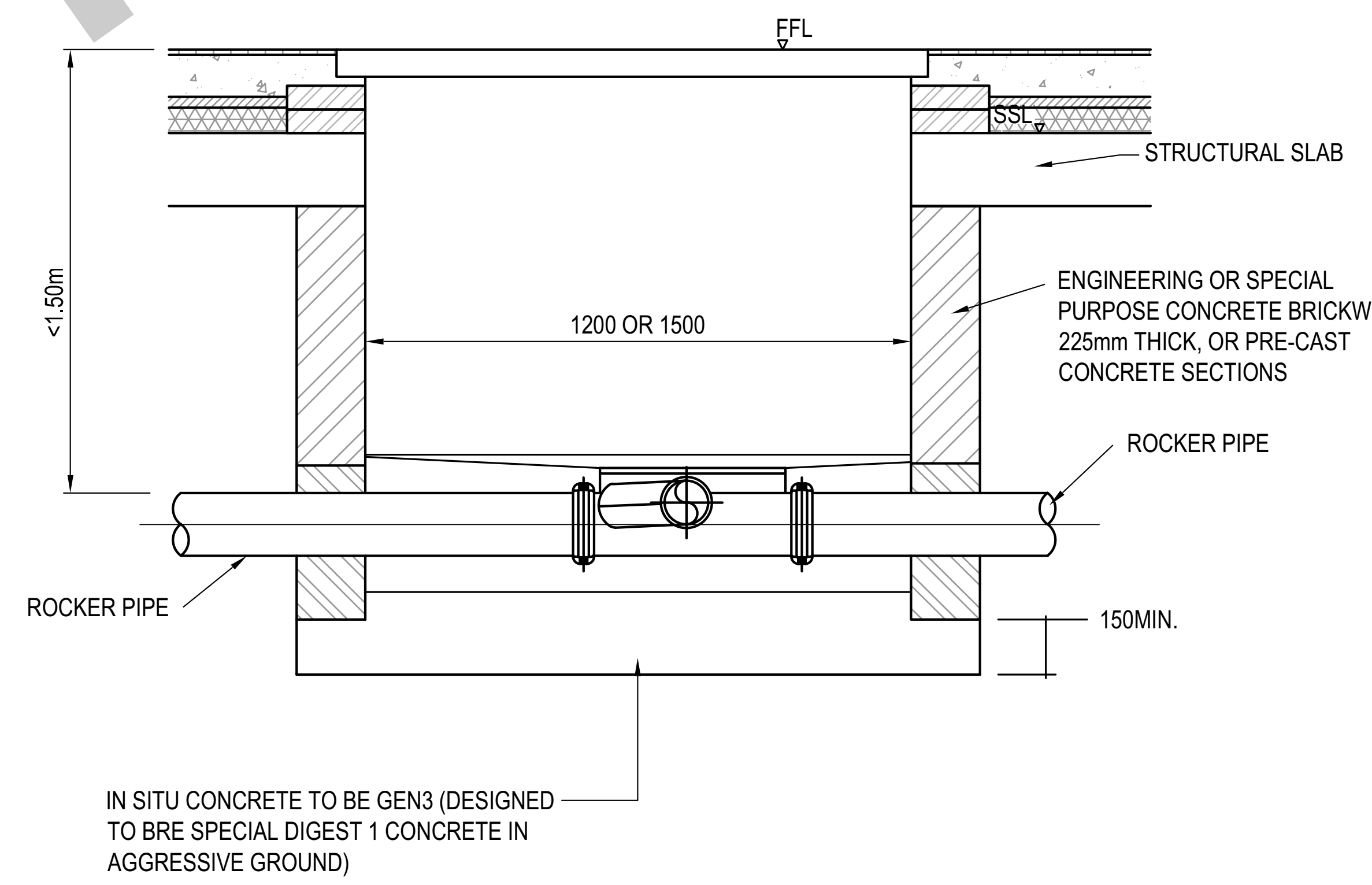

FLEXIBLE INLET/OUTLET AND/OR BEND (MAXIMUM ANGLE 45°) TO FACILITATE CONNECTION
MAIN FLOW
UNUSED INLETS TO BE SEALED AND WATERTIGHT
FLEXIBLE INLET/OUTLET AND/OR BEND (MAXIMUM ANGLE 45°
WHERE CHAMBERS ARE POSITIONED ON 90° CORNERS, ALWAYS USE THE MAIN CHANNEL BY FITTING A 45° BEND ON THE INLET AND OUTLET
MAIN FLOW

ALTERNATIVE BASE LAYOUTS FOR TYPE 3 CHAMBERS

NOT TO SCALE


STAINLESS STEEL RECESSED COVER. REFER TO MANHOLE SCHEDULE NP4-BHE-ZZ-XX-DR-C-3300.
FFL
SSL
215
STRUCTURAL SLAB
ENGINEERING OR SPECIAL PURPOSE CONCRETE BRICKWORK 225mm THICK, OR PRE-CAST CONCRETE SECTIONS
675
BENCHING SLOPE TO BE NO FLATTER THAN 1:30
325 MIN.TO INVERT OF PIPE
GRADE ST4 CONCRETE INFILL

SECTION 'B-B'

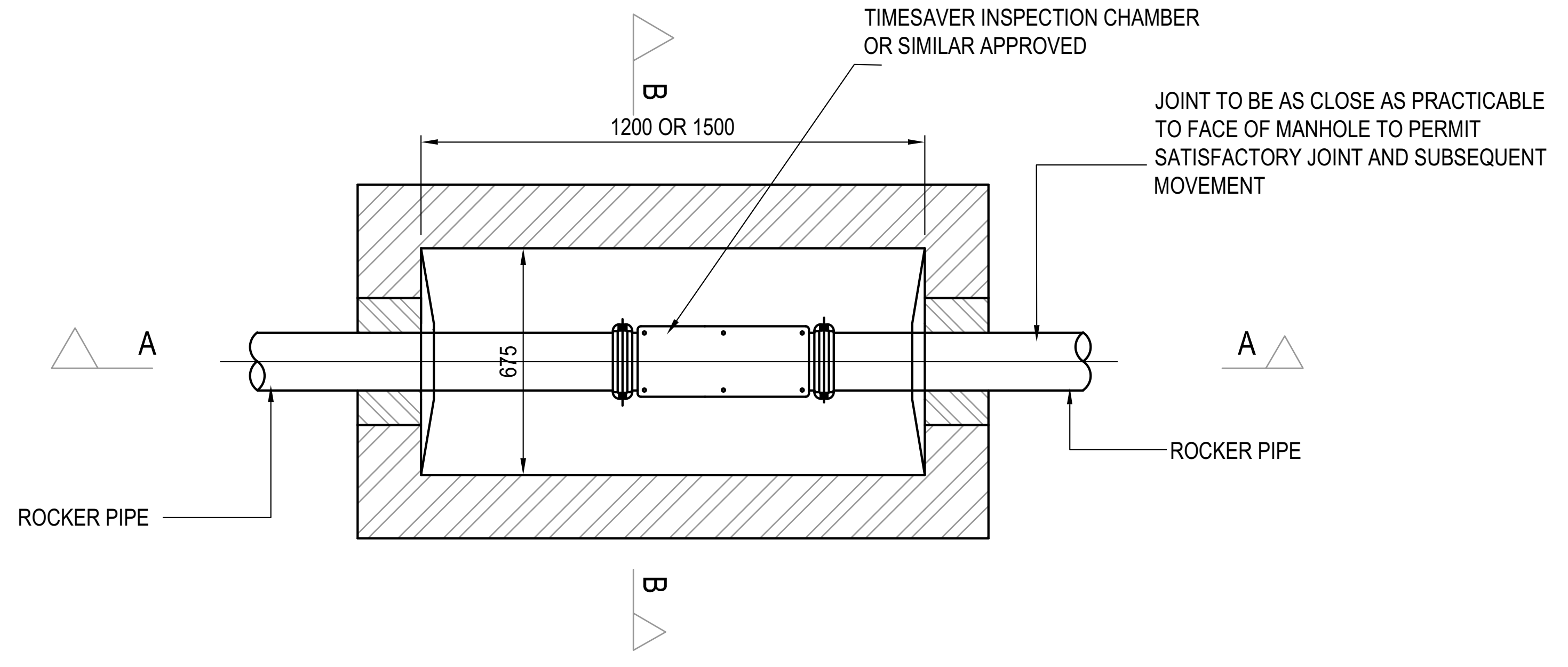

FFL
SSL
STRUCTURAL SLAB
<1.50m
1200 OR 1500
ENGINEERING OR SPECIAL PURPOSE CONCRETE BRICKWORK 225mm THICK, OR PRE-CAST CONCRETE SECTIONS
ROCKER PIPE
ROCKER PIPE
150MIN.
IN SITU CONCRETE TO BE GEN3 (DESIGNED TO BRE SPECIAL DIGEST 1 CONCRETE IN AGGRESSIVE GROUND)

MANHOLE DETAIL TYPE C

SECTION 'A-A'

MAX DEPTH FROM COVER LEVEL TO PIPE SOFFIT 1.50m

SCALE 1:20


TIMESAVER INSPECTION CHAMBER OR SIMILAR APPROVED
B
1200 OR 1500
JOINT TO BE AS CLOSE AS PRACTICABLE TO FACE OF MANHOLE TO PERMIT SATISFACTORY JOINT AND SUBSEQUENT MOVEMENT
A
A
675
ROCKER PIPE
ROCKER PIPE
B

PLAN

CONSTRUCTION RECORD

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DO NOT SCALE THIS DRAWING.

HEALTH AND SAFETY INFORMATION

IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING

CONSTRUCTION.
- RISK OF STRIKING EXISTING UTILITIES
- CONFINED SPACE

MAINTENANCE/CLEANING/OPERATION.
- BELOW GROUND SERVICES
- ADJACENT TO ROAD TRAFFIC
- CONFINED SPACE

DECOMMISSIONING/DEMOLITION.

Notes

1. TO BE READ IN CONJUNCTION WITH DRAWING NP4-BHE-ZZ-00-DR-C-3100, NP4-BHE-ZZ-LG-DR-C-3050 AND NP4-BHE-ZZ-LG-DR-C-3150.

FINAL ISSUE NOTE:
THIS FINAL ISSUE REFLECTS THE LAST CONSTRUCTION ISSUE WHICH HAS BEEN UPDATED DURING THE DURATION OF THE PROJECT TO INCORPORATE AMENDMENTS TO THE DESIGN. THESE DRAWINGS SHOULD BE READ IN CONJUNCTION WITH CONTRACTOR AS-BUILT DRAWINGS FOR DETAILED INFORMATION ON THE CONSTRUCTED NETWORKS.
ANY PERSON CARRYING OUT FUTURE WORK ON THE INFRASTRUCTURE ASSETS SHOULD SATISFY THEMSELVES AS TO THE ACCURACY AND EFFECT OF ANY SUBSEQUENT WORKS WHICH MAY HAVE BEEN CARRIED OUT BEFORE MAKING ALTERATION TO ANY NETWORKS.

Rev	Description	Date	Drn	Ch'd
C02	FINAL CONSTRUCTION ISSUE	07.06.23	RB	LJ
C01	STAGE 5 ISSUE	26.02.21	PB	NP
P01	STAGE 4 ISSUE	30.11.20	PB	NP

FINAL CONSTRUCTION

Status of drawing

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Architect *SIMPSON HAUGH & PARTNERS*
Project **NOMA PLOT P NOVATION**
Drg Title DRAINAGE DETAILS
SHEET 1

Scales@A1 1:250
Drawn by PB
Checked by NP
Job No. 0047214
Date NOVEMBER 2020
Rev C02
Drawing No. NP4-BHE-ZZ-XX-DR-C-3311

Reka Berkes \\Srv-manc02\project cad\0047214 NOMA Plot P Novation\F08 Civils - Infrastructure\Sheet\NP4-BHE-ZZ-XX-DR-C-3311 to 3316-Drainage Details.dwg