

UNDER CARRIAGEWAY
Backfill to underside of
formation with D.O.T.
Type 1, to clause 803

Granular Bedding
see note 1

SEE NOTE 3

UNDER CARRIAGEWAY

approved
as-dug material

Granular Bedding
see note 1

BEDDING CRITERIA SATISFACTORY

approved
as-dug material

Granular Bedding
see note 1

INSUFFICIENT BEDDING BUT NOT
UNDER ROAD

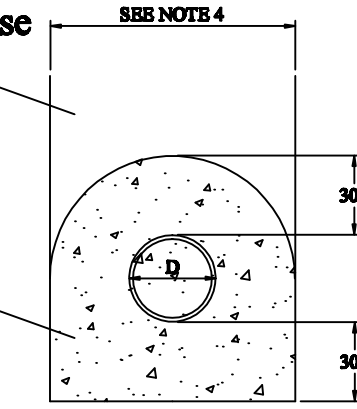
BEDDING CLASS S
BEDDING DETAIL FOR ADOPTABLE MAIN DRAINAGE
FLEXIBLE AND RIGID PIPES

COVER CRITERIA:

MINIMUM COVER REQUIRED TO CROWN FOR ADOPTABLE DRAINAGE:	
DOMESTIC GARDENS AND PATHS	0.35m
DRIVEWAYS LIGHT PARKING AREAS	0.5m (NO ACCESS TO VEHICLES OVER 7.5t)
DRIVEWAYS LIGHT PARKING AREAS	0.9m (ACCESS TO VEHICLES OVER 7.5t)
PUBLIC OPEN SPACE	0.9m
ROADS	1.2m
COVER LESS THAN ABOVE WILL REQUIRE PROTECTION.	

Trench backfilled with Granular sub-base
6F1 / 6F2

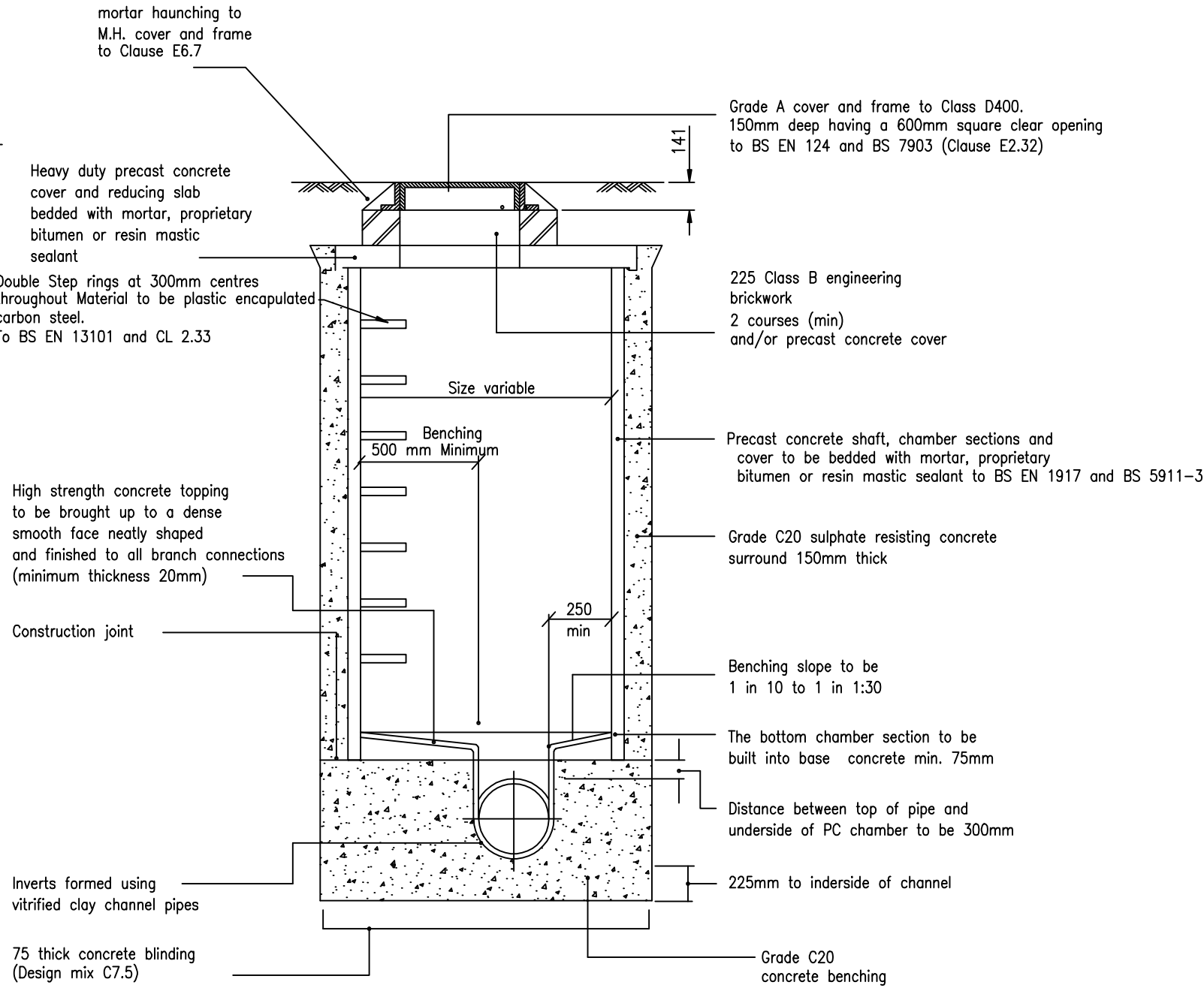
Concrete Grade ST 4 (C 20) bed
and surround (to CI 2602)



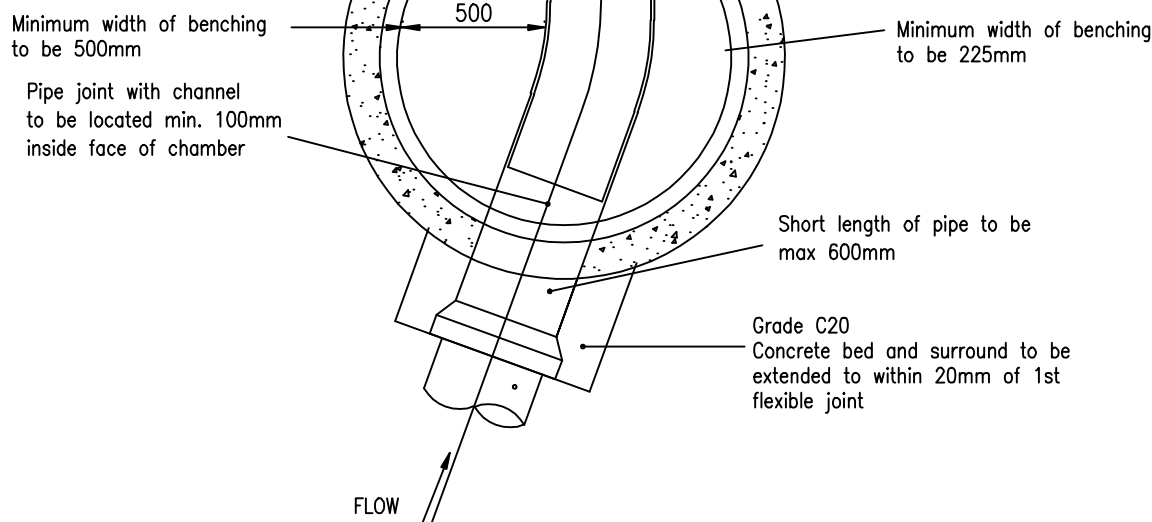
Grade ST4 concrete

Flexcell (or similar
approved)
bitumen impregnated
joint
filler

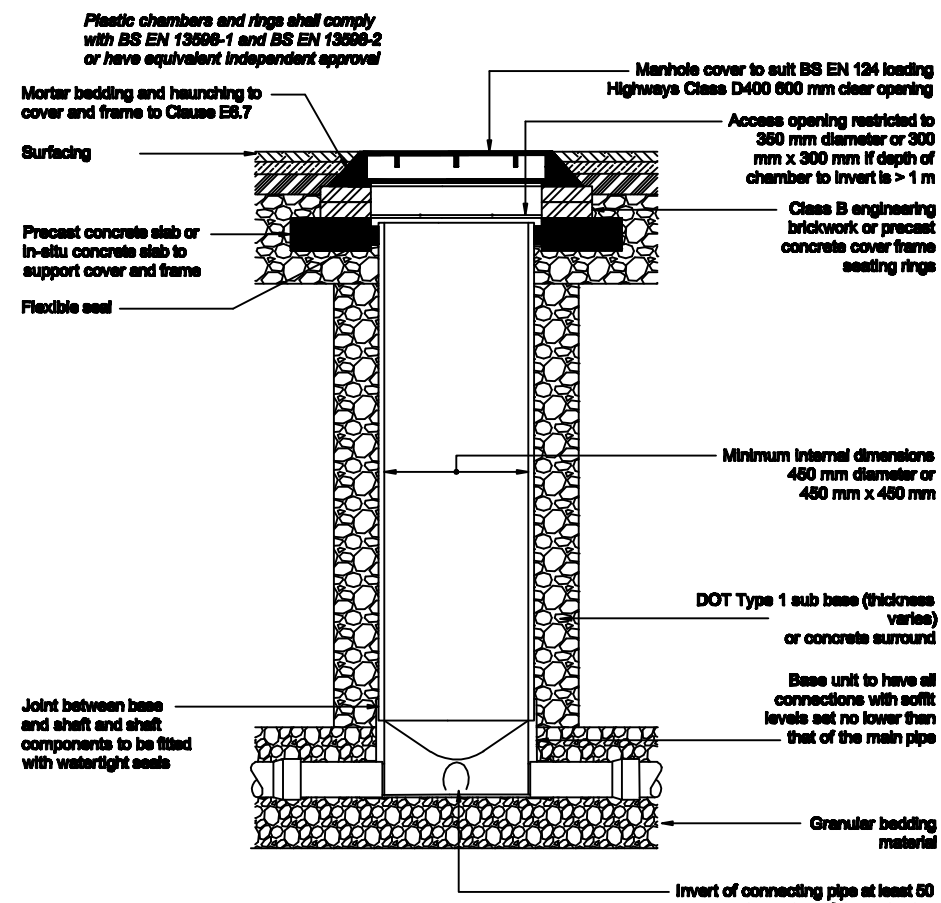
BEDDING DETAIL FLEXIBLE JOINT FOR USE WITH
CONCRETE PIPES
CONCRETE BEDDING AND SURROUND
DEPTH IN ROAD LESS THAN 1.2m to CROWN



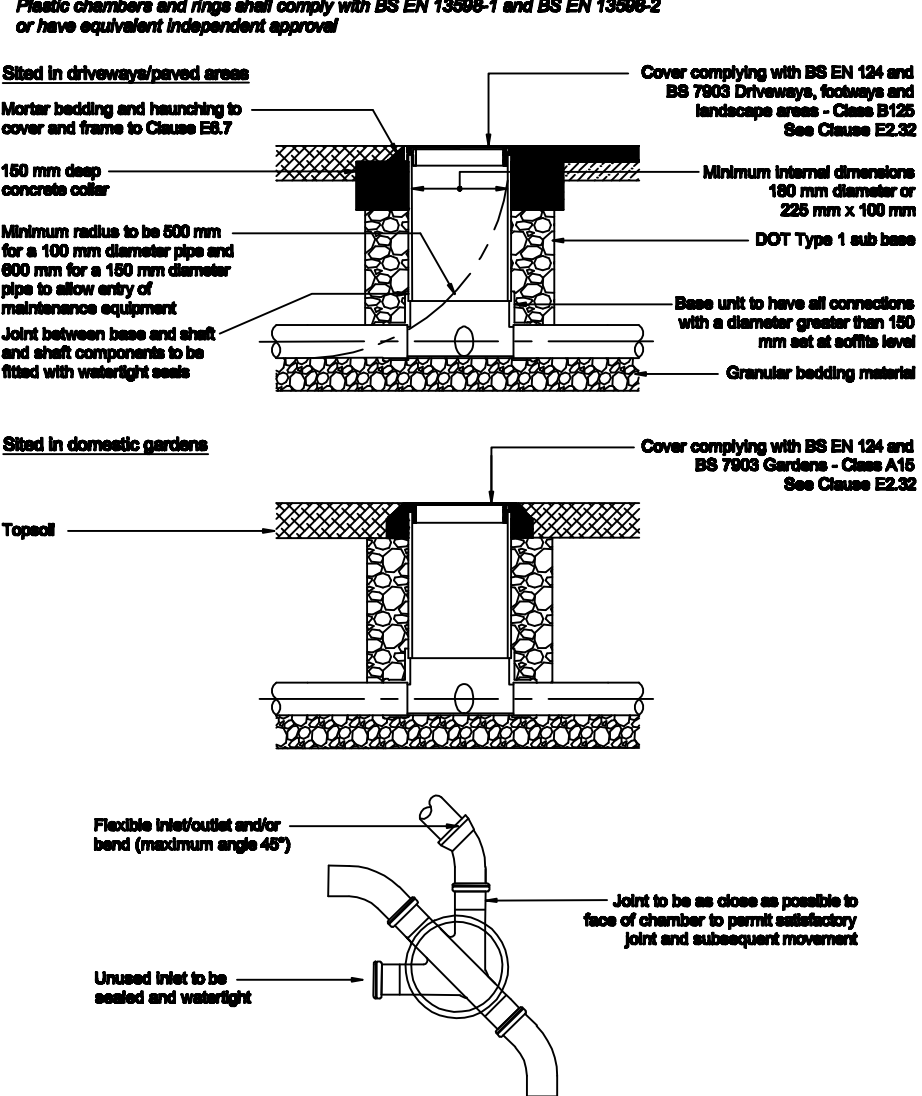
Pipe Dia.	Rocker Pipe Length
upto 600mm	0.6m
upto 750mm	1.0m
above 750mm	1.25 m



MANHOLE (UNDER ADOPTABLE ROAD) – TYPE 2
Max. depth from ground level to soffit of pipe 3m



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)

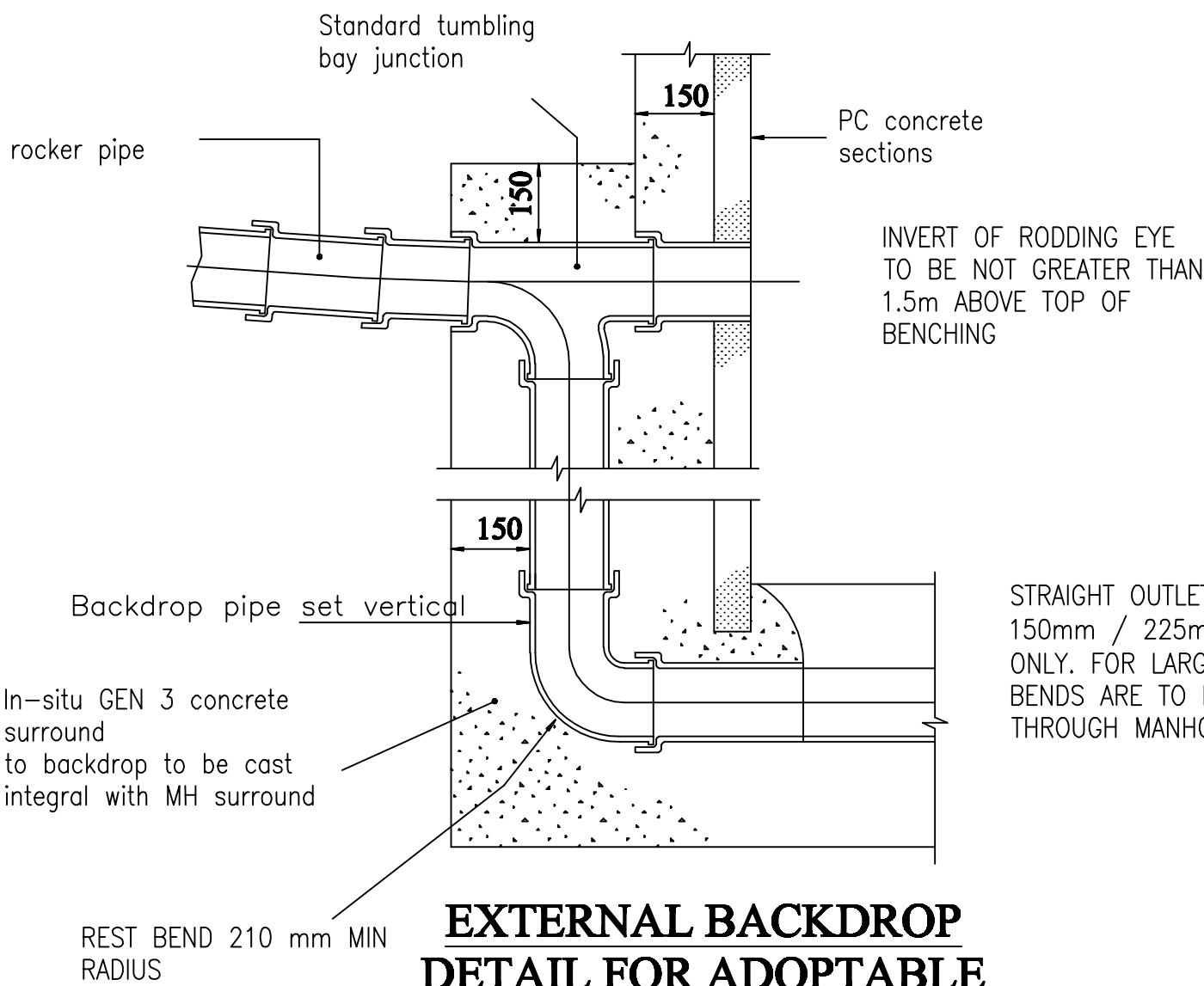


TYPICAL INSPECTION CHAMBER DETAIL - TYPE 4
(Flexible material detail)
(Maximum depth from cover level to soffit of pipe 2 m, non-entry)

MANHOLE / CHAMBERS:	
HIGHWAY AUTHORITY/LOADING CONDITIONS MAY REQUIRE CONCRETE RINGS.	
OTHERWISE:	
OVER 3m DEEP	TYPE 1 CONCRETE RINGS
NOT OVER 3m, SERVING 10 OR MORE PROPERTIES	TYPE 2 CONCRETE RINGS
OVER 2m/NOT OVER 3m DEEP/ MORE THAN 3 PROPERTIES	TYPE 3 PPIC CHAMBER
2m DEEP OR LESS, SERVING LESS THAN 4 PROPERTIES	TYPE 4 PPIC CHAMBER
BACKFILL:	
TYPE 1, TYPE 2, 150mm CONCRETE SURROUND [WELSH WATER]	
TYPE 3: DOT-TYPE 1 SUB-BASE SURROUND	
TYPE 4: DOT-TYPE 1 SUB-BASE SURROUND	

2 INLETS PER SIDE, (5 IN/ONE OUT) 450mm MIN. DIAMETER

ONE INLET PER SIDE 180 MIN DIAMETER (MINI-ACCESS CHAMBER=MAC)
WHERE SIDE BRANCHES ARE NOT TO BE USED STOPPER TO BE
INSERTED TO BLANK OFF CONNECTION



EXTERNAL BACKDROP
DETAIL FOR ADOPTABLE
MANHOLES

ALL ADOPTABLE BACKDROPS MUST BE
EXTERNAL (VERTICAL OR RAMPED)

NOTES ON MANHOLES

- All dimensions in millimetres unless otherwise stated.
- Workmanship shall comply with BS 8000 : 1989.
- All works shall comply with the requirements of W.A.A. Guide – "Sewers for Adoption – 7th Edition"
- All in situ concrete shall comply with BS 5328 : 1991, to meet Class 1 soil conditions.
- In situ structural concrete including surrounds to manholes and pipes shall be Grade C30 to meet Class 1 soil conditions.
- Precast concrete manhole units shall comply with BS 5911 : 1989 with Sulphate Resisting Cement to meet Class 1 soil conditions.
- All manhole covers shall be ductile iron to BS EN124 with BS kite mark , with 675mm square clear opening.
- For manholes 1.35m deep or more, where practicable manhole covers and frames shall be positioned such that they lead to a safe area of benching and not directly over the open channel invert.
- For manholes less than 1.35m deep, manhole covers and frames shall be positioned over the open channel invert to facilitate rodding.
- Engineering Bricks – In addition to the requirements of specification, Class B engineering bricks shall not contain frogs or holes and bond should be English.
- Hooks for safety chains shall be provided on outlet pipes greater than 600mm dia and in accordance with Sewers for Adoption – Design Guide – 7th Edition. Steel grade to be 361L
- Where manhole covers and frames are to be sited in road categories 1, 2 or 3, (NRSWA), they are to be bedded in a polyester resin bedding mortar.
- Pipe fittings are for guidance only and may be amended by the site engineer.
- Manhole co-ordinations refer to centre of manhole, not necessarily centre of pipework They do not override the sewers for adoption requirement that a manhole must be at least 0.5m from the kerb.
- All bends to be located within manhole and to be constructed with pre-formed invert bends.

NOTES:

MANHOLE COVERS BE TO SEWERS FOR ADOPTION
SECTION B3.2 CLAUSE 18, AND E2.23
PIPEWORK TO BE TO E.22 FOR UPVC, AND E2.18 IF
VITRIFIED CLAY USED

PENDING WATER AUTHORITY APPROVAL
PRELIMINARY

Rev	Description	Date	Drwn	Chkd
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KANE DESIGN
Civil Engineering Design

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Client

SG ESTATES Ltd

Project

PROPOSED DEVELOPMENT at
PONT ADAM, RUABON, WREXHAM LL14 6EG

Title

MANHOLE DETAILS

DRAWING NUMBER	SCALE	AS NOTED	SIZE A1
1348/04	DATE	03:05.17	REVISION
	DRAWN	AK	
	CHECKED	A.K	