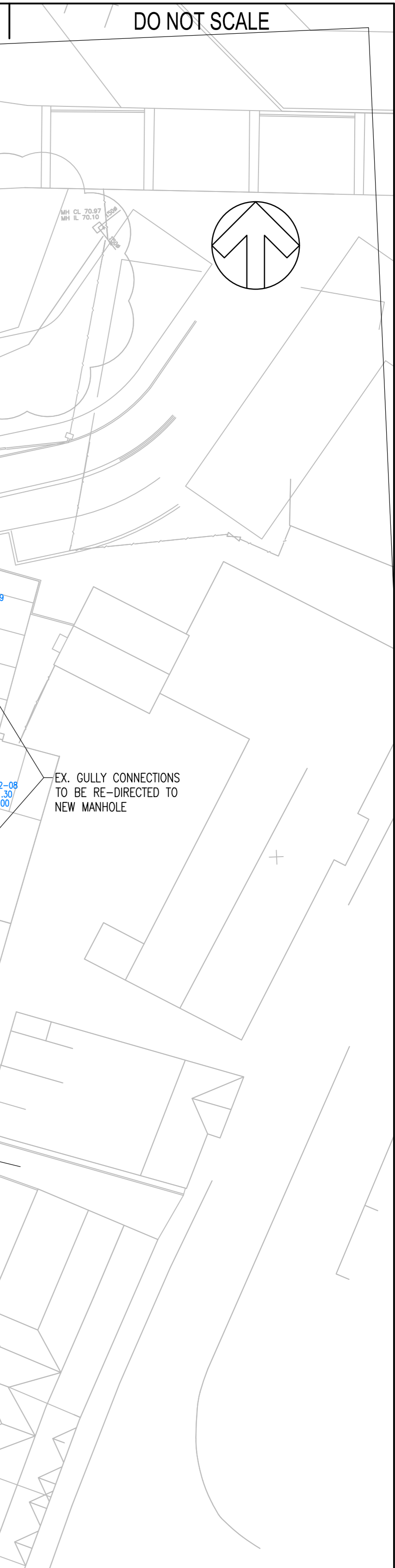
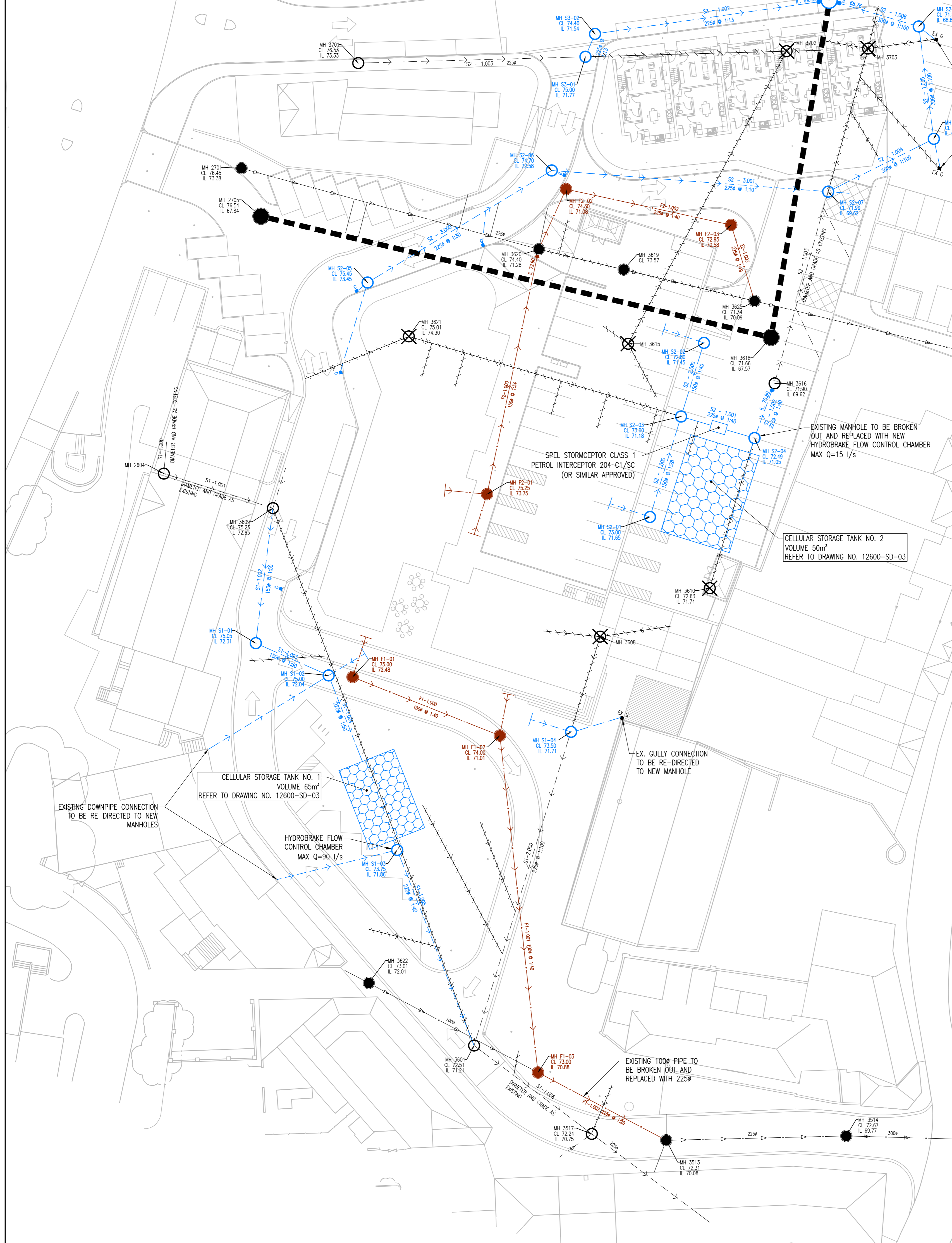


Surface Water Manhole Schedule											
Manhole Ref.	Cover Level	Manhole Depth (m)	Manhole Diameter	Pipe Out		Pipe In		Upstream Easting (m)	Upstream Northing (m)	Type	Comments
				Invert Level (m)	Diameter (mm)	Invert Level (m)	Diameter (mm)				
S1-01	75.05	2.74	1200	72.31	150	72.31	150	523296.896	208650.640	2T	
S1-02	75.00	2.96	1200	72.04	225	72.04	150	523305.528	208646.815	2T	Catchpit Manhole
S1-03	73.75	1.89	1200	71.86	225	71.86	225	523313.646	208626.155	2T	
S1-04	73.50	1.79	1200	71.71	225	71.71	150	523334.232	208640.138	2T	
S2-01	73.00	1.35	1200	71.65	150	71.65	150	523343.578	208665.577	2T	Flow Control Manhole
S2-02	72.80	1.35	1200	71.45	150	71.45	150	523349.973	208686.199	2T	
S2-03	73.00	1.82	1200	71.18	225	71.18	150	523347.267	208677.480	2T	Catchpit Manhole
S2-04	72.49	1.44	1200	71.05	225	71.05	225	523355.958	208674.925	2T	Flow Control Manhole
S2-05	75.45	2.00	1200	73.45	225	73.45	225	523310.136	208693.338	2T	From Cellular Storage
S2-06	74.70	2.12	1200	72.58	225	72.58	225	523331.948	208706.609	2T	
S2-07	71.50	2.35	1200	69.15	300	69.15	225	523364.681	208704.102	2T	
S2-08	71.30	2.30	1200	69.00	300	69.00	225	523577.193	208710.361	2T	
S2-09	71.80	2.94	1200	68.86	300	68.86	300	523375.419	208723.665	2T	
S2-10	72.20	5.21	1800	66.99	1125	66.99	1125	523364.803	208726.765	1A-TN	Backdrop connection
S3-01	75.00	3.23	1200	71.77	225	71.77	225	523335.944	208720.075	2T	Backdrop connection
S3-02	74.40	2.86	1200	71.54	225	71.54	225	523337.073	208722.784	2T	

Foul Water Manhole Schedule											
Manhole Reference	Cover Level (mAOD)	Manhole Depth (m)	Manhole Diameter	Pipe Out		Pipe In		Upstream Easting (m)	Upstream Northing (m)	Type	Comments
				Invert Level (m)	Diameter (mm)	Invert Level (m)	Diameter (mm)				
F1-01	75.00	2.66	1200	72.478	100	72.478	100	523308.360	208646.627	2T	
F1-02	74.00	2.12	1200	72.009	100	72.009	100	523325.806	208639.692	2T	
F1-03	73.00	2.12	1200	70.88	225	71.005	100	523330.325	208599.798	2T	
F2-01	75.25	1.35	1200	73.75	150	73.8	100	523324.285	208668.277	2T	
F2-02	74.30	3.00	1200	71.87	225	71.87	225	523333.638	208704.400	1A-TN	
F2-03	72.95	2.15	1200	70.42	225	70.42	225	523353.203	208700.162	2T	



- NOTES**
- DO NOT SCALE FROM THIS DRAWING.
  - ALL DIMENSIONS IN MILLIMETRES UNLESS STATED OTHERWISE. ALL LEVELS IN METRES ABOVE ORDNANCE DATUM UNLESS STATED OTHERWISE.
  - DRAWING BASED ON TOPOGRAPHICAL SURVEY BY PLOWMAN CRAVEN DATED DECEMBER 2013.
  - DRAWING BASED ON MASTERPLAN (DRAWING 789 - 109 P) BY BROOKS/MURRAY DATED 24/11/2011.
  - ALL ADOPTABLE SEWER DESIGN AND CONSTRUCTION TO COMPLY WITH WATER SERVICES ASSOCIATION'S "SEWERS FOR ADOPTION" (CURRENT EDITION).
  - ALL PROPOSED AND EXISTING LEVELS ARE TO BE CHECKED PRIOR TO CONSTRUCTION AND ANY DISCREPANCIES REFERRED BACK TO THE DESIGNER.
  - REFER TO DRAWINGS 12600-SD-01 TO 12600-SD-03 FOR MANHOLE AND PIPE BEDDING DETAILS.
  - DRAINAGE FROM THE UNITS IS TO BE EITHER CLAY PIPEWORK TO BE EN 295, EXTERNAL RIB-REINFORCED UPVC PIPEWORK OF UPVC PIPEWORK TO BS4660. INSPECTION CHAMBERS ARE TO BE COMPATIBLE WITH THE SYSTEM USED. MANHOLE TO BE CONSTRUCTED OF EITHER PRECAST CONCRETE COMPONENTS TO BS5911 OR CLASS B ENGINEERING BRICKS TO BS3921.
  - ALL EXISTING SEWERS TO BE JETTED AND CCTV SURVEYED PRIOR TO WORKS COMMENCING TO ENSURE ALL LATERAL CONNECTIONS ARE ACCOUNTED FOR WITHIN THE PROPOSED DESIGN.

- KEY**
- LENGTH OF EXISTING SURFACE WATER SEWER TO BE ABANDONED
  - LENGTH OF EXISTING FOUL WATER SEWER TO BE ABANDONED
  - EXISTING SURFACE WATER SEWER & MANHOLE
  - PROPOSED SURFACE WATER SEWER & MANHOLE
  - PROPOSED SURFACE WATER LATERAL FOR FUTURE CONNECTION 150mm AT 1 IN 100 UNLESS OTHERWISE STATED
  - EXISTING FOUL WATER SEWER & MANHOLE
  - PROPOSED FOUL WATER LATERAL FOR FUTURE CONNECTION 150mm AT 1 IN 100 UNLESS OTHERWISE STATED
  - PROPOSED FOUL WATER SEWER & MANHOLE
  - EXISTING MANHOLE TO BE ABANDONED
  - EXISTING 1150mm DIA. CULVERT
  - PROPOSED TRAPPED ROAD GULLY
  - EXISTING GULLY

REV	DATE	BY	DESCRIPTION	CHK	APD
A	10/08/15	MM	FIRST ISSUE	HMP	HMP

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CLIENT: GASCOYNE CECIL ESTATE

PROJECT: SALISBURY SQUARE OLD HATFIELD

ARCHITECT: BROOKS MURRAY

TITLE: FOUL AND SURFACE WATER DRAINAGE LAYOUT

SCALE @ A1: 1:250	CHECKED: HWP	APPROVED: HWP
CAD FILE: 12600-D-01.DWG	DESIGN-DRAWN: MM	DATE: August 15
PROJECT NO: 70012600	DRAWING NO: 12600-D-01	REV: A

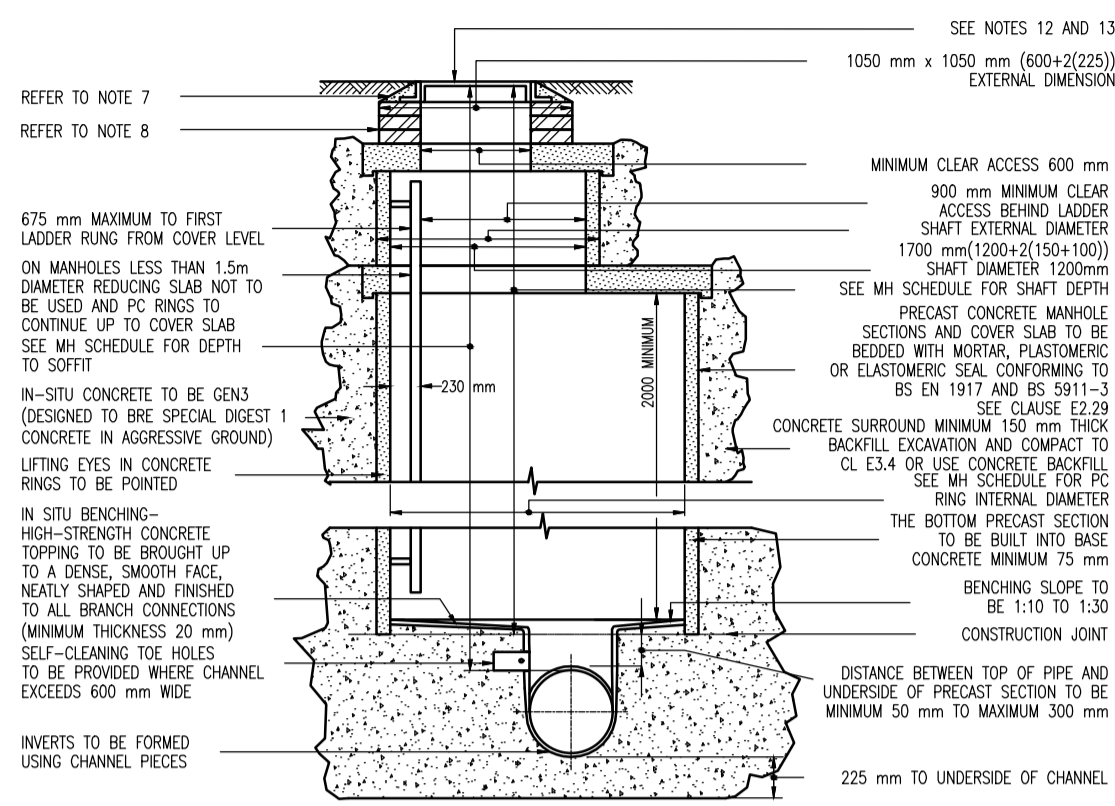
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N:\70012600 - Salisbury Square, Hatfield\Development\AUTOCAD\12600-D-01.dwg 28/08/2015 11:38:46 Palmer, Howard

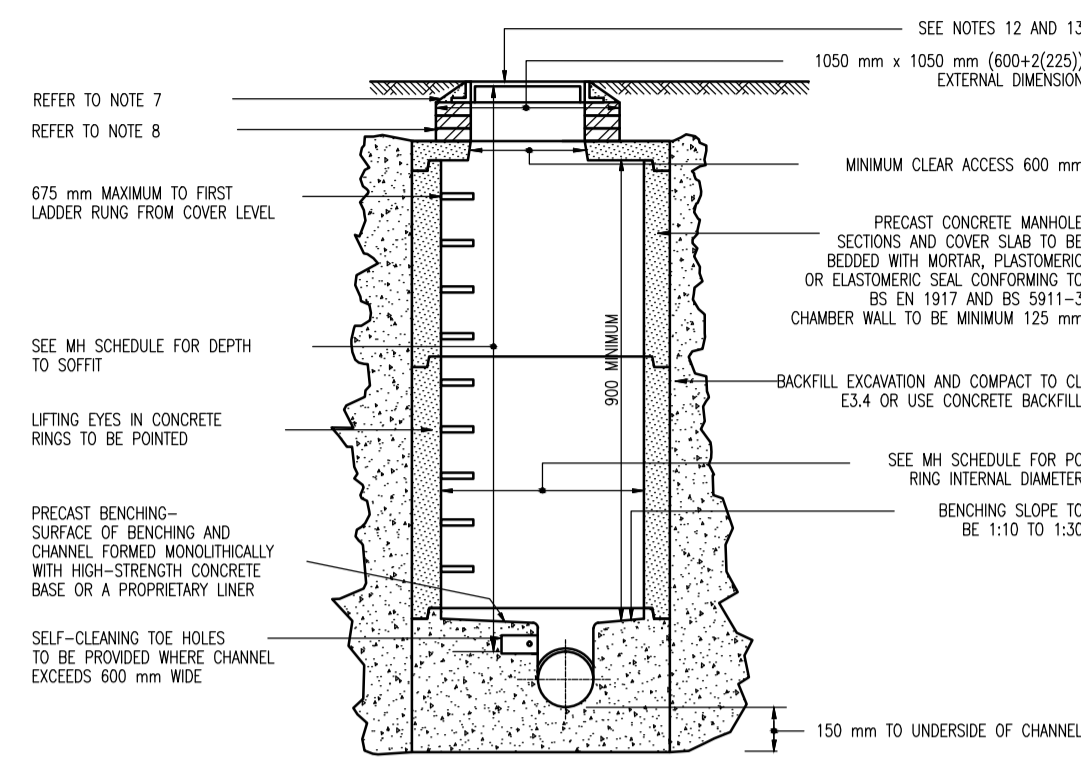


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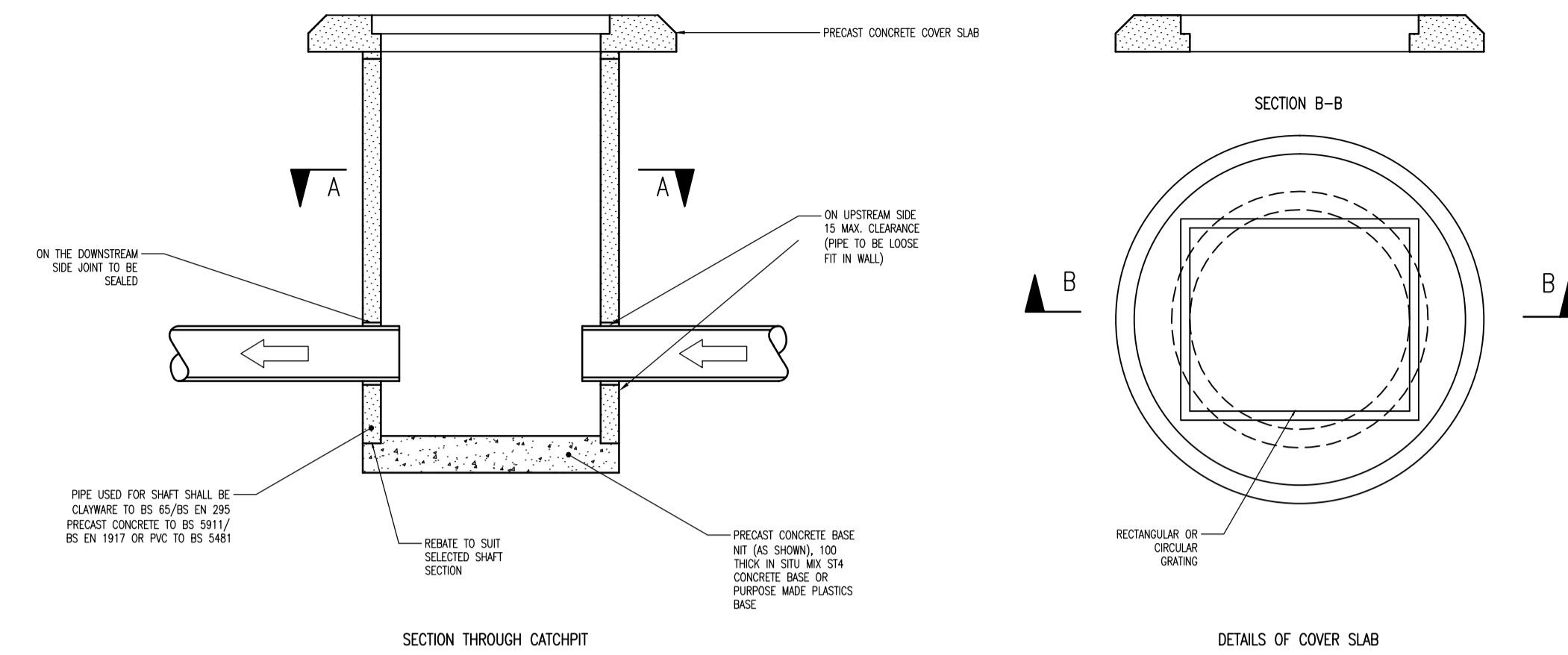
- NOTES:
- DO NOT SCALE. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.
  - ALL LEVELS STATED ARE IN METRES ABOVE THE ORDNANCE DATUM, NEWLYN.
  - SPECIFICATION - ALL WORKS TO BE IN ACCORDANCE WITH THE RELEVANT PROVISIONS OF THE SPECIFICATION DOCUMENT SEENERS FOR ADOPTION 7TH EDITION. THE CLAUSE NUMBERS REFERRED BELOW RELATE TO THE SPECIFICATION ABOVE.
  - SEE MANHOLE SCHEDULES FOR TYPE OF BACKDROP TO BE USED AT SPECIFIC MANHOLES.
  - IF FIRST PIPE BEYOND JUNCTION PIPE IS ENCASED IN CONCRETE A FLEXIBLE BOARD SHALL BE INSERTED AND THE CONCRETE PIPE SURROUND CONTINUED UP TO THE JOINT WITH ROCKER PIPE.
  - MANHOLE COVERS AND FRAMES SHALL COMPLY WITH BS EN 124, BS7903 AND CLAUSE E2.32.
  - MANHOLE FRAMES SHALL BE SET LEVEL, BEDDED AND HAUNCHED TO CL E6.7.
  - MANHOLE FRAME SHALL BE SEATED ON AT LEAST TWO COURSES OF CLASS B ENGINEERING BRICKS TO CL E6.7.
  - FOR ROCKER PIPE DETAILS REFER TO CLAUSE E6.6.2.
  - STEP IRONS COMPLYING WITH BS EN 14396 AND CLAUSE E2.37.
  - LADDER COMPLYING WITH BS EN 14396 AND CLAUSE E2.37.
  - OPENING TO BE LOCATED CENTRALLY OVER 900 mm SHAFT AND OFFSET APPROXIMATELY 200 mm FOR 1200 mm DIAMETER SHAFT WITH LADDER.
  - MANHOLE COVERS TO CL E2.32-SEE MANHOLE SCHEDULE FOR SIZES.
  - PIPE BEDDING CLASSIFICATION ARE DERIVED FROM T.R.R.L DOCUMENT "SIMPLIFIED TABLED OF EXTERNAL LOADS ON BURIED PIPELINE".
  - SHW MEANS REFER TO THE SPECIFICATION FOR HIGHWAY WORKS VOL. 1 SERIES 600.
  - ALL CONCRETE AND CONCRETE PRODUCTS BELOW GROUND LEVEL ARE TO BE CLASS 3 SULPHATE RESISTING TO SPECIAL DIGEST 1:2005.
  - THE CONTRACTOR SHALL CONTACT ALL APPROPRIATE STATUTORY UNDERTAKERS AND ESTABLISH THE EXACT LOCATION OF ALL SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORKS.
  - THE CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL PIPEWORK IS PROTECTED AT ALL STAGES OF CONSTRUCTION.
  - ALL PIPE CONNECTIONS ARE SOFFIT TO SOFFIT UNLESS OTHERWISE STATED.
  - ALL PIPE BEDDINGS TO BE CLASS B GRANULAR BED AND HAUNCH UNLESS INDICATED OTHERWISE.
  - HYDRO INTERNATIONAL CONTACT: STORMWATER SOLUTIONS, SHEARWATER HOUSE, CLEVELDON HALL ESTATE, VICTORIA ROAD, CLEVELDON, BS21 7RD, TEL. 01275 878371. WWW.HYDRO-INT.COM
  - WHERE A SPECIFIC PRODUCT OR SUPPLIER IS SPECIFIED, AN APPROVED ALTERNATIVE CAN BE OFFERED.
  - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH WSP DRAWING NUMBER 12600-0-01.
  - ALL CLAUSE NUMBERS REFER TO THE SPECIFICATION FOR HIGHWAY WORKS, LATEST EDITION.
  - PLASTIC GULLY POTS SUBJECT TO HIGHWAY AUTHORITY'S WRITTEN APPROVAL MAY BE USED AS AN ALTERNATIVE TO CONCRETE GULLY POTS. WHERE THE CONTRACTOR CHOOSES THIS OPTION, THE CONCRETE SURROUND TO THE GULLY POT SHALL BE MIX S2 TO BS EN 206 TO A MINIMUM THICKNESS OF 200mm & SHALL BE VIBRATED WITH A 50mm DIAMETER POKER.
  - CONTRACTOR SHOULD PROVIDE MECHANICAL LIFTING AIDS FOR ITEMS HEAVIER THAN 20 KGS. IF MECHANICAL LIFTING AIDS ARE IMPRACTICAL A RISK ASSESSMENT SHOULD BE UNDERTAKEN WHICH IDENTIFIES THE APPROPRIATE CONTROL MEASURES REQUIRED TO AVOID RISK OF INJURY FROM MANUAL HANDLING.
  - GULLY GRATING AND FRAME SHALL COMPLY WITH BS EN 124 OR BE FABRICATED STEEL, OR GRATING WITH FRAME CAST INTO PRECAST CONCRETE COVER SLAB. GRATING TO HAVE MINIMUM WATERWAY AREA OF 0.125 100m<sup>2</sup> AND TO WITHSTAND BS EN 124 TEST LOAD.
  - FOR INVERT DETAILS SEE THE MANHOLE SCHEDULES.
  - PURPOSE MADE PLASTICS UPPER SECTIONS WITH PRE-FITTED GRATINGS TO NOTE 2 MAY BE USED. PLASTICS UPPER SECTIONS SHALL BE SURROUNDED WITH MIX S14 CONCRETE TO DIMENSIONS SHOWN FOR PRECAST SLAB.
  - CLAUSE 507.15 OF THE S.H.W. NEED NOT BE APPLIED.



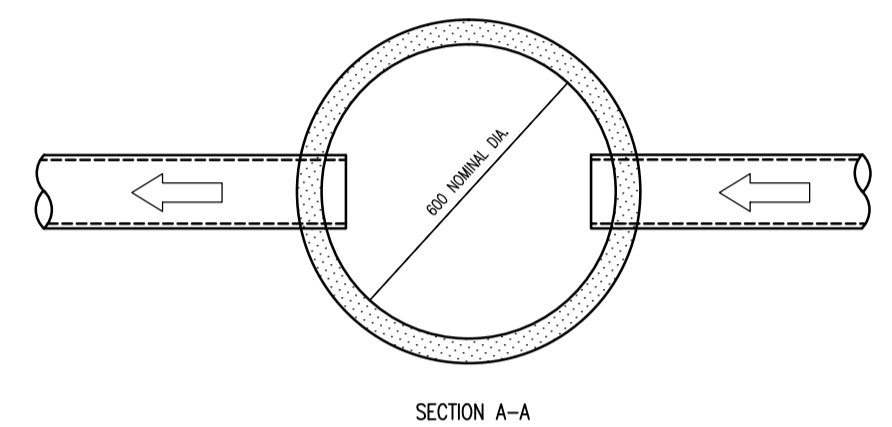
TYPICAL MANHOLE DETAIL - TYPE 1A-TN  
DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 3m to 6m



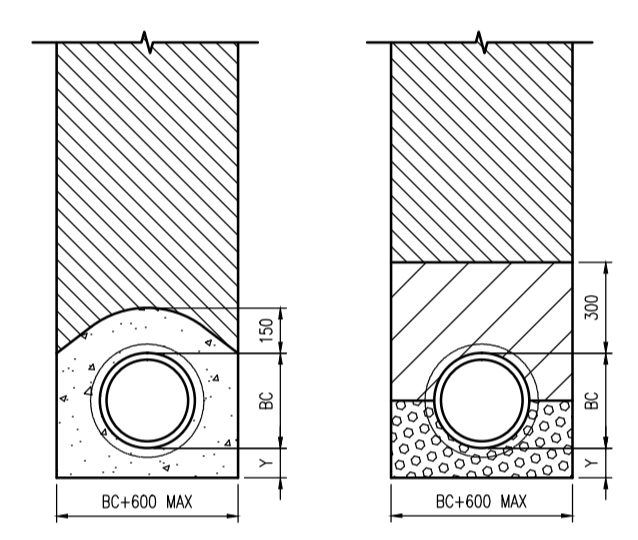
TYPICAL MANHOLE DETAIL - TYPE 2T  
DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE NOT EXCEEDING 3m



TYPICAL CATCHPIT DETAIL



SECTION A-A



PIPE BEDDING DETAILS

KEY

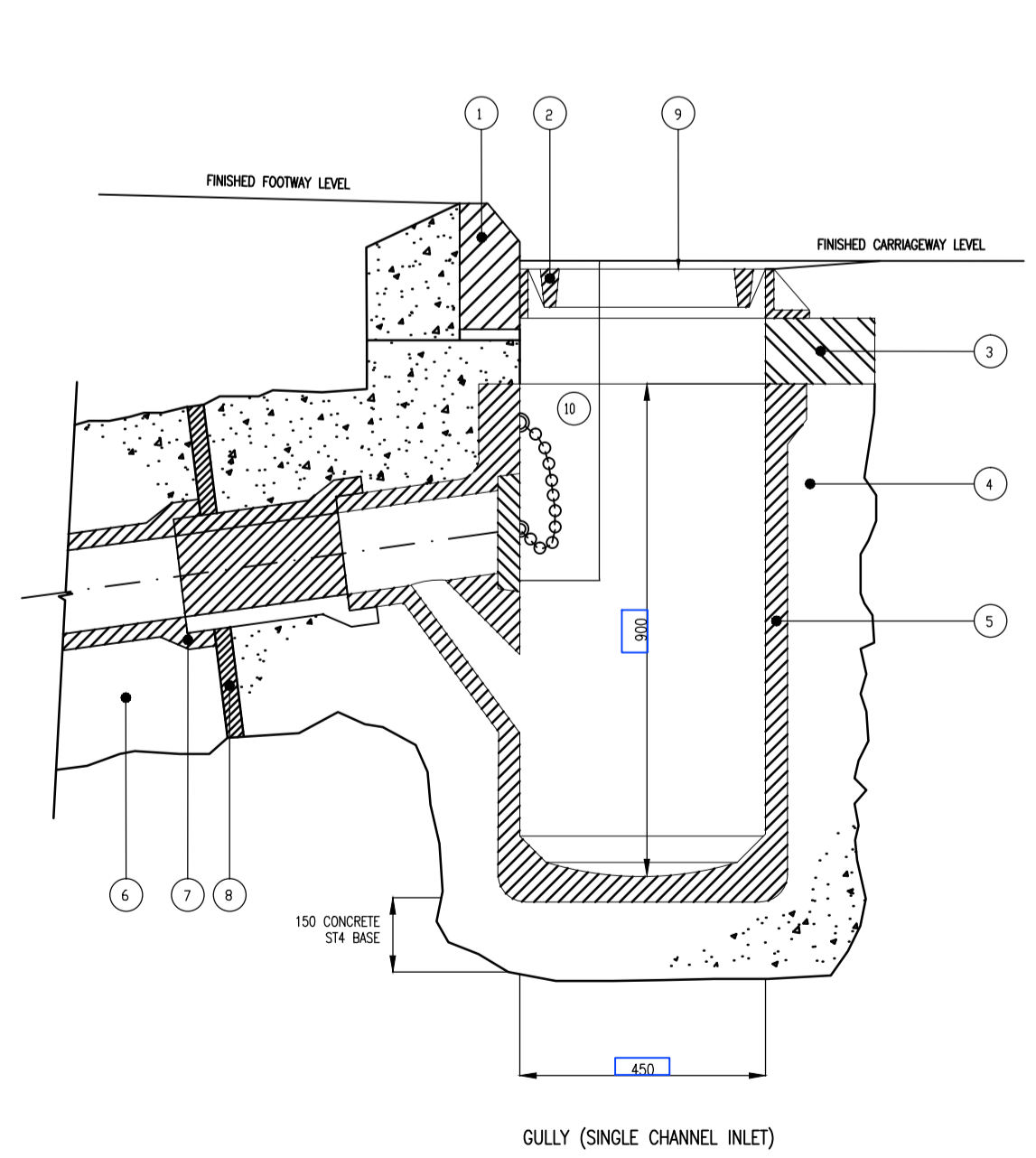
- SUITABLE BACKFILL MATERIAL
- SELECTED SIDEFILL AND SURROUND, CLASS B
- SINGLE SIZE GRANULAR MATERIAL, TABLE 5/3 SHW TO BS 13242 COARSE AGGREGATE CLAUSE 4.3.2
- GEN3 CONCRETE BED AND SURROUND

DN = NOMINAL INTERNAL DIAMETER OF PIPE.  
OD = OUTSIDE DIAMETER OF PIPE.

DIMENSION Y

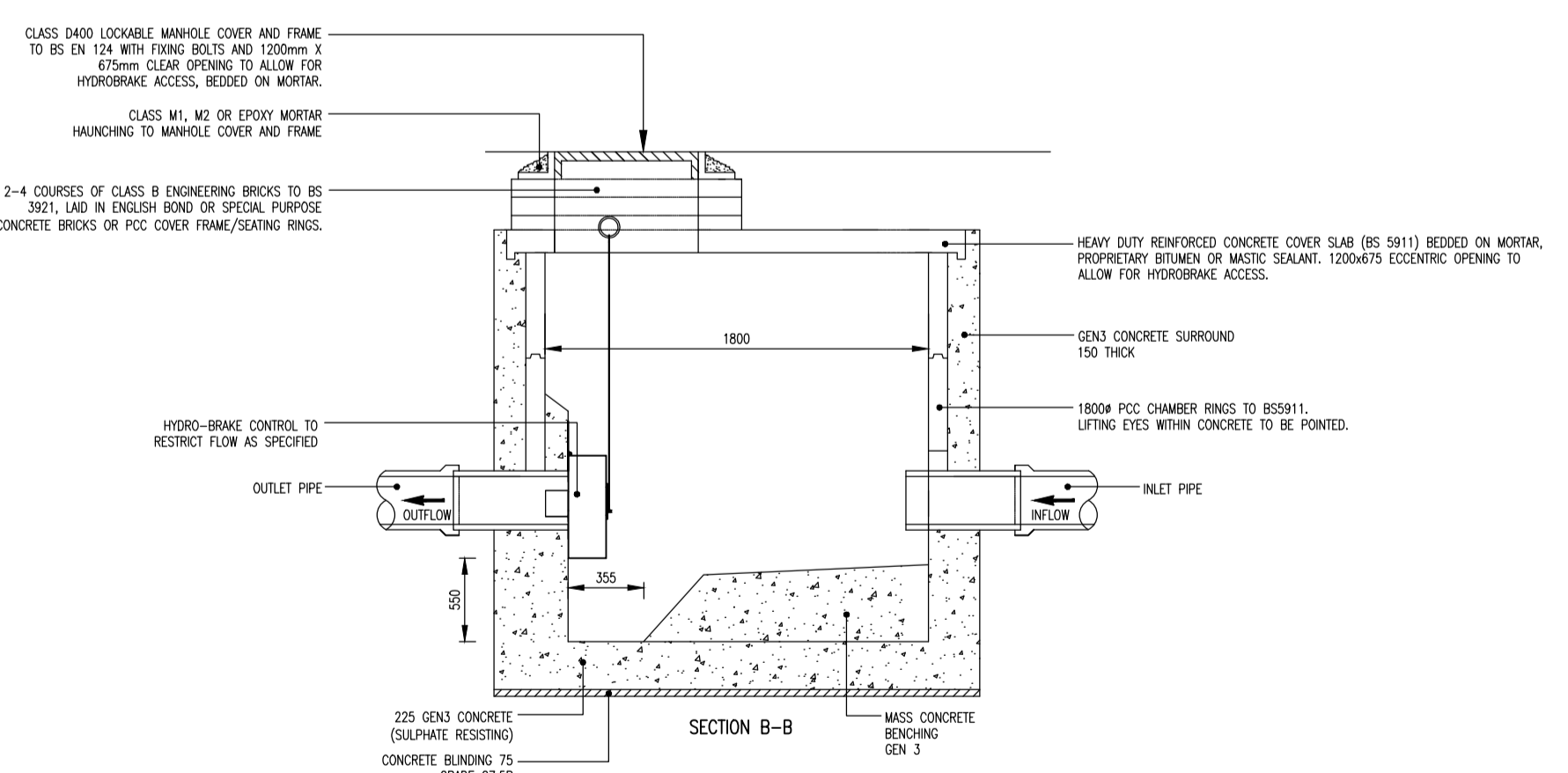
CLASS	MACHINE DUG UNIFORM SOL	ROCK OR MIXED SOLS
A & B & S	NOTE (1)	NOTE (2)
A & Z	NOTE (3)	NOTE (4)

(1) Y=80%L, WITH MIN 100 UNDER BARRELS (50 FOR SLEEVE JOINTED) AND MIN 50 UNDER SOCKETS, WHICHEVER IS THE GREATER, WITH A MAX OF 400.  
(2) Y=80%L, WITH MIN 200 UNDER BARRELS (150 FOR SLEEVE JOINTED) AND MIN 150 UNDER SOCKETS, WHICHEVER IS THE GREATER, WITH A MAX OF 400.

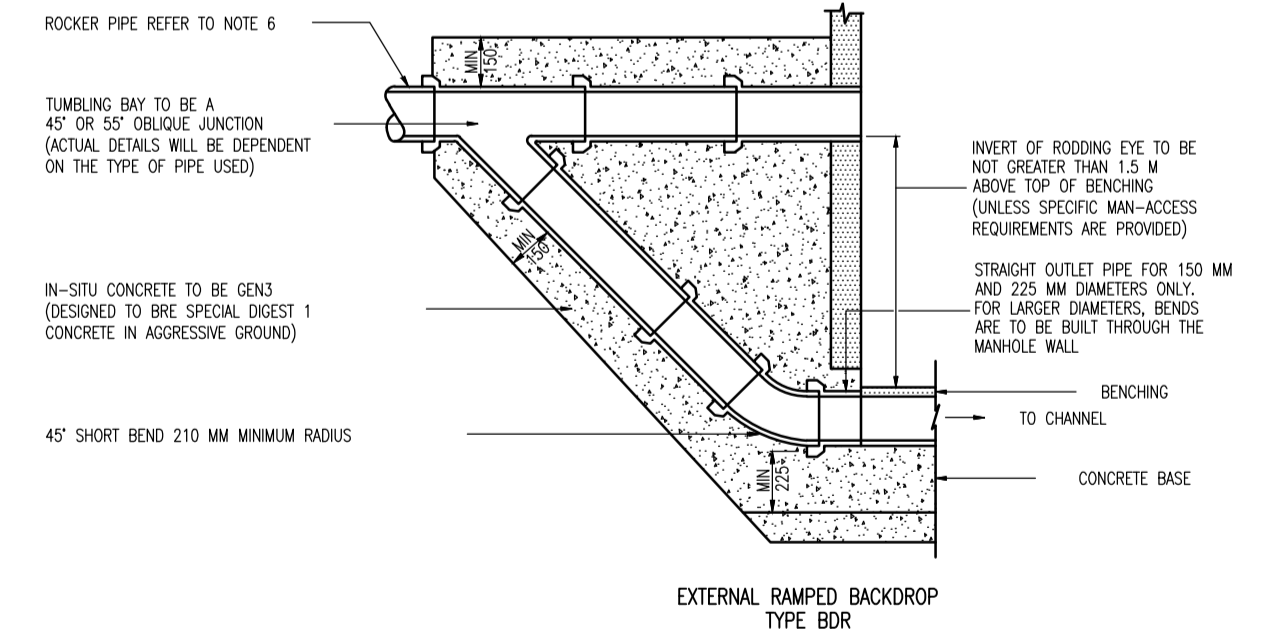


GULLY (SINGLE CHANNEL INLET)

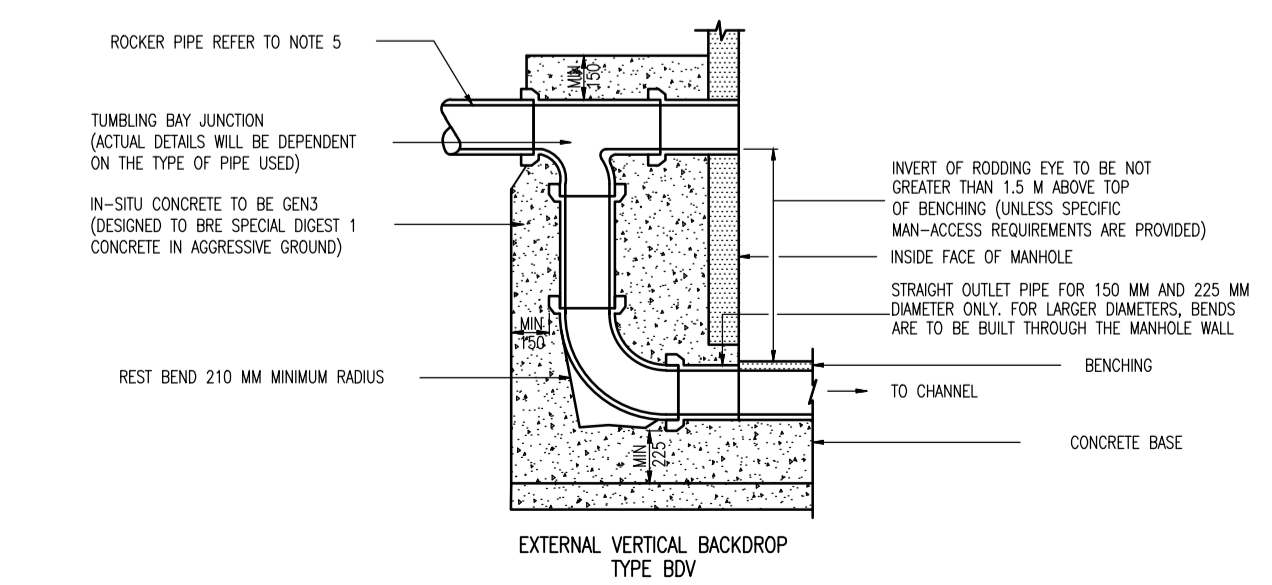
- PRECAST CONCRETE KERB AS SPECIFIED
- HEAVY DUTY DOUBLE TRIANGULAR GULLY GRATING AND FRAME CLASS 0400 TO BS EN 124-1994 THE FRAME SHALL BE SET IN MORTAR (DESIGNATION (1)) TO CLAUSE 2404 (SHW) (MIN 10mm, MAX 20mm THICK)
- ENGINEERING BRICKWORK CLASS B 225mm THICK TO CLAUSE 2408 (SHW) OR GULLY COVER SLABS TO BS EN 124-1994 0400 WITH MORTAR DESIGNATION (1) JOINTS TO CLAUSE 2404 (SHW)
- 150mm CONCRETE SURROUND MAX 120 TO BS EN 206 (SHW)
- UNREINFORCED CONCRETE STREET GULLY TO BS 5911 PART 6:2004. SEE ALSO NOTE BELOW RELATING TO THE USE OF PLASTIC GULLY POTS.
- TYPE 2 TRENCH CONSTRUCTION (CONCRETE SURROUND)
- FLEXIBLE JOINT
- COMPRESSIBLE MATERIAL TO CLAUSE 1015 (SHW)
- GULLY COVER SET 10 TO 15mm BELOW FINISHED CARRIAGEWAY LEVEL
- DEPTH OF OUTLET INVERT TO BE 750mm BELOW TOP OF GULLY GRATING WHERE OUTLET IS BENEATH HIGHWAY



TYPICAL FLOW CONTROL MANHOLE DETAIL



EXTERNAL RAMPED BACKDROP TYPE BDR



EXTERNAL VERTICAL BACKDROP TYPE BDV

REV	DATE	BY	DESCRIPTION	CHK	APP
A	26/08/15	MM	FIRST ISSUE	HWP	HWP

DRAWING STATUS: FOR INFORMATION ONLY

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ARCHITECT: BROOKS MURRAY

PROJECT: SALISBURY SQUARE OLD HATFIELD

TITLE: STANDARD DRAINAGE DETAILS

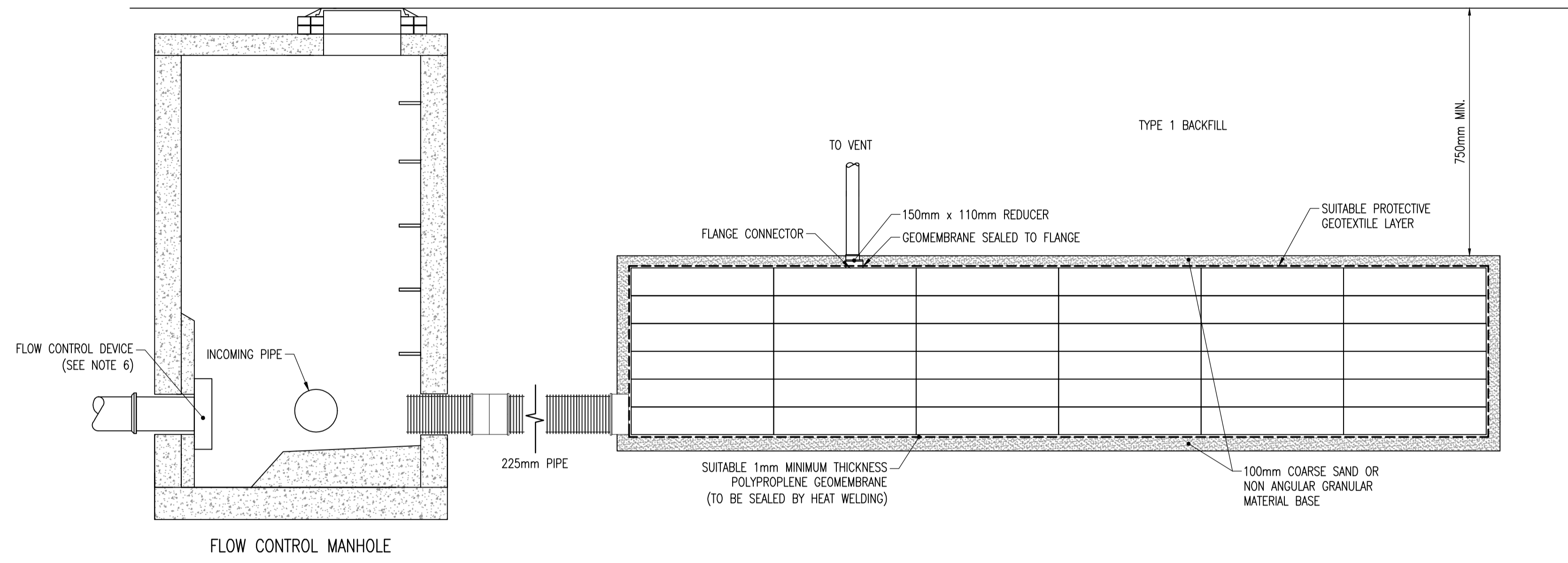
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CAD FILE:	DESIGN DRAWING:	DATE:
12600-SD-01	MM	July 2015
PROJECT No:	DRAWING No:	REV:
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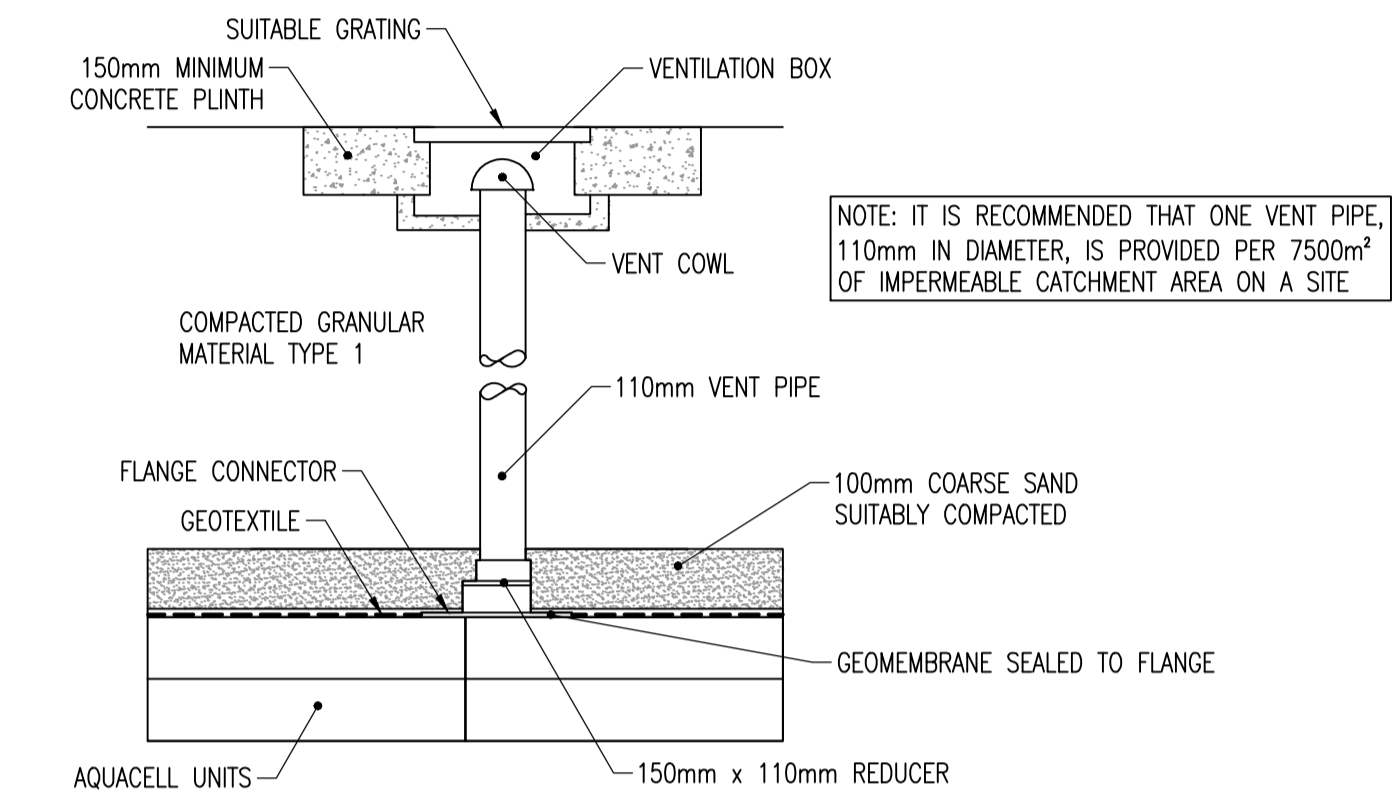
DO NOT SCALE

NOTES:

- DO NOT SCALE FROM THIS DRAWING.
- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
- SEE DRAWING NO. 12600-SD-01 FOR MANHOLE CONSTRUCTION DETAILS.
- SEE DRAWING NO. 12600-SD-01 FOR FLOW CONTROL MANHOLE DETAILS.
- CELLULAR STORAGE TO BE WAVIN AQUACELL PRIME UNITS OR SIMILAR APPROVED.
- FLOW CONTROL DEVICE TO BE HYDROBRAKE AS MADE BY HYDRO INTERNATIONAL OR SIMILAR APPROVED.

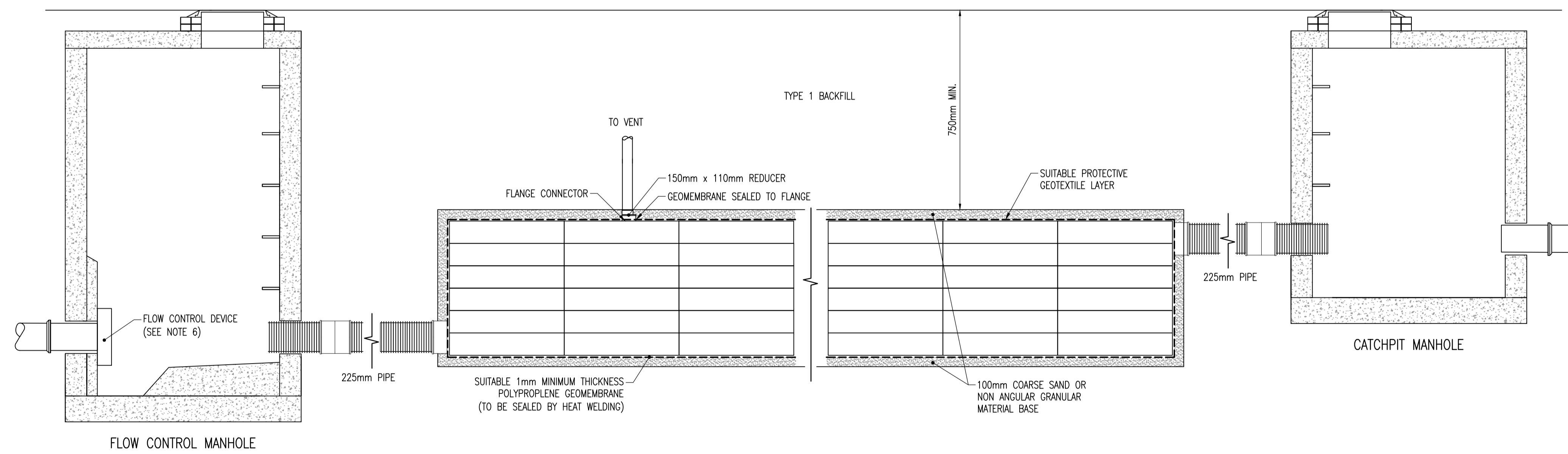


TYPICAL OFFLINE CELLULAR STORAGE ARRANGEMENT



NOTE: IT IS RECOMMENDED THAT ONE VENT PIPE, 110mm IN DIAMETER, IS PROVIDED PER 7500m<sup>2</sup> OF IMPERMEABLE CATCHMENT AREA ON A SITE

TYPICAL VENT PIPE ARRANGEMENT



TYPICAL ONLINE CELLULAR STORAGE ARRANGEMENT

REV	DATE	BY	DESCRIPTION	CHK	APP
A	28/08/2015	KW	FIRST ISSUE	HWP	HWP

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CLIENT: GASCOYNE CECIL ESTATE

ARCHITECT: BROOKS MURRAY

PROJECT: SALISBURY SQUARE  
 OLD HATFIELD

TITLE: TYPICAL CELLULAR STORAGE ARRANGEMENTS

SCALE @ A1:	NTS	CHECKED:	HWP	APPROVED:	HWP
CAD FILE:	12600-SD-02	DESIGN/DRAWN:	KW	DATE:	August 2015

PROJECT No:	70012600	DRAWING No:	12600-SD-02	REV:	A
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