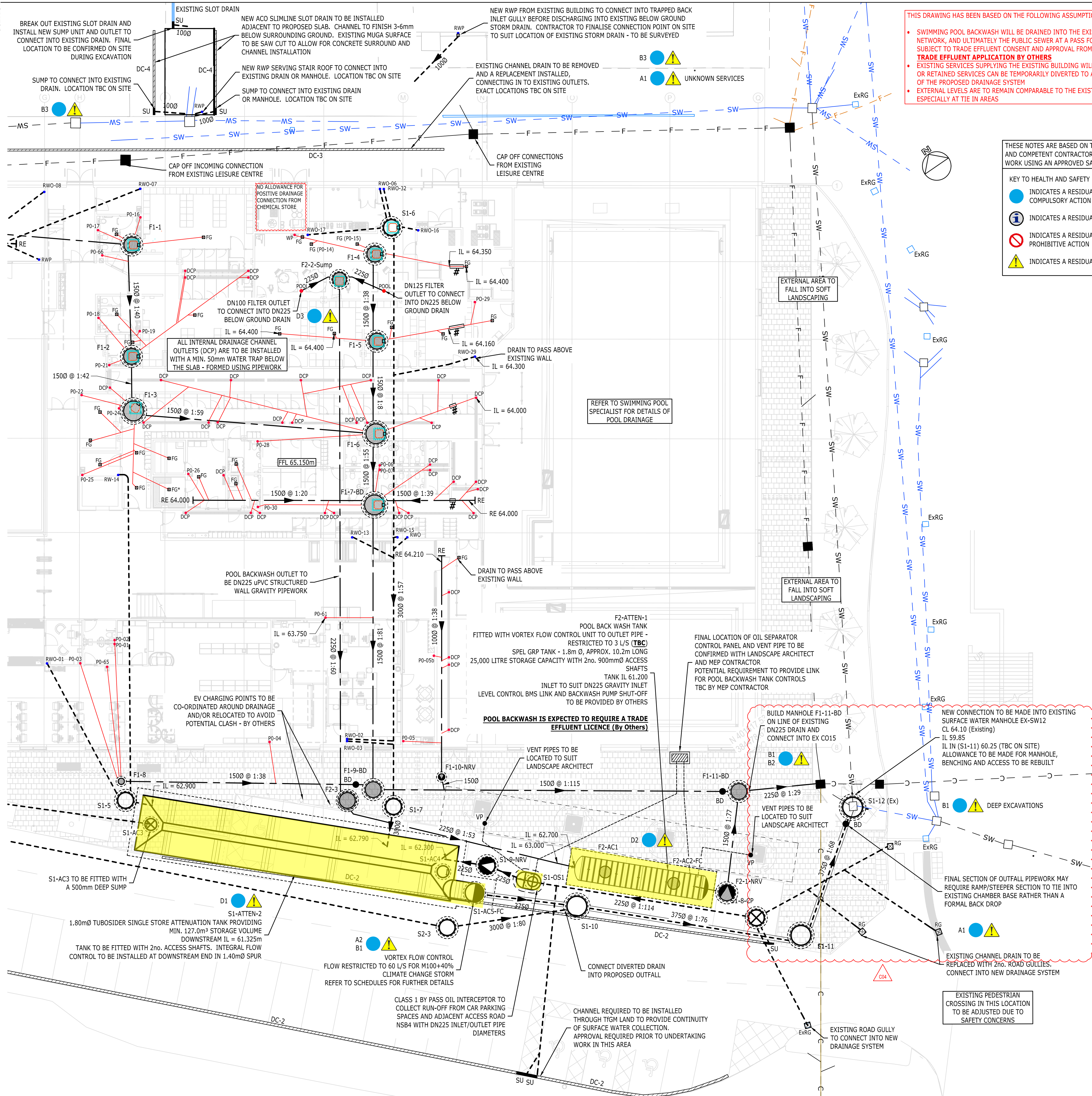




CONTINUATION ON LP44107-RAM-B01-XX-DR-D-51101



THIS DRAWING HAS BEEN BASED ON THE FOLLOWING ASSUMPTIONS:

- SWIMMING POOL BACKWASH WILL BE DRAINED INTO THE EXISTING DRAINAGE NETWORK, AND ULTIMATELY THE PUBLIC SEWER AT A PASS FORWARD RATE OF 3 L/S SUBJECT TO TRADE EFFLUENT CONSENT AND APPROVAL FROM UU
- EXISTING SERVICES SUPPLYING THE EXISTING BUILDING WILL BE REMOVED. ANY NEW OR RETAINED SERVICES CAN BE TEMPORARILY DIVERTED TO ALLOW THE INSTALLATION OF THE PROPOSED DRAINAGE SYSTEM
- EXTERNAL LEVELS ARE TO REMAIN COMPARABLE TO THE EXISTING SITE SCENARIO, ESPECIALLY AT TIE IN AREAS

THESE NOTES ARE BASED ON THE USE OF EXPERIENCED AND COMPETENT CONTRACTORS CARRYING OUT THE WORK USING AN APPROVED SAFE METHOD OF WORKING

KEY TO HEALTH AND SAFETY SYMBOLS

- INDICATES A RESIDUAL RISK REQUIRING A COMPULSORY ACTION
- INDICATES A RESIDUAL RISK FOR INFORMATION
- INDICATES A RESIDUAL RISK REQUIRING A PROHIBITIVE ACTION
- INDICATES A RESIDUAL RISK AS A WARNING

15. IT IS ASSUMED ANY EXISTING SERVICES CAN BE DIVERTED TEMPORARILY OR PERMANENTLY TO ALLOW INSTALLATION OF DRAINAGE AS REQUIRED. REFER TO MEP CONTRACTORS DRAWINGS FOR EXTERNAL SERVICES

16. ROOT PROTECTION REQUIRED TO ALL DRAINAGE LOCATED WITHIN 5m OF EXISTING OR PROPOSED TREES. SUBJECT TO CONFIRMATION BY ARBORICULTURAL SPECIALIST

17. PIPES ARE NOT DESIGNED FOR CONSTRUCTION TRAFFIC. CONTRACTOR WILL TAKE NECESSARY PRECAUTIONS TO PROTECT PIPES DURING CONSTRUCTION. EXISTING DRAINAGE WHICH IS TO REMAIN IN THE PROPOSED WORKS TO BE PROTECTED AT ALL

18. MANHOLE COVERS TO BE SET SQUARE TO THE BUILDING. REFER TO SCHEDULES FOR LOAD CLASS AND SIZING

19. UNITED UTILITIES HAVE ADVISED DURING CONSULTATION PERIOD THAT THERE IS **NO** REQUIREMENT FOR A SECTION 106 AGREEMENT FOR THIS SCHEME DUE TO THE RE-USE OF THE EXISTING ON-SITE PRIVATE CONNECTION

20. NO ALLOWANCE HAS BEEN MADE FOR THE REPAIR OR REPLACEMENT OF EXISTING SITE WIDE DRAINAGE OUTSIDE THE IMMEDIATE DEVELOPMENT BOUNDARY. HOWEVER, THERE MAY BE A FUTURE REQUIREMENT FOR REPAIRS TO BE UNDERTAKEN BY THE END USER UNDER A SEPARATE SCHEME

KEY

EXISTING SURFACE WATER DRAIN AND MANHOLE

EXISTING FOUL WATER DRAIN AND MANHOLE

EXISTING COMBINED DRAIN AND MANHOLE

ASSUMED EXISTING DRAINS

EXISTING ROAD GULLY

PROPOSED SURFACE WATER DRAINAGE AND MANHOLE

PROPOSED FOUL WATER DRAINAGE AND MANHOLE

PROPOSED DRAINAGE CHANNEL WITH SUMP

PROPOSED ROAD GULLY

PROPOSED ATTENUATION TANK

PROPOSED FLOW CONTROL UNITS

PROPOSED NON RETURN VALVE

PROPOSED CATCH PIT MANHOLE

RAINWATER PIPE

SOIL VENT PIPE

SOIL STACK

WASTE PIPE

RODDING EYE

OIL SEPARATOR

INDICATIVE MANHOLE COVER LOCATION - INTERNAL MH

DRAIN CAST IN STRUCTURE

RAINWATER PIPE RWP

SOIL VENT PIPE SVP

SOIL STACK SS

WASTE PIPE WP

RODDING EYE

OIL SEPARATOR

INDICATIVE MANHOLE COVER LOCATION - INTERNAL MH

DRAIN CAST IN STRUCTURE

RAINWATER PIPE RWP

SOIL VENT PIPE SVP

SOIL STACK SS

WASTE PIPE WP

RODDING EYE

OIL SEPARATOR

INDICATIVE MANHOLE COVER LOCATION - INTERNAL MH

DRAIN CAST IN STRUCTURE

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Notes			
1.	DO NOT SCALE FROM THIS DRAWING.		
2.	ALL DIMENSIONS ARE MILLIMETRES U.N.O.		
3.	ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM U.N.O.		
4.	THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.		
5.	THIS DRAWING HAS BEEN DEVELOPED USING THE FOLLOWING INFORMATION: - EWAL LANDSCAPE PLAN - EWL-ZZZ-ZZ-DR-L-94000 [C01 21/10/2021] - EWA GROUND FLOOR DRAINAGE SETTING OUT PLAN - EWA-B01-GF-DR-A-52000 [C04 08/11/2021] - RUK FOUNDATION MODEL - RAM-B01-ZZ-M3-S-SUBSTRUCTURE [Exported 22/04/2021] - EXISTING UTILITIES SURVEY 52907 Utility survey [Issued 15/04/2019] - EXISTING TOPOGRAPHICAL SURVEY WITH LINK BRIDGE 52907 Topo 3D [Received 18/06/2021] - UNITED UTILITIES PUBLIC SEWER RECORDS [RECEIVED 02/04/2019]		
6.	FOR EXISTING DRAINAGE REFER TO DRAWINGS RAM-ZZZ-XX-DR-D-51011, 51012 & 51013		
7.	FOR PROPOSED DRAINAGE REFER TO DRAWING RAM-B01-XX-DR-D-51101		
8.	FOR MANHOLE SCHEDULES REFER TO DRAWINGS RAM-B01-XX-DR-D-51200 & 51201		
9.	FOR TYPICAL DRAINAGE DETAILS REFER TO DRAWINGS RAM-B01-XX-DR-D-51400 SERIES		
10.	ALL SURFACE WATER PIPES (UP TO 600mm DIA) TO BE STRUCTURED WALL HDPE TO BS EN 13476-1 AND -3, KITEMARKED, AGREEMENT CERTIFIED OR CE MARKED U.N.O		
11.	ALL FOUL WATER PIPES TO BE uPVC SOLID WALL TYPE B, TO BS EN 13476-1 AND -3, KITEMARK OR AGREEMENT CERTIFIED		
12.	ANY PIPEWORK WHICH IS CAST INTO FOUNDATIONS OR THROUGH GROUND BEAMS TO BE DUCTILE CAST IRON		
13.	PRECAST CONCRETE MANHOLES IN ACCORDANCE WITH BS 5911 - 3:2002, BS EN 1917:2002 AND TO BE KITEMARKED OR CE MARKED		
14.	ALL INTERNAL FOUL BRANCH CONNECTIONS TO BE DN100 AT 1:40 MINIMUM GRADIENT U.N.O. HEAD OF BRANCH IL=64.250 U.N.O		
15.	ALL INTERNAL SURFACE WATER BRANCHES FROM RAINWATER DOWNPIPES TO BE DN150 AT 1:60 MINIMUM GRADIENT U.N.O. HEAD OF BRANCH IL=64.250 U.N.O		
16.	IT IS ASSUMED THAT ALL ABOVE GROUND DRAINAGE CONNECTIONS ARE RODDABLE AND VENTED FROM ABOVE GROUND. ABOVE GROUND DRAINAGE ENGINEER TO CONFIRM ABOVE GROUND VENTING.		
17.	UNDERGROUND DRAINAGE PIPES TO HAVE THE FOLLOWING BEDDING IN ACCORDANCE WITH BUILDING REGULATIONS DOCUMENT H: - GREATER THAN 1200mm TO CROWN: CLASS 5 - LESS THAN 1200mm TO CROWN: CLASS 2 OR LOAD RELIEVING SLAB - LESS THAN 300mm BENEATH SLAB: CLASS Y (modified)		
C04	CONSTRUCTION ISSUE - See rev clouds	03/05 2022	SG NM
C03	CONSTRUCTION ISSUE Additional pop up in staff welfare	20/12 2021	GS AW
C02	CONSTRUCTION ISSUE - Backwash and internal stack setting out amendments	15/11 2021	GS AW
C01	CONSTRUCTION ISSUE	19/07 2021	SG LS
Rev	Description	Date	By App

CONSTRUCTION

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PROPOSED BELOW GROUND DRAINAGE SHEET 2

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

NOTES BELOW ARE ADDITIONAL TO HAZARDS/RISKS NORMALLY ASSOCIATED WITH THIS TYPE OF WORK. FOR DETAILS REFER TO: LP44107-RAM-B01-XX-RR-D-10000

CONSTRUCTION (INCLUDING DEMOLITION AND REMOVAL OF EXISTING STRUCTURAL COMPONENTS)

- A1 UNKNOWN SERVICES
- A2 DIVERSION REQUIRED
- A3 HIGH GROUND WATER
- B1 DEEP EXCAVATIONS
- B2 CONTACT WITH LIVE SEWAGE
- B3 CLOSE PROXIMITY TO EXISTING STRUCTURES

OPERATIONS, MAINTENANCE

- D1 ACCESS TO ATTENUATION FOR MAINTENANCE
- D2 MAINTENANCE OF POOL BACKWASH TANK
- D3 MAINTENANCE OF INTERNAL DRAINAGE

DISMANTLING / DEMOLITION (FUTURE)

REFER TO GENERAL NOTES AND THE PRINCIPAL CONTRACTOR FOR MORE INFORMATION ABOUT THE RISKS ASSOCIATED WITH THIS WORK.

Project No:	Scale (@A1):	Drawn:	Date:
1620005164	1:150	CO	JUN 19
Drawing No:		Rev:	
LP44107-RAM-B01-XX-DR-D-51102		C04	



FOUL WATER MANHOLE SCHEDULE												
Manhole No.	Cover Level (m)	Invert Level (m)	Depth to Invert (m)	Main Channel (mm)	Branches	Manhole Style	Manhole Type	Chamber Size (mm)	Min. Clear Opening (mm)	Cover Loading	Comment	Co-ordinates (mm) Easting/Northing
F1-1	65.150	63.480	1.670	1500	1500 @ IL 63.480 In 1000 @ IL 63.555 In 1000 @ IL 63.555 In 1000 @ IL 63.555 In 1500 @ IL 63.555 In 1500 @ IL 63.480 Out	PCC	TYPE B	12000	600x600	FACTA AAA	Double sealed, recessed and lockable	3844461268,401675733
F1-2	65.150	63.270	1.880	1500	1500 @ IL 63.270 In 1000 @ IL 63.345 In 1000 @ IL 63.345 In 1000 @ IL 63.345 In 1000 @ IL 63.345 In 1500 @ IL 63.270 Out	PCC	TYPE B	12000	600x600	FACTA AAA	Double sealed, recessed and lockable	384456454,401668805
F1-3	65.150	63.170	1.980	1500	1000 @ IL 63.245 In 1500 @ IL 63.170 In 1000 @ IL 63.245 In 1000 @ IL 63.245 In 1500 @ IL 63.170 Out	PCC	TYPE B	15000	600x600	FACTA AAA	Double sealed, recessed and lockable	384454236,401665311
F1-4	65.150	64.040	1.110	1500	1000 @ IL 64.115 In 1000 @ IL 64.115 In 1000 @ IL 64.115 In 1500 @ IL 64.040 Out	PCC	TYPE B	12000	600x600	FACTA AAA	Double sealed, recessed and lockable	384476020,401664722
F1-5	65.150	63.860	1.290	1500	1000 @ IL 63.935 In 1000 @ IL 63.935 In 1500 @ IL 63.860 In 1500 @ IL 63.860 Out	PCC	TYPE B	12000	600x600	FACTA AAA	Double sealed, recessed and lockable	384472396,401659208
F1-6	65.150	62.860	2.290	1500	1000 @ IL 62.935 In 1500 @ IL 62.935 In 1500 @ IL 62.860 In 1000 @ IL 62.935 In 1000 @ IL 62.935 In 1500 @ IL 62.860 Out	PCC	TYPE B	15000	600x600	FACTA AAA	Double sealed, recessed and lockable	384468354,401653476
F1-7-BD	65.150	62.760	2.390	1500	1500 @ IL 62.760 In 1500 @ IL 63.360 InBD 1000 @ IL 62.830 In 1000 @ IL 62.830 In 1500 @ IL 63.830 InBD 1000 @ IL 62.830 In 1500 @ IL 62.760 Out	PCC	TYPE B	15000	600x600	FACTA AAA	Double sealed, recessed and lockable Backdrop from REs	384465220,401649104
F1-8	65.050	63.600	1.450	1500	1000 @ IL 63.675 In 1000 @ IL 63.675 In 1000 @ IL 63.675 In 1500 @ IL 63.600 Out	PPIC	TYPE D	4500	300x300	C250	Recessed, Double Sealed and Lockable	384437554,401642757
F1-9-BD	65.050	62.500	2.550	1500	1500 @ IL 62.500 In 1500 @ IL 63.100 InBD 1500 @ IL 62.500 Out	PCC	TYPE B	12000	600x600	C250	Double sealed, recessed and lockable	384452896,401631415
F1-10-NRV	65.100	63.800	1.300	1500	1000 @ IL 63.800 In 1500 @ IL 63.800 Out	PPIC	TYPE D	4500	300x300	C250	Recessed, Double Sealed and Lockable	384457703,401629262
F1-11-BD	64.300	61.050	3.250	2250	1500 @ IL 62.260 InBD 1500 @ IL 61.050 In 2250 @ IL 61.050 Out	PCC	TYPE A1	12000	600x600	C250	Double sealed, recessed and lockable Connection to be made from F2-1-NRV Build on line of existing DN225 drain	384475606,401615586

POOL BACKWASH MANHOLE SCHEDULE												
Manhole No.	Cover Level (m)	Invert Level (m)	Depth to Invert (m)	Main Channel (mm)	Branches	Manhole Style	Manhole Type	Chamber Size (mm)	Min. Clear Opening (mm)	Cover Loading	Comment	Co-ordinates (mm) Easting/Northing
F2-1-NRV	64.100	61.150	2.950	1500	1500 @ IL 61.150 In 1500 @ IL 61.150 Out	PCC	TYPE B	12000	600x600	D400	Double sealed and lockable. Connection from backwash tank	384470493,401609789
F2-2-Sump	65.150	63.700	1.450	2250	2250 @ IL 64.150 In 2250 @ IL 64.150 In 2250 @ IL 64.000 Out	PCC	TYPE B SUMP CHAMBER	10500	600x600	FACTA C	Drainage grating over sump to be lockable and fitted with safety grid below Connection from backwash filters	384472729,401664665
F2-3	65.050	63.340	1.710	2250	2250 @ IL 63.340 In 2250 @ IL 63.340 Out	PCC	TYPE B	12000	600x600	C250	Double sealed, recessed and lockable	384450820,401631848

SURFACE WATER MANHOLE SCHEDULE												
Manhole No.	Cover Level (m)	Invert Level (m)	Depth to Invert (m)	Main Channel (mm)	Branches	Manhole Style	Manhole Type	Chamber Size (mm)	Min. Clear Opening (mm)	Cover Loading	Comment	Co-ordinates (mm) Easting/Northing
S1-1	65.100	63.645	1.455	2250	2250 @ IL 63.645 In 1500 @ IL 63.720 In 1500 @ IL 63.720 In 2250 @ IL 63.645 Out	PCC	TYPE B	12000	600x600	C250	Recessed, Single Sealed and Lockable	384433452,401696354
S1-2-CP	65.325	63.525	1.800	2250	1500 @ IL 64.000 In 1500 @ IL 64.000 In 1500 @ IL 64.000 In 2250 @ IL 63.975 Out	PCC	TYPE B	12000	600x600	C250	Catchpit	384394120,401694041
S1-3	65.100	63.950	1.150	2250	1500 @ IL 64.025 In 1500 @ IL 64.025 In 2250 @ IL 63.950 Out	PCC	TYPE B	12000	600x600	C250	Recessed, Single Sealed and Lockable	384423688,401671519
S1-4	65.100	62.440	2.660	3000	1500 @ IL 62.440 In 1500 @ IL 62.515 In 1500 @ IL 62.515 In 3000 @ IL 62.440 Out	PCC	TYPE B	12000	600x600	C250	Recessed, Single Sealed and Lockable	384402819,401671697
S1-5	65.000	63.000	2.000	2250	1500 @ IL 63.300 In 1500 @ IL 63.300 In 2250 @ IL 63.000 Out	PCC	TYPE B	12000	600x600	C250	Recessed, Single Sealed and Lockable	384437001,401641386
S1-6	65.150	63.770	1.380	3000	1500 @ IL 63.840 In 1500 @ IL 63.840 In 1500 @ IL 63.840 In 1500 @ IL 63.850 In 3000 @ IL 63.770 Out	PCC	TYPE B	12000	600x600	FACTA AAA	Double sealed, recessed and lockable	384478187,401665669
S1-7	65.000	62.850	2.150	3000	3000 @ IL 63.000 In 3000 @ IL 62.850 Out	PCC	TYPE B	12000	600x600	C250	Recessed, Single Sealed and Lockable	384453431,401629483
S1-8-CP	64.050	62.200	1.850	2250	1500 @ IL 62.675 In 1500 @ IL 62.675 In 1500 @ IL 62.675 In 2250 @ IL 62.650 Out	PCC	TYPE B	12000	600x600	D400	Catchpit	384471263,401606963
S1-9-NRV	64.500	62.350	2.150	2250	2250 @ IL 62.350 In 2250 @ IL 62.350 Out	PCC	TYPE B	12000	600x600	D400	Non-return valve	384456725,401621777
S1-10	64.350	61.175	3.175	3750	3750 @ IL 61.175 In 3000 @ IL 61.250 In 3750 @ IL 61.175 Out	PCC	TYPE B	15000	600x600	D400	Connection from existing storm diversion - S2-3	384460577,401615400
S1-11	64.100	60.400	3.700	3750	3750 @ IL 60.950 In 3750 @ IL 60.400 Out	PCC	TYPE B	15000	600x600	C250	Recessed, Single Sealed and Lockable	384473286,401603951
S1-12 (Ex)	64.100	59.560	4.540	3750	3750 @ IL 60.250 In 3750 @ IL 59.560 In 3750 @ IL 59.560 Out	PCC	TYPE A1	15000	600x600	B125	Connection into existing chamber EX-SW12. Allowance for chamber to be rebuilt	384482012,401609721

EXISTING PRIVATE SURFACE WATER DIVERSION MANHOLE SCHEDULE												
Manhole No.	Cover Level (m)	Invert Level (m)	Depth to Invert (m)	Main Channel (mm)	Branches	Manhole Style	Manhole Type	Chamber Size (mm)	Min Clear Opening (mm)	Cover Loading	Comment	Co-ordinates (mm) Easting/Northing
S2-1	65.125	62.866	2.259	3000	3000 @ IL 62.866 In 3000 @ IL 62.866 In 3000 @ IL 62.866 Out	PCC	TYPE B	12000	600x600	C250	On line of existing - Recessed, Single Sealed and Lockable	384421800,401711509
S2-2	64.960	62.310	2.650	3000	3000 @ IL 62.310 In 3000 @ IL 62.310 In	PCC	TYPE B	12000	600x600	D400	-	384399026,401674888
S2-3	64.550	61.370	3.180	3000	3000 @ IL 61.370 In 3000 @ IL 61.370 Out	PCC	TYPE A1	12000	600x600	D400	-	384451579,401619634

S2-4 NO LONGER IN USE

THESE NOTES ARE BASED ON THE USE OF EXPERIENCED AND COMPETENT CONTRACTORS CARRYING OUT THE WORK USING AN APPROVED SAFE METHOD OF WORKING

- KEY TO HEALTH AND SAFETY SYMBOLS
- INDICATES A RESIDUAL RISK REQUIRING A COMPULSORY ACTION
 - INDICATES A RESIDUAL RISK FOR INFORMATION
 - INDICATES A RESIDUAL RISK REQUIRING A PROHIBITIVE ACTION
 - INDICATES A RESIDUAL RISK AS A WARNING

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- Notes
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 - ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM U.N.O.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
 - PCC = PRE CAST CONCRETE
PPIC = POLYPROPYLENE INSPECTION CHAMBER
BD = BACKDROP
 - BRANCH CONNECTIONS OF DN150 OR LESS TO DISCHARGE INTO MAIN CHANNEL AT HALF PIPE LEVEL
 - BRANCH CONNECTIONS GREATER THAN DN150 TO BE SET LEVEL WITH SOFFIT OF MAIN DRAIN
 - MANHOLE CO-ORDINATES ARE REFERENCED TO CENTER OF MANHOLE
 - COVER LEVELS ARE APPROXIMATE AND SUBJECT TO CHANGE TO SUIT FINAL SITE LEVELS
 - MANHOLE TYPE BASED ON SEWER SECTOR GUIDANCE (SSG - FORMERLY SEWERS FOR ADOPTION)
 - REFER TO DRAWINGS RAM-ZZZ-XX-DR-D-51010, 51011 & 51012 FOR DETAILS OF EXISTING DRAINAGE TO BE REMOVED
 - REFER TO DRAWINGS RAM-B01-XX-DR-D-51101 & 51102 FOR PROPOSED DRAINAGE GA
 - REFER TO DRAWINGS RAMB01-XX-DR-D-51201 FOR DETAILS OF ADDITIONAL DRAINAGE SCHEDULES
 - REFER TO DRAWING SERIES RAM-B01-XX-DR-D-51400 FOR TYPICAL BELOW GROUND DRAINAGE DETAILS

PLEASE NOTE:
MANHOLE REFERENCES HAVE BEEN UPDATED/RENAMED
SINCE PR1 ISSUE

C04	CONSTRUCTION ISSUE - Typo Correction	18/07/2022	GS	NM
C03	CONSTRUCTION ISSUE - See rev clouds	03/05/2022	SG	NM
C02	CONSTRUCTION ISSUE - Backwash and internal stack setting out amendments	15/11/2021	LS	AW
C01	CONSTRUCTION ISSUE	19/07/2021	SG	LS
P03	STAGE 5 PR1 ISSUE	01/06/2021	SG	LS
P02	STAGE 4 ISSUE	15/11/2019	CO	LS
P01	STAGE 3 ISSUE	15/07/2019	SG	LS
Rev	Description	Date	By Chk	App

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PROPOSED DRAINAGE SCHEDULES SHEET 1

Project No:	Scale (@A1):	Drawn:	Date:
1620005164	NTS	CO	JUN 19
Drawing No:	Rev:		
LP44107-RAM-B01-XX-DR-D-51200	C04		



ATTENUATION TANK SCHEDULE							
REF.	MANUFACTURER & TYPE	MIN. STORAGE VOLUME (m³)	LENGTH (m)	DIAMETER (m)	DOWNSTREAM INVERT LEVEL (m)	APPROX. GRADIENT	COMMENTS
S1-ATTEN 1	TUBOSIDER SINGLE STORE	32.6	28.850	1.200 Ø	62.525	1:385	500mm DEEP SUMP TO BE FABRICATED AT INLET AND OUTLET ENDS OF TANK (S1-AC1 & S1-AC2)
S1-ATTEN 2	TUBOSIDER SINGLE STORE	127.0	24.204 2.400	1.800 Ø x 2no. LEGS 1.400 Ø - <i>Stub for flow control</i>	61.325	1:355	PIPES JOINED TO FORM DOUBLE RUN FLOW CONTROL TO BE SITED IN SEPARATE 1.40m Ø LEG AT DOWNSTREAM END 500mm SUMP TO BE FITTED AT INLET (S1-AC3) AND FLOW CONTROL(S1-AC5)
F2-ATTEN 1	SPEL TANKSTOR	25.0	10.200	1.800 Ø	61.200	HORIZONTAL	TO SUIT 20,780m³ BACKWASH FROM POOL FILTERS AS AGREED WITH FT. LEISURE. ALLOWANCE FOR +17% DUE TO NATURE OF BACKWASH PROCESS
REFER TO DRAWINGS LP44107-RAM-B01-XX-DR-D-51101 AND 51102 FOR LOCATIONS OF ATTENUATION TANKS AND ACCESS PROVISIONS ATTENUATION TANKS TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. HIGH LEVEL ALARM REQUIRED. VENTING REQUIREMENTS TO MANUFACTURER'S RECOMMENDATIONS. VENT PIPE LOCATIONS TO BE CONFIRMED BY ARCHITECT							
AS PER GUIDANCE FROM MANUFACTURER, STANDARD TUBOSDER BACKFILL MATERIAL CAN BE REPLACED WITH AN MOT TYPE 1 MATERIAL,, HOWEVER IT IS IMPORTANT TO NOTE THAT: - TANK BED MUST BE LIMITED TO A GRANULAR MATERIAL EQUAL OR LESS THAN 20mm - TANK SURROUND TO BE A GRADED GRANULAR MATERIAL 70mm AND LESS. GRANULAR MATERIAL LARGER THAN 70mm ARE NOT TO BE USED							

ATTENUATION TANK ACCESS POINT SCHEDULE										
REF.	COVER LEVEL (m)	TANK INVERT LEVEL (m)	SUMP REQUIRED	SUMP DEPTH (m)	DEPTH TO INVERT (m)	ACCESS SHAFT DIAMETER (mm)	MIN COVER CLEAR OPENING (mm)	MIN COVER LOADING	CO-ORDINATES (mm) EASTING, NORTHING	COMMENTS
S1-AC1	65.025	62.600	Y	0.500	2.925	1200Ø	600 x 600	D400	384422061, 401702918	
S1-AC2	64.975	62.525	Y	0.500	2.950	1200Ø	600 x 600	D400	384406442, 401680103	
S1-AC3	65.000	61.400	Y	0.500	4.100	900Ø	600 x 600	C250	384437543, 401638797	COVER TO HAVE SEALING PLATE BELOW WARNING OF DEEP CHAMBER
S1-AC4	64.575	61.325		-	3.250	900Ø	600 x 600	D400	384453722, 401623299	COVER TO HAVE SEALING PLATE BELOW WARNING OF DEEP CHAMBER
S1-AC5-FC	64.500	61.325	Y	0.500	3.675	1400Ø	1200 x 675	D400	384454770, 401620634	FLOW CONTROL TO BE INSTALLED IN CHAMBER WITH BY-PASS/DRAIN-DOWN POINT REQUIRED COVER TO HAVE SEALING PLATE BELOW WARNING OF DEEP CHAMBER
F2-AC1	64.350	61.200		-	3.150	900Ø	750 x 750	D400	384467596, 401612653	ACCESS POINT TO HAVE POOL BACKWASH TELEMETRY INSTALLED. REFER TO POOL SPECIALIST FOR REQUIREMENTS
F2-AC2-FC	64.150	61.200		-	2.950	900Ø	750 x 750	D400	384467596, 401612653	FLOW CONTROL TO BE INSTALLED IN CHAMBER WITH BY-PASS/DRAIN-DOWN POINT REQUIRED



- D1   ACCESS TO ATTENUATION FOR MAINTENANCE
- D2   MAINTENANCE OF POOL BACKWASH TANK

OIL SEPARATOR SCHEDULE												
REF.	MANUFACTURER & TYPE	DESIGNATION	COVER LEVEL (m)	OIL CAPACITY	SILT CAPACITY	OVERALL LENGTH (m)	OVERALL DIAMETER (m)	UNIT INVERT LEVEL (m)	INLET INVERT/ DIA (m/ mm)	OUTLET INVERT/ DIA (m/ mm)	MIN COVER CLEAR OPENING	COVER LOADING
OS-1	SPEL STORMCEPTOR CLASS 1 BY-PASS or equal approved	NSB4	64.450	60 LITRES	400 LITRES	1.860	1.225 Ø	61.150	62.500 / 225	62.450 / 225	750mm Ø	D400
OIL SEPARATOR TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS VENT PIPE REQUIRED - FINAL LOCATION TO SUIT LANDSCAPE ARCHITECT HIGH-LEVEL OIL ALARM REQUIRED, WITH CONTROL LINK TO BMS SEPARATOR TO BE INSTALLED WITH CONCRETE SURROUND												

CHANNEL DRAIN SCHEDULE					
REF.	MANUFACTURER & TYPE	DESIGNATION	TYPICAL LOCATION	COVER LOADING AND TYPE	OUTLET DIA
DC-1	ACO MULTIDRAIN	M100D 0.0	THRESHOLD DRAINS	D400 HEELSAFE GRATING	150
DC-2	ACO MULTIDRAIN	M150D 20.0	CAR-PARK / ROADS	D400 HEELSAFE GRATING	150
DC-3	ACO MULTIDRAIN	M150D 10.0	EXTERNAL PAVING	D400 HEELSAFE GRATING	150
DC-4	ACO MULTIDRAIN	SLIMLINE	EXISTING MUGA	INTEGRAL SLOT	100
ALL CHANNELS HAVE BEEN DESIGNED FOR A DESIGN RAINFALL INTENSITY OF 70.50mm/hr (1in5yr EVENT, WITH A RISK CATEGORY 3. ALL OUTLETS TO BEFITTED WITH SUMPS AND RODDABLE TRAPS. GRATING SPECIFICATION TO SUIT ARCHITECT'S DETAILS REFER TO DRAWINGS FOR EXACT LOCATIONS, QUANTITIES AND EXTENTS					

S1-AC5-FC: STORM WATER VORTEX FLOW CONTROL SCHEDULE			
MANUFACTURER: MOSBAEK		DESIGN FLOW: 60 L/S DESIGN HEAD: 1.80m	
UNIT TYPE: CEV 600		OUTLET PIPE DIA: DN375 SUMP DEPTH: 500mm	
DEPTH (m)	FLOW RATE (l/s)	DEPTH (m)	FLOW RATE (l/s)
0.100	9.065	1.100	46.902
0.200	22.753	1.200	48.988
0.300	33.363	1.300	50.989
0.400	39.531	1.400	52.915
0.500	44.005	1.500	54.771
0.600	43.620	1.600	56.567
0.700	37.413	1.700	58.308
0.800	39.996	1.800	60.000
0.900	42.424	1.900	61.644
1.000	44.721	2.000	63.245
THE BELOW GROUND DRAINAGE SYSTEM HAS BEEN SIZED BASED ON THE HEAD/DISCHARGE RELATIONSHIP FOR THE MOSBAEK FLOW CONTROL UNIT WITH THE ABOVE PARAMETERS. SHOULD ANOTHER TYPE/MANUFACTURER OF THE FLOW CONTROL DEVICE BE SPECIFIED THEN THE VOLUME OF THE BELOW GROUND ATTENUATION TANK AND ASSOCIATED PIPE SIZES WILL BE INCORRECT AND MAY REQUIRE RE-DESIGNING			

F2-AC2-FC: POOL BACKWASH VORTEX FLOW CONTROL SCHEDULE			
MANUFACTURER: HYDROBRAKE OPTIMUM		DESIGN FLOW: 3 L/S <i>(tbc during trade effluent consent - by others)</i> DESIGN HEAD: 1.80m	
UNIT REF: CHE-0068-3000-1800-3000		OUTLET PIPE DIA: DN150 NO SUMP REQUIRED	
DEPTH (m)	FLOW RATE (l/s)	DEPTH (m)	FLOW RATE (l/s)
0.100	1.464	1.000	2.253
0.200	1.497	1.100	2.360
0.300	1.250	1.200	2.463
0.400	1.439	1.300	2.561
0.500	1.605	1.400	2.656
0.600	1.755	1.500	2.747
0.700	1.892	1.600	2.835
0.800	2.020	1.700	2.921
0.900	2.139	1.800	3.004
ALL FLOW CONTROL DEVICES HAVE BEEN SIZED TO REDUCE UPSTREAM STORAGE VOLUMES. THE BELOW GROUND DRAINAGE SYSTEM HAS BEEN SIZED BASED ON THE HEAD/DISCHARGE RELATIONSHIP FOR THE HYDRO-BRAKE® OPTIMUM AS SPECIFIED ABOVE			
IN THIS INSTANCE, THE DISCHARGE RATE FROM THE POOL BACKWASH TANK DOES NOT HAVE A DIRECT RELATIONSHIP WITH THE ATTENUATION SIZE. THEREFORE, SHOULD ANOTHER TYPE/MANUFACTURER OF THE FLOW CONTROL DEVICE BE PROCURED, PLEASE ENSURE IT DOES NOT EXCEED THE MAX DESIGN FLOW/DESIGN HEAD PARAMETERS NOTED ABOVE			
FOR FUTURE MAINTENANCE/REPLACEMENT REQUIREMENTS, THE UNIT MUST NOT EXCEED COVER CLEAR OPENING OR TANK SHAFT DIAMETER			

NON-RETURN VALVE SCHEDULE			
MANHOLE REF	DRAINAGE SYSTEM	MANUFACTURER & TYPE	TYPE
F1-10-NRV	FOUL WATER (No WCs)	ALTHON WASTOP	WASTOP 150
F2-1-NRV	POOL BACKWASH	ALTHON WASTOP	WASTOP 150 SS/316
S1-9-NRV	SURFACE WATER	ALTHON WASTOP	WASTOP 225
ALL NON-RETURN VALVES TO BE INSTALLED AS PER MANUFACTURER'S REQUIREMENTS ALL NON-RETURN VALVES TO BE FITTED ON UPSTREAM END OF PIPE U.N.O (I.E. MANHOLE INLET)			

THESE NOTES ARE BASED ON THE USE OF EXPERIENCED AND COMPETENT CONTRACTORS CARRYING OUT THE WORK USING AN APPROVED SAFE METHOD OF WORKING

- KEY TO HEALTH AND SAFETY SYMBOLS
-  INDICATES A RESIDUAL RISK REQUIRING A COMPULSORY ACTION
 -  INDICATES A RESIDUAL RISK FOR INFORMATION
 -  INDICATES A RESIDUAL RISK REQUIRING A PROHIBITIVE ACTION
 -  INDICATES A RESIDUAL RISK AS A WARNING

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 - PCC = PRE CAST CONCRETE
PPIC = POLYPROPYLENE INSPECTION CHAMBER
BD = BACKDROP
 - BRANCH CONNECTIONS OF DN150 OR LESS TO DISCHARGE INTO MAIN CHANNEL AT HALF PIPE LEVEL
 - BRANCH CONNECTIONS GREATER THAN DN150 TO BE SET LEVEL WITH SOFFIT OF MAIN DRAIN
 - MANHOLE CO-ORDINATES ARE REFERENCED TO CENTER OF MANHOLE
 - COVER LEVELS ARE APPROXIMATE AND SUBJECT TO CHANGE TO SUIT FINAL SITE LEVELS
 - MANHOLE TYPE BASED ON SEWER SECTOR GUIDANCE (SSG - FORMERLY SEWERS FOR ADOPTION)
 - REFER TO DRAWINGS RAM-ZZZ-XX-DR-D-51010, 51011 & 51012 FOR DETAILS OF EXISTING DRAINAGE TO BE REMOVED
 - REFER TO DRAWINGS RAM-B01-XX-DR-D-51101 & 51102 FOR PROPOSED DRAINAGE GA
 - REFER TO DRAWINGS RAMB01-XX-DR-D-51200 FOR PROPOSED MANHOLE SCHEDULES
 - REFER TO DRAWING SERIES RAM-B01-XX-DR-D-51400 FOR TYPICAL BELOW GROUND DRAINAGE DETAILS

PLEASE NOTE:
MANHOLE & CHANNEL DRAIN REFERENCES HAVE BEEN UPDATED/RENAMED SINCE PR1 ISSUE

CO2	CONSTRUCTION ISSUE - Backwash and internal stack setting out amendments	15/11 2021	GS LS	AW
CO1	CONSTRUCTION ISSUE	19/07 2021	SG GS	LS
PO1	STAGE 5 PR1 ISSUE	01/08 2021	SG GS	LS
Rev	Description	Date	By Chk	App

CONSTRUCTION

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tel 01244 311855 chester@ramboll.co.uk
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PROPOSED DRAINAGE SCHEDULES SHEET 2

Project No: 1620005164	Scale (@A1): NTS	Drawn: SG	Date: MAY 21
Drawing No: LP44107-RAM-B01-XX-DR-D-51201	Rev: C01		

FOUL AND SURFACE WATER GRAVITY PIPEWORK AND MANHOLES		
SILT ACCUMULATION, BLOCKAGE, STRUCTURAL INTEGRITY		
MAINTENANCE SCHEDULE	REQUIREMENT	RECOMMENDED MINIMUM FREQUENCY
REGULAR <i>MAINTENANCE AND INSPECTION</i>	LITTER/DEBRIS REMOVAL	MONTHLY (OR AS REQUIRED)
	EXCESS SILTS TO SILT TRAPS TO BE REMOVED	MONTHLY (OR AS REQUIRED)
OCCASIONAL <i>MAINTENANCE AND INSPECTION</i>	PIPE CLEANING AND INSPECTION FOR STRUCTURAL DEFECTS AND ROOT INGRESS	AS REQUIRED
MONITORING <i>TO BE UNDERTAKEN MORE REGULARLY IN FIRST YEAR OF OPERATION AND ADJUSTED ACCORDINGLY</i>	INSPECTION OF MANHOLES/CHAMBERS TO IDENTIFY EVIDENCE OF SEDIMENTATION ACCUMULATION	QUARTERLY PER ANNUM

OIL SEPARATORS		
HYDROCARBON AND SILT ACCUMULATION, BLOCKAGE, STRUCTURAL INTEGRITY		
MAINTENANCE SCHEDULE	REQUIREMENT	RECOMMENDED MINIMUM FREQUENCY
REGULAR <i>MAINTENANCE AND INSPECTION</i>	REMOVAL OF EXCESS SILTS	MONTHLY (OR AS REQUIRED)
	CHECK ALARMS AND BEACONS FUNCTION CORRECTLY	AS REQUIRED BY MANUFACTURER - I.E. MONTHLY
OCCASIONAL <i>MAINTENANCE AND INSPECTION</i>	REMOVAL AND DISPOSAL OF OIL OR HYDROCARBONS USING SAFE STANDARD PRACTICES	AS REQUIRED TO SUIT SITE OPERATION
	REPLACEMENT OF FILTERS AND ANCILLARY EQUIPMENT	AS REQUIRED BY MANUFACTURER
MONITORING <i>TO BE UNDERTAKEN MORE REGULARLY IN FIRST YEAR OF OPERATION AND ADJUSTED ACCORDINGLY</i>	INSPECT UPSTREAM AND DOWNSTREAM MANHOLES AND SENSORS FOR EVIDENCE OF HYDROCARBON OR SILT ACCUMULATION AND INTEGRITY OF SYSTEM	QUARTERLY PER ANNUM

PUBLIC SEWERS
PUBLIC SEWER MAPS INDICATE THERE IS A SHORT SECTION OF PUBLIC SEWER LOCATED ON THE RAISED PLAYGROUND TO THE EAST OF THE LIBRARY AND LEISURE CENTRE.
CONSULTATION WITH UNITED UTILITIES HAS CONFIRMED THIS DRAIN IS IN FACT PRIVATE AND THEREFORE THE RESPONSIBILITY FOR MAINTENANCE LIES WITH THE LAND OWNER AND <u>NOT</u> UNITED UTILITIES
THERE ARE <u>NO</u> KNOWN PUBLIC SEWERS WITHIN THE SITE BOUNDARY

SURFACE WATER DISCHARGE
THE STORM WATER DISCHARGE FROM THE ABRAHAM MOSS CAMPUS IS UNDERSTOOD TO CONNECT INTO A UNITED UTILITIES COMBINED PUBLIC SEWER (675 x 900mm BRICK) LOCATED WITHIN WOODLAND'S ROAD TO THE SOUTH EAST OF THE DEVELOPMENT

FOUL WATER DISCHARGE
THE FOUL WATER DISCHARGE FROM THE ABRAHAM MOSS CAMPUS IS UNDERSTOOD TO PASS BENEATH THE METROLINK LINE AND CONNECT INTO A UNITED UTILITIES COMBINED PUBLIC SEWER LOCATED WITHIN WOODLAND'S ROAD TO THE SOUTH EAST OF THE DEVELOPMENT

SWIMMING POOL DISCHARGE - TRADE EFFLUENT CONSENT
THE SWIMMING POOL BACKWASH AND DRAIN DOWN IS PROPOSED TO CONNECT INTO THE EXISTING SITE WIDE COMBINED DRAINAGE SYSTEM BEFORE DISCHARGING INTO THE UNITED UTILITIES COMBINED PUBLIC SEWER WITHIN WOODLAND'S ROAD.
ANY DISCHARGE FROM A SWIMMING POOL IS SUBJECT TO TRADE EFFLUENT CONSENT AND MUST BE APPLIED FOR FROM THE SEWERAGE COMPANY, PRIOR TO DISCHARGING POOL WATER INTO THE PUBLIC SEWER NETWORK. THIS MUST BE UNDERTAKEN BY THE END USER

CHANNEL DRAINS AND GULLIES		
SILT ACCUMULATION, BLOCKAGE, STRUCTURAL INTEGRITY		
MAINTENANCE SCHEDULE	REQUIREMENT	RECOMMENDED MINIMUM FREQUENCY
REGULAR <i>MAINTENANCE AND INSPECTION</i>	LITTER/DEBRIS REMOVAL	MONTHLY (OR AS REQUIRED)
	EXCESS SILTS TO SILT TRAPS AND GULLY POTS TO BE REMOVED	MONTHLY (OR AS REQUIRED)
OCCASIONAL <i>MAINTENANCE AND INSPECTION</i>	JETTING AND REMOVAL OF SILT TRAPS AND SEDIMENT FROM CHANNELS	HALF YEARLY (OR AS REQUIRED)
MONITORING <i>TO BE UNDERTAKEN MORE REGULARLY IN FIRST YEAR OF OPERATION AND ADJUSTED ACCORDINGLY</i>	INSPECTION OF GRATING AND LOCK BOLTS FOR SECURITY AND TIGHTNESS OF FITTINGS	MONTHLY (OR AS REQUIRED)

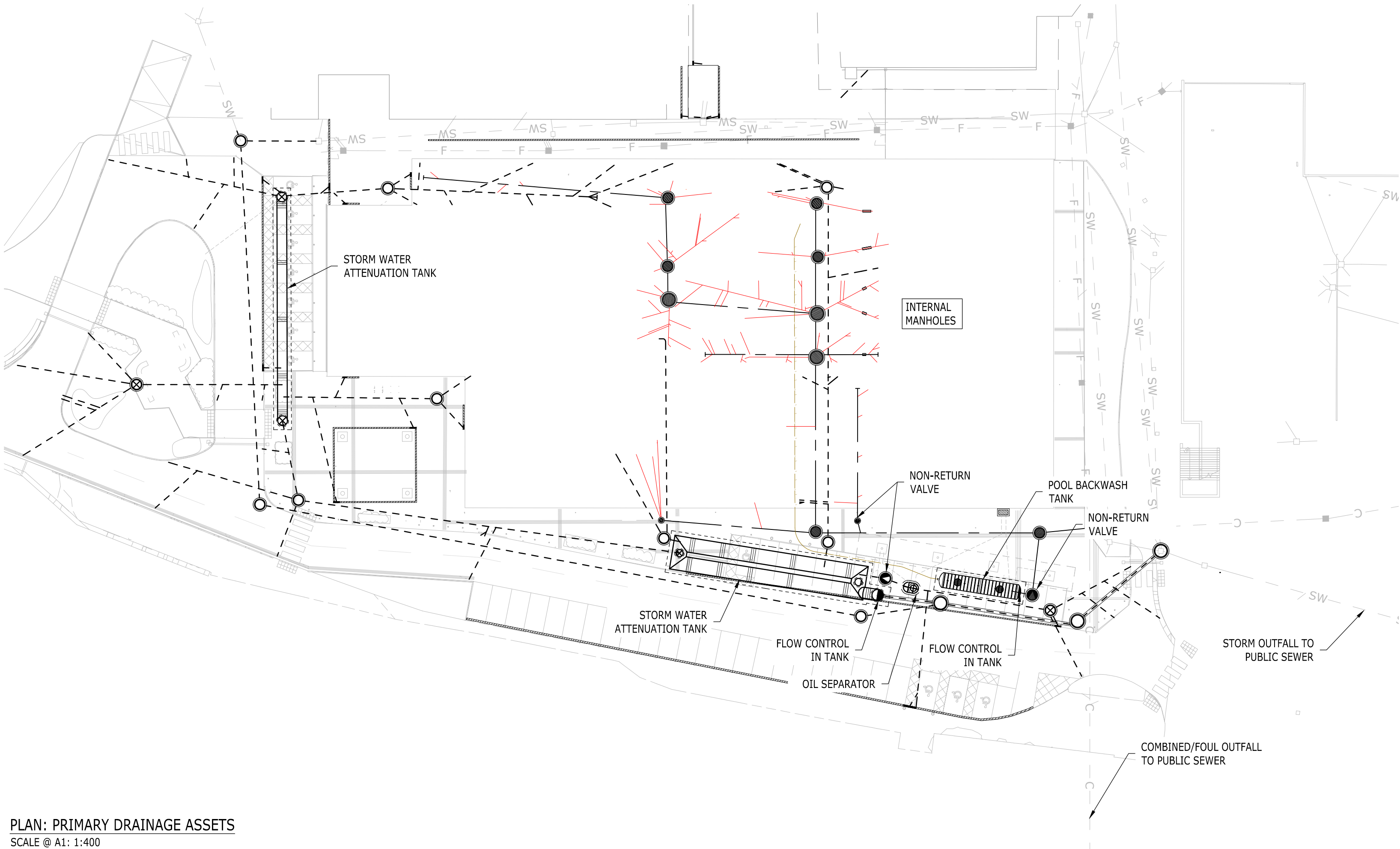
STORM WATER ATTENUATION TANKS - LARGE DIAMETER PIPES		
SILT ACCUMULATION, BLOCKAGE, STRUCTURAL INTEGRITY		
MAINTENANCE SCHEDULE	REQUIREMENT	RECOMMENDED MINIMUM FREQUENCY
REGULAR <i>MAINTENANCE AND INSPECTION</i>	REMOVAL OF EXCESS SILTS FROM UPSTREAM SILT TRAPS/MANHOLES	MONTHLY OR AFTER LARGE STORMS
	REMOVAL OF DEBRIS FROM UPSTREAM CATCHMENTS THAT MAY IMPEDE TANK PERFORMANCE	MONTHLY AND AS REQUIRED
OCCASIONAL <i>MAINTENANCE AND INSPECTION</i>	REMOVAL OF EXCESS SILTS TO ATTENUATION TANK - I.E. JETTING/FLUSHING OF TANK	QUARTERLY PER ANNUM
MONITORING <i>TO BE UNDERTAKEN MORE REGULARLY IN FIRST YEAR OF OPERATION AND ADJUSTED ACCORDINGLY</i>	INSPECT UPSTREAM AND DOWNSTREAM MANHOLES FOR EVIDENCE OF HYDROCARBON OR SILT ACCUMULATION AND INTEGRITY OF SYSTEM. INCLUDING INLET/OUTLET PIPES	MONTHLY OR AFTER LARGE STORMS
	INSPECT INTERNAL FEATURES OF TANK MANUALLY OR USING REMOTE TECHNOLOGIES FOR EVIDENCE OF SILT ACCUMULATION AND INTEGRITY OF SYSTEM	HALF YEARLY

D1   ACCESS TO ATTENUATION FOR MAINTENANCE

FLOW CONTROLS AND VALVES - STORM AND POOL BACKWASH		
SILT ACCUMULATION, BLOCKAGE, STRUCTURAL INTEGRITY		
MAINTENANCE SCHEDULE	REQUIREMENT	RECOMMENDED MINIMUM FREQUENCY
REGULAR <i>MAINTENANCE AND INSPECTION</i>	REMOVAL OF EXCESS SILTS	MONTHLY (OR AS REQUIRED)
	CHECK BY-PASS FUNCTIONS CORRECTLY	AS REQUIRED BY MANUFACTURER - I.E. MONTHLY
OCCASIONAL <i>MAINTENANCE AND INSPECTION</i>	REMOVAL AND DISPOSAL OF OIL OR HYDROCARBONS USING SAFE STANDARD PRACTICES	AS REQUIRED TO SUIT SITE OPERATION
	REPLACEMENT OF FILTERS AND ANCILLARY EQUIPMENT	AS REQUIRED BY MANUFACTURER
MONITORING <i>TO BE UNDERTAKEN MORE REGULARLY IN FIRST YEAR OF OPERATION AND ADJUSTED ACCORDINGLY</i>	INSPECT UPSTREAM AND DOWNSTREAM MANHOLES AND SENSORS FOR EVIDENCE OF HYDROCARBON OR SILT ACCUMULATION AND INTEGRITY OF SYSTEM	QUARTERLY PER ANNUM

FOUL WATER ATTENUATION TANKS - POOL BACKWASH		
SILT ACCUMULATION, BLOCKAGE, STRUCTURAL INTEGRITY		
MAINTENANCE SCHEDULE	REQUIREMENT	RECOMMENDED MINIMUM FREQUENCY
REGULAR <i>MAINTENANCE AND INSPECTION</i>	REMOVAL OF EXCESS SILTS	MONTHLY (OR AS REQUIRED)
	CHECK ALARMS AND BEACONS FUNCTION CORRECTLY	AS REQUIRED BY MANUFACTURER - I.E. MONTHLY
OCCASIONAL <i>MAINTENANCE AND INSPECTION</i>	FLUSH TANK AND CLEAN UPSTREAM DRAINS	HALF YEARLY (OR AS REQUIRED BY MANUFACTURER)
MONITORING <i>TO BE UNDERTAKEN MORE REGULARLY IN FIRST YEAR OF OPERATION AND ADJUSTED ACCORDINGLY</i>	INSPECT UPSTREAM AND DOWNSTREAM MANHOLES FOR EVIDENCE OF SILT ACCUMULATION AND STRUCTURAL INTEGRITY OF SYSTEM	QUARTERLY PER ANNUM
	INSPECT INTERNAL FEATURES OF TANK MANUALLY OR USING REMOTE TECHNOLOGIES FOR EVIDENCE OF SILT ACCUMULATION AND STRUCTURAL INTEGRITY OF SYSTEM	ANNUALLY

D2   MAINTENANCE OF POOL BACKWASH TANK



PLAN: PRIMARY DRAINAGE ASSETS
SCALE @ A1: 1:400

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 - THIS MAINTENANCE SCHEDULE HAS BEEN PREPARED USING GUIDANCE PROVIDED IN CIRIA C625, CIRIA C626, CIRIA C753 AND IN CONJUNCTION WITH MANUFACTURER'S RECOMMENDATIONS
 - ANY PARTIES INVOLVED WITH THE DISPOSAL OF ANY WASTE MATERIALS FROM THE UNDERGROUND DRAINAGE SYSTEM SHOULD HOLD APPROPRIATE MANAGEMENT LICENCES
 - FINAL O&M MANUALS TO BE COMPILED BY CONTRACTOR TO SUIT AS-INSTALLED PRODUCTS
 - ALL DRAINAGE ON SITE WILL BE CLASSIFIED AS 'PRIVATE' AND THEREFORE MAINTENANCE WILL BE THE RESPONSIBILITY OF THE END USER

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-  INDICATES A RESIDUAL RISK AS A WARNING

C01	CONSTRUCTION ISSUE	11/08 2021	SG GS	LS
Rev	Description	Date	By Chk	App

CONSTRUCTION

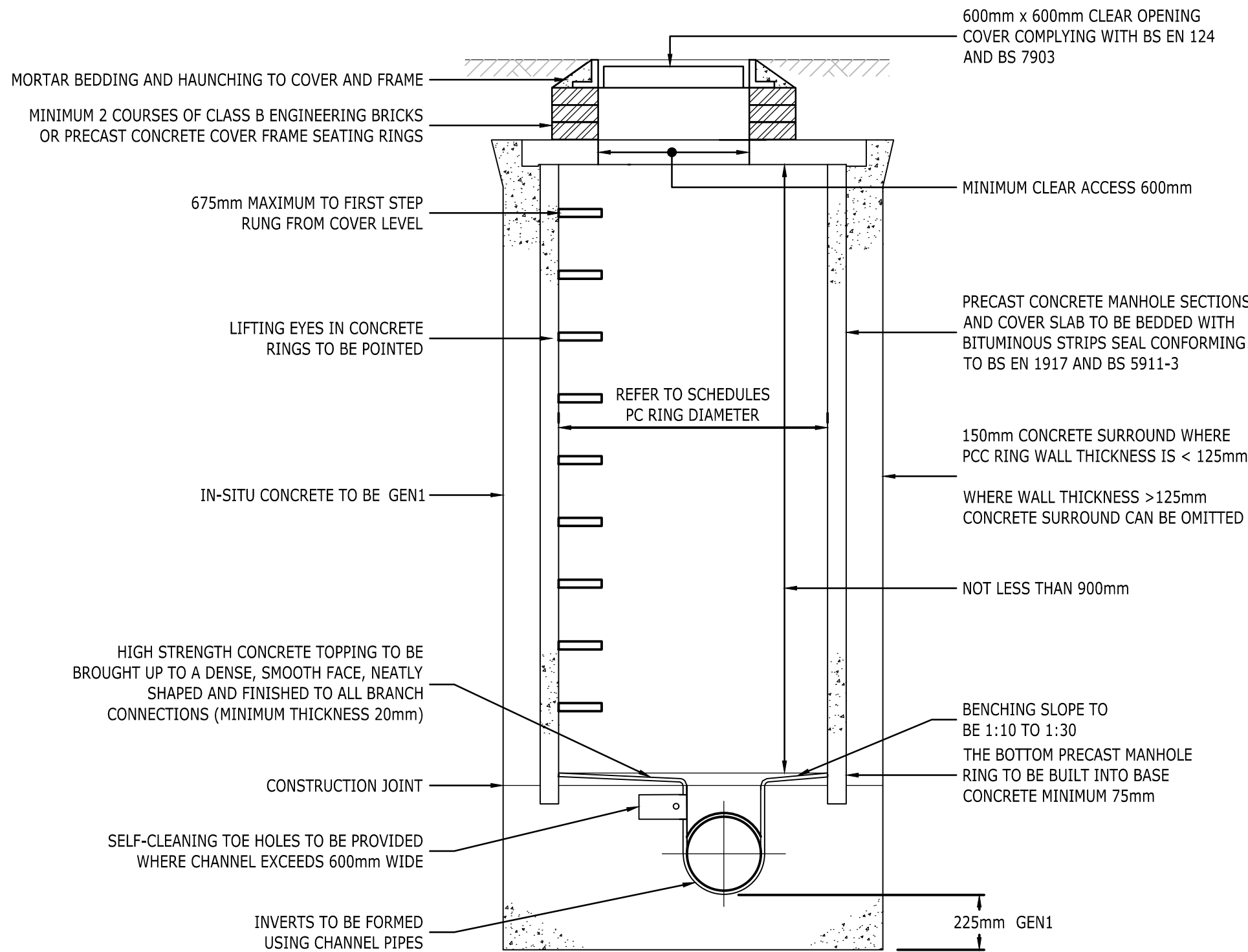
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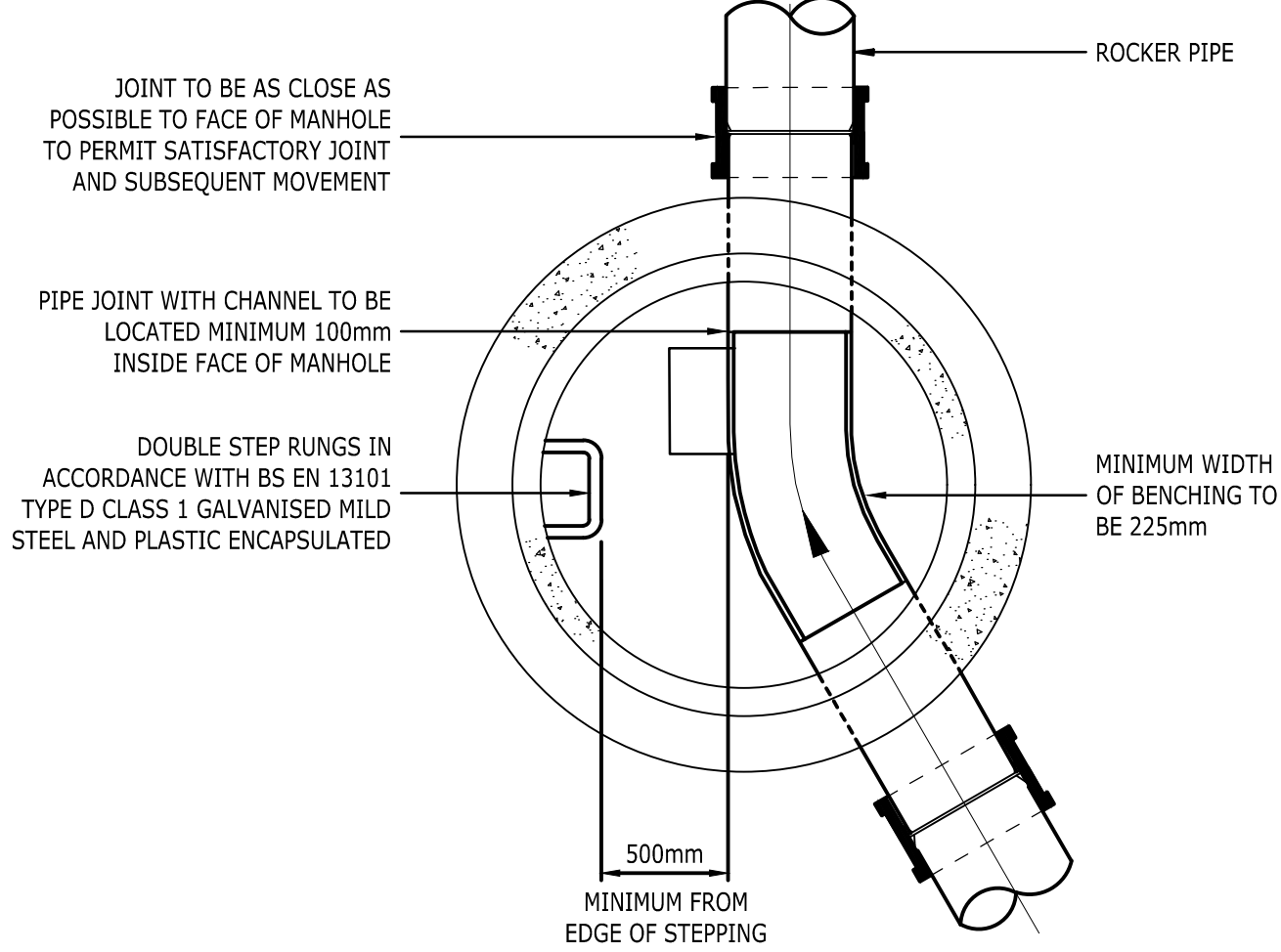
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PROPOSED DRAINAGE MAINTENANCE SCHEDULES

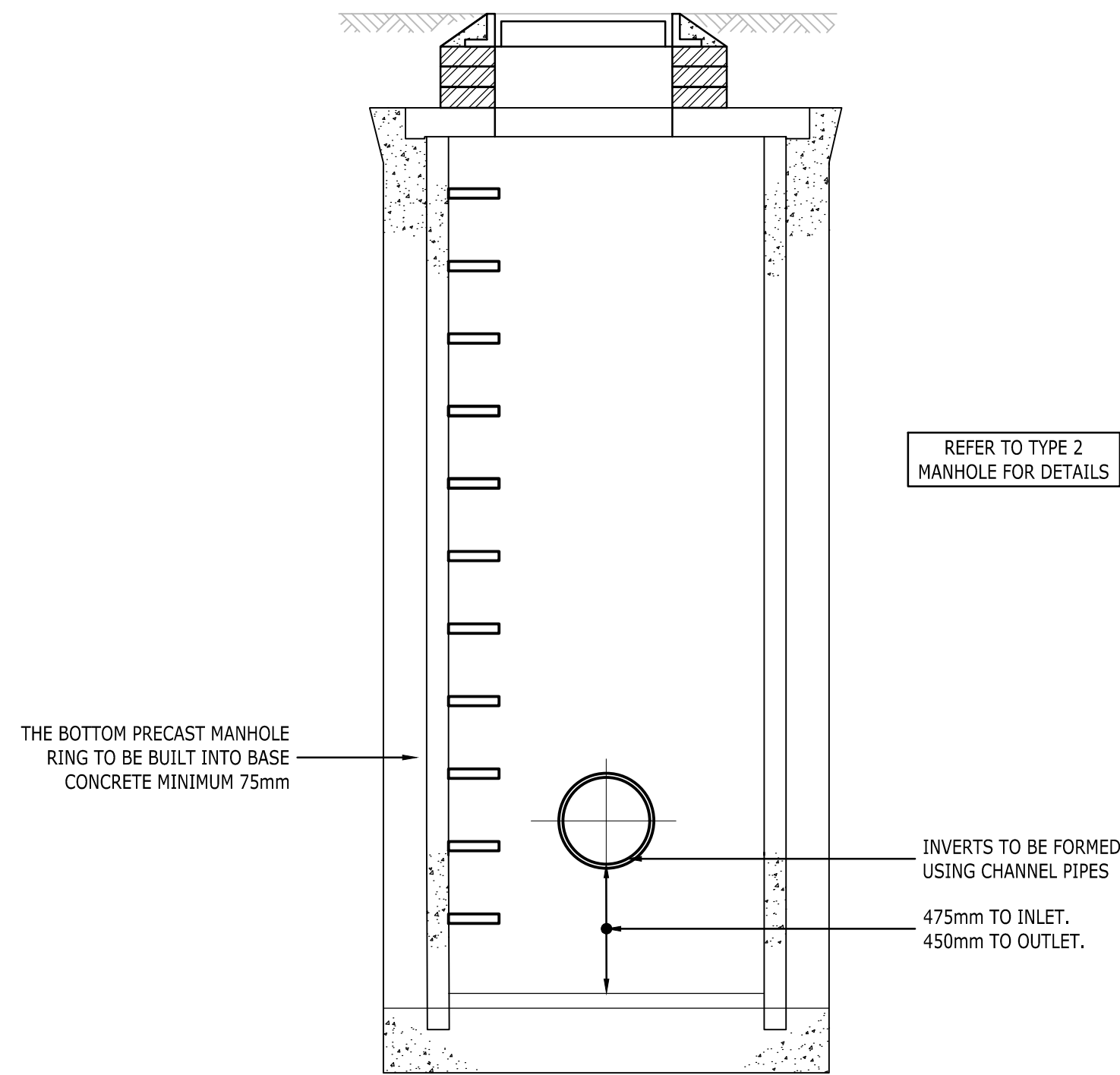
Project No:	Scale (@A1):	Drawn:	Date:
1620005164	NTS	SG	JULY 21
Drawing No:	Rev:		
LP44107-RAM-B01-XX-DR-D-51251	C01		



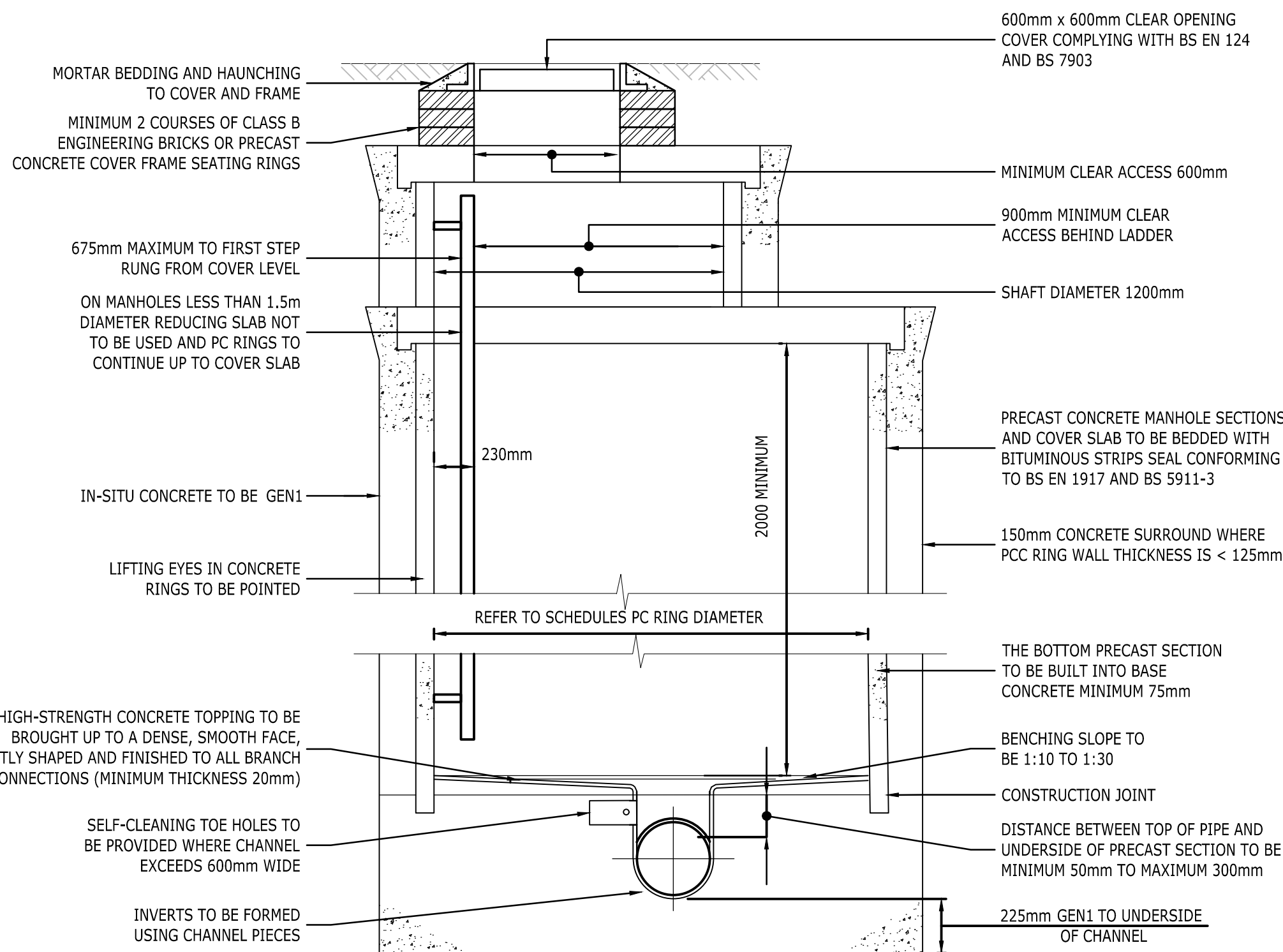
TYPICAL MANHOLE DETAIL - TYPE 2
MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 3.0m
SCALE 1:20



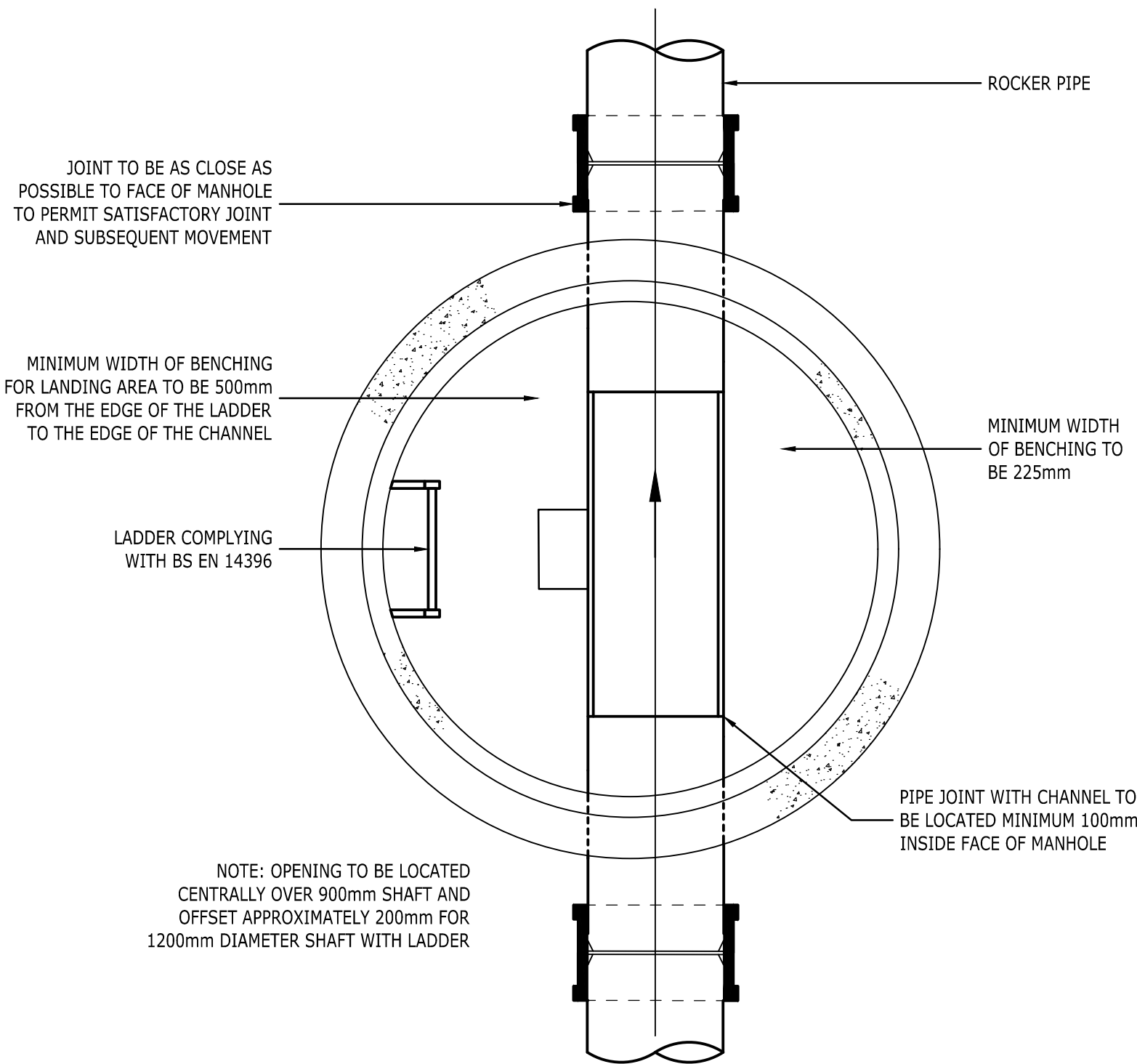
TYPICAL MANHOLE DETAIL - TYPE 2
PLAN VIEW
SCALE 1:20



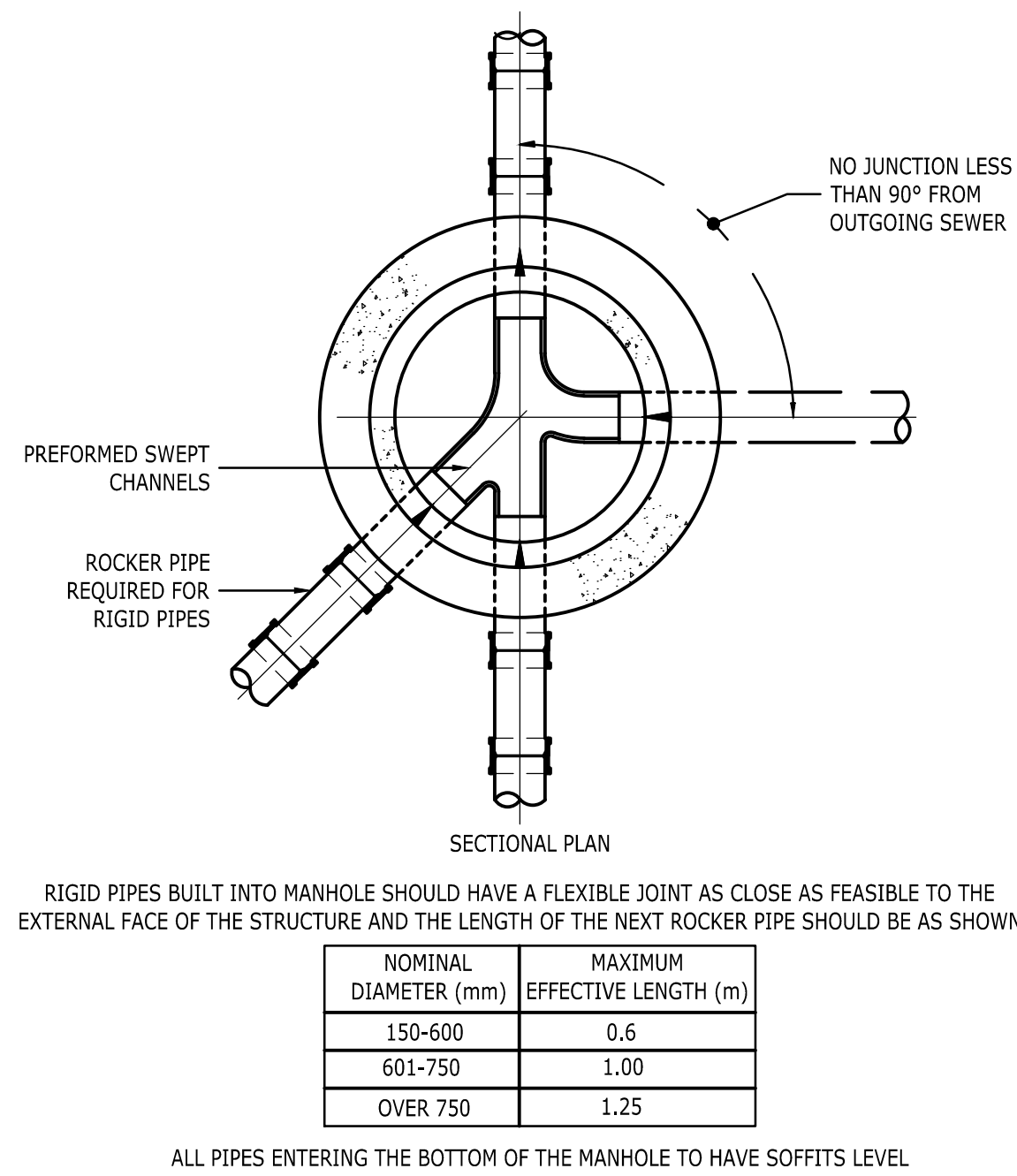
TYPICAL CATCHPIT DETAIL - TYPE 2
MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 3.0m
SCALE 1:20



TYPICAL MANHOLE DETAIL - TYPE 1A
DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 3m TO 6m
SCALE 1:20



TYPICAL MANHOLE DETAIL - TYPE 1A
PLAN VIEW
SCALE 1:20



TYPICAL ARRANGEMENT OF PIPE JUNCTIONS WITHIN MANHOLES
SCALE 1:20

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C02	CONSTRUCTION ISSUE Previous revision history added	15/11 2021	SG GS	LS
C01	CONSTRUCTION ISSUE	11/08 2021	SG GS	LS
P02	STAGE 5 PR1 ISSUE	01/06 2021	SG GS	LS
P01	PRELIMINARY	15/11 2019	CO GS	LS
Rev	Description	Date	By Chk	App

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STANDARD DETAILS
SHEET 1

Project No: 1620005164	Scale (@A1): AS SHOWN	Drawn: CO	Date: JUN 19
Drawing No: LP44107-RAM-B01-XX-DR-D-51400	Rev: C02		