

PURPOSE OF REPORT – TECHNICAL NOTE IN RESPONSE TO

**RESPONSE TO COMMENTS IN RELATION TO CONDITION 8 OF
PLANNING APPROVAL REF: CDN/22/0551**

Version 1.0
Date/Time 06.10.2022

1. INTRODUCTION

As part of the Planning Application FUL.2022/0260, Ridge and Partners Prepared a Flood Risk and Drainage Strategy report for the proposed extension to Gorton Education Village to provide educational premises (Use Class F1); involving new building, landscaping, car parking and servicing.

A consultation response provided by the LLFA dated 08.08.2022 and UU dated 21.09.22 have been reviewed and the following response prepared.

2. PLANNING CONDITION 8 – COMMENTS ON APPLICATION TO DISCHARGE

2.1 CONDITION 8 – DRAINAGE

LLFA Comment	Ridge Response
<i>Consideration of alternative green SuDS solution (such as green or blue roofs) if practicable;</i>	Alternative SuDS solutions were considered, however due to the nature of this construction they were not seen as feasible.
<i>The proposed extension clashes with existing surface water drainage on site, measures must be specified as to how the structural integrity of these assets will be maintained.</i>	The existing surface water drain to be built over has been co-ordinated with pile caps and ground beams. The proposed foundations will bridge the SW drain and the ground floor slab is proposed to be suspended. As such, no additional loading will be applied to the drain either during construction or during operation of the building.
<i>Some proposed surface water drainage connections bypass the proposed flow control, all surface water discharge should be controlled by the flow control.</i>	The new surface water drainage connecting downstream of the flow control are existing drains, to be diverted. The surface water plans have been altered to make this clearer, see <i>Appendix A</i> .

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<i>Evidence that the drainage system has been designed (unless an area is designated to hold and/or convey water as part of the design) so that flooding does not occur during a 1 in 100 year rainfall event with allowance for climate change in any part of a building;</i>	See <i>Appendix D</i> for drainage model. The calculations demonstrate that although there is some risk of flooding that occurs during the 100 year + 40% event only, this is restricted to only 8m ³ around SW02 & 1m ³ around SWPPIC01. See <i>Appendix E</i> .
<i>Where an application is part of a larger site it is essential that the new proposal does not compromise the existing drainage. Calculations must be completed to ensure the proposed extension will not cause flooding issues to the surrounding private drainage network.</i>	The drainage has been designed to reduce the current discharge rate of 10.7l/s by more than 50% to 5l/s. The reduction in flow from this part of the site will reduce loading on the existing system, as such will not increase flood risk.
<i>Hydraulic calculation of the proposed drainage system;</i>	As above, see <i>Appendix D</i> for the proposed Surface Water drainage model.
United Utilities Comment	Ridge Response
<i>Further to our review of the submitted documents, Drawing 5014379-RDG-ZZ-ST-DR-C-05001, Rev P02- Dated 15/02/2022, United Utilities recommends that condition 8 is not discharged. This is because the drawing shows there is a 100mm surface water sewer drain to network (SWMH18) after the hydro brake manhole. The developer need to redesign the drainage network to achieve a total 5 l/s discharged from the site.</i>	The new surface water drainage connecting downstream of the flow control are existing drains, to be diverted. The surface water plans have been altered to make this clearer, see <i>Appendix A</i> .

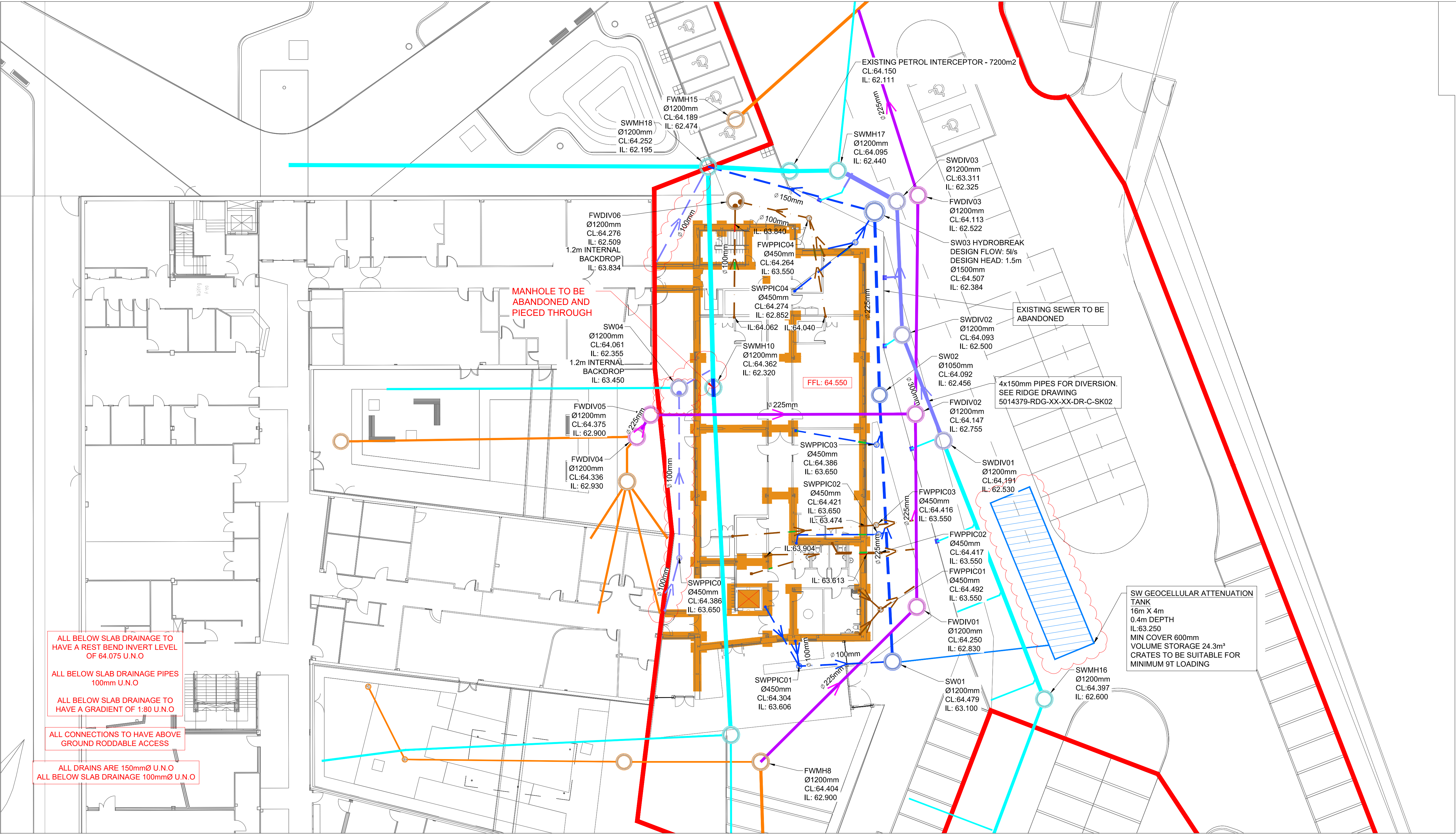
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APPENDICES

- Appendix A – Proposed Drainage Plan
- Appendix B – Abandoned Drainage Plan
- Appendix C – SWS Diversion connection detail
- Appendix D – Proposed drainage model results
- Appendix E – Flood Exceedance Drawing

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APPENDIX A – PROPOSED DRAINAGE PLAN



ALL BELOW SLAB DRAINAGE TO HAVE A REST BEND INVERT LEVEL OF 64.075 U.N.O

ALL BELOW SLAB DRAINAGE PIPES 100mm U.N.O

ALL BELOW SLAB DRAINAGE TO HAVE A GRADIENT OF 1:80 U.N.O

ALL CONNECTIONS TO HAVE ABOVE GROUND RODDABLE ACCESS

ALL DRAINS ARE 150mmØ U.N.O
ALL BELOW SLAB DRAINAGE 100mmØ U.N.O

DRAINAGE NOTES

1. THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT AND DIVERSION WORKS AS NECESSARY, TO ALL EXISTING SERVICES TO THE SATISFACTION OF THE PUBLIC UTILITIES.
2. THE CONTRACTOR SHALL ALLOW FOR DEALING WITH SURFACE WATER RUN-OFF INTO EXCAVATIONS AND FROM GROUNDWATER BY MEANS OF SUMPS, PUMPING AND DE-WATERING AS APPROPRIATE, IN ORDER TO KEEP THE EXCAVATION AS REASONABLY DRY AS POSSIBLE DURING THE CONSTRUCTION OF THE WORKS.
3. ALL PRIVATE DRAINAGE WITHIN THE SITE IS TO COMPLY WITH THE REQUIREMENTS OF BSEN752 AND BUILDING REGULATIONS PART H. WHERE APPROPRIATE, ALL ADOPTED DRAINAGE SHALL BE DESIGN AND CONSTRUCTED IN ACCORDANCE WITH SEWERS FOR ADOPTION 8th EDITION AND THE ADOPTING AUTHORITIES STANDARD REQUIREMENTS.
4. ALL PRIVATE DRAINAGE PIPES TO BE LAID IN TRENCHES BEDDED CLASS 'B' ON SINGLE SIZED AGGREGATE AND BACKFILLED WITH APPROVED SELECTED FILL (40mm DOWN) REUSED FROM EXCAVATED MATERIAL. UNDER BUILDINGS AND WHERE COVER TO INVERT IS LESS THAN 1200mm UNDER TRAFFICKED AREAS PIPES TO BE CAST IN CONCRETE (CLASS Z BEDDING). CLASS 'S' BED AND SURROUND MAY BE REQUIRED FOR SEWERS TO BE ADOPTED. REFER TO SPECIFIC DRAWINGS FOR FURTHER INFORMATION.
5. SELECTED BACKFILL MATERIAL SHALL CONSIST OF UNIFORM EXCAVATED MATERIAL, FREE FROM STONES LARGER THAN 40mm, CLAY LUMPS LARGER THAN 75mm, TREE ROOTS, CONTAMINATED MATERIAL. SELECTED BACKFILL MATERIAL IS TO BE PLACED IN LAYERS NOT EXCEEDING 150mm THICKNESS. THE MATERIAL SHALL BE COMPACTED TO

- ACHIEVE NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED IN LABORATORY COMPACTION TESTS. SUFFICIENT TESTING SHALL BE CARRIED OUT, BY THE CONTRACTOR, TO DEMONSTRATE THIS IS ACHIEVED (NUMBER 12). MANHOLE COVERS AND FRAMES ARE TO BE IN ACCORDANCE WITH BSEN124 AND THE FOLLOWING:
- a) VEHICULAR AREAS: CLASS D400 (E600 IN VULNERABLE SE 'VICE YARD LOCATIONS), DOUBLE TRIANGULAR, 150mm DEEP DUCTILE IRON COVER AND FRAME WITH THREE POINT COVER SEATING, BADGED FW OR SW FOR FOUL OR SURFACE WATER DRAINAGE.
 - b) PEDESTRIAN AREAS: CLASS B125, 100mm DEEP, BADGED FW OR SW FOR FOUL OR SURFACE WATER DRAINAGE.
6. CONCRETE PROTECTION TO PIPEWORK IS TO BE PROVIDED AS FOLLOWS:
 - a) ALL PIPEWORK WITHIN PEDESTRIAN/SOFT AREAS WITH LESS THAN 600mm COVER
 - b) ALL PIPEWORK SUBJECT TO VEHICULAR OVERRUN WITH LESS THAN 1.2m COVER.
 7. ALL PIPEWORK WITHIN MANHOLES ARE TO BE LAID SOFFIT TO SOFFIT (U.N.O). ALL CHAMBER INVERT LEVELS ARE FOR THE OUTGOING PIPE LEVELS. BACKDROP PIPEWORK SHALL BE CONNECTED AT SOFFIT TO SOFFIT WITH THE RODDING ACCESS LEVEL SPECIFIED.
 8. ALL DRAINS TO BE LAID ACCURATELY TO LINE AND LEVEL IN STRICT ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
 9. ANY GRADIENTS OF DRAINS INDICATED ARE INDICATIVE ONLY AND THE CONTRACTOR SHALL INSTALL THE DRAINS TO THE SPECIFIED LEVELS SHOWN FOR EACH MANHOLE (U.N.O). CATCHPIT INVERT LEVELS ARE FOR THE OUTGOING PIPE WITH THE SUMP LEVEL SPECIFIED SEPARATELY.
 10. CO-ORDINATE SETTING OUT INFORMATION FOR MANHOLES IS TO THE INTERSECTION THE DRAINS AND NOT THE CENTRE OF THE MANHOLE.
 11. COVER LEVELS OF THE MANHOLES ARE PROVISIONAL AND SUBJECT TO ADJUSTMENT ON SITE TO SUIT THE FINISHED

- GROUND LEVELS. ALL EXTERNAL WORKS CONSTRUCTION AREAS TO BE AS LOCATED BY THE ARCHITECT.
12. MANHOLE COVERS AND FRAMES ARE TO BE IN ACCORDANCE WITH BSEN124 AND THE FOLLOWING:
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 - b) PEDESTRIAN AREAS: CLASS B125, 100mm DEEP, BADGED FW OR SW FOR FOUL OR SURFACE WATER DRAINAGE.
 13. POSITIONS AND SIZES OF ABOVE GROUND FOUL AND SURFACE WATER DRAINAGE CONNECTIONS ARE TO BE CONFIRMED PRIOR TO CONSTRUCTION WITH THE ARCHITECT & M&E ENGINEER.
 14. GULLY GRATINGS AND STEEL CHANNEL COVERS ARE TO BE IN ACCORDANCE WITH BSEN124 AS FOLLOWS:
 - a) AREAS SUBJECT TO VEHICULAR OVERRUN: CLASS D400 MINIMUM.
 - b) AREAS NOT SUBJECT TO REGULAR VEHICLE OVERRUN (ADJACENT TO KERBS ETC): CLASS C250.
 - c) GULLY GRATES ADJACENT TO KERBS SHALL BE HINGED ON THE SIDE OF THE TRAFFIC DIRECTION (LEFT HAND SIDE).
 15. ALL BRICKWORK IN CONNECTION WITH DRAINAGE IS TO BE SOLID CLASS B ENGINEERING BRICK TO BS3921.
 16. ALL PRECAST CONCRETE PIPES, CHAMBER PRODUCTS AND ROAD GULLIES SHALL BE TO BS5911 AND BE KITEMARKED.
 17. ALL DRAINAGE INSITU CONCRETE SHALL BE GEN3 (U.N.O).
 18. ALL INSITU AND CONCRETE PRODUCTS SHALL COMPLY WITH THE REQUIREMENTS FOR SULPHATE EXPOSURE IN ACCORDANCE WITH BRE SPECIAL DIGEST 1, CONCRETE IN

- AGGRESSIVE GROUND (2001) PART 1: TABLE 2.
19. UPON COMPLETION OF THE WORKS THE CONTRACTOR SHALL CLEAN ALL DRAINAGE BY JETTING, REMOVING ALL DEBRIS FROM SITE. NO DEBRIS SHALL BE PERMITTED TO ENTER THE EXISTING DRAINAGE SYSTEM.
 20. CONSTRUCTION JOINTS IN CONCRETE SURROUND MUST NOT BE WITHIN 150MM OF CHAMBER/SHAFT RING JOINTS.
 21. ROCKER PIPES TO BE SURROUNDED WITH CONCRETE LOCATED 150mm MINIMUM 200mm MAXIMUM FROM THE FIRST FLEXIBLE JOINT TO THE MANHOLE WALL.
 22. SOFT SPOTS IN THE TRENCH FORMATION SHALL BE REMOVED AND REPLACED WITH GRANULAR BEDDING UNLESS INSTRUCTED OTHERWISE.
 23. LATERAL CONNECTIONS IN BETWEEN MANHOLE RUNS SHALL BE FORMED BY USING PURPOSE MADE JUNCTION FITTINGS. BEND FITTINGS SHALL BE PROVIDED WHERE APPROPRIATE TO DIRECT THE FLOW INTO MAIN RUNS.
 24. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LIAISE WITH BUILDING CONTROL FOR APPROVALS, INTERIM INSPECTION, SNAGGING AND FINAL INSPECTIONS OF THEIR WORK.
 25. THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL EXISTING STATUTORY UNDERTAKERS APPARATUS AND SERVICE CONNECTIONS ADJACENT TO AND CROSSING THE WORKS BY TRIAL PITS PRIOR TO COMMENCING MACHINE DIG.
 26. AT THE CONCLUSION OF THE WORKS THE CONTRACTOR SHALL PROVIDE A MARKED UP DRAWING TO RECORD ANY AS BUILT VARIATIONS NOT SHOWN ON THE DRAWINGS.
 27. THE DRAINAGE SYSTEM IS NOT DESIGNED TO ACCEPT

- UNTREATED EFFLUENT FROM A COMMERCIAL KITCHEN CONTAINING GREASE AND OILS. REMOVAL OF GREASE AND OIL SHOULD BE MADE AT SOURCE USING A FLOOR MOUNTED ABOVE GROUND GREASE REMOVAL SYSTEM. IT IS RECOMMENDED THAT A MECHANICAL GREASE REMOVAL SYSTEM BE EMPLOYED FOR THIS PURPOSE NOT A PASSIVE SYSTEM.
28. PIPEWORK TO BE OF THE FOLLOWING MANUFACTURER: 100 / 150 / 225MM DIAMETER HEPWORTH SUPERSLEEVE VITRIFIED CLAY PIPES (40kN/mm CRUSHING STRENGTH), 300mm + TO BE CONCRETE CLASS M. ALTERNATIVELY 'POLYSEWER' UPVC DRAINAGE SYSTEM BY POLYPIPE WHEN INSTALLED IN LINE WITH THE MANUFACTURERS RECOMMENDATIONS. FILTER DRAINAGE TO BE PERFORATED HDPE.
 29. ALL RWP, WPC & GULLY CONNECTIONS TO BE 100mm DIA UNO & ARE RODDABLE AT LOCATIONS ABOVE GROUND LEVEL.
 30. ALL INSPECTION CHAMBERS WITH A DEPTH GREATER THAN 1.2m TO HAVE A 350mm DIAMETER REDUCING PLATE LOCATED BENEATH COVER AND FRAME TO PREVENT ACCESS.

KEY

- EXISTING SW SEWER
- EXISTING FW SEWER
- PROPOSED SW IC
- PROPOSED SW SEWER
- PROPOSED FW IC
- PROPOSED DIVERTED SW SEWER
- PROPOSED DIVERTED SW MH
- PROPOSED DIVERTED FW SEWER
- PROPOSED DIVERTED FW MH
- PROPOSED GULLY
- DRAINAGE CROSSES OVER FOUNDATION
- FOUNDATION CROSSES THROUGH FOUNDATION

KEY

- PROPOSED BACKDROP

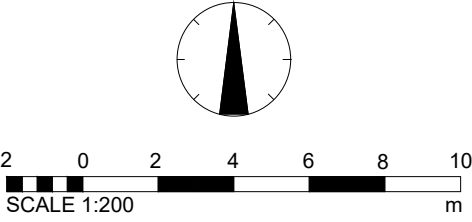
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C01	CONSTRUCTION ISSUE - SW DIVERSION UPDATED TO SUIT RPI 008 SOLUTION, DIVERSION CONNECTIONS TO SWMH18 MADE CLEAR, ATTENUATION TANK RELOCATED	05.10.22	TP	PB
REV	DESCRIPTION	DATE	BY	CHKD

ORIGINATOR:

RIDGE

5TH FLOOR
BELVEDERE HOUSE
12 BOOTH STREET
MANCHESTER, M2 4AW

TEL: 0161 833 9579
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CLIENT:
BOWKER SADLER ARCHITECTS

IN ASSOCIATION WITH:

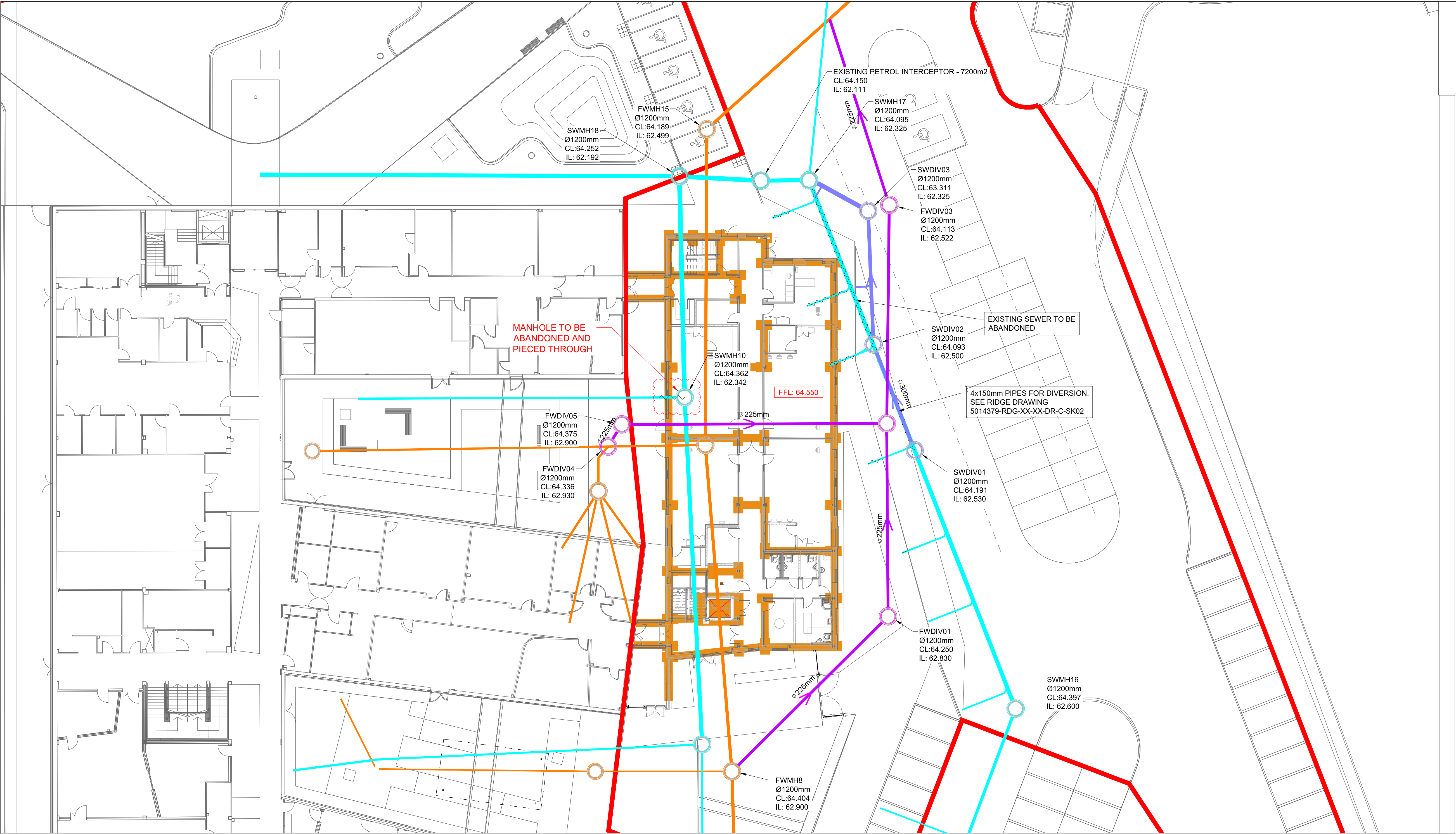
PROJECT:
GORTON EDUCATION VILLAGE

TITLE:
PROPOSED DRAINAGE LAYOUT

ENG/TECH:	CSE:	ICSE:	SCALE:	1:200	@	A1
AP	AM	AM	STATUS ISSUE:	S4		
STATUS: CONSTRUCTION						
UNLESS ISSUED FOR CONSTRUCTION - WORKS AT CLIENT/CONTRACTORS RISK						
SUITABILITY:	S4 - Issued for Construction Approval					
PROJECT:	ORG:	ZONE:	LEVEL:	TYPE:	ROLE:	NUMBER:
5014379	RDG	ZZ	ST	DR	C	05001
						C01

**BOWKER SADLER ARCHITECTS,
MELLAND HIGH SCHOOL – GORTON EDUCATION VILLAGE**

APPENDIX B - ABANDONED DRAINAGE PLAN

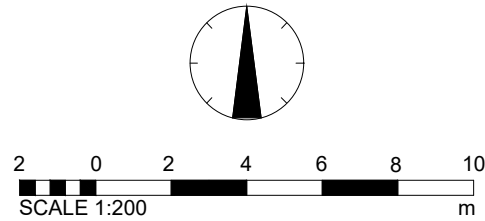


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C01	STAGE 4 ISSUE - LEVEL UPDATES FROM SITE	05.10.22	TP	PB
REV	DESCRIPTION	DATE	BY	CHKD
ORIGINATOR:				



5TH FLOOR
BELVEDERE HOUSE
12 BOOTH STREET
MANCHESTER, M2 4AW

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CLIENT:
BOWKER SADLER ARCHITECTS

IN ASSOCIATION WITH:

PROJECT:
GORTON EDUCATION VILLAGE

TITLE:
DRAINAGE ABANDONMENT PLAN

ENG/TECH:	CSE:	ICSE:	SCALE:	1:200	@	A1
TP	PB	PB	STATUS ISSUE:	S4		

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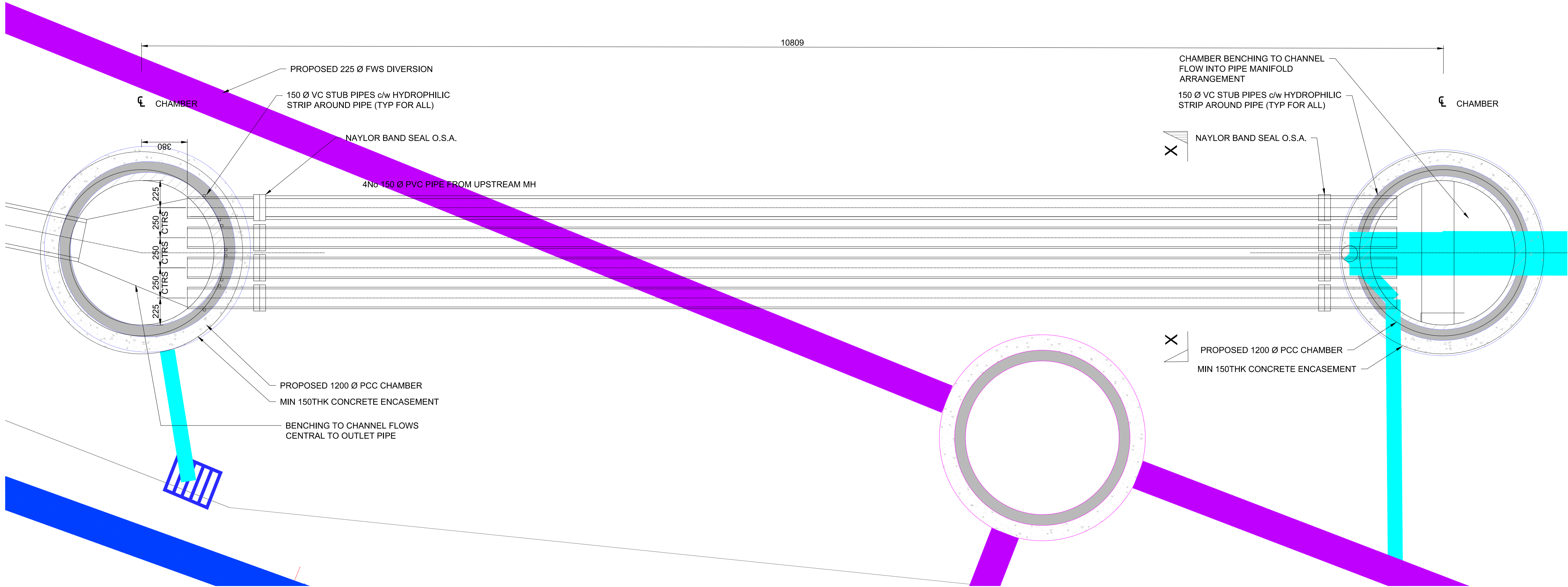
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 - LATERAL CONNECTIONS IN BETWEEN MANHOLE RUNS SHALL BE FORMED BY USING PURPOSE MADE JUNCTION FITTINGS. BEND FITTINGS SHALL BE PROVIDED WHERE APPROPRIATE TO DIRECT THE FLOW INTO MAIN RUNS.
 - IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LIAISE WITH BUILDING CONTROL FOR APPROVALS, INTERIM INSPECTION, SNAGGING AND FINAL INSPECTIONS OF THEIR WORK.
 - THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL EXISTING STATUTORY UNDERTAKERS APPARATUS AND SERVICE CONNECTIONS ADJACENT TO AND CROSSING THE WORKS BY TRIAL PITS PRIOR TO COMMENCING MACHINE DIG.
 - AT THE CONCLUSION OF THE WORKS THE CONTRACTOR SHALL PROVIDE A MARKED UP DRAWING TO RECORD ANY AS BUILT VARIATIONS NOT SHOWN ON THE DRAWINGS.
 - THE DRAINAGE SYSTEM IS NOT DESIGNED TO ACCEPT

- UNTREATED EFFLUENT FROM A COMMERCIAL KITCHEN CONTAINING GREASE AND OILS. REMOVAL OF GREASE AND OIL SHOULD BE MADE AT SOURCE USING A FLOOR MOUNTED ABOVE GROUND GREASE REMOVAL SYSTEM. IT IS RECOMMENDED THAT A MECHANICAL GREASE REMOVAL SYSTEM BE EMPLOYED FOR THIS PURPOSE NOT A PASSIVE SYSTEM.
- PIPEWORK TO BE OF THE FOLLOWING MANUFACTURER: 100 / 150 / 225MM DIAMETER HEPCORTH SUPERSLEEVE VITRIFIED CLAY PIPES (40kN/mm CRUSHING STRENGTH), 300mm + TO BE CONCRETE CLASS M. ALTERNATIVELY 'POLYSEWER' UPVC DRAINAGE SYSTEM BY POLYPIPE WHEN INSTALLED IN LINE WITH THE MANUFACTURERS RECOMMENDATIONS. FILTER DRAINAGE TO BE PERFORATED HDPE.
 - ALL RWP, WPC & GULLY CONNECTIONS TO BE 100mm DIA UNO & ARE RODDABLE AT LOCATIONS ABOVE GROUND LEVEL.
 - ALL INSPECTION CHAMBERS WITH A DEPTH GREATER THAN 1.2m TO HAVE A 350mm DIAMETER REDUCING PLATE LOCATED BENEATH COVER AND FRAME TO PREVENT ACCESS.

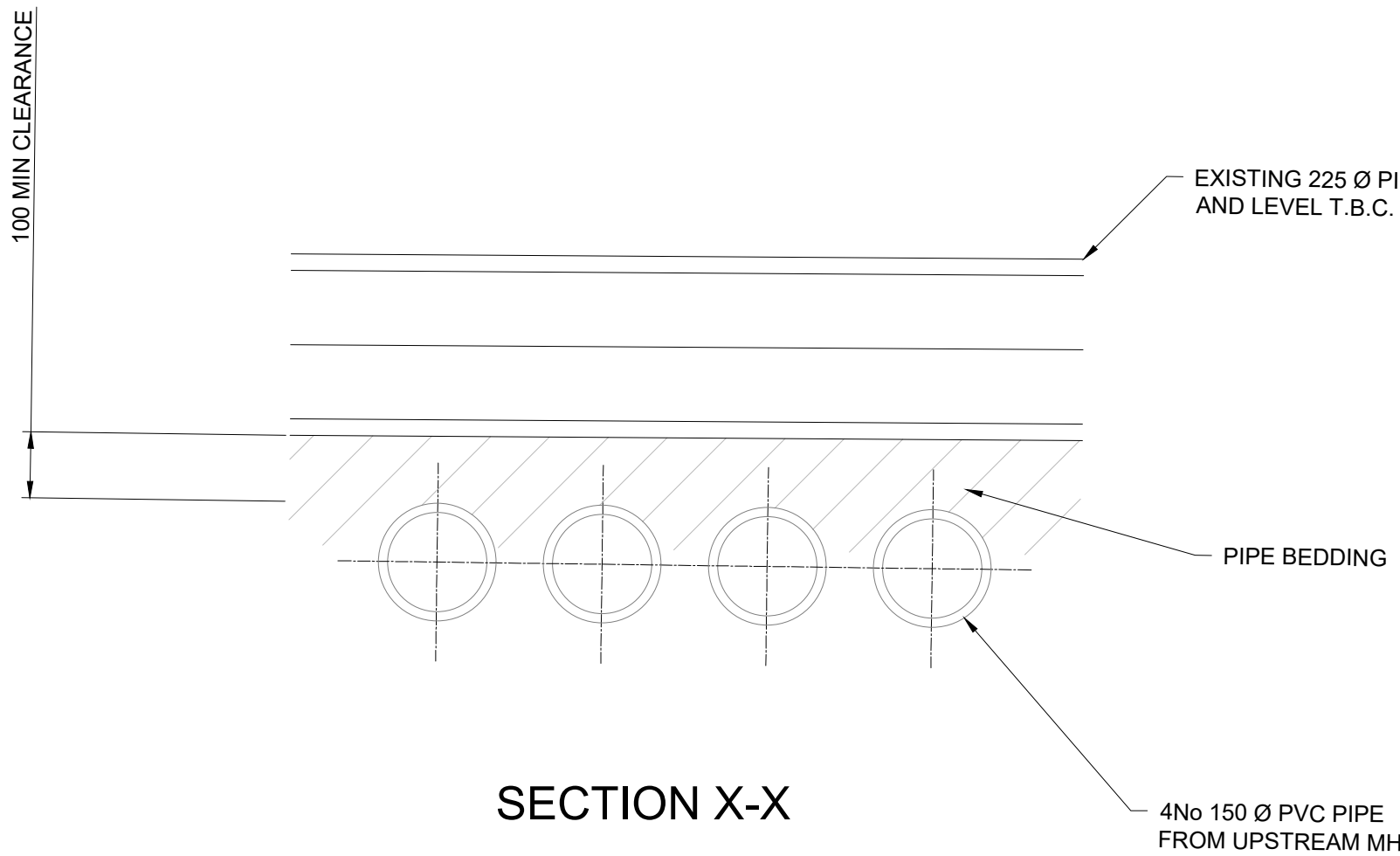
KEY

- EXISTING SW SEWER
- EXISTING FW SEWER
- PROPOSED DIVERTED SW SEWER
- PROPOSED DIVERTED SW MH
- PROPOSED DIVERTED FW SEWER
- PROPOSED DIVERTED FW MH
- EXISTING DRAIN TO BE GRUBBED OUT
- PROPOSED GULLY

APPENDIX C - SWS DIVERSION CONNECTION DETAIL



SEE RIDGE DRAWINGS 5014379-RDG-ZZ-ST-DR-C-05001 & 5002 FOR FULL PROPOSED AND ABANDONED SEWER PLANS



DISCLAIMER NOTES:

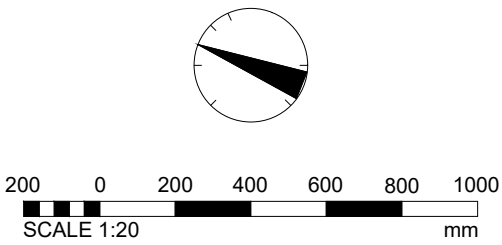
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- THIS DOCUMENT MUST NOT BE ALTERED, REPRODUCED OR DISTRIBUTED WITHOUT PRIOR WRITTEN CONSENT OF THE ORIGINATOR
- THIS DOCUMENT MUST NOT BE ALTERED - THE ORIGINATOR ACCEPTS NO RESPONSIBILITY FOR ANY DISCREPANCIES ARISING AS A RESULT OF THE ORIGINATORS INFORMATION BEING ALTERED BY OTHERS
- ANY DISCREPANCY MUST BE REPORTED TO THE ORIGINATOR
- DO NOT SCALE THIS DOCUMENT - USE FIGURED DIMENSIONS ONLY
- ALL DIMENSIONS MUST BE CHECKED ON SITE PRIOR TO COMMENCEMENT OF ANY RELATED WORKS
- THIS DOCUMENT MUST BE READ IN CONJUNCTION WITH ALL SUPPORTING DOCUMENTS PRODUCED BY THE ORIGINATOR AND OTHER PROJECT DISCIPLINES
- THE ORIGINATOR ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF BACKGROUND INFORMATION PRODUCED BY THIRD PARTIES - THIS MUST BE TREATED AS INDICATIVE ONLY
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DRAWING NOTES:

CDM REGULATIONS 2015

SIGNIFICANT OR NON-OBVIOUS RISKS AND RISKS WHICH ARE DIFFICULT TO MANAGE ARE IDENTIFIED ON THIS DRAWING USING THE FOLLOWING SYMBOL IDENTIFIED TO THE RIGHT WITH BRIEF ACCOMPANYING TEXT. FOR FURTHER DETAILS OF THE RISKS IDENTIFIED BY DESIGNERS, REFERENCE SHOULD BE MADE TO CDM HAZARD REGISTER.

⚠



C01	Construction Issue	05.10.22	TP	PB
REV	DESCRIPTION	DATE	BY	CHKD

ORIGINATOR:



5TH FLOOR
BELVEDERE HOUSE
12 BOOTH STREET
MANCHESTER, M2 4AW

TEL: 0161 833 9579
WWW.RIDGE.CO.UK

CLIENT:
BRIGHT FUTURES EDUCATION TRUST

IN ASSOCIATION WITH:

PROJECT:
GORTON EDUCATION VILLAGE

TITLE:
**PROPOSED SWS DIVERSION
CONNECTION DETAIL**

ENG/TECH:	CSE:	ICSE:	SCALE:	1:20	@ A1
JF	PB	PB	STATUS ISSUE:	S4	

STATUS:
CONSTRUCTION

UNLESS ISSUED FOR CONSTRUCTION - WORKS AT CLIENT/CONTRACTORS RISK

SUITABILITY: S4 - Issued for Construction Approval

PROJECT:	ORG:	ZONE:	LEVEL:	TYPE:	ROLE:	NUMBER:	REV:
5014379	RDG	XX	XX	DR	C	SK02	C01

APPENDIX D - PROPOSED DRAINAGE MODEL RESULTS

Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details:			Company Address:	
Type: Manhole Schedule Storm Phase: Proposed SW				

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SW03	64.507 62.384	Diameter / Length: 1.500	{1} 1.002	Pipe	62.384	Diam/Width:225	Manhole - Access not Required
E:388530.526 N:394909.868	2.123						
			{a} 1.003	Pipe	62.384	Diam/Width:225	Not Applicable
SW01	64.479 63.080	Diameter / Length: 1.200	{1} 1.000	Pipe	63.225	Diam/Width:100	Manhole - Access not Required
E:388532.229 N:394867.280	1.400		{2} Pipe	Pipe	63.080	Diam/Width:100	
			{a} 1.001	Pipe	63.100	Diam/Width:225	Not Applicable
SWPPIC01	64.522 63.994	Diameter / Length: 0.450					Manhole - Access not Required
E:388523.388 N:394866.848	0.528						
			{a} 1.000	Pipe	63.994	Diam/Width:100	Not Applicable
SWMH18	64.252 62.253	Diameter / Length: 1.050	{1} 1.003	Pipe	62.253	Diam/Width:225	Manhole - Access not Required
E:388514.775 N:394914.117	1.999						
							Not Applicable
SW02	64.268 62.500	Diameter / Length: 1.050	{1} 1.001	Pipe	62.500	Diam/Width:225	Manhole - Access not Required
E:388530.988 N:394892.520	1.768						
			{a} 1.002	Pipe	62.500	Diam/Width:225	Not Applicable

Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details:	Tommypurdy			
Type: Network Design Criteria Storm Phase: Proposed SW	Company Address:			

Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (mins)	5
Max. Travel Time (mins)	30

Pipe Options

Lock Slope Options	None
Design Level	Level Inverts
Min. Cover Depth (m)	1.200
Min. Slope (1:x)	500.00
Max. Slope (1:x)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Pipe Size Library

Default

Add. Increment (mm)	75
---------------------	----

Diameter (mm)	Min. Slope (1:x)	Max. Slope (1:x)
100	0.00	0.00
150	0.00	0.00

Project:	Date: 05/10/2022		
	Designed by: Tommypurdy	Checked by:	Approved By:
Report Details: Type: Network Design Criteria Storm Phase: Proposed SW	Company Address:		



Manhole Options

Apply Offset	☐
Synchronise Manhole Invert Levels	☒

Manhole Size Library

Default

Diameter / Width

Connection (mm)	Diameter / Length (m)	Width (m)
0	1.200	0.000
375	1.350	0.000
500	1.500	0.000
750	1.800	0.000

Additional Sizing

Connection (mm)	900
Diameter / Length (m)	0.900
Width (m)	0.000

Depth

Depth (m)	Diameter / Length (m)	Width (m)
0.000	1.050	0.000
1.500	1.200	0.000

Access

Depth (m)	Ladder Protrusion (mm)
0.000	130
3.000	230

Benching Requirements

Landing Width (mm)	500
Benching Width (mm)	225

Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details: Type: Outfall Details Storm Phase: Proposed SW	Tommy Purdy Company Address:			

Outfalls

Outfall	Outfall Type	Fixed Surcharged Level (m)	Level Curve
SWMH18	Free Discharge		

Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Title: Rainfall Analysis Criteria	Tommypurdy Company Address:			

Runoff Type	Dynamic
Output Interval (mins)	1
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Project:	Date: 05/10/2022		
	Designed by: Tommy Purdy	Checked by:	Approved By:
Report Details: Type: Inflows Summary Storm Phase: Proposed SW	Company Address:		



Critical Storm

Inflow	Storm Event	Inflow Area (ha)	Max. Inflow (L/s)	Total Inflow (m³)
Catchment Area	FSR: 100 years: +40 %: 15 mins: Winter	0.03	17.7	8.271
Catchment Area (1)	FSR: 100 years: +40 %: 15 mins: Winter	0.03	16.7	7.808
Catchment Area (2)	FSR: 100 years: +40 %: 15 mins: Winter	0.03	15.1	7.063
Catchment Area (3)	FSR: 100 years: +40 %: 15 mins: Winter	0.01	7.1	3.345

Project:	Date: 05/10/2022		
	Designed by: Tommypurdy	Checked by:	Approved By:
Report Details: Type: Junctions Summary Storm Phase: Proposed SW	Company Address:		



Critical Storm

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SW03	FSR: 100 years: +40 %: 15 mins: Summer	64.50 7	62.38 4	64.321	1.937	20.2	3.423	0.000	5.5	9.509	Flood Risk
SW01	FSR: 100 years: +40 %: 15 mins: Summer	64.47 9	63.08 0	64.313	1.233	24.6	1.394	0.000	10.2	15.934	Flood Risk
SWPPIC01	FSR: 100 years: +40 %: 15 mins: Winter	64.52 2	63.99 4	64.523	0.529	17.7	1.213	1.129	13.1	8.209	Flood
SWMH18	FSR: 100 years: +40 %: 15 mins: Summer	64.25 2	62.25 3	62.305	0.052	5.5	0.000	0.000	5.5	7.500	OK
SW02	FSR: 100 years: +40 %: 30 mins: Winter	64.26 8	62.50 0	64.276	1.776	25.9	9.488	7.957	5.9	18.122	Flood

Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details: Type: Stormwater Controls Summary Storm Phase: Proposed SW	Tommy Purdy			
	Company Address:			



Critical Storm

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
Cellular Storage	FSR: 100 years: +40 %: 60 mins: Winter	63.638	63.638	0.388	0.388	14.6	23.600	0.000	0.000	4.0	13.407	6	OK

Project:	Date: 05/10/2022		
	Designed by: Tommy Purdy	Checked by:	Approved By:
Report Details: Type: Connections Summary Storm Phase: Proposed SW	Company Address:		



Critical Storm

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1.001	FSR: 100 years: +40 %: 15 mins: Winter	Pipe	SW01	SW02	64.5	64.273	0.225	3.244	0.7	0.16	12.8	Flood Risk
1.000	FSR: 100 years: +40 %: 15 mins: Winter	Pipe	SWPPI C01	SW01	64.5	64.523	0.100	8.207	2.2	0.73	13.1	Flood
1.003	FSR: 100 years: +40 %: 15 mins: Summer	Pipe	SW03	SWMH18	64.5	64.321	0.053	7.500	0.8	0.12	5.5	Flood Risk
1.002	FSR: 100 years: +40 %: 15 mins: Winter	Pipe	SW02	SW03	64.3	64.275	0.225	2.286	0.4	0.29	12.1	Flood
Pipe	FSR: 100 years: +40 %: 60 mins: Winter	Pipe	Cellular Storage	SW01	64.4	63.638	0.100	0.000	0.5	0.65	4.0	Surcharged

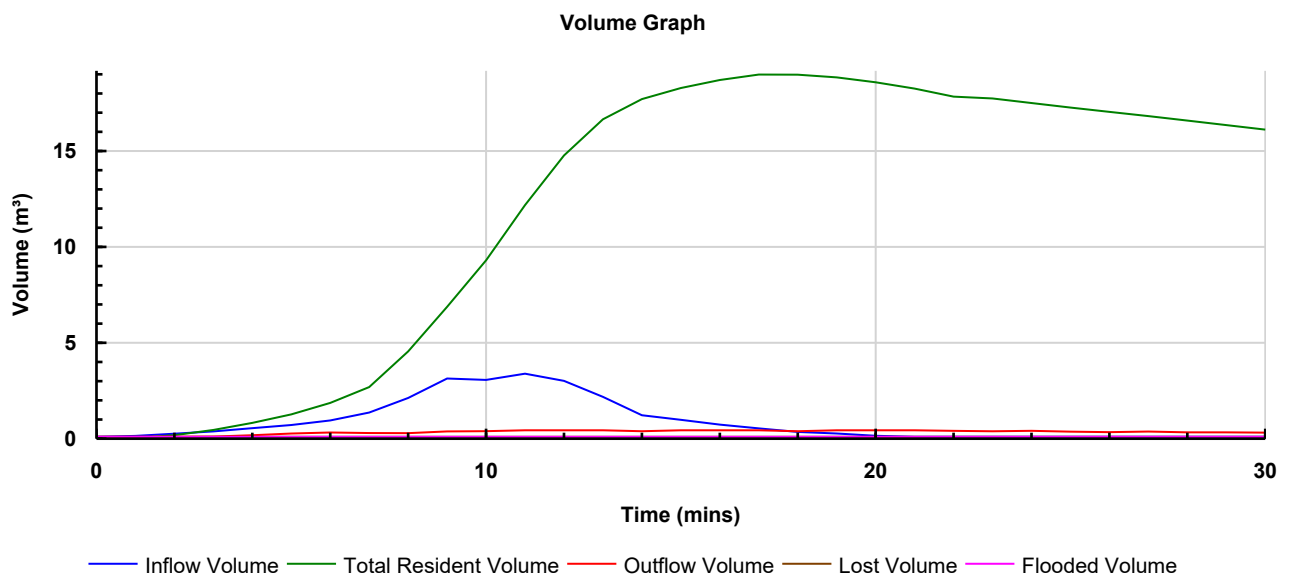
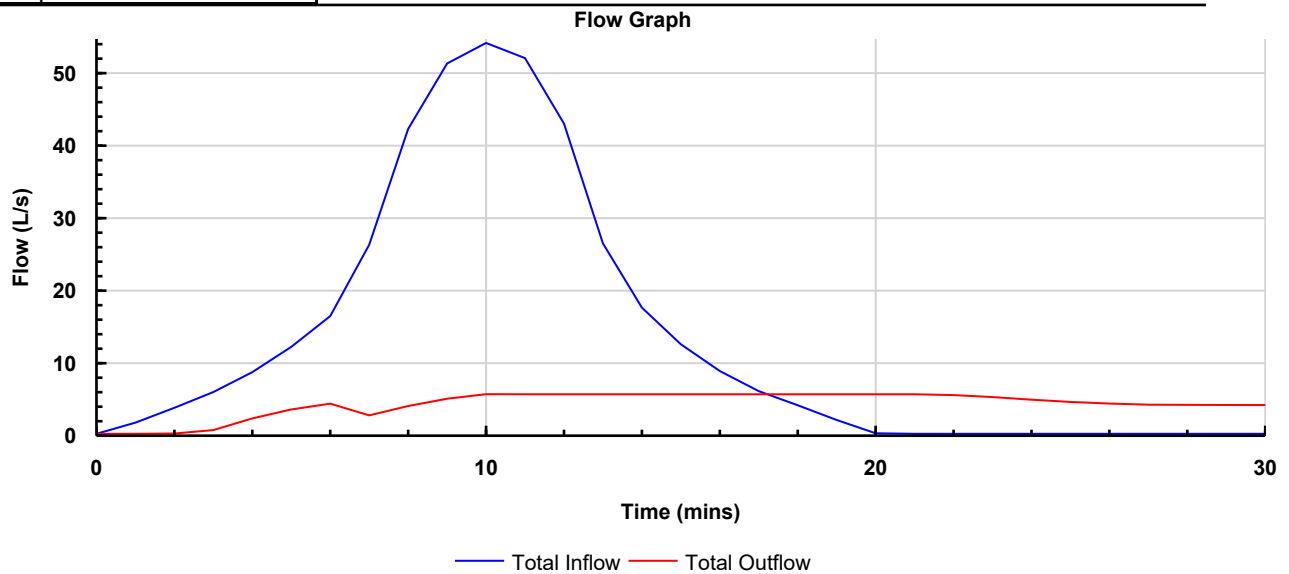
Project:	Date: 05/10/2022			
	Designed by: Tommypurdy	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Phase Management Storm Phase: Proposed SW				


Proposed SW
FSR: 100 years: Increase Rainfall (%): +40: 15 mins: Summer

Tables

Name	Max. Inflow (L/s)	Total Inflow Volume (m³)	Max. Outflow (L/s)	Total Outflow Volume (m³)
SWMH18			5.5	7.500
TOTAL	54.2	23.674	5.5	7.500

Graphs



Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details: Type: Inflow Results Storm Phase: Proposed SW	Tommypurdy			
	Company Address:			



Catchment Area
Critical Storm: FSR: 100 years: Increase Rainfall (%): +40: 15 mins: Winter

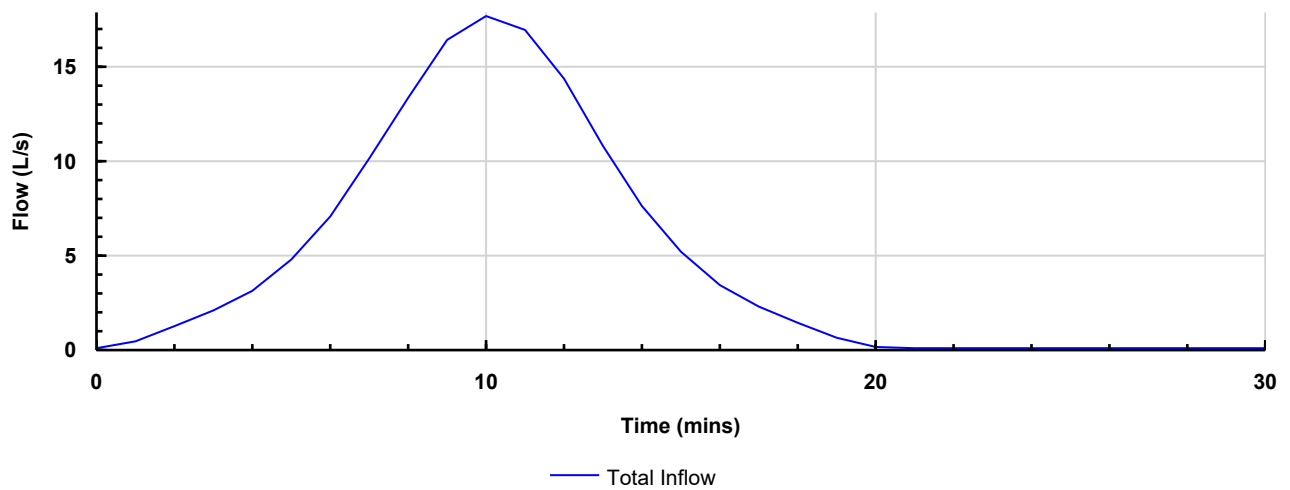
Type : Catchment Area

Inflow

Max. Inflow (L/s)	17.7
Total Inflow Volume (m³)	8.271

Graphs

Flow Graph



Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details: Type: Inflow Results Storm Phase: Proposed SW	Tommypurdy			
	Company Address:			



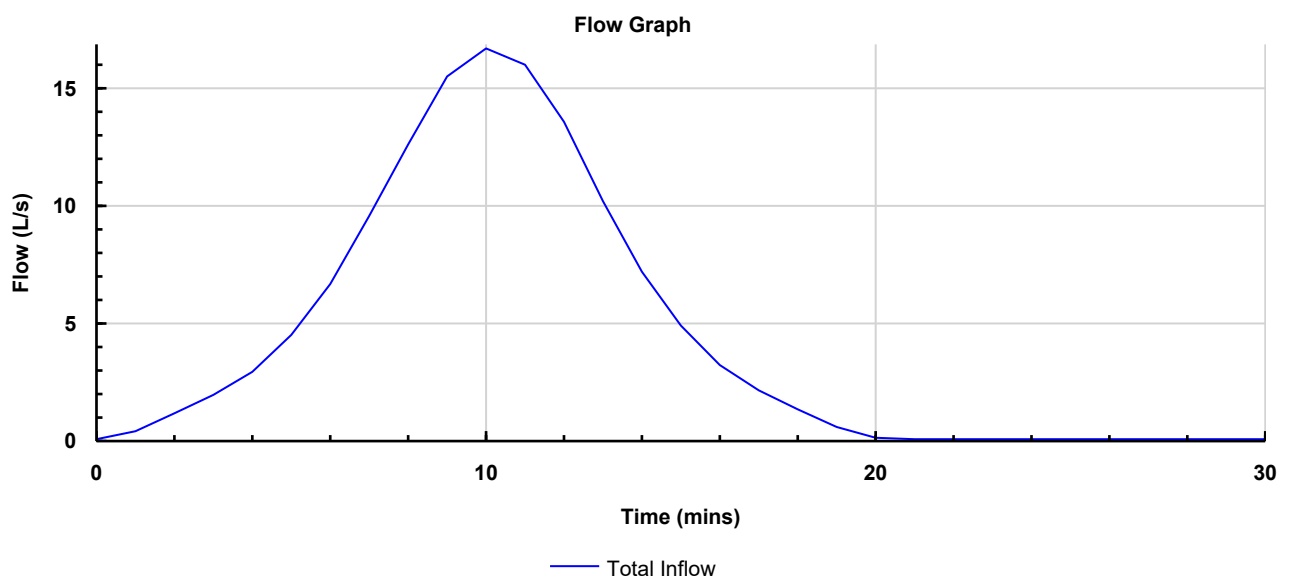
Catchment Area (1)
Critical Storm: FSR: 100 years: Increase Rainfall (%): +40: 15 mins: Winter

Type : Catchment Area

Inflow

Max. Inflow (L/s)	16.7
Total Inflow Volume (m³)	7.808

Graphs



Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details:	Tommypurdy			
Type: Inflow Results Storm Phase: Proposed SW	Company Address:			



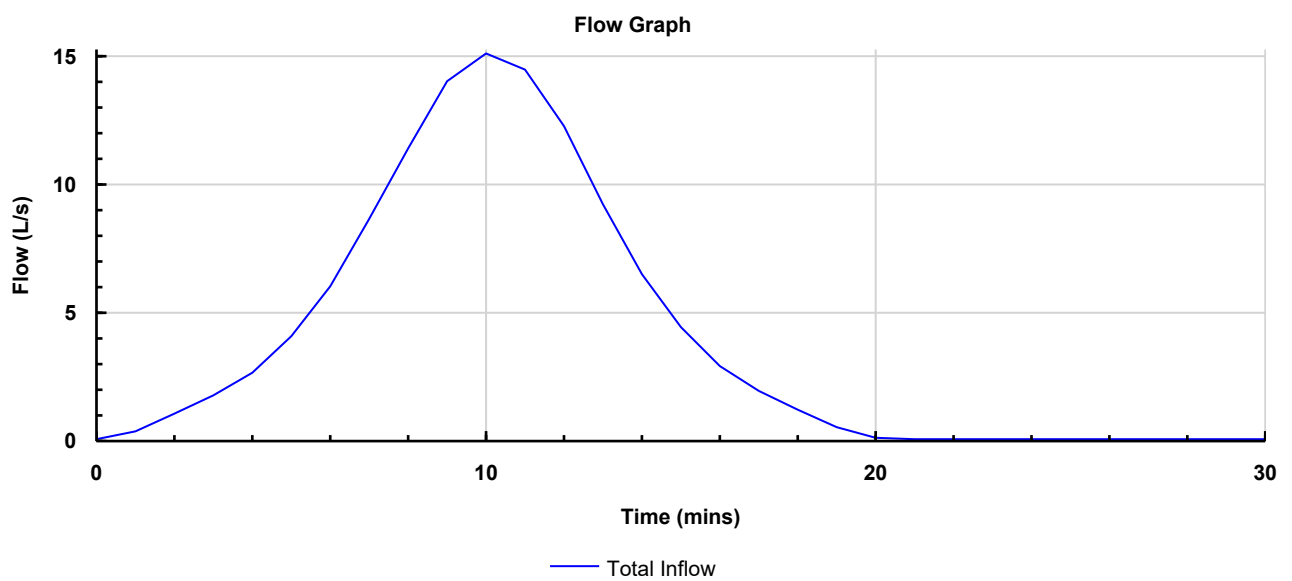
Catchment Area (2)
Critical Storm: FSR: 100 years: Increase Rainfall (%): +40: 15 mins: Winter

Type : Catchment Area

Inflow

Max. Inflow (L/s)	15.1
Total Inflow Volume (m³)	7.063

Graphs



Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details:	Tommypurdy			
Type: Inflow Results Storm Phase: Proposed SW	Company Address:			



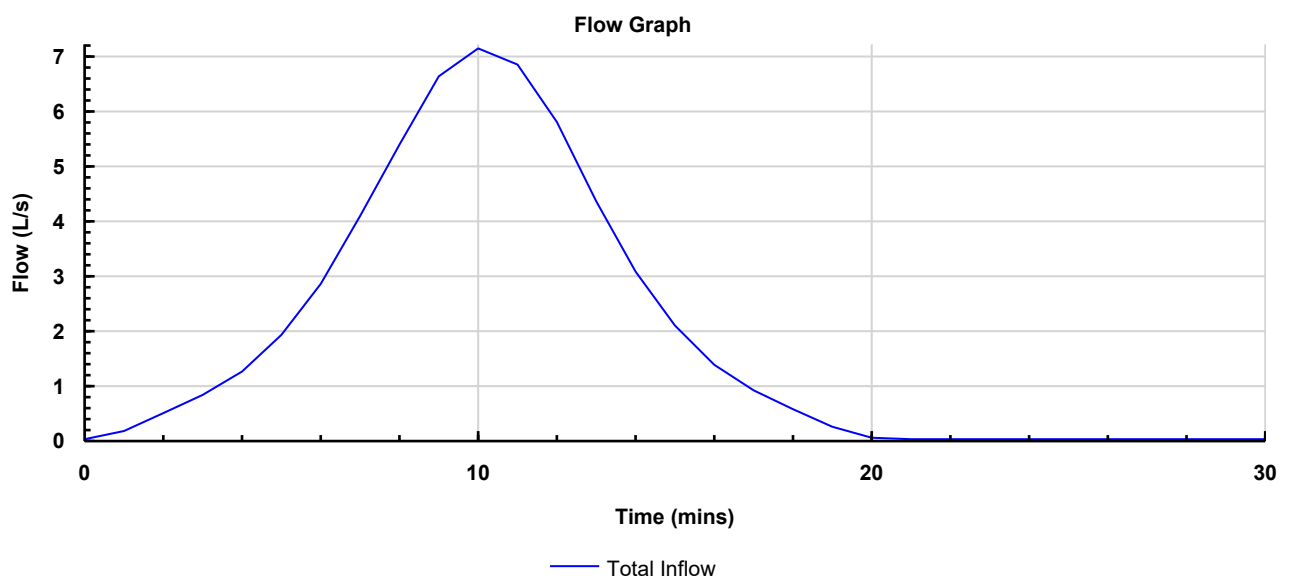
Catchment Area (3)
Critical Storm: FSR: 100 years: Increase Rainfall (%): +40: 15 mins: Winter

Type : Catchment Area

Inflow

Max. Inflow (L/s)	7.1
Total Inflow Volume (m³)	3.345

Graphs



Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details:	Tommypurdy			
Type: Junction Results Storm Phase: Proposed SW	Company Address:			

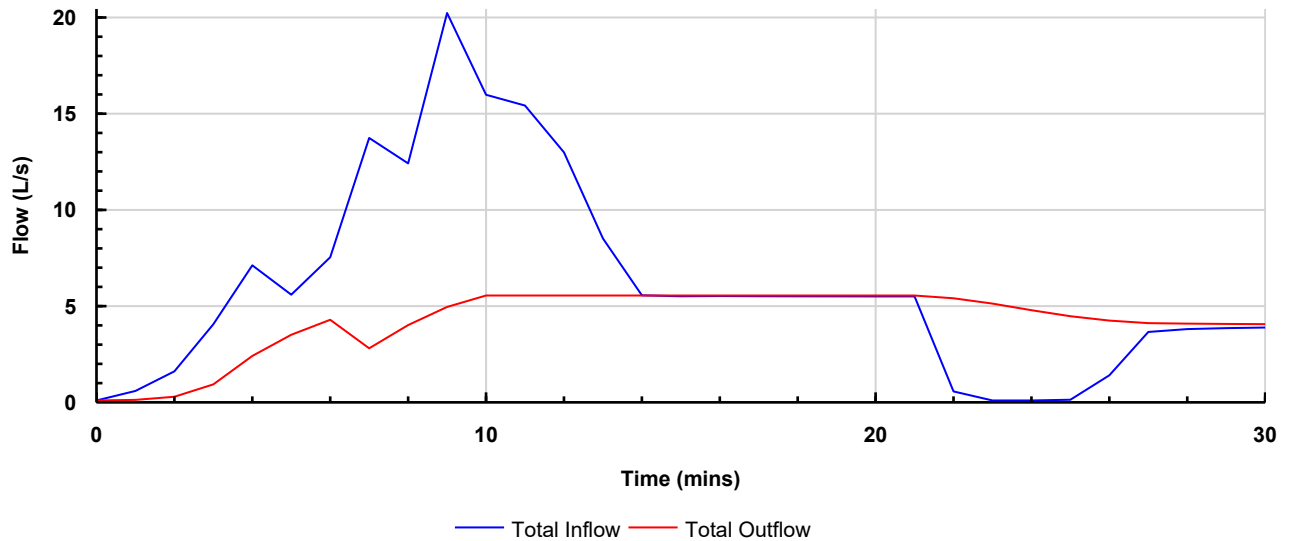


SW03
Critical Storm: FSR: 100 years: Increase Rainfall (%): +40: 15 mins: Summer

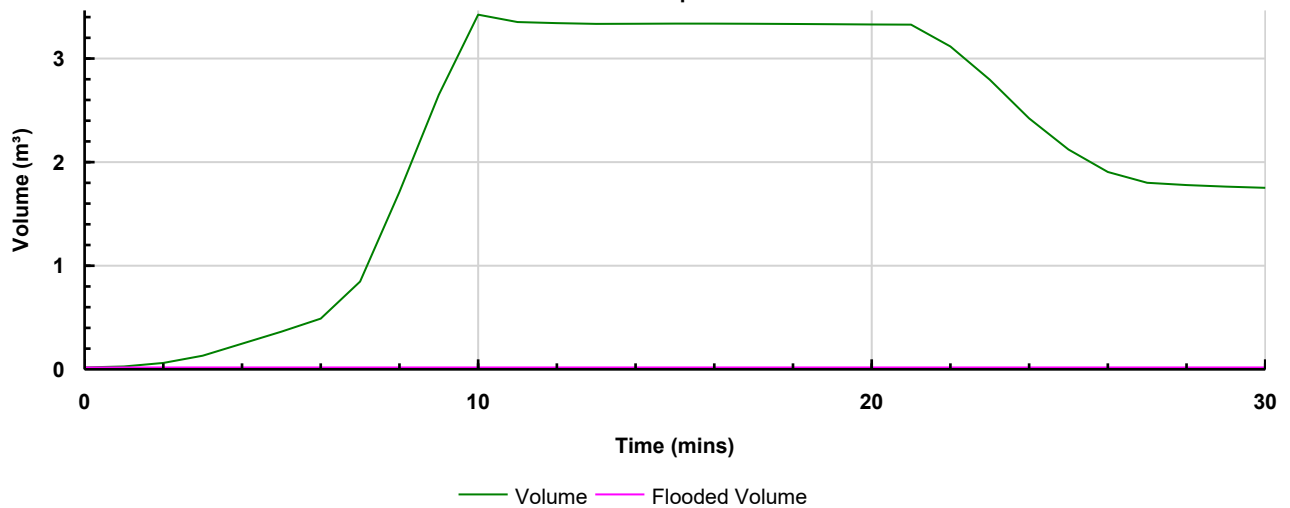
Type : Manhole

Graphs

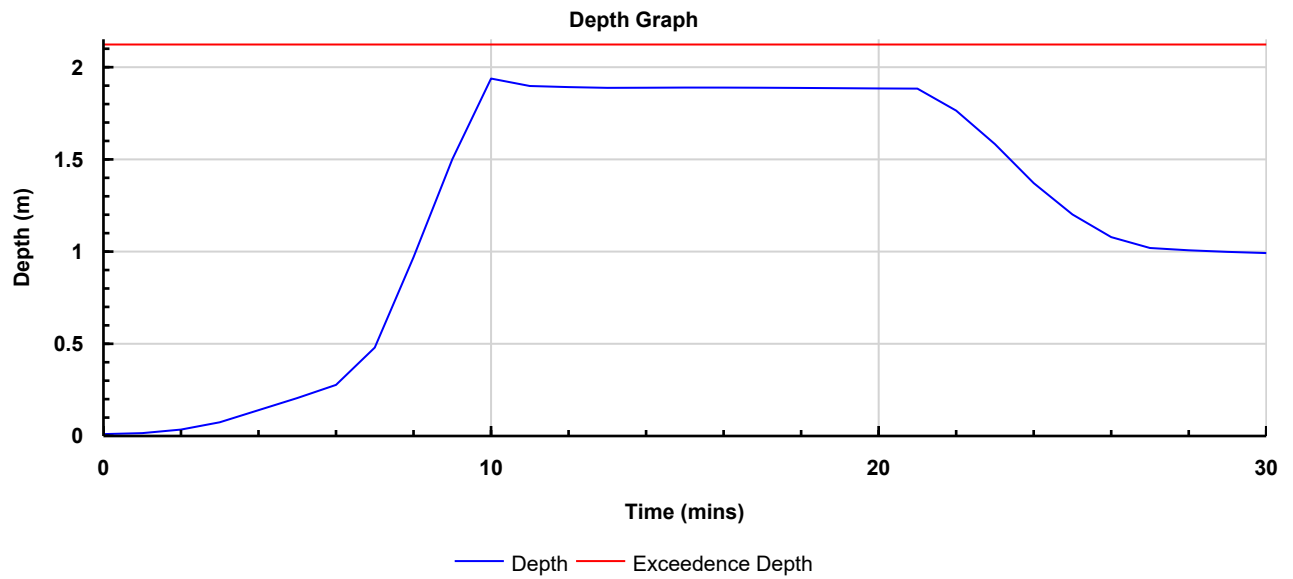
Flow Graph



Volume Graph



Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details:	Tommypurdy			
Type: Junction Results Storm Phase: Proposed SW	Company Address:			



Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details:	Tommypurdy			
Type: Junction Results Storm Phase: Proposed SW	Company Address:			



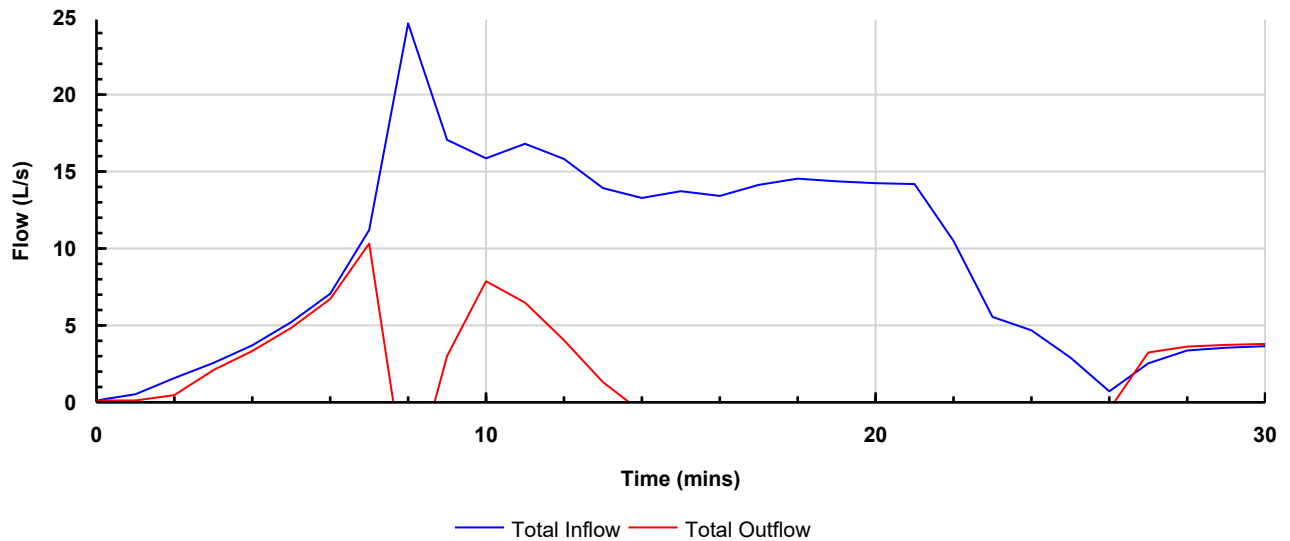
SW01

Critical Storm: FSR: 100 years: Increase Rainfall (%): +40: 15 mins: Summer

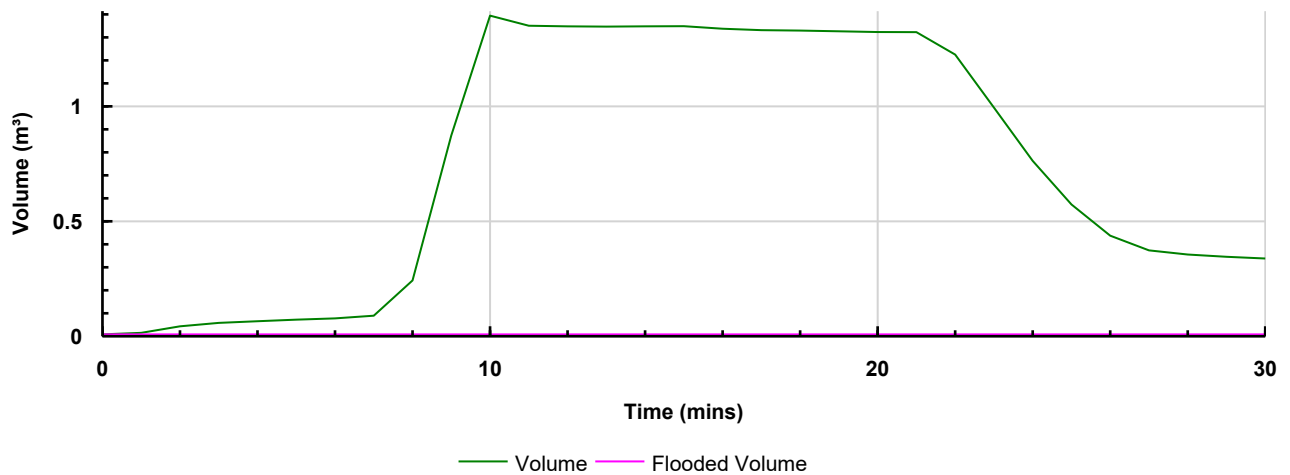
Type : Manhole

Graphs

Flow Graph

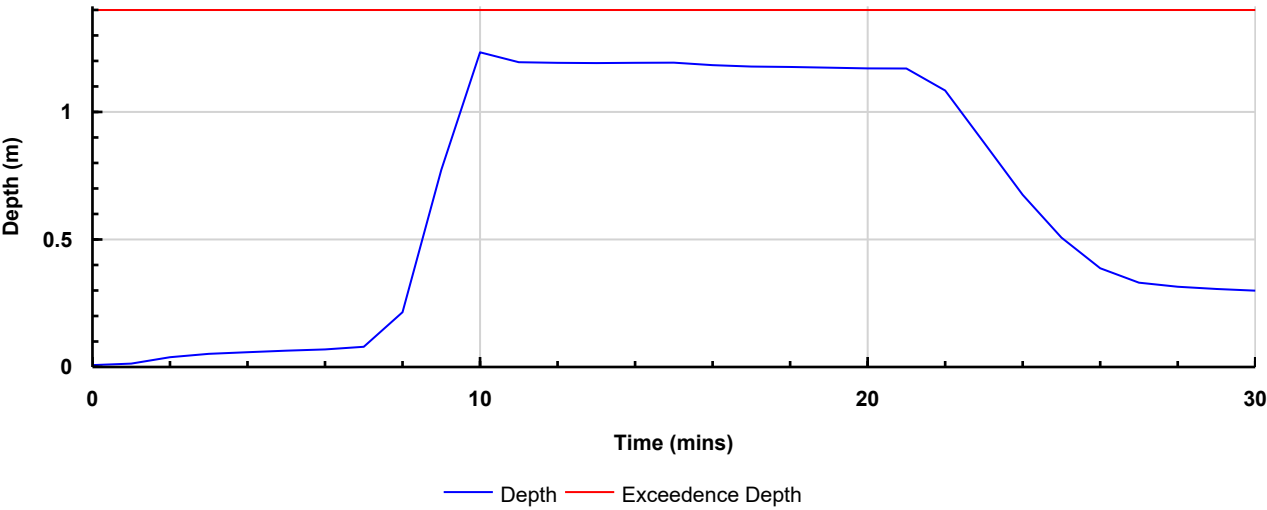


Volume Graph



Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details:	Tommypurdy			
Type: Junction Results Storm Phase: Proposed SW	Company Address:			

Depth Graph



Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details:	Tommypurdy			
Type: Junction Results Storm Phase: Proposed SW	Company Address:			



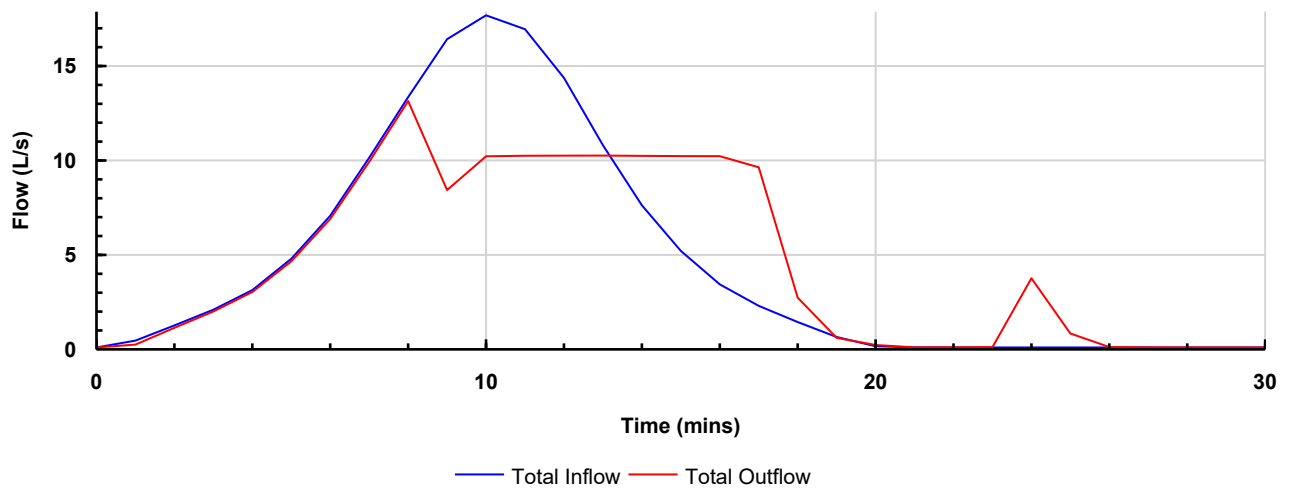
SWPPIC01

Critical Storm: FSR: 100 years: Increase Rainfall (%): +40: 15 mins: Winter

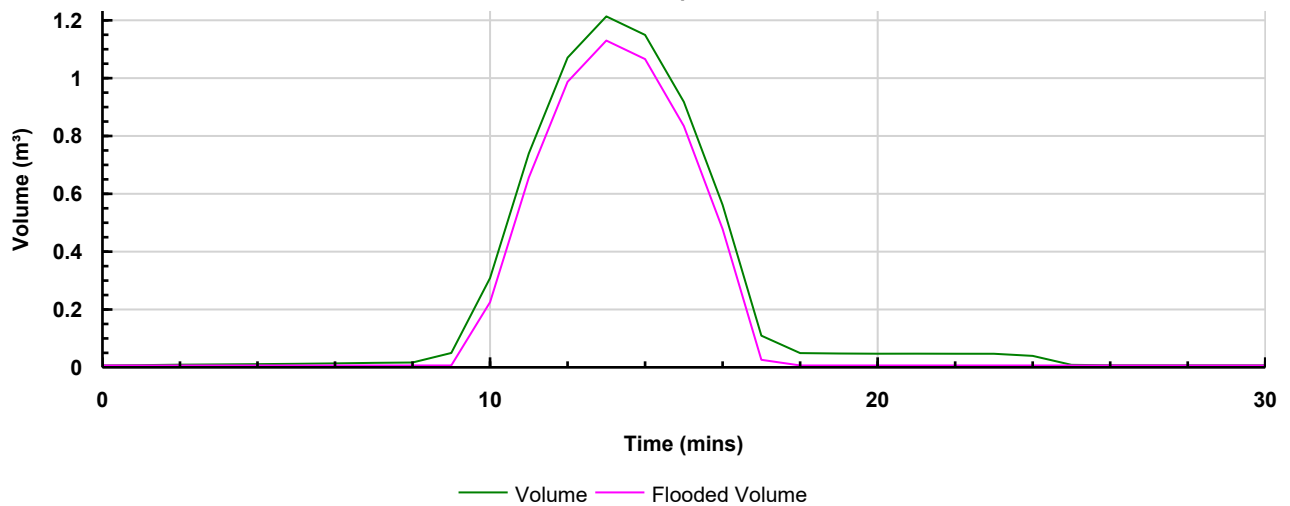
Type : Manhole

Graphs

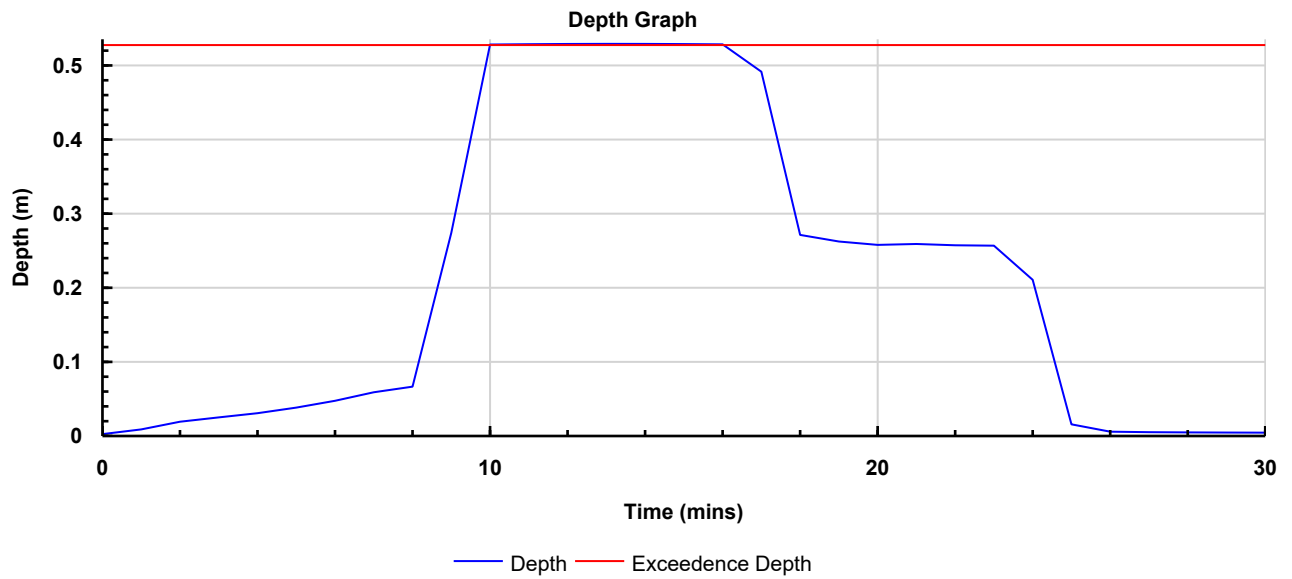
Flow Graph



Volume Graph



Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details:	Tommypurdy			
Type: Junction Results Storm Phase: Proposed SW	Company Address:			



Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details:	Tommypurdy			
Type: Junction Results Storm Phase: Proposed SW	Company Address:			

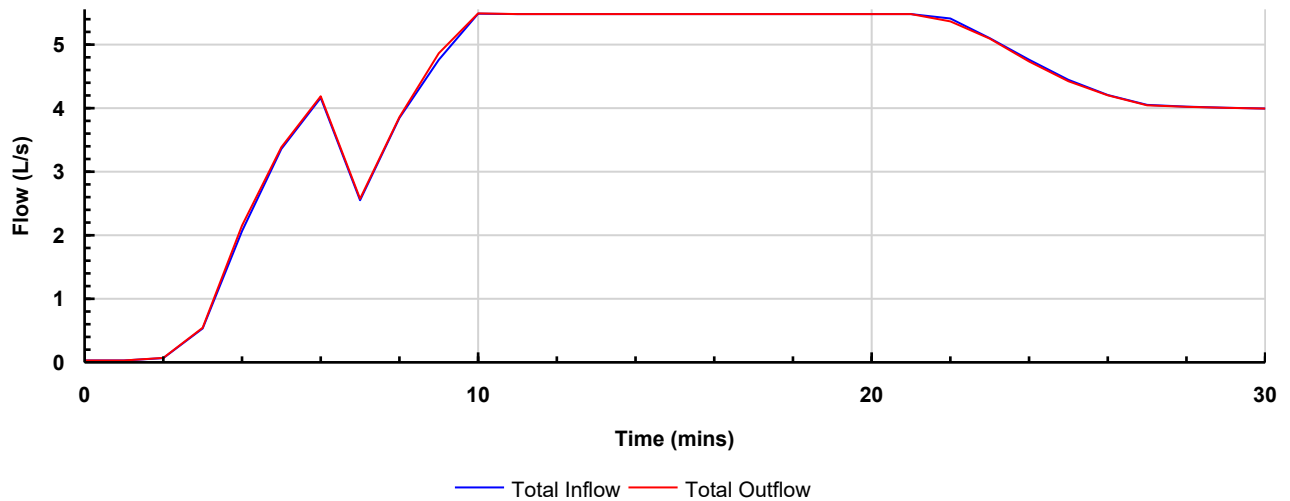


SWMH18
Critical Storm: FSR: 100 years: Increase Rainfall (%): +40: 15 mins: Summer

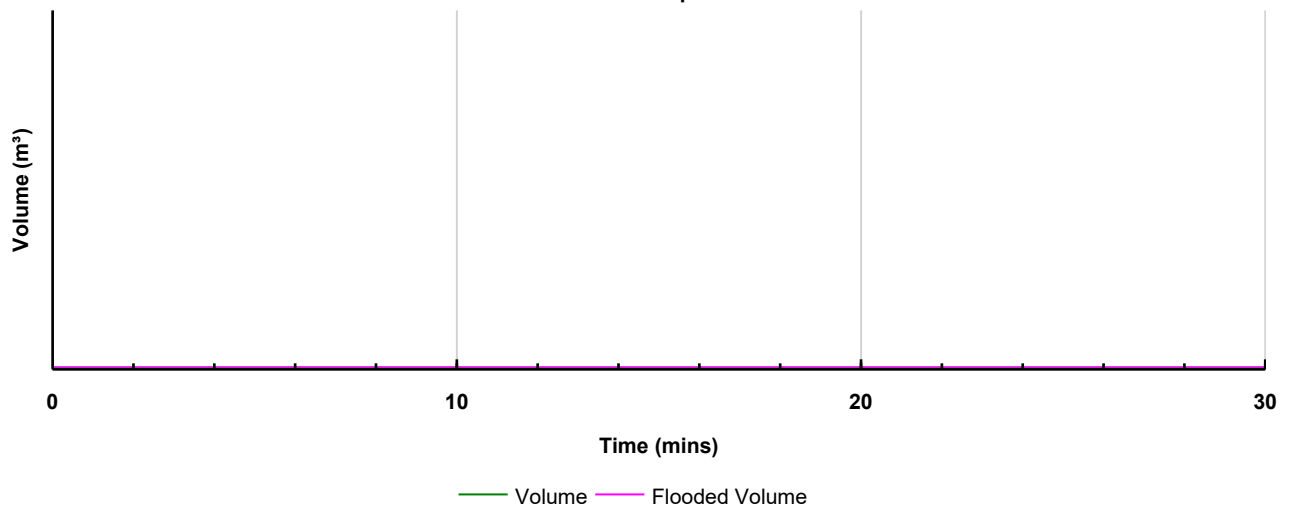
Type : Manhole

Graphs

Flow Graph

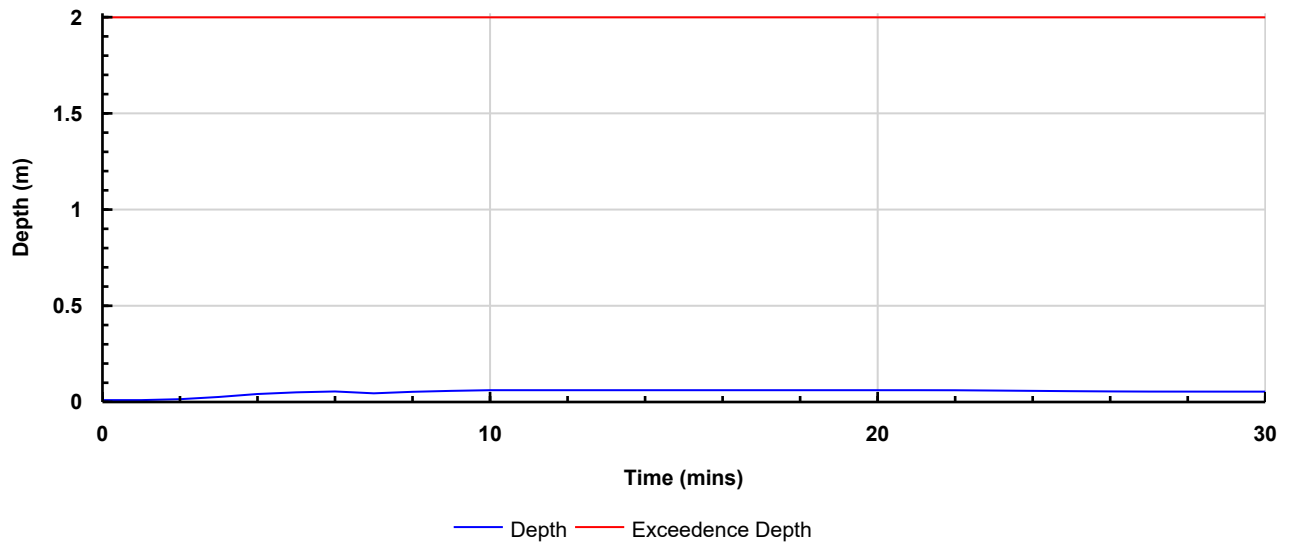


Volume Graph



Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details:	Tommypurdy			
Type: Junction Results Storm Phase: Proposed SW	Company Address:			

Depth Graph



Project:	Date: 05/10/2022		
	Designed by: Tommypurdy	Checked by:	Approved By:
Report Details:	Company Address:		
Type: Junction Results			
Storm Phase: Proposed SW			

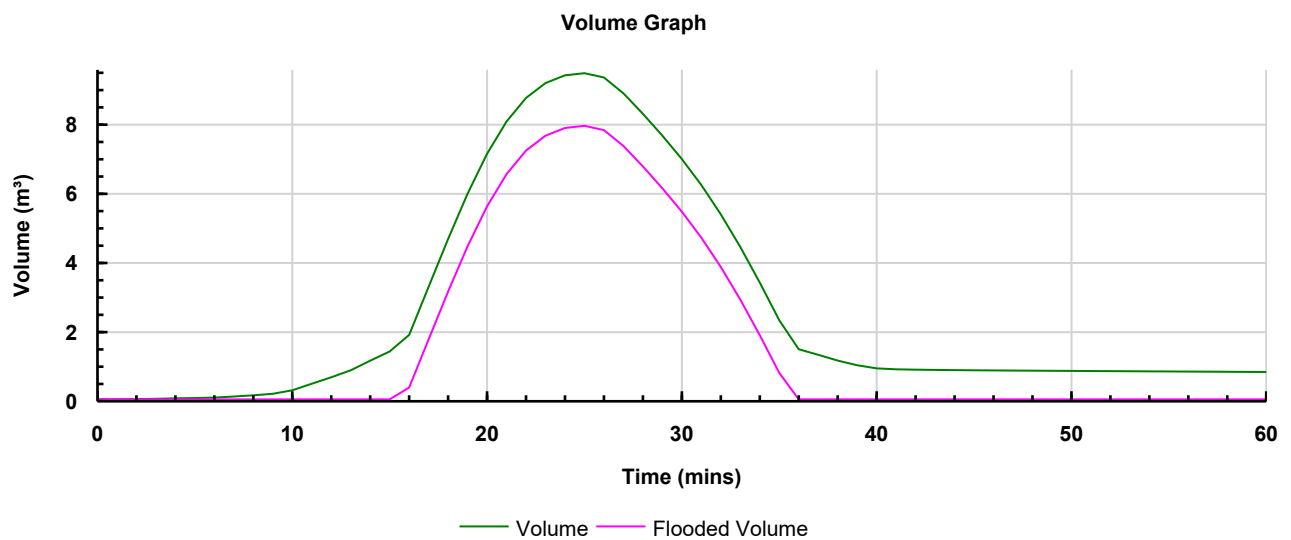
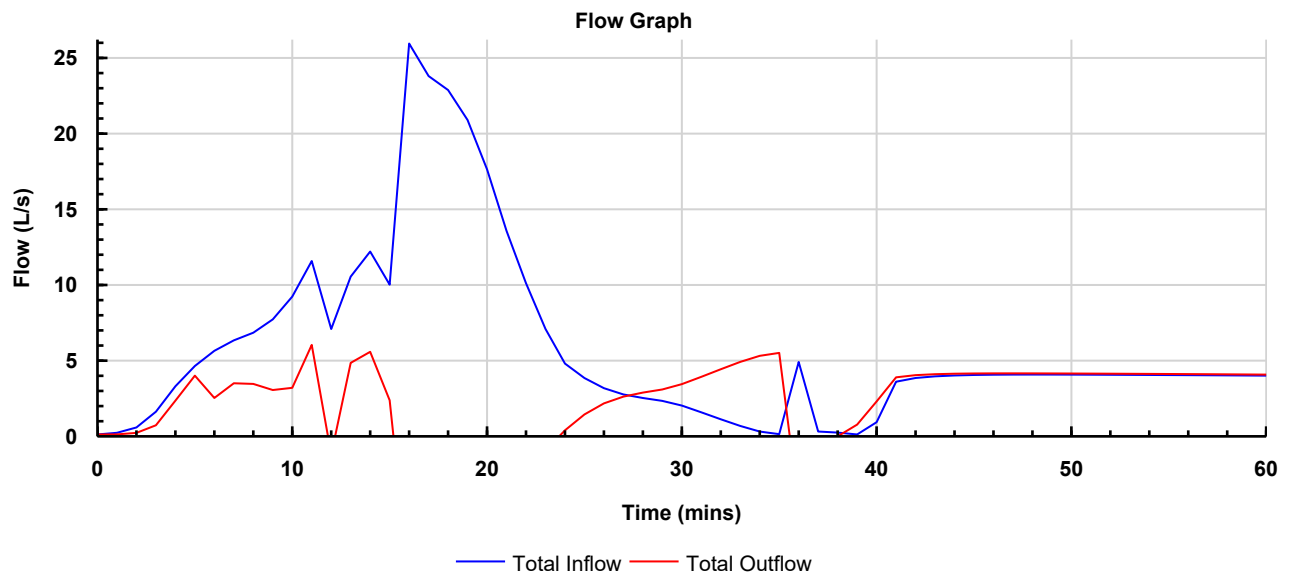


SW02

Critical Storm: FSR: 100 years: Increase Rainfall (%): +40: 30 mins: Winter

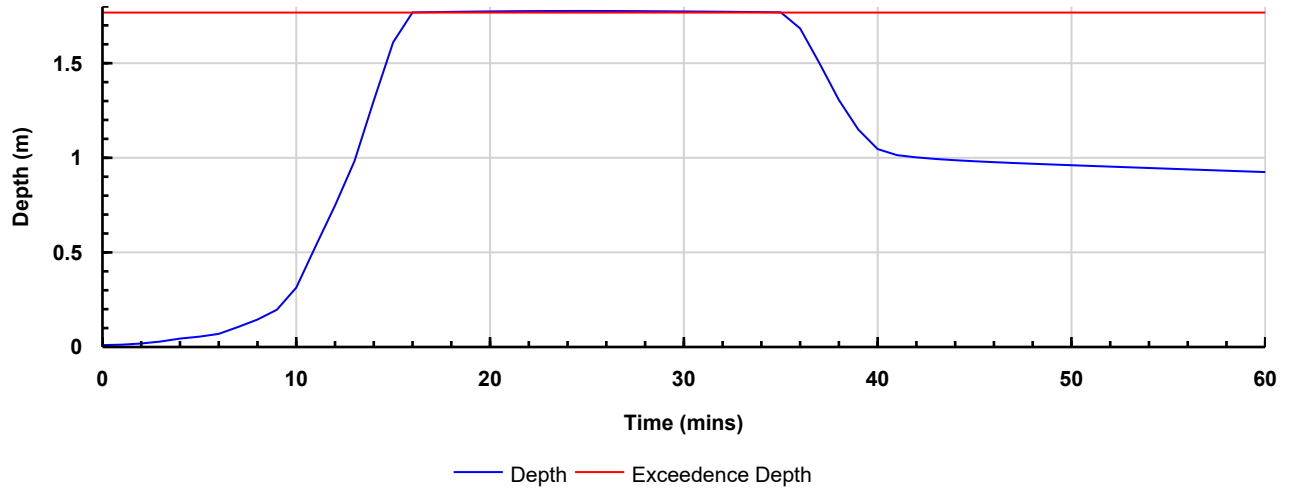
Type : Manhole

Graphs



Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details:	Tommypurdy			
Type: Junction Results Storm Phase: Proposed SW	Company Address:			

Depth Graph



Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details:	Tommypurdy			
Type: Stormwater Control Results Storm Phase: Proposed SW	Company Address:			



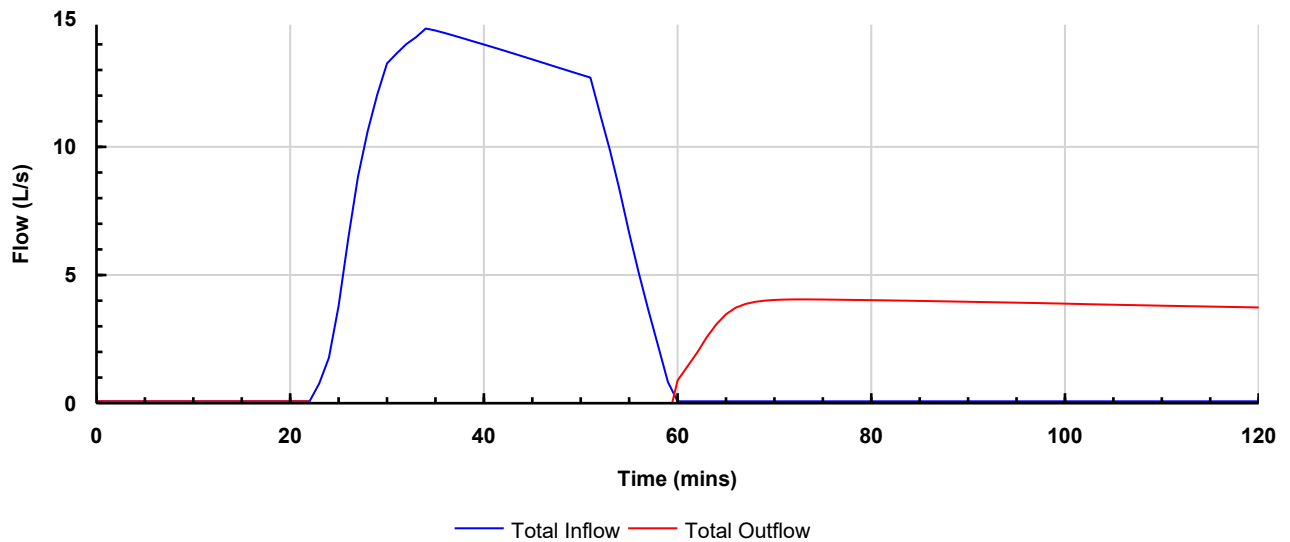
Cellular Storage

Critical Storm: FSR: 100 years: Increase Rainfall (%): +40: 60 mins: Winter

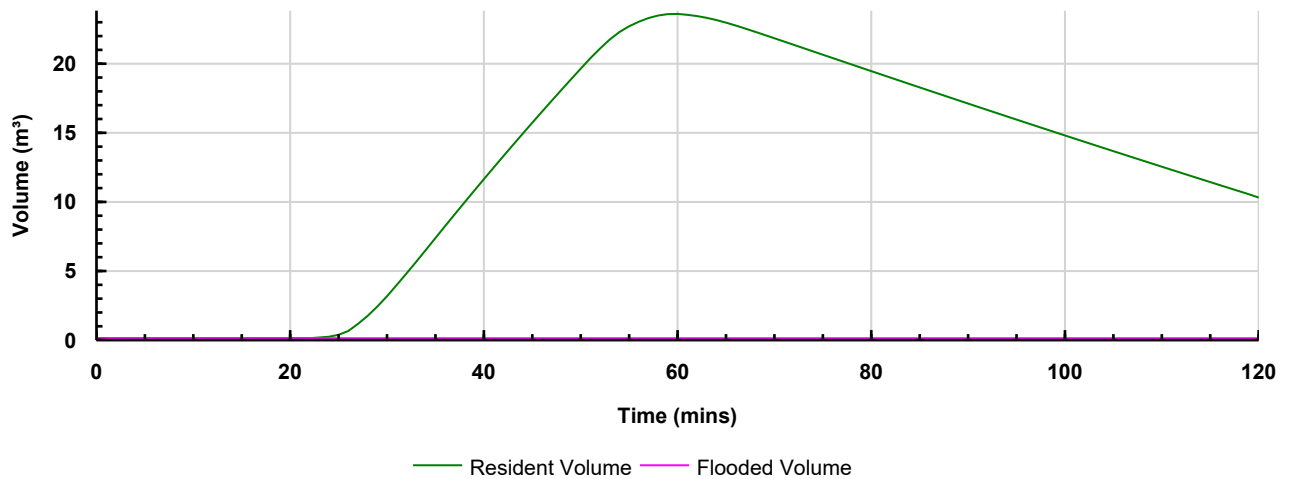
Type : Cellular Storage

Graphs

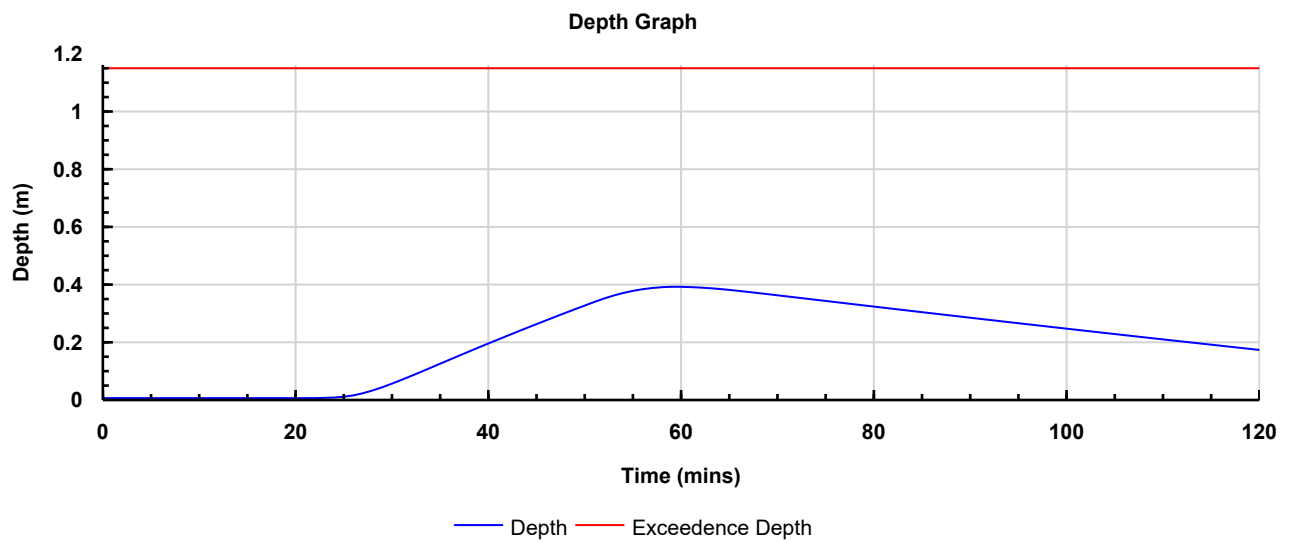
Flow Graph



Volume Graph



Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details: Type: Stormwater Control Results Storm Phase: Proposed SW	Tommy Purdy			
	Company Address:			



Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details:	Tommypurdy			
Type: Connection Results Storm Phase: Proposed SW	Company Address:			



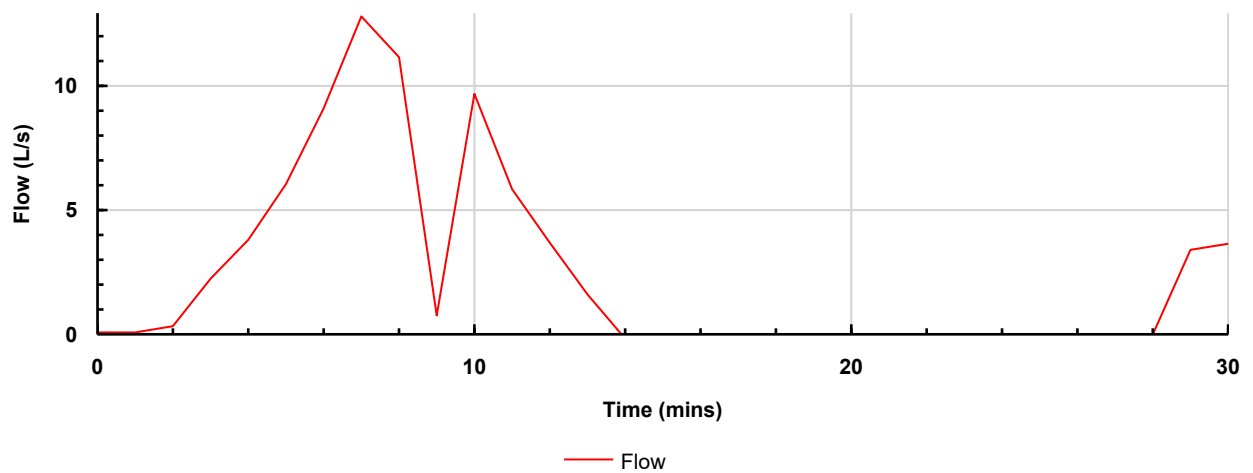
1.001

Critical Storm: FSR: 100 years: Increase Rainfall (%): +40: 15 mins: Winter

Type : Pipe

Graphs

Flow Graph



Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details:	Tommypurdy			
Type: Connection Results Storm Phase: Proposed SW	Company Address:			



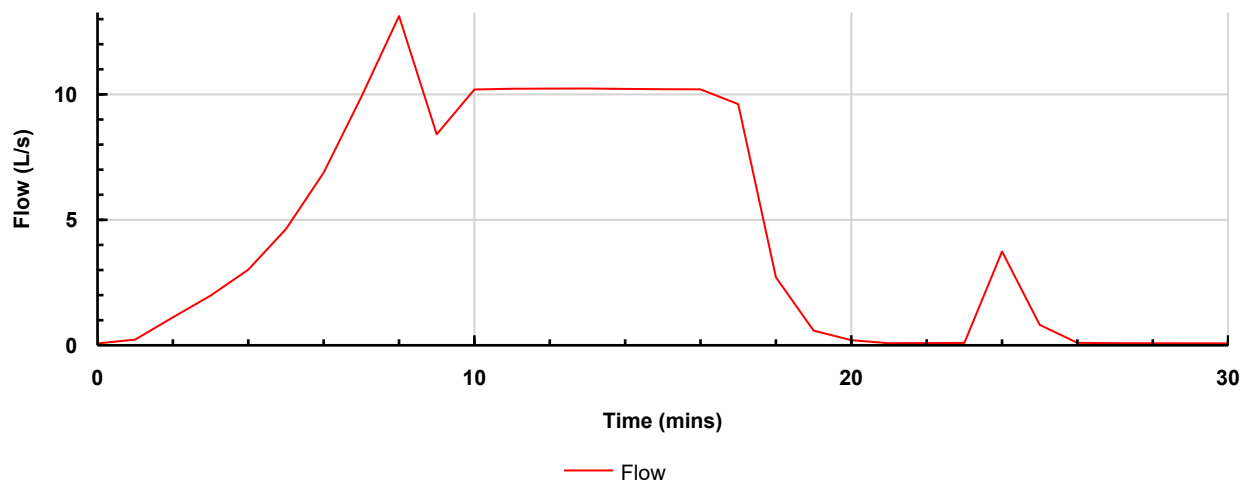
1.000

Critical Storm: FSR: 100 years: Increase Rainfall (%): +40: 15 mins: Winter

Type : Pipe

Graphs

Flow Graph



Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details:	Tommypurdy			
Type: Connection Results Storm Phase: Proposed SW	Company Address:			



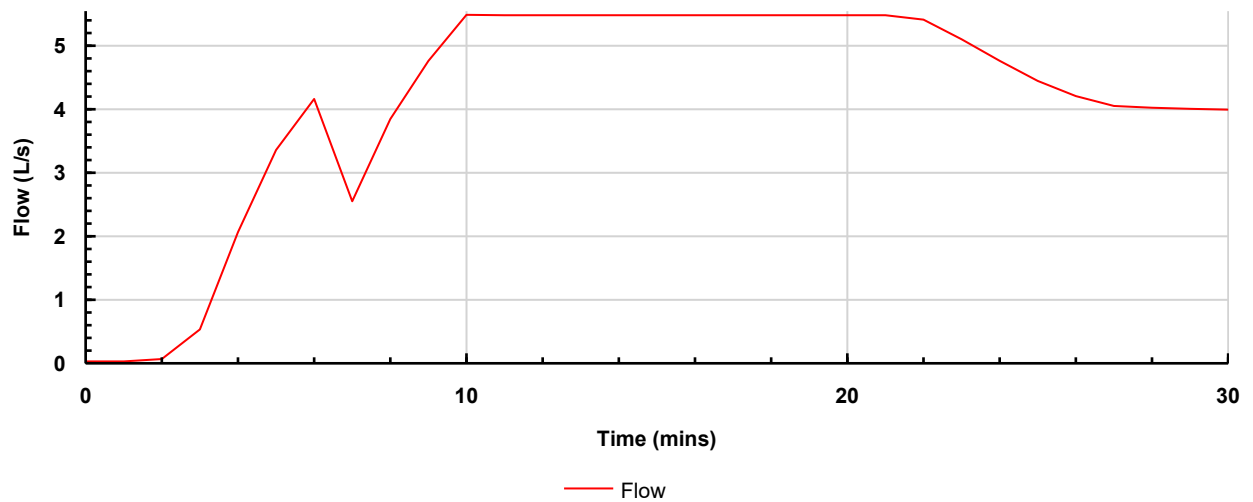
1.003

Critical Storm: FSR: 100 years: Increase Rainfall (%): +40: 15 mins: Summer

Type : Pipe

Graphs

Flow Graph



Project:	Date: 05/10/2022			
	Designed by:	Checked by:	Approved By:	
Report Details:	Tommypurdy			
Type: Connection Results Storm Phase: Proposed SW	Company Address:			

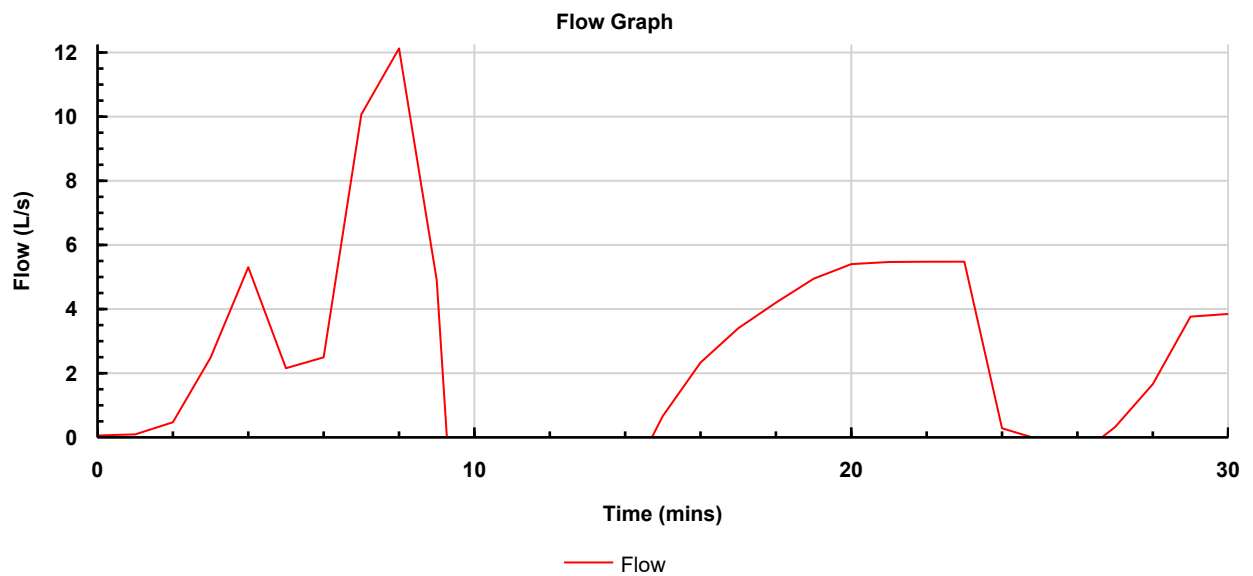


1.002

Critical Storm: FSR: 100 years: Increase Rainfall (%): +40: 15 mins: Winter

Type : Pipe

Graphs



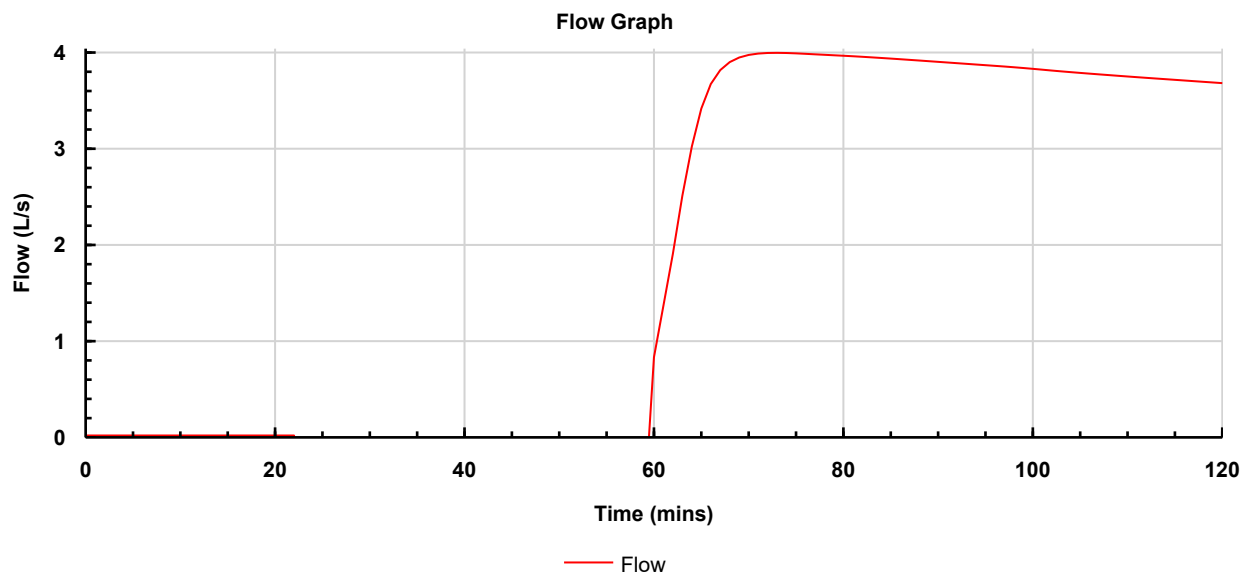
Project:	Date: 05/10/2022			
	Designed by: Tommypurdy	Checked by:	Approved By:	
Report Details:	Company Address:			
Type: Connection Results Storm Phase: Proposed SW				



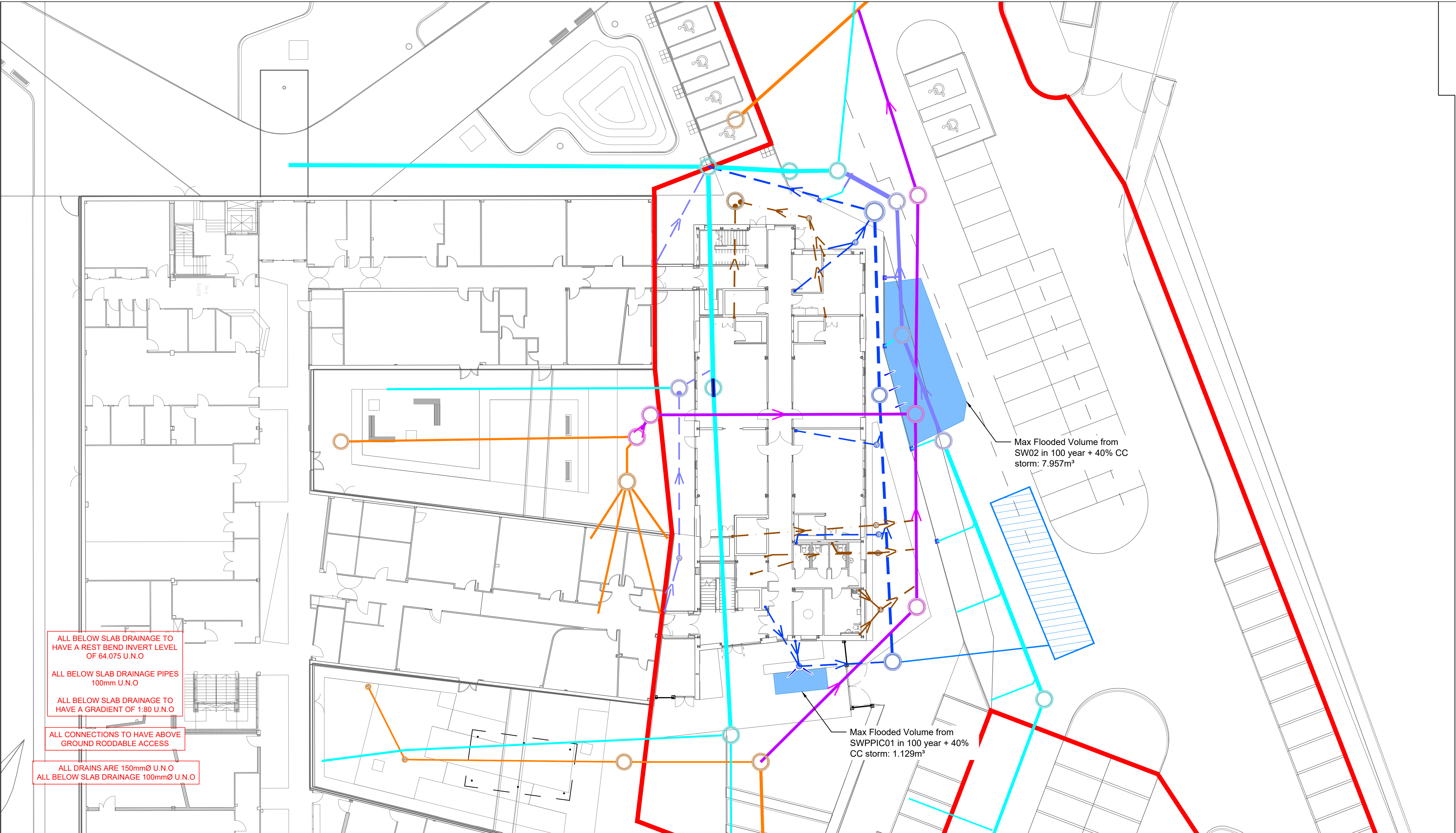
Pipe
Critical Storm: FSR: 100 years: Increase Rainfall (%): +40: 60 mins: Winter

Type : Pipe

Graphs



APPENDIX E – FLOOD EXCEEDANCE DRAWING



ALL BELOW SLAB DRAINAGE TO HAVE A REST BEND INVERT LEVEL OF 64.075 U.N.O

ALL BELOW SLAB DRAINAGE PIPES 100mm U.N.O

ALL BELOW SLAB DRAINAGE TO HAVE A GRADIENT OF 1:80 U.N.O

ALL CONNECTIONS TO HAVE ABOVE GROUND RODDABLE ACCESS

ALL DRAINS ARE 150mmØ U.N.O

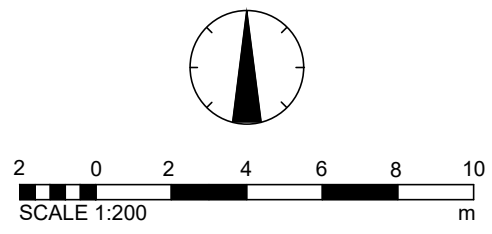
ALL BELOW SLAB DRAINAGE 100mmØ U.N.O

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DRAWING NOTES:

CDM REGULATIONS 2015
SIGNIFICANT OR NON-OBVIOUS RISKS AND RISKS WHICH ARE DIFFICULT TO MANAGE ARE IDENTIFIED ON THIS DRAWING USING THE FOLLOWING SYMBOL IDENTIFIED TO THE RIGHT WITH BRIEF ACCOMPANYING TEXT. FOR FURTHER DETAILS OF THE RISKS IDENTIFIED BY DESIGNERS, REFERENCE SHOULD BE MADE TO CDM HAZARD REGISTER.



C01	CONSTRUCTION ISSUE	11.10.22	TP	PB
REV	DESCRIPTION	DATE	BY	CHKD

ORIGINATOR:

5TH FLOOR
BELVEDERE HOUSE
12 BOOTH STREET
MANCHESTER, M2 4AW

TEL: 0161 833 9579
WWW.RIDGE.CO.UK

DRAINAGE NOTES

- THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT AND DIVERSION WORKS AS NECESSARY, TO ALL EXISTING SERVICES TO THE SATISFACTION OF THE PUBLIC UTILITIES.
 - THE CONTRACTOR SHALL ALLOW FOR DEALING WITH SURFACE WATER RUN-OFF INTO EXCAVATIONS AND FROM GROUNDWATER BY MEANS OF SUMPS, PUMPING AND DE-WATERING AS APPROPRIATE, IN ORDER TO KEEP THE EXCAVATION AS REASONABLY DRY AS POSSIBLE DURING THE CONSTRUCTION OF THE WORKS.
 - ALL PRIVATE DRAINAGE WITHIN THE SITE IS TO COMPLY WITH THE REQUIREMENTS OF BSEN752 AND BUILDING REGULATIONS PART H. WHERE APPROPRIATE, ALL ADOPTED DRAINAGE SHALL BE DESIGN AND CONSTRUCTED IN ACCORDANCE WITH SEWERS FOR ADOPTION 8th EDITION AND THE ADOPTING AUTHORITIES STANDARD REQUIREMENTS.
 - ALL PRIVATE DRAINAGE PIPES TO BE LAID IN TRENCHES BEDDED CLASS 'B' ON SINGLE SIZED AGGREGATE AND BACKFILLED WITH APPROVED SELECTED FILL (40mm DOWN) REUSED FROM EXCAVATED MATERIAL. UNDER BUILDINGS AND WHERE COVER TO INVERT IS LESS THAN 1200mm UNDER TRAFFICKED AREAS PIPES TO BE CAST IN CONCRETE (CLASS Z BEDDING). CLASS 'S' BED AND SURROUND MAY BE REQUIRED FOR SEWERS TO BE ADOPTED. REFER TO SPECIFIC DRAWINGS FOR FURTHER INFORMATION.
 - SELECTED BACKFILL MATERIAL SHALL CONSIST OF UNIFORM EXCAVATED MATERIAL, FREE FROM STONES LARGER THAN 40mm, CLAY LUMPS LARGER THAN 75mm, TREE ROOTS, CONTAMINATED MATERIAL. SELECTED BACKFILL MATERIAL IS TO BE PLACED IN LAYERS NOT EXCEEDING 150mm THICKNESS. THE MATERIAL SHALL BE COMPACTED TO
- ACHIEVE NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED IN LABORATORY COMPACTION TESTS. SUFFICIENT TESTING SHALL BE CARRIED OUT, BY THE CONTRACTOR, TO DEMONSTRATE THIS IS ACHIEVED (NUMBER 12 AND FREQUENCY OF TESTING TO BE AGREED WITH SHD). WHERE THE MOISTURE CONTENT OF THE MATERIAL PROHIBITS COMPLIANCE WITH THE ABOVE 6F1 OR SIMILAR IMPORTED MATERIAL SHALL BE USED.
- CONCRETE PROTECTION TO PIPEWORK IS TO BE PROVIDED AS FOLLOWS:
- ALL PIPEWORK WITHIN PEDESTRIAN/SOFT AREAS WITH LESS THAN 600mm COVER
 - ALL PIPEWORK SUBJECT TO VEHICULAR OVERRUN WITH LESS THAN 1.2m COVER.
- ALL PIPEWORK WITHIN MANHOLES ARE TO BE LAID SOFFIT TO SOFFIT (U.N.O). ALL CHAMBER INVERT LEVELS ARE FOR THE OUTGOING PIPE LEVELS. BACKDROP PIPEWORK SHALL BE CONNECTED AT SOFFIT TO SOFFIT WITH THE RODDING ACCESS LEVEL SPECIFIED.
- ALL DRAINS TO BE LAID ACCURATELY TO LINE AND LEVEL IN STRICT ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
- ANY GRADIENTS OF DRAINS INDICATED ARE INDICATIVE ONLY AND THE CONTRACTOR SHALL INSTALL THE DRAINS TO THE SPECIFIED LEVELS SHOWN FOR EACH MANHOLE (U.N.O). CATCHPIT INVERT LEVELS ARE FOR THE OUTGOING PIPE WITH THE SUMP LEVEL SPECIFIED SEPARATELY.
- CO-ORDINATE SETTING OUT INFORMATION FOR MANHOLES IS TO THE INTERSECTION OF THE DRAINS AND NOT THE CENTRE OF THE MANHOLE.
- COVER LEVELS OF THE MANHOLES ARE PROVISIONAL AND SUBJECT TO ADJUSTMENT ON SITE TO SUIT THE FINISHED

- GROUND LEVELS. ALL EXTERNAL WORKS CONSTRUCTION AREAS TO BE AS LOCATED BY THE ARCHITECT.
- MANHOLE COVERS AND FRAMES ARE TO BE IN ACCORDANCE WITH BSEN124 AND THE FOLLOWING:
- VEHICULAR AREAS: CLASS D400 (E600 IN VULNERABLE SE'RVICE YARD LOCATIONS), DOUBLE TRIANGULAR, 150mm DEEP DUCTILE IRON COVER AND FRAME WITH THREE POINT COVER SEATING, BADGED FW OR SW FOR FOUL OR SURFACE WATER DRAINAGE.
 - PEDESTRIAN AREAS: CLASS B125, 100mm DEEP, BADGED FW OR SW FOR FOUL OR SURFACE WATER DRAINAGE.
- POSITIONS AND SIZES OF ABOVE GROUND FOUL AND SURFACE WATER DRAINAGE CONNECTIONS ARE TO BE CONFIRMED PRIOR TO CONSTRUCTION WITH THE ARCHITECT & M&E ENGINEER.
- GULLY GRATINGS AND STEEL CHANNEL COVERS ARE TO BE IN ACCORDANCE WITH BSEN124 AS FOLLOWS:
- AREAS SUBJECT TO VEHICULAR OVERRUN: CLASS D400 MINIMUM.
 - AREAS NOT SUBJECT TO REGULAR VEHICLE OVERRUN (ADJACENT TO KERBS ETC): CLASS C250.
 - GULLY GRATINGS ADJACENT TO KERBS SHALL BE HINGED ON THE SIDE OF THE TRAFFIC DIRECTION (LEFT HAND SIDE).
- ALL BRICKWORK IN CONNECTION WITH DRAINAGE IS TO BE SOLID CLASS B ENGINEERING BRICK TO BS3921.
- ALL PRECAST CONCRETE PIPES, CHAMBER PRODUCTS AND ROAD GULLIES SHALL BE TO BS5911 AND BE KITEMARKED.
- ALL INSITU AND CONCRETE PRODUCTS SHALL COMPLY WITH THE REQUIREMENTS FOR SULPHATE EXPOSURE IN ACCORDANCE WITH BRE SPECIAL DIGEST 1, CONCRETE IN

- AGGRESSIVE GROUND (2001) PART 1: TABLE 2.
- UPON COMPLETION OF THE WORKS THE CONTRACTOR SHALL CLEAN ALL DRAINAGE BY JETTING, REMOVING ALL DEBRIS FROM SITE. NO DEBRIS SHALL BE PERMITTED TO ENTER THE EXISTING DRAINAGE SYSTEM.
- CONSTRUCTION JOINTS IN CONCRETE SURROUND MUST NOT BE WITHIN 150MM OF CHAMBER/SHAFT RING JOINTS.
- ROCKER PIPES TO BE SURROUNDED WITH CONCRETE LOCATED 150mm MINIMUM 200mm MAXIMUM FROM THE FIRST FLEXIBLE JOINT TO THE MANHOLE WALL.
- SOFT SPOTS IN THE TRENCH FORMATION SHALL BE REMOVED AND REPLACED WITH GRANULAR BEDDING UNLESS INSTRUCTED OTHERWISE.
- LATERAL CONNECTIONS IN BETWEEN MANHOLE RUNS SHALL BE FORMED BY USING PURPOSE MADE JUNCTION FITTINGS. BEND FITTINGS SHALL BE PROVIDED WHERE APPROPRIATE TO DIRECT THE FLOW INTO MAIN RUNS.
- IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LIAISE WITH BUILDING CONTROL FOR APPROVALS, INTERIM INSPECTION, SNAGGING AND FINAL INSPECTIONS OF THEIR WORK.
- THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL EXISTING STATUTORY UNDERTAKERS APPARATUS AND SERVICE CONNECTIONS ADJACENT TO AND CROSSING THE WORKS BY TRIAL PITS PRIOR TO COMMENCING MACHINE DIG.
- AT THE CONCLUSION OF THE WORKS THE CONTRACTOR SHALL PROVIDE A MARKED UP DRAWING TO RECORD ANY AS BUILT VARIATIONS NOT SHOWN ON THE DRAWINGS.
- THE DRAINAGE SYSTEM IS NOT DESIGNED TO ACCEPT

- UNTREATED EFFLUENT FROM A COMMERCIAL KITCHEN CONTAINING GREASE AND OILS. REMOVAL OF GREASE AND OIL SHOULD BE MADE AT SOURCE USING A FLOOR MOUNTED ABOVE GROUND GREASE REMOVAL SYSTEM. IT IS RECOMMENDED THAT A MECHANICAL GREASE REMOVAL SYSTEM BE EMPLOYED FOR THIS PURPOSE NOT A PASSIVE SYSTEM.
- PIPEWORK TO BE OF THE FOLLOWING MANUFACTURER: 100 / 150 / 225MM DIAMETER HEPWORTH SUPERSLEEVE VITRIFIED CLAY PIPES (40kN/mmm CRUSHING STRENGTH), 300mm + TO BE CONCRETE CLASS M. ALTERNATIVELY 'POLYSEWER' UPVC DRAINAGE SYSTEM BY POLYPIPE WHEN INSTALLED IN LINE WITH THE MANUFACTURERS RECOMMENDATIONS. FILTER DRAINAGE TO BE PERFORATED HDPE.
- ALL RWP, WPC & GULLY CONNECTIONS TO BE 100mm DIA UNO & ARE RODDABLE AT LOCATIONS ABOVE GROUND LEVEL.
- ALL INSPECTION CHAMBERS WITH A DEPTH GREATER THAN 1.2m TO HAVE A 350mm DIAMETER REDUCING PLATE LOCATED BENEATH COVER AND FRAME TO PREVENT ACCESS.

KEY

- EXISTING SW SEWER
- EXISTING FW SEWER
- PROPOSED SW IC
- PROPOSED SW SEWER
- PROPOSED FW IC
- PROPOSED DIVERTED SW SEWER
- PROPOSED DIVERTED SW MH
- PROPOSED DIVERTED FW SEWER
- PROPOSED DIVERTED FW MH
- PROPOSED GULLY
- PROPOSED BACKDROP
- FLOOD EXCEEDANCE ROUTE