

GENERAL NOTES:

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2. THIS DRAWING MUST NOT BE SCALED BY EITHER CONTRACTORS OR OTHER CONSULTANTS ANY DIMENSIONAL OR SETTING - OUT DISCREPANCIES ARE TO BE REPORTED TO BELL MUNRO CONSULTING PRIOR TO CONSTRUCTION / FABRICATION COMMENCING.

3. THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE RELEVANT PRC SPECIFICATIONS TOGETHER WITH THE APPROPRIATE ARCHITECTS AND SERVICES CONSULTANTS DRAWINGS AND SPECIFICATIONS.

4. TEMPORARY STABILITY DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE MAIN CONTRACTOR AND SHOULD BE ASSESSED ACCORDINGLY.

DRAINAGE NOTES

1. EXACT SUMP AND GULLY LOCATIONS TO BE CONFIRMED FROM SERVICES ENGINEERS' / ARCHITECTS DRAWINGS AND DETAILS.

2. ALL NEW PREWORK TO BE MAINS OSHAIRAIN OR WAPIN ULTRARAP UPVC (OR SIMILAR APPROVED) UNLESS NOTED OTHERWISE.

3. PLASTIC PIPES (PVC-U) TO BE FLEXIBLY JOINTED AND COMPLY WITH THE REQUIREMENTS OF BS EN 14011:1998.

4. WHERE COVER TO PIPES IS LESS THAN 900 IN RELEVANT, CONCRETE SURROUND IS TO BE PROVIDED IN ACCORDANCE WITH THE DETAIL (CLASS 2 BEDDING).

5. ALL OTHER PREWORK TO BE IN CLASS S BEDDING.

6. N.B. UNTIL FINAL SERVICE IS PLACED, HEAVY TRAFFIC IS NOT TO BE ALLOWED OVER PIPE TRENCHES WITHOUT SPECIAL PRECAUTIONS.

7. PIPES AND FITTINGS ARE TO BE LAID IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.

8. MANHOLE COVERS IN CAR PARKS TO BE LOAD CLASS D400 TO BS EN 124.

9. MANHOLE COVERS IN LANDSCAPED AND PAVED AREAS TO BE LOAD CLASS B25 BS EN 124.

10. MANHOLE COVERS IN PAVED AREAS TO BE RECESSED TO ACCEPT PAVING FINISH.

11. ACCESS COVERS FOR GULLIES IN KERBSIDES TO BE LOAD CLASS C250 BS EN 124.

12. ALL INTERNAL POP UPS TO HAVE RODDABLE ACCESS.

13. ANY PIP MANHOLE DEEPER THAN 1200MM MUST BE FITTED WITH ACCESS RESTRICTOR CAP.

14. PIP MANHOLES WITHIN TRAFFICKED AREAS TO BE PROVIDED WITH 150MM STL CONCRETE SURROUND

15. ALL EXISTING DRAINAGE TO BE CONFIRMED PRIOR TO CONSTRUCTION COMMENCING.

16. PREWORK PASSING THROUGH BUILDING WALLS SHALL BE FITTED WITH ROCKER PIPES AS PER STANDARD DETAIL.

17. ANY UNLABELLED FOLL BRANCH PREWORK TO BE 100Ø PREWORK AT MINIMUM 140 FALL.

18. ANY UNLABELLED STORM WATER BRANCH PREWORK TO BE 100Ø AT MINIMUM 180 FALL.

19. ALL RWP LOCATIONS AND NUMBERS ARE TO BE CONFIRMED BY ARCHITECT PRIOR TO COMMENCING CONSTRUCTION.

FOR APPROVAL

REV	DATE	REVISIONS	DATE	BY

BMC

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CONSULTING CIVIL & STRUCTURAL ENGINEERS

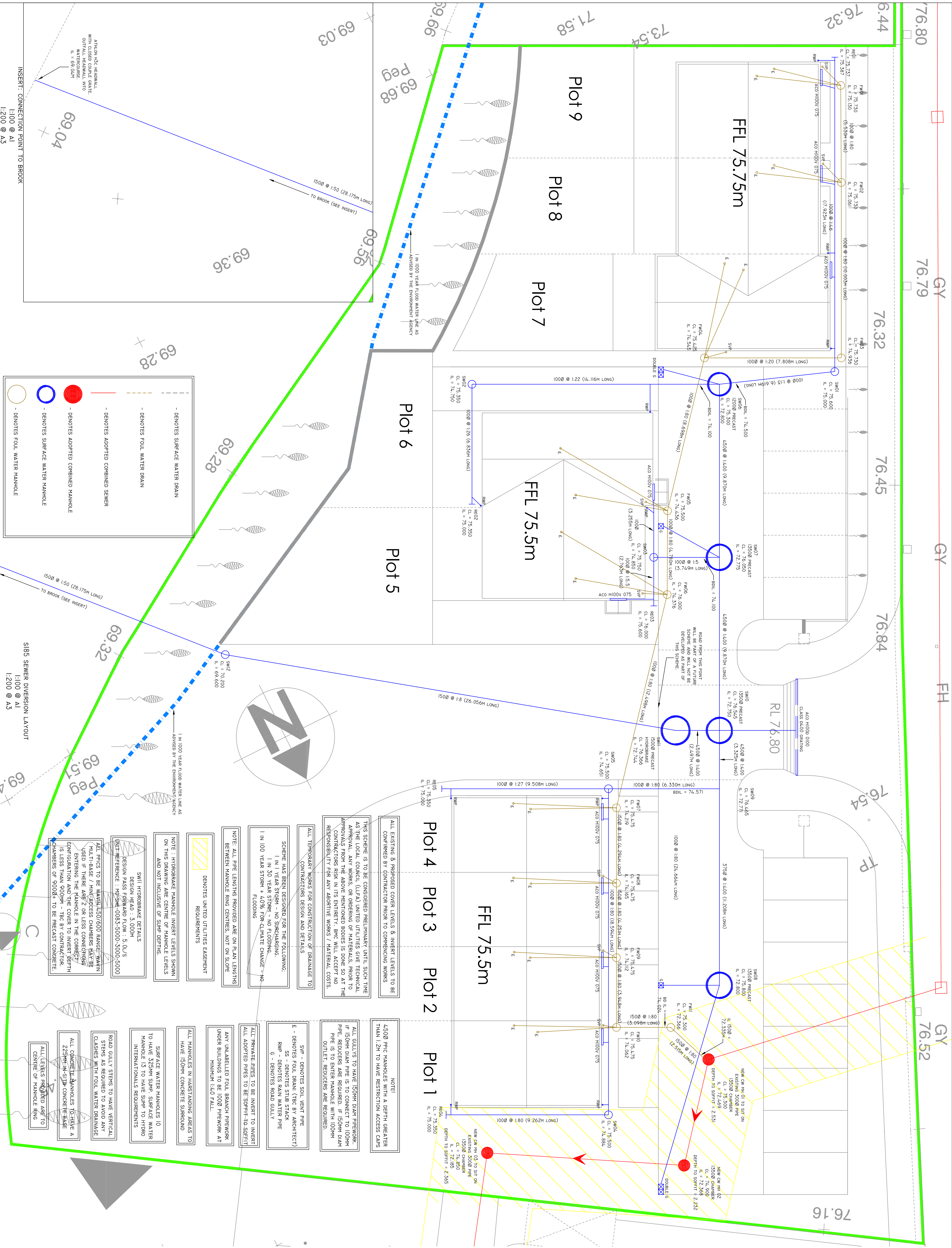
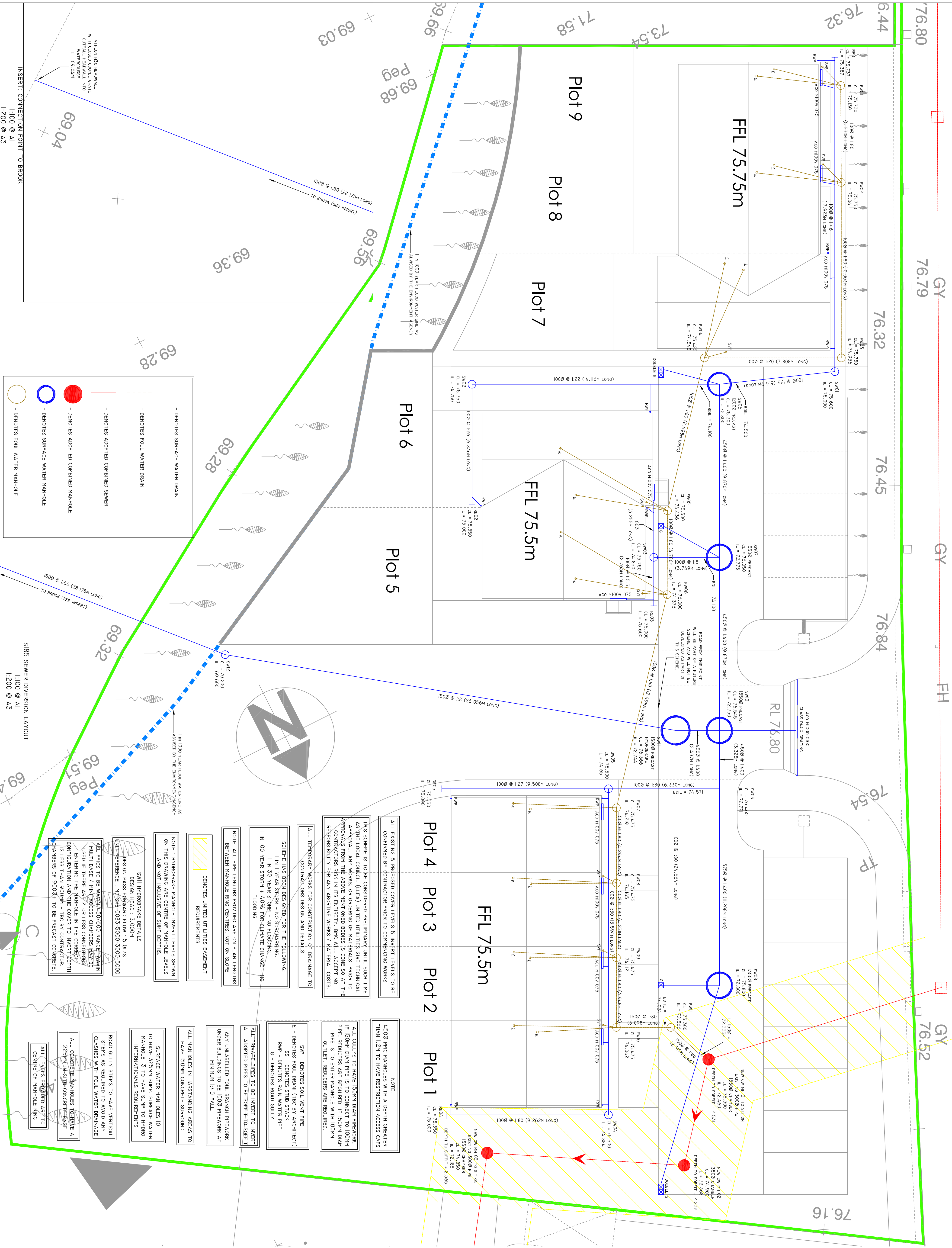
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CREDIT: BECK DEVELOPMENTS

PROJECT: MEARLEY CROFT

TITLE: S185 SEWER DIVERSION PLAN

OWNER REF	PROJECT REF	SCALE	DATE
AM	CM	1:100	07.21
DESIGN NUMBER	J4155 DR02	REVISION	-



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CLIENT: BECK DEVELOPMENTS

PROJECT: MEARLEY CROFT

TITLE: FLOOD ROUTING PLAN

DATE	BY	DATE	BY
23.07.21	AM	23.07.21	AM

Scale: 1:100

Drawn by: AM

Checked by: CM

Date: 07.21

Project: J4155 DR06

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CLIENT: BECK DEVELOPMENTS

PROJECT: MEARLEY CROFT

TITLE: FLOOD ROUTING PLAN

DATE: 23.07.21

SCALE: 1:100

DATE: 07.21

PROJECT NUMBER: J4155 DR06

REVISIONS:

NO.	DESCRIPTION	DATE	BY	CHKD
1	INITIAL ISSUE	23.07.21	AM	
2	COMMENTS			

LEGEND:

Blue arrow: DENOTES DIRECTION OF FLOOD FLOW DURING DESIGN EXCEEDANCE STORM I.E. OVER 1:100 YEAR + 4.0% OR BLOCKAGE

MEARLEY BROOK

CONC WALL

POST AND MESH FENCE

CHICKEN RUNS

GARAGES

Plots 1-9

Flood Levels: FFL 75.5m, RL 75.00, RL 75.30, RL 75.60, RL 76.00, RL 76.10, RL 76.25, RL 76.40, RL 76.50, RL 76.60, RL 76.70, RL 76.80, RL 76.90, RL 77.00, RL 77.10, RL 77.20, RL 77.30, RL 77.40, RL 77.50, RL 77.60, RL 77.70, RL 77.80, RL 77.90, RL 78.00, RL 78.10, RL 78.20, RL 78.30, RL 78.40, RL 78.50, RL 78.60, RL 78.70, RL 78.80, RL 78.90, RL 79.00, RL 79.10, RL 79.20, RL 79.30, RL 79.40, RL 79.50, RL 79.60, RL 79.70, RL 79.80, RL 79.90, RL 80.00, RL 80.10, RL 80.20, RL 80.30, RL 80.40, RL 80.50, RL 80.60, RL 80.70, RL 80.80, RL 80.90, RL 81.00, RL 81.10, RL 81.20, RL 81.30, RL 81.40, RL 81.50, RL 81.60, RL 81.70, RL 81.80, RL 81.90, RL 82.00, RL 82.10, RL 82.20, RL 82.30, RL 82.40, RL 82.50, RL 82.60, RL 82.70, RL 82.80, RL 82.90, RL 83.00, RL 83.10, RL 83.20, RL 83.30, RL 83.40, RL 83.50, RL 83.60, RL 83.70, RL 83.80, RL 83.90, RL 84.00, RL 84.10, RL 84.20, RL 84.30, RL 84.40, RL 84.50, RL 84.60, RL 84.70, RL 84.80, RL 84.90, RL 85.00, RL 85.10, RL 85.20, RL 85.30, RL 85.40, RL 85.50, RL 85.60, RL 85.70, RL 85.80, RL 85.90, RL 86.00, RL 86.10, RL 86.20, RL 86.30, RL 86.40, RL 86.50, RL 86.60, RL 86.70, RL 86.80, RL 86.90, RL 87.00, RL 87.10, RL 87.20, RL 87.30, RL 87.40, RL 87.50, RL 87.60, RL 87.70, RL 87.80, RL 87.90, RL 88.00, RL 88.10, RL 88.20, RL 88.30, RL 88.40, RL 88.50, RL 88.60, RL 88.70, RL 88.80, RL 88.90, RL 89.00, RL 89.10, RL 89.20, RL 89.30, RL 89.40, RL 89.50, RL 89.60, RL 89.70, RL 89.80, RL 89.90, RL 90.00, RL 90.10, RL 90.20, RL 90.30, RL 90.40, RL 90.50, RL 90.60, RL 90.70, RL 90.80, RL 90.90, RL 91.00, RL 91.10, RL 91.20, RL 91.30, RL 91.40, RL 91.50, RL 91.60, RL 91.70, RL 91.80, RL 91.90, RL 92.00, RL 92.10, RL 92.20, RL 92.30, RL 92.40, RL 92.50, RL 92.60, RL 92.70, RL 92.80, RL 92.90, RL 93.00, RL 93.10, RL 93.20, RL 93.30, RL 93.40, RL 93.50, RL 93.60, RL 93.70, RL 93.80, RL 93.90, RL 94.00, RL 94.10, RL 94.20, RL 94.30, RL 94.40, RL 94.50, RL 94.60, RL 94.70, RL 94.80, RL 94.90, RL 95.00, RL 95.10, RL 95.20, RL 95.30, RL 95.40, RL 95.50, RL 95.60, RL 95.70, RL 95.80, RL 95.90, RL 96.00, RL 96.10, RL 96.20, RL 96.30, RL 96.40, RL 96.50, RL 96.60, RL 96.70, RL 96.80, RL 96.90, RL 97.00, RL 97.10, RL 97.20, RL 97.30, RL 97.40, RL 97.50, RL 97.60, RL 97.70, RL 97.80, RL 97.90, RL 98.00, RL 98.10, RL 98.20, RL 98.30, RL 98.40, RL 98.50, RL 98.60, RL 98.70, RL 98.80, RL 98.90, RL 99.00, RL 99.10, RL 99.20, RL 99.30, RL 99.40, RL 99.50, RL 99.60, RL 99.70, RL 99.80, RL 99.90, RL 100.00, RL 100.10, RL 100.20, RL 100.30, RL 100.40, RL 100.50, RL 100.60, RL 100.70, RL 100.80, RL 100.90, RL 101.00, RL 101.10, RL 101.20, RL 101.30, RL 101.40, RL 101.50, RL 101.60, RL 101.70, RL 101.80, RL 101.90, RL 102.00, RL 102.10, RL 102.20, RL 102.30, RL 102.40, RL 102.50, RL 102.60, RL 102.70, RL 102.80, RL 102.90, RL 103.00, RL 103.10, RL 103.20, RL 103.30, RL 103.40, RL 103.50, RL 103.60, RL 103.70, RL 103.80, RL 103.90, RL 104.00, RL 104.10, RL 104.20, RL 104.30, RL 104.40, RL 104.50, RL 104.60, RL 104.70, RL 104.80, RL 104.90, RL 105.00, RL 105.10, RL 105.20, RL 105.30, RL 105.40, RL 105.50, RL 105.60, RL 105.70, RL 105.80, RL 105.90, RL 106.00, RL 106.10, RL 106.20, RL 106.30, RL 106.40, RL 106.50, RL 106.60, RL 106.70, RL 106.80, RL 106.90, RL 107.00, RL 107.10, RL 107.20, RL 107.30, RL 107.40, RL 107.50, RL 107.60, RL 107.70, RL 107.80, RL 107.90, RL 108.00, RL 108.10, RL 108.20, RL 108.30, RL 108.40, RL 108.50, RL 108.60, RL 108.70, RL 108.80, RL 108.90, RL 109.00, RL 109.10, RL 109.20, RL 109.30, RL 109.40, RL 109.50, RL 109.60, RL 109.70, RL 109.80, RL 109.90, RL 110.00, RL 110.10, RL 110.20, RL 110.30, RL 110.40, RL 110.50, RL 110.60, RL 110.70, RL 110.80, RL 110.90, RL 111.00, RL 111.10, RL 111.20, RL 111.30, RL 111.40, RL 111.50, RL 111.60, RL 111.70, RL 111.80, RL 111.90, RL 112.00, RL 112.10, RL 112.20, RL 112.30, RL 112.40, RL 112.50, RL 112.60, RL 112.70, RL 112.80, RL 112.90, RL 113.00, RL 113.10, RL 113.20, RL 113.30, RL 113.40, RL 113.50, RL 113.60, RL 113.70, RL 113.80, RL 113.90, RL 114.00, RL 114.10, RL 114.20, RL 114.30, RL 114.40, RL 114.50, RL 114.60, RL 114.70, RL 114.80, RL 114.90, RL 115.00

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CLIENT: BECK DEVELOPMENTS

PROJECT: MEARLEY CROFT

TITLE: FLOOD ROUTING PLAN

DATE: 23.07.21

SCALE: 1:100

PROJECT NUMBER: J4155 DR06

REVISIONS:

NO.	DATE	BY	REVISION
1	23.07.21	AM	INITIAL ISSUE
2	23.07.21	CM	COMMENTS

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Bell Munro Consulting Ltd		Page 1
Turing House 5 Archway Manchester M15 5RL	Woone Lane Mearley Croft Clitheroe	
Date 23/07/2021 File AM MODEL.MDX	Designed by A Morris Checked by C Munro	
XP Solutions	Network 2018.1	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	30	PIMP (%)	100
M5-60 (mm)	19.000	Add Flow / Climate Change (%)	0
Ratio R	0.275	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Inverts






Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.071	4-8	0.019

Total Area Contributing (ha) = 0.090


Total Pipe Volume (m³) = 4.957

Network Design Table for Storm


PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	9.869	0.025	394.8	0.037	5.00	0.0	0.600	o	300	Pipe/Conduit	
1.001	9.869	0.025	394.8	0.013	0.00	0.0	0.600	o	375	Pipe/Conduit	
2.000	11.208	0.028	400.3	0.017	5.00	0.0	0.600	o	450	Pipe/Conduit	
2.001	3.325	0.008	415.6	0.023	0.00	0.0	0.600	o	450	Pipe/Conduit	
1.002	2.497	0.006	416.2	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	50.00	5.21	72.300	0.037	0.0	0.0	0.0	0.79	55.5	5.0
1.001	50.00	5.39	72.275	0.050	0.0	0.0	0.0	0.91	100.0	6.8
2.000	50.00	5.18	72.300	0.017	0.0	0.0	0.0	1.01	160.6	2.3
2.001	50.00	5.24	72.271	0.040	0.0	0.0	0.0	0.99	157.6	5.4
1.002	50.00	5.43	72.250	0.090	0.0	0.0	0.0	0.99	157.5	12.2


Bell Munro Consulting Ltd			Page 2
Turing House 5 Archway Manchester M15 5RL	Woone Lane Mearley Croft Clitheroe		
Date 23/07/2021 File AM MODEL.MDX	Designed by A Morris Checked by C Munro		
XP Solutions		Network 2018.1	

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.003	26.056	3.139	8.3	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	


Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.003	50.00	5.56	72.244	0.090	0.0	0.0	0.0	3.52	62.2	12.2

Bell Munro Consulting Ltd		Page 3
Turing House 5 Archway Manchester M15 5RL	Woone Lane Mearley Croft Clitheroe	
Date 23/07/2021 File AM MODEL.MDX	Designed by A Morris Checked by C Munro	
XP Solutions		Network 2018.1

Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
6	75.300	3.000	Open Manhole	1200	1.000	72.300	300				
7	76.050	3.775	Open Manhole	1350	1.001	72.275	375	1.000	72.275	300	
8	75.800	3.500	Open Manhole	1350	2.000	72.300	450				
9	76.465	4.194	Open Manhole	1350	2.001	72.271	450	2.000	72.272	450	1
10	76.545	4.295	Open Manhole	1350	1.002	72.250	450	1.001	72.250	375	
								2.001	72.263	450	13
11	76.366	4.122	Open Manhole	1500	1.003	72.244	150	1.002	72.244	450	
	70.200	1.095	Open Manhole	150		OUTFALL		1.003	69.105	150	

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	o	300	6	75.300	72.300	2.700	Open Manhole	1200
1.001	o	375	7	76.050	72.275	3.400	Open Manhole	1350
2.000	o	450	8	75.800	72.300	3.050	Open Manhole	1350
2.001	o	450	9	76.465	72.271	3.744	Open Manhole	1350
1.002	o	450	10	76.545	72.250	3.845	Open Manhole	1350
1.003	o	150	11	76.366	72.244	3.972	Open Manhole	1500

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	9.869	394.8	7	76.050	72.275	3.475	Open Manhole	1350
1.001	9.869	394.8	10	76.545	72.250	3.920	Open Manhole	1350
2.000	11.208	400.3	9	76.465	72.272	3.743	Open Manhole	1350
2.001	3.325	415.6	10	76.545	72.263	3.832	Open Manhole	1350
1.002	2.497	416.2	11	76.366	72.244	3.672	Open Manhole	1500
1.003	26.056	8.3		70.200	69.105	0.945	Open Manhole	150

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	-	-	100	0.037	0.037	0.037
1.001	-	-	100	0.013	0.013	0.013
2.000	-	-	100	0.017	0.017	0.017
2.001	-	-	100	0.023	0.023	0.023
1.002	-	-	100	0.000	0.000	0.000
1.003	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				0.090	0.090	0.090

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D, L (mm)	W (mm)
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1.003		70.200	69.105	69.600	150	0
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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m ³ /ha Storage	2.000
Hot Start (mins)	0	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1

Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	30	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.000	Storm Duration (mins)	30
Ratio R	0.275		

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Online Controls for Storm

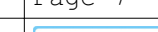
Hydro-Brake® Optimum Manhole: 11, DS/PN: 1.003, Volume (m³): 7.5

Unit Reference	MD-SHE-0083-5000-3000-5000
Design Head (m)	3.000
Design Flow (l/s)	5.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	83
Invert Level (m)	72.244
Minimum Outlet Pipe Diameter (mm)	100
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	3.000	5.0
Flush-Flo™	0.360	3.3
Kick-Flo®	0.741	2.6
Mean Flow over Head Range	-	3.7

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	2.5	1.200	3.3	3.000	5.0	7.000	7.4
0.200	3.1	1.400	3.5	3.500	5.4	7.500	7.7
0.300	3.3	1.600	3.7	4.000	5.7	8.000	7.9
0.400	3.3	1.800	3.9	4.500	6.0	8.500	8.2
0.500	3.2	2.000	4.1	5.000	6.4	9.000	8.4
0.600	3.1	2.200	4.3	5.500	6.6	9.500	8.6
0.800	2.7	2.400	4.5	6.000	6.9		
1.000	3.0	2.600	4.7	6.500	7.2		

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1 year Return Period Summary of Critical Results by Maximum Outflow (Rank 1) for Storm

Simulation Criteria

Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0


Synthetic Rainfall Details

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	ON
DVD Status	OFF
Inertia Status	OFF

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 0, 40

PN	US/MH		Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water
	Name	Storm							Level (m)
1.000	6	15 Winter	1	+0%	30/15 Summer				72.468
1.001	7	15 Winter	1	+0%	30/15 Summer				72.467
2.000	8	15 Winter	1	+0%	30/15 Summer				72.467
2.001	9	60 Summer	1	+0%	30/15 Summer				72.469
1.002	10	30 Winter	1	+0%	30/15 Summer				72.485
1.003	11	30 Winter	1	+0%	1/15 Summer				72.485

PN	Surcharged		Flooded		Pipe		Status	Level Exceeded
	US/MH Name	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Flow (l/s)		
1.000	6	-0.132	0.000	0.11		4.1	OK	
1.001	7	-0.183	0.000	0.06		4.0	OK	
2.000	8	-0.283	0.000	0.01		1.4	OK	
2.001	9	-0.252	0.000	0.02		2.1	OK	
1.002	10	-0.215	0.000	0.03		3.8	OK	

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1 year Return Period Summary of Critical Results by Maximum Outflow (Rank 1) for Storm

		Surcharged	Flooded		Pipe		
PN	US/MH Name	Depth (m)	Volume (m³)	Flow / Overflow Cap. (l/s)	Flow (l/s)	Status	Level Exceeded
1.003	11	0.091	0.000	0.05	3.2	SURCHARGED	

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30 year Return Period Summary of Critical Results by Maximum Outflow (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coefficient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.280
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	19.700	Cv (Winter)	0.840


Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	ON
DVD Status	OFF
Inertia Status	OFF

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 0, 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
1.000	6	15 Winter	30	+0%	30/15 Summer				72.975
1.001	7	15 Winter	30	+0%	30/15 Summer				72.974
2.000	8	15 Winter	30	+0%	30/15 Summer				72.974
2.001	9	15 Summer	30	+0%	30/15 Summer				72.826
1.002	10	15 Winter	30	+0%	30/15 Summer				72.973
1.003	11	480 Summer	30	+0%	1/15 Summer				72.606


PN	US/MH Name	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	6	0.375	0.000	0.24		9.2	SURCHARGED	
1.001	7	0.324	0.000	0.15		9.6	SURCHARGED	
2.000	8	0.224	0.000	0.03		3.1	SURCHARGED	
2.001	9	0.105	0.000	0.03		3.9	SURCHARGED	
1.002	10	0.273	0.000	0.05		6.4	SURCHARGED	

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30 year Return Period Summary of Critical Results by Maximum Outflow (Rank 1) for Storm

		Surcharged	Flooded		Pipe		
PN	US/MH Name	Depth (m)	Volume (m³)	Flow / Overflow Cap. (l/s)	Flow (l/s)	Status	Level Exceeded
1.003	11	0.212	0.000	0.06	3.3	SURCHARGED	

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100 year Return Period Summary of Critical Results by Maximum Outflow (Rank 1) for Storm

		Surcharged	Flooded		Pipe		
PN	US/MH Name	Depth (m)	Volume (m³)	Flow / Overflow Cap. (l/s)	Flow (l/s)	Status	Level Exceeded
1.003	11	2.823	0.000	0.08	5.0	SURCHARGED	