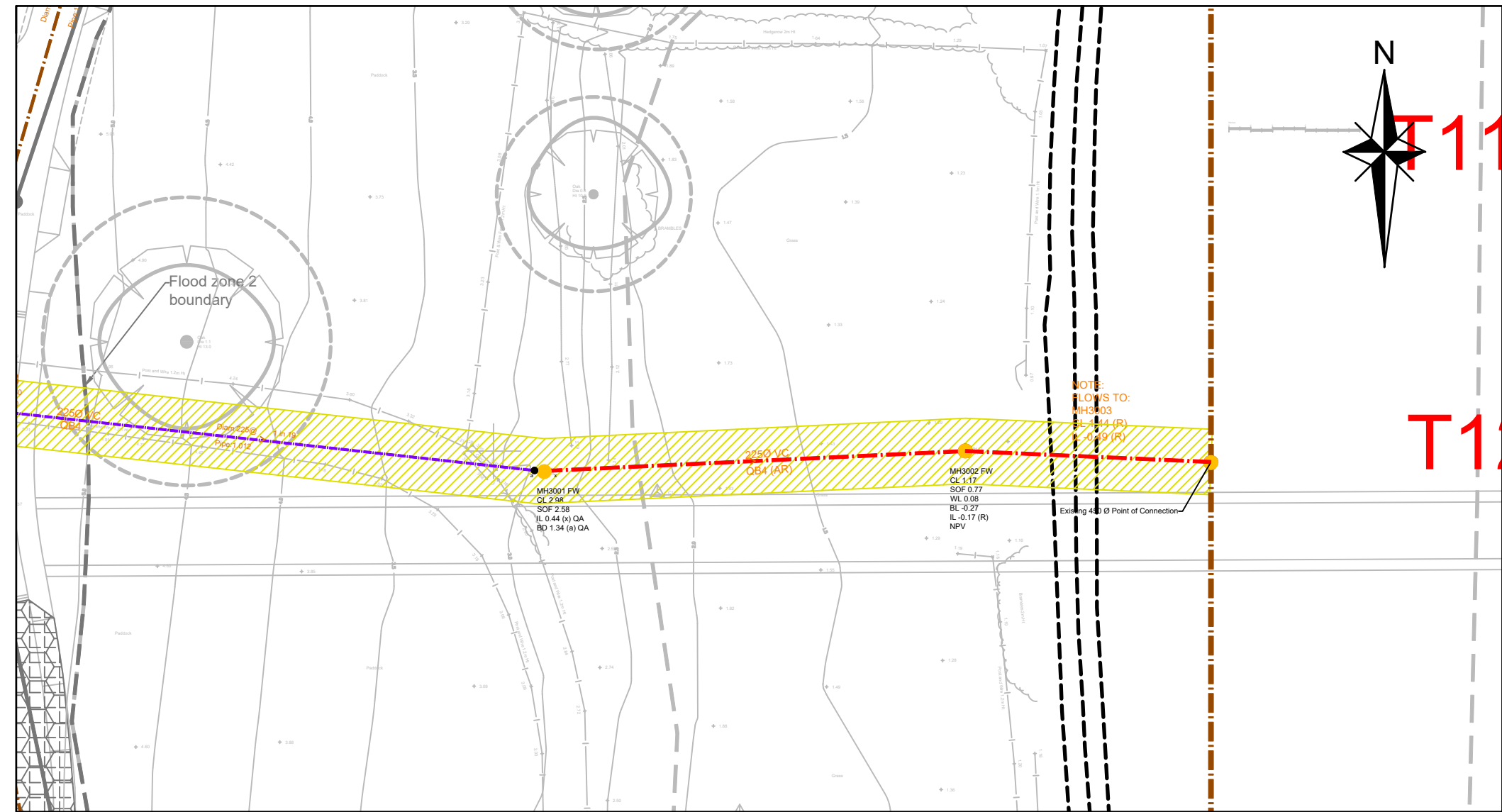


Appendix L Foul Water Strategy



- NOTES
1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE RELEVANT SPECIFICATION AND ALL OTHER RELATED DRAWINGS ISSUED BY THE ENGINEER.
 2. DO NOT SCALE FROM THIS DRAWING. WORK FROM FIGURED DIMENSIONS ONLY.
 3. ALL DIMENSIONS SHOWN ON THIS DRAWING ARE IN METRES UNLESS OTHERWISE SHOWN.
 4. ALL DIMENSIONS, LEVELS AND SURVEY GRID CO-ORDINATES ARE TO BE CHECKED ON SITE AND THE ENGINEER NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO THE COMMENCEMENT OF THE WORKS. DRAWING BASED ON TOPOGRAPHICAL SURVEY PROVIDED BY OTHERS; C&A ARE NOT RESPONSIBLE FOR ANY INACCURACIES.

- Legend:
- Existing foul water sewer to be retained
 - Proposed foul water drainage
 - Existing sewer to be retained
 - Existing sewer to be abandoned
 - Diverted foul water sewer subject to S185/116 agreement with Southern Water
 - 6m easement

B	Amended following update to Architect's layout	SC	GW	SC	GAC	Aug 21
A	Amended following update to Architect's layout	GW	SC	SC	GAC	July 21
Rev	Amendments	Dm	Chk	App	Date	

Charles & Associates

Issued by

Landmark House
Station Road
Hock
Hampshire
RG27 7HA
01256 638420

enquiries@c-a-uk.com
www.c-a-uk.com

Park House
East Malling Trust Estate
Bradbourne Lane
Aylesford
Kent
ME20 6NN
01732 448120

Job Title	Land East of Woodgate Lane		
Drawing Title	Proposed Foul Water Drainage Strategy		
Client	Pye Homes		
Scale	1:500@A1	Date	Jan 21
Designed	JT	Checked	MR
Drawn	JT	Approved	GAC
Job No	20-061	Drawing No	20-061-011
Rev	B		

Appendix M Foul Water Calcs

C & A Consulting Engineers Ltd		Page 1
Landmark House Station Road, Hook Hampshire RG27 9HA	20-061 Land East of Woodgate Lane Foul Network design calculatio	
Date 05/08/2021 13:51 File FW WATER.MDX	Designed by JT Checked by MR	
Innovyze	Network 2019.1	

FOUL SEWERAGE DESIGN

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

Industrial Flow (l/s/ha)	0.00	Add Flow / Climate Change (%)	0
Industrial Peak Flow Factor	0.00	Minimum Backdrop Height (m)	0.200
Flow Per Person (l/per/day)	225.00	Maximum Backdrop Height (m)	1.500
Persons per House	3.00	Min Design Depth for Optimisation (m)	1.200
Domestic (l/s/ha)	0.00	Min Vel for Auto Design only (m/s)	1.00
Domestic Peak Flow Factor	6.00	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	Houses	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	14.744	0.071	207.7	0.000	5	0.0	1.500	o	225	Pipe/Conduit	
2.000	45.251	0.958	47.2	0.000	5	0.0	1.500	o	100	Pipe/Conduit	
1.001	29.322	0.071	413.0	0.000	10	0.0	1.500	o	225	Pipe/Conduit	
1.002	26.598	0.083	320.5	0.000	5	0.0	1.500	o	225	Pipe/Conduit	
1.003	20.062	0.093	216.9	0.000	0	0.0	1.500	o	225	Pipe/Conduit	
3.000	21.467	0.215	99.8	0.000	11	0.0	1.500	o	100	Pipe/Conduit	
3.001	15.155	0.152	99.7	0.000	2	0.0	1.500	o	100	Pipe/Conduit	
3.002	29.793	1.856	16.0	0.000	0	0.0	1.500	o	100	Pipe/Conduit	
1.004	11.473	0.047	246.7	0.000	10	0.0	1.500	o	225	Pipe/Conduit	
1.005	30.111	0.047	647.5	0.000	0	0.0	1.500	o	225	Pipe/Conduit	

Network Results Table

PN	US/IL (m)	Σ Area (ha)	Σ Base Flow (l/s)	Σ Hse	Add Flow (l/s)	P.Dep (mm)	P.Vel (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	5.770	0.000	0.0	5	0.0	14	0.23	0.79	31.6	0.2
2.000	6.750	0.000	0.0	5	0.0	12	0.42	0.97	7.6	0.2
1.001	5.667	0.000	0.0	20	0.0	32	0.27	0.56	22.4	0.9
1.002	5.628	0.000	0.0	25	0.0	33	0.32	0.64	25.4	1.2
1.003	5.545	0.000	0.0	25	0.0	30	0.37	0.78	30.9	1.2
3.000	7.800	0.000	0.0	11	0.0	21	0.42	0.67	5.2	0.5
3.001	7.585	0.000	0.0	13	0.0	23	0.44	0.67	5.2	0.6
3.002	7.433	0.000	0.0	13	0.0	15	0.83	1.67	13.1	0.6
1.004	5.452	0.000	0.0	48	0.0	43	0.43	0.73	29.0	2.3
1.005	5.405	0.000	0.0	48	0.0	54	0.31	0.45	17.8	2.3

C & A Consulting Engineers Ltd		Page 4
Landmark House Station Road, Hook Hampshire RG27 9HA	20-061 Land East of Woodgate Lane Foul Network design calculatio	
Date 05/08/2021 13:51	Designed by JT	
File FW WATER.MDX	Checked by MR	
Innovyze	Network 2019.1	

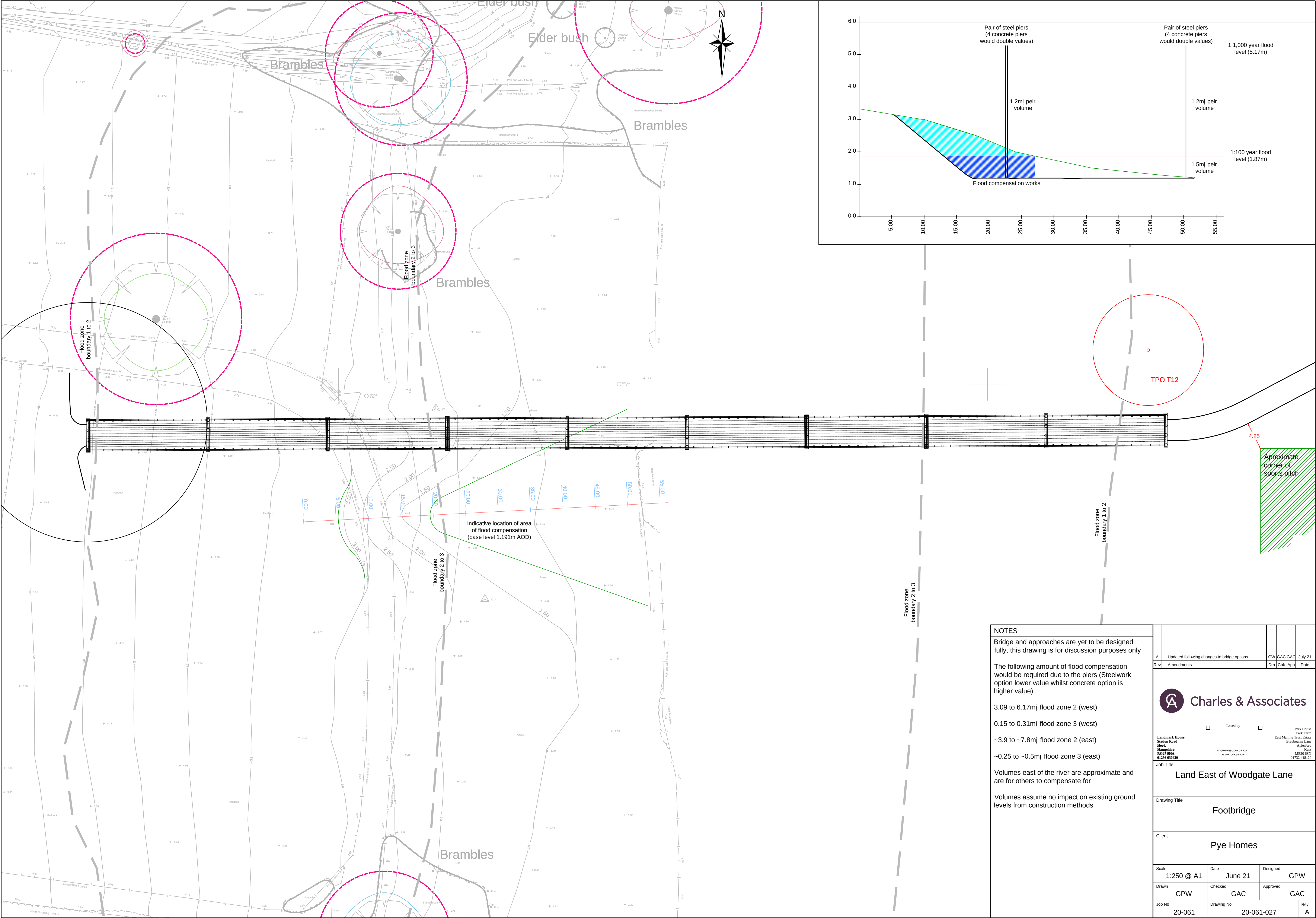
Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	Houses	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
11.000	47.432	0.316	150.1	0.000	5	0.0	1.500	o	150	Pipe/Conduit	
11.001	17.238	0.115	149.9	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
1.012	51.566	2.720	19.0	0.000	0	0.0	1.500	o	225	Pipe/Conduit	
1.013	38.680	2.170	17.8	0.000	0	0.0	1.500	o	225	Pipe/Conduit	
1.014	13.804	0.313	44.1	0.000	0	0.0	1.500	o	225	Pipe/Conduit	

Network Results Table

PN	US/IL (m)	Σ Area (ha)	Σ Base Flow (l/s)	Σ Hse	Add Flow (l/s)	P.Dep (mm)	P.Vel (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
11.000	5.200	0.000	0.0	5	0.0	15	0.27	0.71	12.6	0.2
11.001	4.884	0.000	0.0	5	0.0	15	0.27	0.71	12.6	0.2
1.012	4.720	0.000	0.0	141	0.0	38	1.47	2.64	105.1	6.6
1.013	2.000	0.000	0.0	141	0.0	38	1.50	2.73	108.4	6.6
1.014	-0.170	0.000	0.0	141	0.0	47	1.09	1.73	68.8	6.6

Appendix N Potential Flood Compensation



NOTES

Bridge and approaches are yet to be designed fully, this drawing is for discussion purposes only

The following amount of flood compensation would be required due to the piers (Steelwork option lower value whilst concrete option is higher value):

- 3.09 to 6.17mj flood zone 2 (west)
- 0.15 to 0.31mj flood zone 3 (west)
- ~3.9 to ~7.8mj flood zone 2 (east)
- ~0.25 to ~0.5mj flood zone 3 (east)

Volumes east of the river are approximate and are for others to compensate for

Volumes assume no impact on existing ground levels from construction methods

A	Updated following changes to bridge options		GW	GAC	GAC	July 21
Rev	Amendments		Dm	Chk	App	Date

	Charles & Associates
---	---------------------------------

☐	Issued by	☐
--------------------------	-----------	--------------------------

Landmark House Station Road Hook Hampshire RG27 9HA 01256 638420	enquiries@c-a-uk.com www.c-a-uk.com	Park House Park Farm East Malling Trust Estate Bradbourne Lane Aylesford Kent ME20 6SN 01732 448120
---	--	--

Job Title

Land East of Woodgate Lane

Drawing Title

Footbridge

Client

Pye Homes

Scale	Date	Designed
1:250 @ A1	June 21	GPW
Drawn	Checked	Approved
GPW	GAC	GAC
Job No	Drawing No	Rev
20-061	20-061-027	A