AMENDED

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CULL FARM, DEAN STREET

MAIDSTONE,

ME15 0PS

DRAINAGE STRATEGY AND MAINTENANCE REQUIREMENTS

Contents

Document Control

Revision	Purpose	Date	By	Approved
-	Initial issue	23/10/2020	MJ	RR
A	Updated to LLFA comments	24/02/2021	MJ	JRH

Prepared By: MJ

Approved By: RR

Project No.	**19-014**	**Revision**	A	**Date**	23/10/20

1 INTRODUCTION

1.1.1 Hodel Ltd. has been appointed by Offset Architects to design a below ground foul and surface water drainage strategy for the proposed development at Cull Farm, Dean Street, Maidstone, ME15 0PS

1.1.2 This report outlines the proposed drainage strategy.

2 EXISTING SITE

2.1.1 The 7542m^2 site has a few commercial units with a large area of impermeable hardstanding. It is located within Flood Zone 1 with a low probability of flooding as defined by the Environment Agency (EA) on their Flood Map for Planning.

2.1.2 The existing impermeable area is approximately 6467m^2, 86% of the total site.

2.1.3 The British National Grid reference is E:574242, N:152827. It is bounded by farmland in all directions, access to the site is via a road off Dean Street.

2.1.4 The general topography of the site is a fall from the south to the north of the site. The existing fall is approximately 4.3m across the site which equates to an average gradient of 1:95.

2.2 Geology

2.2.1 The British Geological Survey (BGS) indicates that the site is likely underlain by Hythe Sandstone and Limestone.

2.2.2 BGS does not show any superficial deposits within the vicinity of the site.

2.2.3 A site investigation by Sevenoaks Consultancy Ltd. found the site to be underlaid by Made Ground followed by medium to dense Sand with sandstone gravel, in some locations a band of Clay was found between the made ground and the sand layers. The made ground consists of varying materials including, gravel, brick and concrete fragments, sand and clay with occasional charcoal and clinker fragments.

2.3 Surface Water & Groundwater

2.3.1 HM Government's map for Flood Risk from Rivers or Sea indicates that the site is at very low risk of flooding from Rivers or Sea.

2.3.2 HM Government's Surface Water Flood map indicates that site is at very low to low risk of flooding from surface water.

2.3.3 DEFRA's Groundwater Source Protection Zone map indicates that the site is not within a groundwater source protection zone.

2.3.4 DEFRA's Groundwater Vulnerability Zone map indicates that the site is in a High Vulnerability zone.

2.4 Existing Surface Water Strategy

2.4.1 Surface water generated onsite currently discharges to soakaways, the nature and size of these are unknown.

2.5 Existing Foul Water Strategy

2.5.1 The foul water onsite currently drains to a septic tank.

3 PROPOSED SITE

3.1.1 The proposal is to demolish the existing buildings and build 10 new houses and one small commercial office building with associated parking and garden areas for the houses, there will also be a communal greenspace with pond.

3.1.2 The proposed impermeable area is approximately 3597m^2, which is a decrease of 2870m^2, taking the total to 48% of the entire site.

3.2 Proposed Surface Water Strategy

3.2.1 As per CIRIA C753, the options for controlling water at source have been assessed as per the SuDS hierarchy. Previous experience from neighbouring properties have shown that shallow soakaways are not a feasible option and that deep bore soakaways are the most viable method for dealing with the surface water generated onsite.

3.2.2 The proposal is to have 2 deep bore soakaways serving the site with attenuation tanks and a pond. Attenuation tank ATT1 and the pond shall serve soakaway SA1 and the other soakaway, SA2, shall be served by attenuation tank ATT2.

3.2.3 The proposed storage structures have been sized to accommodate the 1 in 100 year event with a 40% allowance for climate change. The attenuation tanks are of geo-cellular construction with minimum 95% voids. Attenuation

tank ATT1 shall have an effective volume of approximately 145m^3, ATT2 shall have an effective volume of 164m^3 and the pond shall have a volume of 25.5m^3. As according to calculations through Innovyze:MicroDrainage, during the 1 in 100 year event with a 20% allowance for climate change, all surface water generated onsite will be held within the network with no increase to risk of flooding on or off site. As according to calculations through Innovyze:MicroDrainage, during the 1 in 100 year event with a 40% allowance for climate change, there will be minor flooding of 0.08m^3 from S12 during the 15 minute winter event, this will pool on the surface before draining back into the network. This minor flooding is due to downstream pipe flow capacity, it is not proposed to increase this flow capacity otherwise the velocity during lesser events would be slower and may not be self-cleansing which could lead to silts being deposited in the pipe.

3.2.4 Catchpits have been specified to mitigate the risk of pollutants entering the system, these are to be maintained as per the maintenance schedule.

Calculations and results for the proposed attenuation tank, derived from MicroDrainage, can be found in Appendix 6.3

3.3 Proposed Foul Water Strategy

3.3.1 The foul water is to be collected via traditional drainage methods and discharge to the sewer beneath Dean Street via gravity.

4 MAINTENANCE REQUIREMENTS

4.1.1 The pipework for all drainage systems is to be designed to be self-cleansing and as such should require no regular maintenance. If a blockage occurs, the system will be detailed so that easy rodding or jetting can take place.

4.1.2 Drainage that requires regular maintenance is detailed in Table 1 or after any largescale rainfall event.

Table 1 - Drainage Maintenance

Drainage Feature	**Inspection Frequency / Requirement**	**Maintenance Requirement**	**Responsibility**
Gullies	Every 6 months, for silt and debris.	Silt and debris to be cleared from gully pots.	Homeowner / Management Company
Gutters	Every 12 months, for silt and debris.	Silt and debris to be cleared from gutters.	Homeowner / Management Company
Rainwater Downpipes	Every 12 months, for silt and leaves.	Silt to be cleared from gully pot, leaves to be cleared from gutters and downpipes.	Homeowner / Management Company
Catchpits & Sumps	Every 6 months, for silt, debris or other obstructions.	Silt and debris or obstructions to be cleared from catchpit chambers.	Homeowner / Management Company
Pipework	If a problem occurs, by CCTV surveys	As recommended by CCTV survey company.	Homeowner / Management Company
Attenuation Tanks	As per manufacturer recommendations.	As per manufacturer recommendations.	Homeowners / Management Company

5 CONCLUSION

5.1.1 The surface water generated onsite shall infiltrate to ground onsite via 2 deep bore soakaways. Attenuation tanks and a pond have been incorporated into the network which has been designed to hold the surface water for the 1 in 100 year event with a 40% allowance for climate change, during the 15 minute winter event there will be minor flooding of 0.08m^3 at S12 due the downstream pipe capacity, this volume shall pool on the road before draining back into the network after the peak of the storm has passed. It is not proposed to increase the pipe capacity for this one event as this will reduce the velocity through the pipe for lesser events which then may not be self-cleansing. There shall be no increased risk of flooding off site or the any occupied part of the site.

5.1.2 The foul water is to drain via gravity to the sewer beneath Dean Street.

5.1.3 Ongoing maintenance will be required for the surface water drainage, as detailed in the above table.

6 APPENDICES

6.1 Engineering Layout

6.2 Drained Areas Analysis Sketch

6.3 Attenuation Tank Calculations and Results

6.4 Flood Risk from Rivers and Sea

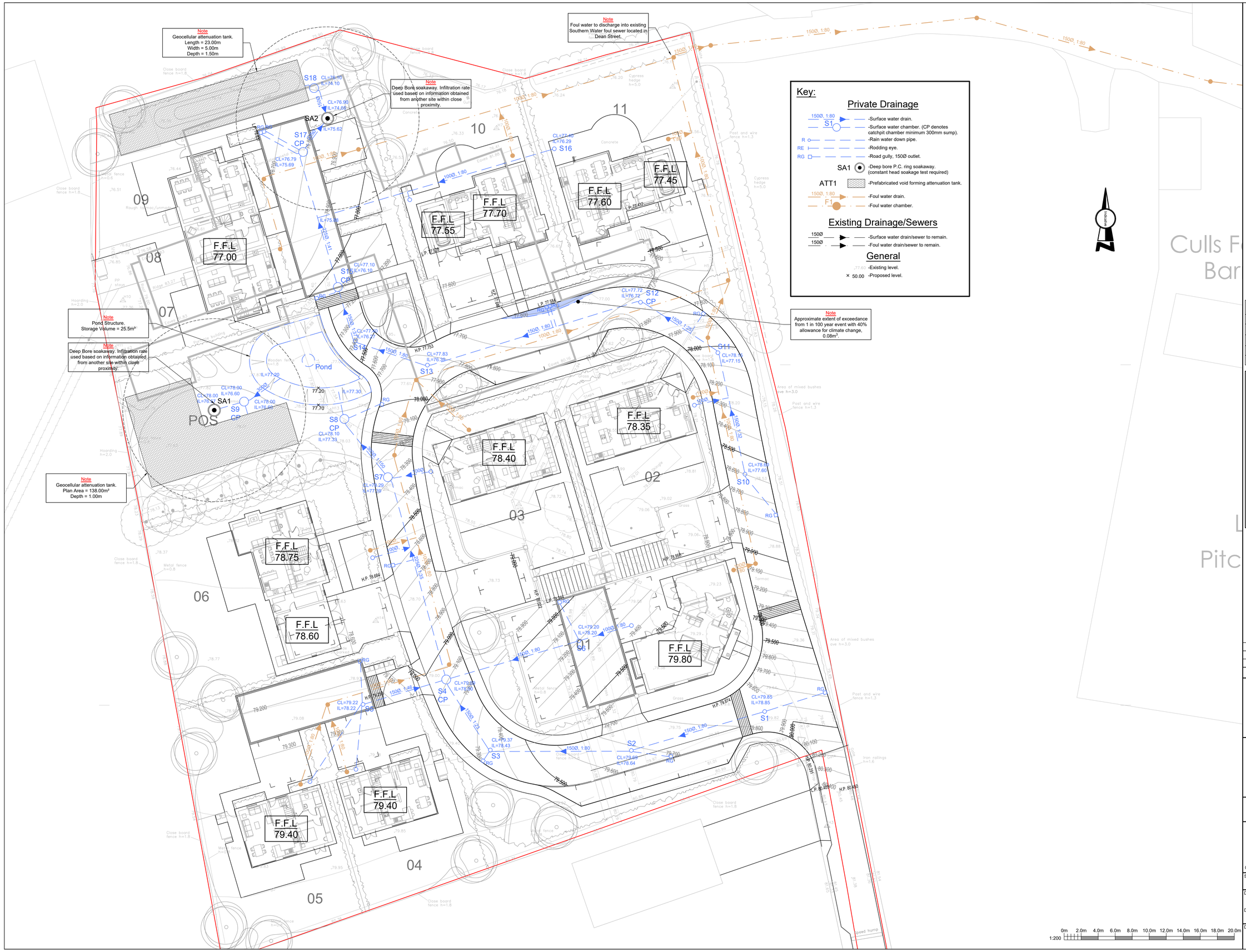
6.5 Flood Risk from Surface Water

6.6 Groundwater Source Protection

6.7 Groundwater Vulnerability

6.8 Flood Map for Planning

APPENDIX 6.1 ENGINEERING LAYOUT



Key:

Private Drainage

- 150Ø, 1:80 S1 — -Surface water drain.
- S1 — -Surface water chamber. (CP denotes catchpit chamber minimum 300mm sump).
- R — -Rain water down pipe.
- RE — -Rodding eye.
- RG — -Road gully, 150Ø outlet.
- SA1 — -Deep bore P.C. ring soakaway. (constant head soakage test required)
- ATT1 — -Prefabricated void forming attenuation tank.
- 150Ø, 1:80 F1 — -Foul water drain.
- F1 — -Foul water chamber.

Existing Drainage/Sewers

- 150Ø — -Surface water drain/sewer to remain.
- 150Ø — -Foul water drain/sewer to remain.

General

- ,77.60 — -Existing level.
- × 50.00 — -Proposed level.

NOTES

1. Do not scale this drawing.
2. This drawing is to be read in conjunction with all other relevant Engineer's and Architect's drawings and specifications.

Drawings References:

Drawing:	Drawing no:	Rev:	Date:
Survey	S18/6605/01	-	07-18
Layout	5990 - PD05	na	n/a

RISK ASSESSMENT

Residual Risks Identified

1. All rwp and stack positions assumed for planning purposes only, 28/09/20.

Contractor's General Risk Items

(List is not exhaustive but includes commonly raised issues)

1. Location of all buried services.
2. Existing drainage:
   i) Gases, confined spaces, diseases.
   ii) Maintain flow in drains during works.
3. Manual lifting of heavy objects; manhole covers, drainage pipes, concrete rings, kerbs,etc.
4. Excavation for drainage trenches and manholes.
5. Security:
   Keep site secure from members of the public.
   maintain public safety when accessing site.

Rev	Date	By	Chkd.	Revision notes
B	24/02/21	MJ	JDH	Updated to FFLA comments.
A	23/09/20		-	Updated to latest architects layout.
-	03/09/20		JDH	Levels Issued for comment.

Job Title

Cull Farm, Dean Street
Maidstone
ME15 0PS

Drawing Title

Engineering Layout.

Client

Offset Architects

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Scale at A1:	Status:	
1:200	FOR COMMENT	
Drawn: MJ Date: Sept '20	Checked: JDH Date: Sept '20	Approved: - Date: -
Drawing No.: 19-014_C01		Revision: B

1:200 0m 2.0m 4.0m 6.0m 8.0m 10.0m 12.0m 14.0m 16.0m 18.0m 20.0m

APPENDIX 6.2 DRAINED AREAS ANALYSIS SKETCH

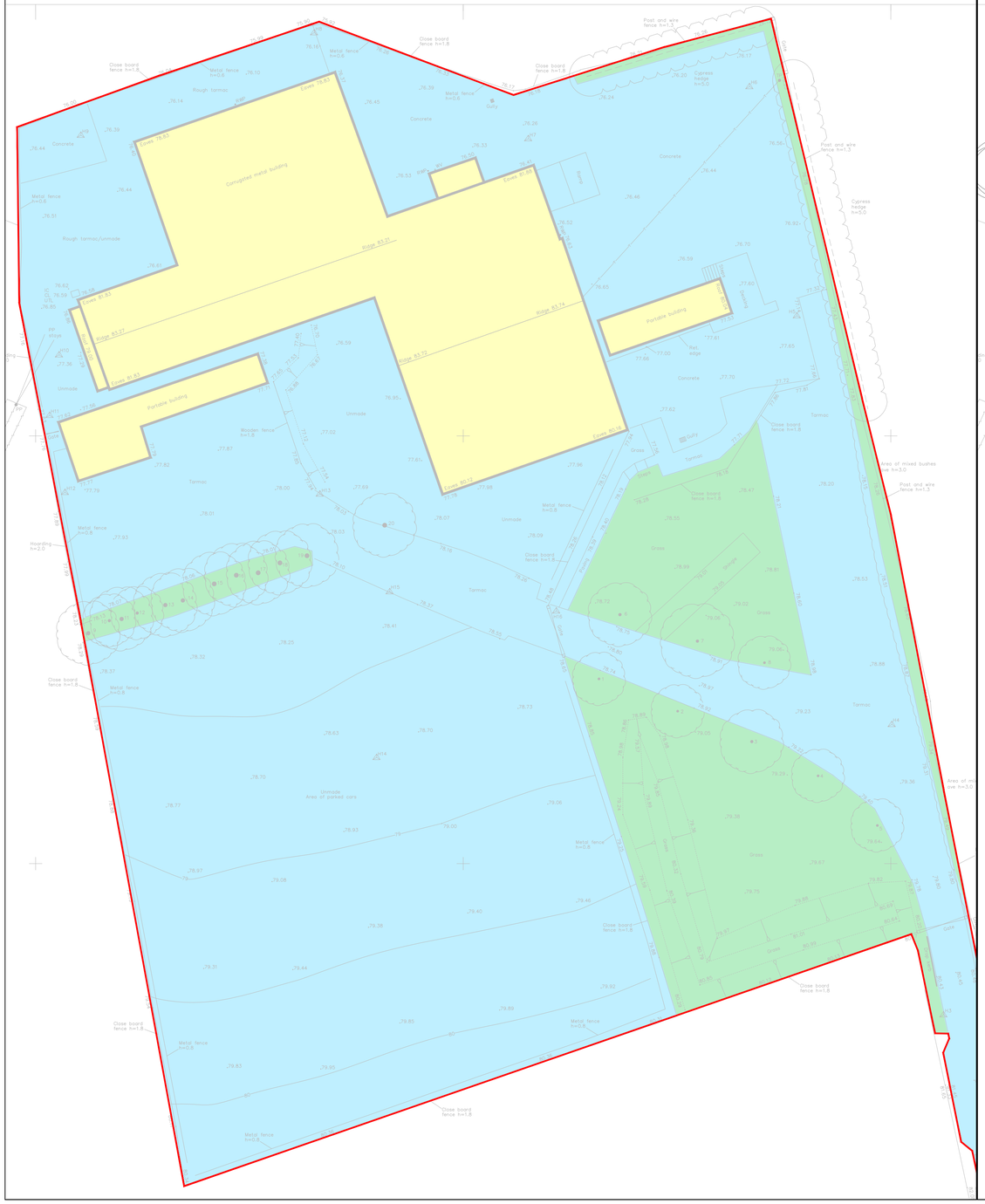
Areas Key:

Pre Development Areas

Soft Landscaping Area =	1075	m²
Hardstanding Area =	5336	m²
Building Roof Area =	1131	m²
Total Impermeable Area =	6467	m²
Total Area =	7542	m²

Post Development Areas

Soft Landscaping Area =	3945	m²
Hardstanding Area =	2615	m²
Building Roof Area =	982	m²
Total Impermeable Area =	3597	m²
Total Area =	7542	m²



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1:250

NOTES

1. Do not scale this drawing.
2. This drawing is to be read in conjunction with all other relevant Engineer's and Architect's drawings and specifications.

Drawings References:

Drawing:	Drawing no:	Rev:	Date:
Survey	S18/6605/01	-	07-18
Layout	5990 - PD05	na	n/a

Rev	Date	By	Chkd.	Revision notes
-	23/10/20	MJ		Preliminary issue.

Job Title

Cull Farm, Dean Street
Maidstone
ME15 0PS

Drawing Title

Drained Areas Analysis Sketch

Client

Offset Architects

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Scale at A1: 1:250	Status: PRELIMINARY	
Drawn: MJ Date: Oct '20	Checked: Date: Oct '20	Approved: - Date: -
Drawing No.: 19-014_SKC01		Revision: -

APPENDIX 6.3 ATTENUATION TANK CALCULATIONS AND RESULTS

Existing Network Details for Existing

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
E1.000	16.316	0.210	77.7	0.003	5.00	0.0	0.600	o	150	Pipe/Conduit
E1.001	16.566	0.210	78.9	0.012	5.00	0.0	0.600	o	150	Pipe/Conduit
E1.002	9.766	0.430	22.7	0.014	5.00	0.0	0.600	o	150	Pipe/Conduit
E2.000	10.199	0.220	46.4	0.030	5.00	0.0	0.600	o	150	Pipe/Conduit
E3.000	15.997	0.200	80.0	0.029	5.00	0.0	0.600	o	150	Pipe/Conduit
E1.003	24.731	0.610	40.5	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit
E1.004	8.542	0.090	94.9	0.047	5.00	0.0	0.600	o	300	Pipe/Conduit
E1.005	8.067	0.100	80.7	0.009	5.00	0.0	0.600	o	300	Pipe/Conduit
E1.006	9.189	0.600	15.3	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit
E4.000	2.291	0.000	0.0	0.000	5.00	0.0	0.600	o	300	Pipe/Conduit
E1.007	4.375	0.030	145.8	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit
E1.008	2.776	0.000	0.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit
E5.000	14.612	0.450	32.5	0.009	5.00	0.0	0.600	o	150	Pipe/Conduit
E5.001	10.852	0.430	25.2	0.030	5.00	0.0	0.600	o	150	Pipe/Conduit
E5.002	26.104	0.330	79.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit
E5.003	8.929	0.120	74.4	0.023	5.00	0.0	0.600	o	150	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
E1.000	78.850	0.003	0.0	1.14	20.2
E1.001	78.640	0.015	0.0	1.13	20.0
E1.002	78.430	0.029	0.0	2.12	37.5
E2.000	78.220	0.030	0.0	1.48	26.2
E3.000	78.200	0.029	0.0	1.12	19.9
E1.003	78.000	0.089	0.0	2.06	81.9
E1.004	77.390	0.136	0.0	1.61	114.1
E1.005	77.300	0.145	0.0	1.75	123.8
E1.006	77.200	0.145	0.0	4.04	285.4
E4.000	76.600	0.000	0.0	0.00	0.0
E1.007	76.600	0.145	0.0	1.30	91.9
E1.008	76.570	0.145	0.0	0.00	0.0
E5.000	77.600	0.009	0.0	1.77	31.3
E5.001	77.150	0.039	0.0	2.01	35.6
E5.002	76.720	0.039	0.0	1.13	20.0
E5.003	76.390	0.063	0.0	1.17	20.6

Existing Network Details for Existing

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
E5.004	6.344	0.170	37.3	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit
E5.005	8.796	0.220	40.0	0.008	5.00	0.0	0.600	o	225	Pipe/Conduit
E6.000	28.737	0.410	70.1	0.038	5.00	0.0	0.600	o	150	Pipe/Conduit
E5.006	7.929	0.190	41.7	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit
E5.007	4.881	0.070	69.7	0.036	5.00	0.0	0.600	o	225	Pipe/Conduit
E7.000	2.262	0.000	0.0	0.000	5.00	0.0	0.600	o	225	Pipe/Conduit
E7.001	3.902	0.050	78.0	0.000	5.00	0.0	0.600	o	225	Pipe/Conduit
E5.008	2.266	0.000	0.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
E5.004	76.270	0.063	0.0	1.65	29.2
E5.005	76.100	0.070	0.0	2.08	82.5
E6.000	76.290	0.038	0.0	1.20	21.3
E5.006	75.880	0.108	0.0	2.03	80.7
E5.007	75.690	0.144	0.0	1.57	62.4
E7.000	74.100	0.000	0.0	0.00	0.0
E7.001	74.100	0.000	0.0	1.48	58.9
E5.008	74.780	0.144	0.0	0.00	0.0

Manhole Schedules for Existing

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
ES1	79.850	1.000	Open Manhole	450	E1.000	78.850	150				
ES2	79.690	1.050	Open Manhole	450	E1.001	78.640	150	E1.000	78.640	150	
ES3	79.370	0.940	Open Manhole	450	E1.002	78.430	150	E1.001	78.430	150	
ES5	79.220	1.000	Open Manhole	450	E2.000	78.220	150				
ES6	79.200	1.000	Open Manhole	450	E3.000	78.200	150				
ES4	79.090	1.090	Open Manhole	1050	E1.003	78.000	225	E1.002	78.000	150	
								E2.000	78.000	150	
								E3.000	78.000	150	
ES7	78.290	0.900	Open Manhole	1200	E1.004	77.390	300	E1.003	77.390	225	
ES8	78.100	0.800	Open Manhole	1200	E1.005	77.300	300	E1.004	77.300	300	
EPOND	77.700	0.500	Open Manhole	1200	E1.006	77.200	300	E1.005	77.200	300	
ETANK 1	78.000	1.400	Open Manhole	1200	E4.000	76.600	300				
ES9	78.000	1.400	Open Manhole	1200	E1.007	76.600	300	E1.006	76.600	300	
								E4.000	76.600	300	
ESA1	78.000	1.430	Open Manhole	1500	E1.008	76.570	150	E1.007	76.570	300	
E	78.000	1.430	Open Manhole	0		OUTFALL		E1.008	76.570	150	
ES10	78.600	1.000	Open Manhole	450	E5.000	77.600	150				
ES11	78.150	1.000	Open Manhole	450	E5.001	77.150	150	E5.000	77.150	150	
ES12	77.720	1.000	Open Manhole	450	E5.002	76.720	150	E5.001	76.720	150	
ES13	77.830	1.440	Open Manhole	450	E5.003	76.390	150	E5.002	76.390	150	
ES14	77.400	1.130	Open Manhole	450	E5.004	76.270	150	E5.003	76.270	150	
ES15	77.100	1.000	Open Manhole	450	E5.005	76.100	225	E5.004	76.100	150	
ES16	77.400	1.110	Open Manhole	450	E6.000	76.290	150				
EJUNCTION	76.900	1.020	Junction		E5.006	75.880	225	E5.005	75.880	225	
								E6.000	75.880	150	
ES17	76.790	1.100	Open Manhole	1050	E5.007	75.690	225	E5.006	75.690	225	
ETANK 2	76.100	2.000	Open Manhole	1200	E7.000	74.100	225				
ES18	76.100	2.000	Open Manhole	1050	E7.001	74.100	225	E7.000	74.100	225	
ESA2	76.900	2.850	Open Manhole	1500	E5.008	74.780	150	E5.007	75.620	225	915
								E7.001	74.050	225	
E	76.900	2.120	Open Manhole	0		OUTFALL		E5.008	74.780	150	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
ES1	574277.577	152799.263	574277.577	152799.263	Required	

Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
ES2	574261.915	152794.690	574261.915	152794.690	Required	
ES3	574245.349	152794.743	574245.349	152794.743	Required	
ES5	574230.396	152800.092	574230.396	152800.092	Required	
ES6	574255.523	152807.497	574255.523	152807.497	Required	
ES4	574240.166	152803.020	574240.166	152803.020	Required	
ES7	574233.308	152826.782	574233.308	152826.782	Required	
ES8	574228.197	152833.626	574228.197	152833.626	Required	
EPOND	574224.007	152840.520	574224.007	152840.520	Required	
ETANK 1	574217.904	152832.025	574217.904	152832.025	Required	
ES9	574217.303	152834.235	574217.303	152834.235	Required	
ESA1	574213.101	152833.019	574213.101	152833.019	Required	
E	574210.887	152834.693			No Entry	
ES10	574275.264	152827.147	574275.264	152827.147	Required	
ES11	574272.078	152841.408	574272.078	152841.408	Required	
ES12	574262.992	152847.342	574262.992	152847.342	Required	

Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
ES13	574237.956	152839.951	574237.956	152839.951	Required	
ES14	574229.484	152842.772	574229.484	152842.772	Required	
ES15	574227.526	152848.806	574227.526	152848.806	Required	
ES16	574252.646	152865.303	574252.646	152865.303	Required	
EJUNCTION	574225.061	152857.249			No Entry	
ES17	574223.359	152864.993	574223.359	152864.993	Required	
ETANK 2	574222.371	152872.565	574222.371	152872.565	Required	
ES18	574224.632	152872.500	574224.632	152872.500	Required	
ESA2	574226.230	152868.940	574226.230	152868.940	Required	
E	574228.401	152869.588			No Entry	

Simulation Criteria for Existing

Volumetric Runoff Coeff	0.750	Hot Start Level (mm)	0	Additional Flow - % of Total Flow	0.000	Flow per Person per Day (l/per/day)	0.000
Areal Reduction Factor	1.000	Manhole Headloss Coeff (Global)	0.500	MADD Factor * 10m³/ha Storage	2.000	Run Time (mins)	60
Hot Start (mins)	0	Foul Sewage per hectare (l/s)	0.000	Inlet Coeffiecient	0.800	Output Interval (mins)	1

Number of Input Hydrographs 0 Number of Online Controls 2 Number of Offline Controls 0 Number of Storage Structures 5 Number of Time/Area Diagrams 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FEH	Data Type	Point	Cv (Winter)	0.840
Return Period (years)	2	Summer Storms	Yes	Storm Duration (mins)	30
FEH Rainfall Version	2013	Winter Storms	No		
Site Location	GB 574241 152869 TQ 74241 52869	Cv (Summer)	0.750		

Storage Structures for Existing

Tank or Pond Manhole: EPOND, DS/PN: E1.006

Invert Level (m) 77.200

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	45.0	0.500	97.0

Cellular Storage Manhole: ETANK 1, DS/PN: E4.000

Invert Level (m) 76.600 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	138.0	0.0	1.000	138.0	0.0	1.001	0.0	0.0

Deep Bore Soakaway Manhole: ESA1, DS/PN: E1.008

Chamber Invert Level (m) 65.070 Borehole Diameter (m) 0.150 Infiltration Coefficient Base (m/hr) 0.00000
Chamber Diameter/Length (m) 1.500 Borehole Depth (m) 10.500 Safety Factor 2.0

Depth (m)	Side Infil. Coef. (m/hr)	Depth (m)	Side Infil. Coef. (m/hr)	Depth (m)	Side Infil. Coef. (m/hr)	Depth (m)	Side Infil. Coef. (m/hr)
0.000	0.05904	4.000	0.05904	4.001	0.00000	10.500	0.00000

Cellular Storage Manhole: ETANK 2, DS/PN: E7.000

Invert Level (m) 74.100 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	115.0	0.0	1.500	115.0	0.0	1.501	0.0	0.0

Deep Bore Soakaway Manhole: ESA2, DS/PN: E5.008

Chamber Invert Level (m) 62.550 Borehole Diameter (m) 0.150 Infiltration Coefficient Base (m/hr) 0.00000
Chamber Diameter/Length (m) 1.500 Borehole Depth (m) 10.500 Safety Factor 2.0

Depth (m)	Side Infil. Coef. (m/hr)	Depth (m)	Side Infil. Coef. (m/hr)	Depth (m)	Side Infil. Coef. (m/hr)	Depth (m)	Side Infil. Coef. (m/hr)
0.000	0.05904	4.000	0.05904	4.010	0.00000	10.500	0.00000

Summary of Critical Results by Maximum Level (Rank 1) for Existing

Simulation Criteria

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

Number of Input Hydrographs 0 Number of Online Controls 2 Number of Offline Controls 0 Number of Storage Structures 5 Number of Time/Area Diagrams 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH Site Location GB 574241 152869 TQ 74241 52869 Cv (Summer) 0.750
FEH Rainfall Version 2013 Data Type Point Cv (Winter) 0.840

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

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years) 100
Climate Change (%) 20

PN	US/MH Name	Event	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
E1.000	ES1	15 minute 100 year Winter I+20%	79.850	78.881	-0.119	0.000	0.10		1.8	OK
E1.001	ES2	15 minute 100 year Winter I+20%	79.690	78.713	-0.077	0.000	0.48		8.9	OK
E1.002	ES3	15 minute 100 year Winter I+20%	79.370	78.508	-0.072	0.000	0.52		17.3	OK
E2.000	ES5	15 minute 100 year Winter I+20%	79.220	78.320	-0.050	0.000	0.77		17.9	OK
E3.000	ES6	15 minute 100 year Winter I+20%	79.200	78.328	-0.022	0.000	0.94		17.3	OK
E1.003	ES4	15 minute 100 year Winter I+20%	79.090	78.141	-0.084	0.000	0.69		52.2	OK
E1.004	ES7	15 minute 100 year Winter I+20%	78.290	77.702	0.012	0.000	1.05		78.7	SURCHARGED
E1.005	ES8	15 minute 100 year Winter I+20%	78.100	77.600	0.000	0.000	1.04		82.0	OK
E1.006	EPOND	1440 minute 100 year Winter I+20%	77.700	77.522	0.022	0.000	0.02		4.4	FLOOD RISK
E4.000	ETANK 1	1440 minute 100 year Winter I+20%	78.000	77.523	0.623	0.000	0.02		1.1	SURCHARGED
E1.007	ES9	1440 minute 100 year Winter I+20%	78.000	77.546	0.646	0.000	0.02		1.2	SURCHARGED
E1.008	ESA1	1440 minute 100 year Winter I+20%	78.000	77.566	0.846	0.000	0.00		0.0	SURCHARGED
E5.000	ES10	15 minute 100 year Winter I+20%	78.600	77.645	-0.105	0.000	0.20		5.6	OK
E5.001	ES11	15 minute 100 year Winter I+20%	78.150	77.555	0.255	0.000	0.65		20.6	SURCHARGED
E5.002	ES12	15 minute 100 year Winter I+20%	77.720	77.386	0.516	0.000	1.05		20.0	SURCHARGED
E5.003	ES13	15 minute 100 year Winter I+20%	77.830	77.039	0.499	0.000	1.73		31.4	SURCHARGED
E5.004	ES14	15 minute 100 year Winter I+20%	77.400	76.666	0.246	0.000	1.28		31.5	SURCHARGED
E5.005	ES15	15 minute 100 year Winter I+20%	77.100	76.381	0.056	0.000	0.53		35.3	SURCHARGED
E6.000	ES16	15 minute 100 year Winter I+20%	77.400	76.708	0.268	0.000	1.03		20.9	SURCHARGED
E5.006	EJUNCTION	15 minute 100 year Summer I+20%	76.900	76.105	0.000	0.000	0.89		54.5	SURCHARGED*
E5.007	ES17	15 minute 100 year Winter I+20%	76.790	76.121	0.206	0.000	1.98		74.0	SURCHARGED
E7.000	ETANK 2	1440 minute 100 year Winter I+20%	76.100	75.383	1.058	0.000	0.01		0.4	SURCHARGED
E7.001	ES18	1440 minute 100 year Winter I+20%	76.100	75.383	1.058	0.000	0.00		0.0	SURCHARGED
E5.008	ESA2	1440 minute 100 year Winter I+20%	76.900	75.384	0.454	0.000	0.00		0.0	SURCHARGED

Existing Network Details for Existing

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
E1.000	16.316	0.210	77.7	0.003	5.00	0.0	0.600	o	150	Pipe/Conduit
E1.001	16.566	0.210	78.9	0.012	5.00	0.0	0.600	o	150	Pipe/Conduit
E1.002	9.766	0.430	22.7	0.014	5.00	0.0	0.600	o	150	Pipe/Conduit
E2.000	10.199	0.220	46.4	0.030	5.00	0.0	0.600	o	150	Pipe/Conduit
E3.000	15.997	0.200	80.0	0.029	5.00	0.0	0.600	o	150	Pipe/Conduit
E1.003	24.731	0.610	40.5	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit
E1.004	8.542	0.090	94.9	0.047	5.00	0.0	0.600	o	300	Pipe/Conduit
E1.005	8.067	0.100	80.7	0.009	5.00	0.0	0.600	o	300	Pipe/Conduit
E1.006	9.189	0.600	15.3	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit
E4.000	2.291	0.000	0.0	0.000	5.00	0.0	0.600	o	300	Pipe/Conduit
E1.007	4.375	0.030	145.8	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit
E1.008	2.776	0.000	0.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit
E5.000	14.612	0.450	32.5	0.009	5.00	0.0	0.600	o	150	Pipe/Conduit
E5.001	10.852	0.430	25.2	0.030	5.00	0.0	0.600	o	150	Pipe/Conduit
E5.002	26.104	0.330	79.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit
E5.003	8.929	0.120	74.4	0.023	5.00	0.0	0.600	o	150	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
E1.000	78.850	0.003	0.0	1.14	20.2
E1.001	78.640	0.015	0.0	1.13	20.0
E1.002	78.430	0.029	0.0	2.12	37.5
E2.000	78.220	0.030	0.0	1.48	26.2
E3.000	78.200	0.029	0.0	1.12	19.9
E1.003	78.000	0.089	0.0	2.06	81.9
E1.004	77.390	0.136	0.0	1.61	114.1
E1.005	77.300	0.145	0.0	1.75	123.8
E1.006	77.200	0.145	0.0	4.04	285.4
E4.000	76.600	0.000	0.0	0.00	0.0
E1.007	76.600	0.145	0.0	1.30	91.9
E1.008	76.570	0.145	0.0	0.00	0.0
E5.000	77.600	0.009	0.0	1.77	31.3
E5.001	77.150	0.039	0.0	2.01	35.6
E5.002	76.720	0.039	0.0	1.13	20.0
E5.003	76.390	0.063	0.0	1.17	20.6

Existing Network Details for Existing

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
E5.004	6.344	0.170	37.3	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit
E5.005	8.796	0.220	40.0	0.008	5.00	0.0	0.600	o	225	Pipe/Conduit
E6.000	28.737	0.410	70.1	0.038	5.00	0.0	0.600	o	150	Pipe/Conduit
E5.006	7.929	0.190	41.7	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit
E5.007	4.881	0.070	69.7	0.036	5.00	0.0	0.600	o	225	Pipe/Conduit
E7.000	2.262	0.000	0.0	0.000	5.00	0.0	0.600	o	225	Pipe/Conduit
E7.001	3.902	0.050	78.0	0.000	5.00	0.0	0.600	o	225	Pipe/Conduit
E5.008	2.266	0.000	0.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
E5.004	76.270	0.063	0.0	1.65	29.2
E5.005	76.100	0.070	0.0	2.08	82.5
E6.000	76.290	0.038	0.0	1.20	21.3
E5.006	75.880	0.108	0.0	2.03	80.7
E5.007	75.690	0.144	0.0	1.57	62.4
E7.000	74.100	0.000	0.0	0.00	0.0
E7.001	74.100	0.000	0.0	1.48	58.9
E5.008	74.780	0.144	0.0	0.00	0.0

Manhole Schedules for Existing

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
ES1	79.850	1.000	Open Manhole	450	E1.000	78.850	150				
ES2	79.690	1.050	Open Manhole	450	E1.001	78.640	150	E1.000	78.640	150	
ES3	79.370	0.940	Open Manhole	450	E1.002	78.430	150	E1.001	78.430	150	
ES5	79.220	1.000	Open Manhole	450	E2.000	78.220	150				
ES6	79.200	1.000	Open Manhole	450	E3.000	78.200	150				
ES4	79.090	1.090	Open Manhole	1050	E1.003	78.000	225	E1.002	78.000	150	
								E2.000	78.000	150	
								E3.000	78.000	150	
ES7	78.290	0.900	Open Manhole	1200	E1.004	77.390	300	E1.003	77.390	225	
ES8	78.100	0.800	Open Manhole	1200	E1.005	77.300	300	E1.004	77.300	300	
EPOND	77.700	0.500	Open Manhole	1200	E1.006	77.200	300	E1.005	77.200	300	
ETANK 1	78.000	1.400	Open Manhole	1200	E4.000	76.600	300				
ES9	78.000	1.400	Open Manhole	1200	E1.007	76.600	300	E1.006	76.600	300	
								E4.000	76.600	300	
ESA1	78.000	1.430	Open Manhole	1500	E1.008	76.570	150	E1.007	76.570	300	
E	78.000	1.430	Open Manhole	0		OUTFALL		E1.008	76.570	150	
ES10	78.600	1.000	Open Manhole	450	E5.000	77.600	150				
ES11	78.150	1.000	Open Manhole	450	E5.001	77.150	150	E5.000	77.150	150	
ES12	77.720	1.000	Open Manhole	450	E5.002	76.720	150	E5.001	76.720	150	
ES13	77.830	1.440	Open Manhole	450	E5.003	76.390	150	E5.002	76.390	150	
ES14	77.400	1.130	Open Manhole	450	E5.004	76.270	150	E5.003	76.270	150	
ES15	77.100	1.000	Open Manhole	450	E5.005	76.100	225	E5.004	76.100	150	
ES16	77.400	1.110	Open Manhole	450	E6.000	76.290	150				
EJUNCTION	76.900	1.020	Junction		E5.006	75.880	225	E5.005	75.880	225	
								E6.000	75.880	150	
ES17	76.790	1.100	Open Manhole	1050	E5.007	75.690	225	E5.006	75.690	225	
ETANK 2	76.100	2.000	Open Manhole	1200	E7.000	74.100	225				
ES18	76.100	2.000	Open Manhole	1050	E7.001	74.100	225	E7.000	74.100	225	
ESA2	76.900	2.850	Open Manhole	1500	E5.008	74.780	150	E5.007	75.620	225	915
								E7.001	74.050	225	
E	76.900	2.120	Open Manhole	0		OUTFALL		E5.008	74.780	150	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
ES1	574277.577	152799.263	574277.577	152799.263	Required	

Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
ES2	574261.915	152794.690	574261.915	152794.690	Required	
ES3	574245.349	152794.743	574245.349	152794.743	Required	
ES5	574230.396	152800.092	574230.396	152800.092	Required	
ES6	574255.523	152807.497	574255.523	152807.497	Required	
ES4	574240.166	152803.020	574240.166	152803.020	Required	
ES7	574233.308	152826.782	574233.308	152826.782	Required	
ES8	574228.197	152833.626	574228.197	152833.626	Required	
EPOND	574224.007	152840.520	574224.007	152840.520	Required	
ETANK 1	574217.904	152832.025	574217.904	152832.025	Required	
ES9	574217.303	152834.235	574217.303	152834.235	Required	
ESA1	574213.101	152833.019	574213.101	152833.019	Required	
E	574210.887	152834.693			No Entry	
ES10	574275.264	152827.147	574275.264	152827.147	Required	
ES11	574272.078	152841.408	574272.078	152841.408	Required	
ES12	574262.992	152847.342	574262.992	152847.342	Required	

Manhole Schedules for Existing

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
ES13	574237.956	152839.951	574237.956	152839.951	Required	
ES14	574229.484	152842.772	574229.484	152842.772	Required	
ES15	574227.526	152848.806	574227.526	152848.806	Required	
ES16	574252.646	152865.303	574252.646	152865.303	Required	
EJUNCTION	574225.061	152857.249			No Entry	
ES17	574223.359	152864.993	574223.359	152864.993	Required	
ETANK 2	574222.371	152872.565	574222.371	152872.565	Required	
ES18	574224.632	152872.500	574224.632	152872.500	Required	
ESA2	574226.230	152868.940	574226.230	152868.940	Required	
E	574228.401	152869.588			No Entry	

Simulation Criteria for Existing

Volumetric Runoff Coeff	0.750	Hot Start Level (mm)	0	Additional Flow - % of Total Flow	0.000	Flow per Person per Day (l/per/day)	0.000
Areal Reduction Factor	1.000	Manhole Headloss Coeff (Global)	0.500	MADD Factor * 10m³/ha Storage	2.000	Run Time (mins)	60
Hot Start (mins)	0	Foul Sewage per hectare (l/s)	0.000	Inlet Coeffiecient	0.800	Output Interval (mins)	1

Number of Input Hydrographs 0 Number of Online Controls 2 Number of Offline Controls 0 Number of Storage Structures 5 Number of Time/Area Diagrams 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FEH	Data Type	Point	Cv (Winter)	0.840
Return Period (years)	2	Summer Storms	Yes	Storm Duration (mins)	30
FEH Rainfall Version	2013	Winter Storms	No		
Site Location	GB 574241 152869 TQ 74241 52869	Cv (Summer)	0.750		

Storage Structures for Existing

Tank or Pond Manhole: EPOND, DS/PN: E1.006

Invert Level (m) 77.200

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	45.0	0.500	97.0

Cellular Storage Manhole: ETANK 1, DS/PN: E4.000

Invert Level (m) 76.600 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	138.0	0.0	1.000	138.0	0.0	1.001	0.0	0.0

Deep Bore Soakaway Manhole: ESA1, DS/PN: E1.008

Chamber Invert Level (m) 65.070 Borehole Diameter (m) 0.150 Infiltration Coefficient Base (m/hr) 0.00000
Chamber Diameter/Length (m) 1.500 Borehole Depth (m) 10.500 Safety Factor 2.0

Depth (m)	Side Infil. Coef. (m/hr)	Depth (m)	Side Infil. Coef. (m/hr)	Depth (m)	Side Infil. Coef. (m/hr)	Depth (m)	Side Infil. Coef. (m/hr)
0.000	0.05904	4.000	0.05904	4.001	0.00000	10.500	0.00000

Cellular Storage Manhole: ETANK 2, DS/PN: E7.000

Invert Level (m) 74.100 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	115.0	0.0	1.500	115.0	0.0	1.501	0.0	0.0

Deep Bore Soakaway Manhole: ESA2, DS/PN: E5.008

Chamber Invert Level (m) 62.550 Borehole Diameter (m) 0.150 Infiltration Coefficient Base (m/hr) 0.00000
Chamber Diameter/Length (m) 1.500 Borehole Depth (m) 10.500 Safety Factor 2.0

Depth (m)	Side Infil. Coef. (m/hr)	Depth (m)	Side Infil. Coef. (m/hr)	Depth (m)	Side Infil. Coef. (m/hr)	Depth (m)	Side Infil. Coef. (m/hr)
0.000	0.05904	4.000	0.05904	4.010	0.00000	10.500	0.00000

Summary of Critical Results by Maximum Level (Rank 1) for Existing

Simulation Criteria

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

Number of Input Hydrographs 0 Number of Online Controls 2 Number of Offline Controls 0 Number of Storage Structures 5 Number of Time/Area Diagrams 0 Number of Real Time Controls 0

Synthetic Rainfall Details

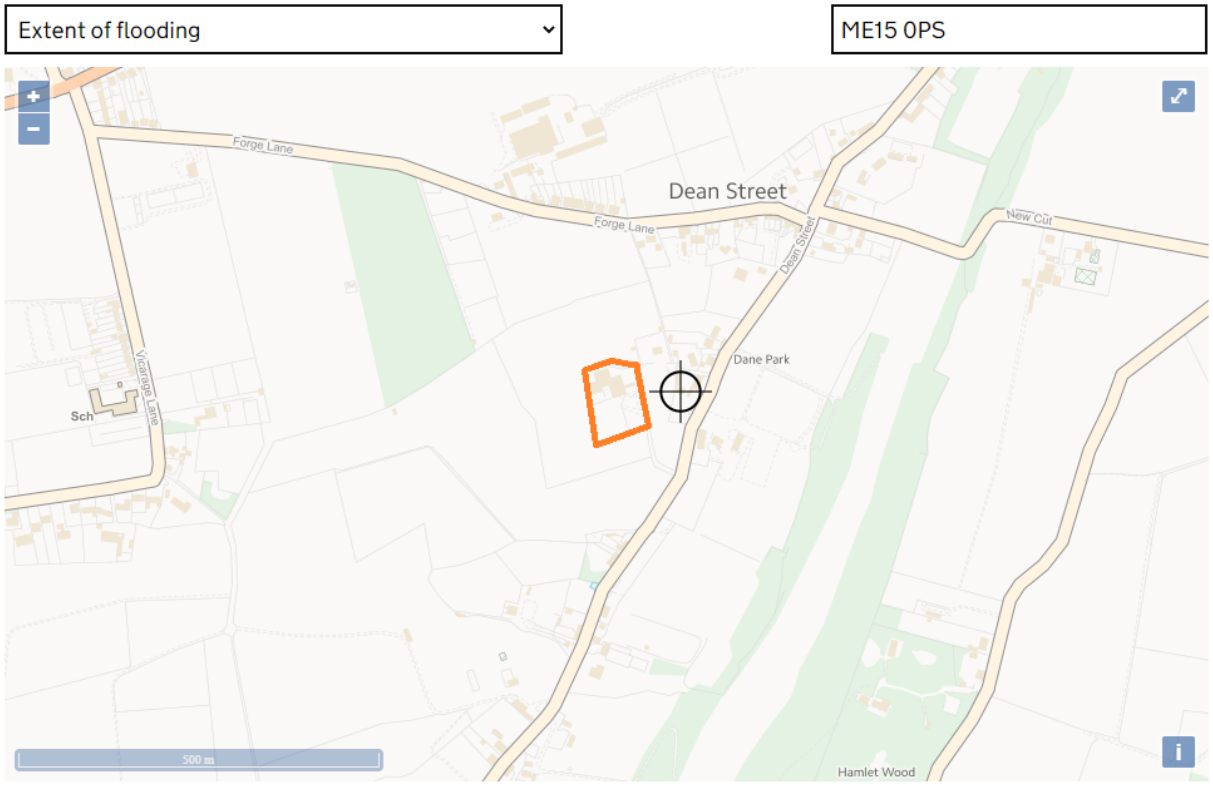
Rainfall Model FEH Site Location GB 574241 152869 TQ 74241 52869 Cv (Summer) 0.750
FEH Rainfall Version 2013 Data Type Point Cv (Winter) 0.840

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

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years) 100
Climate Change (%) 40

PN	US/MH Name	Event	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
E1.000	ES1	15 minute 100 year Winter I+40%	79.850	78.883	-0.117	0.000	0.11		2.1	OK
E1.001	ES2	15 minute 100 year Winter I+40%	79.690	78.721	-0.069	0.000	0.56		10.4	OK
E1.002	ES3	15 minute 100 year Winter I+40%	79.370	78.516	-0.064	0.000	0.61		20.2	OK
E2.000	ES5	15 minute 100 year Winter I+40%	79.220	78.346	-0.024	0.000	0.89		20.7	OK
E3.000	ES6	15 minute 100 year Winter I+40%	79.200	78.417	0.067	0.000	1.08		20.0	SURCHARGED
E1.003	ES4	15 minute 100 year Winter I+40%	79.090	78.173	-0.052	0.000	0.80		60.7	OK
E1.004	ES7	15 minute 100 year Winter I+40%	78.290	77.781	0.091	0.000	1.23		92.1	SURCHARGED
E1.005	ES8	1440 minute 100 year Winter I+40%	78.100	77.674	0.074	0.000	0.06		5.1	SURCHARGED
E1.006	EPOND	1440 minute 100 year Winter I+40%	77.700	77.674	0.174	0.000	0.03		5.0	FLOOD RISK
E4.000	ETANK 1	1440 minute 100 year Winter I+40%	78.000	77.678	0.778	0.000	0.02		0.9	SURCHARGED
E1.007	ES9	1440 minute 100 year Winter I+40%	78.000	77.680	0.780	0.000	0.02		1.2	SURCHARGED
E1.008	ESA1	1440 minute 100 year Winter I+40%	78.000	77.680	0.960	0.000	0.00		0.0	SURCHARGED
E5.000	ES10	15 minute 100 year Winter I+40%	78.600	77.987	0.237	0.000	0.21		6.1	SURCHARGED
E5.001	ES11	15 minute 100 year Winter I+40%	78.150	77.962	0.662	0.000	0.71		22.7	FLOOD RISK
E5.002	ES12	15 minute 100 year Winter I+40%	77.720	77.720	0.850	0.080	1.18		22.5	FLOOD
E5.003	ES13	15 minute 100 year Winter I+40%	77.830	77.336	0.796	0.000	1.91		34.7	SURCHARGED
E5.004	ES14	15 minute 100 year Winter I+40%	77.400	76.877	0.457	0.000	1.42		34.8	SURCHARGED
E5.005	ES15	15 minute 100 year Winter I+40%	77.100	76.531	0.206	0.000	0.59		39.2	SURCHARGED
E6.000	ES16	15 minute 100 year Winter I+40%	77.400	76.970	0.530	0.000	1.17		23.8	SURCHARGED
E5.006	EJUNCTION	15 minute 100 year Summer I+40%	76.900	76.105	0.000	0.000	0.99		61.0	SURCHARGED*
E5.007	ES17	15 minute 100 year Winter I+40%	76.790	76.202	0.287	0.000	2.25		83.9	SURCHARGED
E7.000	ETANK 2	1440 minute 100 year Winter I+40%	76.100	75.669	1.344	0.000	0.01		0.4	SURCHARGED
E7.001	ES18	1440 minute 100 year Winter I+40%	76.100	75.669	1.344	0.000	0.01		0.3	SURCHARGED
E5.008	ESA2	1440 minute 100 year Winter I+40%	76.900	75.669	0.739	0.000	0.00		0.0	SURCHARGED

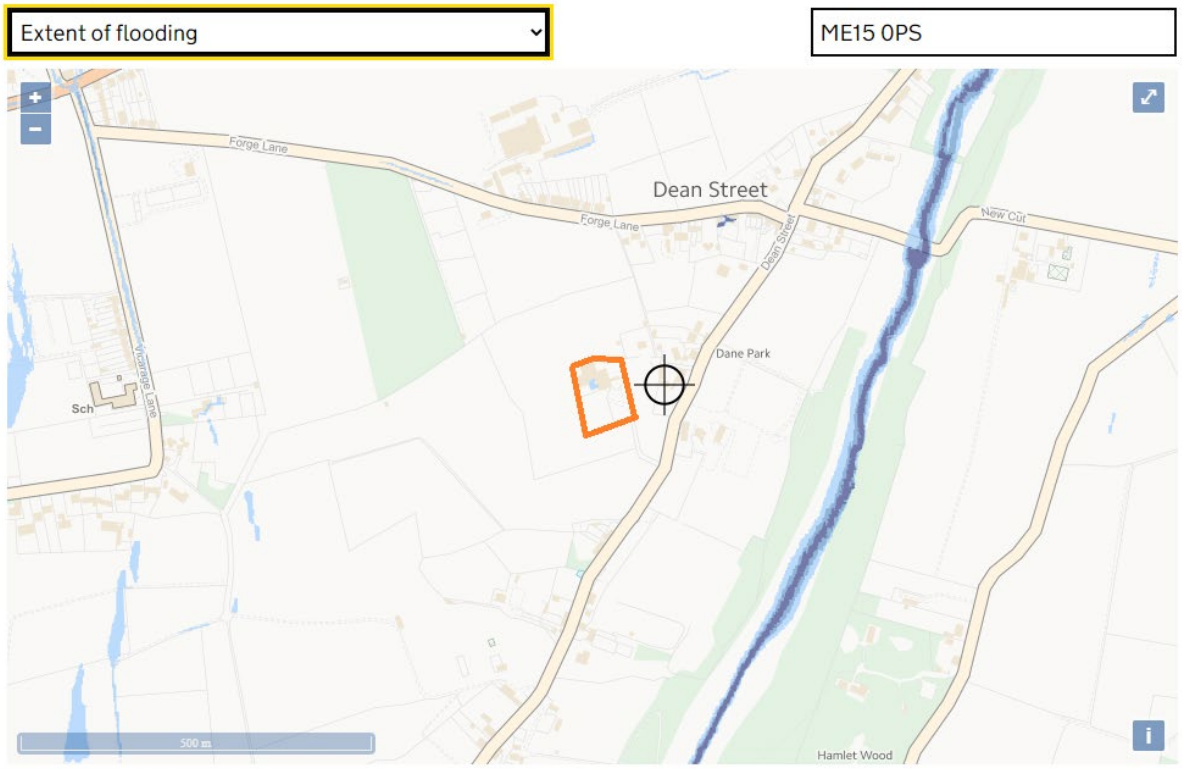
APPENDIX 6.4 FLOOD RISK FROM RIVERS OR SEA



Extent of flooding from rivers or the sea

High Medium Low Very low Location you selected

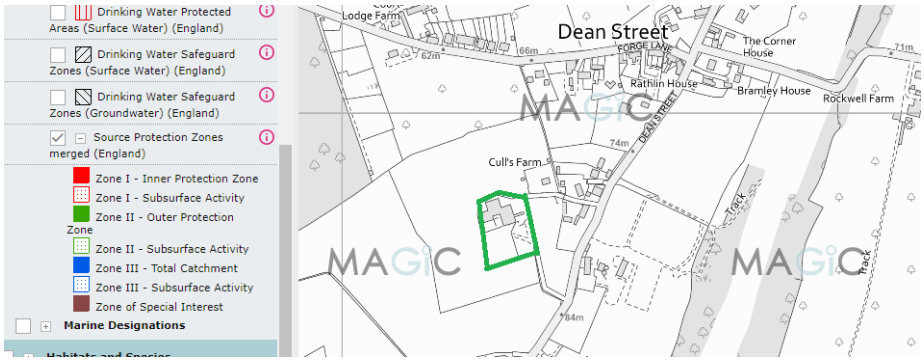
APPENDIX 6.5 FLOOD RISK FROM SURFACE WATER



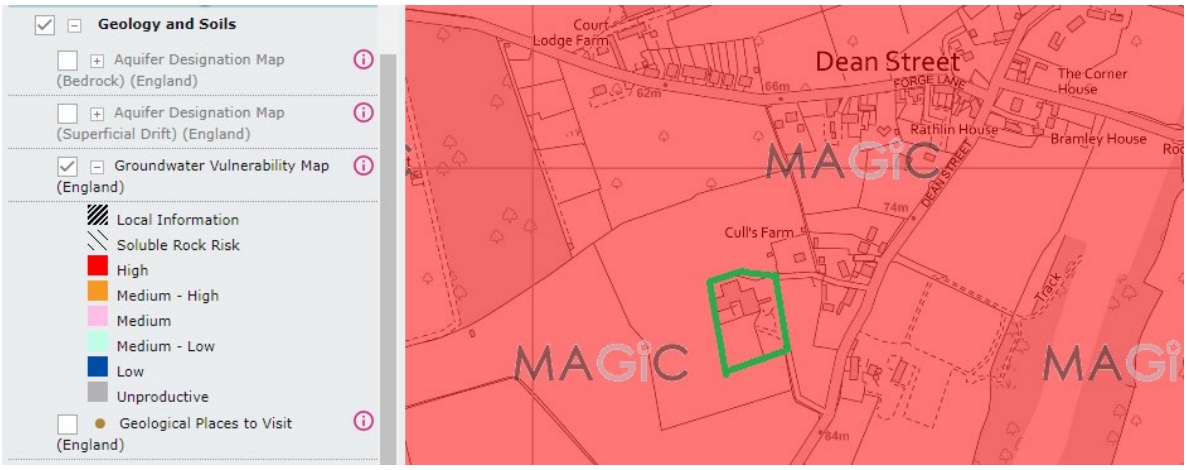
Extent of flooding from surface water

High Medium Low Very low Location you selected

APPENDIX 6.6 GROUNDWATER SOURCE PROTECTION



APPENDIX 6.7 GROUNDWATER VULNERABILITY



APPENDIX 6.8 FLOOD MAP FOR PLANNING

Flood map for planning

Your reference	Location (easting/northing)	Created
19-014	**574242/152827**	**3 Sep 2020 15:58**

Your selected location is in flood zone 1, an area with a low probability of flooding.

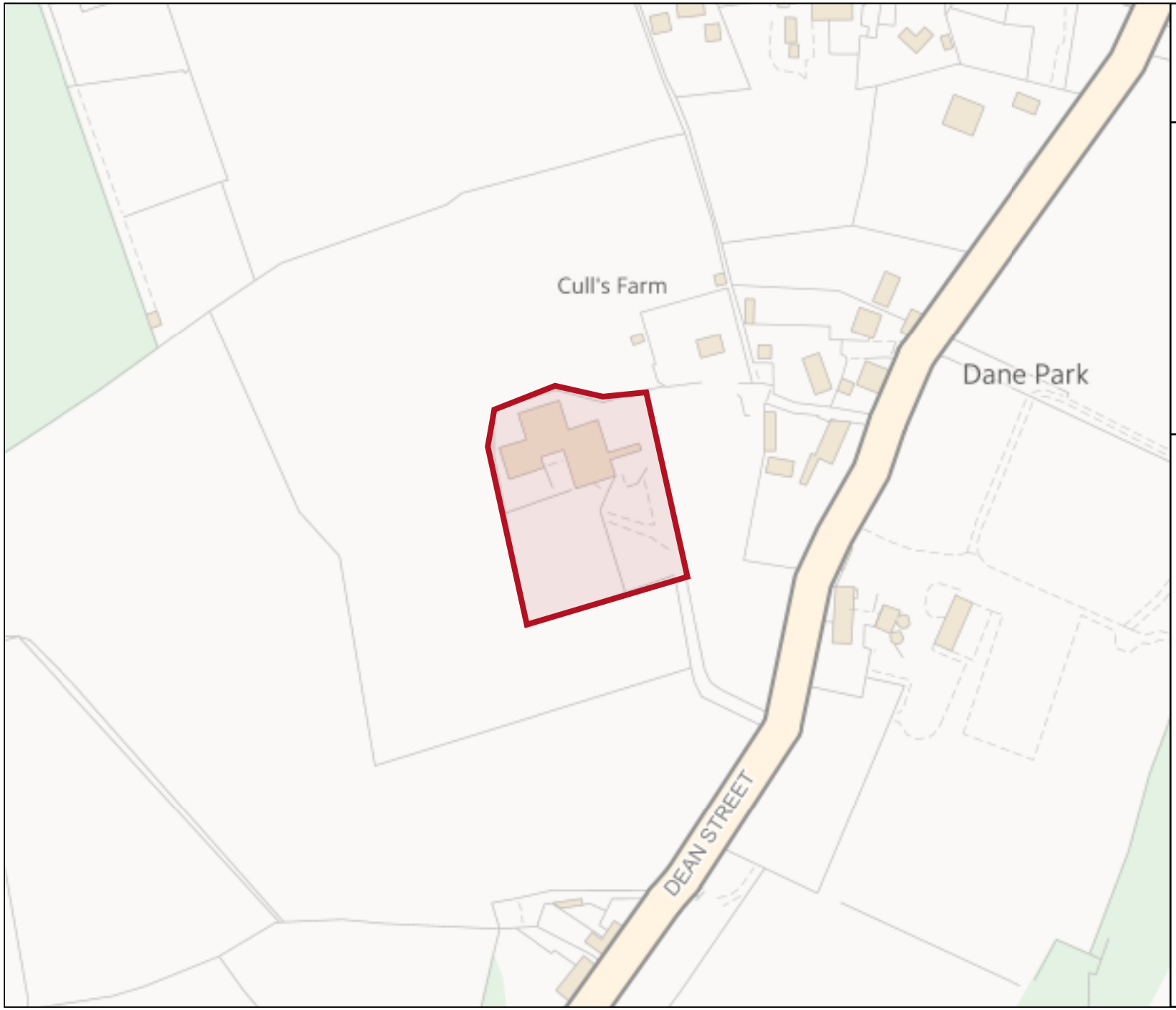
This means:

- you don't need to do a flood risk assessment if your development is smaller than 1 hectare and not affected by other sources of flooding
- you may need to do a flood risk assessment if your development is larger than 1 hectare or affected by other sources of flooding or in an area with critical drainage problems

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.



Environment Agency

Flood map for planning

Your reference
19-014

Location (easting/northing)
574242/152827

Scale
1:2500

Created
3 Sep 2020 15:58

- Selected area
- Flood zone 3
- Flood zone 3: areas benefitting from flood defences
- Flood zone 2
- Flood zone 1
- Flood defence
- Main river
- Flood storage area

0 20 40 60m