



SOAKAWAY DETAILS-Domestic Trench Soakaways

Soakaway Ref	Area Draining m ²	Width m	Length m	Ground level m	Invert level existing pipe (mm)	Soakaway base Invert	Infiltration Zone
So1	50	1.00	8.0	7.20	6.550	6.20	1
So2	50	1.00	8.0	7.20	6.550	6.20	1
So11	440	1.80	52.0	7.60	7.10	6.60	2
So12	80	1.20	24.0	7.20	6.70	6.20	4

Infiltration Zone

Infiltration Zone	Soakage Rate (m/s)	Soakage Rate (m/hr)
1	1.06 E-05	0.03816
2	2.95 E-06	0.01062
3	5.88 E-06	0.021168
4	1.86 E-06	0.006696
5	3.91 E-06	0.014076
6	4.06 E-06	0.14816

Infiltration rates have been measured on site in accordance with BRE365.

FOUL WATER MANHOLE SCHEDULE

No	Reference	Cover Level (m)	Invert Level (m)	Depth to soffit (m)	Chamber Size (mm)	Type	Cover Grade
1	F1	6.250	4.900	1.200	450	3	A15*
2	F11	7.535	6.935	0.500	250	4	A15
3	F12	7.535	6.885	0.570	450	3	A15
4	F13	7.550	6.950	0.500	250	4	A15
5	F14	7.230	6.800	0.330	450	3	A15
6	F2	7.585	5.891	1.544	450	3	A15*
7	F21	7.585	6.908	0.577	450	3	A15
8	F22	7.685	7.007	0.578	450	3	A15
9	F3	7.700	6.302	1.298	450	3	A15*
10	F31	7.685	6.989	0.596	450	3	A15
11	F4	7.625	6.622	0.903	450	3	B125
12	F41	7.685	7.014	0.571	450	3	A15
13	F42	7.685	7.085	0.500	250	4	A15
14	F42	7.685	7.085	0.500	250	4	A15
15	F44	7.700	7.004	0.596	450	3	A15
16	F45	7.685	6.984	0.601	450	3	A15
17	F46	7.685	7.085	0.500	250	4	A15
18	F5	7.535	6.832	0.603	450	3	A15
19	F51	7.535	6.935	0.500	450	3	A15
20	F6	7.545	6.945	0.500	450	3	A15
21	F7	7.625	7.025	0.500	250	4	A15

* Cover size restricted to 350mm dia or 300 x 300mm where depth of chamber to invert level is >1.2m.

SURFACE WATER MANHOLE SCHEDULE

No	Reference	Cover Level (m)	Invert Level (m)	Depth to soffit (m)	Chamber Size (mm)	Type	Cover Grade
1	S1(ST)	7.200	6.725	0.375	450	5	A15
2	S2(ST)	7.625	6.970	0.555	450	5	A15
3	S3(ST)	7.365	6.770	0.495	450	5	A15
4	S4(ST)	7.535	6.780	0.655	450	5	A15
5	S5(ST)	7.300	6.764	0.436	450	5	A15
6	S6	7.685	7.244	0.341	450	3	A15
7	S7(ST)	7.630	7.158	0.372	450	5	A15
8	S8(ST)	7.685	7.128	0.457	450	5	A15
9	S8(ST)	7.685	7.169	0.416	450	5	A15
10	S10(ST)	7.685	7.172	0.413	450	5	A15
11	S11(ST)	7.685	7.172	0.413	450	5	A15
12	S12(ST)	7.685	7.168	0.399	450	5	B125
13	S13(ST)	7.685	7.125	0.460	450	5	A15
14	S14(ST)	7.585	7.125	0.380	450	5	A15
15	S15(ST)	7.585	7.175	0.310	450	5	A15

Notes:

- 1.All levels are to local Datum.
- 2.All Highway work's on or adjacent to existing public highway shall be executed in accordance with the Traffic Safety Code for Roadwork's and Chapter 8 of the Traffic Signs Manual.
- 3.At the commencement of works on site the contractor is to carry out trial pits and liaise with Utility Companies in order to establish the exact position of all existing statutory utility plant in the vicinity of works and take adequate precautions or their protection.
- 4.The Contractor is to comply fully with the CDM Regulations in the course of constructing the works.
- 5.Highways in the vicinity of the works must be kept free from mud, debris and dust falling from vehicles or the wheels of vehicles connected with the works.
- 6.All drain and sewer pipes to be laid soffit to soffit, unless shown otherwise.
- 7.Minimum gradient for 100Ø SW is 1:100 and 100Ø FW is 1:80 with one WC connected otherwise 1:40. Bedding for domestic drainage Class B. All pipe runs near buildings to comply with the Building Regulations 2010 Part H1.
- 8.Position of soil pipes, standing wastes, wc outlets etc. are shown on the Architect's working drawings. Rainwater downpipe positions are to be checked against Architects details to ensure compatibility. Rainwater downpipes to have rodding access facilities where surface water drainage passes under buildings.
- 9.All concrete and concrete products to be in accordance with BRE 363 for sulphates.
- 10.All slab levels shown are for guidance only and may need to be adjusted on site, subject to approval by the engineer.
- 11.Do not scale from this drawing, work only from stated dimensions or setting out details.
- 12.Refer to tables for manhole schedules.
- 13.Where paths falls towards the front door use suitable linear/slot drainage system connected to surface water system as per architects details.
- 14.All plots to have gardens sloping away from properties otherwise interceptor drains to be installed.
- 15.Surface water drainage connected to catchpit manhole prior to discharge to soakaway
- 16.Soakaways to be minimum 8.0m from dwelling foundations and 2.0m from boundary wall foundations. Boundary walls within 2.0m of soakaways to have reinforced foundations. Prior to construction of soakaways trial holes to be dug to the invert of base to establish ground water level.
- 17.This drawing is to be read in conjunction with all relevant engineering drawings issued by Escher Silverman and Crayfern Homes for this site only.

LEGEND:

SURFACE WATER DRAINAGE LEGEND:

- R1 Domestic surface water drain with rodding eye.
- S4 TYPE 3 - 450mm
- S3(ST) Type 5 - 450mm Silt Trap
- ACO drain
- So1 Domestic trench soakaways.
- Sizing determined by in-situ infiltration testing.
- Soakaways designed in accordance with Environment Agency criteria for 1 in 100years storm return +40% climate change and sited a minimum of 8.0m from new dwellings.

FOUL WATER DRAINAGE LEGEND:

- Existing foul water sewer
- F4 Domestic foul water sewer and manholes
- F4 Type 3 - 450mm Ø
- F4/1 Type 4 Shallow PPIC inspection chamber - 250mm Ø.
- Invert 750mm lower than FFL unless noted otherwise

KEYS:

- Permeable block paved access construction - Paving Detail 01
- Permeable block paved drive construction - Paving Detail 02
- Impermeable paved access construction
- Cross Over Impermeable Finishes (TBC)
- Fence
- Retaining wall

SAFETY, HEALTH & ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the type of work detailed on this drawing note should be made of the following.

- Working in vicinity of deep excavations.
- Working in live Highway
- Connection to live foul sewer
- Existing Services across site and in Highway

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement.

Contractor is not relieved of any of his obligations under all applicable health and safety regulations.

E	10.12.18	Retaining wall and manhole schedule amended.	HN
D	07.12.18	Impermeable crossover amended. Plot 5 a drainage connection amended.	HN
C	05.12.18	Drainage layout updated. Manhole schedules added.	HN
B	06.08.18	Soakaways amended	KN
A	28.05.18	Initial issue	KN
Rev.	Date	Details	Initials

Drawing Status

PRELIMINARY

Project

ORCHARD BUSINESS PARK
NORTH END ROAD, YAPTON

Client

Crayfern
HOMES

ESCHER SILVERMAN
Civil & Structural Consulting Engineers
Roughton, A2 Omega Park, Ecton Way, Chadders Ford, Hampshire SO53 4SE.
Tel: 023 8027 9659 Email: reception@eschersilverman.co.uk
www.eschersilverman.com

Drawing Title

Engineering Details
Drainage Proposals

Drawn	Checked	Scales	Paper Size	Date
HN	KN	1:200	A1	05.18
Job No.	Drawing No.	Revision		
ES1801	502-01	E		