4. Scoped Out Technical Assessments

Appendix 4.1

SURFACE WATER & FOUL DRAINAGE STRATEGIES

OS NORTH

SR172

SR172

SR172

SR97

POLHILL

STAR HILL

BASIN C
Drained Area = 0.62ha
Max volume = 500m³

BASIN L
Drained Area = 0.956
Max Volume = 891m³

BASIN A
Drained Area - 0.967ha
Max Volume1124m³

BASIN H
Drained Area - 0.648ha
Max Volume = 521m³

BASIN K
Drained Area = 0.422h
Max Volume = 301m³

BASIN F - 1144m³

STORAGE M
Drained Area = 1.556ha
BASIN - Max Volume = 1323m³
ATTENUATION TANK - Max Volume = 280m³

STORAGE J
Drained Area = 1.466ha
BASIN - Max Volume = 749m³
ATTENUATION TANK - Max Volume = 650m³

STORAGE N
Drained Area = 0.56ha
BASIN - Max Volume = 397m³

BASIN G1+G2
Drained Area = 1.036ha
Max Volume = 951m³

STORAGE B
Drained Area = 1.01ha
BASIN - Max Volume = 299m³
ATTENUATION TANK = 600m³

ATTENUATION TANK - D
Drained Area - 0.984ha
Max Volume = 950m³

ATTENUATION TANK - E
Drained Area - 1.44ha
Max Volume = 1100m³

R8
1.24 ha. (0.62 ha.)
25 dph (50% imp)

R6
0.857 ha. (0.514 ha.)
30 dph (60% imp)

R7
0.926 ha. (0.556 ha.)
35 dph (60% imp)

R5
0.81 ha. (0.486 ha.)
40 dph (60% imp)

R1
0.63 ha. (0.38 ha.)
35 dph (60% imp)

R2
0.20 ha. (0.12 ha.)
40 dph (60% imp)

R4
0.95ha. (0.57h
45 dph (60%

R10
0.56 ha. (0.34 ha.)
45 dph (60% imp)

R11
0.42ha. (0.25ha.)
45 dph (60% imp)

R11
0.287ha (0.172ha.)
45 dph (60% imp)

R11
0.611ha. (0.366ha.)
45 dph (60% imp)

R11
0.85ha. (0.59ha.)
55 dph (70% imp)

R10
0.928ha. (0.556ha)
55 dph (70% imp)

R9
0.54ha. (0.378ha.)
55 dph (70% imp)

R9
0.61ha. (0.366ha.)
45 dph (60% imp)

R12
1.08ha. (0.648ha)
40 dph (60% imp)

R12
1.02ha. (0.612ha.)
40 dph (60% imp)

R12
0.31 ha. (0.186 ha.)
40 dph (60% imp)

R13
1.71 ha. (0.85 ha.)
20 dph (50% imp)

E1
1.02 ha (0.92ha
90% imp)

E2
0.57 ha. (0.51 ha
90% imp)

E3
0.501ha. (0.451ha.)
(90% imp)

M1
0.08ha. (0.064ha.)
(80% imp)

M3
0.365ha. (0.292ha)
(80% imp)

M4
1.146ha. (0.92ha.)
(80% imp)

Primary School
1.05 ha (0.525ha
50% imp)

NOTES:

1. Borehole Infiltration test results used to produce the drainage strategy are taken from Watermans Report
2. Infiltration rates used for borehole design are an average of three tests taken across the site giving an average rate of 0.7700m/hr ($2.138x10^{-4}$ m/s)
3. The Drainage Strategy, infiltration rates and attenuation volumes quoted will need to be verified by additional on site borehole infiltration tests.
4. The quantity and location of boreholes currently shown are reliant on the results of additional tests. Additional boreholes may be required if rates obtained by additional testing are lower than those currently recommended in the Watermans Report
5. Maximum attenuation volumes quoted are based on the critical 1 in 100 year event plus 40% allowance for climate change.
6. The discharge rate from the attenuation basis has been restricted to 5l/s via a Hydro-Brake flow control device.
7. The purpose of this drawing is to demonstrate an intended approach to the drainage of the site. it does not purport to be a detailed design and should not be used for construction.

KEY PLAN

- Proposed soakaway borehole (with 10.0m offset to adjacent boreholes)
- Indicative primary flow route
- Proposed mixed use plot
- Proposed residential plot
- Village Green
- Proposed employment plot
- Primary School
- Approx 15.0m buffer zone from extent of Ancient Woodland
- Proposed attenuation pond
- Existing 'Category A' tree
- Below Ground Cellular Storage Tank
- Exceedance flow route cut off swale

REVISIONS

P05	27/04/2020	Updated masterplan. Added basin N, adjusted basin J	SM	DB	DB
P04	03/09/2019	Updated attenuation basin sizes and locations to suit updated layout.	SM	DB	DB
P03	04/03/2019	Update to attenuation features following Architects comments	SM	DB	DB
P02	05/02/2019	Updated attenuation sizing. Reviewed borehole locations and by restricting flow to boreholes to 5.0l/s	SM	DB	DB
P01	03/12/18	First Issue.	JLWI	DB	DB
Rev	Date	Description	By	Ckd	App

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CBRE

PROJECT
FORT HALSTEAD

TITLE
SURFACE WATER DRAINAGE STRATEGY

HYDROCK PROJECT NO.	SCALE @ A1
C-10730	1 : 2000

STATUS DESCRIPTION	STATUS
INFORMATION	S2

DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)	REVISION
10730-HYD-XX-XX-DR-C-2201	P05