DO NOT SCALE

NORTH

REDROW HOMES RESIDENTIAL SITE (HARDWICK DRIVE)

Surface Water Flow Rates

Site Area = 3.13ha
Developable Area = 2.20ha

Existing Greenfield Run-off Rates
(Based on soil type 4 - Clay)

QBar = 12.04 l/s
1yr = 10.59 l/s
30yr = 21.43 l/s
100yr = 26.24 l/s

Proposed Run-off Rates

QBar = 12.04 l/s
1yr = 12.04 l/s
30yr = 12.04 l/s
100yr = 12.04 l/s

Impermeable area = 1.141 ha + 10% Urban Creep
= 1.255 ha

Estimated 100yr storage @ 50%CC required = 880m³
(based on no infiltration)

STORM Network 1

Pipe Code	Diameter (mm)	Gradient (1:)	Pipe Type	Pipe Length	Upstream Manhole Number	Upstream Manhole Invert	Upstream Manhole Cover	Downstream Manhole Number	Downstream Manhole Invert	Downstream Manhole Cover
1.000	225	21	Circular	30.672	S1	90.50	91.93	S2	89.06	90.48
1.001	225	19	Circular	24.637	S2	89.06	90.48	S4	87.74	89.60
1.002	300	240	Circular	16.826	S4	87.67	89.60	S5	87.60	89.81
1.003	375	300	Circular	22.181	S5	87.52	89.81	S6	87.45	90.09
1.004	375	300	Circular	6.583	S6	87.45	90.09	S7	87.42	90.13
1.005	375	300	Circular	8.126	S7	87.42	90.13	S8	87.40	90.05
1.006	375	80	Circular	37.820	S8	87.40	90.05	S9	86.92	88.67
1.007	375	29	Circular	52.219	S9	86.92	88.67	S10	85.09	87.03
1.008	450	400	Circular	12.382	S10	85.02	87.03	S11	84.99	86.82
1.009	450	400	Circular	12.486	S11	84.99	86.82	S12	84.96	86.60
1.010	450	400	Circular	10.486	S12	84.96	86.60	S13	84.93	86.55
1.011	450	400	Circular	28.234	S13	84.93	86.55	S20	84.86	86.51
1.012	450	400	Circular	9.212	S20	84.86	86.51	S21	84.84	
2.000	300	240	Circular	16.989	S3	87.74	89.39	S4	87.67	89.60
3.000	225	52	Circular	12.068	S14	86.06	87.68	S15	85.83	87.52
3.001	225	170	Circular	19.403	S15	85.78	87.52	S16	85.67	87.28
3.002	225	170	Circular	15.765	S16	85.67	87.28	S17	85.58	87.08
3.003	225	170	Circular	38.059	S17	85.58	87.08	S18	85.35	86.82
3.004	225	170	Circular	27.878	S18	85.35	86.82	S19	85.19	86.66
3.005	300	240	Circular	25.458	S19	85.11	86.66	S20	85.01	86.51
4.000	450	400	Circular	11.865	S22	84.69		S23	84.66	86.45
4.001	225	170	Circular	18.889	S23	84.66	86.45	S24	84.55	85.60

FOUL Network 2

Pipe Code	Diameter (mm)	Gradient (1:)	Pipe Type	Pipe Length	Upstream Manhole Number	Upstream Manhole Invert	Upstream Manhole Cover	Downstream Manhole Number	Downstream Manhole Invert	Downstream Manhole Cover
1.000	150	15	Circular	16.694	F1	88.31	90.26	F2	87.20	89.63
1.001	150	150	Circular	17.785	F2	87.20	89.63	F3	87.08	89.85
1.002	150	150	Circular	25.922	F3	87.08	89.85	F4	86.90	90.10
1.003	150	150	Circular	9.170	F4	86.90	90.10	F5	86.84	90.11
1.004	150	150	Circular	9.870	F5	86.84	90.11	F6	86.78	89.98
1.005	150	24	Circular	45.859	F6	86.78	89.98	F10	84.88	88.24
1.006	150	150	Circular	30.822	F10	84.88	88.24	F11	84.67	87.15
1.007	150	150	Circular	21.248	F11	84.67	87.15	F12	84.53	86.73
1.008	150	150	Circular	11.636	F12	84.53	86.75	F13	84.45	86.57
1.009	150	150	Circular	16.355	F13	84.45	86.57	F14	84.34	86.50
1.010	150	150	Circular	2.728	F14	84.34	86.50	F15	84.32	86.50
2.000	150	150	Circular	19.147	F7	85.28	87.08	F8	85.15	87.32
2.001	150	150	Circular	18.654	F8	85.15	87.32	F9	85.03	87.66
2.002	150	150	Circular	22.454	F9	85.03	87.66	F10	84.88	88.24

Note

1. This is a preliminary design demonstrating a drainage solution is achievable to discharge flows from the proposed development.
2. The specification in all respects shall be in accordance with the current Wrexham CBC Specification and Construction publication in force in the county at the time of construction.

Legend

- Site Boundary
- Existing
- Existing Highway Sewer
- Existing Foul Sewer
- Existing Surface Water Sewer
- Ordinary Watercourse
- Culvert
- Proposed
- Adoptable Surface Water Sewer
- Adoptable Foul Sewer
- FFL 47.40 — Slab Level
- Wall
- Underbuild
- Flag On Edge
- Gravel Board
- Step In Slab
- Rising Main
- +0.85 / -0.95 — Depth of fill (Existing to Proposed)

Note:
Retention of 300mm and above has been shown for strategy stage. Small retaining features and underbuild of up to 225mm will also be required at other locations and will be shown at detailed design stage

EXISTING POND

SWALE

IL 84.764

IL 84.441

MH F8
CL ?
IL 85.866

F16

Masonry Culvert (ordinary watercourse)

Adoptable FW Pumping Station (SfA7)
CL 86.500
Sump Base Level ??
(incoming 84.340)

Rising Main to F16 Gravity network to Existing FW Public Sewer

3m dia wet well to provide emergency storage.
(240l x 83 =19.92 cu.m)

Wet well base level to be supplied by pump supplier.

For further pump station details refer to pump supplier drawings.

Rising Main
110mm HPPE SDR17
Rising main to be fusion welded
Length=127m

Proposed foul flows to discharge into proposed adoptable FW pumping station.

IL 83.965

EXISTING POND

ONLINE SUDS BASIN
TOB = 86.450
Base Level = 84.690
Basin Base Area = 315m²
1 in 3 Side Slopes
Top Water Levels:
30yr = 85.414
100yr = 85.665
100yr+50%cc+10%uc = 86.134

Existing Ordinary Watercourse

Pond

EXISTING POND

EXISTING POND

Pond

EXISTING POND

Pond

S23
(2.4 Dia flow control manhole)
Hydrobrake Optimum
Flow Regulator
MD-SHE-0151-1200-1500-1200
Restricted to:
12.00 l/s @ 1.50m design head
Orifice size = 151mm

Discharge to watercourse. Base level of watercourse to be confirmed by client.
Assumed level 84.55

Existing Ditch (Ordinary Watercourse)

EXISTING INFILTRATION BASIN

Existing Ordinary Watercourse

MORRIS HOMES RESIDENTIAL SITE (ST GILES PARK)

Vanolbria
Ty Cornel
Greenfields
ST GILES PARK
Meadow Grange
Green Meadows
El Sub Sta
A541
OLD MOLD ROAD
MOLD ROAD
ED Bdy
SW1
CL = 93.91
IL = 92.25
SW2
CL = 94.10
IL = 92.45
225ø Highway Drain
225ø Drain
92.7m
Toll Bar Cottage
ROAD
6000 Concrete culvert under Mold Road
225 Dia Pipe
400 X 400 masonry culvert (ordinary watercourse)
Average gradient = 1:40
Path (um)
PV Area

SCALE BAR (m) 0 5 10 15 20 25 30 35 40 45 50

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STRATEGY

Rev.	Date	Revision	By	Appd.
H	20.10.25	Updated to suit revised layout	PW	AJ
G	05.08.25	Updated to suit revised layout	PW	AJ
F	03.04.25	Updated to suit revised layout	PW	AJ
E	13.03.25	Updated to suit revised layout	PW	AJ
D	18.11.22	Updated to suit revised layout	PW	AJ
C	07.09.22	Updated to suit revised layout	AJ	AJ
B	04.05.22	Updated to suit revised layout	PW	AJ
A	05.04.22	Dry Basin moved to suit client comment	PW	AJ

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Client: Castle Green

Project: MOLD ROAD, GWERSYLLT, WREXHAM.

Title: Drainage Strategy

DRAWING NUMBER: 7956 / SK01

SCALE at A0: 1:500
DATE: 25.03.22
DRAWN: PW
CHECKED: AJ
REVISION: H