

DO NOT SCALE



2.4m x 35m
vehicular visibility
splay

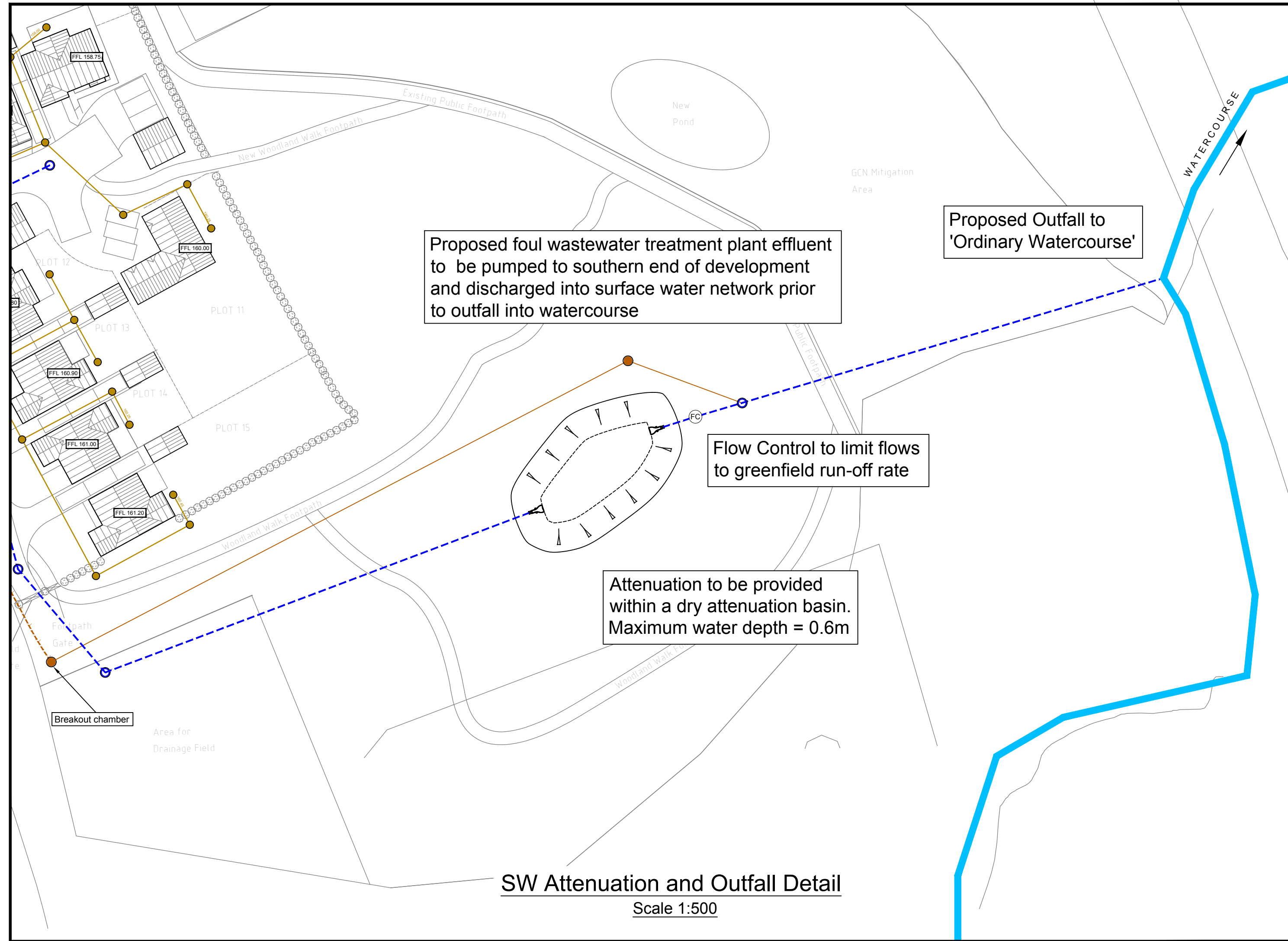
Bush House

Works

Dismantled Railway

Scrap Yard

Surface Water Flow Rates	
Developable Site Area = 10,700sq.m.	
Existing Greenfield Run-off Rates	
1yr	= 2.27 l/s
30yr	= 4.59 l/s
100yr	= 5.62 l/s
QBAR	= 2.58 l/s
Proposed Run-off Rates	
1yr	= 2.27 l/s
30yr	= 4.59 l/s
100yr	= 5.62 l/s
Proposed impermeable areas = 4,500sq.m. (estimate)	
100yr attenuation storage	= approx 300cu.m (+40% climate change)



Note:
Existing manholes in highway verge assumed to be soakaways but should be investigated further. These may prove connectivity to a watercourse and provide another point of connection for consideration

Access for future maintenance to be considered further

Foul Treatment Plant
Falcon (PE70)
2124 x 6010

Sewerage Treatment Plant to accommodate all foul flows from residential development

Highway crossing subject to WBCB approval (TBC)

Rising Main taking pumped effluent discharge from foul wastewater treatment plant to drainage field

Note:
Site levels to be reviewed further at detailed design

Note

- This is a preliminary drainage design demonstrating a drainage solution is achievable to discharge flows from the proposed development. Additional topographical survey and a full site investigation is required prior to undertaking full design.
- Existing slopes and trees along the eastern and western boundary will need to be considered further at detailed design stage.
- 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.

Drainage Strategy

Proposed Foul

No public sewer network within vicinity of site, therefore a sewerage treatment plant will be required to serve the development.

Natural Resources Wales require that there are no public sewers within 30m x (proposed number of dwellings) for a wastewater treatment plant to be considered. This regulation is complied with based on 15 properties and there being no sewers present within 450m of the site. Therefore a sewerage treatment plant will be required to serve the development.

From British Waterways Code of Practice: Flows and Loads a maximum usage is taken as 66 people (based on 7 No 3 bed & 8 No. 4 bed)

7 x 3 bedroom = 35P
8 x 4 bedroom = 48P
Design Population = 83P

As the design population is over 25 a correction value of 0.8 to allow for the balancing effects can be applied, therefore:

Design Population = 83P x 0.8 = 66P
Expected Volume of Effluent = 66 x 150 litres = 9900 litres / day

We are proposing a single Wastewater Treatment Plant to serve all 15 Plots. This will need to be located a minimum 7m from any habitable building and will require access for a tanker to undertake any future maintenance.

Gravity network to be provided upstream of the treatment plant. This will need to be routed within private land as a private asset will not be acceptable within an adopted highway.

The depth of the incoming pipe into the wastewater treatment plant should be limited to 2.5m if possible. Solutions are available if deeper but not as cost effective. A pumped outfall will be required to take flows from the outfall along a rising main to discharge into the proposed watercourse

Treated effluent to discharge into private pipe in adjacent land which outfalls into the open watercourse. Surface water flows will also discharge into this pipe which will assist with diluting the foul flows.

The entire foul network and wastewater treatment plant will be maintained by a Management Company funded by residents. The developer will be required to set-up a management company.

Proposed Surface Water

1. Infiltration

Infiltration tests undertaken across the site have determined the site is suitable for disposal of surface water via infiltration techniques. However, the site is located within a groundwater protection zone and therefore an alternate means of disposing surface water should be considered.

2. Watercourse

An existing ordinary watercourse (un-named) flows from west to east to the south of the site. Surface Water Drainage Strategy for development is to direct all flows from the proposed development to the watercourse. We understand the proposed outfall location is within the landowners ownership.

Flows to be restricted to greenfield run-off rates

Attenuation will be provided within a dry SUDS basin located within POS.

All surface water serving more than 1 plot will subject to SABS Approval. The developer will be required to set up a management company to maintain the entire network in the future. a SUDS Management Plan will also be required to provide information on maintenance activities and frequency.

Maintenance / Responsibilities

Adoption and maintenance of all drainage components to be considered further at detailed design stage.

Permanent utility vehicle access to the landscaping / SUDS devices to be provided.

Foul Sewers:

All foul sewers to remain private. These will be maintained by a 'Management Company' set-up by the developer.

Foul Wastewater Treatment Plant

To remain private. These will be maintained by a 'Management Company' set-up by the developer.

Foul Effluent Rising Main and Connection to SW Sewer

To remain private. These will be maintained by a 'Management Company' set-up by the developer.

Private Surface Water

To be individual homeowners

Surface Water Network

Subject to SABS approval. SUDS Management Plan to be produced to address frequency and type of maintenance activities

Highway Surface Water

Subject to SABS approval. SUDS Management Plan to be produced to address frequency and type of maintenance activities

Legend

- Proposed Foul Drainage (upstream of STW)
- Proposed Foul Rising Main
- Proposed Foul Drainage
- Proposed Surface Water Drainage
- Falcon (PE 70) Waste Treatment System

PRELIMINARY

B	22.07.20	Drainage strategy updated	AJ	AJ
A	18.09.19	Updated to suit revised Layout	AJ	AJ
Rev.	Date	Revision	By	Appd

coopers
chartered consulting engineers
Tel: 01244 684910
Fax: 01244 684911
Email: admin@coopers.co.uk
Web: http://coopers.co.uk
Park House
Sandpiper Court
Chester Business Park
Chester
CH4 9QU

Client	TRAILWALK Ltd		
Project	FORMER LEGACY SCRAP YARD, LLWYNEINON		
Title	Proposed Drainage Layout		
DRAWING NUMBER	7251 / SK01	SCALE at A0	1/250
DATE	23.05.19	REVISION	
DRAWN	LW		
CHECKED	AJ		
			B