

Purpose: **Civil Engineering**
Briefing Note 005
Proposed Drainage – Response to United Utilities Comments

This document includes a response to the comments provided by United Utilities, via email to Claire Pegg, of Cushman Wakefield, to the proposed surface water and foul water drainage for the Garth Wymott 2 development.

Comment 1

United Utilities -

On review of the Proposed Surface Water Drainage Strategy Report, Ref: 608623-0000-PEV-GHX0011-ZZ-RP-C-0503, Rev: P04, Dated: 04.08.2021, By: Pick Everard, all surface water flows are proposed to drain ultimately to a watercourse or via infiltration and therefore we recommend the applicant discusses the proposals with the Lead Local Flood Authority.

PEV Response –

We are in discussions with the Lead Local Flood Authority and will continue to liaise through the detailed design development should outline planning permission be secured.

Comment 2

United Utilities -

There are small areas intended to drain to the proposed foul system to avoid 'septic attack'. No evidence has been provided to show that this is necessary.

PEV Response –

The following calculations are provided to support the proposed connection of 2 road gullies into the foul water drainage system serving the relocation bowls club, and 2 further road gullies connected into the foul water drainage system serving the office adjacent the relocated car park. To clarify, the package pumping station serving the bowls club discharges into the system serving the office, which then pumps onwards (in a “daisy chain” arrangement) to the final outfall which is the existing gravity sewer system serving the existing HMP Wymott site.

Considering the Bowls Club initially;

Length of rising main = 273m.

Volume of rising main (assume 100mm dia) = 2.14m³ = 2140 litres

To determine the flow generated through use of the Bowls Club, using the “Flows and Loads” table, under the category “Golf Club” which is the closest match, gives 20 litres per person per day.

Total daily flow generated through anticipated use of Bowls Club = 771 litres (using figures provided by the operator regarding daily use of the facility).

Therefore, based on foul flows alone, the daily volume of sewage produced by the use of the Bowls Club is around a third of the total volume of the rising main. It is therefore reasonable to suggest that the sewage will take 3 days to travel from the pumping station to reach the rising main discharge point. Septicity is understood to typically become a potential issue if sewage is left to stand for a period of 2+ days. Therefore the introduction of flows from the road gullies will result in a faster turnover of sewage within the rising main, and thus reduce the risk of septicity.

The same approach is taken for the office unit associated with the relocated car park. In this case, the only flows are via one toilet, one sink, and a small kitchenette. Further flows from the 2 road gullies have been introduced in order to avoid the risk of septicity in the ongoing rising main.

Comment 3

United Utilities -

On review of the Proposed Foul Water Drainage Strategy Report, Ref: 608623-0000-PEV-GHX0011-ZZ-RP-C-0553, Rev: P04, Dated: 04.08.2021, By: Pick Everard and the applicants comments and we must request clear plans in order to visually understand where the current system drains and how the proposed site will communicate with/alter the existing system. Those provided within the report show connections to existing systems but not where they ultimately drain.

PEV Response –

The foul water flows from HMP Garth currently discharge via an existing private sewer, which existing the HMP Garth site on the eastern boundary. The sewer continues to run across the open space to the east of the site, before joining with the sewer from HMP Wymott as outlined below. The foul water sewer from HMP Wymott exits from the eastern boundary of the site, and then runs in a northerly direction before connecting to the sewer from HMP Garth. Flows from a residential area to the east also connect in at this point.

From the point of connection, an existing sewer runs in a northerly direction to discharge into the existing United Utilities foul water pumping station located off Pump House Lane. Flows are then discharged to the north via a rising main.



Due the proposed development, the pumping station is to be relocated. Flows from the existing HMP Garth and HMP Wymott are to be diverted around the new development via new drainage pipework. Flows from the residential area will also be connected to this diverted drainage, which will eventually discharge to the new, relocated United Utilities pumping station. A new section of rising main will be provided to connect into the existing rising main, for onward transmission of the flows.

Flows from the new Garth Wymott 2 development site will discharge via a new dedicated sewer into the new relocated United Utilities Pumping Station.

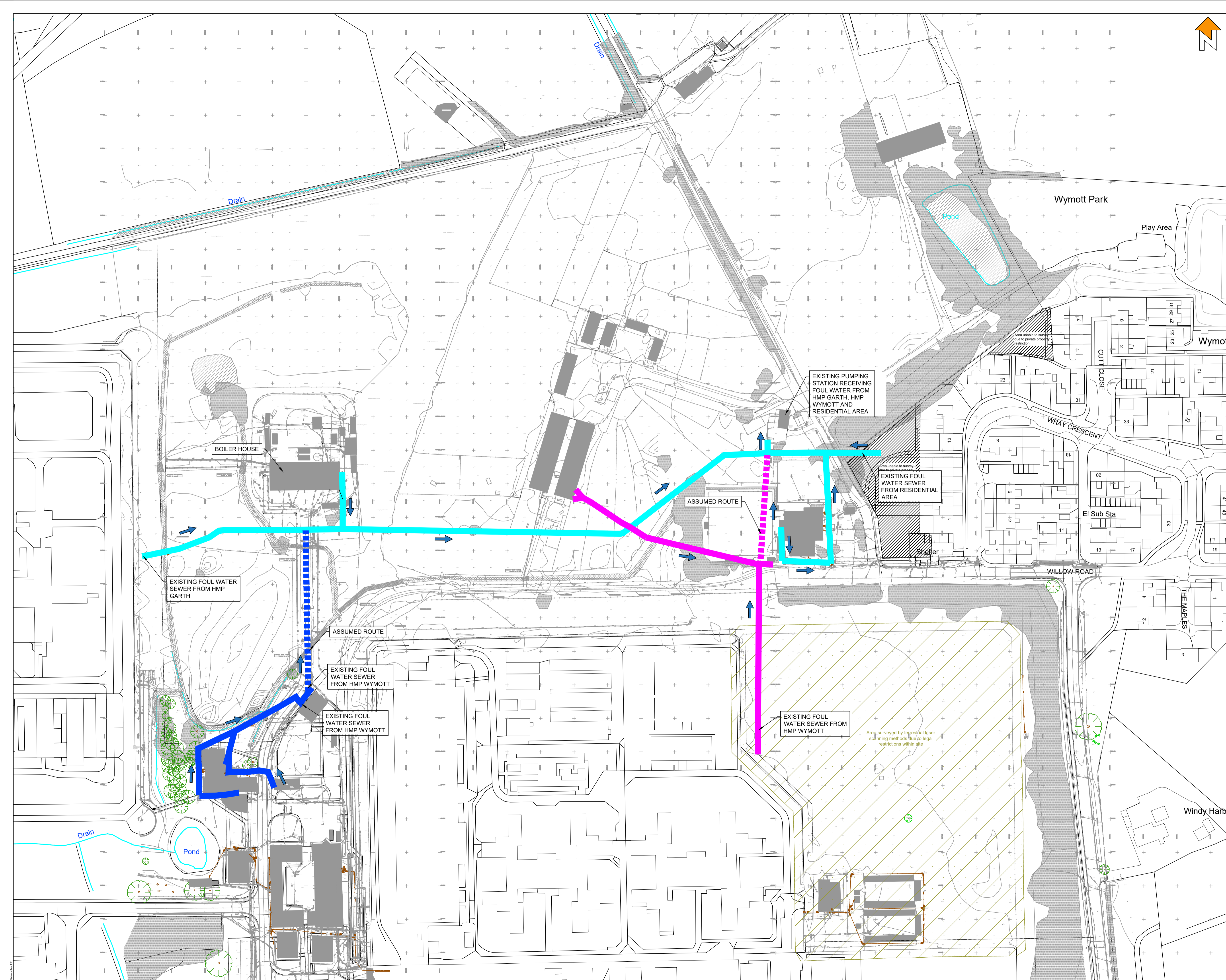
The proposed foul water drainage, including all diverted drainage from the existing HMP Garth and HMP Wymott, is shown on the drawing included in the appendix to report 608623-0000-PEV-GHX0011-ZZ-RP-C-0553, Rev: P04, Dated: 04.08.2021. A plan showing the existing route of the foul water drainage is included with this note.



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 608623-0000-PEV-GHX0011-XX-HS-C-0002_Design Risk Assessment
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 This drawing must be read in conjunction with the following project Derogation documents:
 N/A

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P01	2021.10.07	FIRST ISSUE	
Rev	Date	Description	

Project Status
 RIBA Stage 3

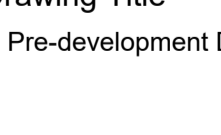
Client
 **Ministry of Justice**
 Project
New Prisons Programme
 Ministry of Justice, 102 Petty France, London, SW1H 9AJ

Project Description / Site
 New Prisons Programme
 Garth Wymott 2

Project Address
 Site Adjacent to HMP Garth & HMP Wymott

Building Type
 Site Infrastructure

Drawing Title
 Pre-development Drainage-Layout

Originator Logo
 **PICK EVERARD**
 Drawn By KJD Date 30.01.21
 Checked By PCA Date 30.01.21
 Approved By PCA Date 30.01.21

Drawing Number
 608623-0000-PEV-GHX0011-ZZ-DR-C-0513 Delref D0100

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 OFFICIAL Suitability S4(3)