

Construction of 6 Dwellings and Associated Works

Land at Main Road, Dyffryn Cellwen

Amended Report on Scheme

for

Proposed foul and surface water drainage

and

Surface Water Run-Off Management during
Construction Phase

October 2020

Contents

- 1.0 Introduction
- 2.0 Foul and Surface Water Proposals
 - 2.1 Proposed GPT Environmental Management Services Drainage Survey
 - 2.2 Consultation with Developer Services Section of Dŵr Cymru Welsh Water (DCWW)
 - 2.3 Residential Storm Water Proposals
 - 2.4 Highway Drainage Proposals
 - 2.5 Residential Foul Water Proposals
 - 2.6 Conclusion
- 3.0 Surface Water Run-Off Management during Construction Phase
- 4.0 Appendices

1.0 Introduction

The Site is approximately 0.88 acres in size and was once occupied by Tŷ Maes Marchog, a now demolished residential care home.

There are still extensive foul and surface water drainage systems on the site as a legacy of its former use.

This document details how the proposed discharge of both foul and surface water from both individual plots and surface water from the highway will be achieved and also how drainage will be managed during the Construction Phase.

Please note that this Report supersedes the original drainage report issued July 2020.

2.0 Foul and Surface Water Proposals

2.1 GPT Environmental Management Services Drainage Survey

In February 2020, GPT Environmental Management Services (Geo Pollution Technologies (UK) Ltd.) were commissioned to undertake a comprehensive survey of the site to establish the current condition of the existing drainage systems and whether there was any possibility that they could be utilised for the proposed new use of the site.

The survey findings are reproduced in report format in the Appendices at the end of this report.

The survey and report established the existence of two storm water chambers on site (MHS1 and MHS2) and presumed that all surface water (yard and roof) from the former residential home previously discharged to MHS6 (an assumed Dŵr Cymru Welsh Water (DCWW) storm water sewer located to the north east corner of the site).

Further site investigation by the Developer and the Author of this report established another (buried) storm water chamber located in the north east corner of the site to which MHS1 and MHS2 connected before exiting the site towards MHS6. This chamber would have been the terminal MH before water discharged from the former Care Home site. It is referenced as SWMH2 on Drawing Number TMM/DC/10A.

The survey and report also identified MHF9 as the discharge point for all foul water from the former Care Home.

2.2 Consultation with Developer Services Section of Dŵr Cymru Welsh Water (DCWW)

Following the publishing of the GPT report, discussions took place between the Developer's Agent (Jeremy John) and Rhodri Perry of Developer Services Section of Dŵr Cymru Welsh Water (DCWW) in respect of discharging all proposed surface and foul water to DCWW sewer.

It was initially agreed that in principle all storm and foul water could be taken to DCWW's combined sewer.

However, following further discussions between the Author and Sion Jones of DCWW it became clear that storm and foul water needed to be kept separate before discharge off site.

Therefore, further site investigations (as detailed above) were carried out and the new proposals as detailed below arrived at.

2.3 Residential Storm Water Proposals

As can be seen from Drawing Number TMM/DC/10A, it is proposed to connect roof and yard water from the dwellings to a 150mm ϕ carrier drain with discharge to SWMH1 and SWMH2. These were the former discharge points for all storm water from the former Care Home.

2.4 Highway Drainage Proposals

As can be seen from Drawing Number TMM/DC/11A, it is proposed to discharge highway drainage to SWMH2.

2.5 Residential Foul Water Proposals

As can be seen from Drawing Number TMM/DC/10A, it is proposed to connect foul water from each dwelling to a new 150mm ϕ carrier sewer with discharge to the existing foul water chamber (referenced MHF9 in 2.1 above). This was the former discharge point for all foul water from the former Care Home.

2.6 Conclusion

As detailed above, there was an initial approval in principle from DCWW to discharge to their combined sewer.

However, further detailed investigative work on site has established the existence of chambers on live sewers which it is considered reasonable to connect new storm (including highway drainage) and foul water to.

The proposed Residential Foul and Surface Water Layout is shown on Drawing Number TMM/DC/10A and the proposed Highway Drainage Layout on Drawing Number TMM/DC/11A.

3.0 Surface Water Run-Off Management during Construction Phase

The developer will employ a number of standard techniques for managing the surface water run-off from the development.

The principal objective is to restrict the surface water run-off to within the construction area, and if necessary, treat all surface water run-off flows prior to discharging to the ground.

The methods to be adopted shall include, but not be limited to the following:

- a. Site walk-over during wet conditions to identify the presence of all potential 'temporary' water courses.
- b. Implement a regime of isolating upstream clean surface water (ground water runoff) from the proposed working areas. This will be achieved via bunds or cut-off trenches with clean water temporarily diverted around the works. Upstream 'clean' water shall always be kept separate from 'contaminated' water generated from within the working area.
- c. The area of topsoil strip and plot development is to be minimized to that area required for the progression of the immediate works only. The stripped topsoil and excavated material is to be used to form a bund to protect the working area from surface run-off from the unstripped area of the development.
- d. Implement a regime of isolating contaminated water (contaminated by soil sediment within the working zone) from any potential downstream 'temporary' watercourses. This will be achieved by providing temporary bunding and soil & silt traps.
- e. Any stored water will be pumped to a point where it can discharge to the ground, with the outflow treated with silt buster units, or a system of catchpits allowing natural soakaway to ground.
- f. Although there are no permanent watercourses on or adjacent to the site if deemed necessary during periods of very wet weather which may create issues with increased runoff, silt fences or other filtration systems shall be introduced where there is a potential surface route to any site boundary, watercourse, or point of discharge to ground.
- g. Filtration systems include:
 - (i). Discharge over matured grassland, provided that no run-off occurs at the site boundary, and that no direct links to watercourses exist.
 - (ii). Silt fences.
 - (iii). Silt buster units.
 - (iv). Catch pits.
 - (v). Straw bales.
- h. Temporary bunds are to be shaped and covered/seeded to minimise contamination of run-off with suspended solids.
- i. Any site offices, cabins & canteen areas will be provided with sealed chemical toilets which are periodically emptied and tinkered away to a licensed Dŵr Cymru Welsh Water (DCWW) treatment plant.

The measures listed above will be developed by the contractor ahead of the relevant section of the works. The management of the surface water run-off will be adapted as required to accommodate changes in site conditions and any unexpected issues that may arise throughout the duration of the development.

4.0 Appendices

These were previously submitted with the original report, and remain as read.

4.1 GPT Environmental Management Services Drainage Survey

4.2 Emails between Developer and DCWW