

8167

Chapel House Surgery, Bangor-on-Dee, Wrexham

Drainage Statement

Introduction

The existing building is currently used as a local surgery. The proposal is to convert the building into a 2-bedroom dwelling. Coopers have been commissioned to produce foul drainage calculations to demonstrate comparison of existing foul flows compared to proposed.

NRW Planning comments

in January 2021, Natural Resources Wales (NRW) introduced stringent standards on the discharge of phosphorus into the River Dee and Bala Lake Special Area of Conservation (SAC). The site lies within the catchment for the SAC.

Whilst the Wastewater Treatment Works is currently operating well within its discharge consented limits, these consents are around 10 years old and pre-date recent case law that has established that such consents cannot be relied upon to show not harm to a SAC. All such consents now need to be reviewed using new data and specially developed models. This work is being currently being undertaken by NRW and Welsh Water.

It is likely that the proposed change of use would result in an increase in phosphorus from the site. However, further information is required with regards to flows and loads of foul water from the use as a surgery and the proposed use as a dwelling in order for a comparison to be made. You may need a drainage engineer to help you provide the required information.

Background

We find phosphorus in sewage, while some of the phosphorus contained in the food and drinks we consume is taken up by our body, most of it is excreted. Phosphorus can also be found in detergents, cleaning products and some toothpastes.

Existing Foul Drainage

The branch surgery is staffed and open as follows:

Monday, Tuesday & Friday:	08:15 to 18:30	a.m. & p.m. clinic
Wednesday:	08:15 to 15:00	a.m. clinic 08:30 to 12:30 only
Thursday:	08:15 to 13:00	a.m. clinic 08:30 to 12:30 only

The dispensary team totals 6 but never more than 3 on duty any one time. A nurse or a nurse and a GP during clinics.

The Consulting Room and the Treatment Room have a basin in for hand washing.

The dispensary has a sink.

The toilet is shared with staff and patients.

The exact daily foul flow produced within the building is unknown but can be estimated in accordance with the **British Water Code of Practice Flows and Loads 4**.

From Table for Loadings,

Staff use based on 6 part time people @ 45 litres/person/day = **270 litres / day**

315 litres x 5 working days = **1350 litres / week**

Patient toilet use estimated at 1 use / 30 mins @ 10 litres

The surgery clinic is open approximately 32 hours / week. Therefore 64 uses x 10 litres = **640 litres / week**

Total discharge over 7-day period = 1350 + 640 = **1990 litres / week**

Proposed Foul Drainage

Using the Flows and Loads 4, Table of Loadings, we get an average rate of 150 litres / person / day.

Assuming 2 people live in the proposed small 2-bedroom dwelling this equates to 300 litres / day

Total discharge over 7-day period = 300 x 7 = **2100 litres / week**

Conclusion

The existing and proposed foul flow rates for the building have been estimated using British Water Code of Practice Flows and Loads 4. These calculations show that the proposed conversion / change of use will slightly increase the foul flows assuming 2 people live in the 2-bedroom dwelling, but it should be noted that this is a minimal increase.

Andy Jones
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Coopers

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