

Technical Note

Project:	Holt Road, Wrexham	Project No:	10802-003-02
Subject:	Foul Water Flows Assessment		
Prepared by:	LM	Date:	11.02.19
Checked by:	PJM	Date:	11.02.19

This technical note has been prepared on behalf of Euro Garages Ltd to accompany an application for a proposed Petrol Filling Station on vacant land to the north of the roundabout linking the A534 Holt Road and the A5156

The site topography falls from a contour level of 78.60m AOD along the northern boundary to a contour level of 73.50m AOD along the eastern boundary and a contour level of 76.20m AOD along the southern boundary.

A foul water pumping station is required to pump the development foul water drainage into an appropriate outfall. As part of pre-planning consultation with Welsh Water (PPA0000906), a 1300m diameter publically maintained combined water sewer in Holt Road (Welsh Water manhole reference SJ35513450), approximately 765m west of the proposed development, was identified as a possible connection point for the proposed development.

An assessment of the development foul water flow rates has been provided in Appendix A, in accordance with **BS EN 12056-2: Gravity drainage systems inside buildings**.

The assessment has been made on the proposed Petrol Filling Station Shop, and also for 2 x Drive Thru' Units for potential future development in the land to the north of the petrol filling station.

The peak foul water flows for the development have been calculated at 4.16 l/s into the proposed foul water pumping station. We are therefore proposing for a development foul water pumped discharge rate of 5.0 l/s into the existing combined water manhole SJ35513450 in Holt Road approximately 765m west of the proposed development.

Appendix A

An assessment of the development foul water flow rates in accordance with **BS EN 12056-2: Gravity drainage systems inside buildings;**

Number of drainage units (DU)

Petrol Filling Station Shop

4 no. WC	4*1.5	= 3.0
1 no. Urinal	1*0.4	= 0.4
3 no. Basins	3*0.3	= 0.9
4 no. Sinks	4*1.3	= 5.2

Drive Thru' Unit 1 (future development)

3 no. WC	3*1.5	= 4.5
2 no. Urinals	2*0.4	= 0.8
3 no. Basins	3*0.3	= 0.9
5 no. Sinks	5*1.3	= 6.5
1 no. Dishwasher	1*0.2	= 0.2

Drive Thru' Unit 2 (future development)

5 no. WC	5*1.5	= 7.5
2 no. Urinals	2*0.4	= 0.8
6 no. Basins	6*0.3	= 1.8
4 no. Sinks	4*1.3	= 5.2
1 no. Dishwasher	1*0.2	= 0.2

Total DU: $9.5 + 12.9 + 15.5 = 37.9$

Flow Q = SQRT (DU)*k where k = 0.7 for retail/restaurants

$Q = \text{SQRT}(37.9) * 0.7 = 3.86 \text{ l/s}$

The forecourt and tanker stand are generally covered by a canopy and only a nominal flow will drain to the foul pipework in rainfall. It is estimated that this is 0.3 l/s.

Peak flow = $3.86 + 0.3 = 4.16 \text{ l/s}$