Welsh Water Organic Waste – Nash WwTW EPR Waste permit Application- Acceptance and discharge of liquid Industrial tankered waste

Introduction

Welsh Water Organic Waste Limited (WWOWL) are applying for a bespoke waste permit for a liquid waste treatment site located on Nash Waste Water Treatment Works (WwTW) to accept non-hazardous, liquid organic waste.

The organic waste will be accepted at site into a mixing/blending tank, tested and discharged into Nash WwTW under a trade effluent agreement with Dwr Cymru/Welsh Water (DCWW).

DCWW customers have made enquiries regarding the facility to dispose of organic liquid tankered waste in the South Wales area. WWOWL have assessed the opportunity and feasibility of operating a waste site and identified Nash WwTW as a suitable location. Nash WwTW has available biological treatment capacity, which can be utilised for organic liquid waste treatment. WWOWL have approached DCWW to lease an area of land on the site, to construct and operate a liquid waste treatment centre. WWOWL have applied for a trade effluent agreement and limits have been agreed for volume, concentration and load (kg/day) for the discharge.

Newport Liquid Waste Treatment Centre - Non technical summary

The environmental permit application is for a bespoke EPR waste permit for tankered organic liquid waste treatment/disposal, operated by WWOWL, located on Nash (Newport) WwTW.

This site has previously held a waste management licence (WML) for liquid waste disposal which was surrendered in 2003/2004 under the name of United Utilities Industrial.
The tankered waste site is contained in a bunded area adjacent to the WwTW inlet. The site comprises of a tanker connection point which discharges into the liquid waste tank, where the waste will be mixed and blended. The waste is then discharged at a controlled rate to the WwTW.

Tankered liquid waste will undergo pre-acceptance checks and on site acceptance checks to ensure the waste meets permitted and agreed requirements and is compliant with the trade effluent agreement set out by DCWW.

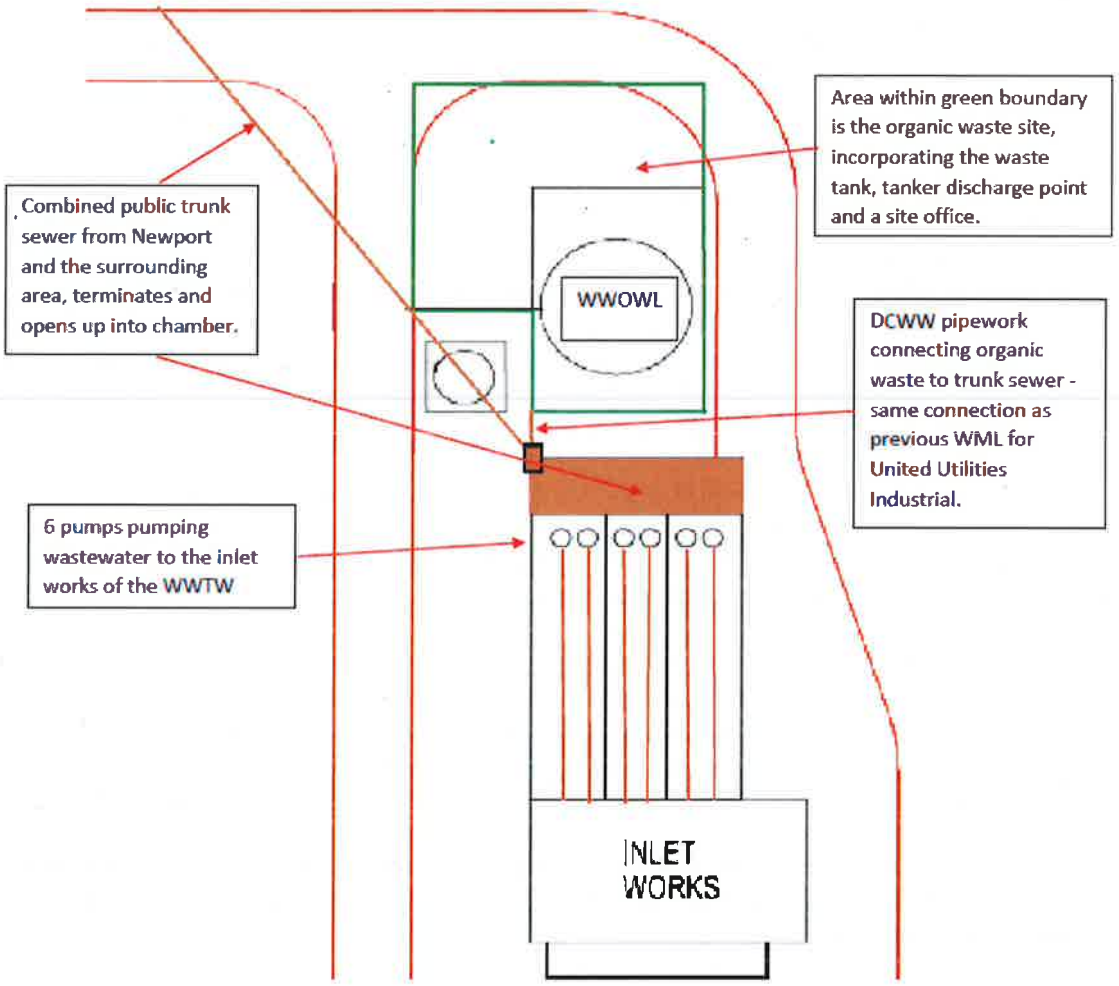
These procedures will form part of the sites integrated management system (IMS).

There is a dedicated organic waste tanker connection point and tanker drivers will be directed to the appropriate offloading point on arrival at site. Mixing/blending and storage will be in the above ground steel tank (150m3), which is bunded (110% of the size of the storage tank as per regulatory guidance).
Any solids/sludge produced from the activity will be removed from site and treated at a permitted waste treatment site.

Discharge to Nash WwTW is via dedicated pipework from the liquid waste tank into the public sewerage system which connects to the inlet works of Nash WwTW.

Below is part of an extract from a site drawing of Nash WwTW from the Dwr Cymru /Welsh Water (DC/WW) operating manual.

The flow diagram shows the direction of wastewater flow entering the site – it has been updated to reflect where the public trunk sewer terminates.



The green boundary encloses the WWOWL waste site – all assets within the liquid waste treatment site will be maintained by WWOWL.

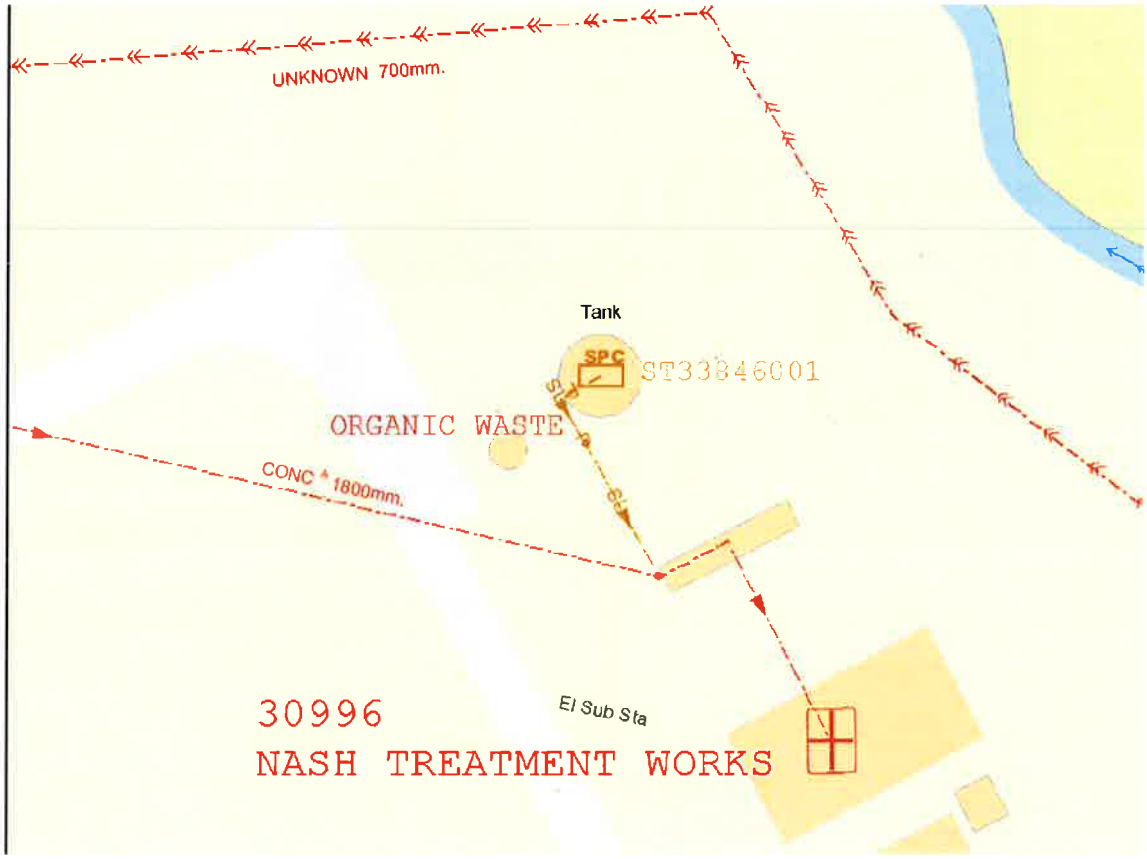
DCWW historically connected the waste site which was operated by United Utilities Industrial, to the trunk sewer entering the site. In the drawing above, the pipework is shown and it connects into the public trunk sewer which opens up to a chamber. This is still regarded as the public trunk sewer as it is a continuous structure. Six pumps, pump the wastewater forward to the inlet works of the WwTW.

A public sewer as defined in the Water industry act -

'Public sewer' means a sewer for the time being vested in a sewerage undertaker in its capacity as such, whether vested in that undertaker by virtue of a scheme under schedule 2 to the Water Act 1989 or schedule 2 to this act or under section 179 above or otherwise and 'private sewer' shall be constructed accordingly;

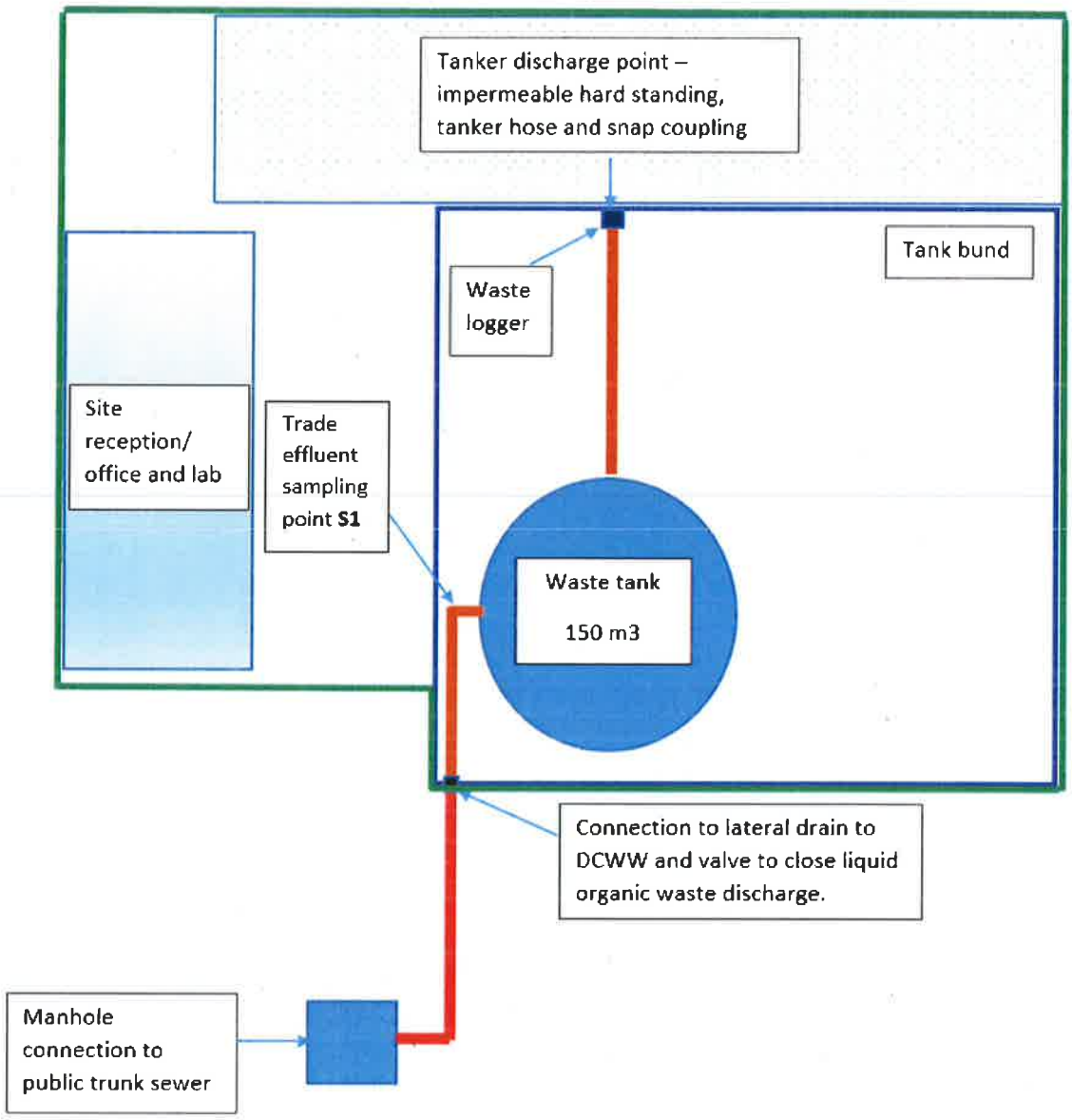
Basic interpretation of a public sewer is a pipe that collects and conveys wastewater from domestic and non-domestic premises to the waste water treatment works. The sewerage undertaker maintains and is responsible for the sewer and can authorises connection to the sewer.

Below is an extract from the DCWW GIS system showing the sewer network entering Nash STW and the WWOWL liquid treatment site connection -



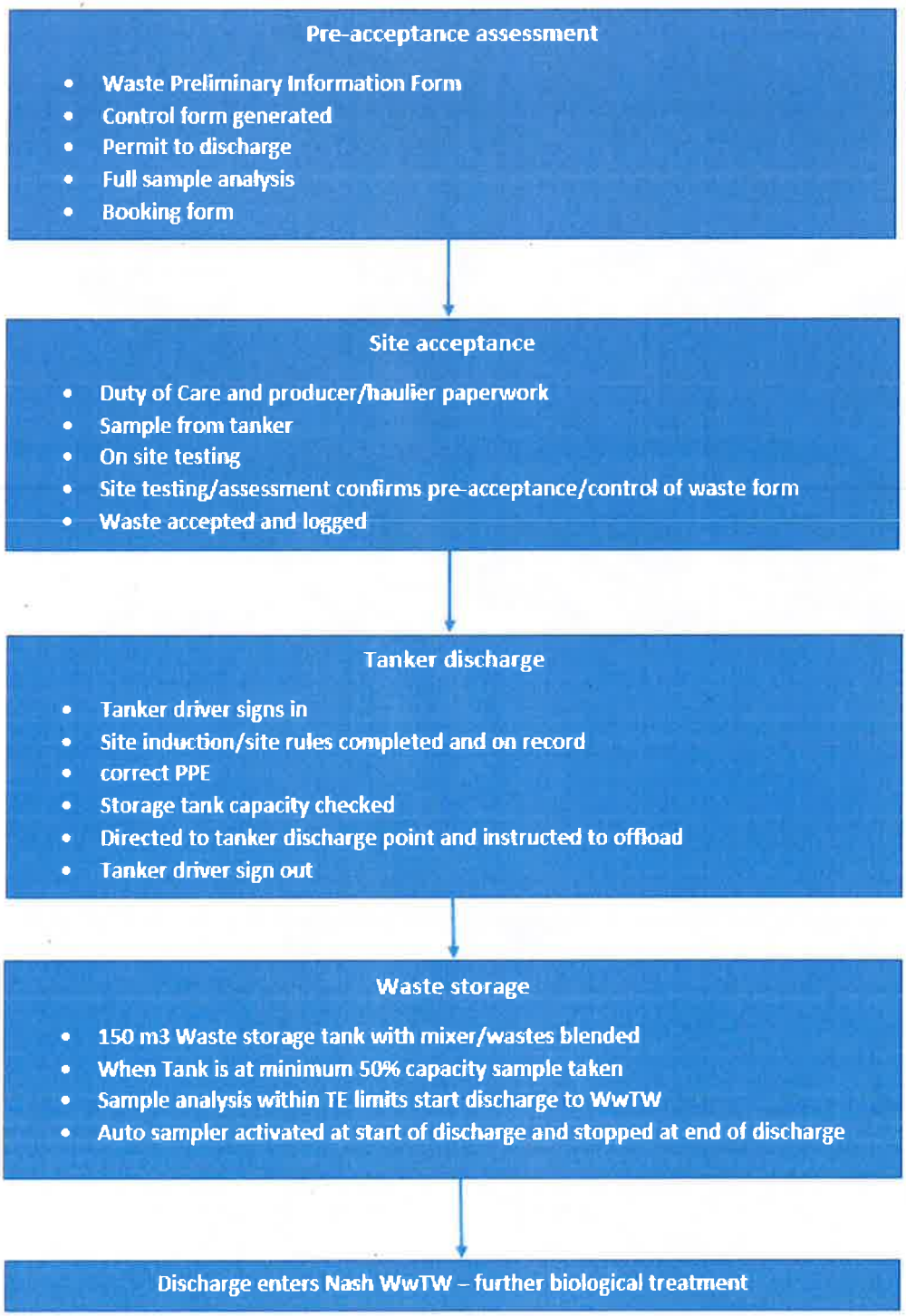
WWOWL is installing new pipework that will connect to DCWW pipework (DCWW pipework would be classed as a public lateral drain) which connects to the public trunk sewer. The connection will be at the edge of the bund, within the proposed site boundary. The connection between the two pipes will be a coupling and valve. The valve will be able to shut off completely and locked off to stop the discharge to DCWW when the site is closed, waste volume is low, for removal of solids from the waste tank, maintenance of the tank etc.

Site boundary and layout plan is provided below -

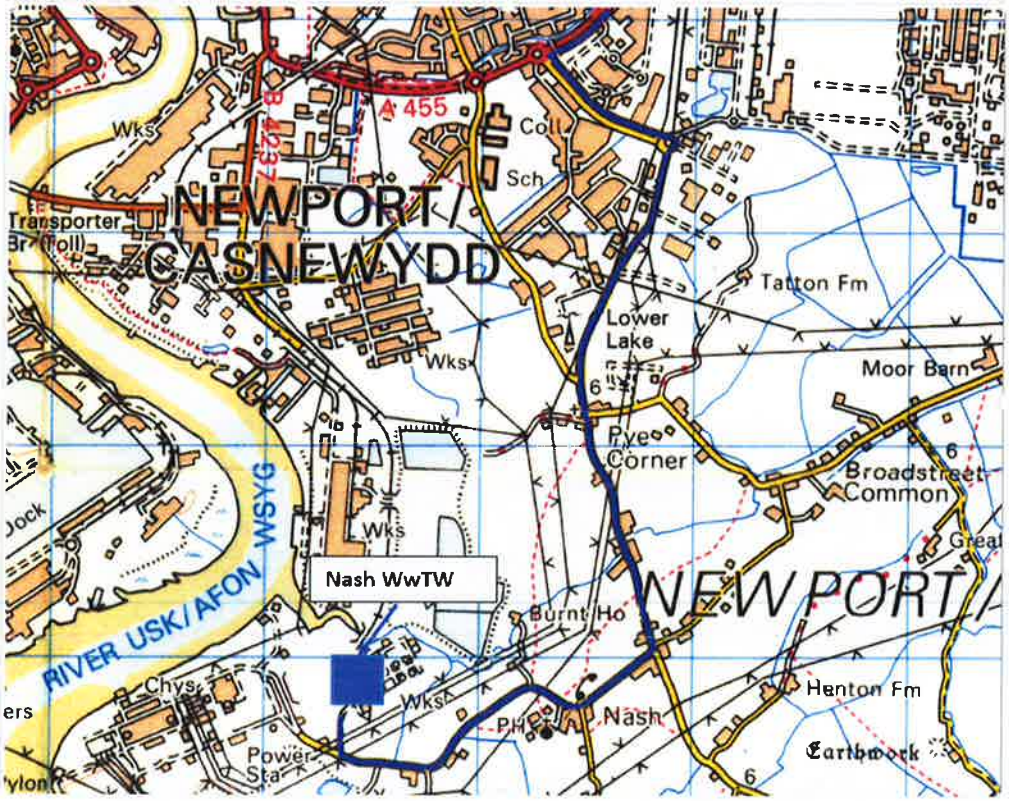


This details the layout of the tanker reception and discharge locations, storage tank, point where waste enters the WwTW and associated surfacing, pipelines and drains.

Below is a flow diagram of the waste acceptance, testing and through put through the liquid treatment centre –



Site Location Map



Location within Nash WwTW