E12841/SRM

26th October 2023

DRAINAGE STATEMENT

Branxton

1.0 Legislation & Guidance

The SUDS and drainage strategy for this site has been prepared taking cognizance of the following guidance and legislation.

- Water Environment and Water Services (Scotland) act 2003 and associated regulations relating to the design and construction of SUDS;
- SUDS Design Manual for Scotland and Northern Ireland (CIRCA C753);
- Sewers for Scotland 4th Edition;
- Water Environment (Controlled Activities) (Scotland) Regulations 2011.
- Planning Advice Note PAN79 – Water & Drainage, Sept 2008;
- Planning Advice Note PAN61 – Planning & SUDS;
- Scottish Planning Policy – Planning & flooding.
- SEPA's Standing Advice for Small Scale Development "Land use Planning System SEPA Guidance Note 8"

2.0 Surface Water Drainage & SUDS

- The site falls predominantly from north to south with the summit of a small hillock being present adjacent to the northern boundary and as illustrated by the contours on the topographic survey.
  Overall the site area accommodating the batteries and transformers is 23Ha and the impermeable area, post development, is assumed as 13.8Ha (60% of gross area).
- Surface water run-off will be directed through the site, by means of granular filter trenches and surface water drains and manholes. The drainage system is then attenuated in two distinctly separate attenuation locations, utilising "Stormbloc" cells. The filter trenches within the site provide treatment of the surface water run off.
- It is proposed that the Surface Water outfall from each of the attenuation areas will be restricted to greenfield levels of run off in accordance with SEPA's requirements.
  The outfalls will discharge into the existing natural water course (Braidwood Burn) which flows west to east, outwith the southern site boundary.

2.1 Attenuation Requirements

- The discharge rate has been calculated at 111.53L/s from "Wallingford". It is proposed to discharge the surface water drainage to the Braidwood Burn, regulated by Hydrobrakes.
- Attenuation to the above rate will take place within the two separate Stormbloc attenuation cells. Storms up to and including the 1 in 200 yr + 40% event should be contained within the drainage system without flooding. Storm events over and above this level can overspill with the existing topography providing an overland flow down to the Braidwood Burn.

2.2 Treatment Requirements

- The treatment strategy for this site has been prepared in accordance with Chapter 26 of the SUDS Manual C753 utilising the Simple Index Approach Tool. Treatment to surface water run off from hard standing areas.
  Low Trafficked Roads (Road within the Battery Areas). Low trafficked roads are defined as those which will have less than 300 vehicle movements per day.
- These roads will receive one level of treatment in the provision of filter drains.
- Additional mitigation measures will be put in place to provide bunding to hard standing areas where machinery requiring coolant is located. The surface water run off from these areas passes via an 'Aqua Sentry' a proprietary system to identify and isolate any contamination if a leak occurs.
- The treatment volume required from calculation is 1987m^3. The treatment volume provided by the filter trenches and granular base below the attenuation is 2084m^3.

2.3 Treatment of Surface Water Runoff During Construction

- During the construction works on site, additional measures will be put in place to cater for any higher levels of contamination generated. These measures will be temporary only and will be in place for the duration of works on the site and will be removed on completion of all site works.
- It will be the responsibility of the contractor to design any additional measures to the approval of the local authority and SEPA.
- Construction phase drainage should be kept separate from final phase drainage and should receive treatment in a separate SUD system in accordance with GBR 11 of the CAR 2011 legislation in order to protect any area of soil draining into a surface water system.

2.4 Fire Fighting Water Runoff Strategy

- In the event that Fire Authorities are required to attend site and provide supervision of a fire by water deluge, the run off from this will enter the drainage system. The potential is that this water may be contaminated. This contamination is prevented from reaching the outfalls from the site by incorporating end of line cut off manholes with a gate valve. In the event the valves are closed the contaminated water will back up into the drainage system. Road access is provided to the valve chamber to allow tanker access to each location to enable the water to be pumped out independently.

DAVID R MURRAY & ASSOSCIATES LLP October 2023