Outline Construction Method Statement for works below the MHW mark.
For
Marine Scotland Application

Project	**Glencaple Septic Tank Growth**
Location	**Glancaple, Dumfries & Galloway**
What 3 Word Link	**https://w3w.co/lists.elite.tasteful**
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Index.

1 Project Overview
2 Construction Proposal
3 Construction Methodology

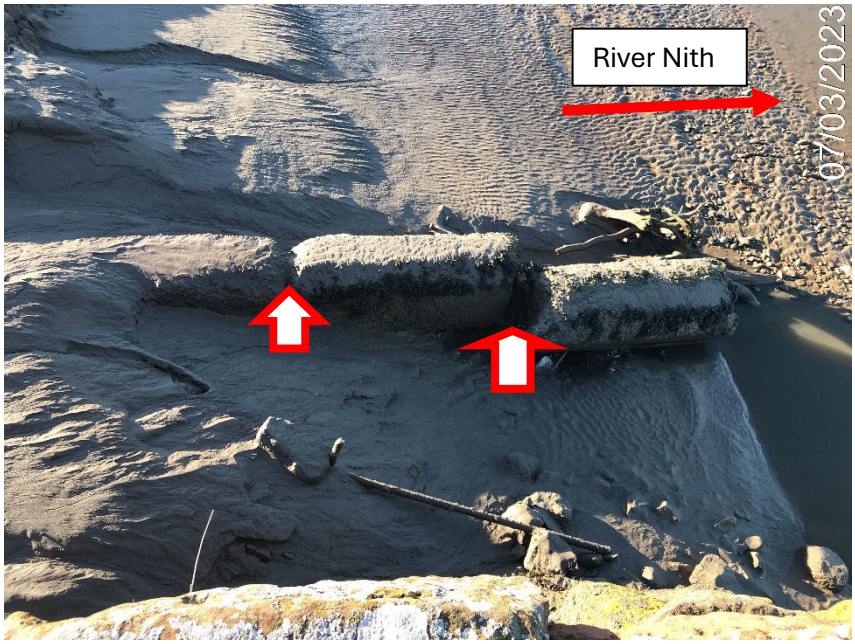
1 Project overview.

The existing Scottish Water septic tank and outfall system is no longer fit for purpose and does not meet current standards required for the local population value.

A new replacement septic tank system is to be installed and incorporated into the construction operations a replacement outfall into the tidal section of the River Nith. This replacement outfall is due to the condition of the current outfall as seen below.

Image of current outfall.
As viewed from above at low water.

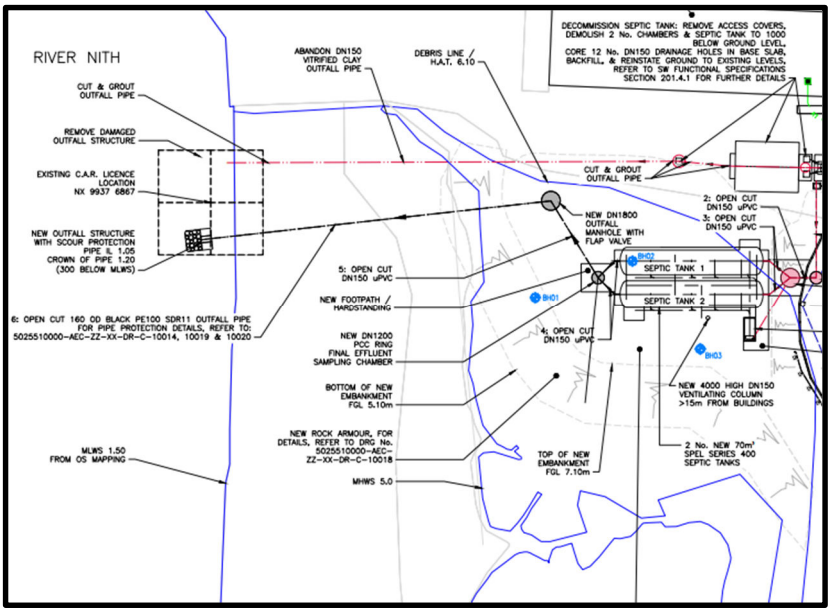
Dislodged large diameter concrete pipe with smaller diameter outfall pipe fixed with in by mass fill concrete. Current ⇧ flows emerging from pipe joints of mid and left sections ,right section no outward flow of liquor.



Construction Proposal works below MHW mark

Proposal is to install a new outfall alongside the existing then post commissioning of the new septic tanks and outfall remove the current outfall from the river embankment.

Extract from drawing number 5025510000-AEC-ZZ-XX-DR-C-10002.
Site Plan.



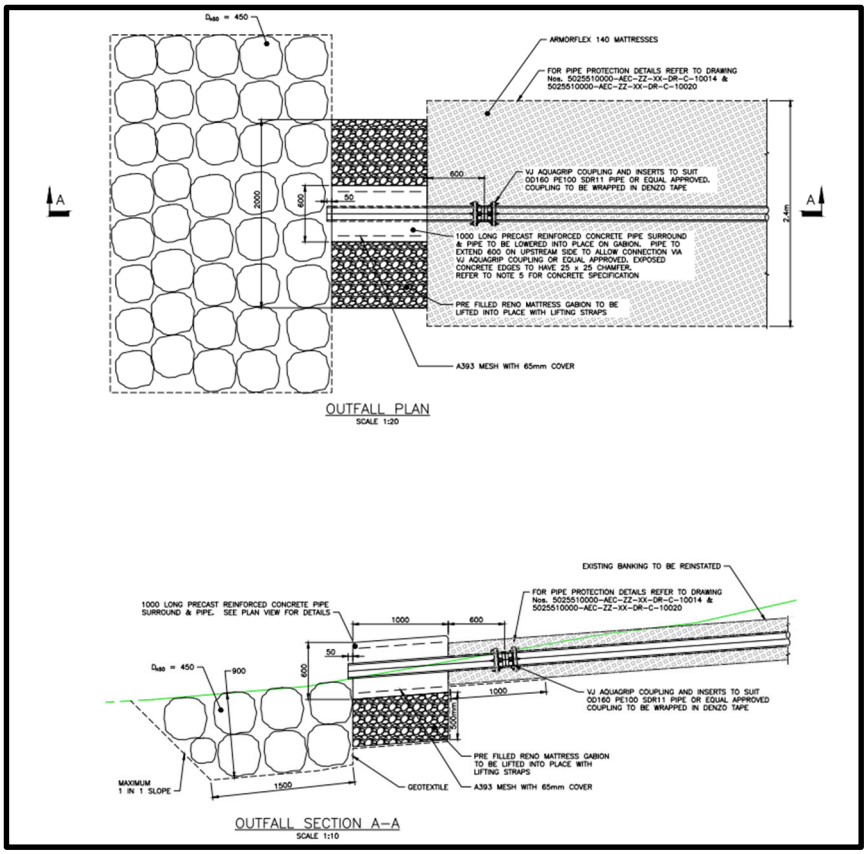
2 Proposed replacement outfall.

This will be a 160 OD ⌀ open ended pipe discharging below MLW line with the structure supported on burred RENO mattress, the final 1m of this enclosed within precast concrete section.

Upstream a precast concrete mattress will secure the outfall pipe and final coupling.

Embankment scour protection is by a 0.9m deep bolder / rip rap stone mat set in to the existing river embankment.

Extract from drawing number 5025510000-AEC-ZZ-XX-DR-C-10020
Outfall plan and Section.



3 Construction Methodology for Installation of Replacement Outfall.

3.1 Preparation works.

- Final 1.6m of outfall will be pre cast in to 0.6m square concrete section with VJ coupling fixed to upstream end.
- Pre fill Reno Gabion baskets (with lifting attachments)

3.2 Works on outfall

General Notes

- All works will be undertaken during low water with an excavator on the river embankment.

- All arisings will be deposited on the embankment above MHW , allowed to drain over several days then removed off site for disposal.

- Works below the MHW mark will be undertaken from the lowest point upwards to wards the final chamber that incorporates a flap valve.

- Tide dependant daily excavation work for each section of work would start on an outgoing tide at the highest point covering the daily targeted plan and “chase the tide out” in a attempt to maximise the working duration.

- Local conditions dependant use of timber bog mats placed daily or a widespread / low ground pressure excavator may be used.

- Some sections of work such as the scour protection will be “done blind” as expected to be below the MLW mark.

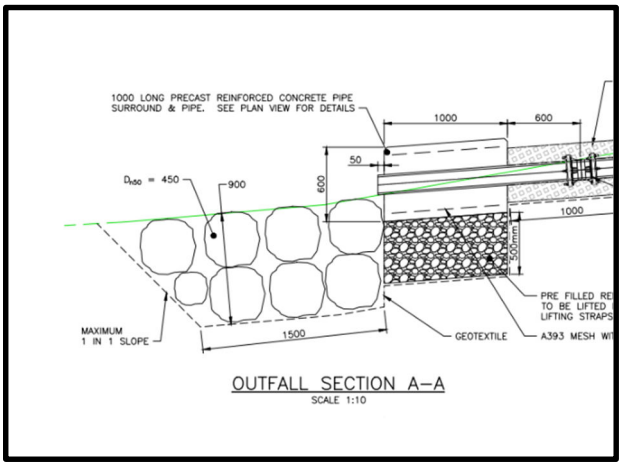
- Hydraulic oil used with in the excavator will be of “food grade”

- Spill kits will be located on each item of plant with refilling of plant done in line with company policy noted in, these generic environmental risk assessments noted below will be revised by the site team prior the start of construction activities.

    - P-02-1P-D10 Refuelling.
    - P-02-1P-D15 Water Pollution
    - P-02-1P-D16 Engineering Works (CAR)

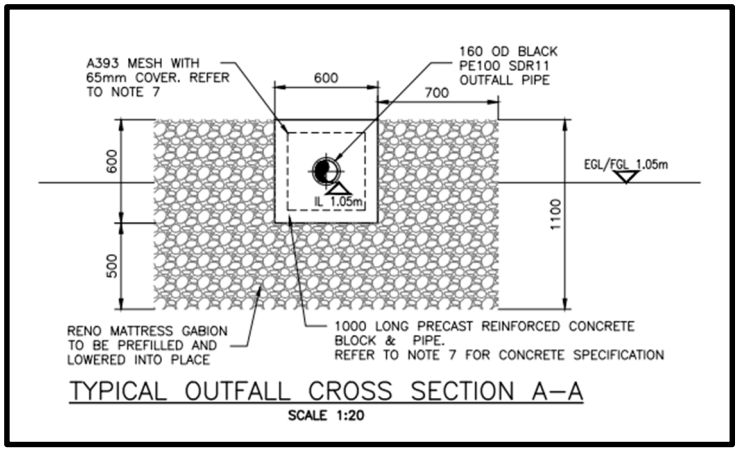
3.3

Embankment scour protection trench will be excavated in stages and filled with boulders / rip rap stone as the trench is excavated at the same time. This operation may take several low water tide times to cover the designed area.



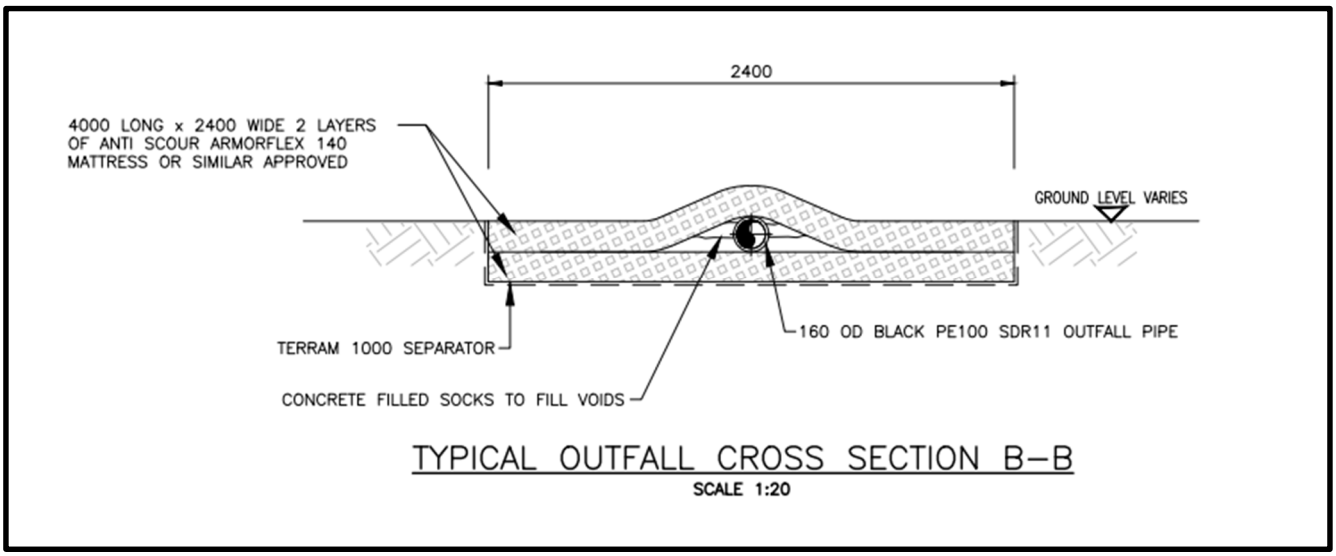
Towards the end of above an excavation to accommodate the prefilled Reno Gabion's to be placed into the excavated space during the same low water period. As per above they may take a couple of low water tide times to achieve the required profile.

The precast final section of outfall will then be placed with supporting prefilled Reno Gab to either side.



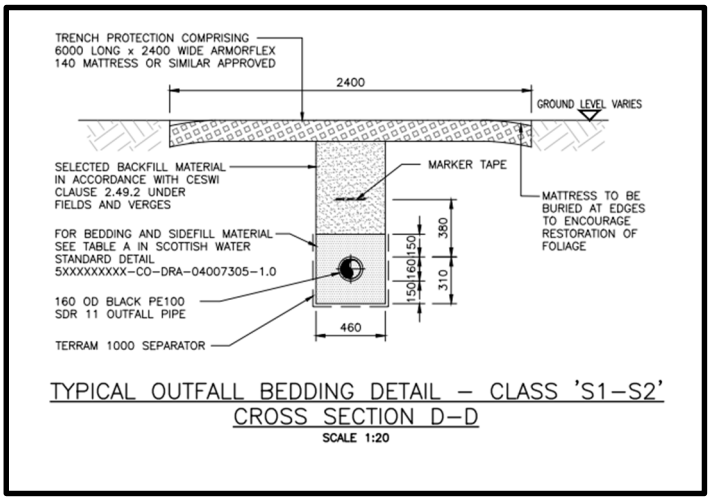
Dependant on local ground profile.

Up flow of this final out fall section of pipe a shallow 2.4m wide strip will be excavated with 1 layer of Teram then layer pipe bedding material or a layer of Armorflex 140 mattress . The outfall pipe will them be placed in the middle of the pipe bedding and enclosed by means of a Armorflex 140 mattress.
Where possible this operation completed during the same low tide window.



Or

A 0.5m – variable depth trench excavated with the outflow pipe surrounded by pipe bedding and side fill material installed and backfilled to existing ground profile.



Where required a proportion of drained excavation material will be used to backfill above the Armorflex to reinstate to match existing embankment profile on either side.

On completion of the works below MHW the river embankment will be surfaced scraped by the excavator to reinstate the embankment profile.

January 25 update.

Existing Outfall

Upon commissioning of the new septic tanks and outfall the existing (and extensively damaged / ineffective) outfall will be removed.

This work will be undertaken by an excavator operating from top of riverbank and will undertake lifting operations of the existing outfall sections for disposal off site. As this outfall was not founded on any type of foundation support, we foresee no requirement for extensive excavation in connection with this operation.

Only the exposed sections of redundant outfall pipe will be removed including any sections that are part burred in the embankment.

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