



Additional Preliminary Construction, Environmental and Waste Management Plan (Accompanying Oldtown Phase 5 Planning Package)

Stormwater Storage Tank on Foul Water Network at
Balheary Road, Swords, Co. Dublin

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1. Introduction

1.1 Background of Report

This additional Construction, Environmental & Waste Management Plan has been prepared by Waterman Moylan as part of the planning documentation for Oldtown Phase 5 in support of the proposed Stormwater Storage Tank required on the Irish Water foul water network draining to the Swords Wastewater Treatment Plant and serving the Oldtown / Mooretown / Holybanks catchment in Swords, Co. Dublin. The proposed tank will alleviate constraints within the foul water system (including the subject application site, Oldtown Phase 5) that are currently inhibiting Irish Water from supplying connection agreements for developments within the catchment, and as a result impacting further development.

This document has been setup to be a 'living document' which will be updated by the Developer and Main Contractor as the project progresses.

The Construction, Environmental & Waste Management Plan sets out typical arrangements and measures which may be undertaken during the construction phase of the project to mitigate and minimise disruption/disturbance to the area around the site. The purpose of this report is to summarise the possible impacts and measures to be implemented and to guide the Main Contractor who will be required to develop and implement the Construction, Environmental & Waste Management Plan on site during the course of the construction period.

As is normal practice, the Main Contractor for the project is responsible for the method in which the construction works are carried out and to ensure that best practices and all legal obligations including Local Authority requirements and Health and Safety legislation are complied with. The Main Contractor is also responsible for the design and installation of all temporary works required to complete the permanent works. The plan should be used by the Main Contractor to develop their Construction, Environmental and Waste management plan.

1.2 Site Location and Description

The proposed site for the Stormwater storage tank is located on the junction of the Glen Ellan Road and the Balheary Road, Swords, Co. Dublin, as indicated in *Figure 1* overleaf. The site is 1.4km north of Swords, 1.1km west of the M1 motorway and 300m south of the Broadmeadow River. The site is owned by Gannon Properties and is locally referred to as the Celestica/Motorola site.



Figure 1 | Site Location (Source: Google Earth)

The existing ground topography of the proposed storage tank location ranges from 6.30m-6.90m, with gentle gradients falling from west to east and from north to south. Access to the site will be from a newly proposed entrance to the east of the site, a safe distance north of the junction between the Glen Ellan Road / Balheary Road junction. The site for the proposed tank is brownfield, with some existing belowground infrastructure that will require removal and/or relocation.

1.3 Proposed Development and Application Context

It is proposed to supply a Stormwater storage tank and outfall utilising lands on the Celestica site to alleviate known constraints in the foul water network that services the Oldtown / Mooretown / Holybanks lands catchments. Irish Water have undertaken a model review of the constraints within the network and determined that a tank of 2,250m³ volume is required, as further explained in the below section 2. It is proposed to also provide a new outfall sewer along the Balheary Road to the Broadmeadow River, for overflow of the excess stormwater within the foul network during the more extreme rainfall events.

Following a review of three different locations in the area, Irish Water have suggested that the most suitable location for the tank would be at the junction of the Balheary Road and Glen Ellen Road (refer *Figure 1*) This area is the lowest point along the network that can be accessed by an adjacent road and facilitates an overflow to the Broadmeadow River via gravity. Gannon Homes own the Motorola / Celestica site at this junction and have agreed with Irish Water to apply for and construct the storage tank at this location.

The proposed storage tank will provide sufficient capacity to serve the catchment of Oldtown / Mooretown / Holybanks, facilitating continued future development in the catchment. The existing constraints within the foul network are currently inhibiting development.

These constraints in this foul water network have been noted in all Oldtown and Mooretown planning permissions since the commencement of this development. Until now, Fingal County Council and more recently Irish Water, have allowed construction to continue in this catchment whilst they have been preparing their hydraulic model of this catchment in its current and future scenario.

In December 2020, Irish Water confirmed that following recent modelling of the foul water network, that they will not be issuing further Connection Agreements in this area, until such time that the capacity constraints are either fixed or have an agreed solution and programme in place.

The storage tank has been designed in conjunction with Irish Water input on volumetric storage capacity and was lodged as a planning application to Fingal County Council by the subject applicant. The application was registered under planning Reg. Ref. F21A/0476 and is currently a live application at Additional Information stage which is due for decision in mid-April 2022 (current status at the time of writing this report). Thus, it was deemed appropriate to propose the tank and the associated works as part of this SHD application.

This CEWMP should be read in conjunction with the Waterman Moylan's Storage Tank Additional Engineering Assessment Report (AEAR) and Flood Risk Assessment (AFRA)

This report should also be ready with the following reports/packages:

- Screening Report for AA and NIS, as well as the Ecological Impact Assessment, all prepared by Openfield,
- Stormwater Overflow & Receiving Stream (Broadmeadow) Assimilation Simulation Evaluation Reports, prepared by AWN Consulting and Hydro-G.
- Assessment of Likely Arboricultural Impacts, prepared by The Tree File Ltd.
- CGI Verified View of Outfall prepared by Digital Dimensions

- Landscape Plan prepared by Doyle O'Troithigh

2. General Site Set-Up and Pre-Commencement Measures

The following measures will be carried out by the Main Contractor:

1. A full condition survey of the public infrastructure that will be utilised or affected by construction traffic, prior to any work being carried out on the site. This condition survey to include an inventory of the road network intended to be used by vehicles, weight restrictions to be imposed on vehicles, a full colour photographic record of the road network intended to be used, a full written account of the existing condition and structural integrity of the infrastructure detailing all existing defects and features.
2. Prior to any site works commencing, the main contractor will investigate / identify the exact location of and tag all existing services and utilities around and through the site with the assistance of the relevant Fingal County Council technical divisions and utility companies.
3. A site compound including offices and welfare facilities, as well as parking to accommodate all site operatives, will be set up by the Main Contractor. No parking of construction related vehicles will be permitted on the adjoining road network and adequate parking facilities will be made available within the Construction Compound for all site workers during the course of construction.
4. The developer will appoint a Project Manager to manage the construction process on site.
5. Construction access to the subject site will be from the Balheary Road via a new access entrance to the former Motorola / Celestica site. See *Figure 2* below showing the proposed route to/from the site via the M1 Motorway. Single Gate access to the site will prevail unless diversions and connecting to the site services on Balheary Road require alternative access to be set-up on a temporary basis.

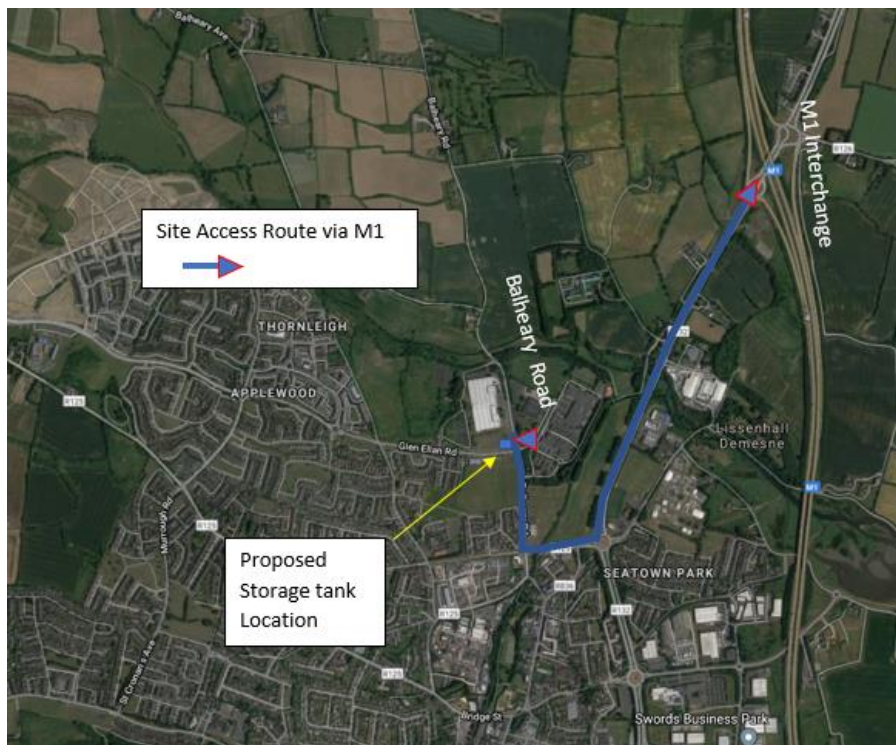


Figure 2 | Site Access Traffic Route

6. No muck, dirt, debris or other material shall be deposited on the public road or verge by machinery or vehicles travelling to or from the site during the construction phase. The contractor to arrange vehicles leaving the site to be kept clean.
7. Excavated material will generally be stored on site for removal in one main operation near to the completion of the project. At this stage a wheel wash facility will be installed and operated in accordance with the detailed requirements of the Planning Authority for such works.
8. Site access will be controlled, and the surrounding road network monitored to ensure that the roads and footpaths affected by the construction works are maintained in a safe and tidy condition. Road sweepers will be utilised as required.
9. Site security lighting will be located and designed so as not to result in glare on the public road or to impact negatively on any nearby dwellings.
10. Typical working hours for the site will be 08:00 to 19:00 Monday to Friday and 08:00 to 14:00 Saturday. No Sunday work is generally permitted. Special construction operations may need to be carried out outside these hours in order to minimise disruption to the surrounding area, which will be subject to agreement with the Planning authority. No heavy equipment/machinery shall be operated on or adjacent to the site before 08:00 hours on weekdays and Saturdays nor after 20:00 hours on weekdays and 16:00 hours on Saturdays, nor at any time on Sundays, Bank Holidays and Public Holidays.

3. Deliveries

It is intended that deliveries to the construction site will typically be made to the main site access which will be located off the Balheary Road.

Materials should be ordered and delivered to site on an “as needed” basis in order to prevent over supply to site. Deliveries will be managed upon arrival to the site and systems should be provided in order to avoid any queuing of delivery vehicles.

The Main Contractor shall adopt measures as necessary to avoid damage to the infrastructural services of the adjoining roads over which vehicles servicing the development will traverse.

The access route indicated in *Figure 2* will be designated as the primary route for deliveries to the site and removal of waste from the site.

In the event that large concrete pours are required, which may result in congestion at the entrance to the site, the deliveries will be organised such that concrete trucks will queue at a pre-determined staging point (such that they do not cause an obstruction to general traffic in the area) and will then be called in by radio as appropriate to the site, via a pre-determined route and to the required access gate.

Set procedures and designated wash-out areas will be provided, or alternatively vehicle wash-out will be prohibited if a suitable wash-out area is not identified.

All delivery vehicles will be co-ordinated by the flagman on duty at the relevant access gate.

4. Parking and Storage

A site compound including offices and welfare facilities as well as parking to accommodate all site operatives will be set up by the Main Contractor.

No parking of construction related vehicles will be permitted on the adjoining road network (Glen Ellan Road and Balheary Road) and adequate parking facilities will be made available within the Construction Compound for all site workers during the course of construction.

The Main Contractor will be required to schedule delivery of materials strictly on a daily basis. The Main Contractor will ensure that surface and ground waters are adequately protected from contamination by stored materials. All hydrocarbons, chemicals, oils, etc. shall be stored in a dedicated bounded area at least 30m from watercourses and capable of storing 110% of the container/tank capacity. All refuelling shall take place in a designated refuelling area at least 30m from watercourses. The contractor shall ensure adequate supply of spill kits and hydrocarbon absorbent pads are stocked on site.

During construction the contractor shall provide adequate off carriageway parking facilities for all traffic associated with the proposed development, including delivery and service vehicles/trucks. Parking along the public road will not be permitted.

5. Dust and Dirt Control

Nuisance dust emissions from construction activities are a common and well recognised problem. Fine particles from these sources are recognised as a potential significant cause of pollution.

During the construction phase, best available technology not entailing excessive cost shall be employed by the developer to minimise noise from the construction operations and shall comply with the BS 5228:1997 “Noise Control on Construction and Open Sites”

The Main Contractor will be required to demonstrate that both nuisance dust and fine particle emissions from the site is adequately controlled and are within acceptable limits. The total dust emission arising from on-site operations associated with the proposed development shall, when measured at the site boundaries, not exceed 350 milligrams per square metre per day, averaged over 30 days. The Main Contractor shall, if directed by the Planning Authority, monitor and record the total dust emissions arising from all on site operations associated with the proposed development. The necessary number and locations of the monitoring and recording stations for dust deposition shall be in accordance with the requirements of the Planning Authority. The Planning Authority shall be afforded access at all reasonable times in order to inspect, examine and check or to have inspected, examined and checked, all apparatus and equipment used or required to carry out monitoring of dust.

Dust and fine particle generation from construction and demolition activities on the site can be substantially reduced through carefully selected mitigation techniques and effective management. Once particles are airborne it is very difficult to prevent them from dispersing into the surrounding area. The most effective technique is to control dust at source and prevent it from becoming air borne, since suppression is virtually impossible once it has become airborne.

5.1 Mitigation Measures

The following are techniques and methods which are widely used currently throughout the construction industry to control dust and dirt emitting from the site, and which may be used in the proposed Celestica/Motorola site.

1. The roads around the site are all surfaced, and no dust is anticipated arising from unsealed surfaces.
2. A regime of ‘wet’ road sweeping can be set up to ensure the roads around the immediate site are as clean and free from dirt / dust arising from the site, as is reasonably practicable. This cleaning will be carried out by approved mechanical sweepers.
3. Footpaths immediately around the site can be cleaned by hand regularly, with damping as necessary.
4. High level walkways and surfaces such as scaffolding can be cleaned regularly using safe ‘wet’ methods, as opposed to dry methods.
5. Vehicle waiting areas or hard standings can be regularly inspected and kept clean by brushing or vacuum sweeping and will be regularly sprayed to keep moist, if necessary.
6. Vehicle and wheel washing facilities can be provided at site exit(s) where practicable. If necessary, vehicles can be washed down before exiting the site.

7. Netting can be provided to enclose scaffolding in order to mitigate escape of airborne dust from the existing and new buildings.
8. Vehicles and equipment will not emit black smoke from exhaust system, except during ignition at start up.
9. Engines and exhaust systems should be maintained so that exhaust emissions do not breach stationary emission limits set for the vehicle / equipment type and mode of operation.
10. Servicing of vehicles and plant should be carried out regularly, rather than just following breakdowns.
11. Internal combustion plant should not be left running unnecessarily.
12. Where possible fixed plant such as generators should be located away from residential areas.
13. The number of handling operations for materials will be kept to a minimum in order to ensure that dusty material is not moved or handled unnecessarily.
14. The transport of dusty materials and aggregates should be carried out using covered / sheeted lorries.
15. Material handling areas should be clean, tidy and free from dust.
16. Vehicle loading should be dampened down and drop heights for material to be kept to a minimum.
17. Drop heights for chutes / skips should be kept to a minimum.
18. Dust dispersal over the site boundary should be minimised using static sprinklers or other watering methods as necessary.
19. Stockpiles of materials should be kept to a minimum and if necessary, they should be kept away from sensitive receptors such as residential areas etc.
20. Stockpiles where necessary, should be sheeted or watered down.
21. Methods and equipment should be in place for immediate clean-up of spillages of dusty material.
22. No burning of materials, including green waste will be permitted on site.
23. Earthwork's excavations should be kept damp where necessary and where reasonably practicable.
24. Cutting on site should be avoided where possible by using pre-fabrication methods.
25. Equipment and techniques for cutting / grinding / drilling / sawing / sanding etc., which minimise dust emissions and which have the best available dust suppression measures, should be employed.
26. Where scabbling is to be employed, tools should be fitted with dust bags, residual dust should be vacuumed up rather than swept away, and areas to be scabbled should be screened off.
27. Wet processes should be used to clean building facades if possible. If dry grit blasting is unavoidable then ensure areas of work are sealed off and dust extraction systems used.
28. Where possible pre-mixed plasters and masonry compounds should be used to minimise, dust arising from on-site mixing.

29. Prior to commencement, the Main Contractor should identify the construction operations which are likely to generate dust and to draw up action plans to minimise emissions. Furthermore, the Main Contractor should prepare environmental risk assessments for all dust generating processes, which are envisaged.
30. The Main Contractor should allocate suitably qualified personnel to be responsible for ensuring the generation of dust is minimised and effectively controlled.
31. The contractor shall provide to the Local Authority, on completion of works, a comprehensive report detailing the management of all waste streams generated during the construction and commissioning stages of the project. This shall include but not be limited to type of waste streams, amount of each waste stream generated, destination of waste stream (including final destination if applicable), percentage of waste re-used, recycled, recovered and disposed, and prevention and minimisation initiatives undertaken.

6. Construction Waste Management

The main sources of construction waste arising from this project will be:

- Topsoil and subsoil
- Packaging and general waste from construction activities
- General site clearance waste, roots, etc.

It is practical that as much as possible topsoil and subsoil generated remains on site and is used for landscaping and engineering purposes as appropriate. Please refer to sections 6.7 & 6.8 for further details.

6.1 Policy and Legislation

The principles and objectives to deliver sustainable waste management for this project have been incorporated in the preparation of this report and are based on the following strategic objectives: -

- National Policy: The Waste Management Acts 1996 to 2005.
- Local Policy: Waste Management Plan for the Dublin Region 2005 – 2010, November 2005.

This Waste Management Plan is also in accordance with the following guidance note published by the Department of the Environment, Heritage and Local Government in July 2006: -

- Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition (C&D) Projects.

The hierarchy of waste management sets out the guiding principles in order of importance as follows: -

1. Reduction of the amount of waste generated by the construction process.
2. Segregation of waste is a key concept that will be implemented during the course of the construction phase of the development to enable ease of re-use and recycling, wherever appropriate.
3. Recycle waste material where feasible, including the use of excess excavations as fill material, recycling of various waste fractions such as metals, packaging etc.

6.2 On site Waste Management

An estimate of the quantities of surplus construction and demolition (C&D) waste and materials which will arise during the course of the construction phase shall be created by the main contractor.

The Purchasing Manager shall ensure that materials are ordered so that the quantity delivered, the timing of the delivery and the storage is not conducive to the creation of unnecessary waste.

6.3 Off Site Waste Management Licensing/Permitting

All waste materials (where necessary, after in-situ reuse and recycling options have been fully considered) shall be disposed of off-site, under the appropriate Duty of Care and subject to approvals/consents from the relevant statutory bodies. It is the responsibility of the Main Contractor to ensure that any company to whom waste is transferred is legally permitted to do so and that the facility they bring the waste to is licensed to handle that type of waste as outlined in the Waste Management Acts 1996-2005. The Waste Collection

Permit Register, in accordance with the Waste Management (Collection Permit) Regulations 2001 will be consulted to ensure that waste carriers hold the appropriate permit.

It is anticipated that there is the possibility that waste materials will have to be moved off-site. It is the intention to engage specialist waste service contractors, who will possess the requisite authorisations, for the collection and movement of waste off-site, and to transport the material to a facility which currently holds a Waste Licence, Waste Permit, or Certificate of Registration. Details of waste service contractors and demolitions are not confirmed at the time of writing. The following waste authorisations will be arranged specifically for the project:

Authorisation Type	Specific Need for Project (Yes / No?)
Waste Licence	Yes
Waste Permit	Yes
Waste Collection Permit	Yes
Transfrontier Shipment Notification	Not expected
Movement of Hazardous Waste Form	Not expected

Table 1 | Specific Waste Authorisation Necessary for the Scheme

Any wastes that have to be disposed/recycled off site will be transported to the nearest appropriate facility in order to comply with the proximity principle and reduce the associated emissions from the transportation of waste. The Environmental Protection Agency holds details of waste facilities, which will be consulted where necessary.

An inspection of the site shall be made by the Main Contractor for hazardous substances, gas cylinders and the like. If such substances are encountered during the course of construction, then works must be halted. The project supervisor for construction stage (PSCS) and the responsible Statutory Authority shall be informed immediately.

The Contractor shall prepare a detailed inventory of construction based hazardous waste generated, such as tars, adhesives, sealants, and other dangerous substances, and these will be kept segregated from other non-hazardous waste to prevent possible contamination. Arrangements shall be made for such substances for disposal in a safe manner to an authorized disposal site or by means acceptable to the relevant Authority.

Certificates and licenses of waste hauliers and recycling/ disposal facilities shall be held by the main contractor for inspection as part of the contractor's own construction waste management plan

The Contractor shall ensure that the excavation works are carried out in accordance with best standard practice and excavation materials are well segregated to minimize any potential cross-contamination.

In the unlikely case of a soil/topsoil surplus the Contractor shall carry out appropriate environmental chemistry testing in order to determine the waste classification of the soils that are to be excavated and that shall include Waste Acceptance Criteria testing. The test regime shall be agreed with the receiving landfill operator and the testing shall be carried out by an accredited laboratory.

Should excavation materials be assessed to be hazardous, the Contractor shall carry out pre-treatment of the waste soils to a methodology that is agreed with the receiving landfill operator and in accordance with Environmental Protection Agency guidance.

The Main Contractor is encouraged to reuse and recycle any waste materials as far as is reasonably practicable.

The Main Contractor shall manage and carry out the works in accordance with best environmental practice and in accordance with the requirements of Local Authority, EPA and all requirements as specified in this document.

6.4 Appointment of C&D Waste Manager

A C&D Waste Manager shall be appointed from the Contractor’s Staff and have overall responsibility for the implementation of the project Waste Management Plan (WMP) during the construction phase. The C&D Waste Manager will be appropriately trained and assigned the authority to instruct all site personnel to comply with the specific provisions of the WMP. At the operational level, a designated person from the main contractor and from each sub-contractor on the site shall be assigned the direct responsibility to ensure that the operations stated in the WMP are performed on an on-going basis.

Copies of the WMP will be made available to all relevant personnel on site. All site personnel and sub-contractors will be instructed about the objectives of the WMP and informed of the responsibilities which fall upon them as a consequence of its provisions. Where source segregation, selective demolition and material reuse techniques apply, each member of staff will be given instructions on how to comply with the WMP. Posters will be designed to reinforce the key messages within the WMP and will be displayed prominently for the benefit of site staff.

6.5 C&D Record Keeping

Details of all arisings, movement and treatment of C&D waste shall be recorded as part of the Waste Auditing regime.

It is the duty of the C&D Waste Manager to ensure that necessary licenses have been obtained as needed. Each consignment of C&D waste taken from the site will be subject to documentation which will conform with *Table 2* along with Transportation Dockets to ensure full traceability of the material to its final destination.

Detail	Particulars
Project of Origin	Stormwater Storage Tank (Celestica Site), Swords, Co. Dublin
Material being Transported	Soil, Construction waste
Quantity of Material	TBC by Contractor prior to starting works (Refer Section 6.6)
Date of Material Movement	TBC by Contractor prior to starting works
Name of Carrier	TBC by Contractor prior to starting works
Destination of Material	TBC by Contractor prior to starting works
Proposed Use	TBC by Contractor prior to starting works

Table 2 | *Details of Materials Taken from Site*

6.6 Estimate and Details of C&D Waste Quantities and generation

The following is an estimate of the construction and demolition waste generated from this development. These figures are high level estimates only and shall be confirmed by the appointed contractor in the Final Construction, Environmental and Demolition Waste Management Plan.

As far as is practical, cut and fill and excavation operations shall be balanced in terms of quantities. As outlined in section 6.8 below, it is envisaged that surplus excavated subsoil material from these works will amount to ~3,660m³. Export of this subsoil material shall be carried out to the nearby housing development works. Subsoil transfer such as this shall require an article 27 application and associated licence grant, unless transferred within the same planning boundary site.

A breakdown of the generated subsoil calculations allowing for a 10% factor of safety follows below:

Storage Tank – accounting for tank wall and base widths: 35.5m long x 35.5m wide x 2.35m deep +~10% Factor of safety = 3000m³

Drainage Outfall – 400m long x 1m wide x 1.5m deep = 600m³ + 10% factor of Safety = 660m³

In conjunction with subsoil, there shall be stone and asphalt generated from the excavation of the drainage outfall line.

A breakdown of the generated stone and asphalt calculations allowing for a 10% factor of safety is provided below:

Drainage Outfall Stone – 400m long x 1m wide x 300mm deep = 120m³

Drainage Outfall Asphalt - 400m long x 1m wide x 200mm deep = 80m³

In the case of stone & asphalt material generated from the drainage outfall excavation, careful planning and on-site storage can ensure that these resources are reused on-site as much as possible, with temporary storage afforded adjacent the site compound, as identified on the indicative compound and construction management plan 17-144-P2010. Any surplus of stone or asphalt not reused on site can be sold or disposed of at an appropriately licensed facility.

It is anticipated that waste concrete and masonry will either be stored on site and crushed and used for development site haul roads or disposed of at an appropriately licensed facility. It is estimated that there will be approximately 30-50 tonnes of this material generated.

Most of the wood will come in the form of wooden pallets that are used for transport of construction materials. There will be 35m³ roll-on skips provided for this type of waste. This waste will then be disposed by a licensed waste service provider, to be confirmed by the contractor. It is estimated there will be 5-10 tonnes of this material generated.

Other waste coming from packaging and running of site offices will be collected in separate 15m³ roll on skips, and similarly collected by a licensed waste service provider. It is estimated there will be 3-5 tonnes of this material generated.

Waste Material	Waste Quantity
Subsoil	3,660m ³ – Refer Section 6.8
Concrete and Masonry	30-50 tonnes

Stone	120m3
Asphalt	80m3
Wood	5-10 tonnes
Packaging	3-5 Tonnes

Table 3 | *Estimate of C&D Waste Quantities*

6.7 Topsoil

In the case of topsoil careful planning and on-site storage can ensure that this resource is reused on-site as much as possible. Any surplus of soil not reused on site can be sold. However, topsoil is quite sensitive and can be rendered useless if not stored and cared for properly.

- It is important that topsoil is kept completely separate from all other construction waste as any cross-contamination of the topsoil can render it useless for reuse.
- It is important to ensure that topsoil is protected from all kinds of vehicle damage and kept away from site-track, delivery vehicle turning areas and site plant and vehicle storage areas.
- The required inspections and analysis of topsoil (also applicable to subsoil) properties will be undertaken to accompany any Article 27 applications.

If topsoil is stored in piles of greater than two metres in height the soil matrix (internal structure) can be damaged beyond repair. It should also be kept as dry as possible and used as soon as possible to reduce any deterioration through lengthy storage and excess moving around the site.

Records of topsoil storage, movements and transfer from site should be kept by the C&D Waste Manager. It is projected that topsoil will be reused on-site for landscaping purposes. Any excess/surplus material shall transfer through the Article 27 application process and associated licence grant, unless transferred within the same planning boundary site.

6.8 Earthworks (Subsoil) – Cut and Fill Policy

Earthworks for tank structure and outfall line form a major part of the quantity of waste that will be generated by the construction phase of this project. In order to optimise the impact of the generation of surplus material due to excavation the following principles has been considered during the detail design and construction phase:

- The quantity of excavated materials to be removed from or imported into the site has been reduced by establishing levels of the proposed structure which optimise the volume of cut and fill. It is envisaged that surplus excavated subsoil material from these works will amount to ~3,000m3 for the tank itself and 660m3 for the outfall drainage line. As far as is practical arisings from excavations will be retained and reused on site. Should any import or export of subsoil material be required to/from the nearby housing development works, subsoil transfer such as this shall require an article 27 application and associated licence grant, unless transferred within the same planning boundary site.
- Unsuitable sub-soils generated by excavations on site will be reviewed for reuse as landscaping or non-engineering fills on adjoining or other construction sites within the region.

- Careful separation of builder's rubble packaging and contaminated waste from re-usable material will result in the minimisation of the disposal of material to landfill.

7. Ground Water

The excavations for the drainage pipes, water supply and the proposed tank have been designed to be as shallow as possible in order to reduce excavation depths. Careful attention will be required to maintain the excavations clear of ground water.

A discharge Licence will be required for all water pumped from the excavations to any public water course or sewer.

All water pumped from the excavations will require to be treated for silt and deleterious matter. During any discharge of surface water from the excavations, the quality of the water will be regularly monitored visually for hydrocarbon sheen and suspended solids. Periodic laboratory testing of discharge water samples will be carried out in accordance with the requirements of the discharge licence obtained from the Local Authority.

8. Noise Assessment and Control Measures

The main contractor will deal with the immediate dangers to hearing etc. associated with high noise levels and the impact of same on construction operatives, by means of risk assessment and mitigation / precautionary measures and equipment, all pursuant to the current health and safety legislation. Current legislation limits, assessment period of 8 hours of one week (noisiest 8 hours likely to experience): -

- Lower Action Value (LAV) – 80 dBA $L_{EX,8}$, 135 dB Peak – Hearing Protection shall be made available, and information shall be provided.
- Upper Action Value (UAV) – 85 dBA $L_{EX,8}$, 137 dB Peak – Use of Hearing Protection is mandatory, measures to eliminate the noise as much as possible shall be applied.
- Exposure Limit Value (ELV) – 87 dBA $L_{EX,8}$, 140 dB Peak – Not to be exceeded

Protection by ear plugs/muffs given by their Signal-to-Noise Ratio (SRN) or Noise Reduction Rating (NRR) is typically 20 – 30 db.

$$\text{Exposure} = L_{EX,8} - (\text{SNR} - 10)$$

As a guide, if it is difficult to hear a normal conversation at a distance of 2m or a workplace is consistently noisier than a busy street, it is likely that the noise levels in the area are above 80 dBA.

It is not envisaged that any excessively noisy activities will be carried out over extended periods of time during the construction stage. However, due to the nature of the construction works, exposure to noise levels in excess of 80 dBA (Safe Working Limit) may occur occasionally. The Main Contractor will carry out a noise assessment in relation to the proposed works at construction stage. The noise assessment identified the following steps in its analysis: -

1. **Potentially Hazardous Activities:** Use of site machinery and power tools. For example, concrete saws, angle grinders, vibratory plate compactors etc.
2. **Potential Hazards:** Excessive noise
3. **Persons at Risk:** People in the vicinity of the work generating an excessive noise. These people include employees, contractors and members of the public.
4. **Risk of Exposure to the Potential Hazard:** Temporary or permanent hearing loss.
5. **Risk Assessment before the Implementation of Control Measures:** Medium
6. **Risk Assessment after the Implementation of Control Measures:** Low
7. **Control Measures Implemented by:** Site Manager / Works Supervisor

The following control measure are to be implemented: -

Site Manager shall monitor a likelihood of prolonged exposure to excessive noise and commission noise surveying/monitoring programme where necessary.

1. Works Supervisor shall assess risk arising from noise prior to each particular activity taking place and determine appropriate action. The aim shall be to minimise the exposure to excessive noise levels.

2. If it is likely that the noise exposure exceeds Lower Action Value, then hearing protection must be made available.
3. If it is likely that the noise exposure exceeds Upper Action Value, then hearing protection is mandatory to be used. Work Supervisor shall decide on the most suitable hearing protection to be used based on Exposure (see formula above) and worker's personal preference (earmuffs or earplugs).
4. Works Supervisor shall ensure proposed measures are put in place and that their effectiveness and suitability is evaluated on regular bases.
5. Site management shall minimise noise at work by looking for alternative processes and/or working methods, which would make the work quieter and/or exposure times shorter.
6. Site Manager shall liaise with all site contractors in order to effectively control noise exposure.
7. Number of people working near source of the noise shall be minimised.
8. Plant and machinery shall be compliant with current legislation and fitted with silencers where possible.
9. Employees must use hearing protection where its use is made compulsory.
10. Hearing protection zones shall be identified where necessary.
11. Spot checks on appropriate use of hearing protection shall be carried out.
12. Operators of rock breaking machines and workers nearby must wear adequate ear protection.

Environmental Noise Mitigation Measures:

1. The Contractor will adhere to the working hours as stipulated.
2. All plant to be serviced and maintained in good working order to ensure noise production is kept to a minimum.
3. The Contractor will endeavour to position noise plant where possible away from sensitive receptors and will be mindful of sensitive receptors in arrangement of site set up. The following are possible receptors around the subject site
 - Residential Development south of Glen Ellan Road and St Colmcille's GAA Club.
4. Idle plant to be switched off or throttled down to both save energy and reduce noise emissions.
5. All plant operators to be qualified in their specific piece of plant.
6. Compressors and generators will be sited in areas least likely to give rise to nuisance where practicable.
7. In the event that The Contractor gets a complaint about noise from a neighbour he will act immediately to remedy the situation.

Proper Use of Hearing Protection

1. Earmuffs: Workers must make sure that they totally cover their ears, fit tightly and that there are no gaps around the seals. Hair, glasses, jewellery, hats etc. shall not interfere with the seal. Seals and insides of earmuffs shall be kept clean. Workers shall make sure that any headband keeps its tension.
2. Earplugs: Workers shall make sure that they are wearing them properly. They shall practice fitting them and get help if they are having trouble. Hands shall be clean before fitting earplugs. Earplugs must not be shared with other workers.
3. Semi-inserts/caps: Same applies as for earplugs. Worker shall make sure that any headband keeps its tension.

All workers are expected to:

1. Co-operate: Help the Company to do what is needed to protect their hearing. Make sure that they use properly any noise control device and follow any working methods that are put in place.
2. Wear any hearing protection they are given: Make sure that they are wearing it properly. They shall wear it all the time when they are exposed to a noisy environment (over UAV). Taking it off even for a short while means that the hearing could still be damaged.
3. Maintain their hearing protection so as to preserve its working condition:
4. Report any problems: Report any problems with the hearing protection or effectiveness of the measures to the work supervisor.

9. Erosion and Sediment Control

9.1 Run-Off to Ditches

Significant quantities of waste and potential pollutants can be generated during construction. Controls must be put in place to prevent these pollutants from washing into the local storm water system.

The subject site drains to the north-east and outfalls to the Broadmeadow River and the Malahide Estuary. The Malahide Estuary is Special Area of Conservation and a Special Protection Area within the EU's Natura 2000 network of designated sites. Under Article 6(3) of the Habitats Directive, a screening for Appropriate Assessment was carried out for this project by Openfield Ecological Services. This concluded that significant effects to natura 2000 sites could not be ruled out. This arises from the potential for pollutants to enter watercourses during the construction phase. Protection of the watercourses is therefore paramount during the construction stage of the subject development.

Following from the AA Screening, a Natura Impact Statement was prepared which details the mitigation measures which will be implemented to avoid any negative effect to the integrity of Natura 2000 sites. These measures are reflected in this document.

The risk of pollution of the watercourse will be minimised in accordance with the IFI Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters (2016) and with CIRIA C532: Control of water pollution from construction sites, Guidance for consultants and contractors.

The following temporary measures will be put in place to prevent the loss of sediments, oils, and pollutants to the Broadmeadow River:

1. Fuels, oils, greases, and hydraulic fluids will be stored in bunded compounds well away from the watercourse. Refuelling of machinery, etc., should be carried out in bunded areas.
2. Runoff from machine service and concrete mixing areas will not enter the watercourse.
3. Stockpile areas for sands and gravel will be kept to minimum size, well away from the watercourse.
4. Runoff from the above will only be routed to the watercourse via suitably designed and sited settlement ponds/filter channels.
5. Settlement ponds, if required, will be inspected daily and maintained regularly.

The main pollutants of site water are silt, fuel/oil, concrete, and chemicals. See *Table 4* overleaf, for a list and brief description of pollution prevention measures.

The proposed development site will require an outfall overflow to the Broadmeadow River from the storage tank via a c. 350m long 300mm diameter gravity overflow pipe. The overflow discharge will require the construction of a headwall at the outfall location. Works will only be carried out only during dry weather. The precast headwall will be constructed "in the dry" and isolated from the watercourse using sandbags. The headwall will be installed on cement blinding (50mm minimum) on well compacted clean hardcore (300mm minimum). Ready mix concrete will be brought to the site and no concrete batching will occur at the headwall location. The cement will be allowed to fully cure before the removal of the sandbag bund. Under no circumstances will concrete-contaminated water or effluent be permitted to escape to the river.

Source	Action
Detergents	Use of detergents should be carried out in designated areas draining to the foul sewer.
Fuel/Oil	Fuel/oil stores must be located away from the site drainage system and the edge of watercourses.
	Ensure adequate measures are identified to prevent or contain any spillage such as creating a fall away from any drainage grid or blocking drainage points.
	Prevent oil pollution by: <ul style="list-style-type: none"> • Suitable bunded storage of fuel/oil, and use of drip trays under plant, and • An oil separator, and/or • On-site spill-kit • Commercially available absorbent granules, pads or booms.
Material Storage	Store drums, oil, and chemicals on an impervious base and within a secured bund.
	Ensure topsoil and/or spoil heaps are located at least 10m away from water courses. Consider seeding them or covering with a tarpaulin to prevent silty runoff and losses due to wind.
Leaks and Spills	Storage facilities are to be checked on a regular basis to ensure any leaks or drips are fixed to prevent loss and pollution.
	Ensure appropriate spill response equipment is located near to the material in case of containment failure or material spills and ensure site staff know how to use it.
	Adequate stocks of absorbent materials, such as sand or commercially available spill kits and booms should be available at all times.
Litter	Provide waste bins on-site as appropriate.
Construction Vehicles	Provide vehicle wheel washing.
Concrete, Cement and Bentonite	Washout of these materials should be carried out in a designated, impermeable contained area. The washout water itself should be disposed of off-site or discharged to the foul sewer if authorised.

Table 4 | Pollution Prevention Measures

9.2 Sediment Control

Construction runoff is heavily laden with silt which can block road gullies and reduce the hydraulic capacity in pipes and rivers, contributing to ponding and flooding. Continued development without appropriate controls will ultimately keep maintenance costs elevated, whether that be in cleaning gullies, jetting pipes, or dredging. Sediment control plans can be implanted on site to mitigate these issues.

Sediment basins and traps should be installed before any major site grading takes place. Additional sediment traps and silt fences should be installed as grading takes place to keep sediment contained on site at appropriate locations.

Key runoff-control measures should be located in conjunction with sediment traps to divert water from planned undisturbed areas away from the traps and sediment-laden water into the traps. Diversions should be installed above the areas to be disturbed before any grading operations. Any perimeter drains should be installed with stable outlets before opening major areas for development. Any additional facilities needed for runoff control should be installed as grading takes place.

During grading operations, temporary diversions, slope drains, and inlet and outlet protection installed in a timely manner can be very effective in controlling erosion and sediment build up.

The main run-off conveyance system with inlet and outlet protection measures should be installed early and used to convey stormwater run-off through the development site without creating gullies or channels. Install inlet protection for storm drains as soon as the drain is functional, to trap sediment on site in willow pools and to allow the flood flows to enter the storm drainage system safely. Install outlet protection at the same time as the conveyance system to prevent damage to the receiving waters.

9.3 Sediment Control Measures

Sediment entrapment facilities are necessary to reduce sediment discharges to downstream properties and receiving waters. All run-off leaving a disturbed area should pass through a sediment entrapment facility before it exits the site and flows downstream.

- Straw Bales

Straw bales can be placed at the base of a slope to act as a sediment barrier. These are not recommended for use within a swale or channel. Straw bales are temporary in nature and may perform for only a period of weeks or months. Proper installation and maintenance are necessary to ensure their performance.

- Silt Fencing

A silt fence is made of a woven synthetic material, geotextile, and acts to filter run-off. Silt fencing can be placed as a temporary barrier along the contour at the base of a disturbed area but is not recommended for use in a channel or swale. The material is durable and will last for more than one season if properly installed and maintained. Silt fencing is not intended to be used as a perimeter fence or in area of concentrated flow. If concentrated flow conditions exist, a more robust filter should be considered.

- Silt Barriers

Silt barriers can also be temporarily installed in any road gullies of partially constructed roads to prevent sediment movement into downstream drainage systems or SUDS components. When the catchment area

is greater than that allowed for straw bale barriers or silt fences, runoff should be collected in diversion drains and routed through temporary sediment basins.

- Diversion Drains

Diversion drains are simple linear ditches, often with an earth bund, for channelling water to a desired location. If the drains are being eroded, they can be lined with geotextile fabric or large stones or boulders.

10. Mitigation Measures

The following Mitigation Measures are to address potential impacts to water quality and are required to protect the Broadmeadow River.

Section 9 and 10 of this report sets out to demonstrate how pollution of watercourses during and after the construction period will be prevented and/or mitigated.

All works will be undertaken with reference to the following guidelines:

- CIRIA C532: Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors (Masters-Williams et al., 2001).
- CIRIA C692: Environmental Good Practice on Site, (Audus et al., 2010)
- BPGCS005: Oil Storage Guidelines.
- CIRIA C648: Control of Water Pollution from Linear Construction Projects: Technical Guidance (Murnane et al., 2006a)
- CIRIA C648: Control of Water Pollution from Linear Construction Projects: Site Guide (Murnane et al., 2006a)
- Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters (IFI 2016)
- Guidelines for Planning Authorities – Architectural Heritage Protection – Guidance on Part IV of the Planning and Development Act 2000. (Part 2, Chapter 7) and ICOMOS Principles.

The schedule of mitigation presented within Table 5 summarises measures that will be undertaken in order to reduce impacts on ecological receptors within the zone of influence of the proposed development.

No.	Risk	Possible Impact	Mitigation	Result of Mitigation
1	Hydrocarbons from carparking area entering the watercourse.	Water quality impacts Reduction in habitat quality Mortality of aquatic key ecological receptors/qualifying interests	Designated parking at least 50m from any watercourse.	Ensures no soil disturbance or hydrocarbons leak near aquatic zone
2	Pollutants from site compound areas entering the watercourse.	Water quality impacts Reduction in habitat quality Mortality of aquatic key ecological receptors/qualifying interests	The site compound will be located at least 50m from any watercourse.	Prevents pollution of the aquatic zone from toxic pollutants
3	Pollutants from material storage areas entering the watercourse.	Water quality impacts Reduction in habitat quality Mortality of aquatic key ecological receptors/qualifying interests	Fuels, oils, greases and other potentially polluting chemicals will be stored in bunded compounds at the Contractor's compound or at a location at least 50m from any body of water. Bunds are to be provided with 110% capacity of storage container. Spill kits will be kept on site at all times and all staff trained in their appropriate use. Method statements for dealing with accidental spillages will be provided the Contractor for review by the Employer's Representative.	Prevents contamination of aquatic zone by toxic pollutants
4	Concrete/cementitious materials entering the watercourse from washdown.	Water quality impacts Reduction in habitat quality Mortality of aquatic key ecological receptors/qualifying interests	A designated wash down area within the Contractor's compound will be used for cleaning of any equipment or plant, with the safe disposal of any contaminated water.	Prevents contamination of aquatic zone by suspended solids or pollutants, ensures invasive species material is not transported off site
5	Concrete/cementitious materials entering the watercourse from concrete pours.	Water quality impacts Reduction in habitat quality Mortality of aquatic key ecological receptors/qualifying interests	Pouring of cementitious materials will be carried out in the dry.	Prevents contamination of aquatic zone by suspended solids or pollutants, ensures invasive species material is not transported off site

6	Leaching of contaminated soil into groundwater.	Water quality impacts Reduction in habitat quality Mortality of aquatic key ecological receptors/qualifying interests	Spill kits will contain 10 hr terrestrial oil booms (80mm diameter x 1000mm) and a plastic sheet, upon which contaminated soil can be placed to prevent leaching to ground water	Prevents contamination of aquatic zone by petrochemicals
7	Pollutants from equipment storage/refuelling area entering the watercourse.	Water quality impacts Reduction in habitat quality Mortality of aquatic key ecological receptors/qualifying interests	Any refuelling and maintenance of equipment will be done at designated bunded areas with full attendance of plant operative(s) within contained areas at least 50m from any watercourse	Prevents contamination of aquatic zone by petrochemicals
8	Runoff from exposed work areas and excavated material storage areas entering the watercourse.	Water quality impacts Reduction in habitat quality Mortality of aquatic key ecological receptors/qualifying interests	Contractor to prepare a site plan showing the location of all surface water drainage lines and proposed discharge points to the sewer. The plan will include the location of all surface water protection measures, including monitoring points and treatment facilities.	Prevents contamination of aquatic zone by suspended solids or pollutants.

Table 5 | Schedule of Surface Water Mitigation Measures

11. Management of Environmental Impacts

Construction is envisaged to commence once final planning permission has been obtained. It is anticipated that the works will be constructed over a period of 3-4 months.

The proposed potential pollution mitigation measures outlined below will be implemented in accordance with 'CIRIA C532 – Control of Water Pollution from Construction Sites – Guidance for Consultants and Contractors' – CIRIA-2001.

11.1 Roles and Responsibilities

11.1.1 Main Contractor

The main Contractor will have overall responsibility for the implementation of a project Construction Surface Water Management Plan (CSWMP) during the construction phase. The appointed person from the Main Contractors team will be appropriately trained and assigned the authority to instruct all site personnel to comply with the specific provisions of the CSWMP. At the operational level, a designated person from each sub-contractor on the site shall be assigned the direct responsibility to ensure that the operations stated in the CSWMP are performed on an on-going basis.

Copies of the Construction Surface Water Management Plan will be made available to all relevant personnel on site. All site personnel and sub-contractors will be instructed about the objectives of the CSWMP and informed of the responsibilities which fall upon them because of its provisions.

The responsibilities of the appointed person will be as follows.

- Updating the CSWMP as necessary to reflect activities on site.
- Advise site management (including, but not limited to, the site Construction Manager) on environmental matters.
- Ensure pre-construction checks for protected species, if any, are undertaken.
- Review method statement of the sub-contractors to ensure that it incorporates all aspects of CSWMP
- Provide toolbox talks and other training and ensure understanding by all involved of all mitigation measures.
- Assess effectiveness of mitigation, check weather forecast and site conditions where trigger levels are required.
- Ensure adherence to the specific measures listed in the Planning Conditions.
- Advise upon the production of written method statements and site environmental rules and on the arrangements to bring these to the attention of the workforce.
- Investigate incidents of significant, potential or actual environmental damage, ensure corrective actions are carried out and recommend means to prevent recurrence; and,
- Be responsible for maintaining all environmental related documentation.
- Ensure plant suggested in environmentally suited to the task in hand.
- Co-ordinate environmental planning of the construction activities to comply with environmental authorities' requirements and with minimal risk to the environment. Give contractors precise instructions as to their responsibility to ensure correct working methods where risk of environmental damage exists.

11.2 Pre-Construction Plan

11.2.1 Designated Storage Area & Site Compound

A site compound(s) including offices and welfare facilities will be set up by the main contractor in locations to be decided within the subject site. An indicative compound and construction management layout (CCML), 17-144-P2010 is supplied under Appendix A of this report.

The main contractor will be required to schedule delivery of materials daily. The main contractor will be required to provide a site compound on the site for the secure storage of materials.

Measures will be implemented throughout the construction stage to prevent contamination of the soil and surrounding watercourses from oil and petrol leakages and significant siltation. Suitable bunded areas will be installed for oil and petrol storage tanks. Designated fuel filling points will be put in place with appropriate oil and petrol interceptors to provide protection from accidental spills. Spill kits will be provided by the Contractor to cater for any other spills. An indicative oil and petrol storage and refuel zone has been shown on the above referenced CCML drawing.

11.3 Construction Plan

11.3.1 Vehicle Washdown

Where possible the permanent connection to the public foul sewer will be used temporarily for construction phase. Vehicle wash down water will discharge directly, via suitable pollution control and attenuation, to the foul sewer system.

11.3.2 Surface Water Run-off

On-site treatment measures will be installed to treat surface water run-off from the site prior to discharge to the receiving surface water sewer. This treatment will be achieved by the construction of cut off trenches along the lowest parts of the site. Cut off trenches will incorporate straw bales to reduce sediment loading. The installation of proprietary surface water treatment systems including class 1 full retention petrol interceptors and spill protection control measures shall be put in place at the oil, petrol storage and refuel zone as indicated on indicative CCML drawing 17-144-P2010. Settlement tanks/ponds will be sized as appropriate to deal with surface run-off and any groundwater encountered. All measures will be approved prior to commencement with FCC.

A sampling chamber with shut down valve will be installed downstream of the cut off drains and water quality monitoring will be carried out here prior to discharge to the surface water sewer and subsequently to the nearby watercourse.

11.3.3 Surface Water Monitoring Parameters.

In addition to daily visual inspections, a surface water monitoring programme, as outlined in Table 6 must be followed during construction in order to ensure maintenance of water quality protection. This is in line with Transport Infrastructure Ireland (TII)'s 'Guidelines for the Creation, Implementation and Maintenance of an Environmental Operating Plan'. It is considered that the parameter limit values (Guide/Mandatory)

defined in the Fresh Water Quality Regulations (EU Directive 2006/44/EEC) should act as a trigger value for the monitoring of Surface Water.

Parameter	Guide limit	Mandatory Limit	Frequency and Manner of Samplings
Temperature		1.5 °C	Weekly, and at appropriate intervals where the works activities associated with the scheme have the potential to alter the temperature of the waters.
Dissolved oxygen	50% of Samples \geq 9 (mg/l O ₂) 100% of Samples \geq 7 (mg/l O ₂)		Weekly, minimum one sample representative of flow oxygen conditions of the day of sampling
pH		6-9	Weekly
Nitrites	\leq 0.01 (mg/l NO ₂)		Monthly
Suspended Solids	\leq 25 (mg/l)		Monthly
BOD5	\leq 3 (mg/l)		Monthly
Phenolic Compounds			Monthly where the presence of phenolic compounds is presumed (An examination by test)
Petroleum Hydrocarbons	5 (mg/l)		Monthly (visual)
Non-Ionized Ammonia	\leq 0.005 (mg/l NH ₃)		Monthly
Total Ammonium	\leq 0.004 (mg/l NH ₄)		Monthly
Total Residual Chlorine		\leq 0.005 (mg/l HOCl)	At appropriate intervals where works activities associated with the scheme have the potential to alter the Total residual Chlorine of the waters
Electrical Conductivity			Weekly

Table 6 / Monitoring Guidelines (Fresh Water Quality Regulations)

12. Proposed Construction Phasing and Programme

A detailed construction programme has not been developed at this stage. However, it is anticipated that the total construction period for the development will be approximately 3-4 months.

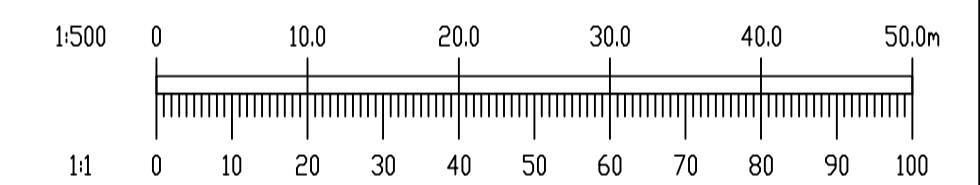
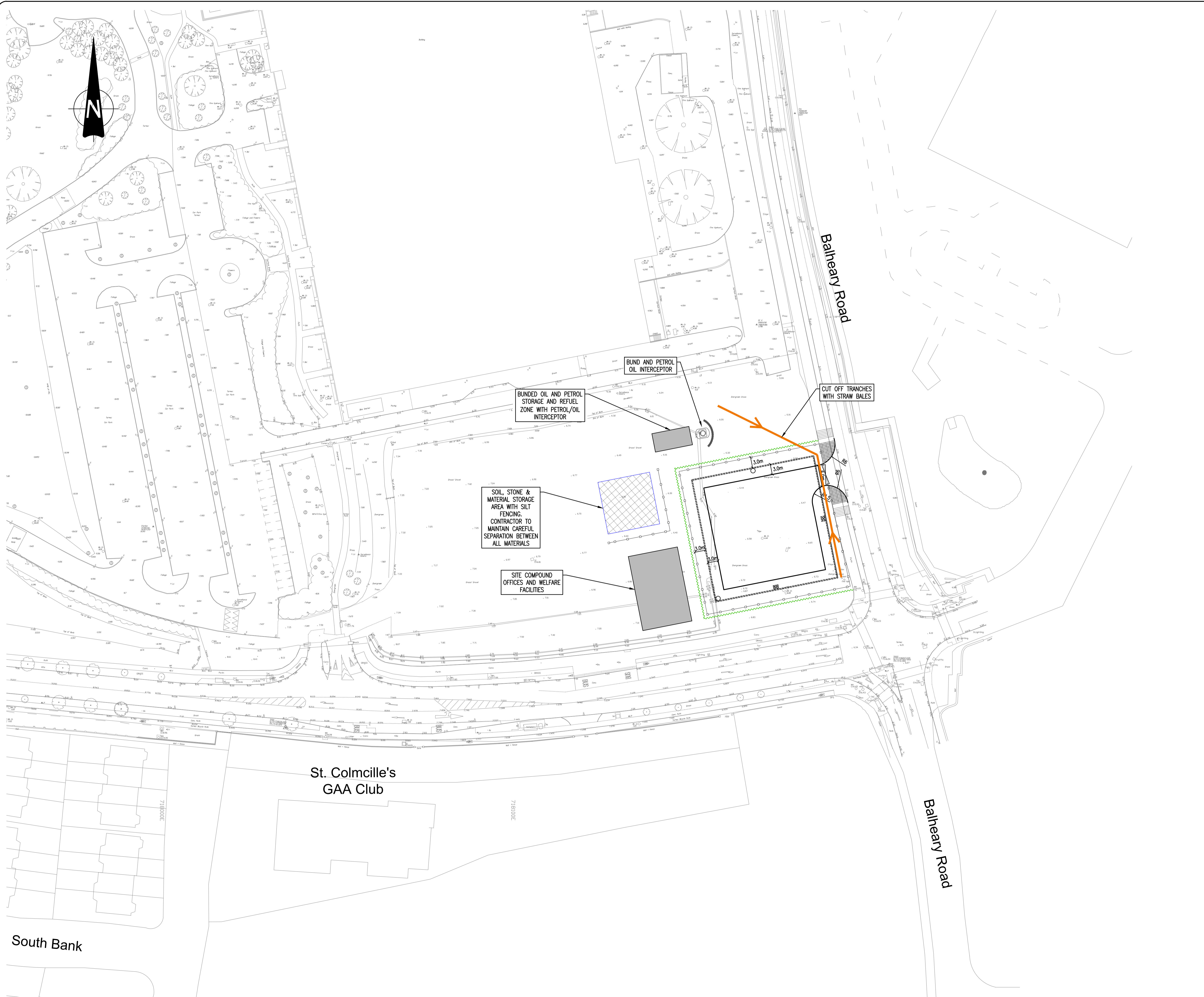
The proposed development is likely to be constructed in one phase and includes, in broad terms, the following: -

- Site clearance and construction of associated tank infrastructure including drainage, water supply.
- Construction of drainage outfall to the Broadmeadow.

Appendix A –

Indicative compound and construction management layout 17-144-P2010

- NOTES:
- DO NOT SCALE. USE FIGURED DIMENSIONS ONLY.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ARCHITECTURAL AND ENGINEERING DRAWINGS.



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REV.	DATE	AMENDMENT	DRN	APPD

STATUS **PLANNING**

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PROJECT **PHASE 5,
OLDTOWN, SWORDS
STORMWATER STORAGE TANK ON
FOUL WATER DRAINAGE**

TITLE **INDICATIVE COMPOUND AND
CONSTRUCTION MANAGEMENT LAYOUT**

DRAWN	DESIGNED	APPROVED	DATE
MS	MD	MD	MARCH 2022
SCALE	JOB NO.	DRG. NO.	REVISION
1:500 @ A1	17-144	P2010	

South Bank

St. Colmcille's
GAA Club

Balheary Road

Balheary Road

UK and Ireland Office Locations

