ALTEMAR
Marine & Environmental Consultancy

Outline Construction Environmental Management Plan (CEMP) for a proposed development at Stapolin Growth Area 1, Baldoyle, Co. Dublin.

3rd June 2021

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On behalf of: Shoreline Partnership

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Contents

Executive Summary

This outline Construction Environmental Management Plan (CEMP) has been developed to detail the construction and environmental mitigation measures to be implemented by Shoreline Partnership and their appointed contractors, during the enabling works and the construction of a proposed development at Stapolin Growth Area 1, Baldoyle, Co. Dublin. This outline CEMP is being submitted in tandem and should be read in conjunction with the AA Screening / Natura Impact Statement (NIS) and Environmental Impact Assessment Report (EIAR) for the proposed development. The report is prepared by Altemar, with significant input from CS Consulting (Project Engineers).

The purpose of the outline CEMP is to provide details of proposed mitigation measures during site clearance, enabling works and construction, including proposals for noise and dust reduction, in addition to surface water runoff treatment and details on how the proposed project is intending to use a comprehensive and integrated approach to protecting the Mayne River and other sensitive environmental receptors including downstream Natura 2000 sites.

This outline CEMP also outlines the potential impacts of the development, details the sensitive receptors, environmental controls and the mitigation measures that will be implemented to minimise impacts. The sensitive biodiversity receptors include the Mayne River, Baldoyle SAC and Baldoyle SPA which are linked to the proposed development site via the existing attenuation pond for the proposed development. The CEMP also details the specific requirements that need to be addressed during project stages and also includes the related roles and responsibilities of individuals involved in the project.

A final CEMP will be prepared by the appointed Contractor prior to work commencing on the Site. The final CEMP shall contain the mitigation measures identified in this EIAR and ensure that they are fully implemented during the Construction Phase, to prevent or reduce the impacts identified in the impact assessment. The final CEMP will not contain additional mitigation measures necessary to the protection of Natura 2000 site, beyond those outlined in the accompanying NIS.

1. Introduction

a) Outline of CEMP

Altemar Ltd. has been commissioned by Shoreline Partnership to prepare an outline Construction Environmental Management Plan (CEMP) for the proposed development at Stapolin Growth Area 1, Baldoyle, Co. Dublin.

The purpose of the outline CEMP is to provide details of mitigation measures proposed during site clearance, enabling works and construction, including proposals for noise and dust reduction, in addition to surface water runoff treatment and details on how the proposed project is intending to use a comprehensive and integrated approach to protecting the Mayne River and other sensitive environmental receptors including downstream Natura 2000 sites.

The following outline CEMP addresses the potential impacts of the development outlined in the EIAR and NIS. The outline CEMP details the sensitive receptors, environmental controls and the mitigation measures that will be implemented to avoid and minimise impacts. The outline CEMP also details the specific requirements that need to be addressed during project stages and also includes the related roles and responsibilities of individuals involved in the project.

Prior to the on-site activities commencing, this plan will be reviewed and updated by the appointed lead contractor and expanded to produce a Detailed Construction Environmental Management Plan, which shall incorporate:

- Operational Health & Safety (OH&S) Management Plan;
- Environmental Management Plan, including Waste Management Plan; and
- Pedestrian and Traffic Management Plan.

The Detailed CEMP will also be subject to periodic review during the construction stage as part of the normal construction management process.

b) Structure of the CEMP

This outline CEMP is based on measures to ensure environmental and planning compliance and established good management practice on-site and includes the following sections:

1. *Introduction*
2. *Project Description:* Details of the proposed development project and sensitive receptors
3. *Analysis of the Potential Impacts*
4. *Site Information (Roles & responsibilities etc.)*
5. *Construction Management Information:* a description of the works based on the information available to date, anticipated construction programme, construction in riparian corridor, mitigation measures, waste management, noise and dust monitoring, proposed working hours, equipment to be used, etc.;
6. *Sensitive Receptors:* potential environmental issues related to the construction works, details of the site inspection and audit programme, methods for managing environmental risks and reducing impacts.
7. *Emergency Procedures*
8. Invasive Species
9. Relevant legislation
10. Monitoring
11. Conclusions

2. PROJECT DESCRIPTION

a) Project outline and Site Context

Description of the Proposed Project

The development will consist of alterations to the development permitted within Growth Area No. 1 (GA1) of the Baldoyle (Figures 1 & 2) - Stapolin Local Area Plan 2013-2019, under FCC Reg. Ref. F16A/0412, ABP Reg. Ref. ABP-248970 (as amended by F20A/0258 and F21A/0046).

The existing permission provides for 544 no. residential units (385 no. apartments and 159 no. houses), residential tenant amenities, village centre and crèche laid out in 13 no. blocks (identified as A1, A2, A3, B1, B2, B3, B4, C1, C2, C3, C4, C5, D1) ranging in height from two-storeys to six-storeys, with associated pedestrian, vehicular and bicycle access, car and bicycle parking, landscape works and open spaces, including Stapolin Square and Stapolin Haggard, pocket parks, communal courtyards; surface water attenuation wetland; and associated ancillary services and works on an overall site of 15.89 hectares (ha).

A number of elements of the existing permitted development have been constructed / will be constructed in accordance with the current grant of permission (as previously amended), including:

- Surface water attenuation wetlands and associated upstream surface water network;
- Ninety-nine (99 no.) units in permitted Blocks C4, C5 and D1 (identified as Block C6 under amendments F20A/0258 and F21A/0046);
- The open space referred to as the Haggard Park ('Stapolin Haggard');
- Demolition of existing temporary lift and stair enclosure and associated infrastructure to Clongriffin Train Station;
- Road infrastructure (except where within the application boundary and requiring to be locally altered for proposed Project); and
- Utilities infrastructure (except where within the application boundary and requiring to be locally altered for proposed Project).

Given that they are already constructed or are under construction, the area of the surface water wetlands and associated upstream surface water network, and the area of Blocks C4, C5, C6 (latter formerly D1 in parent application) are excluded from the subject planning application. The Haggard Open Space will be provided in accordance with the current grant of permission and as such is also exclusion from the planning area.

The proposed Project will provide for 882 no. new residential dwellings (747 no. apartments, 135 no. houses), residential tenant amenities, village centre, and crèche, laid out in 15 no. blocks (identified as: A1, A2, A3, B1, B2, B3, B4, C1, C1A, C2, C2A, C3, D1, D2, D3) ranging in height from two-storeys to 15-storeys, with associated pedestrian, vehicular and bicycle access, car and bicycle parking, public realm and open space, including an enlarged Stapolin Square, landscape and associated ancillary services and works over a total Site area of c. 9.1ha, of which the development area is c. 8.89ha. As well as excluding some previously permitted areas (as above), the red line boundary for this application extends beyond the red line of the previously permitted development to provide for the full extent of Stapolin Square, new access to Clongriffin Station through the Square, new apartment blocks D1, D2, D3 to the north of Stapolin Square, and a bus ramp to Clongriffin Station. The red line boundary of this application also extends north to provide for a 300mm watermain connection to the existing watermain in the parklands to the north.

Therefore, the permitted development provides for 544 no. residential units of which, 99 no. are already constructed or are under construction. The proposed Project increases the balance of permitted residential units from 445 no. units to 882 no. units, an increase of 437 no. residential units, on a slightly extended developable area (Figures 3 & 4). The landscape masterplan is provided in Figure 5. Elevations are provided in Figures 6 & 7.

An EIAR and an AA screening / NIS accompany this outline Construction Environmental Management Plan (CEMP), data from which were used to inform the preparation of the outline CEMP.

Figure 1. Site Outline on satellite imagery (Source: Bing)

Figure 2 Site Outline on satellite imagery (Source: Bing)

Figure 3. Proposed site masterplan

Figure 4. Proposed site plan

Figure 5. Proposed landscape masterplan

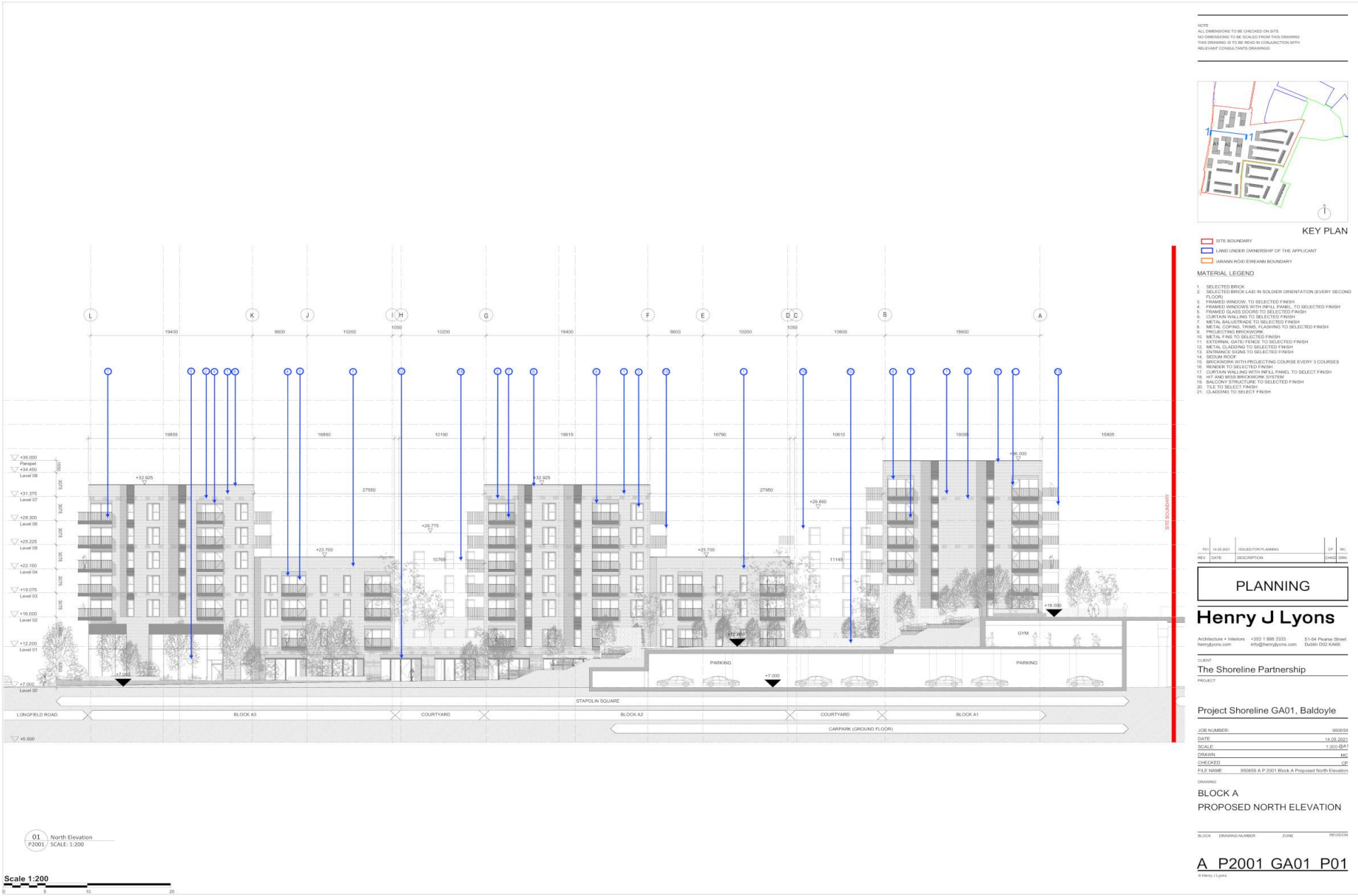

Figure 6. North Elevation (Block A)

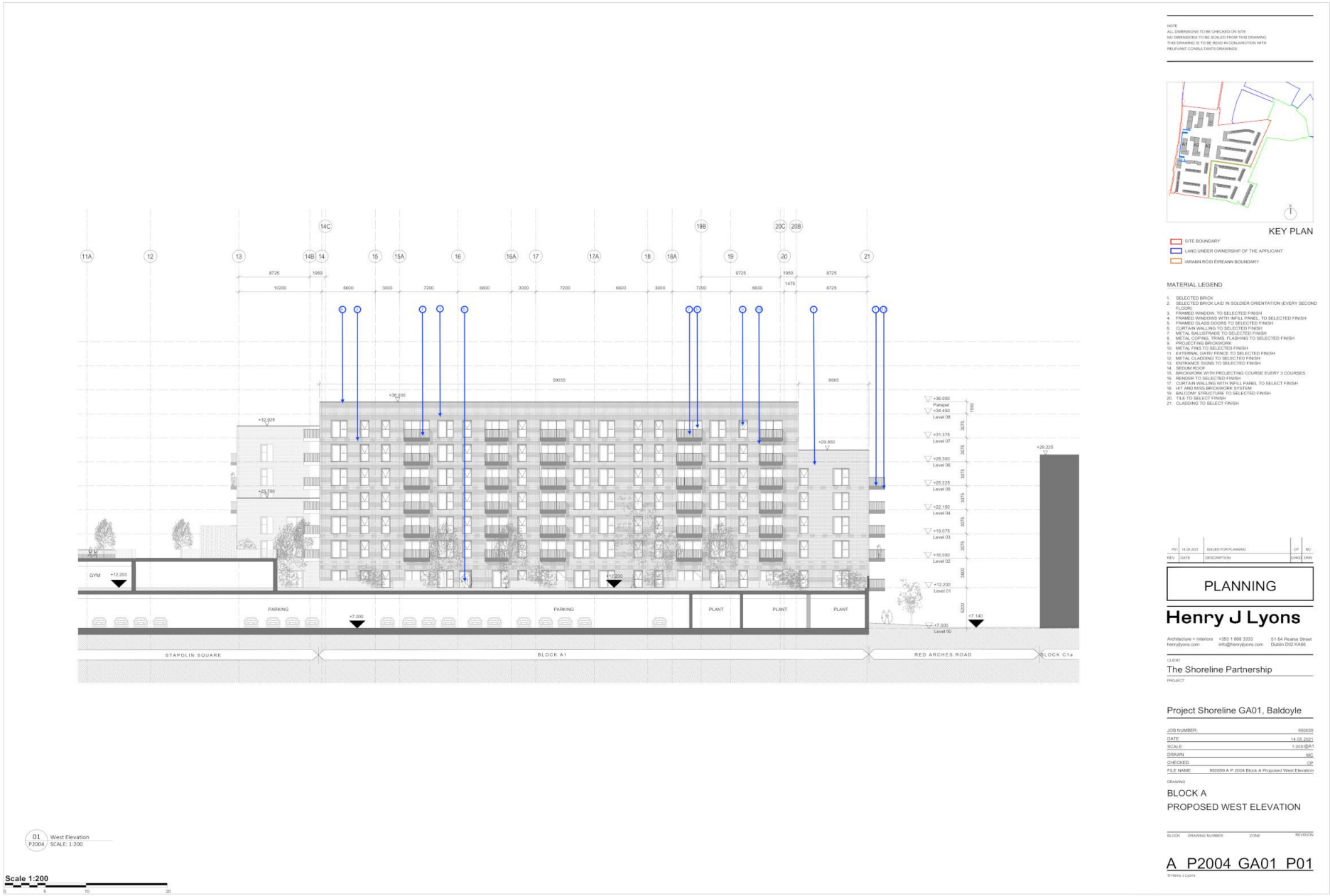

Figure 7. West Elevation

Drainage

Cronin & Sutton Consulting Engineers (CS Consulting) have been commissioned by the Shoreline Partnership to prepare an Engineering Services Report to accompany the planning application.

Existing Storm Water Infrastructure

"*At present there is an existing 1350mm stormwater culvert traversing the subject site along the line of Longfield Road, flowing south to north. This culvert is a diversion of a culvert which previously ran along the western boundary of the development lands. In addition, there is an existing 1050mm stormwater culvert running from south to north along the line of Stapolin Avenue, which discharges into the Mayne River. Based on the previous planning application for the subject site (Fingal County Council Planning Application F16A/0412), this* culvert *has been constructed by previous developers at a low level so that it can pass below the North Fringe Sewer located approximately 200m north of the proposed development. The depth of this outfall is approximately 2m below the existing ground level as it passes through to the flood plain further north. The culvert serves the existing developments constructed to date and discharges directly to the Mayne River.*

It is noted that there is an existing stormwater drainage network located within the subject site, however due to its poor condition it is not intended to make use of the existing network and therefore it is proposed to be removed and a new network constructed in its place."

Proposed Storm Water Arrangements

"*It is a requirement of the LAP that a wetland is installed within the flood plain, just beyond the line of the existing North Fringe foul sewer to provide water quality* treatment *for this and future development. This wetland and its corresponding upstream surface water network was granted under planning reference F16A/0412 and its construction is to commence shortly*."

The total treatment volume is as follows:

- *Growth Areas 1, 2 and 3 = 797m^3 + 755m3 = 1552m^3*
- *Wetland volume to be approximately = 1860m^3*
  (as granted under planning permission F16A/0412)

"All run-off areas will pass through the required number of treatment stages prior to discharging to the downstream outfall. Treatment methods are listed in the section on SuDS with final treatment provided by the constructed wetland, explained further forward.

As previously mentioned, it is not proposed to connect any surface water generated by the development to the existing culverts referred to earlier as they pass under the existing North Fringe Sewer. It is proposed to connect the proposed development to the new surface water network granted under F16A/0412 that shall cross above the North Fringe Sewer to ensure all surface water generated by the proposed development will pass through the wetland and overspill a weir/spillway into the Mayne River Floodplain."

"The shape and orientation of the permitted wetland has been designed to maximise the quantity of treatment provided, with a length to width ratio in excess of 3:1, allowing sediments to settle along its length. A varying width has been chosen to encourage diversity of plants and wildlife, while ensuring there are no stagnant areas and that the total volume is available to provide water quality treatment. Details of the planting/landscaping of the wetland are as outlined in the landscape documents from the grant of permission F16A/0412. In summary, the original topsoil with seed-bank of calcareous grassland and wetland species will be replaced to allow self-seeding and natural establishment of the wetland. These works will be carried out under direction and supervision of ecologist/landscape architect who will identify the source material area and oversee the works.

The wetland will be constructed by excavating the existing ground level to provide the storage volume required. Investigations on site have determined that the material on site is not suitable for lining. It is imperative that the structural stability of the wetland is maintained and as such it will be lined with an impermeable liner. The

permanent pool level will be set to approximate the existing ground level. The wetland will be surrounded by a small 300mm high embankment to cater for fluctuations in water level and to ensure flows are directed over the control weir/spillway.

The use of Suds features as part of this development will include swales /bio-retention areas, permeable paving, green roofs, and rainwater butts that will provide infiltration and evaporation as much as physical possible and optimise retention time. Relatively small volumes of rainwater collected on the respective SuDS devices will enter the public sewer network during typical low intensity storms. This is because the proposed SuDS measures will retain rainwater until it is either used via evapotranspiration in the green areas or reused within the development via the rainwater harvesting system. The SuDS processes decrease the impact of the development on the receiving environment by providing amenity and biodiversity in many cases."

Foul Water Infrastructure

Existing Foul Infrastructure

"There is an existing 375mm diameter foul sewer that runs in a northern direction along the eastern boundary of the site (Stapolin Avenue). This infrastructure was installed by previous developers to serve the entire LAP lands and extends upstream in a southerly direction serving the Myrtle development.

Downstream, this existing 375mm foul sewer discharges to an existing foul pump station located on the north side of Stapolin Haggard. The foul pumping station discharges via a 300mm rising main to the North Fringe Foul Sewer, that runs around the north / north eastern boundary of the site approximately 150m away from the pump station. The pump station currently serves the existing Myrtle and Red Arches Developments.

In addition to the 375mm foul sewer referred to above, there is already an existing foul drainage network located within the development lands, however due to its poor condition it is not intended to make use of the existing network and therefore it is proposed to remove the existing foul sewers within the development site."

Proposed Foul Drainage Arrangements

"The proposed development will require a new separate drainage network to collect and convey the effluent generated by the proposed development." "All foul effluent generated from the proposed development shall be collected in separate foul pipes and flow under gravity, to the existing 375mm diameter foul sewer in the north east corner of the development via a new connection."

"The proposed foul water drainage infrastructure and routing plan is shown on " Figure 6 and 7*" included with this submission and the proposed connection to the Irish Water Network can be accommodated."*

3. Site Management

Site Establishment

The contractor will provide all necessary accommodation, material handling and secure storage for its operations. The facilities to be provided and maintained by the contractor will include:

- construction plant;
- hoisting equipment and cranes;
- scaffolding, platforms, access ladders, barriers, handrails;
- barricades and hoardings;
- temporary driveways, road crossovers and construction zone;
- 24/7 emergency vehicle access to site during working hours;
- on-site hardstand areas for vehicle loading and unloading;
- storage sheds and compounds;
- rubbish sorting areas;
- site amenities with all required equipment and facilities;
- construction worker accommodation;
- first aid facilities; and
- site administration accommodation.

Construction plant and site amenities will comply with the requirements of all relevant authorities and be wholly contained within the hoarded site. All construction plant and equipment will be progressively removed when no longer required. First Aid facilities for the use of all construction staff in the form of a fully provisioned first aid area within the site office with life-saving and safety equipment as required by relevant statues, authorities and awards will be maintained at all times by the contractor. The contractor will obtain all required permits and comply with all conditions.

Construction Phasing

The subject development shall be constructed in a total of 6no. phases; the first phase is currently under construction as permitted under FCC Reg. Ref. 16A/0412, ABP Reg. Ref. ABP-248970 (as amended by F20A/0258 and F21A/0046). The existing site compound (located within Phase 6 of the subject development) shall remain in use for the duration of Phases 1 to 5, then shall relocate to north of the subject development (as shown in Figure 8) to complete Phase 6. Refer to Figure 8 for details of site phasing and compound locations. As outlined in Chapter 13 of the EIAR "*Construction is anticipated to take a period of 95 months (7 years and 11 months), meaning construction phase impacts will be temporary or short-term*."

Site Traffic

As outlined in Chapter 17 of the EIAR (Traffic and Transportation) 'Construction personnel will be encouraged to make use of the available high-quality public transport links to the area and / or to commute by bicycle, to minimise private car trips to and from the Site. To avoid problems of parking overspill on surrounding streets, however, limited essential staff parking shall be provided within the Site. In parallel with this, parking restrictions and management measures on surrounding streets will be reviewed and implemented as necessary in agreement Fingal County Council.' Chapter 18 of the EIAR states that 'The Project Engineers have estimated that c. 21,093m^3 tonnes of excavated material will be excavated, however it is envisaged that c. 21,093m^3 tonnes will be reused on-site' Therefore, it expected that there will be no net exporting of material off site.

Hoarding and Fences

Prevention of unauthorised access to the site is a very high priority and will be vigorously managed throughout the construction period. When the contractor is appointed, the site will be secured with site barriers and hoardings in accordance with the final construction management plan. Any hoardings and signboards to the perimeter of the site will comply with the requirements of the relevant authorities and the relevant Health and Safety Acts.

The contractor will be required to erect a single project signboard to the hoarding at the main entrance points to identify the site.

Services Relocations and Temporary Protection of Public Domain

The contractor will provide protection to existing surrounding building elements potentially impacted by the works. Protection may be in the form of screened hoardings, scaffolding and fencing, taped drop sheets and the like, all installed prior to commencement of the demolition works. The type of required hoardings, scaffolding and fencing will vary over the duration of the works, depending on how the site activities potentially impact on the adjoining public domain and neighbourhood. All temporary protection is to be installed and maintained during the duration of the works until they are no longer required.

Figure 8. Site Phasing and Compound Locations

Major Plant and Equipment

Plant and equipment used during the entire works are:

- articulated and rigid trucks;
- rigs, bulldozers, excavators, backhoes, with ancillary equipment (rock hammers or saws);
- mobile cranes;
- concrete delivery trucks;

- concrete pumps;
- man, and material hoists;
- scissor, boom and fork lifts.

All plant and equipment will be operated by experienced and qualified personnel with the appropriate registrations.

Vehicular Access to Site

Management of construction traffic as required of the EIAR, NIS and application documents will be included in the Construction Traffic Management Plan (CTMP) developed by the contractor in consultation with the Design Team and Fingal County Council. The principal objective of the CTMP is to ensure that potential impacts of building activities generated during the construction of the proposed development upon both the public (off-site) and internal (on-site) workers environments, are fully considered and proactively managed / programmed respecting key stakeholders requirements thereby ensuring that both the public's and construction workers safety is maintained at all times, disruptions minimised and undertaken within a controlled hazard free / minimised environment. It is noted that the impact of the construction works will be temporary in nature.

The CTMP will be prepared in accordance with the principles outlined below and shall always comply with the requirements of:

- Chapter 8 of the Department of the Environment Traffic Signs Manual, current edition, published by The Stationery Office, and available from the Government Publications Office, Sun Alliance House, Molesworth Street, Dublin 2;
- Guidance for the Control and Management of Traffic at Road Works (June 2010) prepared by the Local Government Management Services Board; and
- Any additional requirements detailed in the Design Manual for Roads and Bridges & Design Manual for Urban Roads & Streets (DMURS).

Note that all construction traffic would be utilising the haul route to the north. Later phases will utilise Longfield Road only to access incomplete phases and only via the haul road from the north. Construction traffic will not be permitted to use Red Arches Road to the east or Grange Road to the south unless agreed with the local authority. In order to ensure satisfactory operation of the construction stage the following is proposed:

- No access will be permitted to the site via Grange Road unless explicitly agreed with the design team and only in exceptional circumstances
- Provision of sufficient on-site parking and compounding to ensure no potential overflow onto the local network.

As referenced previously, site offices and compound will be located within the site boundary. The site will be able to accommodate employee and visitor parking throughout the construction period with construction of temporary hardstanding areas. Refer to Figure 3 for site compound location.

Truck wheel washes will be installed at construction entrances and any specific recommendations regarding construction traffic management made by the Local Authority will be adhered to.

The following mitigation measures will be incorporated into the CTMP:

- During the pre-construction phase, the site will be securely fenced off from adjacent properties, public footpaths and roads.

- The surrounding road network will be signed to define the access and egress routes for the development.
- The traffic generated by the construction phase of the development will be strictly controlled in order to minimise the impact of this traffic on the surrounding road network.
- All road works will be adequately signposted and enclosed to ensure the safety of all road users and construction personnel.
- All employees and visitor's vehicle parking demands will be accommodated on-site.
- A programme of street cleaning if/when required.
- Any associated directional signage
- Any proposals to facilitate the delivery of abnormal loads to the site
- Measures to obviate queuing of construction traffic on the adjoining road network.

As outlined in Chapter 5 of the EIAR (Description of the proposed project) "*The appointed Contractor will be required to prepare a site-specific Construction Environmental Management Plan (CEMP), including a plan for the scheduling and management of construction traffic, which will outline measures to be taken to mitigate the effects of construction traffic on the surrounding road network*."

As outlined in Chapter 17 (Traffic and Transportation) of the EIAR The following measures will be incorporated:

- routing all construction traffic via a haul road to / from the north, connecting to Moyne Road, avoiding Grange Road and Coast Road;
- conducting all loading and unloading operations within the Site, away from the public road;
- scheduling deliveries outside of peak hour periods to avoid disturbance to surrounding pedestrian and vehicular traffic;
- staggering HGV movement to / from Site to avoid site queues;
- preventing haulage vehicles travelling in convoys of more than two vehicles at any time and spacing haulage vehicles by a minimum of 250m at all times;
- installation of a wheel wash at exit from the site to prevent any dirt being carried out into the public road; and
- deployment of a road sweeper as necessary to keep the public roads around the Site clean.

Site Security

Access to site will be controlled by means of an electronic access control system and camera remote monitoring system for out of hours use. During working hours, a gateman will control traffic movements and deliveries. Access to Site of the proposed Project will be controlled by means of an electronic access control system and camera remote monitoring system for out of hours use. During working hours, a gateman will control traffic movements and deliveries. All personnel working on site will be required to have a valid Safe Pass card.

Material Hoisting & Movement Throughout the Site

It is envisaged that the periodic use of mobile cranes will be sufficient for all construction works on site. Mobile crane visits will be coordinated with the other site activities to ensure that all risks are correctly assessed and guarded against. A detailed crane analysis will be prepared for verification of the safe load parameters. No loads will be lifted over the public domain or adjacent properties. Hoists and teleporters may also be used within the site and around its perimeter as required during the project, to facilitate material and waste movements into and out of the site.

Deliveries & Storage Facilities

All deliveries to site will be scheduled to ensure their timely arrival and avoid the need for storing large quantities of materials on site. Deliveries of material to the Site will be planned to avoid high volume periods. There may be occasions where it is necessary to have deliveries within these times. The appointed Contractor will be required to prepare a final CEMP, including a plan for the scheduling and management of construction traffic, which will outline measures to be taken to mitigate the effects of construction traffic on the surrounding road network. The proposed Project will look to procure material and services from local

providers, where reasonably practicable, and within the requirements of the procurement process. In doing so, this would encourage additional economic activity in the local economy which may subsequently result in indirect employment opportunities being created.

Site Accommodation
On-site facilities shall include:

- a materials and equipment storage area;
- a site office;
- staff welfare facilities (e.g. toilets, drying room, canteen, etc.).

Electricity will be provided to the site via national grid.

Water supply to the site during construction works will be provided by means of a temporary connection to a public watermain. Similarly, a temporary connection for foul water drainage will be made to the public network. Refer to Figure 8 for site compound location.

Site Parking
Vehicle parking for construction personnel shall be accommodated within the development site. To the extent possible, personnel will also be encouraged to use public transport, and information on local transportation will be published on site.

Site Working Hours
The final CEMP will outline the construction hours for the proposed Project. The expected construction hours will be 07:00-19:00 Monday to Friday and 08:00-14:00 on Saturdays. There will be no works on Sundays or bank / public holidays in accordance with the Environmental Noise Regulations (S.I. No. 140 of 2006 Environmental Noise Regulations) and subject to final agreement with FCC. From time to time, in exceptional instances, works may be required outside of these hours. However, written approval will be sought by the Contractor from the Local Authority, prior to any works taking place.

It may be necessary for some construction operations to be undertaken outside these times, for example: service diversions and connections; concrete finishing and fit-out works; etc. There may also be occasions where it is necessary to make certain deliveries outside these times, for example, where large loads are limited to road usage outside peak times.

Noise and Vibration As outlined in section 5.5.6 of the EIAR "*It is not envisaged that any significant prolonged noise and vibration producing activities will be carried out on-site. The most likely generator will be construction activities and mobile plant. The appointed Contractor will ensure that all best practice noise and vibration control methods will be used as necessary in order to ensure impacts to nearby residential noise sensitive locations are not significant. The total noise (LAeq) which should not be exceeded during daytime is therefore 65dB. All works on site shall comply with BS 5228-1:2009+A1 2014 which gives detailed guidance on the control of noise and vibration from construction activities*." Mitigation measures are outlined in the EIAR and the outline CEMP in relation to Noise and vibration.

Air Quality
As outlined in Chapter 11 of the EIAR (Air Quality and Climate) "The greatest potential for impact on air quality during the Construction Phase of the proposed Project is from construction dust emissions and the potential for nuisance dust and PM10/PM2.5 emissions. While construction dust tends to be deposited within 350m of a construction site, the majority of the deposition occurs within the first 50m. The proposed Project can be considered moderate in scale and therefore, there is the potential for significant dust soiling impacts within 50m of the Site, refer to Table 11.7. The closest high sensitivity receptors (residential properties) to the Site are approximately 60m to the west of the Site. As per Section 11.3.4 the surrounding area, within 50m of the site, is of low sensitivity to dust soiling and dust related human health impacts. In the absence of mitigation there is the potential for short-term, negative, slight impacts to nearby sensitive receptors as a result of

construction dust emissions." Mitigation measures are outlined in the EIAR and the outline CEMP in relation to Air Quality and Climate.

Waste

A site-specific Construction and Demolition Waste Management Plan (C&D WMP) has been prepared by AWN Consulting to deal with waste generation during the Construction and Demolition Phases of the proposed Project and has been included as Appendix A18.1 in Volume 3 of the EIAR.

Outline Construction & Demolition Waste Management Plan

AWN Consulting Ltd. (AWN) has prepared this Outline Construction & Demolition Waste Management Plan (C&D WMP) on behalf of the Shoreline Partnership. As outlined in this report '*There is no demolition associated with the proposed development, there will however be existing hardstanding on part of the site* that *will need to be removed as part of the excavation works. Demolition of existing temporary lift and stair enclosure and associated infrastructure to Clongriffin Train Station will take place under planning application FCC Reg. Ref. 16A/0412, ABP Reg. Ref. ABP-248970 (as amended by F20A/0258 and F21A/0046).*'

Proposed Waste Management Options

As outlined in this report '*Waste materials generated will be segregated on site, where it is practical. Where the on-site segregation of certain wastes types is not practical, off-site segregation will be carried out. There will be skips and receptacles provided to facilitate segregation at source where feasible. The appointed waste contractor will collect and transfer the wastes as receptacles are filled. There are numerous waste contractors in the FCC Region that provide this service. All waste arising's will be handled by an approved waste contractor holding a current waste collection permit. All waste arising's requiring disposal off-site will be reused, recycled, recovered or disposed of at a facility holding the appropriate registration, permit or licence, as required.*

Some of the sub-contractors on site will generate waste in relatively low quantities. The transportation of non-hazardous waste by persons who are not directly involved with the waste business, at weights less than or equal to 2 tonnes, and in vehicles not designed for the carriage of waste, are exempt from the requirement to have a waste collection permit (Ref. Article 30 (1) (b) of the Waste Collection Permit Regulations 2007 as amended). Any sub-contractors engaged that do not generate more than 2 tonnes of waste at any one time can transport this waste offsite in their work vehicles (which are not design for the carriage of waste). However, they are required to ensure that the receiving facility has the appropriate COR / permit / licence.

Written records will be maintained by the contractor(s) detailing the waste arising throughout the C&D phases, the classification of each waste type, waste collection permits for all waste contactors who collect waste from the site and COR/permit or licence for the receiving waste facility for all waste removed off site for appropriate reuse, recycling, recovery and/or disposal.'

4. Sensitive Receptors

The sensitive receptors in the vicinity of the proposed development are summarised and the potential impact/mitigation are seen in Table 1. Satellite imagery of the site is seen in Figure 1.

Table 1. Sensitive Receptors and Potential Impact.

Sensitive Receptor	Location / Potential Impact
Watercourses	Mayne River, Baldoyle Bay SAC & Baldoyle Bay SPA
Designate Conservation sites with hydrological Pathway.	Silt, petrochemicals, dust could impact on instream biodiversity and Natura 2000 sites. Mitigation measures will be put in place to avoid impacting this watercourse. Two Natura 2000 sites (Baldoyle Bay SAC and Baldoyle Bay SPA) are located downstream. Onsite works will involve ground clearance, re-profiling, groundworks and construction, with potential for runoff, dust, light and noise impacts that could impact on the biodiversity and / or water quality of the stream with potential for downstream impacts. The noise assessment carried out in the EIAR and NIS have identified that noise from the construction works would not be at levels that would impact on the qualifying interests of the SPA. Nevertheless, mitigation measures will be in place in relation to noise.
Population/Human Health & Residents	In proximity of the proposed development. As seen in Figure 1 the proposed development is proximal to residential areas that would be sensitive to noise, dust and lighting impacts. Mitigation measures will be put in place to avoid impacting the residents proximal to the proposed development during the demolition and construction phase of the project.
Terrestrial Fauna and Flora	No terrestrial species of conservation importance have been recorded on site (NBDC records) or were observed on site during the site survey. The site is primarily recolonising bare ground with areas of built land and scrub (See EIAR Biodiversity Chapter 8 for further details). The onsite works will involve ground clearance, re-profiling, groundworks and construction with potential for runoff, dust, light and noise impacts. However, as no species of conservation importance or potential breeding sites e.g. ponds, were noted on site no specific mitigation measures need to be put in place.
Birds	Clearance of the site, particularly scrub areas will result in the loss of nesting habitat.
Bats	A bat survey was carried out and no evidence of bats was found on site
Mammals	No evidence of mammals of conservation importance were noted on site. However, a pre-construction survey should be carried out.

5. Analysis of the Potential Impacts

Potential Impact of the Proposed Project

This section provides a description of the potential impacts that the proposed Project may have on biodiversity in the absence of mitigation. Methodology for determining the significance of an impact has been published by the EPA. This is based on the valuation of the ecological feature in question and the scale of the predicted impact. In this way, it is possible to assign an impact significance in a transparent and objective way.

Construction Phase

Population and Human Health

As outlined in Chapter 7 (Population and Human Health) "In the short-term the local area will be impacted during the Construction Phase due the influx of construction traffic, noise and dust." As outlined in Chapter 10 (Air Quality and Climate) "*There is the potential for interactions between air quality and biodiversity as the Baldoyle Bay SAC and pNHA, along with the Baldoyle Bay SPA are located to the direct east of the proposed Project. Without mitigation, dust emissions from construction works would have potential to impact vegetation in the SAC, pNHA and SPA. However, once the mitigation measures outlined in Section 11.5 and in the Dust Management Plan (Appendix A11.3 of the EIAR) are implemented, dust related impacts from the short-term Construction Phase are predicted to be imperceptible.*"

Lands Soils, Geology and Hydrogeology

As outlined in Chapter 9 (Lands Soils, Geology and Hydrogeology) "Excavated and stripped soil can be disturbed and eroded by Site vehicles during the construction. Rainfall and wind can also impact on non-vegetated / uncovered areas within the excavation or where soil is stockpiled. This can lead to run-off with high suspended solid content which can impact on waterbodies. The potential risk from this indirect impact to waterbodies and / or habitats from contaminated water would depend on the magnitude and duration of any water quality impact." In addition, "*Following the findings of the on-site investigations the risk of a large number of contaminated soils being present on-site is low. Nonetheless material, which is exported from Site, if not correctly managed or handled, could impact negatively on human beings (on-site and off-site) as well as water and soil environments*" "As with all construction projects there is potential for water (rainfall and / or groundwater) to become contaminated with pollutants associated with construction activity."

Biodiversity

As outlined in Chapter 8 (Biodiversity) of the EIAR 'The proposed Project is not within a designated conservation site. However, Baldoyle Bay SAC, pNHA and SPA are proximate to the Site and there is a direct pathway from the proposed Project to the designated sites via the existing attenuation pond and Mayne River. Noise from the construction would be localised to the vicinity of the works and would not impact on the qualifying interests of the Baldoyle Bay SPA. It is noted that the existing busy coastal road (R106) is located between the proposed Project and the Baldoyle Bay SPA, which is 700m from the Site.' "*Ensuring water quality and compliance with the Water Pollution Acts, would be seen as the primary method of ensuring no significant impact on watercourses and designated sites*."

"*The construction of the proposed Project, would potentially impact on the existing ecology of the Site and the surrounding area. These potential construction impacts would include impacts that may arise during the site clearance, re-profiling of the Site and the building phases of the proposed Project.*

Construction Phase mitigation measures are required on site particularly as significant reprofiling of the Site is proposed which will remove all existing terrestrial habitats within the Site outline. Works have the potential to lead to silt laden and contaminated runoff entering the downstream attenuation pond and Mayne River, with potential downstream impacts on biodiversity."

As can be seen from Appendix 1 of the AA Screening /NIS, the *Wintering Bird Survey* covered the Site in addition to the larger land bank area to the boundary with the SAC. It concluded that:

"*the proposed development area is not within the Baldoyle Bay SPA, however given the proximity of the SPA to the development, there is potential for impacts to result during construction and operational phases of the proposed development. These potential impacts could include:*

Disturbance during construction works and the operational phase to Special Conservation Interest of the SPA including through movement of machinery, personnel, noise, vibration and/or noise associated with domestic dwellings.

Pollution of surface water through accidental spillage or discharge of polluting substances, or via elevated suspended solids and siltation through run-off to watercourses.

The maximum likely distance at which disturbance will impact SCIs from the Baldoyle Bay SPA is 300m (Cutts et al., 2013). The magnitude of this impact and its potential significance will require further consideration at the assessment stage of any future planning application.

The proposed housing scheme may result in disturbance of SCI's of the adjacent SPA. However, it is likely that habituation will occur to this new source of disturbance given that the SCIs of the SPA are already accustomed to the disturbance associated with Baldoyle village and existing surrounding housing developments. This should be considered in further detail at the assessment stage of any future planning application.

A wide range of environmental factors are required to support water bird species including good water quality and clarity and a good supply of food resources. Thus, water quality impacts resulting from the proposed development (i.e. during the construction and operational phases) could result in a reduction in the availability of suitable habitat for water bird species. The effect of such a reduction in water quality has the potential to be ecologically significant. However, it is likely that best practice design and mitigation can be implemented that would avoid or reduce such impacts. This should be considered in greater detail at the assessment stage of any future planning application."

It should be noted that the proposed Project at GA1 is 700m from the Baldoyle Bay SPA (at its closest) Based on the "*maximum likely distance at which disturbance will impact SCIs from the Baldoyle Bay SPA is 300m*"[1], disturbance from the proposed works would not be expected. Snipe (*Gallinago gallinago*) has amber conservation status and has been noted within GA1. This species is not a qualifying interest of Baldoyle Bay SPA. No works are proposed in the vicinity of the Mayne River where roosting habitat was noted. However, there is potential pollution of surface water through accidental spillage or discharge of polluting substances, or via elevated suspended solids and siltation through run-off to watercourses. Scrub is also noted on site and there is potential for breeding birds on site. Mitigation measures will be required to protect wintering (Snipe) and breeding / nesting birds.

Population and Human Health/Residents

As outlined in the Population and Human Health Chapter 7 or the EIAR "*The potential impacts on the human environment relate to other environmental aspects such as air quality, noise and vibration, water quality and traffic and where required, the related mitigation measures are dealt with in the corresponding chapters of this EIAR.*

In the short-term the local area will be impacted during the Construction Phase due the influx of construction traffic, noise and dust. There will be a neutral impact on population trends and profile for the area as no additional persons will be accommodated at the Site during construction. Otherwise no adverse effects will arise on the population either during Construction or Operational Phases."

[1] Cutts et al., (2013).

6. Mitigation Measures & Monitoring

Construction phase mitigation measures have been incorporated into the proposed development (Table 2) within the EIAR and NIS to minimise the potential negative impacts within the Zone of Influence (ZoI) including biodiversity, the Mayne River, downstream Natura 2000 sites and human health including nearby residents (Table 2).

Designated Conservation Sites within 15km

As the main potential vector for impacts to Natura 2000 sites would be seen to be via the surface water connection and the Mayne River, no additional controls are required besides those outlined below, during the construction and operational phases of the development, to mitigate against potential negative impacts on designated conservation sites. The mitigation has been designed to ensure that the project will comply with the Water Pollution Acts and standard County Council and Inland Fisheries Ireland conditions in relation to construction and drainage operations. All construction and operational phase controls outlined will be followed.

Table 2. Mitigation Measures

Sensitive Receptors	Potential Impacts	Mitigation Measures
Baldoyle Bay SPA [IE0004016] **Baldoyle Bay SAC [IE0000199]** **Mayne River** **Population/Human Health & Residents** **Biodiversity**	Habitat degradation Dust deposition Pollution Silt ingress from site runoff Downstream impacts Negative impacts on aquatic and bird fauna. Disturbance	**Construction** <u>Avoidance of potential impact of watercourses leading to Natura 2000 Sites</u> • Appointment of an ecologist to oversee enabling works and the implementation of mitigation measures outlined. • Staging of project to reduce risks to watercourses from contamination • Control of Water during Construction • Earthwork operations will be carried out such that surfaces, as they are being raised, shall be designed with adequate drainage, falls and profile to control run-off and prevent ponding and flowing. • Sealing of drainage ditches at the most downstream element prior to the watercourse, with a tall 45 degree sloped earth and batted back bund prior to site clearance and reprofiling. • Any discharges to the watercourse during construction must be discussed with the ecologist and undergo desilting and petrochemical interception. • Should discharges be required to the watercourse the drainage network and attenuation must be implemented at initial stages. Discharges of desilted water from the site should be made to the attenuation system so that the hydrobrake and interceptor are in place during any discharges. • Local watercourses must be protected from dust, silt and contaminated surface water throughout the works. • Local silt traps established throughout site as discussed with the ecologist. • Mitigation measures on site include dust control, stockpiling away from watercourse and drains • Stockpiling of loose materials will be kept to a minimum of 20m from watercourses and drains. • Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system and watercourses. • Fuel, oil and chemical storage will be sited within a bunded area. The bund will be at least 50m away from drains, ditches or the watercourse, excavations and other locations where it may cause pollution. • Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination. Any water-filled excavations, including the attenuation tank during construction, that require pumping will not directly discharge to the stream. Prior to discharge of water from excavations adequate filtration will be provided to ensure no deterioration of water quality. • Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system and watercourses. • Fuel, oil and chemical storage will be sited within a bunded area. A risk based approach will be taken. • Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination. • During the construction works silt traps will be put in place in the vicinity of all runoff channels the stream to prevent sediment entering the watercourse. • Petrochemical interception and bunds in refuelling area

- Planting in the vicinity of the stream crossings should be put in place as soon as possible to allow biodiversity corridors to establish.
- On-site inspections will be carried out by project ecologist during enabling works and until drainage connection is complete.
- Maintenance of any drainage structures (e.g. de-silting operations) must not result in the release of contaminated water to the surface water network.
- No entry of solids or concrete to the associated stream or drainage network during the connection of pipework

<u>Sediment Control Plan</u>

Surface water discharge from the site will be managed and controlled for the duration of the construction works until the permanently attenuated surface water drainage system of the proposed site is complete. A temporary positive drainage system shall be installed prior to the commencement of the construction works to collect surface water run-off by the site during construction. A series of geotextile lined cascading, high level outfall, settling basins will be installed upstream of the agreed discharge point. This temporary surface water management facility will throttle run-off and allow suspended solids to be settled out and removed before being discharged in a control manner to the agreed outfall. All inlets to the cascading settling basins will be riprapped to prevent scour and erosion in the vicinity of the inlet.

<u>Air & Dust</u>

- The pro-active control of fugitive dust will ensure prevention of significant emissions arising, rather than a less effective attempt to control them once they have been released.
    - Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic.
    - Any road that has the potential to give rise to fugitive dust must be regularly watered, as appropriate, during dry and / or windy conditions.
    - Vehicles exiting the Site shall make use of a wheel wash facility where appropriate, prior to entering onto public roads.
    - Vehicles using site roads will have their speed restricted, and this speed restriction must be enforced rigidly. On any un-surfaced site road, this will be 20kph, and on hard surfaced roads as site management dictates.
    - Public roads outside the Site will be regularly inspected for cleanliness and cleaned as necessary.
    - Material handling systems and Site stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods.
    - During movement of materials both on and off-site, trucks will be stringently covered with tarpaulin at all times. Before entrance onto public roads, trucks will be adequately inspected to ensure no potential for dust emissions.
- Dust may enter the onsite watercourse via air or surface water with potential downstream impacts. Mitigation measures will be carried out reduce dust emissions to a level that avoids the possibility of adverse effects on the onsite watercourse. The main activities that may give rise to dust emissions during construction include the following:
    - Excavation of material;

		• Materials handling and storage; • Movement of vehicles (particularly HGV's) and mobile plant. • Contaminated surface runoff • Trucks leaving the site with excavated material will be covered so as to avoid dust emissions along the haulage routes. • Speed limits on site (15kmh) to reduce dust generation and mobilisation. • The stream is to be protected from dust on site. This may require additional measures in the vicinity of the bridge (east of the site) if this road is used for machinery e.g. placing of terram/protective material over the stream. • Regular inspections of the site and boundary should be carried out to monitor dust, records and notes on these inspections should be logged. • Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken. • Make the complaints log available to the local authority when asked. • Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book. <u>Monitoring</u> • Undertake daily on-site and off-site inspection, where receptors are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces within 100 m of site boundary, integrity of the silt control measures, with cleaning and / or repair to be provided if necessary. • Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible. • Fully enclose specific operations where there is a high potential for dust production and the site is active for an extensive period. • Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below. • Cover, seed or fence stockpiles to prevent wind whipping. • Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic. • Any road that has the potential to give rise to fugitive dust will be regularly watered, as appropriate, during dry and/or windy conditions. • Maintain a vegetated strip and vehicle exclusion zone between the works and the onsite watercourse in consultation with the project ecologist. • Regular inspection of surface water run-off and any sediment control measures e.g. silt traps will be carried out during the Construction Phase. Regular auditing of construction / mitigation measures will be undertaken e.g. concrete pouring, refuelling in designated areas etc. • Weather conditions will be considered when planning construction activities to minimise the risk of run-off from the Site and the suitable distance of topsoil piles from surface water drains will be maintained.

Measures Specific to Earthworks

- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
- Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.
- Only remove the cover in small areas during work and not all at once.
- During dry and windy periods, and when there is a likelihood of dust nuisance, a bowser will operate to ensure moisture content is high enough to increase the stability of the soil and thus suppress dust.
- Due to the proximity of the onsite watercourse an ecologist will oversee works in particular the excavation of material from the perimeter of the site.
- The Contractor will be required to consult with an ecologist prior to the beginning of works to identify any additional measures that may be appropriate and/or required.

<u>Storage/Use of Materials, Plant & Equipment</u>

- Materials, plant and equipment shall be stored in the proposed site compound location;
- Plant and equipment will not be parked within 50m of the onsite watercourse at the end of the working day;
- Hazardous liquid materials or materials with potential to generate run-off shall not be stored within 50m of the onsite watercourse.
- All oils, fuels and other hazardous liquid materials shall be clearly labelled and stored in an upright position in an enclosed bunded area within the proposed development site compound. The capacity of the bunded area shall conform with EPA Guidelines – hold 110% of the contents or 110% of the largest container whichever is greater;
- Fuel may be stored in the designated bunded area or in fuel bowsers located in the proposed compound location. Fuel bowsers shall be double skinned and equipped with certificates of conformity or integrity tested, in good condition and have no signs of leaks or spillages;
- Waters collected in drip trays must be assessed prior to discharge. If classified as contaminated, they shall be disposed by a permitted waste contractor in accordance with current waste management legal and regulatory requirements;
- All persons working will receive work specific induction in relation to material storage arrangements and actions to be taken in the event of an accidental spillage. Daily environmental toolbox talks / briefing sessions will be conducted for all persons working to outline the relevant environmental control measures and to identify any environment risk areas/works.

<u>Noise</u>

With regard to Construction Phase activities, best practice control measures for noise and vibration from construction sites are found within BS 5228 (2009 +A1 2014) Code of Practice for Noise and Vibration Control on Construction and Open Sites Parts 1 and 2. Whist construction noise and vibration impacts are expected to vary during the Construction Phase depending on the distance between the activities and noise sensitive buildings, the appointed Contractor will ensure that all best practice noise and vibration control methods will be used, as necessary in order to ensure impacts at off-site NSLs are minimised. The best practice measures set out in BS 5228-1 and BS 5228-2 includes guidance on several aspects of construction site mitigation measures, including, but not limited to:

		• selection of quiet plant; • noise control at source; • screening; and • liaison with the public. Construction Phase noise monitoring will be undertaken at periodic sample periods at the nearest noise sensitive locations to the works to check compliance with the construction noise criterion. Noise monitoring should be conducted in accordance with the International Standard ISO 1996: 2017: Acoustics – Description, measurement and assessment of environmental noise.

Adverse Effects likely from the project (post mitigation)

A robust series of mitigation measures has been detailed in the EIAR and the NIS and these will be carried out. These have been developed by a multidisciplinary project team. These will ensure that water entering the Mayne River, is clean and uncontaminated, that dust and noise levels are controlled on site and measures are in place to prevent pollution. Early implementation of ecological supervision on site at initial mobilisation and enabling works is seen as an important element to the project, particularly in relation to the implementation of surface water runoff mitigation.

Implementation of the outlined mitigation measures, will ensure no significant impacts are foreseen from the construction of the proposed project. Residual impacts of the proposed project will be localised to the immediate vicinity of the proposed works. The construction mitigation proposed for the development satisfactorily addresses the potential impacts on designated conservation sites and sensitive receptors, through the application the construction phase measures as outlined above and in the EIAR and NIS. In particular, mitigation measures to ensure compliance with Water Pollution Acts, Air quality legislation will prevent silt, dust and pollution entering the River Mayne will satisfactorily address the potential impacts on biodiversity, population & Human Health and Natura 2000 sites.

7. Site Information

a) Roles and Responsibilities

The roles and responsibilities of the personnel involved in the construction works are outlined in Table 3. However, it will be necessary that all personnel involved in the project are responsible for ensuring the requirements of the CEMP are followed. A designated environmental liaison officer should be appointed to site during construction works. Any noise complaints should be logged and followed up in a prompt fashion by the liaison officer. In addition, where a particularly noisy construction activity is planned or other works with the potential to generate high levels of noise, or where noisy works are expected to operate outside of normal working hours etc., the liaison officer will inform the nearest noise sensitive locations of the time and expected duration of the noisy works.

Table 3. Roles and responsibilities of the personnel involved in the development project

Role	Roles and responsibilities
Applicant	Shoreline Partnership will have overall responsibility for the compliance with the CEMP. They will appoint staff and contractors to deliver the various elements of the development and oversee works carried out on site.
Contractor	Contractors will be hired to carry out all works on site. Works carried out will be overseen by Shoreline Partnership and on a day to day basis by the site manager. All contractors on site are required to comply with all elements of the CEMP.
Site Manager	The Site Manager will be responsible for the day to day management of the site including compliance of all personnel with the CEMP, in addition to Health and Safety, Environmental and Quality elements. The Site Manager is responsible for ensuring that all people on-site are provided with relevant information concerning environmental protection. The Site Manager will be responsible for overseeing any environmental monitoring programmes, carrying out site environmental inspections and audits as necessary, and will co-ordinate the environmental monitoring programme. All records of incidents and environmental issues will be collated and maintained by the site manager. The Site Manager will also be responsible for reviewing all risk assessment method statements and ensuring an appropriate programme of tool box talks are developed and effectively communicated. The site manager will be responsible for overall waste management issues arising from the project. These would include: Implementation and monitoring of waste minimisation, segregation and safe disposal measures and Dissemination of waste reduction and waste management procedures to all relevant personnel on site.

Monitoring	Noise and Dust specialists will be appointed to oversee mitigation measures on site and to act as liaison with the planning authority.
All Staff and Subcontractors	All staff and subcontractors have the responsibility to comply with the CEMP including environmental procedures on site to minimise environmental impacts, avoid pollution on-site, including noise and dust, and to respond quickly and effectively to an incident to avoid or limit environmental impacts. All incidents must be reported to the Site Manager immediately.
Ecologist	An Ecologist will be appointed to oversee compliance with the CEMP (Biodiversity related elements), the NIS and the Biodiversity & Water Chapters of the EIAR.

b) Training and Raising Awareness

As part of site induction for all personnel, a copy of the CEMP will be provided to and discussed with all onsite staff. This would include discussing the elements outlined in the CEMP including sensitive receptors on site and measures in place to mitigate impacts on these receptors.

As part of tool box talks relevant elements of the CEMP should be discussed particularly when working in areas with potential to impact on sensitive receptors e.g. Mayne River and Natura 2000 sites. Training records of all personnel on site should be reviewed and copies held centrally. This is particularly important for those operating excavators, other heavy machinery and with environmental certification to deal with incidents on site.

c) Reporting

The Site Manager / Project Manager is responsible for collating and maintaining all reporting. This would include all environmental and compliance documentation.

d) Environmental Targets and Objectives

Targets

- Zero pollution incidents;
- Segregation of site waste to include timber, general waste and other materials;
- Completion of environmental checklists as required;
- Fuel spill kit to be present on each site at all times;
- Maintain all waste licences and waste transfer notes for all waste movements including contractors;

Reporting Specific Objectives

- Environmental incidences to be reported to Site Manager without delay;
- The following documentation will be reported to Shoreline Partnership. on a 4 weekly basis:
    - Environmental incidents and nonconformities raised, including nature, status, corrective and preventive actions and potential for statutory intervention;
    - Key environmental issues raised by others;
    - Significant environmental incidents;
    - Complaints and the current status of those complaints;
    - Actions or interventions undertaken by enforcement organisations;

Site Specific Objectives

- Reduce waste, water and energy use on the project including within all of the site offices;
- Ensure that everyone comply with the environmental requirements in the contract;
- Seek ways to incorporate environmental opportunities within the design;
- Seek ways to reduce the carbon footprint of the contract;
- Reduce the amount of construction waste and excavated material generated which goes to landfill;
- Zero pollution incidents onsite;
- Recycle construction waste where possible;
- Maximise beneficial reuse of the materials: and

- Ensure that all waste documentation (waste transfer dockets, permits etc.) is available for inspection at the site office / in head office.

To ensure the CEMP remains 'fit for purpose' for the duration of the project it will be reviewed prior to commencement of the relevant phase of development and if necessary, updated during the life of the project to ensure that it remains suitable to facilitate efficient and effective delivery of the project environmental commitments. The environmental review would consider past performance from inspections, audit report and monitoring data, plan actions required to mitigate forthcoming risks and disseminate best practice.

e) Environmental Complaints and Incidents

The site manager will develop and implement an appropriate queries / complaints procedure. Records will include full details of the concerns expressed and ensure that a formal assessment is commenced of the reported concern. The site manager will also discuss complaints with Shoreline Partnership and oversee an initial response to the person who has submitted the complaint/concern confirming its receipt.

An investigation to assess the issue of concern will be carried out and decisions made to see what corrective and/or preventive action, or further investigation is necessary. With overall responsibility for complaints, the site manager will respond within a reasonable timescale and maintain records of all correspondence. If significant corrective action and external stakeholder involvement is required the site manager / project manager will oversee all elements of the process.

Complaints that may be received will be logged, assessed and appropriate action taken as soon as practical. The construction company will be actively seeking liaison with all parties throughout the construction periods. It will be critical to the success of the project that key issues are properly addressed from the outset to create a good working relationship and an integrated team approach to resolving potential issues before they arise.

In the event of spillages or other incident steps will be taken to prevent environmental pollution, for example through protection of drains by use of drain covers or booms, use absorbent granules following and oil / chemical spill and turning off equipment or other sources of noise or dust.

Once the situation has been rectified, full details about the incident and remedial actions undertaken will be provided to the corporation and relevant authorities and recorded in the site environmental register.

8. Emergency Procedures

The risk of spilling fuel is at its greatest during refuelling of plant. All refuelling of major plant and equipment will take place on an impermeable surface within a designated area of the site compound, greater than 10m away from any drains. The vehicles and equipment will not be left unattended during refuelling. Spill kits and hydrocarbon absorbent packs will be stored in this area and operators will be fully trained in the use of this equipment. Diesel pumps and similar equipment will be placed on drip trays to collect minor spillages or leaks. All equipment must be checked regularly.

Fuel, oil and chemical storage will be sited within a bund of adequate capacity. The bund must be located at least 10 metres away from drains, ditches, excavations and other locations where it may cause pollution. All materials will be stored in accordance with the manufacturer's instructions. Epoxy mortars and chemical based materials/sealants will be stored in secure containers with relevant warnings shown on the storage unit. Spill kits will be located adjacent to storage areas and used in the event of spillages. The project ecologist will be informed immediately if a pollution incident has occurred.

9. Invasive Species

No invasive species that could impact on the movement of soil on or off site were noted. However, Japanese knotweed is located proximate to the site and is currently being treated. Prior to site clearance the ecologist will review the distribution of Japanese knotweed in the vicinity of the proposed development site.

10. Relevant Legislation

The key legislation which will be adhered to during the proposed project are defined as follows:

- Water Framework Directive (2000/60/EC);
- Local Government (Water Pollution) Act, 1977–1990;
- Water Quality (Dangerous Substances) Regulations, 2000;
- Arterial Drainage Act, 1945;
- S.I. No. 41 of 1999 Protection of Groundwater Regulations, resulting from EU Directive 80/68/EEC on the protection of groundwater against pollution caused by certain dangerous substances (the Groundwater Directive);
- S.I. No. 249 of 1989 Quality of Surface Water Intended for Abstraction (Drinking Water),resulting from EU Directive 75/440/EEC concerning the quality required of surface water HES Report No.: P1293 FINAL - Rev 0 Report Date: 31st August 2015 intended for the abstraction of drinking water in the Member States (repealed by 2000/60/EC in 2007);
  S.I. No. 439 of 2000 Quality of Water intended for Human Consumption Regulations and S.I. No. 278 of 2007 European Communities (Drinking Water No. 2) Regulations, arising from EU Directive 98/83/EC on the quality of water intended for human consumption (the Drinking Water Directive) and WFD 2000/60/EC (the Water Framework Directive); S.I. No. 272 of 2009 European Communities Environmental Objectives (Surface Waters) Regulations; and, S.I. No. 9 of 2010 European Communities Environmental Objectives (Groundwater) Regulations 2010.
- The Fisheries Consolidation Act 1959 (as amended).
- The Fisheries (Amendment) Act 1997.
- The Inland Fisheries Act 2010.
- Council Directive 78/659/EEC on the Quality of Freshwaters Needing Protection or Improvement in Order to Support Fish Life.
- The European Communities (Quality of Salmonid Waters) Regulations 1988 (S.I. 293 of 1988).
- The Wildlife Act 1976.
- The Wildlife (Amendment) Act 2000.
- The Local Government (Water Pollution) Act 1977.
- The Local Government (Water Pollution) Amendment) Act 1990.
- The Habitats Directive (92/43/EEC).
- The European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011).
- The Water Framework Directive (2000/60/EC).
- The European Communities (Water Policy Regulations 2003 (S.I. 722 of 2003).
- The European Communities Environmental Objectives (Surface Waters) Regulations 2009 (S.I. 272 of 2009).
- The European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations (2009) (S.I. 296 of 2009).

11. Conclusions

This CEMP has been prepared to detail Shoreline Partnership's commitment to Environmental Management of the proposed project. This outline CEMP outlines the environmental principles that will be adopted to ensure that potential environmental impacts and health and safety issues associated with the construction processes are effectively managed, minimised and / or eliminated. The plan details the roles and responsibilities of the applicant, the site manager, project manager and site workers and how these controls are to be implemented. The outline CEMP will require regular updating and monitoring throughout the construction period to ensure potential risks are adequately managed throughout the construction works.