ALTEMAR
Marine & Environmental Consultancy

Outline Construction Environmental Management Plan (CEMP) for the proposed demolition of buildings and the re-development of the former Chivers factory site on Coolock Drive, Coolock, Dublin.

11th April 2019

Prepared by: Bryan Deegan MSc., BSc.(MCIEEM) of Altemar Ltd.
On behalf of: Platinum Land Ltd.

Altemar Ltd., 50 Templecarrig Upper, Delgany, Co. Wicklow. 00-353-1-2010713. info@altemar.ie
Directors: Bryan Deegan and Sara Corcoran
Company No.427560 VAT No. 9649832U
www.altemar.ie

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Executive Summary

This outline Construction Environmental Management Plan (CEMP) has been developed to detail the commitments and mitigation measures to be implemented by Platinum Land Ltd. during the demolition of buildings and the construction and the re-development of the former Chivers factory site on Coolock Drive, Coolock, Dublin. This CEMP is being submitted in tandem and should be read in conjunction with the Natura Impact Statement (NIS) and Environmental Impact Assessment Report (EIAR) for the proposed development.

The purpose of the CEMP is to provide details of waste recovery and/or disposal, proposals for noise reduction, proposals for dust reduction, invasive species management and details on how the proposed project is intending to use a comprehensive and integrated approach to protecting the Santry River and other sensitive environmental receptors within the potential zone of influence.

This CEMP 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 receptors include the Santry River which is located within the proposed development site. 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.

1. Introduction

a) Outline of CEMP

Altemar Ltd. has been commissioned by Platinum Land Ltd. to prepare an outline Construction Environmental Management Plan (CEMP) for the proposed demolition of buildings and the re-development of the former Chivers factory site on Coolock Drive, Coolock, Dublin.

The purpose of the CEMP is to provide details of waste, proposals for noise reduction, proposals for dust reduction, invasive species management and details on how the proposed project is intending to use a comprehensive and integrated approach to protecting the Santry River and other sensitive receptors within the potential zone of influence. The following CEMP 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 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.

This CEMP is subject to planning permission being granted for the development as per the drawings submitted. The CEMP is a live document subject to change based on the following:

1. comments from An Bord Pleanála
2. final planning permission granted and conditions
3. compliance requirements of Dublin City County Council
4. requirements by other bodies including Inland Fisheries Ireland
5. concerns raised by residents affected by the works

The final CEMP prepared for the development will be submitted prior to commencement of the relevant phase on site and will be subject to periodic review as part of the management of the construction process.

b) Structure of the CEMP

This CEMP is based on measures to ensure legal 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 proximity to 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 of the Santry River
11. Conclusions

2. Project Description

a) Project outline and Site Context

Platinum Land Ltd. is proposing a re-development of the former Chivers factory site on Coolock Drive, Dublin (Figure 1). The development will consist of the following phases of development:

a) Phase 1 includes the demolition of all existing buildings, existing boundary fences, removal of existing trees, breaking up and crushing the existing hard standing area, excavation and all associated site works;

b) Phase 2 includes the development of a basement, measuring c. 11,707 square metres to accommodate 181 car parking, 634 bicycle spaces and 16 motorbike spaces, plant rooms, bin storage, attenuation tanks and circulation;

c) Phase 3 includes the redevelopment of the site to include:

i. 495 no. build to rent residential units (comprising 61 no. studio, 150 no. 1 bedroom, 178 no. 2-bedroom, and 106 no. 3 bedroom apartments), residential support facilities, amenities and services in 4 no. blocks which comprise:

(i) Phase 3a – Block A1 – includes 98 build to rent units (comprising 16 no. studio, 33 no. 1 bedroom, 39 no. 2 bedroom, and 10 no. 3 bedroom apartments), resident support facilities including entrance / concierge, resident services and amenities including function room, with heights proposed as 6 no. storeys (19.175m above ground level), 9 no. storeys (27.8m above ground level) and 10 no. storeys (30.745m above ground level);

(ii) Phase 3b – Block A1 – includes 98 build to rent units (comprising 16 no. studio, 33 no. 1 bedroom, 39 no. 2 bedroom, and 10 no. 3 bedroom apartments), resident support facilities including entrance / concierge, resident services and amenities including function room, with heights proposed as 6 no. storeys (19.175m above ground level), 9 no. storeys (27.8m above ground level) and 10 no. storeys (30.745m above ground level);

(iii) Phase 3c) – Block B – includes 173 build to rent units (comprising 18 no. studio, 38 no. 1 bedroom, 54 no. 2-bedroom, and 63 no. 3 bedroom apartments), resident support facilities including entrance / concierge, resident services and amenities including Games Room, Dining Area, Study Hub, with heights proposed as 3 no. storeys (10.4m above ground level), 4 no. storeys (13.175m above ground level), 5 no. storeys (16.1m above ground level), 6 no. storeys (19.175m above ground level) and 7 no. storeys (21.95m above ground level);

(iv) Phase 3d– Block C – includes 126 build to rent units (comprising 11 no. studio, 46 no. 1 bedroom, 46 no. 2-bedroom, and 23 no. 3 bedroom apartments), resident support facilities including entrance / concierge, resident services and amenities including Homework Club, Communal Work Area with heights proposed as 3 no. storeys (10.4m above ground level), 4 no. storeys (13.175m above ground level), 5 no. storeys (16.1m above ground level), 6 no. storeys (19.175m above ground level) and 7 no. storeys (21.95m above ground level);

ii. Ground floor car parking (215 spaces) and bicycle parking (16 spaces);

iii. Service building including 1 no. creche, café and gym;

iv. All associated ancillary development works including drainage, 4 no. electricity substations, access and roads within the site, pavements, new boundary walls, fencing, public open space, communal amenity space, tree planting, vehicle and pedestrian access and all associated site works.

d) Phase 4 - Highway and pedestrian improvements including:

i. Upgrading of the site and signals at the junction of Coolock Drive and Oscar Traynor Road;

ii. Provision of a signalised pedestrian crossing to the south of the site entrance on Coolock Drive; and

iii. Provision of a signalised pedestrian crossing at the proposed pedestrian entrance to the park off Greencastle Road.

Riparian Corridor Landscape Strategy

The development is proximal to the Santry River, which divides the site. As outlined in the Chivers Landscape Design Statement and Outline prepared by Mitchell & Associates, consultation has taken place with Inland Fisheries Ireland and Altemar in relation to the landscape strategy (Figures 4 & 5). The accompanying Landscape Design Statement and Outline states that:

"In contrast to the steep embankment that exists at present a combination of a terraced, sloped and shelved land form treatment is proposed with large rocks and boulders being used as natural retaining elements. At the top level there are two low retaining walls which will double as amenity seating edges. This will inform a structural integrity to the top level. At lower levels there will be sloped and shelved land forms which will allow for the establishment of aquatic planting and self-seeding species and, from a health and safety perspective, allow for easy egress. The restoration of the existing bridge will connect the development and create a visual feature without affecting the watercourse."

Drainage on site

Foul Water Drainage

A 450mm diameter public trunk sewer passes though the site. As outlined in the Material Assets – Built Services chapter 7 of the EIAR,

"*as the trunk 450mm diameter public foul sewer passes through the development site it is proposed that it be diverted locally such that the sewer is located under a main access road in the new development and the necessary wayleaves are provided. All drainage works shall comply with Irish Water Standards*."

Surface water drainage

As outlined in the Material Assets-Built Services chapter of the EIAR (Chapter 7)

"*the subject site currently covered by impermeable surfacing. Surface water run-off from the site drains directly to the Santry River which in turn outfalls to the Irish Sea adjacent to the James Larkin Road in Raheny. Site investigations carried out indicate that the sub-soils are impermeable and not suitable for soakaways. Therefore surface water from the proposed development shall discharge to several attenuation tanks fitted with flow limiting devices with a maximum run-off rate of 2.0l/s. The outfall from the attenuation tanks is discharged to a series of terraced swales formed on the Southern Bank of the Santry River. The terracing is an important landscaping feature of the development. The terracing shall be formed with material suitable for conveying water to the ground following intense storm periods.*"

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

Figure 2. Proposed Site Layout Plan.

Figure 3. Proposed Site Layout Plan (Section).

Figure 4. Proposed Landscape Master Plan

Figure 5. Landscape section. (A-A- through the site in the vicinity of the watercourse).

Figure 6. Courtyard Landscape Masterplan

b) 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	Santry River Mitigation measures should be put in place to avoid impacting this watercourse and biodiversity corridor that runs through the site. Two Natura 2000 sites are located 3.2km downstream. No instream works or, works on the eastern side of the river, are proposed but, re-profiling of the western bank is proposed to incorporate landscape and drainage elements. Onsite works will involve demolition, 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 River. Existing drainage on site is connected to the River and care will need to be taken in relation to the removal of this during demolition. No other watercourses are located in the vicinity of the proposed works.
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 should 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	On-site Fauna and flora of conservation importance 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 approximately 70% build land with some small areas of amenity grassland, woodland, treelines and scrub on the perimeter. 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	All areas. Clearance of the site, particularly the woodland scrub area in the west of the site will result in the loss of nesting habitat. Subsequent planting should be supplemented with bird boxes.
Bats	Two bat surveys were carried out and no evidence of bats was found and the buildings were deemed unsuitable to bats. However, mitigation measures should include a pre-construction bat survey and measures to protect bats during demolition, if individuals are found on site.

3. Analysis of the Potential Impacts (as per NIS)

Analysis of the Potential Impacts

Introduction

The proposed development will involve the removal of the existing terrestrial habitats on site, re-profiling, excavations and the construction of roads, dwellings and associated services. The project also proposes to re-profile an area within 10m of the river and landscape the riparian corridor.

Construction Impacts

This CEMP has been prepared to outline the construction and operation phase mitigation measures in addition to detailing the potential impacts on sensitive receptors within the Zone of Influence (ZOI) and to designated conservation sites including the Natura 2000 sites downstream of the proposed development. The proposed construction of the proposed development, 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 development. The proposed demolition of existing structures and development of the new onsite buildings will entail the loss of certain habitats on site[1]

Amenity grassland, Built land and the Flower beds and borders on site, as well as Scrub, Ornamental/non-native shrub) and Mixed broadleaved/conifer woodland areas. The treeline habitats on Greencastle Road will remain and it is not proposed to divert or carry out instream works in the Santry River. However, re-profiling works will be carried out on the southern bank of the river and without appropriate controls has the potential to impact negatively on the Santry River.

Designated Natura 2000 sites within 15km

The proposed development is not within a designated conservation site. It should be noted that the proposed development site is on the Santry River and the nearest Natura 2000 sites are the North Bull Island SPA and the North Dublin Bay SAC both located 3.2km downstream of the proposed development site. The Santry River is not a salmonid river and there are no features of interest of these conservation sites that would migrate through this site. No other Natura 2000 sites have a direct hydrological connection or pathway from the proposed development site. The upstream water quality of the river 800m is classed as poor (Source: EPA WFD data).

Runoff during site demolition, re-profiling, the construction and operation of project elements could impact on the Santry River, with water quality or downstream/upstream impacts. Impacts on the Santry River would be seen as the primary vector for impacts on conservation sites. Ensuring water quality and compliance with Inland Fisheries Ireland procedures/ conditions and the Water Pollution Acts would be seen as the primary method of ensuring no significant impact on designated conservation sites.

The project team has consulted with Inland Fisheries Ireland (IFI) since 2016 and the proposed works will be carried out based on best practice mitigation procedures and compliance with IFI requirements or conditions, including the prevention of silt and or pollutants entering watercourses. In addition, the project will have to comply with SUDS, Dublin City Council requirements and the provision of additional measures such as petrochemical interceptors and silt interception. Standard construction phase and operational controls in relation to onsite drainage will be in place and no impact is foreseen in relation to designated conservation sites.

Terrestrial Ecology

During the site visits no flora, bird or terrestrial mammal species of conservation importance were recorded on site or in NPWS or NBDC records.

Common mammalian species. Loss of habitat and habitat fragmentation may affect some common mammalian species and there is expected to be mortality during construction.

[1] Classified to Fossitt (2000).

Amphibians and reptiles. Frogs and reptiles were not observed on site - There are a no pond / wet ditch areas within the study area. However, the Santry River flows through the site and frogs may occur on site. The common lizard may occur on site but, was not observed. The proposed development will remove some potential foraging habitats on site. Some mortality may occur during construction.

Bat Fauna. As outlined in the Aardwolf bat survey "*no evidence of past or current use by bats of any of the onsite structures or trees was found*". "*The removal of the existing buildings will have no negative impacts on bats as the structures are not in use by these animals."*

Operational Impacts

No SUDS drainage is currently present on site with a significant un-attenuated hardstanding and roof area. Once constructed all onsite drainage will be connected to separate foul and surface water systems. Surface water runoff will comply with SUDS. The biodiversity value of the site would be expected to improve as the landscaping matures.

Designated Conservation sites within 15km
Currently the site has no attenuation or SUDS control or petrochemical interception. The proposed development includes a sustainable drainage strategy. This will improve the drainage network, particularly during extreme weather events as surface water from the site will be attenuated to greenfield runoff rates. The development must comply with DCC requirements and the Water Pollution Acts and measures will be in place to prevent downstream impacts. No significant impacts on designated sites are likely.

Terrestrial Ecology
As the landscaping elements improve with maturity it would be expected that the biodiversity value of the site to birds and flora would also increase, particularly in the vicinity of the green roofs and wildflower meadows.

Bat Fauna
As outlined in the Biodiversity Chapter of the EIAR (Chapter 11)

"the proposed development will change the local environment as new structures are to be erected in place of the existing buildings, new roads and parking areas constructed and some of the existing vegetation will be removed. The removal of the onsite buildings will not negatively impact bats as none are present. No bat roosts will be lost due to this development and the species expected to occur onsite should persist." Lighting on site may reduce the foraging activity on site but this would be expected to be a minor impact. Lighting is not proposed in the riparian corridor or in the vicinity of the treeline.

Mitigation Measures & Monitoring

Standard construction and operational controls will be incorporated into the proposed development project to minimise the potential negative impacts on the ecology within the Zone of Influence (ZoI) including the Santry River.

Designated Conservation sites within 15km

As the main potential vector for impacts would be seen to be via the Santry 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 DCC and IFI Conditions in relation to construction and drainage. All construction and operational phase controls outlined in the CEMP must be followed. The CEMP should be updated following any additional conditions received during planning and approved by IFI and DCC prior to the commencement of the relevant phase on site.

Development Construction

Contamination of watercourses. As existing drains are present on site, in proximity to the Santry River a project ecologist should be appointed prior to works or site clearance commencing on site. All works in the riparian corridor must be carried out in consultation with IFI and the project ecologist following the best practice guidelines for construction in the vicinity of watercourses.

All tanks and underground storage areas/tanks should be cleaned, existing services and drains on site leading to the Santry River should be blanked off/ or removed prior to the commencement of demolition on site. Toilet facilities will be supplied on site, away from drains and maintained regularly. Raw or uncured waste concrete will not be disposed of within 20m of a drain. Runoff from works including pumping from excavations should only be carried out in consultation with the project ecologist with mitigation in place for silt and petrochemical interception.

No instream works are proposed. All works in the riparian corridor should have sufficient mitigation measures to prevent silt from runoff during works. This should include measures outlined by the project ecologist including silt fences and immediate landscaping of the riparian corridor following works.

Use of generators and small plant on site

Drip trays placed below all small plant. Spill kits will be present on all working sites to clean up spillages. A record of all spillages will be kept and monitored. Generators and small plant will not be used within 10m of drains.

Plant refuelling activities

All mobile plant to be refuelled in a central refuelling area in a compound, at a minimum of 50m from a watercourse, where a spillage containment sump will be constructed within the refuelling area. All collected fuel will be disposed offsite under license. A record of all spillages will be kept and monitored. Petrochemical interceptors should be maintained regularly.

Storage of materials

Material, sediment being washed into drains. Stockpiling of loose materials and soil must be kept to a minimum of 20m from watercourses and drains. In the event that stockpiles are required, they will have suitable barriers to prevent runoff of fines into the drainage system. Damping down of stockpiles will need to take pace in dry windy weather to prevent wind-blown movement of fines.

Spillages that could contaminate the drainage network. Fuel, oil and chemical storage should be sited within a bunded area. The bund must be able to take the volume of the largest container plus 10% and be located at least 10m away from drains, ditches, excavations and other locations where it may cause pollution. Bunds should be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination.

Ecology

- Relevant guidelines and legislation (Section 40 of the Wildlife Acts, 1976 to 2012) in relation to the removal of trees and timing of nesting birds will need be followed. If this is not possible, trees to be felled should be inspected by a qualified ecologist prior to their removal.
- Replanting of the perimeter trees should be carried out, where possible and bird boxes should be placed on site in the vicinity of newly planted trees to reinstate nesting resource lost during site clearance.
- Construction operations would be undertaken during standard hours of operation which would be7.00 – 18.00 Monday to Friday and 8.00 – 14.00 Saturdays to minimise disturbance to fauna in addition to roosting bird species.
- Boundary vegetation: Linear features such as rivers and treelines serve as commuting corridors for bats (and other wildlife) and the onsite boundary vegetation should be retained and/or replaced once construction ends. Planting schemes should attempt to link in with existing wildlife corridors, both onsite and off, to provide continuity of wildlife corridors. On this site this would be important in the vicinity of the Santry River.
- A pre-construction bat survey should be carried out. If bats are encountered during any works at the site the relevant works will be suspended until the advice of a suitably qualified and licenced bat ecologist is sought. A derogation licence may need to be sought from NPWS in order to permit removal of bats and mitigate for the loss of any roosts on the site.
- A single stand of Japanese knotweed is present on site. As outlined in DCC (2016)[2] "*this plant is very prevalent along waterways in Dublin City but is also more widespread away from water than either Giant Hogweed or Himalayan Balsam. NBDC records show it to be present along the Dodder, Liffey, Tolka, Cammock and Santry rivers as well as the Grand and Royal Canals*." Prior to construction commencing an Invasive species management plan should be prepared and the Japanese knotweed should be dealt with in compliance with best practice.

Surface Water Discharge and Site Drainage

Appropriate storage and settlement facilities will be provided on site. The construction company will locate the areas of high risk early in the process.

Areas of high risk include

- Fuel and chemical storage
- Refuelling Areas
- Vehicle and Equipment washing areas
- Site Compound

Fuel, oils and Chemicals will be stored on an impervious base with a bund. Under LEED there will be a strategy put in place to prevent pollution of the watercourse. In most cases this will involve collecting the run-off and routing it to treatment by filtration, settlement or specialist techniques. As well as treatment immediately prior to discharge, water can be treated at source and end route to the discharge point - though this does not necessarily negate the need for further treatment before discharge. Widely used techniques include, Silt trap and surface drainage protection. Concrete lorries will not be permitted to wash out on site apart from cleaning the chute into a container and then emptied into a skip.

[2] Dublin City Council 2016. Invasive Species Action Plan for Dublin City(2016-2020)

Riparian Corridor Construction Stage

As significant site clearance is involved in the project and the site is on sloping land adjacent to a river, measures need to be put in place to ensure that runoff from the site during construction is contained and that silt is intercepted. A silt interception system will be prepared in consultation with the project ecologist. The purpose of this is to ensure that silt is removed from runoff prior to entering the stream throughout the construction process. The following measures will be carried out to ensure that the site runoff is suitably contained during construction:

a) The riparian buffer of 10m will be established, landscaped and marked out prior to site clearance works on the remainder of the site. It is important that this area is cleared and landscaped in late spring/early summer as a portion of this area is within the potential flood zone of the river and landscaping needs to be well established prior to any risk of flooding, in order to limit any silt entering the stream during a flood. Inland Fisheries Ireland should be consulted prior to any works within the riparian corridor. Works will commence with the placing of silt fences in the riparian corridor. It is important that the bases of these are buried deeply in the soil as this area has the potential to be flooded and they could cause downstream impacts if not installed correctly. The riparian buffer of 10m will be established, landscaped and marked out to avoid machinery access, prior to site clearance works on the remainder of the site.
b) The area in the riparian corridor will be sloped so that any runoff during works will run parallel to the river and be caught by silt fences at the end of the site. All planting and landscaping should be carried out immediately.
c) Following the completion of this element of the project this area of the site will be closed off to machinery access.

Drainage on site outside the riparian corridor.

a) Channels will be prepared on site, in the vicinity of future access roads. Within these channels silt fences/barriers will be placed and will consist of woven/terram style material of suitable density to remove the majority of silt from runoff. These will be maintained throughout the construction phase to ensure efficiency, prior to the installation of the permanent drainage network.
b) Silt fences will be placed along the edge of the riparian corridor (outside of future construction areas) to capture runoff from the site. These will also prevent machinery from entering the riparian corridor.
c) The final stage of the attenuation will be prepared in a period of dry weather. All main onsite drainage infrastructure will be connected at this stage.
d) Mitigation measures including silt fences will be in place (in consultation with the project ecologist and IFI) to capture silt from runoff and prevent it from entering the stream during the bridge upgrade.
e) Appropriate storage and settlement facilities will be provided on site. This would include the provision of silt and petrochemical interception for water pumped from basement areas.
f) Fuel, oils and Chemicals will be stored on an impervious base with a bund. Under LEED there will be a strategy put in place to prevent pollution of the watercourse. In most cases this will involve collecting the run-off and routing it to treatment by filtration, settlement or specialist techniques.
g) Additional mitigation if required will be placed on roadworks to capture silt that may not be caught by road sweeping, before runoff enters the Santry River.

Figure 7. Mitigation measures to protect the Santry River

Residual Impacts

The construction and operational mitigation proposed for the development satisfactorily addresses the mitigation of potential impacts on the sensitive receptors through the application the standard construction and operational phase controls. Residual impacts for construction and operational phases are outlined in Tables 2 (a & b) and 3 (a & b) respectively. The overall impact on the ecology of the proposed development will result in a long term slight neutral residual impact on the ecology of the area and locality overall. This is primarily as a result of the loss of terrestrial habitats on site, supported by the creation of attenuation features, additional biodiversity features such as green roofs, standard construction and operational controls and a sensitive native landscaping strategy. The implementation of SUDS drainage on site and riparian features in consultation with IFI would be seen as beneficial to the Santry River.

Impacts on Natura 2000 Sites

The principle pathway for impacts to Natura 2000 sites is via the Santry River. Standard construction and operational phase controls will be in place as outlined to ensure the Santry River is not impacted during the works. Based on the successful implementation of these construction and operational controls the proposed development would not impact on the water quality of the River or conservation objectives of the downstream Natura 2000 sites. North Dublin Bay SAC, North Bull Island SPA, or their features of interest will not be impacted by the proposed works as there is a significant distance between the proposed works and these habitats and mitigation measures will be in place to ensure good water quality within the River is maintained.

Based on the successful implementation of the construction phase controls and proposed works to be carried out in accordance with the CEMP and landscape plan, it is likely that there will be no significant ecological impact arising from construction and the day to day operation of the proposed development. Standard construction and operational phase in addition to ecological monitoring control measures have been outlined above to ensure that the proposed project does not impact on sensitive receptors, conservation areas or watercourses. These measures have been designed to protect the river, which is potentially the primary vector of impacts from the site, and ensure that it is not impacted during construction and /or operational phases of the proposed development.

Table 2a. Construction Impacts on habitats and sensitive receptors post mitigation

Habitat	Habitats Directive	Site Rating[3]	Construction Impact	Impact Significance
Watercourses		C	Silt or petrochemicals entering the Santry River. Mitigation measures should be put in place to avoid impacting this habitat through the introduction of silt or petrochemical protection measures.	Negligible, Long term
Scrub		E	Construction will result in the complete removal of this habitat.	Negligible
Buildings and artificial surfaces		E	No species of importance were noted on, or in, the buildings or artificial surfaces. No bat roosts were noted on site. The removal of this habitat will not result in the loss of species of importance.	Negligible
Nearby Residents			The proposed development is proximal to residential areas that would be sensitive to noise, dust and lighting impacts.	Slight negative/ Negligible based on controls.

Table 2b. Construction Impacts on species

Species	Site Rating	Construction Impact	Impact Significance
Mammals-Terrestrial	A-D	No other terrestrial mammals of conservation importance were noted on site. No badger activity or setts were noted. No otter activity or holts were noted	Negligible
Birds	D	Clearance of the site will result in the loss of nesting habitat. Subsequent planting and inclusion of bird boxes, could result in a positive impact.	Negligible/positive long term
Amphibians-Frogs	B	Evidence of frog activity was not noted on site.	Negligible
Terrestrial Flora	-	No flora of conservation significance were found on the site.	Negligible

Table 3a. Operation Impacts on habitats and sensitive receptors post mitigation

Habitat	Site Rating	Operational Impact	Impact Significance
Watercourses	C	The proposed development site comprises of a significant hard standing area with no attenuation. The implementation of SUDS compliant attenuation will have a positive impact. The residents of the site will develop additional water usage and discharges.	Positive/Neutral
Scrub	E	Construction will result in the complete removal of this habitat. It is not expected that the new site will contain this habitat.	Negligible
Buildings and artificial surfaces	E	SUDS measures will be in place	Positive
Nearby Residents		Nearby residents would not be impacted by noise, dust or lighting from construction following completion of the works.	Neutral

Table 3b. Operational Impacts on habitats

Species	Site Rating	Operational Impact	Impact Significance
Mammals-Terrestrial	A-D	No other terrestrial mammals of conservation importance were noted on site.	Negligible based on mitigation
Birds	D	Subsequent planting could result in a positive impact.	Minor Adverse/ localised/short-term
Amphibians-Frogs	B	Evidence of frog activity was not noted on site. Mitigation measures including the improvement of the riparian corridor should be put in place prior to development construction.	Minor Adverse/ localised/short-term
Terrestrial Flora	-	No flora of conservation significance was found on the site.	Negligible
Aquatic Fauna		The successful implementation of landscape features and drainage are critical to potential impact on aquatic fauna.	Negligible based on controls.

[3] Site ecological evaluation rating: https://www.tii.ie/technical-services/environment/planning/Guidelines-for-Assessment-of-Ecological-Impacts-of-National-Road-Schemes.pdf

4. Site Information

a) Roles and Responsibilities

The roles and responsibilities of the personnel involved in the construction works are outlined in Table 4. However, it will be necessary that all personnel involved in the project are responsible for ensuring the requirements of the CEMP are followed.

Table 4. Roles and responsibilities of the personnel involved in the development project

Role	Roles and responsibilities
Applicant	Platinum Land Ltd. 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 Platinum Land Ltd. 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 City Council.
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.

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 sensitive receptors e.g. near the Santry River, or, where there is potential to impact sensitive receptors on site. 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 Platinum Land Ltd. 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 should 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 Platinum Land Ltd. 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.

5. Construction Management

a) Description of Construction Works

Demolition

The project will involve demolition of the existing factory, buildings and hard standing areas, with the construction of multi storey residential units with underground basement car parking.

b) Phasing of Construction Works

The whole development is anticipated to take approximately 36 months. It is anticipated that the demolition, site clearance and groundworks would take up to approximately 12 months. The construction of the buildings will be carried out in the following phases over a period of approximately 18 – 24 months:

a) Phase 1 includes the demolition of all existing buildings, existing boundary fences, removal of existing trees, breaking up and crushing the existing hard standing area, excavation and all associated site works;

b) Phase 2 includes the development of a basement, measuring c. 11,707 square metres to accommodate 181 car parking, 634 bicycle spaces and 16 motorbike spaces, plant rooms, bin storage, attenuation tanks and circulation;

c) Phase 3 includes the redevelopment of the site to include:

i. 495 no. build to rent residential units (comprising 61 no. studio, 150 no. 1 bedroom, 178 no. 2-bedroom, and 106 no. 3 bedroom apartments), residential support facilities, amenities and services in 4 no. blocks which comprise:

(i) Phase 3a – Block A1 – includes 98 build to rent units (comprising 16 no. studio, 33 no. 1 bedroom, 39 no. 2 bedroom, and 10 no. 3 bedroom apartments), resident support facilities including entrance / concierge, resident services and amenities including function room, with heights proposed as 6 no. storeys (19.175m above ground level), 9 no. storeys (27.8m above ground level) and 10 no. storeys (30.745m above ground level);

(ii) Phase 3b – Block A1 – includes 98 build to rent units (comprising 16 no. studio, 33 no. 1 bedroom, 39 no. 2 bedroom, and 10 no. 3 bedroom apartments), resident support facilities including entrance / concierge, resident services and amenities including function room, with heights proposed as 6 no. storeys (19.175m above ground level), 9 no. storeys (27.8m above ground level) and 10 no. storeys (30.745m above ground level);

(iii) Phase 3c) – Block B – includes 173 build to rent units (comprising 18 no. studio, 38 no. 1 bedroom, 54 no. 2-bedroom, and 63 no. 3 bedroom apartments), resident support facilities including entrance / concierge, resident services and amenities including Games Room, Dining Area, Study Hub, with heights proposed as 3 no. storeys (10.4m above ground level), 4 no. storeys (13.175m above ground level), 5 no. storeys (16.1m above ground level), 6 no. storeys (19.175m above ground level) and 7 no. storeys (21.95m above ground level);

(iv) Phase 3d– Block C – includes 126 build to rent units (comprising 11 no. studio, 46 no. 1 bedroom, 46 no. 2-bedroom, and 23 no. 3 bedroom apartments), resident support facilities including entrance / concierge, resident services and amenities including Homework Club, Communal Work Area with heights proposed as 3 no. storeys (10.4m above ground level), 4 no. storeys (13.175m above ground level), 5 no. storeys (16.1m above ground level), 6 no. storeys (19.175m above ground level) and 7 no. storeys (21.95m above ground level);

ii. Ground floor car parking (215 spaces) and bicycle parking (16 spaces);

iii. Service building including 1 no. creche, café and gym;

iv. All associated ancillary development works including drainage, 4 no. electricity substations, access and roads within the site, pavements, new boundary walls, fencing, public open space, communal amenity space, tree planting, vehicle and pedestrian access and all associated site works.

c) Hours of Working (Hours of Site Operation)

It is envisaged that working hours during the course of the construction process will be primarily standard working hours for the construction industry and working hours normally permitted by Dublin City County Council.

- 7.00 – 18.00 Monday to Friday
- 8.00 – 14.00 Saturdays

No works are envisaged to be carried out on Sundays or Bank Holidays. However should the need arise to work on Sundays, Bank Holidays, or outside the specified hours above, a written submission will be made to Dublin City County Council (DCC) for permission to do so.

d) Employment

During site clearance, demolition and construction, the development will generate direct and indirect employment over the 36 month period. It is estimated that at peak construction periods that there would be approximately 70 people employed on site.

e) Site Storage

Due to the site restrictions, storage of materials will be minimal. No large materials will be stored on site until such times as they are required. Glazing and cladding systems will be delivered with a view to only keeping one week's worth of installation on site at any one time. Such materials will be loaded out evenly on the required floors. At no given time during the project will materials or other items be placed outside the hoarding line unless agreed with DCC.

f) Noise & Dust Control

Noise Control

A Construction Noise Management Plan will be put in place for the construction process, a third-party consultant will be engaged to prepare this report and monitor activity and noise levels generated. The Noise Management Plan will address the following areas:

Noise Sensitive Locations

The site is bounded by an established residential area where most of properties are single private residences. Steps will be taken to ensure that any noise arising will be adequately mitigated. It should be noted that as part of the scheme design due consideration has been given to the issue of noise and physical and operational measures have been proposed to mitigate potential noise impacts associated with the site.

Baseline Noise Survey

A baseline noise monitoring programme has been completed and is outlined in the EIAR (Chapter 12). Attended noise monitoring will be carried out at a number of locations. Survey details, procedures and results of this aspect of the baseline noise monitoring programme will be in general in accordance with ISO 1996: Part 2: 2007 2

Assessment of Noise Effects

Consideration will also be given to advice in relation to establishing significant construction noise effects as set out in BS5228. During the construction and demolition phases, the development shall comply with British Standard 5228 'Noise Control on Construction and open sites Part 1. Code of practice for basic information and procedures for noise control.'

Best Practice Guidelines for the control of Construction Noise

BS 5228 include guidance on the various aspects of construction site noise mitigation, including, but not limited to:

- Liaison with neighbours;

- Noise monitoring;
- Hours of works;
- Selection of quiet plant; and
- Control of noise sources and screening.

The introduction of New Noise Sources Onto the development lands
The potential of any item of plant to generate noise will be assessed prior to the item being brought onto the site:

- Consideration of Alternatives;
- Information to be submitted by the contractor; and
- In-situ Noise Measurement.

Noise Control Audits
Noise control audits will be conducted at regular intervals through the construction phase of the development. In the first instance it is envisaged that such audits will take place monthly. This subject to review and the frequency of audits may be increased if deemed necessary.

The purpose of the audits will be to ensure that all appropriate steps are being taken to control construction noise emissions. To this end, consideration will be given to issues such as the following:

- Hours of operation being correctly observed;
- Opportunities for noise control 'at source';
- Optimum siting of plant items;
- Plant items being left to run unnecessarily;
- Correct use of proprietary noise control measures;
- Materials handling;
- Poor maintenance; and
- Correct use of screening provided and opportunities for provision of additional screening.

Dust Management Plan Overview
The objective of dust control at the site is to ensure that no significant nuisance occurs at nearby sensitive receptors including the Santry River. In order to develop a workable and transparent dust control strategy, the following management plan has been formulated by drawing on best practice guidance from Ireland, the UK and the USA.

Effective site management regarding dust emissions will be ensured by the formulation of a dust management plan (DMP) for the site.

The key features of the DMP are:

- the specification of a site policy on dust;
- the identification of the site management responsibilities for dust;
- the development of documented systems for managing site practices and implementing management controls; and
- the development of means by which the performance of the dust management plan can be assessed.

Site Management
The aim is to ensure good site management by avoiding dust becoming airborne at source. This will be done through good design and effective control strategies. At the planning stage, the siting of construction activities and storage piles will take note of the location of sensitive receptors and prevailing wind directions to minimise the potential for significant dust nuisance. In addition, good site management will include the ability to respond to adverse weather conditions by either restricting operations on-site or using effective control measures quickly before the potential for nuisance occurs:

- During working hours, technical staff shall be on site and available to monitor dust control methods as appropriate;
- Complaint registers will be kept on site detailing all telephone calls and letters of complaint received about construction activities, together with details of any remedial actions carried out;

- It is the responsibility of the contractor always to demonstrate full compliance with the dust control conditions herein;
- At all times, the procedures put in place will be strictly monitored and assessed; and
- Operations resulting in significant dust generation are not envisaged but where necessary the work areas will be sheeted off to control the spread of dust.

The dust minimisation measures shall be reviewed at regular intervals during the construction phase to ensure the effectiveness of the procedures in place and to maintain the goal of minimisation of dust using best practise and procedures. In the event of dust nuisance occurring outside the site boundary, site activities will be reviewed and satisfactory procedures implemented to rectify the problem. Specific dust control measures to be employed are highlighted below.

Dust Control – During Demolition
Demolition of existing structures on site will generate dust and potential for negative impacts on sensitive receptors in the vicinity of the proposed works. A range of dust mitigation strategies must be put in place to help prevent dust emissions not only during the actual demolition process itself but also, stockpiling and the loading and transport of waste material. The aim of these measures e.g. hoarding with netting extensions, restriction of works to light wind conditions, damping down of surfaces on site, covering trucks with tarpaulins, should be to contain airborne material created by the demolition process to within the construction site. Given the nature of the works and the proximity of sensitive receptors strict monitoring of sensitive receptors will also be carried out.

Dust Control – Site Roads
Site roads (particularly unpaved and during groundworks) can be a significant source of fugitive dust from construction sites if control measures are not in place. However, effective control measures can easily be enforced. The most effective means of suppressing dust emissions from unpaved roads is to apply speed restrictions. Studies show that these measures can have a control efficiency ranging from 25 to 80%.

- Due to the compact nature of the site vehicle speeds are expected to be very slow. A speed restriction of 20 km/hr will be applied as an effective control measure for dust for on-site vehicles;
- Damping down of the site will be carried out during periods of dry weather throughout the construction period. Research has found that the effect of watering is to reduce dust emissions by 50%. The bowser will operate during dry periods to ensure that unpaved areas are kept moist. The required application frequency will vary according to soil type, weather conditions and vehicular use. Damping down will be carried out at a level not to cause runoff to the Santry River; and
- Any hard surface roads will be swept to remove mud and aggregate materials from their surface while any unsurfaced roads shall be restricted to essential site traffic only.

Dust Control - Land Clearing / Earth Moving
Land clearing / earth-moving during periods of high winds and dry weather conditions can be a significant source of dust:

- 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.

Dust Control – Storage Piles
The location and moisture content of storage piles are important factors which determine their potential for dust emissions. It is expected that there will be minimal storage of soil on site:

- Overburden material will be protected from exposure to wind by storing the material in sheltered regions of the site;
- Regular watering will take place to ensure the moisture content is high enough to increase the stability of the soil and thus suppress dust.
- The regular watering of stockpiles has been found to have an 80% control efficiency.

Dust Control – Public Roads
Spillage and blow-off of debris, aggregates and fine material onto public roads will be reduced to a minimum by employing the following measures:

- Vehicles delivering material with potential for dust emissions to an off-site location shall be enclosed or covered with tarpaulin always to restrict the escape of dust;
- Public roads outside the site shall be regularly inspected for cleanliness, as a minimum daily, and cleaned as necessary. A road sweeper will be made available to ensure that public roads are kept free of debris.

Dust Management Summary
The pro-active control of fugitive dust will ensure that the prevention of significant emissions, rather than an inefficient attempt to control them once they have been released, will contribute towards the achievement of no dust nuisance occurring during the construction phase. The key features with respect to control of dust will be:

- The specification of a site policy on dust and the identification of the site management responsibilities for dust issues;
- The development of a documented system for managing site practices with regard to dust control;
- The development of a means by which the performance of the dust minimisation plan can be monitored and assessed; and
- The specification of the measures to be taken to control dust emissions before it occurs and effective measures to deal with any complaints received.

g) Roads

The main entrance to the development will be at the existing site entrance on Coolock Drive. Please see the Traffic and Transport Assessment and Chapter 6 of the EIAR for additional details of proposed vehicle routes.

h) Liaison

DCC's relevant departments will be contacted and liaised with prior to the commencement. Where necessary Road Opening Licence applications will be submitted for approval from DCC. The construction company acknowledge that many parties will have an interest in this project throughout the duration of the contract. The construction phase will have a direct impact on the local environment, particularly concerning the following:

- Local residents and land owners
- Tenants and Residents Associations
- Planning Authority
- Other Statutory Authorities
- Building Control
- Environmental Health
- Utilities Providers

The project manager will be responsible for project strategic liaison whilst the construction manager will be responsible for day to day liaison and logistics for all the construction related activities.

Both will be permanently based on site with the construction manager as the first point of contact for all concerns, issues and complaints. A display Board will be erected outside the site, which as minimum will identify key personnel contact addresses and telephone numbers.

Liaison meetings, progress photos, organised site visits are all methods by which the construction company are able to communicate how they intend to carry out the works and keep people informed.

i) Traffic Management Plans (TMP's)

A Traffic Management Plan has been prepared by Aecom to provide for mitigation of the impact of construction traffic associated with the proposed development. The following is outlined in the Aecom report:

Likely Construction Programme & Phasing

"The construction programme is expected to require approximately 36 months to complete from enabling works / demolition stage to occupation of the site. It is acknowledged that the construction process will need to be cognisance of the permitted residential houses being occupied, which is a standard requirement of the construction management process.

Construction Route

To minimise construction impacts upon the surrounding road network, it is recommended that a 'left in / left out vehicular access arrangement is in operation at the site entrance. This will assist the flow of vehicles accessing and exiting the site, thus reducing any delays onto the surrounding road network. Access into the construction site will be via a designated route, as illustrated in Figure 8 below.

Figure 8. Construction Route for HGV Vehicles

Parking

All contractors' vehicles will park within the development site area in a designated parking area on the hard standing. There will be no contractor parking on the public roads.

Mitigation Measures

A construction management plan will be developed by the contractor prior to the commencement of work on site, and will be prepared in consultation with Dublin City Council.

Construction debris particularly site clearance, spoil removal and dirty water run off can have a significant impact on footpaths and roads adjoining a construction site, if not adequately dealt with.

Traffic Management Measures

Below is a list of the proposed traffic management measures to be adopted during the construction works. Please note that this is not an exhaustive list, and that it will be the appointed contractor's responsibility to prepare a detailed construction management plan.

- *Warning signs / Advanced warning signs will be installed at appropriate locations in advance of the construction access locations;*
- *Construction and delivery vehicles will be instructed to use only the approved and agreed means of access; and movement of construction vehicles will be restricted to these designated routes;*
- *Appropriate vehicles will be used to minimise environmental impacts from transporting construction material, for example the use of dust covers on trucks carrying dust producing material;*
- *Speed limits of construction vehicles to be managed by appropriate signage, to promote low vehicular speeds within the site;*

- *Parking of site vehicles will be managed and will not be permitted on public road, unless proposed within a designated area that is subject to traffic management measures and agreed with DCC;*
- *A road sweeper will be employed to clean the public roads adjacent to the site of any residual debris that may be deposited on the public roads leading away from the construction works;*
- *On site wheel washing will be undertaken for construction trucks and vehicles to remove any debris prior to leaving the site, to remove any potential debris on the local roads;*
- *All vehicles will be suitably serviced and maintained to avoid any leaks or spillage of oil, petrol or diesel. Spill kits will be available on site. All scheduled maintenance carried out off-site will not be carried out on the public highway; and*
- *Safe and secure pedestrian facilities are to be provided where construction works obscure any existing pedestrian footways. Alternative pedestrian facilities will be provided in these instances, supported by physical barriers to segregate traffic and pedestrian movements, and to be identified by appropriate signage. Pedestrian facilities will cater for vulnerable users including mobility impaired persons.*

The mitigation measures will therefore ensure that the presence of construction traffic will not lead to any significant environmental degradation or safety concerns in the vicinity of the proposed works. Furthermore, it is in the interests of the construction programme that deliveries, particularly concrete deliveries are not unduly hampered by traffic congestion, and as a result continuous review of haulage routes, delivery timings and access arrangements will be undertaken as construction progresses to ensure smooth operation."

j) Complaints

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 relevant 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.

k) Vehicle Movement and Deliveries

Access routes to and from the site, delivery times and off-loading proposals will be formally agreed with the Dublin City Council. In developing the construction and logistics plans, the construction company will fully include representatives of Dublin City Council and other interested parties in a consultation process to ensure that our intentions are properly communicated, agreed and do not unduly affect the surrounding residential and retail properties. Draft routes for soil removal are seen in the Traffic impact Assessment.

All deliveries of materials, plant and machinery to the site and removals of waste or other material, will take place within the permitted hours of work. Vehicle movements will be planned to ensure arrival and departure times are maintained inside the agreed working hours. No day time or night time parking of vehicles will be permitted outside agreed areas, unless agreed with DCC.

The logistics plans indicate the site access routes at each stage of the project, initially utilizing existing access routes and subsequently the new permanent access routes.

- Vehicles delivering concrete, reinforcement and other building materials
- Vehicles delivering large material (example facade panels)

All fire escape routes for adjacent buildings will be maintained and protected during the works.

l) Delivery System

The key to efficient material/plant deliveries will be the effective management and co-ordination/timing of all deliveries. Deliveries will be co-ordinated to prevent queuing of vehicles adversely affecting traffic flow and to minimise disruption to local traffic. They will be timed and coordinated to avoid conflict with collection of waste, other deliveries and rush hour traffic. Large deliveries will be scheduled outside peak hours to minimise disruption. The construction company will consider out of hours deliveries and collections to facilitate the smooth continuation of works and minimise disruption. During the project procurement phase, the construction company will produce a schedule of deliveries, adopting a 'just in time' approach to avoid potential conflicts and unnecessary storage and handling.

m) Emergency Work

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. An ecologist should be consulted in relation to spillages on site that may impact on the watercourse. 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.

n) Site Security

Hoarding will be placed around the site and the development will also be monitored. A site compound and car parking facility will also be set up before any construction work commences on site. Hoarding/temporary fencing will be erected to delineate all site works from public areas located adjacent to the development. The development construction area will be isolated during construction as indicated on the logistic plan with hoardings in line with the temporary works design. Security of the site is an important issue with respect to restricting site entry to personnel solely involved in the construction process during working hours and preventing unauthorised access out of hours. Site access for all personnel and visitors will be strictly controlled and all visitors will report to the site offices prior to entering the construction area.

Regular inspections of the hoarding will be undertaken to ensure that the safety of any vehicles or pedestrians is not compromised. Site accommodation including offices and welfare facilities will be provided on the existing Site area within the construction boundary as indicated on the enclosed logistics plan.

o) Site Storage

Due to the site restrictions, storage of materials will be minimal. No large materials will be stored on site until such times as they are required. Glazing and cladding systems will be delivered with a view to only keeping one week's worth of installation on site at any one time. Such materials will be loaded out evenly on the required floors. At no given time during the project will materials or other items be placed outside the hoarding line, unless otherwise agreed with DCC.

p) Cranes, Lifting of Equipment and Road Closures

A number of cranes will be present on site. All lifting equipment and appliances will carry current test certificates and be inspected prior to use. Trained banksmen will attend the cranes always.

When/if relevant permits and approval for road restrictions will be applied for with DCC and all parties involved kept informed on progress. The construction company will obtain approval from the Environmental Health Department to ensure that what is planned is feasible within the times agreed. Following approval, details of the works proposed including dates, times mobile number of supervisor and copies of letter drops etc. will be forwarded.

q) Delivery of Materials

All operations will take place inside the site boundary, apart from the improvements at Greencastle Road, Coolock Drive and at the Oscar Traynor Road – Coolock Drive Junction.

r) Road Safety

The project team will organise the construction site so that vehicles and pedestrians are kept separate. Gatemen will ensure that the interface between deliveries and road traffic will be controlled at delivery gates.

The key message is: *construction site vehicle incidents can and should be prevented by the effective management of transport operations throughout the construction process.*

By creating a crane off-loading area within the site boundary all offloading will be possible within the site boundary which will minimize any risk to the public. The gate man will then assist in the entry and leaving from the site.

Key issues in dealing with traffic management on site are:

- Keeping pedestrians and vehicles apart
- Minimising vehicle movements
- People on site
- Turning vehicles
- Visibility
- Signs and instructions

Accidents occur from groundwork's to finishing works and managers, workers, visitors to sites and members of the public can all be at risk. Inadequate planning and control is the root cause of many construction vehicle accidents.

Keeping pedestrians and vehicles apart.

Most of construction transport accidents result from the inadequate separation of pedestrians and vehicles. This will be avoided by careful planning, particularly at the design stage, and by controlling vehicle operations during construction work.

The following actions will help to keep pedestrians and vehicles apart:

- Entrances and exits - The construction company will provide separate entry and exit gateways for pedestrians and vehicles with a gate man in attendance to interface with the traffic and public to facilitate safe access and egress of vehicles.
- Walkways - firm, level, well-drained pedestrian walkways will be provided.
- Crossings - where walkways cross roadways. The construction company will provide a clearly signed and lit crossing point where drivers and pedestrians can see each other clearly;
- Visibility - The construction company will make sure drivers driving out onto public roads can see both ways along the footway before they move on to it;
- Obstructions - The construction company will not block walkways so that pedestrians must step onto the vehicle
- Route; and Barriers - The construction company will install a barrier between the roadway and walkway.
- People on site - The construction company will take steps to make sure that all workers are fit and competent to operate the vehicles, machines and attachments they use on site by, for example:
    - Checks when recruiting drivers/operators or hiring contractors;
    - Training drivers and operators;
    - Managing the activities of visiting drivers.
    - People who direct vehicle movements will be trained and authorised to do so. Accidents can also occur when untrained or inexperienced workers drive construction vehicles without authority. Access to vehicles will be managed and people alerted to the risk.

The construction company will provide:

- Aids for drivers - Mirrors, CCTV cameras or reversing alarms will be provided that can help drivers can see movement all-round the vehicle;
- Gatemen will be appointed to control manoeuvres and who are trained in the task;
- Lighting - Site will be properly lit so that drivers and pedestrians on shared routes can see each other easily. Lighting may be needed after sunset or in bad weather;
- Clothing - Pedestrians on site will wear high visibility clothing.
- Signs and instructions
- The construction company will make sure that all drivers and pedestrians know and understand the routes and traffic rules on site. Use standard road signs where appropriate.
- The construction company will provide induction training for drivers, workers and visitors and send instructions out to visitors before their visit. The construction company will make sure that all the drivers and our supply chain personnel are competent and have relevant training and certification appropriate for their job.

s) Waste Management

This section of the CEMP sets out a basic structure for a Site Waste Management Plan and how the construction company will best use them to improve and manage our operations at all stages of site activity. Platinum Land Ltd. is committed to maintain the highest environmental standards.

All waste will be source separated into recyclable and general non-recyclable waste. In addition to general waste bins and recycling bins, there will also be bins provided for the storage of glass, batteries, and printer cartridges. General waste and recycling waste shall be stored in secure designated external waste storage areas, located a short distance away from each of the buildings.

The waste management areas are to be located on flat ground and will allow flexibility for change in the future. These areas will allow for the correct and legally compliant segregation, storage, movement, handling, processing and off-site disposal of waste. Sufficient access and egress will be allowed to facilitate the movement of bins to the collection point.

The waste storage area will be adequately vented to prevent odours. The waste bins will be secure and subject to fire safety regulations and where possible lockable. Clearance of a minimum of 300mm will be provided around each bin to allow movement of the bins within the storage area.

The construction company will achieve this by following the Good Practice on Site;

Buying and Storing Materials

- Order the amount of materials the construction company need as accurately as possible;
- Arrange for 'just in time' deliveries to reduce storage and material losses;
- Consider the source of materials (Is the company certified with environmental standards? Quality materials and recycled materials may prove cheaper).
- Consider the packaging used for materials delivered to the site -can this be reduced or recycled.
- Ensure that deliveries are rejected if damaged or incomplete
- Make sure storage areas are safe, secure and weatherproof (where required)
- Store liquids away from drains and in bunded areas to prevent pollution.

Site Activities

- Ensure options for the use of reclaimed and recycled construction materials that meet the materials specification are considered.
- Recycle surplus construction material arising from the works on site to avoid the need to transport materials.
- Keep the site tidy to reduce material losses and waste.

Training and awareness

A member of the construction team will be appointed as the waste manager to ensure commitment, operational efficiency and accountability during the C&D phases of the project.

Waste manager Training and Responsibilities.

The nominated waste manager will be given responsibility and authority to select a waste team if required, i.e. members of the site crew that will aid him/her in the organisation, operation and recording of the waste management system implemented on site.

The waste manager will have overall responsibility to oversee, record and provide feedback to the client on everyday waste management at the site. Authority will be given to the waste manager to delegate responsibility to sub-contractors, where necessary, and to coordinate with suppliers, service providers and sub-contractors to prioritise waste prevention and salvage.

The waste manager will be trained in how to set up and maintain a record keeping system, how to perform an audit and how to establish targets for waste management on site.
The waste manager will also be trained in the best methods for segregation and storage of recyclable materials.

Site Crew Training.
Training of site crew is the responsibility of the waste manager and, as such, a waste training program should be organised. A basic awareness course will be held for all site crew to outline the waste management plan and to detail the segregation of waste materials at source. This may be incorporated with other site training needs such as general site induction, health and safety awareness and manual handling.

This basic course will describe the materials to be segregated, the storage methods and the location of the waste storage areas. A sub-section on hazardous wastes will be incorporated into the training program and the particular dangers of each hazardous waste will be explained.

The construction company will:

- Promote good practice awareness as part of health and safety induction training for workers on site;
- Segregate different types of waste as they are generated using different skips where possible (given the space available). At a minimum there will be skips for wood, inert and mixed materials, although a skip for metals may generate some income;
- Complete waste transfer notes before any waste leaves the site;
- Ensure all waste carriers have a valid waste carrier's registration certificate; and
- Ensure all wastes are disposed of at a correctly licensed site.

It will be the subcontractor's responsibility to place their waste in the correct bins; our management team will continuously undertake checks to ensure compliance. The bins will be transferred to ground level when the respective waste compactors are called to site, emptied and returned to their respective floors/areas. Waste removal by the compactor will be undertaken outside of normal working hours.

Demolition Waste Generation
Actual demolition waste production figures will be calculated prior to work commencing based on detailed assessments of the building by survey, including material types, wall thickness, building height and depth of foundations. The CEMP is a live document and quantities will be added when a contractor has been appointed prior to commencing work on site.

Construction Waste Generation.
It should be noted that until final materials and methods of construction have been decided, it is not possible to predict with a high level of accuracy the construction waste that will be generated. This CEMP is a live document and quantities will be added when a contractor has been appointed prior to commencing work on site.

Proposed Waste Management Options

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. The appointed waste contractor will collect and transfer the waste as receptacles are filled. There are numerous waste contractors in the Dublin Region that provide this service.

All waste arisings will be handled by an approved waste contractor holding a current waste collection permit and will be transferred to a facility holding the appropriate certificate of registration, permit or licence, as required. Written records will be maintained by the contractor(s) detailing the waste arising throughout the construction and demolition phases, the classification of each waste type, the contact details and waste collection permit number of all waste contactors who collect waste from the site and the end destination and waste facility permit or licence number for all waste removed and disposed off-site. Dedicated bunded storage containers will be provided for hazardous wastes such as batteries, paints, oils, chemicals etc., if required.

The management of the main waste streams are detailed as follows:

- The Waste Management Hierarchy states that the most preferred option for waste management is prevention and minimisation of waste, followed by reuse and recycling/recovery, energy recovery (i.e. incineration) and, least favoured of all, disposal. The excavations are required to facilitate construction so the preferred option (prevention and minimisation) cannot be accommodated for the bulk excavation phase. The next option (beneficial reuse) may be possible for some and potentially all the inert natural material (Category A1). This material could be used as fill material in other construction projects or engineering fill for waste licensed sites. Beneficial reuse of surplus excavation material as engineering fill may be subject to further testing to determine if materials meet the specific engineering standards for their proposed end-use (e.g. in respect of sulphate content, pyrites etc.).

- Any nearby sites requiring clean fill/capping material will be contacted to investigate reuse opportunities for clean and inert material. If any of the material is to be reused on another site as a by-product (and not as a waste), this will be done in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011. Article 27 requires that certain conditions are met and that by-product decisions are made to the EPA, via their online notification form.

- If the material is deemed to be a waste, removal and reuse/recycling/ recovery/disposal of the material will be carried out in accordance with the Waste Management Acts 1996 - 2008, the Waste Management (Collection Permit) Regulations 2007 and Amendments and the Waste Management (Facility Permit & Registration) Regulations 2007 and Amendments. The volume of waste removed will dictate whether a Certificate of Registration (COR), permit or licence is required by the receiving facility.

- Similarly, if any soils/stones are imported onto the site from another construction site as a by-product, this will also be done in accordance with Article 27.

- Once all available beneficial reuse options have been exhausted, the options of recycling and recovery at waste permitted and licensed sites will be considered. The option of disposal of inert natural material to landfill will only be considered once all available reuse options have been explored and where void capacity cannot be secured at appropriately permitted/licensed facilities for recycling or recovery purposes.

- Any soil/subsoil that is deemed to be contaminated will be stored separately to the clean and inert soil/subsoil. The material will be appropriately tested and classified as either non-hazardous or hazardous in accordance with the EPA publication 'Waste Classification: List of Waste & Determining if Waste is Hazardous or Non-Hazardous' using the HazWasteOnline application (or similar approved classification method). The material will then need to classified as clean, inert, non-hazardous or hazardous in accordance with the EC Council Decision 2003/33/EC.

Non-Recyclable Waste

C&D waste which is not suitable for reuse or recovery will be placed in separate skips or other receptacles. This will include polystyrene, some cardboard and plastic which are deemed unsuitable for recycling. Prior to removal from site, the non-recyclable waste skip/receptacle will be examined by a member of the waste team (see Section 6.0) to determine if recyclable materials have been placed in there by mistake. If this is the case, efforts will be made to determine the cause of the waste not being segregated correctly and recyclable waste will be removed and placed into the appropriate receptacle.

Hazardous Wastes

On-site storage of any hazardous wastes produced (i.e. contaminated soil, if encountered and/or waste fuels) will be kept to a minimum, with removal off-site organised on a regular basis. Storage of all hazardous wastes on site will be undertaken to minimise exposure to on-site personnel and the public and to also minimise potential for environmental impacts. Hazardous wastes will be recovered wherever possible and, failing this, disposed of appropriately.

Tracking and Documentation Procedures for Off-Site Waste

All waste will be documented prior to leaving the site. Waste will be weighed by the contractor, either by weighing mechanism on the truck or at the receiving facility. These waste records will be maintained on site by the Contractor.

U) Demolition Procedures

A detailed demolition plan will be provided by a specialist contractor once detailed surveys have been completed and a contractor appointed.

The following sequence of works should be followed during the demolition activities:

Check for Hazards

Prior to commencing works, structures to be demolished will be checked for any likely hazards including ACMs, electric power lines or cables, gas reticulation systems, telecommunications, unsafe structures, and fire and explosion hazards, e.g. combustible dust.

Removal of Components

All components that can be salvaged will be removed first. This will primarily include steel metal however will also include structural timbers, appliances, galvanised piping, wiring and metal ducting etc.

Removal of Roofing

Steel roof supports, beams etc. will be dismantled and taken away for recycling/salvage. If bats are found the project ecologist is informed immediately.

Excavation of Services, Demolition of Walls and Concrete

Services will be removed from the ground and the breakdown of walls will be carried out once all salvageable or reusable materials have been taken from the buildings. Finally, any existing foundations will be excavated.

V) Record Keeping

Records will be kept for all waste material which leaves the site, either for reuse on another site, recycling or disposal. A recording system will be put in place to record the construction waste arisings on site.
A copy of the Waste Collection Permits, Certificates of Registration, Waste Facility Permits and IED or Waste Licences will be maintained on site always. The waste manager or delegate will record the following;

- Waste taken for reuse off-site;
- Waste taken for recycling;
- Waste taken for disposal; and
- Reclaimed waste materials brought on-site for reuse.

For each movement of waste on or off-site, a signed docket will be obtained by the waste manager from the contractor, detailing the weight and type of the material and the source and destination of the material.

This will be carried out for each material type. This system will also be linked with the delivery records. In this way, the percentage of C&D waste generated for each material can be determined. The system will allow the comparison of these figures with the targets established for the recovery, reuse and recycling of C&D waste and to highlight the successes or failures against these targets.

v) Outline Waste Management Procedure

Responsibility for Waste Audit

The appointed waste manager will be responsible for conducting a waste audit at the site during the C&D phase of the development.

Review of Records and Identification of Corrective Actions

A review of all the records for the waste generated and transported on or off-site should be undertaken mid-way through the project. If waste movements are not accounted for, the reasons for this should be established in order to see if and why the record keeping system has not been maintained. The waste records will be compared with the established recovery/reuse/recycling targets for the site. Each material type will be examined, in order to see where the largest percentage waste generation is occurring. The waste management methods for each material type will be reviewed in order to highlight how the targets can be achieved.

Waste management costs will also be reviewed.

Upon completion of the C&D phase, a final report will be prepared, summarising the outcomes of waste management processes adopted and the total recycling/reuse/recovery figures for the development.

w) Soil and Truck Volumes

During the initial phases of the project it is has been estimated that it will be necessary to remove 62,500 m^3 of soil and an additional 200 truckloads for demolition waste from the site. The estimated truckloads of soil to be removed are based on 11m^3 per truck with an additional bulking factor of 10% this is 6,150 truckloads of soil, plus 200 trucks for demolition = 6,350 trucks. It has estimated that based on 60 trucks a day removing the soil and demolition waste from the site the removal of soil and waste would take 100 days. At 60 trucks per day over 10 hours this would equate to approximately 6 trucks per hour.

6. Sensitive Receptors

Sensitive receptors, potential impacts of the development and the designed-in Mitigation measures to reduce potential impacts are seen in Table 5.

Table 5. Sensitive Receptors/Impacts and mitigation measures.

Sensitive Receptors	Potential Impacts	Designed-in Mitigation	Other Avoidance / Reduction Measures	Enhancements
Santry River	· Habitat degradation · Dust deposition · Pollution · Silt ingress from site runoff · Damage to riparian vegetation · Negative impacts on aquatic fauna	· Best available technology (BAT) mitigation measures designed by project ecologist · Staging of project to initially stabilise, isolate, fence off works on site. · Silt traps established throughout site · Mitigation measures on site include dust control, stockpiling away from drains · Pollution control and mitigation on site · Petrochemical interception on inflows maintained annually or more frequently if required. · Stockpiles and runoff areas following clearance will have suitable barriers to prevent runoff of fines into the drainage system and watercourses. As the stream is downwind of prevailing winds on site, damping down of stockpiles will take pace in dry windy weather to prevent wind-blown movement of dust. · Fuel, oil and chemical storage will be sited within a bunded area. The bund will be at least 10m away from drains, ditches, 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 drainage network. Prior to discharge of water from excavations adequate filtration will be provided to ensure no deterioration of water quality or downstream impacts.	· The CEMP should provide a mechanism for ensuring compliance with environmental legislation and statutory consents. · maintenance of any attenuation structures (e .g. de-silting operations) must not result in the release of contaminated water to the surface water network. · no entry of solids to the associated drainage during the connection of pipework to the existing surface water system · Petrochemical interception and bunds in refuelling area	· New SUDS system will help alleviate flooding impacts during storm events
Birds (National Protection)	• Removal nesting habitat. • Removal foraging habitat. • Destruction and/or disturbance to nests (injury/death).	• Wildlife corridors provide additional shelter to minimise predation. • Nest boxes placed on site to compensate for resource loss.		
Residents	• Dust, noise and light impacts	• BAT in relation to demolition and construction practices to reduce noise dust and light impacts. • Hoarding and barriers on site to limit restrict dust, noise and light impacts to within the site boundary • Monitoring and restriction of dust and noise to set international standards	Consultation with users in relation to impacts. Opening of a complaints register	

7. 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.

8. Invasive Species

As outlined in the NIS a single small stand of Japanese knotweed (*Fallopia japonica*) was noted on the existing old bridge that crosses the Santry River. This stand is currently being treated. Prior to works commencing on site an Invasive Species Management Plan will be prepared. No other invasive species that could impact on the movement of soil on or off site were noted.

9. 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).

10. Monitoring of Santry River

A project Ecologist will be appointed to oversee the project and mitigation measures, prior to the commencement of works on site. An assessment of existing drains entering the Santry River should be carried out prior to site clearance. During the construction works there will be ongoing monitoring of the Santry River for any visible signs of pollution (suspended solids, silt, hydrocarbon sheen and or other products). If any evidence of pollution is seen then immediate corrective action will be taken to eliminate the source of the pollution. The project ecologist will be consulted to oversee installation of mitigation for the works and consultation with Inland Fisheries Ireland and Dublin City County Council in relation to environmental matters.

11. Conclusions

This CEMP has been submitted to show Platinum Land Ltd's commitment to Environmental Management of the proposed project. This CEMP has 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 CEMP will require regular updating and monitoring throughout the construction period to ensure potential risks are adequately managed throughout the construction works.