CLONBURRIS SDZ Phase 1

Outline Construction Environmental Management Plan

South Dublin County Council

Project number: 60650394
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	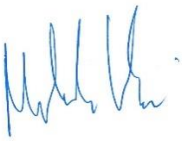	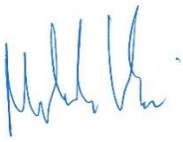	R.O.C.
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Revision History

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1. Introduction

An Outline Construction Environmental Management Plan (Outline CEMP) has been prepared by AECOM to accompany a Part 8 application for the 'Phase 1' site comprising approximately 10 hectares on Lynch's Lane to the south-west area of the Clonburris Strategic Development Zone (SDZ). The plan presented herein is outline in nature as it has been prepared at a stage when exact quantities and volumes of waste material have not yet been determined.

This Outline CEMP is a preliminary plan which includes a description of the proposed works and how these works will be managed for the duration of the construction on site. It also presents the potential environmental impacts, the proposed management and monitoring methodologies based on the concept of Best Practice and the proposed mitigation measures based on the EIA Screening Report to be implemented on site. This plan shall be updated by the Contractor and agreed with South Dublin County Council (SDCC) by the Contractor in advance of the construction phase.

The development will be under the control of a Contractor who will be appointed after the approval is granted for the Planning Application. Once familiar with the site and having developed a final detailed methodology for the works required, the Contractor will prepare a detailed CEMP prior to the on-site activities commencing. It is anticipated the detailed plan will be based upon this preliminary plan and expanded to provide a project specific site management plan, incorporating:

- Operational Health & Safety (OH&S) Management Plan;
- Detailed resource & Waste Management Plan;
- Detailed Traffic Management Plan.

The Construction Environmental Management Plan will be integrated into and implemented throughout the construction phase of the project to ensure the following:

- That all site activities are effectively managed to minimise the generation of waste and to maximise the opportunities for on-site reuse and recycling of waste materials.
- To ensure that all waste materials generated by site activities, that cannot be reused on site, are removed from site by appropriately permitted waste haulage contractors and that all wastes are disposed of at approved waste licensed/permitted facilities in compliance with the Waste Management Act 1996, the Waste Management (Amendment) Act 2001 and the Protection of the Environment Act 2003.
- To manage and control any environmental impacts (noise, vibration, dust, water) that project construction work activities may have on receptors and properties that are located adjacent to project work areas and on the local receiving environment.
- To comply with planning conditions and requirements relating to waste management as required by SDCC.

This document has been prepared to demonstrate how the Contractor and the appointed Project Supervisors will comply with the following relevant legislation, and relevant Best Practice Guidelines:

- SDCC's Development Plan 2016-2022;
- Safety, Health and Welfare at Work (Construction) Regulations 2013;
- Traffic Signs Manual Chapter 8: Temporary Traffic Measures and Sign Roadworks (2019);
- Temporary Traffic Management Design Guidance, Department of Transport (2019);
- Temporary Traffic Management Operations Guidance Part 0 & Part 1, Department of Transport (2019);
- Department of the Environment, Heritage and Local Government – Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects – June 2006;
- Air Quality Monitoring and Noise Control Unit's Good Practice Guide for Construction and Demolition, Dublin City Council;
- The Waste Management Act 1996 – 2008, Amendments & Associated Sub-ordinate Regulations;
- CIRIA Document 133 Waste Minimisation in Construction;

- The Litter Pollution Act 1997;
- The Eastern-Midlands Regional Waste Management Plan 2015-2021;
- Construction Code of Practice for the Sustainable Use of Soil on Construction Sites (DEFRA), September 2009;
- Designing out Waste: A Design Team Guide for Civil Engineering (WRAP);
- Environmental Protection Agency, Waste Classification, List of Waste & Determining if Waste is Hazardous or Non-Hazardous (2015);
- The EU Waste Framework Directive (2008/98/EC);
- Protection of the Environment Act 2003 (S.I. No. 413 of 2003);
- Litter Pollution Act 1997 (S.I. No. 12 of 1997).

2. Description of the Project

The project involves the construction of 263 new dwellings and forms phase 01 of the development of South Dublin County Council lands within the approved Strategic Development Zone (SDZ) at Clonburris, in south County Dublin.

The Clonburris SDZ covers approximately 280 hectares and is located to the west of Dublin City Centre, nestled between the existing large suburbs of Lucan, Clondalkin and Liffey Valley. The Dublin Kildare/Cork railway line, with two existing stations - Clondalkin-Fonthill and Kishoge, bisects the northern part of the SDZ lands with the Grand Canal to the southern perimeter. Two strategic roads, Grange Castle Road and Fonthill Road, form connections to surrounding suburbs.

The phase 01 site of approximately 10 hectares is located on Lynch's Lane to the south-west area of the Clonburris SDZ. The lands are bound on the northern side by the railway line and west of the outer ring road, Grange Castle Road.

The site falls predominantly within the 'Kishoge South West' area of the SDZ masterplan; in particular, subsectors 'KSW-S3' and 'KSW-S4'. The eastern part of the site is in the 'Kishoge Urban Centre' area, partly within subsector 'KUC-S3' in close proximity to Kishoge Railway Station.

The lands are currently composed of a series of fields and existing one storey Traveller accommodation at Kishoge Park. The proposed scheme of 263 new homes comprises a mix of apartments, duplexes and houses and a new community room in a mix of buildings ranging from one to five storeys. The scheme is set within a series of three large strategic open spaces providing local recreation and amenity spaces with links to existing and surrounding communities.

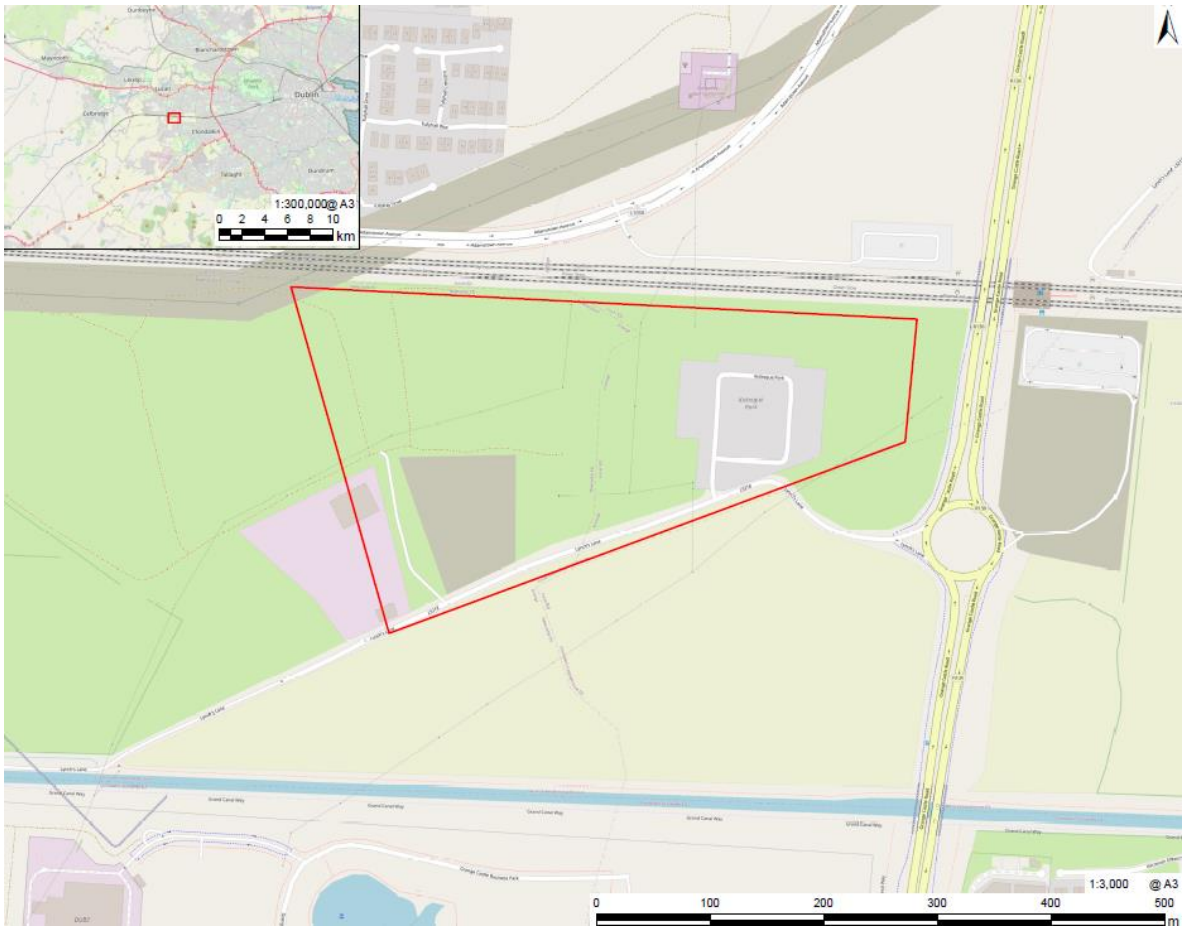

Figure 1: Site Location

3. Roles & Responsibilities

The Contractor shall employ a suitably experienced and qualified Construction Environmental Management Plan Co-ordinator (CEMPC) or Environmental Site Representative (ESR) to undertake co-ordination and implementation of the Contractor's CEMP, in respect of all environmental requirements. The CEMPC or ESR shall be present on-site whenever work is in progress.

The CEMPC/ESR shall be the point of contact for dealing with environmental issues for SDCC, the Contractor's employees, sub-contractors, relevant authorities/environmental bodies, and members of the public. The CEMPC/ESR will also be responsible for controlling the construction impacts arising from the activities of the Contractor and their sub-contractors in accordance with the CEMP.

The CEMP/ESR should be a Chartered Member (CEnv or CEcol) of the Chartered Institute of Ecology and Environment Management (CIEEM), the Institute of Environmental Management and Assessment (IEMA), Chartered Institution of Water and Environmental Management (CIWEM) or hold an equivalent professional qualification in the ecological and environmental field. Whilst the CEMPC/ESR may have specialist experience in one particular field, they shall also be experience generally, in wider aspects of ecology and environmental management.

A CEMPC/ESR shall be 'on call', available 24 hours per day and shall be aware at all times of activities being undertaken on site. They shall maintain a daily log, recording all environmental issues, events and dealings with third parties. The ESR(s) need not be as widely experienced as the CEMPC but shall be equally well qualified.

The CEMPC/ESR shall prepare, implement, manage, review and revise the versions of the CEMP with the sole purpose of ensuring that the environment is safeguarded at all times from anticipated or unexpected adverse impacts during construction.

Details of the proposed CEMPC/ESR shall be included within the CEMP. Should the Contractor wish to appoint an alternative member of staff to the role of CEMPC/ESR, details shall be submitted to SDCC for approval at least 28 days prior to the proposed date for the change in personnel and included within the CEMP.

In general, the duties of the CEMPC/ESR shall include the following:

- Implementation of the CEMP procedures;
- Routine environmental monitoring, recording and reporting;
- Maintaining and auditing the CEMP and documents that underpin it;
- Environmental training including daily toolbox talks to site staff and design staff; and
- Any other activities that may be necessary in order to protect wildlife and the environment during the works.

Some of the indicative key contractor team roles and responsibilities are set out below in.

Table 1. Key Contractor Team Roles and Responsibilities (Indicative)

Role	Responsibilities
Contractor's Project Director	• Assign specific environmental duties to competent member of the Contractor's Team. • Identify the environmental training needs of personnel under their control and arrange appropriate training programmes and ensure records are being maintained. • Ensure that significant environmental aspects identified for the proposed development are managed. • Promote the continual improvement of environmental performance.
CEMP Coordinator	• Develop, maintain and audit the CEMP (and supporting documents/plans) to ensure all aspects, impacts, statutory requirements and Environmental Statement commitments etc. are reflected in the Plan. • Develop and implement a programme of regular environmental inspections, monitoring, recording and reporting by the Environmental Site Representative(s) in accordance with procedures set out in the CEMP. • Ensure that the works are constructed in line with the CEMP. • Liaise with SDCC. • Attend regular construction meetings to ensure environmental issues are discussed and addressed by the Contractor's Team. • Comply with duties under relevant legislation and company procedures in relation to environmental incident investigation and reporting. • Provide support and training to the workforce with regard to understanding environmental aspects, impacts, regulatory requirements, best practice, constraints and methods of working. • Nominate the Environmental Site Representative(s). • Appoint environmental specialists as required. • Ensure identified environmental specialists are in attendance on-site as required by the CEMP. • Review non-conformance reports provided by the Environmental Site Representative(s) and/or SDCC's Environmental Advisors to identify any underlying issues or patterns to identify suitable ameliorative measures.
Environmental Site Representative(s)	• Provide an on-call 24hr resource as a first point of contact for environmental issues/incidents. • Complete programme of regular environmental inspections, monitoring, recording and reporting in accordance with the CEMP. • Provide direction on corrective action to be taken by the Site Manager in response to identified non-conformances. • Report all identified non-conformances separately to SDCC and the CEMPC. • Ensure that corrective actions are completed fully by the Site Manager. • Maintain daily records of environmental issues, events and consultations with third parties. • Ensure identified environmental specialists are in attendance on-site as required by the CEMP. • Maintain records of environmental awareness training/inductions delivered to site staff.
Contractor's Project Manager	• Ensure that the CEMP is produced, maintained and implemented and distributed to all relevant parties. • Monitor the completion of corrective actions by the Site Manager and take action as required to expedite completion. • Ensure that all personnel for whom they are responsible are aware of the CEMP and implement the relevant requirements. • Evaluate the competence of all sub-contractors and suppliers and ensure that they are made aware of and comply with the CEMP and associated procedures. • Establish a consultation and communication system with all relevant interested parties associated with the proposed development, including employees, partners, sub-contractors, designers and third parties, etc., where relevant.

Role	Responsibilities
Ecological Clerk of Works	• The ECoW shall hold a relevant degree in ecology and have appropriate relevant experience • Provision of specialist input and supervision (licensed or otherwise), where necessary, of construction in relation to protected species including roosting bats. • Training of construction staff regarding measures to protect nesting birds and roosting bats. • Attend site as required to monitor the protection of asset in accordance with the requirements of relevant legislation, the construction contract and the CEMP. • Identify potential risks to wildlife and develop suitable control measures. • Provide status reports and updates to the Environmental Site Representative(s) in the completion of their activities. • Liaison with the NPWS, SDCC and other nature conservation agencies on ecological matters where required.
Site Manager	• Ensure that all personnel undergo suitable and sufficient environmental induction before starting work, and periodic refresher environmental awareness training throughout the construction phase. • Ensure staffs attend the appropriate environmental courses that are organised by the Environmental Manger (CEMPC). Ensure the Environmental Manager is maintaining records of training delivered to site staff. • Monitor the performance of personnel and activities under their control and ensure arrangements are in place so that all personnel can work in a manner which minimises risks to them and to the environment. • Undertake a programme of regular environmental inspections in liaison with the Environmental Site Representative(s). • Provide resources and support to complete corrective actions identified by the Environmental Site Representative(s) and provide status reports as required to SDCC. • Assist and support the Environmental Manger (CEMPC) and statutory bodies in the investigation of any incidents. • Notify the Environmental Site Representative(s) of all environmental issues or incidents arising over the course of operations.

3.1 Awareness and Training

Environmental training should be provided to site construction personnel to inform them of their responsibilities and liabilities with reference to protection of water quality. Training should include office-based workshops prior to commencement of site works, site-based Toolbox talks prior to or during the works, or the use of notice boards in site offices to display important information.

All site personnel shall have a valid ‘Safe Pass’ card and follow the instructions set out in the Operational Health & Safety (OH&S) Management Plan. Training records (including toolbox talks) shall be retained and available for inspection upon request.

The Client is to appoint a Project Supervisor Construction Stage (PSCS) prior to any construction works taking place.

3.2 Interaction with Licensing and other Plans

The CEMPC/ESR shall oversee and advise the Contractor on compliance with additional requirements to the CEMP including licensing requirements, mitigation measures and monitoring requirements specified in documents including, but not limited to, the following:

- Air Quality Management Plan;
- Biodiversity Management Plan;
- Water Quality Management Plan;
- Noise and Vibration Management Plan;
- Construction Traffic Management Plan;
- Resource & Waste Management Plan;
- Invasive Species Management Plan;
- Landscape Management Plan.

4. Site Logistics

4.1 Construction Program & Phasing

The construction programme and any phasing proposals will be agreed with SDCC in advance of the construction stage commencing.

4.2 Working Hours/Periods

The Contractor will include in their CEMP working hours, which are to be in line with Council requirements and/or planning conditions and are to be agreed in advance with SDCC. It is envisaged that no works will be permitted during night-time, Sundays or bank holidays without prior written approval.

4.3 Site Housekeeping

Good housekeeping is an important part of good environmental practice and helps maintain a more efficient and safer site. The site should be tidy, secure, and have clear access routes that are well signposted. The appearance of a tidy, well-managed site can reduce the likelihood of theft, vandalism, complaints and/or specific hazards that could affect the safe operation of the other businesses in the area, such as access/egress of pedestrians from businesses.

In the fourth edition of the CIRIA C741 'Environmental Good Practice on Site Guide', when considering good housekeeping, the Contractor will implement the following steps:

- Adequately plan the site with designated areas of materials and waste storage;
- Segregate different types of waste as it is produced and arrange frequent removal;
- Keep the site tidy and clean;
- Ensure that no wind-blown litter or debris leaves the site, use covered skips to prevent wind-blown litter;
- Keep hoardings tidy – repair and repaint when necessary, removing any fly posting or graffiti;
- Frequently brush-clean wheel washing facilities;
- Keep roads free from dirt by using a road sweeper; and,
- Ensure site is secure, with appropriate fencing and hoardings.

The location of the site compound to be used by the Contractor is to be agreed with SDCC and other stakeholders prior to the works commencing. A plan of the site compound will clearly show construction site offices, staff facilities, parking areas, refuelling areas, waste storage and materials storage. The location of the compound should be removed by an appropriate distance from the trees to be retained and the existing hedgerows and water features on site.

5. Traffic Management

The Contractor shall prepare a Construction Traffic Management Plan (CTMP) ahead of works, which will set out preferred routes for construction vehicles.

If the works are to take place at off peak times sufficient on-site parking should be available for staff and visitors. If works are taking place at peak times or during times of high site attendance, off-site parking will be provided by the Contractor to avoid long term on-street parking by workers. Construction staff will also be encouraged to use public transport and information on local transportation will be published on site.

No works shall commence until such time that the CTMP has been approved by SDCC, the PSCS and PSDP. Details of anticipated vehicle volumes will be within this plan.

The Contractor and PSCS should be aware that the proposed works will be undertaken in an area comprising a number of existing residential premises. Therefore, the Contractor will be required to accommodate and make provision for access and egress to these premises at all times paying particular attention to the provision of pedestrian/disabled/cyclist safe access and egress also. The CTMP should include alternative routes for

pedestrians and vehicles in the event that public roads or right of ways are closed during works. The CTMP will include measures to limit the amount of queuing required by construction vehicles outside the site boundaries.

The Contractor should adhere to relevant guidance, including the following:

- Traffic Signs Manual Chapter 8: Temporary Traffic Measures and Sign Roadworks (2019);
- Temporary Traffic Management Design Guidance, Department of Transport (2019);
- Temporary Traffic Management Operations Guidance Part 0 & Part 1, Department of Transport (2019).

6. Environmental Impacts and Mitigation Requirements

6.1 Land, Soils, Geology, Hydrogeology, Hydrology

If material exported or excavated from the site is not properly managed or handled correctly it could impact on the water and soil environments. Groundwater can become contaminated with pollutants from the construction activities that take place on site and there is the potential for silt water to arise from any excavations, exposed ground, stockpiles, and access roads if the proper mitigation measures are not in place.

The proposed development site is located approximately 150m from the Grand Canal which eventually discharges into the River Liffey and then into Dublin Bay.

Based on geological mapping, it is not anticipated peat will be encountered beneath the site. However, if peat is encountered, a peat storage, handling and reinstatement management plan shall be prepared by the Contractor.

6.1.1 Water Quality Management Plan

The Contractor shall be responsible for developing a Water Quality Management Plan (WQMP) that relates to its construction activities. The WQMP should be included within the CEMP. The Plan shall apply to all works carried out by the Contractor and any sub-contractors under its control, and should be agreed between the Contractor, SDCC and relevant stakeholders.

The WQMP will also address licensing requirements, monitoring requirements, discharge points and maintenance requirements in relation to the management of surface water during the construction phase. Construction works will be undertaken in accordance with all relevant guidance, including the following:

- Inland Fisheries Ireland's Requirements for the Protection of Fisheries Habitat during Construction and Development Works. CIRIA (Construction Industry Research and Information Association) Guidance Documents.
- Control of water pollution from construction sites (C532).
- Control of water pollution from linear construction projects: Technical Guidance (C648). Control of water pollution from linear construction projects: Site Guide (C649).
- Environmental Good Practice on Site (C692).
- NRA Guidance Documents. Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes.

The WQMP should include specifics on the technical specification, installation, and maintenance of any pollution control tools used, as well as monitoring and sampling requirements. Any deviation from the agreed WQMP should be reviewed and agreed by all parties.

In terms of specific mitigation measures relating to sedimentation, the CEMP must include:

- Procedures for dewatering the site during construction works including licensing requirements, monitoring requirements, discharge points and maintenance requirements of any water treatment plants.
- Put in place measures that will minimise erosion by reducing disturbance and stabilising exposed materials.
- Consider and document, control measures to minimise the release of mobilised sediment which results, despite the erosion control measures.

- Preventing of silt pollution from the Project shall be carried out by minimising the generation of silt-laden runoff. This can be achieved by the Contractor carefully planning the site works so that activities likely to generate silt-laden runoff are carried out during drier weather and erosion of surface soils and excavations is controlled.
- Stockpiles will be kept to a minimum, to control erosion areas of exposed ground. Stockpiles shall be minimised to reduce silty runoff and located well away from watercourses, drains and dewatering points.
- Consideration shall be given to ground water level and ground saturation to prevent excessive overland flow and associated scouring and mobilisation of suspended solids. The area to be stripped shall be kept to a minimum and phased during the planning and construction phase to reduce the amount of land exposed.
- Mud shall be controlled at entry and exits to the site using wheel washes and/or road sweepers, and tools and plant must be washed out and cleaned in designated areas. Consideration of containment of wheel washings for treatment prior to discharge shall be given; and,
- A silt fence will be erected along the watercourse to prevent silt entering these watercourses.

These silt fences will include the following: -

- Geotextile fabric buried to a maximum of 100mm below the surface
- Overlapping any joins in the fabric
- Turning up on the ends for a length of 1 metre to prevent volumes of suspended solids escaping in a storm event.
- All exposed earth areas where it may be possible for runoff to transport silt down slopes shall be protected with a sediment and erosion control silt fence generally installed along the boundaries of the site.

Water quality measures set out in the Ecological Impact Assessment will also be included in the CEMP.

6.1.2 Refuelling and Storage Practices

Proper use and storage of oils, fuels and other materials shall include the following measures:

- Plant/machinery shall be re-fuelled at the site compound at the start of each working day and additionally as required (refuelling will take place at least 50m from watercourses). Drip-trays will be employed at the refuelling location within the compound, and the spill kit will be kept there for the duration of the contract and be checked daily if fit-for-purpose.
- The Contractor and ESR will inspect the refuelling area at the compound at least daily during operation of the compound to verify that drip-trays are being used consistently by site staff (and are being regularly emptied to a bowser).
- Refuelling of plant and machinery shall take place at least 50 m away from drains using a mobile fuel bowser and restricted to designated areas on hard standing. Only double bunded fuel bowsers shall be used. Vehicles must not be left unattended during refuelling operations, and drip trays must be placed under the fuelling point during fuelling.
- All fuel/oil storage areas shall be covered and bunded to 110% storage capacity.
- Drip trays will be used underneath mobile plant and drums whilst in use on site.
- There will be no stockpiling of excavated materials by watercourses, to avoid any runoff entering them. Stockpiles should also be located well away from drains to reduce silty runoff.
- Leaking or empty oil drums shall be removed from site immediately and disposed of via an appropriately licensed waste disposal contractor.
- All hazardous substances on-site shall be controlled within enclosed storage compounds that shall be fenced off and locked when not in use to prevent theft and vandalism.
- Care must be taken whilst using shuttering oils when preparing formwork. This requires operatives to be trained in the proper handling of materials, the sensitive nature of the wider drainage system, and the consequences of accidental spillage.
- Concrete mixing must be undertaken in designated impermeable areas, at least 10 m away from drainage points to reduce the risk of runoff entering a watercourse, or the sub-surface, or groundwater environment.

- Where dewatering is required during the construction phase, dirty water will be fully and appropriately attenuated, through silt bags, before being appropriately discharged to vegetation or surface water drainage feature.
- Welfare facilities will be provided for the contractors on site during the construction works. During construction, portable sanitary facilities will be provided with waste collected and disposed of appropriately.

6.2 Resources and Waste

An Outline Construction and Demolition Waste Management Plan (CDWMP) has been prepared for the project by AECOM[1]. The Contractor shall be responsible for developing the Resource & Waste Management Plan (RWMP) related to its construction activities. The RWMP shall apply to all works carried out by the Contractor and any sub-contractors under its control. In preparing the plan, the Contractor shall take into account any measures set out in any planning consent document, the relevant legislation, and industry best practice, to include the EPA's 2021 publication 'Best Practice Guidelines on the Preparation of Resource & Waste Management Plans for Construction and Demolition Projects'.

Certain uncontaminated materials (excavated from the site during the works which will primarily be concrete rubble and road surfacing) may be reused in the works, and therefore would not require removal from the site. In developing the RWMP, the Contractor shall consider the reuse of materials where practicable, where permitted under the relevant waste legislation, and where the material meets the engineering requirements.

6.2.1 Waste Identification & Classification

The Contractor shall establish a procedure to identify and classify all waste arising at the site in accordance with the European Waste Catalogue (EWC) Code. For each waste stream identified by the Contractor, and for each additional waste stream that may arise during the course of the works, the Contractor shall identify the following:

- The appropriate EWC Code;
- A suitable Waste Collection Contractor in possession of a valid Waste Collection Permit for the collection of the particular waste;
- The waste recovery or disposal site, including the transfer station where the waste may be transferred to upon leaving the site, in possession of a valid Waste Facility Permit or Waste License, as appropriate; and,
- The recovery or disposal method for the waste.

Only contractors in possession of a valid Waste Collection Permit shall collect wastes from the site. The Contractor responsible for the waste shall ensue that the Waste Collection Contractor:

- Is permitted to collect the particular waste;
- Uses a waste collection vehicle identified on the Waste Collection Permit; and,
- Transfers the waste to a waste facility identified on the Waste Collection Permit.

Prior to the commencement of the proposed development, the Contractor shall determine the quantity of waste expected to arise from its works, and SDCC or its representatives shall be advised accordingly.

The Contractor shall advise SDCC or its representatives in advance if it proposes to act as the Waste Collection Contractor, subject to agreement. In the event that the Contractor acts as the Waste Collection Contractor, it shall ensure that is has the relevant Waste Collection Permit(s) in place prior to commencement of the proposed development.

6.2.2 Management of Excavated Materials

Where the Contractor proposes to maximise the reuse of excavated material in order to minimise the generation of waste, it shall set out how it proposes to manage and document this reuse. This shall include the following:

- Identification and recording of the location from where the material was excavated;
- Delineation of areas where excavated materials is intended for reuse (where permitted); If unexpected obvious contamination is detected during the site works, works should immediately cease until this contamination is investigated.

[1] CLONBURRIS SDZ Phase 1. Outline Construction & Demolition Waste Management Plan. AECOM, 2022.

- Delineation of areas of contaminated and uncontaminated materials (if present);
- Sampling of excavated material (the number and location of samples);
- The proposal for the laboratory to carry out the testing;
- The suite of parameters for which the material is to be tested; and,
- The criteria for assessing whether the material is contaminated or uncontaminated.
- The Contractor shall establish controls necessary to manage the generation, handling and storage of waste at the site.

These controls may rely on the other Plans within the CEMP, for example the protection of stockpiles of material against rainwater ingress and leachate runoff, the bunding of hazardous waste storage areas containing liquids (e.g. oils, paints), and the management of waste collection vehicles both within the site and when leaving the site (dust and noise).

A Soil Management Plan should be developed or included in the RWMP for the site if excavated materials will include soil. This Plan would indicate waste soil classifications to enable the Contractor to identify appropriate disposal/transfer routes for proposed excavated material, based on the nature of the material i.e. made ground or natural soil.

Prior to the transfer of material from the site for export or to a specific waste permitted/licensed site, the appropriate waste classification data should be submitted to the permit/licence holder to confirm the suitability of the material in writing for the transfer to their facility.

In order to control off-site material movements and undertake appropriate waste disposal/recovery, a comprehensive docketing system should be detailed in the site RWMP and implemented on the site. A daily record (including preparing and reconciling waste transfer notes) of soil excavation at the site should be maintained by the Contractor.

A Waste Documentation System will be prepared by the Principal Contractor and included in their RWMP.

The Principal Contractor will be responsible for implementation and auditing the Waste Documentation System on a regular basis. The Client's Representative may also undertake verification auditing.

The documentation to be maintained, as a minimum, shall be the following:

- The names of the agent(s) and transporter(s) of the wastes;
- The name(s) of the person(s) responsible for the ultimate recycling, recovery or disposal of the wastes;
- The ultimate destination(s) of the wastes;
- Written confirmation of the acceptance and recovery, recycling or disposal of any waste consignments;
- The tonnages and LoW code for all waste materials;
- Details of any rejected waste consignments;
- Waste Transfer Forms (WTF) for hazardous wastes transferred from site and associated appendices;
- Completed Transfrontier Shipment Forms (TFS) for hazardous wastes transferred abroad;
- Written documentation of waste classifications, including any related analyses; and
- Certificates of Recycling, Recovery, Reuse or Disposal for all wastes transferred from the site.

All waste records will be maintained for at least a period of 3 years and must be subject to verification and validation.

All waste documentation will be maintained by the Principal Contractor and made available for inspection. This will be stored in a safe place, preferably on site, during the project implementation phase. Electronic records will be placed on a secure server that is backed up regularly.

Allowance of time and resources will be made to collate outstanding waste records once the project implementation phase has been completed. Plant and vehicles transporting soils and resources around the site, as well as to and from the site, should not be overfilled. This is to mitigate against spillages of materials onto roads and haul routes.

6.3 Air Quality

Fugitive emissions of airborne particulate matter are readily produced through the action of abrasive forces on materials and therefore a wide range of site preparation and construction activities have the potential to generate this type of emission, including:

- Earthworks, including the handling, working and storage of materials;
- Construction activities; and,
- The transfer of dust-making materials from the site onto the local road network.

Some of the general construction activities and the corresponding possible dust control measures are set out below in Table 2.

Table 2. Possible Dust Control Measures

Activity	Possible Dust Control Methods
Cutting of concrete and road surface	• Dampen material. • Ensure the cutting saw is fitted with a wet system. • Cover exposed area. • Ensure cutting only takes place within hoarding areas where possible.
Loading/Unloading	• Reduce drop heights wherever practicable. • Ensure activities take place within hoarding areas where possible.
Material Storage	• Dampen material. • Protect from wind and store under cover. • Screen material to remove dusty fractions prior to external storage.
Transport by vehicle within and off-site	• Restrict vehicle speed. • Water unsurfaced roads and paved roads. • Wheel or body wash at an appropriate distance within the site. • Minimise drop heights. • Sheet or cover loaded vehicles. • Use water sprays/spray curtains to moisten material. • Sweep/wash paved roads.

Air quality measurements should be taken within the site and surrounding air to ensure the particulate matter levels are in accordance with planning conditions.

6.4 Noise and Vibration

During the construction works the Contractor shall comply with relevant legislation and guidance including:

- BS 5228: 2009 Code of Practice for Noise and Vibration Control on Construction and Open Sites, Part 1 and Part 2.
- Safety, Health and Welfare at Work (General Application) Regulations 2007, Part 5 Noise and Vibration.

The development has the potential to increase noise levels at noise sensitive locations surrounding the site. With the impact from the construction phase depending on the number and type of equipment employed during the works.

BS 5228 standard document sets out the noise limits to be applied for the duration of infrastructure works, these limits will be agreed between The Contractor and SDCC during the post planning stage prior to any works commencing on site.

Any deviation from the threshold noise levels agreed with SDCC will generally only be allowed in exceptional circumstances and when prior written approval has been received from SDCC.

The Contractor will undertake vibration monitoring in line with best-practice guidance.

The Contractor will address noise and vibration in the CEMP, through measures such as the following where appropriate:

- Machines will be fitted with suitable silencers;

- Equipment is to be task-specific;
- Vehicle engines to be switched off when not in use;
- Acoustic screens will be deployed if required;
- Offsite fabrication, where possible;
- Site noticeboard clearly stating allowed working hours;
- Noise levels shall be monitored and where trigger levels are exceeded and/or complaints occur both the noise level and complaint shall be recorded and held on file;
- Contractors will highlight in their method statement and/or risk assessment specific activities that will create significant noise and vibration levels. In addition to this, Contractors will demonstrate how they will mitigate/mange these emissions;
- Neighbours will be informed in advance of the activities taking place, highlighting those which may be perceived as more intrusive;
- Contractors will endeavour to programme unavoidable noisy/vibrating activities in between periods that causes the least possible disruption/nuisance to local stakeholders.

6.5 Archaeology, Architecture and Cultural Heritage

A desk-based Archaeology and Cultural Heritage assessment[2] has been prepared by AECOM. This desk-based assessment predicted moderate to high potential for the presence of archaeological remains of the later prehistoric, early medieval, medieval and later periods to survive within the Proposed Development. There is the potential that unexpected archaeological remains of all periods may be discovered within the Proposed Development.

Previous land use may severely inhibit the efficacy of geophysical survey equipment and the usefulness of data produced. It is therefore expected that a geophysical survey would not be required.

The results of geotechnical trial pits will be reviewed at Phase 2 to understand the extent of previous ground disturbance especially within the western extent of the Proposed Development, and thus the likelihood of encountering previously undisturbed archaeological remains during future construction works within the Proposed Development Site.

Following interpretation of these results, and further consultation with the SDCC Heritage Officer, a staged programme of test trenching, excavation works and/or archaeological monitoring of groundworks may be required in order to record:

- archaeologically significant remains associated with known later prehistoric, early medieval, medieval and later remains in the study area;
- previously unknown archaeological remains identified during geotechnical works or evaluation trial trenching.

It is anticipated that the SDCC Heritage Officer and the National Monuments Service (NMS) will require that a programme of archaeological test trench evaluation be undertaken following vegetation clearance and well in advance of the main construction works as soon as the Proposed Development area is available, to assess the potential presence for below-ground archaeological remains within the Proposed Development area. Early consultation should be undertaken in order to determine the requirement for archaeological evaluation.

Following interpretation of the results of test trench evaluation, further consultation with the SDCC Heritage Officer and the NMS should be undertaken to determine any requirement for further archaeological mitigation, such as a detailed, targeted strip and map (excavation) or watching brief(s) on intrusive groundworks.

Any archaeological evaluation and mitigation works should be undertaken by a suitably qualified archaeologist working under licence in accordance with an archaeological Programme of Works that sets out the scope of work and is approved in advance by the SDCC Heritage Officer and the NMS.

6.6 Biodiversity

The Contractor will take due cognisance of reports and guidance, including but not limited to the following:

[2] Archaeology and Cultural Heritage. Desk-based Report. AECOM, 2022

- Guidelines for the Protection and Preservation of Trees, Hedgerows and Scrub Prior to, during and Post Construction of National Road Schemes.
- Ecological Impact Assessment, AECOM, 2022.

Invasive species have been identified on site during previous studies, in the form of Japanese Knotweed. The Contractor will require to agree with SDCC and implement an invasive species management strategy.

AECOM produced an Ecological Impact Assessment[3] for the Proposed Development, which sets out a number of mitigation measures with respect to ecology. These mitigation measures, along with any subsequent amendments, shall be incorporated into the Contractor's CEMP.

6.6.1 Standard Mitigation

The following are some of the standard mitigation measures which will be implemented throughout construction of the Proposed Development. These include provisions as per the Clonburris SDZ Biodiversity Management Plan and will serve to mitigate possible effects on a range of ecological features:

- an Ecological Clerk of Works (ECoW) will be appointed to ensure that ecological mitigation measures are implemented.
- all site personnel involved in the construction and operation of the Proposed Development will be made aware of the ecological features present and the mitigation measures and working procedures which must be adopted. This will be achieved as part of the site induction process through the delivery of a toolbox talk. In addition, briefings will be provided to all site personnel in advance of those works which are considered to present an increased risk of impacting upon ecological features.
- root protection zones will be established around retained trees, in accordance with the relevant guidance. These will be clearly demarcated, and no machinery will enter these areas, nor will any material be stored within them.
- standard measures for protected species and wildlife in general will be implemented, including:
  - a series of pre-construction walkover surveys will be undertaken by a suitably experienced ecologist to confirm that there is no change to the ecological baseline on Site as described in this Report.
  - sightings of protected or notable species within the Site or immediate surrounds during the construction period will be recorded. If any evidence or sightings of protected or notable species occur within 30 m of works, then works in that area will stop immediately and advice will be sought from the ECoW.
  - during the construction phase, any artificial lighting which is required (e.g. for security purposes) will be directed on to required areas and light spill will be minimised by the use of beam deflectors. Lighting will not be used such that there is light spill on to surrounding habitat which could be used by important species (e.g. by foraging or commuting bats).
  - any excavations will be left with a method of escape for any animal that may enter overnight, and will be checked at the start of each working day to ensure no animals are trapped within them.
  - any pipes will be capped or otherwise blocked at the end of each working day, or if left for extended periods of time, to ensure no animals become trapped.
  - as far as possible, construction works will be carried out in daylight (0800 to 1800 hours in general) to minimise the risk of disturbing protected species such as bats.
  - wherever possible, tree felling and vegetation removal works which will directly impact upon areas of vegetation which could be used by nesting birds will be undertaken outside the breeding season (taken to be March to August, inclusive). Where this cannot be achieved, a pre-works check for active nests will be conducted by a suitably experienced ornithologist. Each new construction / felling area will be checked not more than 72 hours prior to commencement of works, since nests can be quickly established. Where any active nests are identified, suitable exclusion zone(s) will be established and maintained until the ornithologist determines that the breeding attempt(s) have concluded.

6.6.2 Specific Mitigation

The Contractor shall refer to the Ecological Impact Assessment for specific mitigation measures and shall include these in their CEMP.

[3] Ecological Impact Assessment. Clonburris Phase One – Stage 1b. AECOM, 2022

6.6.3 Invasive Species

Invasive species have been identified on site during previous studies, in the form of Japanese Knotweed. The Contractor will require to agree with SDCC and implement an invasive species management strategy.

The Contractor will take due cognisance of reports and guidance, including but not limited to the following:

- TII (2010). Guidelines for the Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads.
- AECOM (2021). Invasive Species Management Options Report. Clonburris Phase One. Clonburris Strategic Zone Development, Co. Dublin.

7. Summary

This plan shall be further refined and expanded by the Contractor into a full Contractor CEMP as more information becomes available and more certainty in terms of the proposed layout, construction methods, programme and potential environmental impacts. The full Contractor CEMP will be prepared prior to commencement of construction and with the approval of SDCC.

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