

February
2019

ATKINS

Preliminary Construction Environmental Management Plan

Proposed N24 Tower Road Junction Improvement Scheme

Atkins Ireland Ltd
Piltown, Co. Kilkenny



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Title: Preliminary Construction Environmental Management Plan, Proposed N24 Tower Road Junction Improvement Scheme, Piltown, Co. Kilkenny

Job Number: E1479

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Revision Record

Issue No.	Date	Description	Remark	Prepared	Checked	Approved
00	25/01/19	Report	Draft	AF	DH	KK
01	04/02/19	Report	Review	AF	DH	KK
02	06/02/19	Report	Final	AF	DH	KK

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**Atkins Ireland Ltd
Piltown, Co. Kilkenny**

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1 INTRODUCTION

Malone O' Regan Environmental (MOR) were commissioned by Kilkenny City Council (KCC) to prepare a preliminary Construction Environmental Management Plan (pCEMP) for the proposed N24 Tower Road Junction Improvement Scheme on lands at Piltown, Co. Kilkenny (OS Reference S 449 225).

The location of the proposed Site ('the Site') is shown in Figure 1-1. A proposed Site layout drawing is presented in Appendix A.

Figure 1-1 Site Location



This preliminary plan outlines procedures and environmental management / best practice guidelines to minimise potential impacts on the receiving environment during the proposed works. These measures will be taken into account by the contractor in preparing and implementing the final CEMP for the duration of the proposed works to protect the receiving environment.

1.1 Scope and Objective

The key objective of this pCEMP is to ensure that all potential construction phase environmental impacts will be addressed in accordance with current legislative requirements and best practice guidelines. It will assist in the control of environmental risks that may arise during construction to ensure that these works do not result in an environmental incident, environmental damage or undue nuisance to the local environment.

This document contains a careful assessment of the likely risks on the Site, it outlines procedures for monitoring the effectiveness of the environmental protection measures and for the dissemination of information to all relevant personnel during the construction programme. In assessing risks to the environment on, and adjacent to the Site, full cognisance has been taken of:

- *CIRIA C741- Environmental Good Practice on Site (4th edition) (CIRIA, 2015);*
- *CIRIA C648 - Control of Water Pollution from Linear Construction Projects: Technical Guidance (CIRA, 2006); and,*
- *CIRIA C532 – Control of Water Pollution from Construction, Guidance for Consultants and Contractors (CIRIA, 2001).*

To scope of the pCEMP is:

- *Provide a method of documenting compliance with the Environmental Commitments / Environmental Management / Best Practice Guidelines;*
- *Ensure compliance with current legislation;*
- *Effectively minimise any potential adverse environmental effects during construction including how site specific method statements will be developed to avoid and minimise construction effects on the environment; and,*
- *Communicate key environmental obligations that apply to all contractor organisations, their sub-contractors and employees while carrying out any form of construction activity.*

This pCEMP will be used to inform the appointed Principal Contractor who will be required to prepare an updated and more detailed CEMP prior to the commencement of any on-site works. The final CEMP will be submitted to Kilkenny County Council in advance of any construction works commencing for their information and agreement.

1.2 Report Structure

This pCEMP has been drafted during the planning phase to ensure that the necessary measures become incorporated as the project progresses. The document is to be re-issued by the Contractor as the CEMP.

The adopted construction stage CEMP should be considered by the Principal Contractor as a 'living' document with reviews being undertaken at predetermined intervals and data added as appropriate. The measures identified in the CEMP should be:

- *Viewed as mandatory and common practice on-site; and,*
- *Embedded within the construction company's policies and site procedures, e.g. within an existing environmental management system framework.*

2 DESCRIPTION OF THE DEVELOPMENT

2.1 Overview of Site and Context

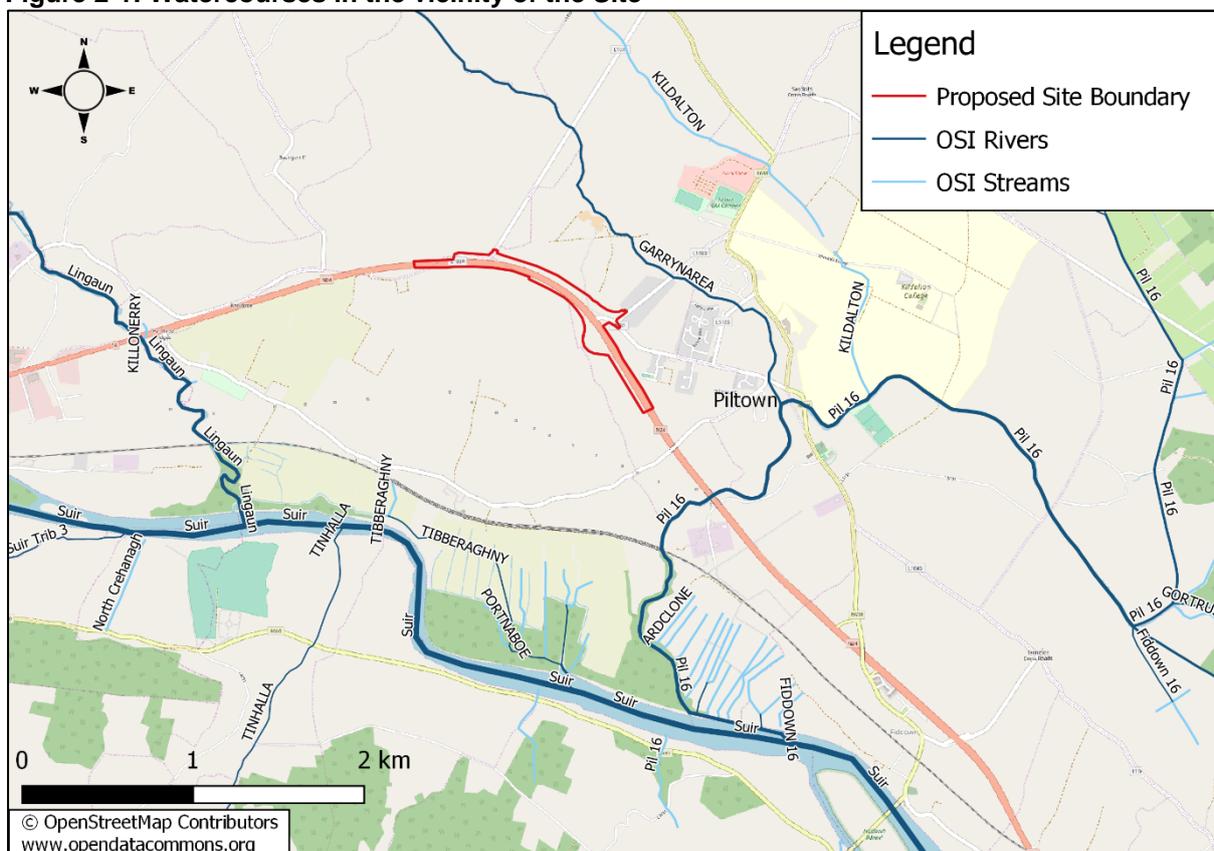
The Site, which is ca. 12ha in size, is located within Kilkenny County Council ca. 3.2km north east of Carrick-on-Suir, Co. Tipperary and 6.4km northwest of Portlaw, Co. Waterford. The Site is situated along the National N24 Road directly west of Piltown, Co. Kilkenny within a predominantly rural landscape (refer to Figure 1-1).

The Site is comprised of a section of the N24 National Primary Road, with associated hard shoulders, dry grassy verges, and connecting local road infrastructure including the L3432 Tower Road, L1038 and L1039. The Site includes the lands immediately surrounding the N24, which are comprised predominantly of agricultural fields. The majority of the fields comprise of grasslands, which at the time of the survey were being used for grazing livestock and are comprised of a short grass sward (See Appendix B for attached Habitat Map). Areas of scrub were also noted within the Site Boundary.

The Garrynarea River is located ca. 280m north east of the Site and is the nearest hydrological feature of note to the Site. The river flows in a south easterly direction and is a tributary of the River Pil_16, which it joins ca. 700m east of the Site. The River Pil 16, forms part of the Lower River Suir SAC and flows in a southerly direction for ca.2.1km before discharging into the River Suir.

The River Suir, which is a designated Special Area of Conservation (SAC) flows in a south easterly direction, and eventually discharges to Waterford Harbour ca.28km downstream of the Site. The location of key local surface water features are presented in Figure 2-1.

Figure 2-1: Watercourses in the vicinity of the Site



2.2 Project Description

The proposal scheme entails the improvement of the N24 National Primary Route between the N24 Junction with the LS5010 Garrynarea Road and the eastern leg of the R698 compact grade-separated junction at Fiddown.

As part of the works, it is proposed to:

- Closure of the Ink Bottle Junction;
- Provide a new compact grade-separated junction and associated overbridge at the Tower Road Junction;
- Create a new link road and roundabout at Tower Road Junction in order to facilitate the closure of the Ink Bottle;
- Provide provision of footpaths and cycle facilities at Tower Road Junction;
- Upgrade the current 2+1 N24 Road to two lanes in both directions on the N24 through the Tower Road Junction;
- Hard and soft landscaping;
- Installation of road markings and signage;
- Public lighting improvements;
- Development of a surface water drainage system; and,
- Accommodation works for land owners.

Full details of the proposed development are provided within the Planning Report which has been submitted as part of the planning submission to Kilkenny County Council. In addition, an Environmental Impact Assessment Screening Report, Appropriate Assessment Screening Report and preliminary Ecological Appraisal Report have also been prepared for the proposed works.

3 CONSTRUCTION SCHEDULE

3.1 Programme of Works

A programme for the works will be developed by the Appointed Contractor, details of which will be included in the CEMP.

The project will aim to commence construction in mid-2020 with the opening of the new junction in 2021/2022 permitting planning approvals. The construction phase is expected to last for a maximum period of 12 months. The construction phase is to involve the following stages:

- Pre-earthworks: fencing of study-area boundary, study-area clearance, topsoil strip;
- Earthworks: cut and fill, borrow to fill, cut to tip, capping;
- Drainage and Services: pre-earthworks, temporary earthworks, carriageway drainage, services and footpaths;
- Structures: foundations, sub-structures, superstructures, finishing;
- Carriageway: sub base construction, road base, wearing course, footpath construction; and,
- Finishings: traffic signs, road markings, safety fencing.

Normal construction hours will be restricted from 8am to 6pm Monday to Friday and 9am to 4pm on Saturday.

Generally, site work will not be permitted on Sundays, or at night-time except where safety concerns necessitate it, or if agreed in advance with the planning authority.

3.1.1 Construction Compound and Material Storage Areas

To ensure the efficient management of the construction works, a temporary construction compound and materials storage area will be set up for the duration of the construction works. The main contractors compound will be located within the Site on an area of hardstanding.

Facilities will be established to minimise risk to the environment and promote efficient use of resources. This will include:

- Temporary fencing will be erected to secure the Site compound and prevent unauthorised access onto the Site;
- Temporary welfare facilities and secure storage of equipment;
- Materials storage areas will be set up and managed;
- Waste segregation areas will be established utilising containers of an appropriate design to ensure that no waste can escape;
- All materials to be stored in compounds shall be stored in a manner that is safe and in line with industry best practice;
- Any potential harmful substances will be stored in accordance with the manufacturers' guidelines;
- The compound area will have sufficient space for parking of construction vehicles and workers private vehicles; and,
- Adequate warning signs will be on display to illustrate the required PPE and risks associated when entering the construction site.

4 ENVIRONMENTAL MANAGEMENT FRAMEWORK

4.1 Environmental Policy

The project will be carried out in accordance with the policies / objectives listed below:

- Kilkenny County Council's Environmental Policy and Procedures; and,
- During construction works, management of the project will also need to comply with the appointed Contractor's Environmental Policy and procedures.

4.2 Objectives and Targets

Environmental objectives for the construction phase will be developed and should refer to legal compliance and environmental good practice, these may include:

- Zero pollution incidents;
- Minimise disruption to residents (and their complaints);
- Reduce / avoid impacts on biodiversity; and,
- Minimise waste sent to landfill.

Procedures for monitoring construction processes against the project environmental objectives will be proposed by the Contractor and agreed with the Client Project Manager.

4.3 Structure and Responsibilities

A management structure that includes an organisational chart encompassing all staff responsible for environmental work is to be included within the CEMP. This will set out the respective roles and responsibilities with regard to the environment and identify the nominated Construction Environmental Manager. Illustrative key roles and responsibilities are set out in Table 4-1 below.

Table 4-1: Roles and Responsibilities

Role	Responsibility
Construction Manager (Appointed Contractor)	Responsible for management of the construction phase of the project. Has overall responsibility for the environmental performance of the project. Responsible for implementing the Site Waste Management Plan during the construction phase to ensure that waste is disposed of legally, economically and safely. Ensure compliance with environmental legislation, consents, objectives, targets and other environmental commitments, including those arising from the Environmental Statement.
Site Staff (Assigned by Appointed Contractor)	To receive general environmental awareness training, and undertake work in accordance with Method Statement Briefings and toolbox talks. Trained personnel to manage particular tasks such as refuelling plant and equipment, managing the stores, water quality monitoring and supervising the segregation and collection of waste.
Designer / Project Engineer (Malone O'Regan)	To provide information relevant to construction that may assist the Contractor to manage environmental aspects of the scheme and to ensure that the Contractor complies with all the relevant legal requirements, commitments and targets agreed for the scheme.

4.4 Communication

The CEMP will be distributed to the project team, including sub-contractors, to ensure that the environmental requirements are communicated effectively. Key activities and environmentally sensitive operations will also be briefed to staff and Contractors. Project, client and company environmental policies, where available, should be displayed on site.

The Contractor will define procedures for internal and external communication. The client may require that any communication with external parties such as environmental regulators or the public is undertaken through a nominated client representative.

During the construction phase, internal communication will include regular progress meetings, which should cover:

- Training undertaken;
- Progress reports;
- Inspections, audits and non-conformance;
- Complaints received;
- Visits by external bodies and the outcome or feedback from such visits;
- Objective / target achievement, including reporting on environmental performance; and,
- External communication, including letter drops or meetings, and liaison with statutory authorities will be overseen by the Client Project Manager.

5 ENVIRONMENTAL RISK ASSESSMENT

5.1 Risk Classification

The classification of the environmental risks, arising from the construction phase will follow the definitions of significance as outlined by the EPA for Environmental Impact Statements (EPA, 2015) as shown below in Table 5-1.

Table 5-1: Rating Magnitude of Impact

Magnitude of Impact	Importance / Sensitivity of Resource			
	High	Moderate	Low	Negligible
Large	Very Substantial	Substantial	Moderate	Slight
Medium	Substantial	Substantial	Moderate	Slight
Small	Moderate	Moderate	Slight	Slight
Negligible	Slight	Slight	Slight	Negligible

In addition to the assessment of risk arising from known sources, an assessment of risk for an unplanned event/incident on site were also assessed. These were rated as per the EPA 'Guidance on assessing and costing environmental liabilities', (Environmental Protection Agency, 2014). The methodology for the rating of likelihood and consequence are shown in Table 5-3 and Table 5-2.

Table 5-2: Rating of Likelihood of Risk Occurring

Rating	Likelihood	
	Category	Description
1	Trivial	Very low chance of hazard occurring
2	Low	Low chance of hazard occurring.
3	Medium	Medium chance of hazard occurring.
4	High	High chance of hazard occurring
5	Very High	Very high chance of hazard occurring.

Table 5-3: Rating of Consequence of Risk Occurring

Rating	Consequence	
	Category	Description
1	Trivial	No impact or negligible change to the environment.
2	Minor	Minor impact/localised or nuisance.
3	Moderate	Moderate impact to environment.
4	Major	Severe impact to the environment
5	Massive	Massive impact to a large area, irreversible in medium term.

5.2 Risk Identification / Assessment

In developing this pCEMP, the following aspects are considered relevant to the construction phase:

- The location of the Site in context of the surrounding area;
- The local road network;
- Local residences and businesses;
- The location of the Site in context of the on-site surface water and closest water bodies;

- *An increase in air and noise emissions during the construction stage; and,*
- *The biodiversity value of the Site and its surrounding habitats.*

The specific risks to the environment and methodologies to control these risks and pertinent site relevant factors to the construction area limiting these risks are outlined in Table 5-4. Likelihood of each of the risks occurring is related to the scope of the risk and the site specific conditions.

Additionally the following detailed Site specific plans will be completed by the appointed Principal Contractor, adhered to and incorporated into site works:

- *Construction Stage Method Statement; and,*
- *Final Construction Environmental Management Plan (CEMP).*

Table 5-4: Site Specific Environmental Risk Assessment

Project Element	Potential Hazard	Magnitude	Likelihood	Risk Management Procedure
1. Site Operations and Design	a. Potential nuisance towards public (out of hours activities).	Slight	Low	<ul style="list-style-type: none"> Normal construction hours will be restricted to 08:00 to 18:00 Monday to Friday and 08.00 to 16.00 on Saturdays, with the exception of essential activities to be carried out with approval by the planning authority.
	b. Traffic Incident on site resulting in a fuel spill.	Moderate	Low	<ul style="list-style-type: none"> Given the small scale of this project and the best practice measures which will be implemented a traffic management plan will not be required. Each vehicle will carry a Spill kit to be used in the unlikely event of a spill. Adequate signage shall be provided on the public network identifying the Site, access, speed limits etc.
2. Water Quality – Suspended Solids	a. Suspended sediment due to run-off from construction areas entering nearby watercourses causing potential detriment to water quality.	Moderate	Low	<ul style="list-style-type: none"> Standard measures to control run-off will be incorporated to the Method Statements, to include Construction Industry Research and Information Association (CIRIA) 2001 C532 – Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors; CIRIA 2006 C648 ‘Control of Water Pollution from Linear Construction Projects’; and CIRIA 2015 C741 Environmental Good Practice on Site (4th edition). Stockpiles of material will be maintained in low mounds within the contractors construction compound; Any build-up of solids and sediment within the Site will be prevented by sweeping / good housekeeping as required; Within the construction area, the ground stripped of existing cover / vegetation will be kept to the absolute minimum required for the works; and, Emergency Response Procedures will be put in place to enable trained response in the event of a spill by Site operatives.
3. Water Quality – Oil	a. Oil Spill to ground / surface water due to a spill from a container, vehicle incident, leak from site plant or vehicle or during refuelling. Could result in surface water, soil	Moderate	Low	<ul style="list-style-type: none"> All oil stored on site for construction vehicles will be kept in a locked and bunded area and the drainage or overflow from the bund will be stored in ‘UN’ marked barrels before disposal by a licence waste contractor in accordance with relevant waste legislation; All temporary construction fuel tanks will be located in a suitably bunded area (or on a mobile bund) and all tanks will be double skinned. In addition, oil absorbent materials will be kept on site in close proximity to any fuel storage tanks or bowsers during site development work;

Project Element	Potential Hazard	Magnitude	Likelihood	Risk Management Procedure
	and groundwater pollution.			<ul style="list-style-type: none"> All bunds will have a capacity of the largest tank volume plus 10 percent, at a minimum, with additional capacity to hold 30mm of rainfall; Steel tanks will be protected from corrosion; All drainage from bund area must be directed to secure containment prior to suitable disposal; All plant will be properly maintained, checked for oil leaks daily and fitted with drip-trays; Any vehicles requiring maintenance will be on an area of sealed hardstanding before any maintenance works commence; Fuel will be delivered on site by a dedicated tanker or in a delivery bowser dedicated to that purpose; All plant will be refuelled on Site on a designated area of sealed hardstanding; The Appointed Contactor will put in place a specific, step by step refuelling procedure which will be communicated to all relevant employees on-site, examples of which are contained; All valves should be of steel construction and the open and close positions should be clearly marked; No vehicle or equipment maintenance work will take place within the construction site; All pumps using fuel or containing oil will be locally and securely banded; and, Adequate spill kits including absorbent booms and other absorbent material will be maintained onsite.
4. Water Quality – Cement	a. Cement and/or Concrete entering waters resulting in water pollution and contamination to the environment.	Moderate	Low	<ul style="list-style-type: none"> Transport and placement of all materials containing cement will be strictly planned and supervised; All concrete pours will be planned to ensure that no inadvertent risks are posed during the event. Pouring events will be carefully supervised at all times and all form/work carefully checked for its structural integrity prior to accepting bulk liquid concrete; Shutters will be designed to prevent failure with additional support where the supervisor/engineer on site deem necessary. The supervisor/engineer onsite will take responsibility to ensure the shutter layout is sealed and fit for purpose prior to concrete pour;

Project Element	Potential Hazard	Magnitude	Likelihood	Risk Management Procedure
				<ul style="list-style-type: none"> Release agents/oil coatings will be applied to the shutters within the factory prior to delivery to site, these release agents will be biodegradable where possible; Where additional re-application of release agents is required, this will occur within a designated and prepared area on site to control any spills/run-off; Washing out of plant and equipment will take place in agreed wash-out areas; Any spillages will be cleaned up and disposed of correctly; and, Surplus concrete will be removed from the Site after completion of a pour.
5. Waste Management	a. Incorrect management of general Municipal Wastes / welfare facilities resulting in litter on site and/or attraction of rodents	Slight	Low	<ul style="list-style-type: none"> Waste collection bins/skips will be provided on site for use by employees and sub-contractors, which will be covered to prevent dispersion of material and littering; The siting of these bins/skips, to prevent rodent issues/wind toppling, will be the responsibility of the Appointed Contractor. The emptying of these bins/skips must be conducted by authorised waste contractors and done in a timely fashion to minimise attraction of rodents and odours. The Appointed Contractor will maintain a paper trail for waste collection and disposal for the works on site; Any municipal/general wastes generated on site will be the responsibility of The Appointed Contractor, and methods to clean up windblown materials on site will be arranged by the Appointed Contractor; No burning of waste will occur on-site; All waste will be managed in accordance with the relevant waste management regulations and a record of all waste loads will be maintained onsite; Waste areas will be covered to prevent airborne dust emissions and waste be wasted away; and, Regular walkovers of the site will be completed and any litter found will be immediately collected and placed in the appropriate containers.
	b. Discovery of contaminated soils/sub-soils	Slight	Low	<ul style="list-style-type: none"> In the event the Appointed Contractor discovers contaminated soils, all such soils will be assessed in the first instance by environmental consultants engaged by the Applicant, removed offsite by authorised waste contractors and transported to an authorised waste facilities for disposal/recovery.
6. Biodiversity Protection	a. Impacts on Fauna	Minor / Moderate	Moderate	<ul style="list-style-type: none"> An ecological clerk of works will inspect the Site in advance of works commencing and will undertake Site inspections as required during the works, to ensure that all of the works are completed in line with the CEMP.

Project Element	Potential Hazard	Magnitude	Likelihood	Risk Management Procedure
				<ul style="list-style-type: none"> Construction will be limited to daylight hours in order to minimise impacts on nocturnal fauna; In advance of works, all site personnel will receive a Site induction or toolbox talk which will include reference to measures detailed in the CEMP; and, If protected or notable species are encountered during operations at the Site, works should stop within the area that these animals are identified and the EcOW will be contacted for advice
	b. Impacts on Bats	Minor / Moderate	Moderate	<ul style="list-style-type: none"> The project ECoW will inspect the Site during any vegetation removal works and will visually inspect the trees following felling for the presence of bats. Should bats be found, the NPWS will be consulted; All trees that have been identified as having roosting bat potential and will require removal / management as part of the works will be surveyed for the presence of roosting bats by a suitably qualified ecologist in advance of any works. The management and removal of trees at the Site will be undertaken in a systematic way to ensure that retained trees / vegetation will not be damaged by the works. Protected species posters will be erected on the Site notice board and maintained throughout the duration of the works; and, Should construction works be required outside of daylight hours, the appointed project ECoW will be consulted as required.
	c. Impacts on nesting birds due to disturbance	Minor / Moderate	Minor	<ul style="list-style-type: none"> The removal of any vegetation should be scheduled outside of the nesting bird season (1st March to the 31st September). Should works take place within the nesting bird season (Taken to from the 1st of March till the 31st August) the Site will be subject to an inspection by the ECoW in advance if the works.
	d. Impacts on Badgers	Minor / Moderate	Moderate	<ul style="list-style-type: none"> Where deep excavations will be required on site, appropriate measures to protect mammals from ingress will be installed; If unidentified burrows are identified within the works area during construction, the project ECoW will be contacted for advice; Protected species posters for the above species will be erected on the Site notice board and be maintained throughout the duration of the works; and,

Project Element	Potential Hazard	Magnitude	Likelihood	Risk Management Procedure
	e. Introduction of invasive species to the site.	Moderate to major	Trivial	<ul style="list-style-type: none"> In advance of works, all site personnel will receive an induction which will include reference to protected species. Before machinery or equipment is unloaded at the Site, equipment will be visually inspected to ensure that all adherent material and debris has been removed; Any vehicles and machinery that are not clean will not be admitted to the Site; and, In advance of works, all site personnel will receive a toolbox talk with regards to invasive species. Everybody working on site must understand the role and authority of the ECoW in managing the issue of the non-native species.
7. Nuisance – Dust	a. Generation of ambient dust and mud/dirt on the roads.	Moderate	Low	<ul style="list-style-type: none"> All construction equipment will comply with Directive 88/77/EEC as amended by Directive 96/1/EC concerning measures to be taken against gaseous and particulate emissions from diesel engines; Vehicle speed restrictions should be imposed onsite and unpaved access roads; Gravel should be used at site exit points to remove caked on dirt from tyres and tracks; Dust extraction units will be attached on all chiselling machines or abrasive wheels used for operations that will produce dust; Earth stripping or movement shall not occur during periods of dry windy weather without additional dust suppression measures employed to prevent dust creation; All drivers will be required to check that their vehicle is free of dirt, stones and dust prior to departing the Site; Stockpiles of materials will be kept wet or covered to prevent dust emissions; A wheel wash should be installed before site exit; and, Further measures to control dust, should it arise, will be developed by the Appointed Contractor.
8. Nuisance – Noise	a. Generation of noise resulting in loss of amenity to the local area and cause disruption to the local species.	Slight	Medium	<ul style="list-style-type: none"> Noisy works will be restricted to the hours of 08:00 to 18:00 Monday to Friday and 08:00 to 16:00 on Saturdays with the exception of essential activities to be carried out; All plant items will comply with the European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations 1996;

Project Element	Potential Hazard	Magnitude	Likelihood	Risk Management Procedure
				<ul style="list-style-type: none"> All site plant will be selected with recognition of its sound power and vibration output; All noisy plant should be placed as far as practicable from noise sensitive locations; Shielding / enclosing of generators and compressors; Minimisation of drop heights of materials within loading shovel buckets to trailers; The appointed Principal Contractor shall be familiar with the guidance of BS5228 regarding the control of noise including the siting and construction of barriers and enclosures; and, On-site policy for all plant and equipment, including Site delivery vehicles, to power off rather than to be left with idling engines.
9. Greenhouse (GHG) Gases	a. Carbon emission to the environment.	Slight	Medium	<ul style="list-style-type: none"> Materials required for the construction, will be sourced locally as far as practically possible to minimise transport distances; and, Where site materials can be reused/recycled within the development, this will take precedence over importation of materials.
10. Archaeological Heritage	a. Loss of national / local heritage.	Medium	Trivial	<ul style="list-style-type: none"> Should any evidence of archaeological significance be discovered, construction works shall be halted until direction is received from the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs (DAHRRGA), up to and including redesign to enable preservation in-situ. A suitably qualified archaeologist will be engaged to advice.

6 EMERGENCY MANAGEMENT PLAN

Although the Site will be managed, there remains a low risk from the unexpected occurrences, such as accidental spillages onsite, that may result in environmental pollution. Incidents onsite will follow an emergency response template. This template is outlined in the schematic presented in Figure 6-1:

Figure 6-1: Site Incident Response



6.1 Incident Response

Where an environmental incident is identified it will be reported to the on-duty Site Foreman and thereafter the Employers Representative. Each incident will have the following information gathered and reported:

- Location of the incident;
- Time and date;
- Scale of the incident;
- Nature of the incident, including any specific environmental dangers;
- Remediation actions taken;
- Name of personnel noting the incident, and who they work for; and,
- Any other relevant details.

Works in the vicinity of the incident must be stopped until the incident is resolved and an all clear is issued by the Employers Representative. All personnel in the immediate area of the release/spill shall be alerted to the circumstances and any Health & Safety risks to personnel and risks to the environment.

The Employers Representative will ensure, where required, that the incident details are communicated to the relevant regulatory authorities.

7 MONITORING AND AUDITING

7.1 Complaints, Comments and Enquiries

Any complaint related to the Site will be dealt with by the Project Manager. The source of the complaint will be investigated immediately. If possible, the source of the complaint will be stopped, moved or modified immediately. All complaints must be recorded including details of the complaint and any required corrective actions.

7.2 Site Visits and Evaluation of Compliance

A preconstruction Site walkover by a suitably qualified environmental professional and ecologist will take place followed by additional Site visits as required. The aim of these visits will be to ensure compliance with procedures set out in the CEMP and environmental conditions established under planning. This will be done by means of a Site inspection and auditing of different aspects of the works including documentation. Checklists for compliance will be drawn up, corrective actions will be required for any non-compliances identified and follow-up surveys will be scheduled to ensure compliance.

All monitoring results and reports detailing the compliance or otherwise of the works will be maintained at the Site office. In the event of an incident, an incident report will be completed and that will document both the cause of the incident and the corrective action taken to address the incident. These incident forms will be available for inspection within the Site office.

7.3 Control of Records

Environmental records, including waste management records, will be maintained in accordance with the respective company procedure and legal requirements. The records are to be maintained, in either hard copy or electronic format as required by the individual procedure that the records relate to, in such a way that they are readily identifiable, retrievable and protected against damage, deterioration or loss. The procedure that the records relate to also specifies the retention time for the records and who has the authority to dispose of them.

8 IMPLEMENTATION REVIEW AND TRAINING

The Appointed Contractor will be responsible for developing an updated Site specific CEMP prior to commencement of Site works. The Site Manager will be responsible for ensuring compliance with the CEMP. Each sub-contractor will be responsible for appointing a point of contact for matters related to environmental protection.

Copies of the CEMP will be made available to all personnel on Site. All Site personnel and sub-contractors will be instructed about the objectives of the CEMP and informed of the responsibilities which fall upon them as a consequence of its provisions. All staff will be required to have the appropriate training and certification to undertake their specific roles.

All staff will receive environmental awareness training as part of their Site induction to ensure they are aware of their responsibilities under the CEMP. This will include:

- Site induction, including relevant environmental issues;
- Environmental posters and site notices;
- Method statement and risk assessment briefings;
- Toolbox talks, including instruction on incident response procedures; and,
- Key project specific environmental issues briefings.

Furthermore, the provision of an Environmental Induction Sheet informing them of the specific measures which have been put in place and that must be adhered to.

The CEMP will be reviewed on an as needed basis if the scope of works changes significantly or if the need is identified following a site audit.

8.1 Training Awareness and Competence

Site personnel shall be trained appropriately to ensure they are competent to perform tasks that have the potential to cause a significant environmental impact as part of the proposed development. Competence is defined in terms of appropriate education, training and experience.

All managers and supervisors will be briefed on the CEMP.

Method Statements will be prepared for specific activities prior to the works commencing and will include environmental management / best practice measures and emergency preparedness appropriate to the activity covered. The Construction Manager will review key Method Statements prior to their issue.

Method Statement briefings will be given before personnel carry out key activities for the first time.

9 CONCLUSIONS

This pCEMP document outlines the management procedures to enable the Appointed Contractor, to respond to potential environmental risks from construction activities on Site. The final CEMP will cover all aspects of the construction works.

In assessing risks on Site, full cognisance has been taken of best practice guidance including:

- CIRIA C741 Environmental Good Practice on Site (4th edition) (CIRIA, 2015);
- CIRIA C648 Control of Water Pollution from Linear Construction Projects (CIRA, 2006); and,
- CIRIA C532 Control of Water Pollution from Construction Sites (CIRIA, 2001).

The appointed Contractor will be required to develop an updated CEMP prior to the commencement of any construction works and this will be submitted to Kilkenny County Council for approval.

The implementation of all of the environmental management measures outlined in this pCEMP will ensure that the construction programme will be completed without significant adverse effects on the surrounding environment.

10 REFERENCES

- CIRIA. (2001). *C532 Control of Water Pollution from Construction, Guidance for Consultants and Contractors*. London: Construction Industry Research and Information Association.
- CIRIA. (2006). *C648 - Control of Water Pollution from Linear Construction Projects: Technical Guidance*. London: Construction Industry Research and Information Association.
- CIRIA. (2015). *C741 - Environmental Good Practice on Site (4th Edition)*. London: Construction Industry Research and Information Association.
- Environmental Protection Agency. (2014). *Guidance on assessing and costing environmental liabilities*. Dublin: EPA.
- EPA. (2015). *Revised Guidelines on the Information to be Contained in Environmental Impact Statements (Draft)*. Dublin: Environmental Protection Agency.
- EPA. (2017). *Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR)*. Wexford: Environmental Protection Agency.
- Inland Fisheries Ireland. (2016). *Guidance and Protection of Fisheries during Construction Works in an adjacent to Water*. Dublin: IFI.
- National Roads Authority. (2005). *Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes*. Dublin: National Roads Authority.

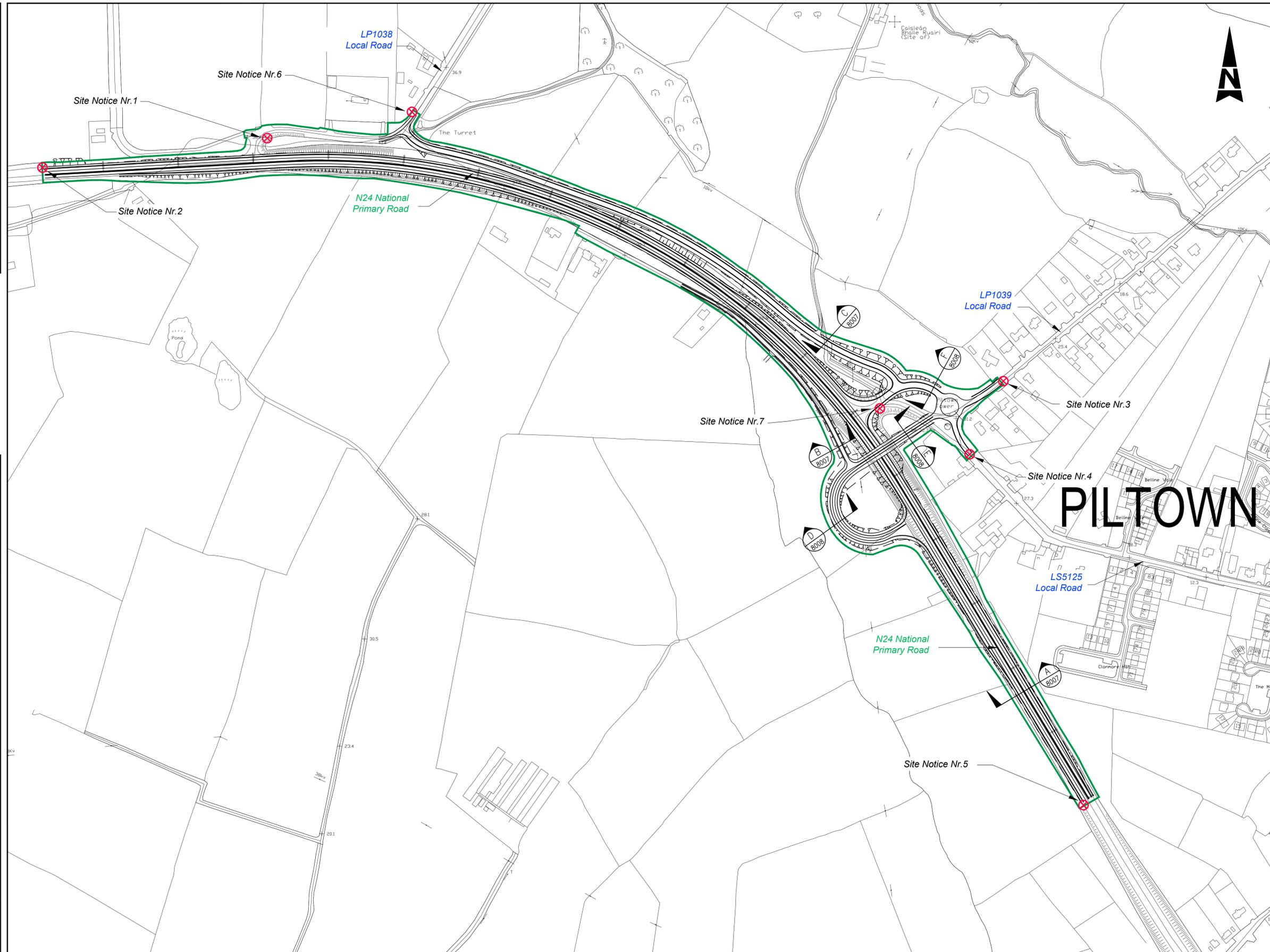
APPENDICES

APPENDIX A

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A1

DO NOT SCALE

File: 5165044-HTR-DR-8003.dwg
Date: Jan 31, 2019 - 6:05pm
Plotted by: aosullivan



GENERAL NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE
2. ONLY WRITTEN DIMENSIONS SHALL BE USED. NO DIMENSIONS SHALL BE SCALED FROM THE DRAWINGS
3. ALL LEVELS ARE IN METRES AND ARE TO MALIN HEAD DATUM
4. ALL COORDINATES ARE IN METRES AND ARE TO IRISH TRANSVERSE MERCATOR
5. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATION

LEGEND:

— PART 8 BOUNDARY

Purpose: **PART 8 PLANNING**

Title: **SITE LAYOUT PLAN**

Original Scale	Des/Drawn	RO'S	Checked	JR	Authorised	RAN
1:2500						
Date	Date	Date	Date	Date	Date	Date
18/12/18	18/12/18	21/12/18	21/12/18	21/12/18	21/12/18	21/12/18
Status	Drawing Number					
P	5165044 / HTR / DR / 8003					D

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PART 8 PLANNING



Kilkenny County Council,
County Hall, John Street,
Kilkenny R95 A39T

Rev	Description	By	Date	Chk'd	Auth
D	ISSUED FOR PART 8 PLANNING		01/19	JR	RAN
C	ISSUED FOR PART 8 PLANNING		01/19	JR	RAN
B	ISSUED FOR PART 8 PLANNING		01/19	JR	RAN
A	ISSUED FOR PART 8 PLANNING		01/19	JR	RAN
-	ISSUED FOR PART 8 PLANNING		01/19	JR	RAN

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Client: **KILKENNY COUNTY COUNCIL**

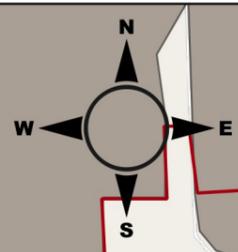
Project: **N24 TOWER ROAD JUNCTION IMPROVEMENT SCHEME**

Purpose: **PART 8 PLANNING**

Title: **SITE LAYOUT PLAN**

Original Scale	Des/Drawn	RO'S	Checked	JR	Authorised	RAN
1:2500						
Date	Date	Date	Date	Date	Date	Date
18/12/18	18/12/18	21/12/18	21/12/18	21/12/18	21/12/18	21/12/18
Status	Drawing Number					
P	5165044 / HTR / DR / 8003					D

APPENDIX B



Legend

- Proposed Site Boundary
- Surveyed Area
- BC1 - Arable Crop
- GA1 - Agricultural Grassland
- GS2 - Grassy Verges
- WS1 - Scrub
- WS2 - Immature Woodland
- WL1 - Hedgerow
- WL2 - Treeline
- WL1 / WL2 - Hedge / Treeline
- FW4 - Drainage Ditch
- Mammal Run
- Fence
- TN1 / TN1A - Bat Potential
- TN2 - Badger Scat
- TN3 - Mammal Hole

