FARGANSTOWN SOCIAL HOUSING

Outline Construction Environmental Management Plan (OCEMP)

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Farganstown Social Housing
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1 INTRODUCTION

This Outline Construction Environmental Management Plan (OCEMP) has been prepared for the proposed Farganstown Social Housing development, Farganstown, Navan, Co. Meath.

This OCEMP supports the following elements as outlined below.

Chapter 2 includes a project description;

Chapter 3 provides an overview of the environment related roles and responsibilities;

Chapter 4 outlines mitigation measures required for each of the environmental disciplines;

Chapter 5 outlines the required monitoring and auditing associated with the OCEMP; and

Chapter 6 provides an overarching conclusion to this OCEMP.

NOTE: This report is a preliminary plan written by RPS and will be subject to detailed development by the main contractor on appointment. It sets out likely and anticipated construction methodology which will be developed by a main contractor prior to commencement of construction on site.

1.1 CEMP Objectives

The key performance objective of this OCEMP is to ensure compliance with all environmental legislation and approvals, including minimising pollution and waste generation and minimising environmental impacts.

Implementation of the objectives of this OCEMP will be achieved by the Contractor adhering to his Contract Obligations and being familiar with the following reports and guidance documents:

- Screening for AA prepared for the project;
- Planning approval from local / competent authorities and any conditions contained therein;
- Environmental Good Practice on Site (second edition) CIRIA C650;
- Fishery Guidelines for Local Authority Works, Department of The Marine and Natural Resources Leeson Lane Dublin 2, Published 1998; and
- Control of Water Pollution from Linear Construction Projects Technical Guidance CIRIA 2006.

These reports and associated guidance documents should be referenced and will inform the appointed contractor when preparing and developing the CEMP for this project.

This document is an Outline CEMP developed to inform the appointed contractor of the environmental control measures and commitments associated with the proposed social housing development at Farganstown. The RPS design intent is for this document to form part of a future construction stage tender package. The CEMP prepared by the appointed contractor will further develop the Environmental Management, Mitigation and Monitoring measures presented in this Outline CEMP.

2 PROJECT DESCRIPTION

The proposed development consists of the construction of 84 social housing units, including the provision of associated car park spaces, new entrance onto a consented, but yet to be constructed, Local Distributor Road (LDR), landscaping, lighting, and all associated development works. This new road is known as LDR-6 (R153 to Boyne Road).

The proposed development is located north of Old Road, Farganstown, Navan, Co. Meath, and measures c. 1.7 hectares. The proposed development is bounded by agricultural land and small watercourses to the south and east, and a new road development (LDR6) to the north and east.

The proposed development is dependent on the construction of the Local Infrastructure Housing Activation Fund (LIHAF) LDR6, linking the R153 with the Boyne Road. If this distributor road is not constructed, the proposed development will not be possible, due to the landlocked nature of the proposed development site, for both access and services (e.g. foul water system).

The main infrastructural elements to be included in the proposed development comprise the following:

1. construction of 84 units comprising 34 no. one-bedroom apartments, 38 no. two-bedroom apartments, 2 no. three-bedroom houses, 6 no. three-bedroom houses and 4 no. four-bedroom houses;
2. provision of 131 no. car park spaces;
3. internal roads and hardstanding;
4. the construction of 1 no. new vehicular entrance onto a consented LDR6;
5. landscaping, including planting;
6. 0.34 ha open space;
7. watercourse exclusion wall (anticipated to comprise sheet piling c. 1 m from watercourse bank);
8. lighting; and
9. all associated development works.

The construction duration is likely to be in the order of 12 months to be confirmed at tender stage by the successful contractor's tender return. The 84 units comprise 2 apartment blocks (both four storeys high), 1 terrace of 3 storey duplex units with the remaining units comprising semi-detached 2 storey houses.

Subject to confirmation by intrusive site investigation the substructure to all buildings is likely to comprise traditional reinforced concrete strip foundations founded on the competent clay bearing stratum at 2 to 2.5m below existing ground level. We anticipate ground floor construction comprising a ground bearing concrete slab laid on well compacted hardcore.

The apartment construction is likely to comprise loadbearing masonry walls with precast floor units. Duplex construction is likely to comprise loadbearing masonry with timber ecojoist flooring (at second floor within dwelllings) and the separating suspended first floor between dwellings units comprising precast concrete for fire and acoustic reasons. The semi-detached house construction will comprise traditional masonry walls with suspended timber first floor and traditional timber truss roofing.

3 ENVIRONMENTAL MANAGEMENT

It is essential that all personnel associated with the proposed project comply with the requirements of all applicable environmental legislation, regulations, planning consents and conditions, codes of practice and standards. An outline of the project personnel, and their anticipated environmental responsibilities, is provided in this section.

3.1 Roles and Responsibilities

MCC and/or any Contractor appointed by MCC shall appoint a suitably qualified person, or persons, to the roles of Environmental Clerk of Works (EnCoW) and Ecologist/Invasive Species Specialist to monitor the construction works. The EnCoW shall work closely with the MCC/Contractor's site supervisors to monitor activities and ensure that all relevant environmental legislation is complied with and that the requirements of the detailed CEMP are implemented. The EnCoW will have the authority to review method statements, oversee works and instruct action, as appropriate, including the authority to require the temporary cessation of works, where necessary.

The EnCoW/Ecologist/Invasive Species Specialist shall be familiar with and carry out the following duties:

- Be familiar with the contract documents and in particular be aware of all Environmental Commitments, Controls and Mitigation Measures;
- Be familiar with all relevant environmental legislation and ensure compliance with same;
- Liaise with all site management as required including the Employer's Site Representative Staff and establish and maintain close working relationship with the Employer's Site Representative;
- Undertake routine site inspections and monitoring of mitigation measures, in accordance with the CEMP, Method Statement (MS) and other guidance documents and based on professional judgement;
- Conduct site specific environmental awareness training, as required;
- Investigate and report on any environmental incidents and ensure that appropriate action is taken;
- Complete environmental checklists;
- Undertake environmental monitoring requirements as required by approvals, licenses and permits;
- Prepare Environmental Operating Plan and ensure same is updated on a regular scheduled basis.
- Liaise and meet on site with the environmental statutory bodies as required;
- Provide toolbox talks at project inception and during the project, as required;
- Be present to monitor works in sensitive areas; e.g. works in proximity to or potentially supporting connectivity with watercourses or waterbodies; and
- Maintain a register indicating whether all mitigation measures have been carried out satisfactorily.

In addition, the Ecologist and Invasive Species Specialist shall:

- Be suitable qualified and experienced, with Chartership and/or full membership of an appropriate professional body, e.g. the Chartered institute of Ecology and Environmental Management (CIEEM);

All other personnel shall:

- Be aware of all Environmental Commitments, Controls and Mitigation Measures;
- Implement the Health and Safety and Environmental Protection Measures and Controls on site;
- Express their duty of care to do all that is reasonable and practicable to minimise the risk of environmental harm;

- Comply with the relevant Acts, Regulations, Codes of Practice and Standards and the approvals or limits imposed by such Acts, permits and approvals;
- Follow the instructions of the Contractor's Management Staff and the EnCoW/Ecologist/Invasive Species Specialist in relation to environmental requirements;
- Promptly report to management any risks of non-conformances and/or breaches of the plans, procedures or systems; and
- Participate in awareness training as directed by management.

3.2 Environmental Awareness and Training

All personnel on site, including Contractor's own staff, Employer's Site Representative Staff and sub-contractors, will received a Health and Safety Induction before being allowed on site. All Health and Safety Training will be in accordance with the relevant legislation and with the Contractor's Health and Safety Policies and management systems.

Environmental requirements will be explained to staff during a site induction to be held prior to beginning of construction activities. Additionally, ongoing instruction will be provided during 'toolbox' meetings, where project issues are discussed. The meetings are usually held at or near project site, on the morning before work begins. Important information and instructions discussed during the meeting would be recorded.

Project personnel will receive suitable environmental training to ensure they are aware of their responsibilities and are competent to carry out their work in an environmentally acceptable manner. This training will include:

- Promoting awareness of site-specific environmental topics;
- Reporting responsibilities for environmental incidents;
- Contingency and emergency planning;
- Environmental responsibilities and reporting procedures;
- Environmental policies; and
- Information within the CEMP and associated method statements including significant project aspects, impacts and controls.

3.3 Environmental Commitments

The appointed contractor will be responsible for preparing and maintaining the Environmental Policy and the Environmental Commitments for the proposed project during its construction phase. The policy will be appropriate to the project and will comply with legal requirements and provide a framework for environmental objectives and associated targets. Environmental commitments associated with the project will be communicated to all site staff as part of site inductions and ongoing toolbox talks.

4 ENVIRONMENTAL MANAGEMENT MEASURES

The following sections set out measures required to protect and eliminate the potential for significant impact to the environment. These shall be carried out together with any relevant guidance documents and legislative requirements.

4.1 Construction Compound

In accordance with normal construction practice the entire site boundary will be fenced off to prevent unauthorised access. Site offices will be provided within the site boundary. Appropriate segregation will be employed on site to separate pedestrians form heavy equipment. Fenced off pedestrian walkways will be provided close to the site offices.

4.2 Dust, Noise and Vibration Management

Appropriate Air Quality and Dust monitoring will be carried out on a regular basis in accordance with the planning conditions and records will be kept of all such monitoring for review by the Planning Authority

Noise monitoring will be carried out in accordance with any MCC planning consent and also in accordance with Safety, Health and Welfare at Work (Construction) Regulations 2013 and the Safety, Health and Welfare at Work Act 2005, BS 6187:2011 - Code of Practice for Full & Partial Demolition, BS 5228:2009 Code of Practice for Noise & Vibration Control on Construction & Open Sites, Environmental Protection Agency Act 1992.

Vibration monitoring will be carried out in accordance with BS 5228-1, 2009, Code of Practice for Noise & Vibration Control on Construction & Open Sites.

4.3 Traffic Management

The project tender documentation will require the main contractor to prepare and submit a detailed construction stage traffic management plan. MCC may choose to stipulate same as a planning condition. The purpose of this plan is to minimise the impact construction traffic has on the surrounding road infrastructure.

4.2 Waste Management

The project tender documentation will require the contractor to prepare and submit a detailed construction stage waste management plan in strict compliance with all applicable legislation.

4.3 Biodiversity Management

In order to comply with relevant guidance (e.g. NRA 2005, 2006, 2008) and legal requirements (e.g. Wildlife Act 1976 (as amended), EU Habitats Directive, and EU Birds Directive), a pre-construction and during construction protected biodiversity (protected flora and fauna, and their habitats) measures shall be implemented.

4.3.1 Pre-construction

Pre-construction, MCC and/or any Contractor appointed by MCC, must ensure that:

- A pre-construction biodiversity walkover survey (carried out by a suitable qualified ecologist in the optimal season (see NRA, 2008) shall be carried out no more than 10-12 months in advance of construction activities;

  - Any measures identified during the pre-construction biodiversity walkover survey (e.g. root protection areas for tree, standoff areas from badger setts, and requirements for derogation licences) shall be fully implemented pre-construction.

- No clearance or removal of vegetation shall occur during the bird breeding season (1st March to 31st August, inclusive). If clearance of vegetation is required within the bird nesting season, consultation with a suitable qualified ecologist is required, and a licence from the Wildlife Licencing Unit of the National Parks and Wildlife Service (Department of Culture, Heritage and the Gaeltacht), may be required.

4.3.2 During construction

During construction, MCC and/or any Contractor appointed by MCC, must ensure that:

- Any measures implemented as a result of the pre-construction biodiversity walkover survey (e.g. root protection areas for tree, standoff areas from badger setts, requirements for derogation licences) shall be fully maintained during construction;
- No clearance or removal of vegetation shall occur during the bird breeding season (1st March to 31st August, inclusive). If clearance of vegetation is required within the bird nesting season, consultation with a suitable qualified ecologist is required, and a licence from the Wildlife Licencing Unit of the National Parks and Wildlife Service (Department of Culture, Heritage and the Gaeltacht), may be required.
- If protect flora and/or fauna are encountered during the construction, works will immediately be stopped, and the site manager will be informed. A suitable qualified ecologist will be contacted to provide advice on how to proceed.

4.4 Surface Water and Soil Management

The construction works shall be undertaken within a framework of environmental protection practices defined and co-ordinated via a detailed CEMP. The CEMP shall provide measures that meet legislative requirements, and key regulatory guidance that define working practices during construction, most notably the CIRIA guidance for the *Control of Water Pollution from Construction Sites* (CIRIA, 2001).

Two unnamed watercourses have been identified adjoining the southern and western boundary of the proposed development. It is reiterated here that no in-stream work shall take during the construction of the proposed development.

4.4.1 Pre-construction

4.4.1.1 Establish Silt Fencing

Pre-construction, MCC and/or any Contractor appointed by MCC, must ensure that:

- All silt fencing is to a specification equivalent to Hytex Terrastop™ premium standard (e.g. 180 µm; 45 l/m^2/sec);
- Installation of a single layer of silt fencing, along the entire stretch of the unnamed watercourses (to include required overlaps) adjoining the southern and western boundaries of the proposed development;
- Site fencing will be installed following the manufacturers' specifications;
- All silt fencing will have regard for the following criteria, where (Caraco, 2002):
  - The slope and contributing length of slope/works area will be
    - For 5% to 10% slopes: No more than 15 m;
    - For 10% to 20% slopes: No more than 7.5 m; and,
    - For > 20% slopes: No more than 6 m.

  - Silt fencing must be aligned parallel to the slope contours;
  - Silt fencing edges must be curved uphill, preventing flow from bypassing the fence;
  - The contributing length of the works areas must not be greater than 30 m;
  - Spacing between posts must not be greater than 2.5 m;
  - Silt fencing must not receive concentrated flow without reinforcement;
  - Silt fencing must not be installed below an outlet pipe or weir;
  - Silt fencing must not be installed upslope of the works area; and,
  - Silt fencing installation must consider construction traffic requirements.
- The proposed layout and final installation of all silt fencing will be approved by the EnCoW/Ecologist.

4.4.2 During Construction

4.4.2.1 Maintaining Silt Fencing

During construction, MCC and/or any Contractor appointed by MCC, must ensure that:

- Staff respond to recommendations of the Ecologist, regarding repairs or improvements to silt fencing;
- Inspection of silt fences immediately after each rainfall event and at least daily during prolonged rainfall, is carried out;
- Correction of any deficiencies is completed immediately (following manufacturers' specifications), if necessary replacing ineffective silt fencing;
- Removal sediment deposits is completed when the accumulation reaches one third of the height of the exposed fence (in a manner compliant with waste legislation, and without causing a siltation risk); and
- A decommissioning procedure for the silt fencing removal will include disposal of any excess sediment in accordance with relevant waste legislation and ensuring no siltation risk to watercourses.

4.4.2.2 Materials Management

During construction, MCC and/or any Contractor appointed by MCC, must ensure that:

- Topsoil shall be:
  - striped to an average depth of 300mm over the whole site area bounded by the temporary fencing;
  - maintained in a tidy condition, separate from general spoil, with side slopes not steeper than 1 in 3;
  - maintained in good condition keeping weeds under control and preventing vermin infestation.
- Stockpiling of construction materials shall be strictly prohibited within 5 m of any watercourse or water-laden channel, and appropriate management of excess material stockpiles will be enforced, to prevent siltation of watercourses;
- Excavations shall be left open for minimal periods to avoid acting as a conduit for surface water flows;
- All ready-mixed concrete shall be brought to site by truck. A suitable risk assessment for wet concreting will be completed prior to works being carried out which will include measures to prevent discharge of alkaline waste waters or contaminated storm water to the underlying subsoil. Wash down and washout of concrete transporting vehicles will take place at an appropriate facility offsite;
- Concrete shall be contained and managed appropriately to prevent pollution of watercourses. Concrete pouring will be prevented during periods of heavy rainfall, and quick setting mixes will be used;

- Waste materials shall be stored in designated areas that are isolated from surface water drains. Skips will be closed or covered to prevent materials being blown or washed away and to reduce the likelihood of contaminated water leakage;
- Temporary construction compounds shall not be located within 20 m of watercourses, or where it is likely that groundwater will be encountered;
- No harmful materials shall be deposited into nearby watercourses, including drainage ditches/pipes, on or adjacent to the site; and
- Any dewatering of standing water within the proposed development site (e.g. water accumulated in excavations) shall require a Dewatering Plan to be incorporated. The Dewatering Plan will be agreed with eth EnCoW/Ecologist before implementation, and include a commitment to dewatering, following suitable attenuation, at a rate equivalent to greenfield run-off (to be established);

4.4.2.3 Hydrocarbon Management

During construction, MCC and/or any Contractor appointed by MCC, must ensure that:

- Protection measures shall be put in place to ensure that all hydrocarbons used during the Construction are appropriately handled, stored and disposed of in accordance with recognised standards. These measures will include:
  - Hazardous materials including diesel, fuel oils, solvents, paints and/or lubricants stored on site will be stored within suitably designed bunded areas with a bund volume of 110% of the capacity of the largest tank/container.
  - Re-fuelling of plant will not occur within 50 m of any watercourse or surface water/groundwater feature. Drip trays will be used and spill kits will be kept available;
  - Machinery used on site will be regularly inspected to ensure there is no leakage from them and to ensure the machinery will not cause contamination of watercourses;
  - Where required, fuel will be transported in a mobile, double skinned tank and a spill tray will be used when refuelling (if taking place outside a compound area);
  - Waste oils and hydraulic fluids will be collected in leak-proof containers and removed from the site for disposal or re-cycling;
  - Only emergency breakdown maintenance will be carried out on site. Emergency procedures and spillage kits will be readily available at strategic site locations and construction staff will be familiar with emergency procedures; and
  - Any spillage of fuels, lubricants of hydraulic oils will be immediately contained, with an appropriate emergent response put in place. Any contaminated soil will be removed from the site and properly disposed of.

4.5 Invasive Species Management

The presence of invasive alien plant species has the potential to lead to an offence under the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011). Regulation 49 of the 2011 Regulations prohibits (unless under licence) the breeding, release, or allowing or causing the dispersal from confinement of any animal listed in the Third Schedule of the Regulations; or the planting, allowing or causing dispersal, and spreading of any plant listed in the Third Schedule.

It is an offence to plant or encourage the spread of any third schedule invasive species by moving contaminated soil from one place to another, or incorrectly handling and transporting contaminated material or plant cuttings. Persons must therefore take all reasonable steps and exercise due diligence to avoid committing an offence under the 2011 Regulations (as amended).

Scheduled invasive plants are known to grow within the zone of influence of the proposed development site. There is potential for these species to enter and spread throughout the proposed development site during construction.

4.5.1 Pre-construction

Pre-construction, MCC and/or any Contractor appointed by MCC, must ensure that:

- A pre-construction survey (carried out by a suitable qualified ecologist/invasive species specialist in the correct botanical season: e.g. April - September) shall be carried out in advance of construction activities;
- An Invasive Species Management Plan (ISMP) shall be prepared by a suitable qualified ecologist/invasive species specialist pre-construction. The ISPM will include management protocols for dealing with occurrences of scheduled invasive species;
- Where a scheduled invasive species is accidentally introduced or becomes established within the proposed development site during pre-construction surveys and/or the construction phase, works shall be immediately halted and an effective exclusion zone will be erected (minimum 7 m) until such time that a suitably qualified ecologist/invasive species specialist can assess the site(s), and implement the required management protocol (as set out in the ISMP).

4.5.2 During Construction

During construction, MCC and/or any Contractor appointed by MCC, must ensure that:

- An Invasive Species Management Plan (ISMP) shall be prepared by a suitable qualified ecologist/invasive species specialist pre-construction. The ISPM will include management protocols for dealing with occurrences of scheduled invasive species;
- All machinery entering the site during construction activities shall be free from contamination with scheduled invasive plants. This can be achieved through wheel wash stations for vehicles entering and exiting the proposed development site;
- The materials which are introduced to the site during the construction shall be free from scheduled invasive species, with certification of such; and
- Where a scheduled invasive species is accidentally introduced or becomes established within the proposed development site during pre-construction surveys and/or the construction phase, works shall be immediately halted and an effective exclusion zone will be erected (minimum 7 m) until such time that a suitably qualified ecologist/invasive species specialist can assess the site(s), and implement the required management protocol (as set out in the ISMP).

4.6 Emergency Response and Environmental Training

MCC and/or any Contractor appointed by MCC, shall produce an Emergency Response Plan (ERP) which will be included in the detailed CEMP. The ERP will include:

- MCC/Contractor’s proposed training of relevant staff, including cover staff, in the implementation of the ERP and the use of spill kits;
- A method for which all MCC, and/or any Contractor appointed by MCC, will ensure that all personnel working on site are trained in pollution incident control response. A regular review of weather forecasts of heavy rainfall is required, and MCC/Contractor is required to prepare a contingency plan for before and after such events;

- The details of procedures to be undertaken by MCC/Contractor in the event of the release of any sediment into a watercourse, or any spillage of chemicals, fuel or other hazardous wastes or other such risks that could lead to a pollution incident, including flood risks;
- A confirmation of the number and specification of spill kits which shall be carried by the MCC/Contractor, as a minimum; and
- Information on clean-up procedures to include the following:
  - MCC/Contractor will immediately initiate appropriate clean-up operations and notify the site manager and environmental team/specialist of any sediment releases, hydrocarbon leakages or spillages during the construction activities;
  - MCC/Contractor will contain the bulk of the spill immediately using a spill kit before placing the contaminated absorbent material and the contaminated soil in a stockpile at least 50 m from, and downslope of any watercourses; and
  - All contaminated material will be underlain and covered by plastic to prevent leachate generation, until such time as it can be removed off-site by an appropriately licensed waste management company.

5 MONITORING AND AUDITING

The following environmental monitoring system will be carried out to ensure that management requirements are being implemented and are meeting their objectives:

- The proposed works will be supervised by the appointed EnCoW. The contractors appointed Site Representative (CSR) will be obliged to liaise and report to the appointed EnCoW outlining current progression of works and the implementation of mitigation within the proposed construction site;
- Each MS prepared shall assign responsibility and monitoring duties to named staff and the EnCoW shall ensure that this is implemented in full. Training for each member of staff on their specific area of responsibility shall be carried out before the commencement of that operation. A record of all training carried out shall be maintained in the MS and a further copy issued to the EnCoW;
- Toolbox talks will be provided by the EnCoW on the CEMP to all site staff immediately before works commence. The subject shall be the measures that have been put in place to protect the environment and the procedures, monitoring and recording that is to be undertaken in accordance with the MS. Site personnel will also be made aware of the ecological sensitivity of the site and its surrounds;
- Site boundary inspections to ensure intact and no breaches from either side, i.e. that site personnel are not crossing to the landowner side;
- All mitigation/ control measures shall be inspected daily by designated contractor staff with maintenance and repairs carried out immediately;
- Inspection of all waste generating locations, e.g. building demolitions, to ensure waste is being handled in accordance with Waste Management Plan;
- Inspection of Temporary Traffic Management Operations;
- Continuous monitoring of Noise and Air Quality during construction operations;
- Environmental Checklists shall be prepared for each operation. Responsibility for completion of these checklists will be assigned to individual members of the contractor's staff;
- All environmental monitoring and checklists shall be recorded and added to the CEMP on a daily basis; and
- All mitigation/control measures shall be inspected daily by site management with maintenance and repairs carried out immediately.

5.1 Auditing

The objectives for auditing are as follows:

- Ensure that environmental objectives of the project are fulfilled; and
- Assess the implementation of and compliance with the environmental requirements for the project.

5.2 Informal Site Inspections

Informal site inspections / audits shall be conducted by the appointed EnCoW. Day to day work activities are evaluated for compliance with the environmental requirements. Any breaches of the environmental requirements will be reported to the Employers Site Representative and shall be remedied immediately.

Environmental Site Inspection

Formal site inspections shall be conducted by the EnCoW in conjunction with the Employers Representative. The main purpose is to evaluate the implementation and maintenance of the environmental requirements on site. Environmental Site Inspections shall be carried out on a weekly basis and the records of the inspection shall be integrated into the CEMP. Any breaches identified, and any actions required shall be notified to the

EnCoW and the Employer's Representative and shall be followed up both on site and through the Project Progress Meetings attended by the Employer and Contractor management staff.

5.3 Environmental Performance Reporting & Monitoring

The EnCoW will prepare and circulate weekly monitoring reports charting works progress on site. This report will also assess compliance of environmental commitments outlined in the CEMP, accompanying MS and all other environmental conditions associated with the project's planning process. The drafted report will be circulated to all relevant parties for review.

5.4 Procedures to Review Inspections and Steps to Address Non-Compliance

Non-Conformance Notices will be issued where there is a situation where limits associated with activities on the project are exceeded, or there is an internal/external complaint associated with environmental performance.

Non-Conformance is the situation where essential components of the CEMP and accompanying MS are absent or dysfunctional, or where there is insufficient control of the activities and processes to the extent that the functionality of the MS in terms of the policy, objectives and management programmes, is compromised. A Non-Conformance register should be controlled by the contractor.

The MS and all its components must conform to the CEMP, objectives and targets and the requirements of the ISO 14001 management standard.

In the event of non-conformance with any of the above, the following must be undertaken:

- Cause of the non-compliance;
- Develop a plan for correction of the non-compliance;
- Determine preventive measures and ensure they are effective;
- Verify the effectiveness of the correction of the non-compliance; and
- Ensure that any procedures affected by the corrective action taken are revised accordingly.

Responsibility must be designated for the investigation, correction, mitigation and prevention of nonconformance.

6 CONCLUSION

This Outline CEMP has been developed to provide MCC and/or any Contractor appointed by MCC with the outline environmental principles required for the proposed development. MCC and/or any Contractor appointed by MCC shall adopt and, where required, further develop the components of this Outline CEMP, in order to develop a detailed CEMP for the proposed development. The detailed CEMP shall ensure that potential environmental impacts associated with the proposed development's construction phase are effectively prevented and managed.

7 REFERENCES

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