

Project Environmental Management Plan

Symmetry Park Unit 02 Merseyside

Reserved Matters Application 2 – Rev 02



STANDARD FORM
PROJECT ENVIRONMENTAL MANAGEMENT PLAN



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D ENVIRONMENTAL

D1 INTRODUCTION

The aim of this Environmental Plan is to define our specific approach to Environmental management on this project. It details the Environmental controls to be implemented throughout the construction phase, in order to provide assurance that our work meets the agreed requirements.

This volume is a working document and shall be used as a reference when planning and executing work and to control Environmental management issues through to project completion.

This Management Plan has been developed in conjunction with the following elements of the Project Core Management Plan in line with ISO 14001 requirements:

- Project Description and Key Deliverables/Goals Section B2
- Project Directory (including Key Contact Numbers) Section B3
- Pre-Construction Risks & Existing Records and Plans Section B2
- Management Structure and Responsibilities Section B4
- General Project Health and Safety Responsibilities Section B4
- SHE Goals for the Project Section B2
- Project Induction Section B9
- Training Section B9
- Monitoring and Review Section A3
- Regular Liaison between Parties on Site Section B8
- Consultation with the Workforce Section B8

EXISTING RECORDS AND PLANS

The pre-construction information has identified the following details of the extent and location of existing records and plans, and information about existing structures and services that are relevant to the environment on site.

Pre-Construction Risks, Records and Plans	
1	SkW Symmetry Park Merseyside PCIP
2	Tier Consult Coal Mining and Ground Gas Risk Assessment TE1337/TN/CMRA/AP
3	Tier Asbestos Risk Assessment TE1163ARA1.0
4	Tier Ground Investigation Report TE1163GIR1

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Pre-Construction Risks, Records and Plans	
5	Tier Ground Gas Verification Report TE1163GVP1.0
6	Tier Construction Environmental Management Plan T/18/2126/CEMP
7	Tier Technical Note Summary TE1337/TN/CMRA/AP
8	The Environment Partnership Invasive Non-Native Species Management Plan
9	The Environment Partnership Biodiversity Mitigation Strategy v2
10	The Environment Partnership Bat & Bird Boc Scheme – Phase 2 Reserved Matters

D2 MANAGEMENT OF THE WORK

The Management Structure and Responsibilities, and the general project environmental responsibilities are located in core section B4 of the Project Core Management Plan.

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MANDATORY ENVIRONMENTAL RESPONSIBILITIES

Environmental Duty Holder	
Name(s)	Andy Young
Deputy Name(s)	Robert Davison
Contact Number	0161 302 4503
Area of Designated Responsibility	
- Monitoring construction works including the sub-contractors for compliance against Environmental Risk Assessment and Method Statement control measures - Ensuring environmental management plan is reviewed monthly and updated as required - Ensuring environmental aspects and impacts assessment is reviewed monthly and updated as required - Co-ordination of all environmental documentation - Monitoring environmental training, consultation and implementation of sub-contractor procedures - Attending site SHEQ meetings - Monitoring of all site environmental incidents and ensuring they are reported and investigated - Ensuring weekly SHEQ inspections are undertaken	

PROJECT SPECIFIC ENVIRONMENTAL RESPONSIBILITIES

Waste Manager	
Name(s)	Andy Young
Deputy Name(s)	Robert Davison
Contact Number	0161 302 4503
Area of Designated Responsibility	

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- Compliance with duty of care, or any permits and/or exemptions
- Minimisation, reuse, recycling or recovery of waste is implemented
- Monitoring and measurement of waste

ENVIRONMENTAL GOALS FOR THE PROJECT

Goal
To deliver a project which has minimal negative environmental impact and positively enhances the environment where possible.
Zero prosecutions, enforcement notices or notifications of contravention.

Goal
Maximum 5% waste to landfill.
Zero complaints from members of the public regarding environmental noise or vibration.

COMMUNICATION BETWEEN PARTIES ON SITE

The principal communication lines between parties on site are detailed within core section B8 of the Project Core Management Plan.

COMMUNICATION WITH THE INTERESTED PARTIES

Environmental specific channels of communication are detailed below:

Interested Party	Communication Details	Frequency
Environmental Health	Telephone – 0151 443 4712	Authority or incident
Client	Meeting, telephone	Monthly or incident
Public	Letter and notice board	As necessary
Project staff	Meeting, email, notice board, toolbox talk	Monthly minimum
Local Residents	Developer has employed a comms company to assist with dialogue with the residents and will set up regular updates and meetings where required – contact details are: Alun Hayes Director	As necessary and before main activities start such as earthworks, piling, groundworks, steel frame install and envelope.

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T: 07809 140016
 E: alun@communiti.uk
 W: www.communiti.uk

IDENTIFICATION OF ENVIRONMENTALLY SENSITIVE RECEPTORS

The construction site is in close proximity to:

Feature/Issue	Details
Protected Sites eg SSSI	The site is not situated within any areas designated in recognition of their landscape quality or value at either a statutory national level (i.e. AONB's and National Parks) or at a non statutory local level. Mersey Estuary SPA/Ramsar lie 5.3km to the South but any development activity is highly unlikely to impact on this, while seven Local Wildlife sites lie within 500m of the site, of which two lie partially within the development site (Mine Waste Cronton LWS and Old Wood LWS).
Water course (Foxes Bank Brook)	Surface water run-off will be managed accordingly onsite. Any water pumping requirements will be completed with silt management controls (i.e. siltsocks, witches hats, etc). Wheel wash processes and road sweepers will be established onsite to minimise the spread of solids and any contaminants external of the site. Concrete washout skips will be utilised and removed from site by a registered waste carrier. If bunding measures are required around such skips they will be established.
Ground water / aquifer	None identified. <u>Prevention of Pooling:</u>

Feature/Issue	Details
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	As construction is being undertaken during 'wet months' it is likely that rainfall will cause temporary inundation on bare compacted ground and possibly cause localised pooling. Natural porosity in the soil and levels in design will result in water flowing into the drains but if any non-temporary pooling is obvious, perhaps because of an area of clay impeding water drainage, this will be noted and dealt with so it drains effectively.		
Cultural Heritage	Adjacent listed buildings known as 'Old Halsnead', whilst there are no specific mitigation measures to be adopted, we shall instigate early and thereafter regular dialogue with the occupants to ensure the impact of the works are minimised.		
Archaeology	Archaeological evaluation trenching failed to find any archaeological features of significance and as such it is anticipated that no further archaeological work on site will be required		
Protected Species eg Bats, Badgers	Twenty nine trees with bat roost suitability are present within the site as a whole, two with high and nine with moderate suitability. One bat roost in tree T15 has been confirmed by surveys in 2021, but this tree is retained within the proposals. With respect to this Reserved Matters 2 application, four trees with low bat roost potential will be lost in the west of the site. These will be managed through the appointed contractors ecologist as the scheme progresses. majority of trees with roost potential will be retained in order to maintain potential for bat activity. Part of the woodland in the west of the site supports a population of bluebells. No Badger, great crested newts or common toad were recorded during the surveys completed to date. Should any of these species be found during construction works then work should stop immediately to gain specialist species advice.		
Industrial units	The recently completed Unit 01 will be operated by YODEL and close dialogues is already in place regarding the works.		
Residential properties	Residential properties are in relatively close proximity.		
Educational establishment	Not applicable		
Public buildings	Not applicable.		
Woodland	Up to 36 species of breeding bird were recorded within the site including eight notable species as probable breeders. No tree felling, scrub clearance, hedgerow removal, vegetation management, ground clearance or building works will take place during the period 1 March to 31 August inclusive. If it is necessary to undertake works during the bird breeding season then all trees, scrub, hedgerows and vegetation will be checked first by an appropriately experienced ecologist to ensure no breeding birds are present. If present, details of how they will be		
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Feature/Issue	Details
	Other areas are not monitored but are contained by hoarding (replaced in 2021).
Parks/recreation areas	Not applicable
Other (please detail)	Bird management controls will be managed during the construction phase. Any temporary stockpiles of topsoil will have flutter tape installed to discourage birds from the area. Food waste will be managed in stored bins when external and good housekeeping management will be exercised across site areas. Weekly site inspections and Monthly welfare inspections will monitor this matter.
	protected will subsequently be submitted for approval
Tree Protection Orders (TPO)	Trees of High Quality and Value and Trees of Moderate Quality and Value are identified on UMC Architects Constraints Plan.
Invasive Species eg Japanese Knotweed	Japanese knotweed is present within the site boundary. Indian balsam is also present within the site boundary
Rural/farm land	The site comprises agricultural arable fields to the North and West and a former colliery site to the south and east which supports a range of habitats.

SITE PLAN

A copy of the site plan has been developed and will include:

- Surface water drains
- Combined drains/sewers
- Drainage interceptor
- Site services and shut off valves/points
- Raw material storage/bays
- Fuel & chemical storage
- Waste collection points/skips
- Spill kits/emergency response equipment

SITE CUT/FILL & MUCKSHIFT

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During the initial site works there is circa 30,000m³ of material to move to provide a suitable level area to begin construction of the 272,141sqft unit. To prevent constantly crossing the access road when unit 1 is operating we will create a temporary borrow pit and move the material created to form the country park. This will be transported via large articulated haulers from the unit 2 areas to the country park. The road will be protected with heavy duty mats, a stop and go manually operated system and jet wash and road sweeper will be on site to maintain a clean access road. The borrow pit area / areas of cut will remain on site as temporary un-landscaped features until construction activities utilise them with arisings from foundations/drainage etc and then will be landscaped upon completion

ENVIRONMENTAL INSPECTIONS AND AUDITS

Environmental inspections are carried out as part of the weekly SHEQ inspection using the company standard form. Records of the inspections are stored in the site office and will be made available for review if requested.

Audits will be carried out to check compliance with requirements and to ensure good site practices are in place. They may include:

- Customer
- External
- Internal

Internal audits may be conducted by the Project SHEQ Manager or SHEQ Lead. There will be a minimum of one system compliance audit per year or as directed by GMI Construction The Project Manager is responsible for ensuring that any non-conformances arising are closed out as soon as is practicable within the timeframe specified. Close out will confirmed by the auditor.

Environmental records will include

- Site SHEQ Inspections
- Site visit records (by others)
- Internal and external audit reports
- Incident and Investigation reports
- Waste carrier/management licenses
- Waste transfer and disposal records
- Subcontractor risk assessments and method statements
- COSHH assessments
- Noise monitoring records
- Minutes of progress meetings
- Correspondence including complaints and regulatory units
- Permits, licenses and consents
- Other Environmental data e.g. recycled aggregates, sustainable timber, etc.

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D3 ARRANGEMENTS FOR CONTROLLING SIGNIFICANT ENVIRONMENTAL ASPECTS

ENVIRONMENTAL ASPECTS AND IMPACTS ASSESSMENT

An Environmental Aspects and Impacts Assessment has been conducted for the project and is appended to this Plan.

SURFACE WATER MANAGEMENT & CONSENTS

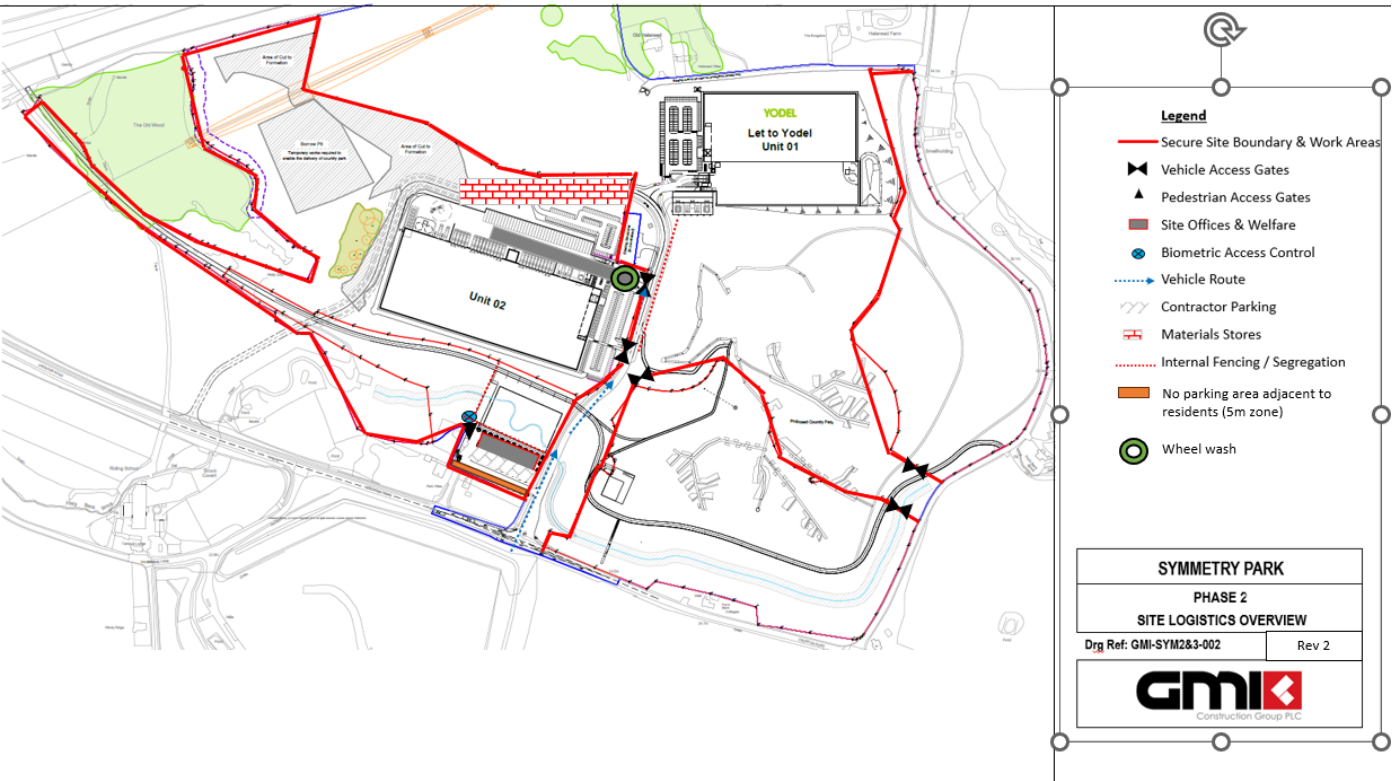
No permanent dewatering will be required as part of the works. However, some locally perched water was recorded near the surface made ground during investigations between 1m and 5m BGL this will be monitored during construction activities.

As the project is being completed through the winter months there will likely be areas of surface water build up that will need to be pumped and discharged either direct to ground, or into the surface water drainage system. A Discharge Permit (surface water discharge approval) will be sought from Knowsley Council regarding the discharge of surface water into existing manholes. Sediment traps will be utilised by the project prior to discharge.

SITE SET UP AND PARKING

Selection and establishment of site compounds shall be undertaken mindful of site sensitivity, security, neighbours, storage, and handling of chemicals (spill prevention), materials storage needs, drainage, vehicle accessincluding employee commuting needs and nuisance potential, planning constraints, etc.

We have now moved the welfare compound and construction staff parking that was in place for the construction of unit 1 to appease the residents on Fox’s Bank Lane (private road). The new location of the welfare is now situated on the proposed Country Park Car park as per below with a exclusion zone in place for parking adjacent to the residents:



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This is notified to site personnel within the site induction process and pre-start interviews with contractors. GMI Construction will also provide storage for bicycles.

DELIVERIES

Delivery times are as detailed below. The project does not anticipate regular out of hours deliveries however there are exceptions that may have to be made for complex deliveries, e.g. extra-large delivery vehicles. The project will operate a delivery booking system that will be managed by our logistics partner to ensure all vehicles that come to the site can be managed efficiently. Advice and consideration will be given to any deliveries that are anticipated during rush hour and peak times. In line with anticipated noise restrictions as outlined by the EPA and for by Knowsley Council, no deliveries will be made outside of the following hours;

- Mon – Fri 8:00 - 18:00
- Sat 8:00 - 13:00
- Sun & Bank Holidays No Working

In the unlikely event of any issues arising our on-site contact will be the Project Manager Andy Young - 07496690262

Unfortunately, a one way system for entering and accessing the site is not possible due to the constraints of the site with suitable access point only being available however the traffic will only enter and exit one at a time and will be controlled by a trained vehicle banksman. A turning circle is available on site to remove the risk of reversing onto the highway

PUMPING FROM EXCAVATIONS

During construction of the substructure, and where pumping of surface water is required, this will be done whilst implementing appropriate silt control measures such as sediment socks or pumping via a stone filtration medium. This will predominantly be discharged direct to ground, allowing water to infiltrate naturally through the stone pile mat.

No pumps will be left running overnight and pumped within the site constraints well away from any site boundaries.

GMI Construction operates a Permit process to control pumping activities. Pollution from suspended solids is most likely to occur from pumping out excess rainwater from accumulations as a result of seepage or rainfall, or from uncontrolled rainwater run-off from the work site into a watercourse.

This type of pollution is preventable if the following guidelines are rigidly adhered to:

- No water will ever be pumped directly into a watercourse
- The minimum area of topsoil will be stripped at any one time
- Straw bales and Spill Kits will be stored at all sensitive receptors.
- All pumping operations will be carried out under the Permit Procedure
- Water will be pumped at low volume and treated as necessary. A settlement tank or interceptor and straw bales will be used if the quantity of water justifies this.

Where discharge to drainage is required, this will be into existing manholes located on site. Any discharge

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direct to the drainage system will be via a sedimentation sock to remove any suspended solids. Monitoring at the discharge point will also be carried out to confirm that any visual contaminants have been removed from the water prior to entering the drainage system.

CONCRETE WASHOUT

Various concrete activities will be taking place on site. After discharging, concrete wagons will wash out into a dedicated area lined with an impervious membrane. This will then be periodically removed from site to ensure no concrete contaminants are discharged to ground or the existing drainage system.

Washout area shown on the logistics plan will be on hard standing area.

CONCRETE PUMP SPILLAGE

Concrete pumps will be required for the foundations and slab installations. The area below the pump hopper will be protected with visqueen to prevent run off or waste concrete from spreading to the wider area.

MUD AND DUST/FUMES CONTROL

When work activities are likely to create dust or fumes, specific control measures and protective clothing / equipment will be required. These precautions should be selected with advice from our specialist contractors, manufacturers and from COSHH assessments. When carrying out the risk assessments to establish suitable controls for dust and fumes the following will be in place:

- Type of material involved and the hazardous properties of the created dust/fumes
- Activity to be carried out
- Environment the activity will take place in
- Period of exposure
- Position of employee
- Sensitive environmental receptors

Following the risk assessments, effective control measures must be established, including how the work will be monitored and supervised by sub-contractors and the GMI Construction team and how the effectiveness of control measures will be maintained throughout the activity.

The following hierarchy of controls will be in place:

- Designing the activity to avoid processes which will cause dust or fumes
- Capturing dust or fumes by using local exhaust ventilation
- Using tools equipped with wet suppression or by keeping the work area damp, particularly in periods of dry weather and on sites close to housing or sensitive amenities
- Reducing the exposure of individuals by excluding non-essential personnel from the work area, and job rotation for those involved in the work
- Wheel wash facility will be in place using an industrial jet wash on a hard standing area to avoid transferring mud onto the highways. A mains water connection is due to

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be made and will be used to keep the tank for the jet wash topped up.

- On site speed limit of 10mph will be implemented on the scheme to minimise the disturbance of any dust that has been created on the site.

Spraying/dampening down of haul roads and areas of site where dust is likely to be created may be effective in reducing windblown dust, but it may be necessary to wear goggles on some sites to protect eyes. In drier weather, sweepers will regularly attend site to dampen down the haul roads and will be on site full time when required. During groundwork activities when large amounts of mud are spread across site, the relevant contractors will be asked to regularly scrape the access routes and larger deposits. Roadsweepers and wheel washing/boot washes on the gate will ensure mud does not encroach onto the public area. Sediment traps and other measures will be put in place to ensure large mud/silt deposits do not enter the drainage system. Lips or buns will be installed along Foxes Bank Brook if required to prevent run off into the river.

List of controls to manage dust control during earthworks are:

- 170,000 m3 of earth moved during unit 1 with only around 58,000m3 to move during cut and fill.
- Earthworks are to take place during the winter months (November to February) which will result in simpler control of dust during this large scale muck shift works.
- There is a new high pressure water supply constantly available for use on site to fill up bowzers and assist in any dust control
- A full time sweeper/jetter is available on site throughout these works with additional bowzers available as and when required
- 10mph speed limit on site.

PROJECT ASSESSMENT AND MITIGATION

The table below outlines the varying activities programmed to take place on the project and allocates each activity a risk rating in relation to its likelihood to cause 'nuisance' dust that would require a control measure being implemented.

Ref.	Activity	Risk Rating	Specific Dust Element	Control Measure/Mitigation
1	Hoarding Erection	Low	N/A	N/A
2	Obstruction Removal	High	Breaking Out and Crushing Ground	Damping down activity Roadsweeper
3	Cut n Fill	High	Site traffic in dry/wet weather	Roadsweeper and pull along sprayer in dry conditions
4	Site Establishment	Low	Site traffic in dry weather	Roadsweeper
5	CNC piling	Medium	Site traffic in dry weather	Damping down and roadsweeper

				Roadsweeper
6	Foundations	Medium	Vehicle traffic	Roadsweeper
7	Tower Crane Erection	N/A	N/A	N/A

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8	Steel FrameErection	Low	Site traffic in dry weather	Damping down activity
9	Envelope – install of roof, cladding, windows and doors	Low	Drilling	Damping down activity
10	1st Fix fit out	High	Drilling/cutting concrete and plasterboard Cutting timber Housekeeping Welding handrails in stair cores	LEV Wet cutting Vacuums Damping down RPE
11	2 nd Fix Fit Out	High	Drilling/cutting concrete and plasterboard Cutting timber Housekeeping Welding handrails in stair cores	LEV Wet cutting Vacuums Damping down RPE
12	M&E Install	Medium	Drilling/cutting concrete Housekeeping	LEV Wet cutting Vacuums RPE
13	Lift Install	High	Drilling/cutting concrete	LEV Wet cutting RPE
14	External Works	High	Cutting materials, vehicle traffic, dropping materials, waste disposal, storage of fine powdered material, tarmacking (in car park undercroft)	Damping down activity Roadsweeper LEV Forced ventilation Wet cutting Minimise drop heights from excavators into wagons/dumpers on dry days Ensure powdered material stored

				externally is wrapped properly to prevent dispersal by wind
15	Decoration	Low	Rubbing down Housekeeping	RPE Vacuums

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16	278 Works	N/A	Cutting materials and vehicle traffic	LEV Wet cutting RPE Roadsweeper
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NUISANCE NOISE CONTROL

The majority of occupied properties in the immediate vicinity of site are of a residential nature. Due to the nature of the works, the methods being employed and the site operating hours, it is not envisaged that nuisance noise will arise from the works therefore a Section 60 Consent has not been sought.

Baseline noise levels will be carried out prior to Enabling Works starting with noise readings taken with a hand held sound level meter at fixed points to the site perimeter with a focus on the adjacent residential properties. Plan attached shows suggested points.

A project noise assessment will be carried out to identify the site activities that may generate elevated noise levels which could impact on both site operatives and local neighbours. The following arrangements will be put into place to ensure the risk of hearing damage and nuisance to neighbours because of elevated noise levels is managed effectively –

- A meeting with the local Environmental Health Officer (EHO) can be arranged if necessary prior to work starting on site as an introduction, to put forward nuisance mitigation proposals and understand the EHO's requirements. There is no requirement for a Section 61 Prior Consent Application.
- Working time restrictions (8am-6pm Monday-Friday, 8am-1pm Saturday, no working on Sundays or Bank Holidays) will be strictly adhered to minimise the likelihood of nuisance noise effecting neighbours.
- Regular noise monitoring will be undertaken at the site boundary in proximity to potential receptors to provide a record of the noise levels arising from standard site activities. This will be supplemented by noise monitoring which will be undertaken for specific noisy activities in close proximity to potential receptors.
- Noise control measures e.g. Silencers, mufflers, acoustic covers etc. are fitted to "noisy" items of plant or machinery where practicable – *plant such as dumpers, forklifts etc will be fitted with white noise reversing alarms or similar.*
- A generator will be used in the day to power the welfare area but will be situated around 30m away from the properties and will be switched off at night with a solar/battery powered supply used to keep power running to the drying room and security systems
- Equipment and construction methods employed should be chosen with the objective of minimising noise
- All mechanical and mobile plant/equipment will be subject to regular inspection and maintenance to minimise the risk of elevated noise levels due to poor maintenance.
- All mechanical and mobile plant/equipment not in immediate use will be turned off where practicable.
- Access to and from site will be strictly via designated routes only.
- Haul roads will be kept as smooth as possible and carefully maintained to reduce vibration and noise impacts caused by heavy plant movements.
- Good relations with neighbours and advise them in advance of any specific noisy works scheduled to be carried out.

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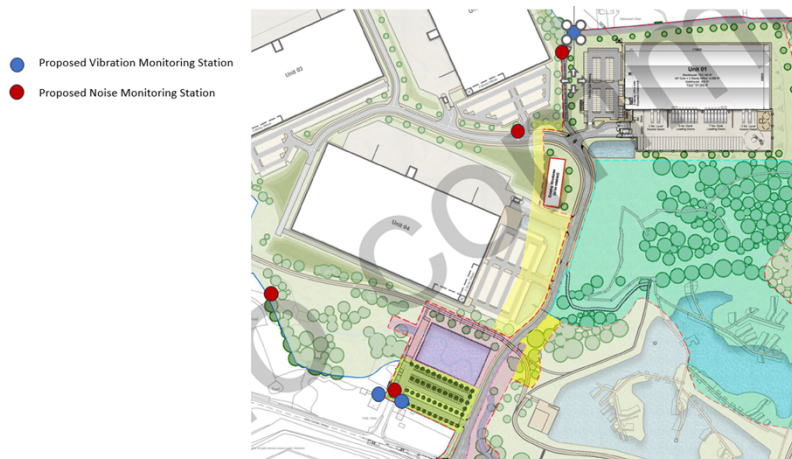
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Should any complaints be received, these shall be logged by the project and Head Office detailing the reasons for complaint and how they have been dealt with.

Regular noise monitoring will be carried out for the duration of the works, the results of which will be recorded and compared against the baseline noise survey for the purposes of the identification of potential nuisance noise and the establishment of suitable control measures.

Proposed locations to monitor are:



Particular care will be taken when loading and unloading vehicles to reduce impact noise. No work and ancillary operations that are audible at the site boundary will be undertaken outside of these hours without prior notification and agreement from Knowsley Council.

Hours of noise-generating work on site will be restricted to –

- Monday – Friday; 08:00hrs – 18:00hrs
- Saturday; 08:00hrs – 13:00hrs
- Sunday and Bank Holiday – none

PROJECT ASSESSMENT AND MITIGATION

The table below outlines the varying activities programmed to take place on the TSL Merseyside project and allocates each activity a risk rating in relation to its likelihood to cause ‘nuisance’ noise that would require a control measure being implemented

Ref.	Activity	Risk Rating	Specific Noise Element	Control Measure Option
1	Hoarding Erection	Low	Hand tools	Timing of work
2	Obstruction Removal	High	Breaking Out and Crushing Ground	Noise monitoring Plant maintenance Timing of work
3	Cut n Fill	Low	Mobile plant	Timing of work Plant maintenance
4	Site Establishment	Low	N/A	N/A
5	CMC Piling	Medium	Mobile Plant	Noise monitoring Plant maintenance Timing of work

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6	Foundations	Low	N/A	Noise monitoring Plant maintenance
7	Tower Crane Erection	N/A	N/A	N/A
8	Steel Frame Erection	Medium	Erecting formwork	Noise monitoring Plant maintenance Timing of work

9	Envelope	High	Cutting metal/cladding	Noise monitoring
10	1st Fix fit out	Low	N/A	N/A
11	2 nd Fix Fit Out	Low	N/A	N/A
12	M&E Install	Low	N/A	N/A
13	Lift Install	Low	N/A	N/A
14	External Works	Medium	Compacting ground levels	Noise monitoring Plant maintenance Timing of work
15	Decoration	Low	N/A	N/A
16	278 Works	N/A	Cutting hard landscaping	Noise monitoring Plant maintenance Timing of work

CMC Piling

CMC piling has been selected as the ground improvement solution due to the environmental (EA) concerns using vibro piling and pathways that vibro stone columns create for leaching water in such close proximity to the watercourse. The process of CMC is as follows:

Presentation and key elements

What are CMC rigid inclusions and why do we use them?

Controlled Modulus Columns (CMC), also called rigid inclusions, are a ground improvement technique. They are used to control and reduce settlement and increase bearing capacity in soft or loose soils. They are an economical alternative to traditional deep foundation solutions and in most cases, can prove to be beneficial for the global design of the overlying structure.

Basic principle of CMC rigid inclusions

The increase of bearing capacity and settlement reduction are achieved through the reinforcement of the soft or loose soil layers using rigid inclusions. The scheme details a load sharing system combining the existing soil capacity and the stiffer rigid inclusions to ensure compliance with project specifications.

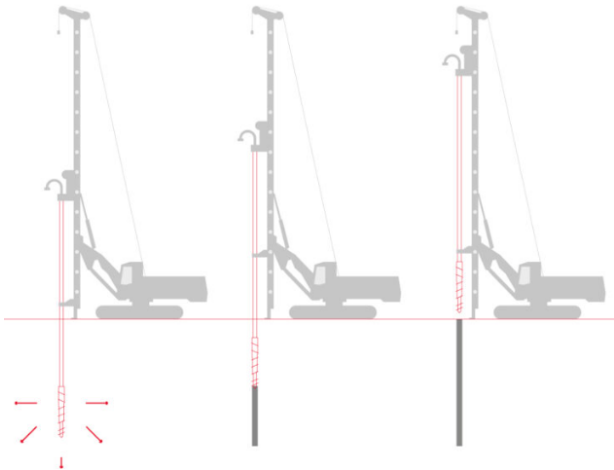
Execution of CMC rigid inclusions

Rigid inclusions are executed through a simple and efficient process with or without soil displacement by low-pressure injection (generally up to 2 bars) of a grout or concrete through the hollow core of the drilling tool. These columns generally have a diameter of between 250 and 500 mm.

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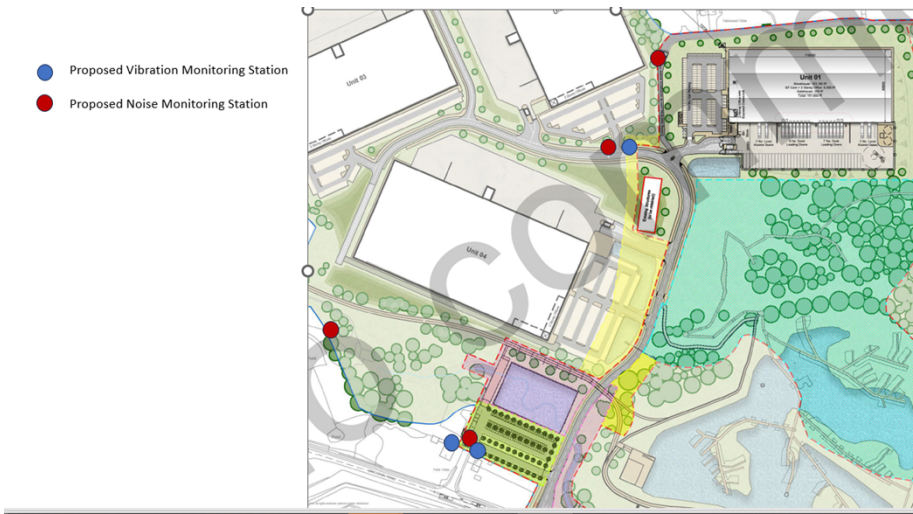
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VIBRATION

Vibration monitoring will be in place from the start of the earthworks package and will be in place until the completion of both Earthworks and CMC Piling.

Proposed location of monitoring is shown below:



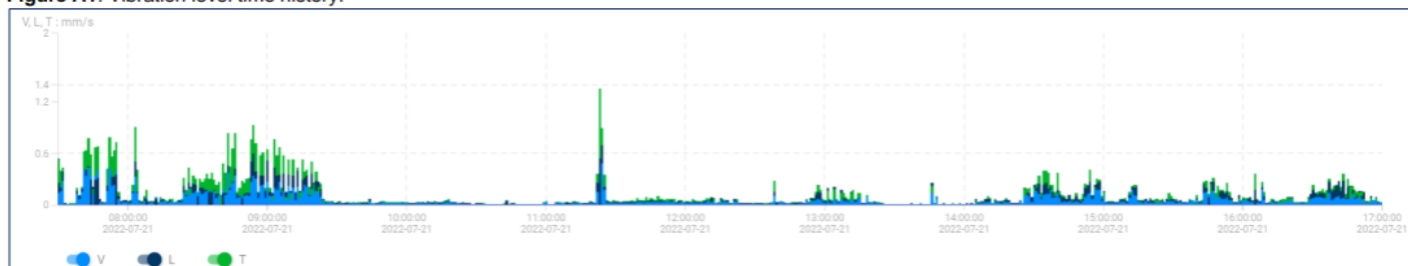
The monitors will be set up with an online portal with a text/email alert system in place if the levels go above the alarm threshold set at 5mm/s and recorded similar to the below:

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Figure A1: Vibration level time history.



References

ⁱ BS 5228-2:2009+A1:2014 'Code of practice for noise and vibration control on construction and open sites. Vibration'.

The online records are kept by GMI and archived and this will be for longer than 28 days and that the results will be made available to officers of Knowsley Council on request.

If complaints regarding vibration are received from a resident, the vibration monitor will be moved immediately to the resident's property, whilst those works are taking place.

PLANT EMISSION CONTROL

Where feasible, electric plant will be used in preference to diesel- or petrol-powered units.

No plant will be allowed to idle for long periods when not in use. Plant operators are encouraged to switch off as soon as practically sensible.

Evidence of poor plant maintenance, such as black exhaust fumes, will be monitored by supervisory staff on a continuing basis. Plant with unacceptable performance is prohibited from work until rectified or replaced. Plant will be routinely inspected, in line with prescribed requirements and to include emissions as well as leaks and drops.

PEST CONTROL

A survey will be conducted prior works commencing on the unit 2 plot. If any signs of pests i.e. rats are found to be present on site then a professional pest control company will be employed to ensure that these don't move closer to the residential properties.

STORAGE OF PLANT AND MATERIALS

Storage of plant will develop with the project as different areas become accessible or inaccessible.

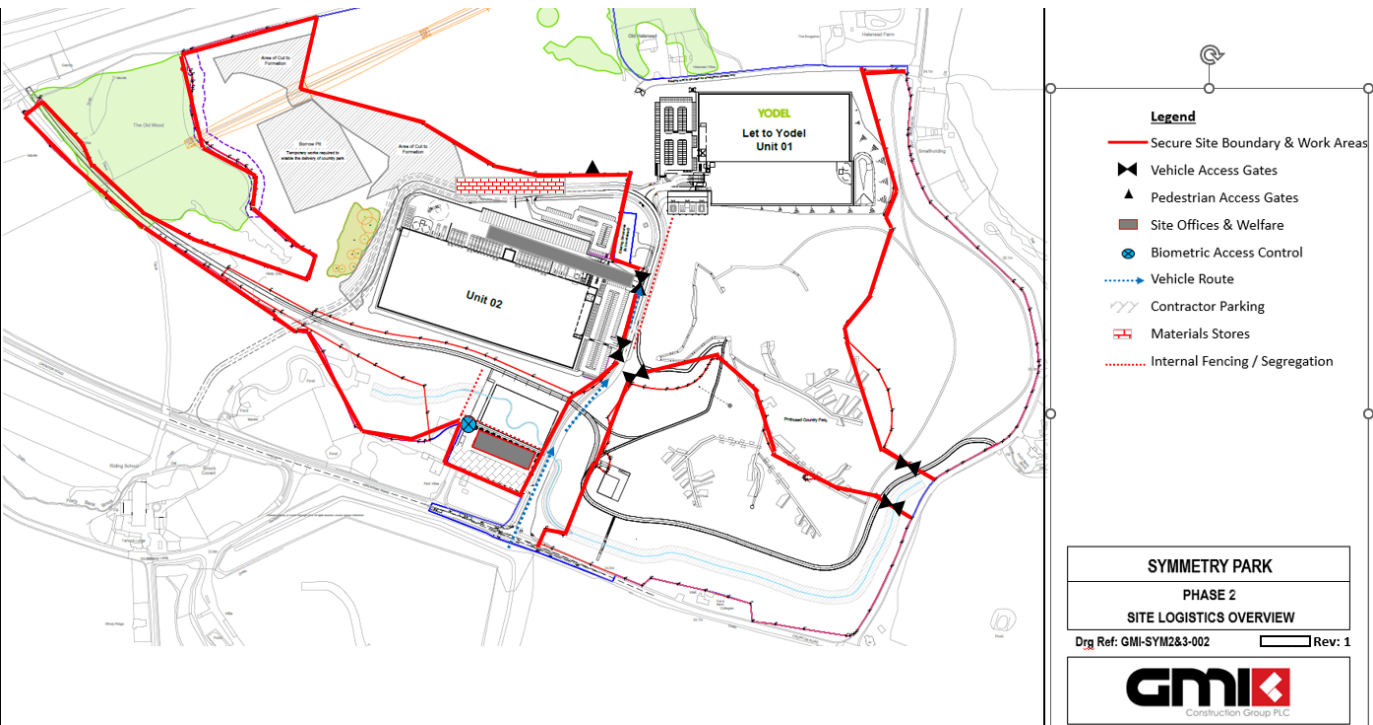
Plant (and their fuel) storage areas will be situated far from receptors and spill kits will be positioned in the vicinity.

Material storage will only be external to the buildings if required under special circumstances and approved by project management. The project materials strategy is to ensure materials are delivered just in time and taken into the building and stored safely.

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STORAGE OF FUEL AND OTHER CHEMICALS

All fuel storage will be in bunded fuel tanks, and these will be positioned in designated refuelling points and positioned far from drainage gullies and the river situated on site. Spill kits will be positioned at the refuelling points. Regular monitoring of fuel storage should be carried out during site inspections and fire arrangement checks.

Oils, paints, solvents and other COSHH materials will be kept in lockable containers or compounds, with controlled access to keys, and in line with legal requirements e.g. oil storage regulations, bunding, use of drip trays, etc.

Spill kits will also be located in COSHH storage areas by the relevant contractors. GMI Construction also have a spill kit in their COSHH cabinet (location TBC) and a spare in The GMI Construction office.

TEMPORARY LIGHTING & CABIN SET UP

All temporary lighting used on the scheme will be directed away from any properties and shrouded to ensure that they do not cause a nuisance for nearby neighbours.

The office and welfare set up will have safety lighting on walkways that will also be on timers and will not be left on

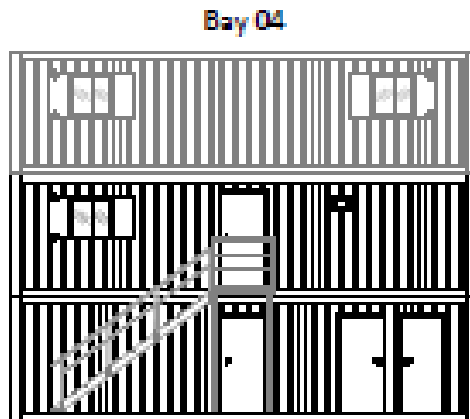
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overnight.

The welfare area set up on the country park consists of 3 storeys of cabins (around 7m in height) with the set up opposite the Cronton Road Villa's at least 35 metres away from the boundary fence which has a heavy tree line obscuring the view to the nearest resident.



The elevation above is what would face the residents and the windows visible on the above will be filmed to obscure any view in addition to the trees in place on the boundary line.

All lighting in the compound will be installed with the residents in mind, pointing away from the properties with shrouds and will be set on a timer to switch off.

ENVIRONMENTAL INCIDENTS

Any site-based incidents will be reported and investigated in line with The GMI Construction Incident Management Standard. Any spillage / pollution incidents will be managed as per the measures detailed in the Specific Project & Site Emergency Procedures detailed within the Project Health and Safety Management Plan.

WASTE MANAGEMENT

See Site Waste Management Arrangements in Appendix A

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- APPENDIX A - SITE WASTE MANAGEMENT ARRANGEMENTS
- APPENDIX B - LEGAL CONSENTS AND LICENSES
- APPENDIX C - ENVIRONMENTAL ASPECTS AND IMPACTS ASSESSMENT

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APPENDIX A SITE WASTE MANAGEMENT ARRANGEMENTS

The validity of waste licences and permits held by carriers and sites of disposal has been checked by reference to the Environment Agency's public register. GMI Construction will as a minimum ensure the following information is understood:

- A valid waste management licence or copy from the transfer station / disposal site being used
- A copy of the waste carrier's registration or licence.
- Copies of all transfer notes for non-hazardous waste.
- Copies of all consignment notes for hazardous wastes.

Duty of Care records will be maintained within the GMI Construction Project office and upon completion of the project, will be filed in archives. All skips and bins will be closed or sheeted where required to prevent the escape of wind-blown debris.

We utilise a waste contractor called Kenny Waste who will manage all waste removed on site – certification below:

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Certificate of Registration under the Waste (England and Wales) Regulations 2011

Regulation authority

Name  Environment Agency

Address National Customer Contact Centre
99 Parkway Avenue
Sheffield
S9 4WF

Telephone number 03708 506506

The Environment Agency certify that the following information is entered in the register which they maintain under regulation 28 of the Waste (England and Wales) Regulations 2011.

Carriers details

Name of registered carrier KENNY WASTE MANAGEMENT LTD.

Registered as An upper tier waste carrier, broker and dealer

Registration number CBDU76122

Address of place of business KENNY WASTE MANAGEMENT LTD
LESTER ROAD
MANCHESTER
M38 0PT

Telephone number 0161 6674850

Date of registration 15 December 2021

Expiry date of registration (unless revoked) 12 January 2025

Making changes to your registration

Your registration will last 3 years and will need to be renewed after this period. If any of your details change, you must notify us within 28 days of the change.

Waste records are kept on an online portal and archived as per below example which will be of similar waste volumes on unit 2. Figures will be monitored and audited as the build progresses on a monthly basis.

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Destination Summary

Weight or Quantity		Landfill	Recycled Restoration/ Remediation aggregates	Recycled and sent for further reprocessing	Recycled/ Reprocessed to the WRAP protocol	Waste to energy	Grade Total
Volume							
tonnes	Canteen / Office / Adhoc	0.000 0.000	0.000 0.000	0.110 0.421	0.000 0.000	0.985 3.791	1.095 4.212
	Co-Mingled Fine / Granular Material	0.000 0.000	9.141 7.372	0.000 0.000	2.813 2.269	2.109 1.701	14.063 11.342
	Green Waste	0.000 0.000	0.017 0.046	0.328 0.863	0.000 0.000	0.000 0.000	0.345 0.909
	Green waste	0.000 0.000	0.007 0.019	0.138 0.363	0.000 0.000	0.000 0.000	0.145 0.382
	Metals	0.000 0.000	0.000 0.000	20.407 40.814	0.000 0.000	0.000 0.000	20.407 40.814
	Mixed Dense Material	0.000 0.000	7.343 5.921	0.000 0.000	29.370 23.685	0.000 0.000	36.713 29.606
	Mixed Municipal Waste	0.000 0.000	0.000 0.000	0 0	0.000 0.000	3.360 12.926	3.360 12.926
	Mixed Wood	0.000 0.000	1.382 4.186	24.867 75.351	0.000 0.000	1.382 4.186	27.631 83.723
	Non-Recyclable Mixed Waste	0.280 0.320	0.000 0.000	0.000 0.000	0.000 0.000	27.587 31.710	27.867 32.030
	Packaging & Polystyrene	0.000 0.000	0.000 0.000	7.969 37.947	0.000 0.000	9.739 46.376	17.708 84.323
	Plasterboard	0.000 0.000	0.443 0.727	7.974 13.093	0.443 0.727	0.000 0.000	8.860 14.547
	Plasterboard & Gypsum Products	0.000 0.000	0.112 0.339	0.953 2.887	0.056 0.170	0.000 0.000	1.121 3.396
	Rigid Plastic & Films	0.000 0.000	0.000 0.000	5.178 22.516	0.000 0.000	7.769 33.775	12.947 56.291
	Tiles / Ceramics & Glass	0.000 0.000	0.057 0.095	0.000 0.000	0.318 0.540	0.000 0.000	0.375 0.635
	Destination Total by Weight	0.280 0.16 %	18.502 10.72 %	67.924 39.34 %	33.000 19.12 %	52.931 30.66 %	172.637 375.136
	Destination Total by Volume	0.320 0.09 %	18.705 4.99 %	194.255 51.78 %	27.391 7.30 %	134.465 35.84 %	

No muck/ground arisings are removed from site and all movements are included in the materials management plan.

Waste removal strategy

No significant volumes of waste will be allowed to accumulate at any points on site. The waste strategy for removing waste from site is:

- Excavation spoil to be removed by the substructure subcontractor.
- Any hard materials (broken out hard standings and concrete wash off material,etc) to be removed from site for re-processing.
- Office / canteen waste to be placed in euro-bins and removed from site at pre-determined intervals by the appointed waste contractor.
- All non-hazardous waste is to be placed into skips located in the site compound and removed from site. The waste will be sorted at the appointed waste contractor's transfer station and recycled whenever possible – rates for recycling will be monitored and recorded.
- There will be NO burning of any waste on or around the site
- Hazardous waste will consist of empty aerosols, empty mastic containers, resin containers and other empty COSHH receptors. These will be placed within drums stored in a COSHH disposal compound (provided by waste contractor), sealed and removed from site. The project is not expected to generate hazardous waste beyond 500kgs and therefore is not registered with the EA.
- Waste from sweepers will be small and deemed to be inert. Wastes will either be taken

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to the operator's normal discharge location, for which there is a valid waste management licence or an exemption or discharged at a location designated point by site management

Preventing Vehicle Waste Leaving Site

Waste materials (such as mud, dust, concrete, etc.) will be prevented from inadvertently leaving site by way of vehicle transfer onto the public highways. All wagons leaving site transporting any potential loose

material will have covers in place to prevent loss of material. The root cause will be focussed on by keeping any vehicles on site on good solid ground to prevent the chance of them being at risk of transferring mud/waste onto the public highway however when the need arises road sweepers will be on stand-by to clear any contamination. A road sweeper is being deployed on local roads to support the upkeep of the local road network and prevent excess mud overspill.

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APPENDIX B

LEGAL CONSENTS AND LICENCES

The construction site has the following legal consents, licences and exemptions in place. Copies can be found in on the GMI Construction Server in the Environmental folder.

Licence Details	Limits	Monitoring Arrangements	Responsibility
To be developed			

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APPENDIX C: ENVIRONMENTAL ASPECTS AND IMPACTS ASSESSMENT – ALSO SEE COMBINED REGISTER

The Environmental Legal Register is recorded and held in the GMI Construction Integrated Management System. A copy of such record can be requested from GMI Construction as required.

The Project specific Environmental Aspects and Impacts Assessment will be appended here once completed.

Environmental considerations were included in the Pre-construction Information (Risk Register). Such considerations will be included in this document and the GMI Construction project EIAR.

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