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CONSULTANTS IN ENGINEERING, ENVIRONMENTAL SCIENCE & PLANNING

ENVIRONMENTAL IMPACT ASSESSMENT REPORT FOR THE DEMOLITION OF AGRICULTURAL STRUCTURES AND THE DEVELOPMENT OF A MATERIALS RECOVERY FACILITY AT DERRYARKIN, CO. OFFALY

VOLUME 2 – MAIN BODY OF THE EIAR

CHAPTER 17 – SCHEDULE OF ENVIRONMENTAL COMMITMENTS

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17. SCHEDULE OF ENVIRONMENTAL COMMITTMENTS

17.1 Introduction

This chapter summarises the mitigation measures (environmental commitments) in the Environmental Impact Assessment Report for the proposed development. Where similar commitments appear in multiple chapters or sections, these have been included in this chapter within their respective sections for completeness.

17.2 Population and Human Health

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
1	7.7.1	All construction phase activities undertaken as part of the construction phase of the proposed development will be carried out in accordance with a robust Construction Environmental Management Plan (CEMP). This CEMP provides for the management and control of dust emissions, noise emissions, materials management, surface water management, spill control, waste management and archaeological, architectural and cultural heritage management. With the adoption of this plan, the proposed development will not have any significant impacts on these receiving environmental elements and associated sensitive human receptors (I.e. site staff and visitors, local dwellings, local land use, users of receiving surface water bodies).	Construction
2	7.7.1	Mitigation measures defined within the following chapters would be applicable in the protection of the environment and human health during the construction phase of the proposed development: • Chapter 9 Geology and Hydrogeology Measures in relation to water management and spill control are defined within this chapter These measures will ensure the protection of receiving groundwater bodies utilized by humans in the local area for drinking water. • Chapter 10 Hydrology and Surface Water Quality – Measures in relation to surface water management and spill control are defined within this chapter. These measures will ensure the protection of receiving surface water body and human users of this surface water body such as anglers, bathers or water sports enthusiasts. • Chapter 11 Air Quality and Climate – Measures in relation to dust mitigation are defined within this chapter. These measures will ensure the minimization of dust and the prevention of dust nuisance impacting local sensitive receptors such as dwelling or farmlands. • Chapter 12 Noise and Vibration – measures in relation to noise control/minimization are defined within this chapter. This will reduce the potential for nuisance noise affecting sensitive receptors in the locality. • Chapter 13 Traffic and Transportation – Measures in relation to traffic management are defined within this chapter. This will reduce the risk of road traffic accidents occurring on or within the vicinity of the site.	Construction

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
3	7.7.1	Prior to construction a site-specific Safety and Health Risk Assessment/Management Plan and a Safety Statement will be prepared for the project at the CAR site in accordance with the Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 / 2013), as amended. Where elimination of the risk is not feasible, appropriate mitigation and/or control measures will be established. The contractor will be obliged under the construction contract and current health and safety legislation to adequately provide for all hazards and risks associated with the construction phase of the project. FÁS Safe Pass registration cards are required for all construction, delivery and security staff. Construction operatives will hold a valid Construction Skills Certificate Scheme card where required.	Construction
4	7.7.1	The contractor will be responsible for the implementation of procedures outlined in the Safety & Health Plan. Public safety will be addressed by restricting site access during construction. Appropriate warning signs will be posted, directing all visitors to the site manager.	Construction
5	7.7.1	During the construction phase, access to the site will be restricted to ensure that the public will not come into contact with the construction works.	Construction
6	7.7.2	Mitigation measures defined within the following chapters would be applicable in the protection of the environment and human health during the operational phase of the proposed development at EPP: • Chapter 9 Geology and Hydrogeology Measures in relation to water management and spill control are defined within this chapter These measures will ensure the protection of receiving groundwater bodies utilized by humans in the local area for drinking water. • Chapter 10 Hydrology and Surface Water Quality – Measures in relation to surface water management and spill control are defined within this chapter. These measures will ensure the protection of receiving surface water body and human users of this surface water body such as anglers, bathers or water sports enthusiasts. • Chapter 11 Air Quality and Climate – Measures in relation to odour and dust emissions are defined within this chapter. These measures will ensure the prevention and control of odour and dust from the proposed facility. • Chapter 12 Noise and Vibration – measures in relation to noise control/minimization are defined within this chapter. This will reduce the potential for affecting sensitive receptors in the locality.	Operational

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
		• Chapter 13 Traffic and Transportation – Measures in relation to traffic management are defined within this chapter. This will reduce the risk of road traffic accidents occurring on or within the vicinity of the site.	
7	7.7.2	Activities at the proposed facility will be controlled from a health and safety perspective in accordance with the Safety, Health and Welfare at Work Acts 2005 (as amended). A Health and Safety Management System will be in place for the site. In particular, a Safety Statement, a Traffic Management Plan, an Emergency Plan, an Environmental Accident Prevention Procedure and a Corrective-Preventative Action procedure will in place to manage and control health safety risks posed to persons on and off-site.	Operational
8	7.7.2	A Safety Statement will be developed in order to allow for the comprehensive identification, assessment and control of health and safety risks present on-site.	Operational
9	7.7.2	A detailed traffic/movement plan addressing site control, gate control, speed limit, employee access/egress and visitor movement management will be in place to control movements on-site. As a result it is considered that all risk associated with mobile plant and traffic movements will be comprehensively managed and controlled.	Operational
10	7.7.2	An Emergency Plan will be in place for the site. This will address emergency preparedness and response plans in the event of an unplanned accident or emergency (E.g. fire, environmental incident, site security breach, accidents and incidents). A Fire Protection and Mitigation Plan will be developed and agreed with the fire authority prior to commencement of operations on-site. This plan will serve to ensure the prevention and management of fire on-site.	Operational
11	7.7.2	All of the above health and safety plans and procedures will continue to be implemented on-site for the duration of the operational phase of the proposed development.	Operational
12	7.7.2	A comprehensive and detailed emergency plan in place for managing and responding to potential accidents including major will be adopted and implemented at the facility. In addition to this, the operator has an Environmental Accident Prevention procedure in place onsite which further addresses the management and control of environmental accidents. Health and safety procedures at the proposed facility will address the following aspects: • Controlling Access to Site • Emergency response and preparedness	Operational

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
		• Fire protection and mitigation • Emissions to Atmosphere • Emissions to Water • Accidents and Occupational First-Aid • System Safety Rules • Application of Safety Rules • Workplace Noise and Dust • Hot Working • Working in Confined Spaces • Work at Heights • Control of Chains, Ropes and Lifting Gear • Risk Assessments and Method Statements • Accident & Incident Reporting Investigation • Oil and Chemical Spillage Control All of the above health and safety plans and procedures will continue to be implemented on-site for the duration of the operational phase of the proposed development.	
13	7.7.2	The proposed facility will operate under an IE Licence which is administered and enforced by the EPA. All site operations and activities will be undertaken in accordance with this licence. Environmental emissions which may impinge upon human health including noise, air emissions and aqueous emissions will be monitored, regulated and controlled under this license. As such, all potential environmental impacts and emission associated with site operations, as well as decommissioning, restoration and aftercare will be regulated, controlled and monitored in accordance with the terms of this licence.	Operational
14	7.7.2	A comprehensive closure, restoration and aftercare management plan will be in place for the proposed facility under the terms of the prospective IE licence for the facility. This plan will provide for the management, control and mitigation of known and unknown environmental risks, liabilities and impacts associated with each site.	Decommissioning

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
		The regulating authority, the EPA, will be responsible for enforcing the adoption and implementation of these plans and the successful and environmentally safe decommissioning of both sites. The implementation of this plan will mitigate against the potential for any adverse impacts on the receiving environment and human health as a result of potential environmental impacts/emissions from the site.	

17.3 Biodiversity

10.5	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
1	8.5.1.1	The area of the proposed works will be kept to the minimum necessary, including all site clearance works. No disturbance to habitats or flora outside the proposed development area will occur (other than the footprint of the proposed drainage outfall). Works will be restricted to the immediate footprint of the development site.	Construction
2	8.5.1.1	Machinery, and equipment will be stored within the site.	Construction
3	8.5.1.1	Access to the site will be primarily via the existing local road R400. HGVs shall approach the site via this road.	Construction
4	8.5.1.1	The area of Dry Meadow and Grassy Verges temporarily removed during the construction of the surface water outfall point will be reinstated upon completion. The plant machinery use will not encroach on the bank or verge (unless necessary for safety). Refer also to mitigation measures within Chapter 10: Hydrology and Water Quality, Volume 2 of this EIAR and section 8.5.1.4.	Construction
5	8.5.1.2	The construction site will not be lit at night (with the exception of low-level switchable safety lighting). All lighting systems will be designed to minimise nuisance through light spillage. Shielded, downward directed lighting will be used, and all non-essential lighting will be switched off during the hours of darkness. There will be no lighting directed at the drainage ditch.	Construction
6	8.5.1.3	The clearance of the site, including the buildings, treeline and vegetation, should only be undertaken outside of the bird breeding season (March 1st to August 31st inclusive). This will help protect nesting birds. Where this is not possible due to construction program constraints, the buildings, treeline and vegetation will be inspected for nesting birds by a suitably qualified Ecologist no more that 48hrs in advance of the felling / clearance works and advise if bird species are present.	Construction
7	8.5.1.3	In the event of birds nesting within buildings/ vegetation to be cleared, a species-specific buffer zones (exclusion zone for all works) will be put in place and clearance of the structure / vegetation will only proceed once the birds have fledged.	Construction
8	8.5.1.3	Construction operations will take place during the hours of daylight for the most part to minimise disturbances to roosting birds or any active crepuscular/nocturnal bird species.	Construction

10.5	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
9	8.5.1.3	Toolbox talks will be undertaken with construction staff on disturbance to key species during construction. This will help minimise disturbance.	Construction
10	8.5.1.3	Although the impacts to the Key Ecological Receptors, Black-headed Gull, Kestrel, Curlew, Golden Plover, Mute Swan, Lapwing and Whooper Swan have been determined as not significant in the absence of mitigation, additional measures as detailed in Chapter 12 in Volume 2 of this EIAR, have been proposed to reduce impacts related to construction noise and vibration. This will further reduce the potential for impacts on the Key Ecological Receptors bird species.	Construction
11	8.5.1.4	Construction phase mitigation measures to protect the receiving surface water environment and therefore aquatic ecology present in receiving surface water bodies are comprehensively defined in Chapter 10 – Hydrology and Surface Water, of Volume 2 of this EIAR and the CEMP for the proposed development.	Construction
12	8.5.2.1	Operational phase noise mitigation measures defined in Chapter 12 – Noise, of Volume 2 of this EIAR will prevent potential impacts on receiving Avifauna.	Operational
13	8.5.2.2	Operational phase mitigation measures for the protection of receiving waters defined in Chapter 10 – Hydrology and Surface Water, of Volume 2 of this EIAR will prevent potential impacts on receiving aquatic ecology.	Operational
14	8.5.2.3	All lighting systems will be designed to minimise nuisance through light spillage. Shielded, downward directed lighting will be used and all non-essential lighting will be switched off during the hours of darkness. Lighting will be directed away from the drainage ditch and surrounding landscape.	Operational
15	8.5.3	Decommissioning will take place in accordance with a defined Closure / Decommissioning Management Plan. This will ensure that all residual plant, equipment, waste and materials which pose an environmental risk will be safely removed from the site. Implementation of this plan will ensure that all known environmental liabilities associated with the site at the time of closure are fully addressed.	Decommissioning

17.4 Soils, Geology and Hydrogeology

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
1	9.5.1	To ensure the highest standards of environmental protection, the proposed development has been designed to operate in accordance with the following environmental protection standards: • European Commission (2018) BREF on Waste Treatment. • European Commission (2018) BATC on Waste Treatment. • EPA (2011) BAT Guidance Note on the Waste Sector.	Design
2	9.5.1	The site has been designed to ensure that sufficient contaminated firewater retention capacity has been provided on-site, if required.	Design
3	9.5.1	The construction works will be designed, overseen and checked by geotechnical and civil engineers, suitably qualified and experienced in excavation and earthworks design and construction methodologies.	Design
4	9.5.1	Any excavation and construction related works will be subject to a design risk assessment at detailed design stage to evaluate risk levels for the construction, operation and maintenance of the works. Identified impacts will be minimised by the application of principles of avoidance, prevention and protection.	Design
5	9.5.1	A method statement for each element of the works will be prepared by the Contractor prior to any element of the work being carried out.	Design
6	9.5.1	Given that the works comprises a significant proportion of excavation and earthworks, suitably qualified and experienced geotechnical personnel will be required on site to supervise the works.	Design
7	9.5.1	The Contract will require programming of the works such that earthworks are not scheduled during severe weather conditions. Where such weather is forecast, suitable measures will be taken to secure the works. The Project Manager is the person responsible for determining when works are to be stopped due to weather.	Design
8	9.5.2.1	A Construction Environmental Management Plan (CEMP) has been prepared for the proposed development and is included in Appendix 4.3 of Volume 3 of this EIAR. Measures for the protection of soils, geology and hydrogeology are defined in this CEMP. The CEMP defines the work practices, environmental management procedures and management responsibilities relating to the construction phase of the proposed development.	Construction

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
		The CEMP describes how the Contractor for the main construction works will implement a site Environmental Management System (EMS) to meet the specified contractual, regulatory and statutory requirements including the requirements identified as part of the environmental impact assessment process. The CEMP will be updated prior to construction to take account of any amendments arising during the consenting process and relevant conditions attached to the planning permission and will be implemented for the duration of the construction phase of the project. The CEMP will be a live document and will be reviewed and updated as required.	
9	9.5.2.2	All Asbestos containing materials will be stripped and removed prior to demolition in accordance with the Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006, and the relevant HSA Guidance documents. A suitably qualified contractor will be procured to carry out these works. Site-specific risk assessments and method statements will be developed for the Asbestos removal works to be undertaken.	Construction
10	9.5.2.3	The works will be designed and checked by suitably qualified geotechnical and civil engineers, suitably qualified and experienced in demolition, excavation and earthworks design and construction methodologies. The excavation and construction related works will be subject to a design risk assessment at detailed design stage to evaluate risks posed to the geological and hydrogeological regime from the construction, operation and maintenance of the works. Identified risks will be minimised by the application of principles of avoidance, prevention and protection.	Construction
11	9.5.2.3	A method statement for each element of the works will be prepared by the Contractor prior to any element of the work being carried out. The Contract will require programming of the works such that earthworks are not scheduled during severe weather conditions. Where such weather is forecast, suitable measures will be taken to secure the works.	Construction
12	9.5.2.3	To mitigate against erosion of exposed soils, all excavations will be constructed and backfilled as quickly as possible. Excavations will stop during or prior to heavy rainfall events. To mitigate against possible contamination of the exposed soils and bedrock, refuelling of machinery and plant will only occur at designated refuelling areas.	Construction

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
13	9.5.2.3	Where necessary, material which is required to be removed from site during demolition site clearance activities and earthworks will be taken to an authorized facility for recovery where required.	Construction
14	9.5.2.3	To mitigate against possible contamination of the exposed soils, refueling of machinery and plant will only occur at designated refueling areas with drip trays and spill kits available.	Construction
15	9.5.2.3	All excavations will be carried out such that they are stable or adequately supported. Unstable excavations will not be left unsupported. Where appropriate and necessary, excavations will be protected against the ingress of water or erosion.	Construction
16	9.5.2.4	Control and mitigation measures for the protection of surface water from silt run-off are defined in the Chapter 10 Hydrology and Surface Water Quality of this EIAR. These measures will prevent the accidental discharge of polluting material to surface waters in turn impacting groundwater.	Construction
17	9.5.2.5	Details of oil spill protection measures and emergency spill response procedures are defined in the CEMP which is contained in Appendix 4.3 of Volume 3 of this EIAR.	Construction
18	9.5.2.5	Any oil containers stored at the temporary site compound will be stored above appropriate bunds (e.g. sump pallets). Bunds will be sized to ensure they can store 110% the volume of the fuel and oil stored within them.	Construction
19	9.5.2.5	Appropriately sized drip trays will be utilized on-site to prevent the release of fuels or oils during refuelling operations or other work activities.	Construction
20	9.5.2.5	Spill kits containing oil soakage pads and booms will be made available on-site to ensure prompt and adequate clean-up of any accidental fuel or oil spills.	Construction
21	9.5.2.5	Waste oils will be collected in leak-proof containers and stored in bunds prior to removal from the site.	Construction
22	9.5.2.5	An Emergency / Spill Response Procedure will be prepared, and all construction site operatives will be briefed on the response measures required during the site inductions and routine toolbox talks.	Construction
23	9.5.2.5	All site plant will be inspected at the beginning of each day prior to use. Defective plant shall not be used until the defect is satisfactorily fixed. All major repair and maintenance operations will take place off-site. Vehicles entering the site will be in good working order, free from leakage of fuel or hydraulic fluid.	Construction
24	9.5.3	Most of the waste handling, storage and processing will take place indoors under cover. A relatively small quantity of wastes will be stored in external waste storage bays; however these will drain to an appropriate	Operational

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
		collection tank. This foul water will be dispatched off-site for proper and safe disposal at an appropriately authorized wastewater treatment facility.	
25	9.5.3	Fuel stored on-site during facility operations will be stored in a bunded double skinned diesel tank.	Operational
26	9.5.3	Oils stored on-site will be stored in indoor locations on sump pallet bunds.	Operational
27	9.5.3	Transformer oil will be stored in a specially designed, bunded container in the ESB sub-station on-site.	Operational
28	9.5.3	Spill kits will be made available on-site. Staff will be trained in the use of spill kits.	Operational
29	9.5.3	Good housekeeping will be adopted to prevent improper storage/generation of waste in outdoor locations (I.e. Regular inspection and clean up, yard sweeping etc.).	Operational
30	9.5.3	The underground foul water / washwater retention tank and connected pipelines will be integrity tested prior to commencement of operations at the site and periodically in accordance with the conditions of the prospective WFP and IE licence. These tests will need to be part hydrostatic and part visual inspection by chartered engineer. Yard integrity testing (through visual inspection) will also be undertaken once every three years also, so as to ensure the yard area is impermeable, as designed. A programme for maintenance of infrastructure/retention systems will be developed.	Operational
31	9.5.3.1	Phase 1 of operations will be carried out in accordance with the conditions a Waste Facility Permit enforced by Offaly County Council. Phase 2 operations will be carried out in accordance with the conditions an IE licence enforced by the EPA. Both these authorizations will define strict environmental protection standards in relation to the proposed facility. These authorizations will necessitate the development and implementation of an Environmental Management System (EMS) for the proposed facility.	Operational
32	9.5.3.2	The facility will be designed and constructed in accordance with best practices to control any potential risk from accidents during the operation phase and associated potential impacts to soils, geology and hydrogeology at the proposed development. A Fire Protection and Mitigation Plan and Emergency Response Procedures will be developed and implemented during the operation phase of the facility to address potential spills. The site has been designed to ensure the retention of contaminated firewater that may arise during a fire event on-site.	Operational

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
33	9.5.4	Decommissioning of the proposed facility/site will take place in accordance with the terms of a Closure, Restoration and Aftercare Management Plan and the prospective IE licence for the facility. It is intended to wind the operation down gradually until such time the vast majority of residual wastes and materials are removed from the site. Residual materials will be classified before being dispatched to an appropriately authorized waste management facility for treatment.	Decommissioning
34	9.5.4	To prevent the release of fuels or oils during decommissioning, mitigation measures similar to the fuel/oil control measures proposed for the construction phase of the proposed development will be implemented during decommissioning (See Section 9.5.2).	Decommissioning

17.5 Hydrology and Surface Water Quality

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
1	10.5.1	The works will be designed and checked by a civil engineer, suitably qualified and experienced in demolition and site clearance and construction methodologies.	Design
2	10.5.1	Any excavation and construction related works will be subject to a design risk assessment at detailed design stage to evaluate risk levels for the construction, operation, and maintenance of the works. Identified impacts will be minimised by the application of principles of avoidance, prevention, and protection.	Design
3	10.5.1	A method statement for each element of the works will be prepared by the Contractor prior to any element of the work being carried out.	Design
4	10.5.1	The Contract will require programming of the works such that earthworks are not scheduled during severe weather conditions. Where such weather is forecast, suitable measures will be taken to secure the works. The Project Manager is the person responsible for determining when works are to be stopped due to weather.	Design
5	10.5.1	To ensure the highest standards of environmental protection, the proposed development has been designed to operate in accordance with the following environmental protection standards: • European Commission (2018) BREF on Waste Treatment. • European Commission (2018) BATC on Waste Treatment. • EPA (2011) BAT Guidance Note on the Waste Sector.	Design
6	10.5.1	Stormwater entering the drainage system will be directed to a pre-cast attenuation tank. A slam shut valve and hydrobrake (limiting flow to 9.0 l/s) will be situated prior to the point of site discharge. The slam shut valve will ensure site containment in the event of any spill of hazardous material or environmental emergency.	Design
7	10.5.2.1	A Construction Environmental Management Plan (CEMP) has been prepared for the proposed development and is included in Volume 3, Appendix 4.3. The CEMP defines the work practices, environmental management procedures and management responsibilities relating to the construction phase of the proposed development. The CEMP describes how the Contractor for the main construction works will implement a site Environmental Management System (EMS) to meet the specified contractual, regulatory and statutory requirements including the requirements identified as part of the environmental impact assessment process.	Construction

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
		The CEMP will be updated prior to construction to take account of any amendments arising during the consenting process and relevant conditions attached to the planning permission and will be implemented for the duration of the construction phase of the project. The CEMP will be a live document and will be reviewed and updated as required.	
8	10.5.2.2	The proposed works are designed and checked by suitably qualified a civil engineer, with experience in demolition and site clearance and construction methodologies. The excavation and construction related works will be subject to a design risk assessment at detailed design stage to evaluate risks posed to the hydrological regime from the construction, operation, and maintenance of the works. Identified risks will be minimised by the application of principles of avoidance, prevention, and protection.	Construction
9	10.5.2.2	A method statement for each element of the works will be prepared by the Contractor prior to any element of the work being carried out. The Contract will require programming of the works such that earthworks are not scheduled during severe weather conditions. Where such weather is forecast, suitable measures will be taken to secure the works.	Construction
10	10.5.2.2	To mitigate against erosion of exposed soils, all excavations will be constructed and backfilled as quickly as possible. Excavations will stop during or prior to heavy rainfall events. All excavations will be carried out such that they are stable or adequately supported. Unstable excavations will not be left unsupported. Where appropriate and necessary, excavations will be protected against the ingress of water or erosion by using cut-off trenches to minimise the flow of surface water through construction areas. Excavations will be designed in manner that maximizes the percolation of surface water to ground and prevents run-off of surface water to the stream to the south of the site.	Construction
11	10.5.2.2	To mitigate against possible contamination of the exposed soils and surface runoff, refuelling of machinery and plant will only occur at designated refuelling areas with drip trays and spill kits available.	Construction
12	10.5.2.2	Material removed from site during site clearance activities and earthworks will be reused on-site, where possible. Residual material will be taken to Kilmurray Soil Recovery site. The Kilmurray C&D / Soil Recovery Facility has a Waste Facility Permit for their Soil Recovery Activity (WFP References: WFP-OY-19-0204-01).	Construction
13	10.5.2.3	Temporary cut-off trenches and earthen bunds will be used to prevent entry of surface water into excavations, temporary stockpiles, and disturbed working areas, thereby preventing surface waters from being exposed to disturbed soils.	Construction

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
14	10.5.2.3	All temporary stockpiles will be situated to the north of the development as far away from the drainage channel to the south of the site as possible.	Construction
15	10.5.2.3	Standing water, which could arise in excavations, has the potential to gradually become affected by an increased concentration of suspended solids as a result of the disturbance to soils. These waters, where they arise, will be pumped from these excavations promptly to prevent this from occurring.	Construction
16	10.5.2.3	Good housekeeping will be practiced on-site to prevent discharge of polluting material to the surface water environment (I.e. post work clean down, end of day clean down, visual inspection and maintenance of the site drainage system elements).	Construction
17	10.5.2.4	No fuels will be stored on-site during the construction phase. Refuelling of construction vehicles and mobile will be carried out on an ad hoc basis using a mobile on-site re-fuelling truck.	Construction
18	10.5.2.4	Any oil containers stored at the temporary construction compound will be stored above appropriate bunds (e.g. sump pallets). Bunds will be sized to ensure they can store 110% the volume of the fuel and oil stored within them.	Construction
19	10.5.2.4	Appropriately sized drip trays will be utilized on-site to prevent the release of fuels or oils during refuelling operations or other work activities.	Construction
20	10.5.2.4	Spill kits containing oil soakage pads and booms will be made available on-site to ensure prompt and adequate clean-up of any accidental fuel or oil spills.	Construction
21	10.5.2.4	Waste oils will be collected in leak-proof containers and stored in bunds prior to removal from the site.	Construction
22	10.5.2.4	An Emergency / Spill Response Procedure will be prepared, and all construction site operatives will be briefed on the response measures required during the site inductions and routine toolbox talks.	Construction
23	10.5.2.4	All site plant will be inspected at the beginning of each day prior to use. Defective plant shall not be used until the defect is satisfactorily fixed. All major repair and maintenance operations will take place off-site. Vehicles entering the site will be in good working order, free from leakage of fuel or hydraulic fluid.	Construction
24	10.5.2.5	All rubble arising due to demolition will be collected and safely contained in skips / storage containers before immediate dispatch off-site.	Construction

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
25	10.5.2.5	When cast-in-place concrete is required, all work must be done in dry conditions and must be completed isolated from any flowing water which may enter the drainage channel to the south of site.	Construction
26	10.5.2.5	No batching of wet-cement products will occur on site. Ready-mixed supply of wet concrete products and where possible, emplacement of pre-cast elements, will take place.	Construction
27	10.5.2.5	No washing out of any plant used in concrete transport or concreting operations will be allowed on-site.	Construction
28	10.5.2.5	Where concrete is delivered on site, only the chute need be cleaned, using the smallest volume of water possible. No discharge of cement contaminated waters to the construction phase drainage system or directly to any artificial drain or watercourse will be allowed.	Construction
29	10.5.2.5	A designated impermeable cement washout container should be provided on-site at a designated area for chute cleaning. This washout facility shall be situated away from surface water drains. This area will be effectively isolated from any flowing water which may enter the drainage channel to the south of the site.	Construction
30	10.5.2.5	Weather forecasting will be utilized to ensure concrete pours are only undertaken during dry weather conditions.	Construction
31	10.5.2.5	Concrete pour sites will be made free of standing water prior to carry out the pour. Plastic covers will be available on-site to prevent entrain of surface water in poured concrete in the case of sudden rainfall.	Construction
32	10.5.2.5	Ensure pour site is free of standing water and plastic covers will be ready in case of sudden rainfall event.	Construction
33	10.5.2.5	pH levels in surface water discharges from the site and at receiving surface waters downstream of the site will be regularly monitored to ensure they are within the required pH range of ≥6 ≤9, (I.e. the Environmental Quality Standard for pH in surface water bodies defined in the Surface Water Regulations, as amended).	Construction
34	10.5.2.6	The installation of a surface water discharge pipeline from the site to the surface water channel to the south of the site will take place during the construction phase of the proposed development. A discharge outfall to this surface water drainage channel will be constructed. This will consist of a pre-cast concrete headwall on 100mm thick bed of lean mix concrete. Extra precaution will be taken when installing this outfall given its proximity to a receiving surface water body. Some works will need to take place within the drainage channel during headwall construction.	Construction

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
35	10.5.2.6	These works will only be carried out during the period advised by Inland Fisheries Ireland for 'in-stream' works in their guidance note entitled 'Guidelines on the Protection of Fisheries during Construction Works in and adjacent to Waters,' that is, July to September inclusive. This time period coincides with the period of lowest expected rainfall, and therefore minimum run-off rates. This will minimise the risk of entrainment of polluting material in surface water run-off, and transport via this pathway to the adjacent surface water drainage channel.	Construction
36	10.5.2.6	These works will only be carried out after a during a period of dry weather conditions in order to prevent the run-off of polluting material from the working area to the adjacent drainage channel.	Construction
37	10.5.2.6	Outfall construction will be undertaken in a careful and precautionary manner, and in accordance with a defined method statement. The working area will be kept as tidy as possible for the duration of the works. All excavated / excess material will be immediately removed from the working area on an ongoing basis as works progress.	Construction
38	10.5.2.6	All personnel carrying out outfall construction works will be obliged to read and fully understand the method statement for the proposed works. A toolbox talk regarding the method statement, the carrying out of the works generally, and the need to protect the drainage channel will be carried out immediately prior to the commencement of works.	Construction
39	10.5.2.6	Silt fencing will be utilized at along the bank of the drainage channel to prevent the discharge of polluting material to the drainage channel during earthworks associated with outfall construction.	Construction
40	10.5.2.6	As an extra precaution, sediment mats will be employed within the drainage channel during outfall construction.	Construction
41	10.5.2.6	An inspection of the working area should be undertaken on completion of the outfall construction works to assess and confirm the implementation of the agreed prevention and control measures.	Construction
42	10.5.2.6	Any machines working in or around the watercourse must be protected against leakage or spillage of fuels, oils, greases, and hydraulic fuels (e.g. using drip trays).	Construction
43	10.5.2.6	Watercourse banks should be left intact insofar possible. Areas along the riverbanks and margins shall be fenced off in order to restrict movement of people and machinery in these and prevent their disturbance.	Construction

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
44	10.5.2.6	The headwall itself will be pre-cast whilst the bed in which the headwall will be situated within will be lean mix concrete, thereby substantially reducing the potential for concrete materials becoming entrained in surface water run-off.	Construction
45	10.5.2.6	Some works will need to take place within the drainage channel during headwall construction. The surface water drainage channel will need to be temporarily dammed during outfall construction. The stream area adjacent to the outfall working area will be dammed (E.g. Using pea gravel bags and geosynthetic textile during the installation of the outfall). Water arising upstream of the dammed area will be transferred downstream of the dammed area by pump during the course of the headwall construction works. This temporary arrangement will allow outfall construction works (E.g. earthworks, concrete works) to be isolated from flowing water in the drainage channel. These works will occur over a period of one day.	Construction
46	10.5.2.6	A detailed method statement for the damming and outfall construction works will be developed by the construction contractor.	Construction
47	10.5.2.6	The method statement for these works will be sent to the Eastern Office of Inland Fisheries Ireland (IFI) for their approval, as required by Inland Fisheries Ireland guidelines entitled 'Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites.' Prior to dewatering, the dammed area will be electrofished, as necessary, to temporarily remove fish (under appropriate IFI section 14 or derogation license).	Construction
48	10.5.2.7	Felling of trees present on-site will be undertaken using chainsaw. All brash / felled wood will be removed from the site and sent to an appropriately authorized waste management facility for recovery/ recycling. No brash / felled wood will be left on site overnight. This measure will reduce the risk of potential for sediment and nutrient run-off to the drainage channel to the south of the site.	Construction
49	10.5.2.8	A programme of water monitoring will be carried out during the construction phase. The monitoring programme shall include daily checks, weekly inspections and monthly audits to ensure compliance with the CEMP.	Construction
50	10.5.2.8	Weekly visual inspections of surface water management features, such as earthen bunds, cut-off trenches, refuelling areas and receiving watercourses, to identify any obstructions to channels, increased erosion or deposition of sediment and to allow for appropriate maintenance of the drainage regime.	Construction

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
51	10.5.2.8	Daily visual inspections of watercourses, particularly during periods of high rainfall, in order to establish that levels of suspended solids have not been increased by site activities.	Construction
52	10.5.2.8	If excessive suspended solids are noted, construction work will be stopped, and remediation measures will be put in place immediately.	Construction
53	10.5.2.8	A detailed water quality monitoring programme will be implemented on a weekly and monthly basis during the construction phase of the proposed development, in addition to the visual inspections outlined above, to ensure the effective implementation of the proposed mitigation measures. This monitoring will commence prior to the start of work activities to establish the baseline conditions at the development site.	Construction
54	10.5.2.8	Field measurements and grab samples will be taken at the site discharge point and at suitable upstream and downstream locations at the drainage channel to the south of the development site. The field measurements will be recorded at the site and will include measurement of the following parameters, electrical conductivity (µs/cm), pH, temperature (ºC) and dissolved oxygen (mg/l).	Construction
55	10.5.2.8	The field measurements and sampling will be undertaken on a weekly basis during site clearance, demolition and earthworks stages of construction. Following this stage, it is proposed that the measurements/sampling will be undertaken on a monthly basis during the subsequent stages of construction.	Construction
56	10.5.2.8	All monitoring results will be compared with the baseline surface water monitoring undertaken as part of this assessment, as well as surface water related Environmental Quality Standards defined in the Surface Water Regulations, as amended, to ensure construction phase activities are not having an adverse impact on water quality in the drainage channel to the south of the site.	Construction
57	10.5.3.1	Phase 1 of operations will be carried out in accordance with the conditions a Waste Facility Permit enforced by Offaly County Council. Phase 2 operations will be carried out in accordance with the conditions an IE licence enforced by the EPA. Both these authorisations will define strict environmental protection standards in relation to the proposed facility. These authorizations will necessitate the development and implementation of an Environmental Management System (EMS) for the proposed facility.	Operational
58	10.5.3.2	**Stormwater Attenuation System** A stormwater drainage and attenuation system will be provided on-site. External yard areas (excluding external waste storage bays) and building roof areas will be served by this system.	Operational

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
		The yard will be formed in a manner that allows all surface water generated in it to fall toward an underlying drainage network. Stormwater entering the drainage system will be directed to a pre-cast attenuation tank. This tank will be 480.5 m3 in size (41 m x 6.5 m x 1.8 m), providing an attenuation volume of 253 m3, a rainwater harvesting volume of 151 m3, and a firewater volume 76.5 m3. The attenuation volume provided has been designed to accommodate a 1:100-year event in addition to a 20% climate change allowance volume. A hydrobrake will be situated after the attenuation tank and will also be used to limit/control flow off-site. These systems will serve to prevent the rapid release of stormwater generated on hard-standing areas on-site to the receiving surface water drainage channel to the south of the site.	
59	10.5.3.2	**Full Retention Separator** Stormwater generated on-site and exiting the stormwater attenuation tank will drain to a Class I Full Retention Separator (2.610m length x 1.225m wide) before being discharged off-site to the drainage channel to the south of the site. This system will serve to prevent the uncontrolled the release of spilled fuels of oils that may have accidentally become entrained in stormwater on-site. This Separator will be inspected regularly and serviced periodically in accordance with manufacturer specifications to ensure it functions correctly at all times.	Operational
60	10.5.3.2	**Emergency Slam Shut Valve** Uncontrolled releases (E.g. associated with a sizeable fuel spill) can be prevented from leaving the site via the drainage system by utilizing a slam shut valve situated prior to the point of discharge from the site. This slam shut valve will serve to contain polluting material released on-site through rendering the site and its underlying drainage system impervious and water-tight. The utilization of this slam shut valve during spills and emergencies will be formalized within emergency response procedures developed for the facility.	Operational
61	10.5.3.2	**Foul Water and Washwater Management** Foul water generated at external waste storage bays, and washwater generated during internal process and storage area clean down in the MRF building, will drain to and be collected in an underground retention tank on-site. This tank will be hydrostatically tested upon commencement of operations and every three years thereafter in accordance with EPA requirements to demonstrate its ongoing water tightness and integrity. Aqueous arisings generated in this tank will be collected from the site and transferred to a wastewater treatment plant periodically for final treatment.	Operational

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
62	10.5.3.2	**Firewater Retention Systems** The aforementioned slam shut valve serving the proposed site stormwater drainage system will be utilised during a fire event to render the site impervious/water tight. In such an event, underground tanks, internal floors in the MRF building and external yard areas will be utilised for firewater retention in the event of a fire on-site. The hard stand of the whole site itself will be surrounded by a concrete wall perimeter and will be formed in a dished manner to allow for a greater amount of firewater retention on-site.	Operational
63	10.5.3.2	**Wastewater Treatment** An on-site wastewater treatment system (WWTS), consisting of a secondary treatment and soil polishing treatment system and adjoining percolation area will be developed in the southeast corner of the site. Domestic wastewater arising at sanitary facilities situated in the proposed Administration Building will be directed by a wastewater drain to this WWTS for treatment. Treated wastewater will then percolate to ground. A site suitability assessment has been carried out in support of this planning application and demonstrates that the ground is suitable for the proposed wastewater treatment and will safely filter treated wastewater exiting this system. The wastewater treatment system will be serviced periodically in accordance with manufacturer specifications to ensure its ongoing efficacy. This will prevent the discharge of pollutants to groundwater and the subsequent flow of this polluting material in groundwater to the surface water body to the south of the site.	Operational
64	10.5.3.3	A Fire Protection and Prevention Plan, Accident Prevention Policy, Emergency Response Procedures and Spill Control Procedures will be developed and implemented during the operational phase of the facility to prevent, control and manage potential fire and spill events that may lead to the discharge of polluting material to the receiving surface water environment. All employees will be made aware of these plans and will be provided training in the implementation of these plans relevant to their role.	Operational
65	10.5.3.4	Any diesel, hydraulic fluids, greases and oils stored on site will be bunded. The diesel tank on-site will be double skinned. Oils stored in the workshop on-site will be stored in sump pallets. The bund capacity of these secondary retention systems will be sufficient to contain 110% of the maximum capacity of primary containers.	Operational
66	10.5.3.4	Appropriate spill control equipment, such as oil soakage pads, will be kept within the refuelling areas and in each item of plant to deal with any accidental spillage.	Operational

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
67	10.5.3.4	Any spillage of fuels, lubricants or hydraulic oils will be immediately contained and cleaned using the spill control equipment provided on-site.	Operational
68	10.5.3.4	Waste oils and hydraulic fluids will be collected in leak-proof containers and will be stored in sump pallets prior to removal from the site.	Operational
69	10.5.3.5	Surface water quality monitoring will be implemented on an ongoing basis at the site during both Phase 1 and 2 of facility operations in accordance with the requirements of the facility's WFP / IE licence to ensure the efficacy of the operational phase surface water management mitigation measures proposed, and to ensure that only uncontaminated surface water is discharged from the site to the drainage channel to the south of the site.	Operational
70	10.5.3.5	The adoption and implementation of the monitoring programme will ensure and verify that only uncontaminated stormwater is discharged from the site to the surface water body to the south of the site and will ensure that operational phase stormwater discharges will have no impact on the water quality of that body.	Operational
71	10.5.4	Decommissioning and closure of the facility will take place in accordance with the Closure, Restoration and Aftercare Management Plan developed for the facility, and in accordance with the requirements of the EPA's Guidance to Licensees on Surrender, Cessation and Closure of Licensed Sites (2012).	Decommissioning
72	10.5.4	Where appropriate, the same mitigation measures defined for construction and operational phase activities will be applied during the decommissioning phase (I.e. spill prevention measures, slam shut valve, full retention separator).	Decommissioning
73	10.5.4	All site decontamination will take place in accordance with defined method statements. The slam shut off valve on-site will be shut during site decontamination. All wash water arisings will be collected in the underground tanks on-site before being take up and dispatched to an appropriately authorized wastewater treatment plant for final treatment.	Decommissioning

17.6 Air Quality and Climate

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
1	11.5.1.1	As construction phase impacts due to odour are predicted to be imperceptible no mitigation is proposed.	Construction
2	11.5.1.2	Prior to demolition blocks will be soft striped inside buildings (retaining walls and windows in the rest of the building where possible, to provide a screen against dust).	Construction
3	11.5.1.2	Drop heights from conveyors, loading shovels, hoppers and other loading equipment will be minimised.	Construction
4	11.5.1.2	Asbestos on site will be removed by a suitably qualified contractor prior to any demolition taking place in accordance with an Asbestos Management Plan and HAS Guidelines on the management and Disposal of Asbestos defined in their Guidance Document entitled 'Practical Guidelines on ACM Management and Abatement.'	Construction
5	11.5.1.2	Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic.	Construction
6	11.5.1.2	Any road that has the potential to give rise to fugitive dust will be regularly watered, as appropriate, during dry and/or windy conditions.	Construction
7	11.5.1.2	Public roads outside the site will be regularly inspected for cleanliness and cleaned as necessary.	Construction
8	11.5.1.2	Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods.	Construction
9	11.5.1.2	During movement of materials both on and off-site, trucks will be stringently covered with tarpaulin at all times. Before entrance onto public roads, trucks will be adequately inspected to ensure no potential for dust emissions.	Construction
10	11.5.1.3	All contractors will ensure that machinery used on site is properly maintained and is switched off when not in use to avoid unnecessary exhaust emissions from construction traffic.	Construction
11	11.5.1.3	The transport of excavated spoil material is minimised due to the use of the adjacent Kilmurray infill site rather than an alternative location that is further away. In addition, sourcing other materials such as the concrete, and soil and stone required for the proposed project from this location also reduces transport related emissions. It also has the potential to reduce wastage of concrete loads due to traffic related delays.	Construction

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
12	11.5.2.1	Good housekeeping practices (internally and externally) and a closed-door management strategy outside of the proposed operational hours will also be maintained at all times.	Operational
13	11.5.2.1	The facility will have a high level of cleanliness with outdoor surfaces washed down regularly with any remaining stagnant water removed.	Operational
14	11.5.2.1	Cleaning of waste and storage bins, trucks carrying odorous materials and holding vessels will be undertaken regularly with an increased frequency in summer months.	Operational
15	11.5.2.1	Indoor waste processing and storage areas will be subject to washdown on a daily basis during operations.	Operational
16	11.5.2.1	All spills, overflows and leaks will be cleaned up promptly with all operators aware and trained in the relevant SOP for this procedure.	Operational
17	11.5.2.1	Wash water will drain to foul lines which in turn will direct into underground wastewater collection tanks. Wastewater collected in these tanks will be periodically tankered off-site and brought to an appropriately authorized wastewater treatment plant for treatment. Due to the underground enclosed nature of the tanks no additional odour is predicted from them.	Operational
18	11.5.2.2	The site will operate on a clean as you go basis and will be regularly swept by a forklift sweeper. The roadsweeper vehicle possesses wetting capabilities in order to collect/remove and minimise dust and mud from yard and road surfaces. There will be an end-of-day clean up at the site to ensure that all sources of dust and litter are removed and to ensure that there is no off-site nuisance outside of normal operating hours.	Operational
19	11.5.2.2	Daily site inspections will be undertaken to ensure site cleanliness and prevent the generation of excessive levels of dust generating waste.	Operational
20	11.5.2.2	Wastes will only be accepted on-site in covered or enclosed vehicles.	Operational
21	11.5.2.2	The main dust generating waste which will be stored on-site is Construction and Demolition waste. This waste will be stored either indoors in the MRF building or within an enclosed bay outdoors. Where necessary (I.e. on dry and/or windy days, or in the case of waste presenting on-site which is particularly light and dispersive) this waste will be lightly wetted to prevent dust generation.	Operational
22	11.5.2.2	Circulation routes will be wetted during dry and/or windy days to prevent dust generation as a result of traffic movements on-site. A strict 15 kph speed limit will also be in force on-site to prevent the generation of dust associated with harsh HGV and vehicle movements on-site.	Operational

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
23	11.5.2.2	Dust deposition monitoring will be undertaken on-site quarterly in accordance with the terms of the WFP and subsequent IE Licence in order to demonstrate that dust does not impact upon any off-site receptors.	Operational
24	11.5.2.2	Where dust monitoring shows a breach of the relevant dust deposition limit or where there is a complaint made to the site relating to dust generation, a non-conformance will be raised under the company's EMS, root cause analysis will be undertaken and corrective/preventative action will be implemented to identify the source of dust, reasons why dust is being generated and control measures to cease dust generation and prevent future occurrence of dust generation. A record of the above will be maintained for future reference.	Operational
25	11.5.2.3	As operational phase impacts to air quality are predicted to be imperceptible no mitigation is proposed.	Operational
26	11.5.2.4	All vehicles will be regularly maintained and upgraded where possible to the best available technology in order to ensure emissions are minimised. There will be no idling of vehicles/machinery on site.	Operational
27	11.5.2.4	Wastes entering the facility will be pre-treated and sent for energy recovery through incineration which has a significantly lower carbon footprint than landfill.	Operational

17.7 Noise and Vibration

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
1	12.10.1	The noise impact for construction works traffic will be mitigated by restricting movements along access routes to the standard working hours and exclude Sundays, unless specifically agreed otherwise.	Construction
2	12.10.1	The construction works on-site will be carried out in accordance with the guidance set out in BS 5228:2009+A1:2014, and the noise control measures set out in Appendix 4.2 Construction Environmental Management Plan (CEMP) in Volume 3 of this EIAR.	Construction
3	12.10.1	Construction contractors will be required to comply with the requirements of the Directive 2000/14/EC of the European Parliament and of the Council that relates to the noise emission in the environment by equipment for use outdoors, the Safety, Health and Welfare at Work (Control of Noise at Work) Regulations, 2007, Chapter 1 of Part 5: Control of Noise at Work, and BS 5228-1&2:2009+A1:2014 (Code of practice for noise and vibration control on construction and open sites).	Construction
4	12.10.1	The hours of construction activity will be limited to avoid unsociable hours. Construction operations shall be restricted to between 07:30 hours and 18:30 hours Monday to Saturday, unless specifically agreed otherwise.	Construction
5	12.10.1	Mitigation measures shall be implemented to reduce impacts related to construction noise and vibration. BS 5228-1:2009+A1:2014 provides a detailed list of mitigation measures to minimise the noise impact from construction activities and these recommendations will be implemented. It is recommended that construction activities shall be carried out during normal working hours. A site representative responsible for matters relating to noise should be appointed.	Construction
6	12.10.1	Avoidance of unnecessary revving of engines and switch off equipment when not required.	Construction
7	12.10.1	A speed restriction of 20 km/hr will be applied on-site.	Construction
8	12.10.1	Training of site staff in the proper use and maintenance of tools and equipment.	Construction
9	12.10.1	Machines that could be in intermittent use will be shut down between work periods or will be throttled down to a minimum.	Construction
10	12.10.1	Plant known to emit noise strongly in one direction will, when possible, be orientated so that the noise is directed away from noise-sensitive locations e.	Construction
11	12.10.1	Selection of equipment conforming to international standards on noise and vibration.	Construction

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
12	12.10.1	Selection of equipment with quiet and low vibration emissions, and ensure equipment is regularly maintained ensuring it operates in an efficient manner. If possible, all mechanical plant will be fitted with effective exhaust silencers.	Construction
13	12.10.1	Compressors will be of the "sound reduced" models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers.	Construction
14	12.10.1	Drop heights for materials such as gravels will be minimised.	Construction
15	12.10.1	Locate equipment as far away as noise sensitive receivers as possible within constraints of the site.	Construction
16	12.10.2	MSW and C&D/C&I processing activities will be carried out indoors, to attenuate noise associated with these operations.	Operational
17	12.10.2	All fast-acting roller doors will be closed for the vast majority of the time during MSW and C&D/C&I Process Line operations (except when mobile plant needs to move between site area intermittently).	Operational
18	12.10.2	Timber shredding operations will be limited to the daytime only.	Operational
19	12.10.2	The timber shredder will operate in an enclosed location surrounded by a push wall on one side and interlocking blocks on two sides, to attenuate noise associated with its operation.	Operational
20	12.10.2	During night-time, unloading activities will only be carried out internally with all fast-acting roller doors closed.	Operational
21	12.10.2	Chutes and hoppers associated with process plant will be lined with a damping layer (rubber lining) to minimize noise output from plant.	Operational
22	12.10.2	Drop heights will be kept to a minimum to minimize noise arising due to material handling.	Operational
23	12.10.2	Plant and equipment will be serviced and maintained regularly and in line with manufacturer specifications (e.g. lubrication of equipment, fixing loose parts, proper balancing), so as to minimize excess mechanical type noise.	Operational
24	12.10.2	The unnecessary revving of engines and the idling of mobile plant and HGV's will be avoided. Engines will be switched off if not moving, in particular at night time.	Operational

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
25	12.10.2	Regular noise monitoring will be carried out at NSL's in accordance with the terms of the prospective WFP and subsequent IE licence, to ensure noise levels associated with the facility do not result in a breach of EPA noise limits at NSL's.	Operational

17.8 Traffic and Transportation

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
1	13.7.1	All concrete and stone input materials will be sourced from the adjoining Kilmurray quarry site.	Construction
2	13.7.1	All inert demolition related waste material generated during construction will be removed from the site and transported to the adjacent Kilmurray Construction and Demolition (C&D) / Soil Recovery Facility.	Construction
3	13.7.1	Compliance with Local Authority policy on maintaining the roads serving the site clean of dirt and debris associated with the development of the site.	Construction
4	13.7.1	A brief Construction Traffic Management Plan can be prepared as a condition of planning.	Construction
5	13.7.2	Improvement works to the existing junction of the private access road with R400.	Operational

17.9 Archaeological, Architectural and Cultural Heritage

Mitigation No.	EIAR Section Reference	Description of Mitigation Measures/ Commitments	Stage
1	14.5.1	It is proposed that archaeological monitoring of all groundworks at development site be carried out. Monitoring will be carried out under licence to the Department of Housing, Local Government and Heritage and the National Museum of Ireland. Provision will be made for the full excavation and recording of any archaeological features or deposits that may be exposed during monitoring.	Construction

No mitigation measures regarding archaeological and architectural resource are required for the operational phase of the proposed development.

There will be no decommissioning effects on the archaeological, architectural or cultural heritage resource. As such, no mitigation measures are required.

17.10 Landscape and Visual Impacts

Due to the distinctively low level of likely visual impacts arising from this proposal, there are no mitigation measures proposed. In addition, the nearest private receptors are more than 750m distance across relatively level topography, the nearest public receptor (the R400) is more than 1.5km. In this regard, the mitigation measures are 'embedded' into the siting, design and location of the proposed development, so as to not need any additional mitigation measures.

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