

ENVIRONMENTAL IMPACT ASSESSMENT REPORT REVISED

NON-TECHICAL SUMMARY

MILLTOWN COMPOSTING SYSTEMS LTD. PROPOSED INCREASE IN TONNAGE THROUGHPUT AND RECONSTRUCTION OF OLD AGRICULTURAL SHEDS AS MATURATION SHEDS AT THE COMPOSTING FACILITY LOCATED AT MILTOWNMORE, FETHARD, CO. TIPPERARY

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NON TECHNICAL SUMMARY

Introduction

The proposed development will continue to operate as an aerobic composting plant with the capacity to accept and process a broad range of compostable organic materials including source segregated household kitchen waste; catering wastes; non-hazardous industrial and municipal wastewater sludges and organic fines generated in the physical treatment of mixed municipal waste (MMW). The proposal is to increase the tonnage throughput in the plant from 50,000 tonnes per annum to up to 75,000 tonnes per annum. Due to the relatively short time period that the organic material spends in the composting bays during the process phase in Shed 1 and the waste reception shed it is considered that the existing process facility bays will be capable of processing the increased throughput. However, the capacity to mature the material following processing will require an increase in maturation area at the facility.

As part of the proposed development it is proposed that two reconstructed agricultural sheds to the west of the existing reception shed (i.e., maturation sheds 2B and 3B) occupying a floor area of 3,560m² would be used for extended maturation capacity for sheds 2 and 3 to allow for the proposed increase in throughput. The site office, canteen/changing room and the container used to store lubricating/hydraulic oil and the power washer will remain in the same location as present. The existing biofilters south of Shed 1 (i.e., A2-1) and north of shed 3 (i.e., A2-3) will not change but there is a proposed third biofilter (A2-3) that would treat extracted air from sheds 2B and 3B. That biofilter would be located to the south of shed 2B.

A site layout drawing of the proposed development is provided in Attachment A.1.

Overview of Milltown Ltd.

The Milltown Composting Ltd. (Milltown) in-vessel composting facility at Milltown More, Fethard, County Tipperary operates under an Environmental Protection Agency (EPA) Waste Licence (Ref. W0270-01) issued on the 9th of September 2010, a copy of which is included in Attachment A.2. The facility also has approval from the Department of Agriculture Food and the Marine (DAFM) to operate as a composting plant accepting Category 2 and Category 3 animal by-products, a copy of which is also included in Attachment A.2.

The facility originally began operations in 2004 under a Waste Permit (Ref. WP 019 02) issued by South Tipperary County Council. The predominant materials accepted was organic fines material from the treatment of mixed municipal solid waste, with smaller amounts of non-hazardous industrial and municipal wastewater sludges, and off specification animal feed. The actual amount processed on site is dependent on market conditions and fluctuates to meet market demand. The roll out of source segregated collection of household organic waste in the Southern Region, and the increased source segregation for commercial activities has increased the volume of organic bio-waste and organic fines material requiring biological processing in the Southern Waste Management Region. To meet the market

demand for the requirements for increased biological treatment, Milltown increased its capacity to a maximum of 50,000 tonnes/year in 2017 and is now, due to industry pressures requesting an increase in throughput to 75,000 tonnes/year. The company has seven staff members managing and operating the facility and this would increase to nine if the proposed development is approved.

The company's customer base encompasses waste collection companies collecting non-hazardous domestic and commercial waste in the Southern region and beyond. Current company operations are limited and involve only 7 staff managing and operating the facility. Milltown's objective is to provide an aerobic treatment and recovery outlet for biological waste materials collected in the Southern Region and beyond. It is Milltown's ambition to provide this treatment option with respect to the surrounding environment and the best available technologies that can practicably be employed at the facility. The company's registered Headquarters are located at 5 Lapps Quay, Cork, Co. Cork. A copy of the company certificate of incorporation is provided in Attachment A.3.

Existing Site

The site is located in the townland of Milltownmore, approximately 6 km to the east of Fethard and 10 km southwest of Cashel. The site is accessed by a local access road off the Rosegreen to Fethard L1409. The site encompasses approximately 3.94 hectares. It is at an elevation of approximately 139m Ordnance Datum (OD) and slopes gently to the west from a high point in the east. It is occupied by a new waste reception building and process building (i.e., Shed 1), a covered yard, and paved open yards; weighbridge, office; canteen/changing room; storage shed; wetlands, bio filter and agricultural sheds. The area to the north of the Sheds is undeveloped and formerly used for animal grazing, the area to the southwest of the Sheds is a series of constructed wetlands, further south of the wetlands, to the east and to the west are all agricultural lands.

The composting facility is an in-vessel system that can accept a broad range of compostable materials including source segregated household kitchen waste; catering wastes; non-hazardous industrial and municipal wastewater sludges and organic fines generated in the physical treatment of mixed municipal solid waste (MSW). Due to the modular lay-out, the tunnels/bays can be operated independently, which provides flexibility in treating the different organic waste streams. The finished product can, depending on quality, be used for horticultural and agricultural purposes, or as landfill cover

At present, and for the immediate future, the Milltown facility is solely concentrated on the biostabilisation of organic fines material as it has contracts in place to process that material on behalf of waste management contractors that physically process MSW.

Composting Operations

The materials are blended and mixed in the reception building and then transferred from the reception area to the process bays using the telescopic loaders. The material placed in each of the bays is assigned an individual batch number to allow performance monitoring during the treatment stages and ensure the maintenance of accurate records. Five temperature probes are placed within the body of the material before sheeting is placed over the top of the bay. There is a computerized process control system, located

in the site office, which records the temperature in each vessel to ensure that optimum composting conditions are maintained. In addition to the regular temperature monitoring, oxygen levels are monitored periodically using a hand held probe, the vessels consist of a forced air system and oxygen levels are maintained through on going positive air input to the vessels. The moisture level is assessed either visually or using a hand held moisture meter.

In order to comply with the Animal By-Products Regulations a 'two barriers' system is operated in the MSW/kitchen/catering waste processing area. The objective is to ensure a maximum particle size of 40mm and to achieve a sustained temperature of 60°C over two separate 48 hour periods. The MSW fines typically have a particle size less than 40mm and do not require additional processing. Large items are manually removed before the materials are composted. Maintaining the temperature at 60°C for the required two separate time periods is achieved by composting the same compost batch in two different vessels. In the first vessel, or Barrier 1, the process usually takes one week and when completed, the material is transferred to a second vessel (Barrier 2) where it is thoroughly mixed and again composted until the temperature requirements are met. If required, to avoid cross contamination different loaders and buckets can be used to move the materials into and out of the composting vessels.

Proposed Changes

Milltown propose to increase the throughput of organic material at the composting facility to approximately 240 tonnes per day (not exceeding 75,000 tonnes per annum) and to apply to the Environmental Protection Agency for a review of their Industrial Emissions Licence. The future licenced area will be the same as the current waste licence (Ref. W0270-02) for the site but with the 2 additional maturation sheds 2B and 3B included. At present, and for the immediate future, the Milltown facility is solely concentrated on the biostabilisation of organic fines material as it has contracts in place to process that material on behalf of waste management contractors that physically process MSW. The reception area for organic material is a shed located immediately to the west of Shed 1 where delivery trucks back in and deposit their loads. The reception building provides additional control over potential impacts to surface water quality from runoff from the deposited feedstock material and allows for diversion of surface water from the facility buildings roofs and outside yard surface to the dedicated surface water drainage system and also provides a control for leachate runoff inside the reception building whereby it is directed to a closed re-circulation system. Any leachate or minor surface water discharge in the reception area will be directed to the collection sump and pumped back to the process bays for reuse as part of the re-circulation system (see Chapters 7 & 8).

In the event of a change in the market where the supply of brown bin organic material and other waste materials that can produce a usable compost product is increased, Milltown would change their material management system to ensure that if organic waste that can produce compost product and organic fines waste were being accepted on site at the same time they would be physically separated to avoid potential for cross contamination to occur. Any potential crossover areas that may exist (e.g., internal transfer area between the existing compost facility sheds and the proposed new sheds 2B and 3B) will be physically blocked and sealed to ensure complete separation of the two activities.

- The biostabilisation of organic fines would continue to be completed in the existing composting bays (i.e., shed 1) and maturation would take place in Sheds 2 and 3 with storage and transfer from shed 4. Organic fines waste for biostabilisation would continue to be received at the existing Waste Reception Shed.
- Following appropriate decontamination of the bays and floors of new sheds 2B and 3B these could be used for the production of compost material following full clean-down and disinfection of the bays and maturation areas in Sheds 2B and 3B to meet the Department of Agriculture requirements under the Animal Byproducts Regulations. The bays in sheds 2B would have the capacity to provide for in vessel aerobic composting and pasteurisation of compost material and Shed 3B would have capacity for maturation of the compost to be completed on aerated floors. All organic waste intake, processing, maturation and storage of finished compost would take place inside sheds 2B and 3B and would be physically separated from any biostabilised waste activities on site. Organic waste for the production of compost would be accepted through the doors on the western façade of Shed 2B and would be immediately transferred to the compost vessel bays.

The range of waste materials that can currently be accepted at the composting facility, as outlined in Schedule A-2 of Waste Licence W0270-02 will not change. The site will continue to only accept biological waste material for treatment and it is envisaged that future operation of the facility will serve to accept increased volumes of these organic materials from waste collectors. The bio wastes (e.g., food waste and screened organic fines material) will be delivered to site in enclosed trailers for aerobic composting and stabilisation. The increased compost processing throughput at the facility will allow the facility deal with a greater volume of bio-waste and increase the facility's capability to service the Southern Regions waste needs.

The current hours for accepting waste at the facility under the existing Industrial Emission Licence are between 07:00 and 19:00 Monday to Saturday (with the exception of Bank Holidays), with the current operational hours at the facility between 06:00 to 19:00 Monday to Saturday. This will not change as part of the proposed development.

Surrounding Land Use

The site is located in a rural area used predominately for agriculture purposes, mainly grassland and tillage. A farm yard, approximately 600 meters (m) to the west, is the closest property to the site. The nearest residential property is approximately 800m to the north along the access road. There are three more residences within 1km of the site to the north, north east and south east of the facility (Attachment B.1). The facility is not within the boundaries of any designated sites, such as candidate Special Areas of Conservation (cSACs), and Special Protection Areas (SPA's) for birds, or sites of national importance, such as proposed Natural Heritage Areas (pNHA's). Power's Woods, which is a proposed pNHA, is approximately 7 km to the north of the site. Grove Wood and Moneypark, which are both pNHAs, are approximately 7 km to the east of the site. These can be seen in Attachment B.2.

Proposed Development

The proposed development will be a continuation of the existing composting process at the facility albeit at an increased throughput. The proposed development will continue to operate as an aerobic composting plant accepting a broad range of compostable organic materials including source segregated household kitchen waste; catering wastes; non-hazardous industrial and municipal wastewater sludges and organic fines generated in the physical treatment of mixed municipal waste (MMW).

The proposal is to increase the tonnage throughput in the plant from 50,000 tonnes per annum to up to 75,000 tonnes per annum. Due to the relatively short time period that the organic material spends in the composting bays during the process phase in Shed 1 and the waste reception shed it is considered that the existing process facility bays will be capable of processing the increased throughput. However, the capacity to mature the material following processing will require an increase in maturation area at the facility. It is proposed that the old agricultural sheds located to the west of the compost reception shed will be reconstructed as maturation sheds 2B and 3B and fitted with an under floor forced air system to allow for the maturation of organic material in static piles as an extension of the maturation process completed in Sheds 2 and 3.

At present, and for the immediate future, the Milltown facility is solely concentrated on the biostabilisation of organic fines material as it has contracts in place to process that material on behalf of waste management contractors that physically process MSW. In the event of a change in the market where the supply of brown bin organic material and other waste materials that can produce a usable compost product is increased, Milltown would change their material management system to ensure that if organic waste that can produce compost product and organic fines waste were being accepted on site at the same time they would be physically separated to avoid potential for cross contamination to occur. Any potential crossover areas that may exist (e.g., internal transfer area between the existing compost facility sheds and the proposed new sheds 2B and 3B) will be physically blocked and sealed to ensure complete separation of the two activities. It is envisaged that the following process separation would take place on site in the event that both organic waste for compost production and organic fines waste for biostabilisation were accepted on site for processing:

- The biostabilisation of organic fines would continue to be completed in the existing composting bays (i.e., shed 1) and maturation would take place in Sheds 2 and 3 with storage and transfer from shed 4. Organic fines waste for biostabilisation would continue to be received at the existing Waste Reception Shed.
- Following appropriate decontamination of the bays and floors of new sheds 2B and 3B these could be used for the production of compost material following full clean-down and disinfection of the bays and maturation areas in Sheds 2B and 3B to meet the Department of Agriculture requirements under the Animal Byproducts Regulations. The bays in sheds 2B would have the capacity to provide for in vessel aerobic composting and pasteurisation of compost material and Shed 3B would have capacity for maturation of the compost to be completed on aerated floors.

All organic waste intake, processing, maturation and storage of finished compost would take place inside sheds 2B and 3B and would be physically separated from any biostabilised waste activities on site. Organic waste for the production of compost would be accepted through the doors on the western façade of Shed 2B and would be immediately transferred to the compost vessel bays.

To ensure that disruption to any neighbours along the delivery route to/from the site and in the vicinity of the facility is minimised, Milltown will continue to accept material at the facility between 07:00 and 19:00, Monday to Saturday with a restriction on truck movements between 08:30 and 09:30 each morning to avoid disruption to neighbours at that peak traffic period. The operational hours of the proposed site will continue to be 06:00 – 19:00. The adjustment to acceptance and processing hours would be to spread out deliveries over the day to avoid traffic issues related to the site.

Planning Policy & Context

The site was originally used for agricultural purposes. The cattle sheds and Shed 1 were originally constructed to house pigs, cattle, meat and bone meal and animal feed. In 2004 South Tipperary County Council granted planning permission and a Waste Permit for composting (in-vessel and maturation) to be carried out in Shed 1. In January 2008 there was a fire at the site, when the compost turner went on fire. The turner was destroyed and the fabric of Shed 3 was damaged. In March 2009 the Council granted planning permission for the retention of the offices, canteen/changing room, underground leachate storage tanks, and weighbridge. In 2014, Milltown made an application to Tipperary County Council to build an enclosure over the reception yard to the West of Shed 1, relocate communication masts, extend 3 agricultural amendment stores, incorporating existing staff facilities and associated site works. Permission for these works were granted on 12/8/2015. In 2015, Milltown made two applications to Tipperary County Council for the retention of an integrated constructed wetlands associated site works, which was granted on 08/02/2016. Two planning applications were granted in 2018 to increase the tonnage throughput at the site to 50,000 tonnes and to construct an additional biofilter at shed 3. In 2019 planning was granted for the re-construction of 1 agricultural shed to the west of the reception building. The full planning history of the site can be seen in Table 1-2 of the main EIAR document.

Need for the Development

The need for additional capacity in the region has been determined by examining the current levels of biological capacity in the region, specifically the capacity which is consented by the DAFM to accept animal by-products, and the expected increases in biowaste and organic waste which is expected to come into the market over the plan period. The increased penetration of segregated food waste collections from household and commercial customers is expected to increase the quantities of this stream collected and requiring treatment. A review of the licensed and permitted compost facilities currently operating in the Southern Region was completed and are outlined in Table 1-3 of the EIAR document.

The existing estimated shortfall of biological treatment capacity in the Southern Waste Region is based on the current capacities of composting facilities existing in the Southern Waste Region. Therefore, it is

determined that there is capacity for the extension of the Milltown facility to treat the additional tonnages of organic material identified in the Southern Waste Region Plan.

It is expected that the food waste generated in each region will not be transported long distances but will rather be primarily treated in each region. The nature of the material, which is wet and odorous, can limit the distances such loads are transported although the current movement of biowaste to Northern Ireland is noted. The treatment capacity proposed is to ensure that sufficient capacity is approved – in particular, facilities which have animal by-product approval – and there is a balanced distribution of capacity in the region.

Biological treatment facilities for the primary and co-treatment of agricultural waste, along with bio-wastes and other organic wastes, are also required in the region and the waste plan supports the development of such facilities. Managing waste from a growing agricultural sector is a challenge which needs to be addressed to support Ireland’s growing agri-food sector.

Section 19 of the South Region Waste Management Plan (SRWMP) indicated the 3 main overarching targets of the plan, target 3 states *“Reducing to 0% the direct disposal of unprocessed residual municipal waste to landfill (from 2016 onwards) in favour of higher value pre-treatment processes and indigenous Recovery practices”*.

The requirements of the SRWMP indicated the need for new waste management methods, moving away from the previous method of landfill, and biological treatment is clearly an activity which sits on the recycling tier of the hierarchy. It is considered that the proposed increase of throughput at Milltown fits well with the current and future policy of the SRWMP.

A number of National waste management policies have been implemented since the initial national waste management policy document *“Changing Our Ways”* was issued by the Department of the Environment and Local Government in 1998. The policy was linked to the EU waste management hierarchy and was supported by EU legislation (i.e., EU Landfill Directive 99/31/EC) that set targets for reducing volumes of biodegradable waste based on 1995 figures. Under this directive a target was set that biodegradable waste in BMW must be reduced by 65% by 2016, compared with 1995 figures.

The Southern Waste Plan supports the development of at least 40,000 tonnes of additional biological treatment capacity in the region for the treatment of bio-waste (food waste and green waste) primarily from the region to ensure there is adequate active and competitive treatment in the market. The waste plan also supports the development of biological treatment capacity in the region in particular anaerobic digestion (AD); to primarily treat agro-wastes and other organic wastes including industrial organic waste. However, in the absence of AD facilities in the Southern Region there is a continued need for aerobic treatment of organic waste materials. A letter of support for the proposed development based on the requirements of the SRWMP is included in Attachment A.6.

Additionally, as of July 2013 the Waste Management (Landfill Levy) (Amendment) Regulations 2013 (SI No 194 of 2013) increased the landfill levy by 10 euro to 75 euro per tonne for each tonne of waste disposed of at authorised landfill facilities. This levy will make pre-treatment more cost effective - particularly in

respect of biodegradable municipal waste (BMW) - thereby reducing the quantities and costs of residual disposal to landfill.

Milltown's proposed decision to increase the tonnage throughput at their existing facility is based on the need to meet market demands for organic waste recovery and stabilisation in the Southern Region and to meet the needs of the National Waste Management Plan and the Southern Waste Management Plan to treat biodegradable wastes to produce a useful product from waste and to reduce as far as possible the volume of biodegradable waste being disposed of to landfill.

The increased throughput is as a result of market pressures. A number of waste collection and process companies have requested increased capacity for organic materials they collect. Copies of support for increasing the material throughput at the facility are included in Attachment A.5.

The existing composting facility is suited for the recovery of organic waste materials for the following reasons:

- The facility is in a good location in terms of distance from waste generation areas such as Waterford, Cashel, Thurles, Carrick on Suir, Kilkenny and the Southeast.
- The facility is situated in a secluded rural area with the closest sensitive receptor located approximately 800m away;
- The proposed activities are compatible with existing operations taking place on-site;
- The facility has existing controls on site to mitigate potential environmental impacts from the existing or proposed facility;
- Additionally, with new mitigation measures in place any leaks or spillages will be contained within the facility and managed appropriately to prevent contamination.

If the project were not to proceed then it would result in reduced tonnages of biodegradable waste being treated within close proximity to its source and require an increase in transportation of waste material from the Southern Region to other composting processing facilities or to landfill.

Environmental Controls

The main perceived nuisance associated with the development may be odour and noise from increased volumes of organic waste material delivered to the facility and also potential noise and dust from construction activities.

Noise and dust impacts from construction works will be mitigated by working within appropriate daytime hours only and limiting the number of deliveries of construction on any one day. Any exposed soils and unbound internal road surfaces will be dampened during dry periods to reduce dust production.

The existing aspiration and biofilter system for the existing facility will be maintained and a specific air management system, including an additional biofilter for maturation sheds 2B and 3B will be installed to remove and treat potentially odorous air from those sheds. In order to meet the requirements of the current 'Draft BAT Conclusions specific to indoor composting for Vessel or enclosed building design - Air extraction should be designed and maintained to move and handle the volume of air to provide a clear

working environment. The proposed air management system and biofilter for the new sheds will be designed to provide up to 2.2 air changes per hour in maturation sheds 2B and 3B. The proposed ducting system for the air removal and treatment system is shown on the Drawing included in Attachment C.4.

The maturation system in proposed maturation shed 2B will consist of a forced air system into the floor of 5 maturation bays and the maturation beds in shed 3B will be more open plan. The fans and motors associated with the air input to the bays and maturation beds will be located inside the building structure to ensure that any noise impacts associated with air input are mitigated by enclosing them within the building. Air extraction fans for maturation sheds 2B and 3B will be located to the south of shed 2B to use the site buildings as noise mitigation barriers and ensure that the closest noise sensitive receptors to the northwest are not negatively impacted.

Site Checks

Milltown personnel are pro-active and will continue to be pro-active in completing daily checks around the facility for odour and any other housekeeping issues. Where an odour issue has been identified it will be dealt with as soon as possible by implementing or assessing the effectiveness of aspects of the odour control mechanisms in place at the facility.

Existing Environment & Potential Impacts & Mitigation

Human Beings

Analysis of the effect of the proposed development on the human environment was completed in compliance with the requirements of “Advice Notes on Current Practice (in preparation of Environmental Impact Statements) (EPA, 2003) and Draft Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, 2017)

Relevant information has been obtained from public bodies with regard to planning and development context, employment statistics, demographic statistics and community aspects. The primary bodies concerned were the Central Statistics Office (CSO), and Tipperary County Council.

Desktop information reviewed in the process of information gathering are outlined below:

- CSO data, including the censuses for 2006, 2011 and 2016; the Quarterly National Household Register; Live Register figures;
- Tipperary County Development Plans and the Fethard LAP;
- Site visit on 28th January, 2022 to inform the EIA with respect to land use, development and change.

The existing human environment in relation to the planned development comprises those residing and working in the immediate vicinity of Milltownmore and also the wider community in Fethard, Rosegreen, Clonmel Town and Tipperary County. The nearest residential property is approximately 800m to the northwest along the access road. There are three more residences within 1km of the site to the north,

northeast and southeast of the facility. The only other business that exists in the immediate vicinity of the existing Milltown Composting facility is a dairy farm located approximately 600 m to the southwest.

The most recent census was carried out in April 2016, but at the time of writing, only preliminary information was available, because of this, where the information from 2016 is not available, information from the April 2011 and April 2006 censuses were used. Census data is compiled for the State as a whole, as well as smaller areas including counties, cities, towns and electoral divisions. Given the location of the proposed development the census information on population, age profile, employment and social class, has been analysed with respect to County Tipperary.

The population statistics for South Tipperary were considered relevant for the demographic catchment of the proposed facility. For completeness, the population statistics for North Tipperary were also included to act as a comparison. The Table below outlines the population of North and South Tipperary in the last two censuses, 2011 and 2016.

Table Error! No text of specified style in document.-1 Employment Changes in Tipperary County between the 2011 and 2016 Censuses

Location	2011 Unemployment Rate (%)	2016 Unemployment Rate (%)	% Change between 2011 and 2016 Census
South Tipperary	19.4%	14.6%	-4.8%
North Tipperary	21.6%		-7.0%

In 2016 the administrative area of Tipperary North and South were combined and reported as Tipperary only. The rate of unemployment in the area decreased significantly between 2011 and 2016 with a pickup in the economy following the national economic downturn.

The development will result in the continuation of existing activity at the site buildings with some maturation in the reconstructed old agricultural sheds and will not have an impact on existing land use in the area. The operation of the development is predicted not to have any significant impact on the land use of the surrounding areas, be it for agricultural, woodland or residential purposes in the surrounding areas.

The following mitigation measures should be put in place to ensure continued protection of local human receptors:

Construction Phase

The reconstruction of the maturation sheds 2B and 3B will have a number of potential impacts that will require mitigation during construction, these are outlined below.

- Control measures to mitigate dust generation and other air pollutants from construction works will be employed. These are outlined in Section 10.6 of this EIAR.
- Control measures to mitigate noise impacts on surrounding noise sensitive receptors from construction works will be put in place. These are outlined in Section 9.5 of this EIAR.

- Appropriate health and safety measures in line with regulatory standards will be employed by contractors on site during construction works.

Operational Phase

During the operational phase of the proposed development there

- Continuation of a traffic management system that will continue to allow for movement of site traffic and transport trucks without undue impact on the quality of living of local residents living along the haul road and local road accessing the facility. The system includes for trucks travelling to the site to call ahead to alert the facility that they are delivering to the site and advising the facility of their location. If the truck delivering to the site is within ten minutes of the facility then any trucks due to leave the site will be held on site until that truck enters the site. This will eliminate trucks entering and leaving the site passing each other on the local road network.
- As outlined in the existing Industrial Emissions Licence for the site, no truck movements will be completed along the approach local road between 08:30 and 09:30 in the morning to avoid impacting peak time traffic movements in the area when people are going to school or work.
- Facility operations will be completed to ensure minimal noise impact on local noise sensitive receptors through ensuring no truck movements outside the permitted time frame for the site.
- Ensuring that the odour control system is operating to optimum capacity. Preventative maintenance should be completed on the air extraction system motors and fans to ensure that the system is operating at optimum level. This will ensure that odour impacts in the area continue to not be an issue at the site.

The proposed development will continue to operate in such a way as to minimise environmental impacts as far as practicable. The operation of the facility will be carried out in accordance with good practice and Best Available Techniques (BAT) guidelines. Emissions from the development may include ambient odour emissions from open facility doors during the reception of waste and when trucks exit the facility building. There may also be some noise emissions from the facility operations but are not considered significant in the context of the facility setting (i.e., distance to sensitive receptors). There may be some impacts to human receptors from traffic movements associated with the operation of the proposed development. However, Milltown have put forward a number of management control measures to minimize impacts as much as possible.

There are no existing amenities in the immediate area of the proposed development.

Flora & Fauna

The ecological interests in the area of the proposed development at Milltownmore, Co. Tipperary. Likely impacts are evaluated and where necessary mitigation measures are outlined to lessen any impacts. The aims of this Ecological Impact Assessment were to:

- Establish baseline ecological data for the development site

- Determine the ecological value of the identified ecological features
- Assess the impact of the proposed development on ecological features of value
- Apply mitigation measures to avoid, reduce, remedy or compensate impacts
- Identify any residual impacts after mitigation

An Appropriate Assessment Stage 1 Screening was completed for the site as part of the site assessment works for the EIAR in December 2020 and a copy of the Appropriate Assessment Screening report is included in Attachment F.1.

The closest SAC to the Milltown facility is the Lower River Suir SAC (site code: 001237) situated approximately 17 km east of the site, flowing south from Fethard to the river Suir east of Clonmel. There are no SPAs in the vicinity of the Milltown site and the nearest NHA or pNHA is Powers Wood (site code: 000969) approximately 4.62 km northwest of site.

Table Error! No text of specified style in document.-2 Closet Nautura 2000 Sites

Distance	Site	No.
5km	Powers Wood PNHA	000969
5.3km	Money Park PNHA	000966
13 km	Slievenamon Bog NHA	002388
17.62km	The Lower River Suir SAC	002137

The main habitat types identified in the immediate environs of the facility are outlined in Table A and are included on the Habitat Map (Attachment F.3) which outlines the extent of all habitat types present within the environs of the facility.

Table 2: Habitats Recorded in Vicinity of Milltown Composting Facility

Habitats Located in The Environs of Milltown Facility	
Habitat Type*	Relation to Facility
Improved Agricultural Grasslands (GA1)	Lands to the south and west of the proposed development, beyond the surrounding hedgerow.
Scrub (WS1)	Within the hedgerow immediately west and northwest of the proposed development.
Hedgerows (WL1)	Immediately west and northwest of the proposed development.
Buildings and Artificial Surfaces (BL3)	The facility itself and the areas to the south, east and north
Other Artificial Lakes and Ponds (FL8)	Integrated Constructed wetlands (ICW) for the treatment of surface water run-off from the site are located in the southwest area of the site.
Immature Woodland (WS2)	Lands to the southeast of the site consist of a deciduous tree stand consisting of sycamore and beach. There is also sparse stand of planted beach and oak in the northern area of the Milltown site.
Wet Grassland (GS4)	The area to the west of the proposed maturation sheds and north of the ICW ponds contained mainly grasses that are found in unimproved areas.

*- Based on Fossitt, 2000.

The results of the assessment and Appropriate Assessment Stage 1 Screening was that the site is located a significant distance from the closest SAC and the potential for impacts on protected habitats and/or the qualifying interests of Natura 2000 sites is negligible. The assessment also concluded that the development of the proposed maturation sheds on the footprint of former agricultural sheds and existing yard area would not negatively impact any significant habitat on the Milltown site.

Water

The existing water environment in the vicinity of the Milltown facility (i.e., surface water) and the potential impacts and mitigation measures were assessed as part of the Water Chapter in the EIAR. The assessment of waters at the site was completed with reference to the following:

- Advice Notes on Current Practice (in preparation of Environmental Impact Statements) (EPA, 2003)
- Guidelines on the Information to be contained in Environmental Impact Statements (EPA, 2002)
- Draft Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, 2017)
- Current EPA on-line database -Envision water quality monitoring data for watercourses in the area; and,
- River Basin District (ERBD) Management Plan;
- The Planning System and Flood Risk Management, Guidelines for Planning Authorities (Department of the Environment, Heritage and Local Government (DoEHLG) and the Office of Public Works (OPW));
- Office of Public Works (OPW) flood mapping data (www.floodmaps.ie);
- DoEHLG & OPW (2009) Flood Risk Management Guidelines for Planning Authorities;
- ‘Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors’ (CIRIA 532, 2001); and
- “Guidelines on protection of fisheries during construction works in and adjacent to waters” Inland Fisheries Ireland (2016); and

In the assessment of water at the site the following published information and regional hydrological data was reviewed;

- Available information from the National Parks and Wildlife Service (NPWS) and Environmental Protection Agency with respect to water quality in the area;
- Available information for the area from the EPA Online Geoportal website.

Surface Water

Stormwater from the site building roofs and open yard surface water that has been treated in the on-site oil/water separator is directed to the onsite integrated construction wetland (ICW) before discharge to an open drainage ditch at the southwest corner of the site. The site lies within the catchment of the River Moyle, which is approximately 2 km to the southwest of the site. Stillimity Stream, a tributary of the

Moyle, is located approximately 1 km southwest of the site and is the closest surface water course to the site discharge point from the ICW on the Milltown Composting site at SW1a. Another small stream called Milltown Beg is located approximately 350m northwest of the site boundary but is not hydraulically linked to the Milltown Composting site. As part of the proposed development, clean stormwater from the roofs of maturation sheds 2B and 3B will also be directed to the ICW system.

In February 2022 the condition and effectiveness of the ICW to treat surface water from the site was completed by VESI Environmental Ltd. The works included assessing the physical condition of the ponds and the capacity of the ICW to treat stormwater runoff based on surface water ammonia results either the discharge at SW1a or, if there was no discharge, samples from final treatment pond. A copy of the report completed by VESI on the ICW is provided in Attachment G.3.

The results for surface water sampling discharge at SW1a in 2021 (i.e., 95%ile ammonia concentration of 0.14 mg/l) and in samples collected from the final treatment pond in February 2022 indicated that the quality of surface water from the ICW system will not negatively impact surface water quality in the Moyle River catchment area.

The conclusion of the assessment was that the existing ICW has capacity to treat the incoming roof runoff both from the existing and from the proposed development (i.e., Sheds 2B and 3B). The ICW appears to be in good condition but does require some maintenance to be carried out (e.g., strimming vegetation on banks) to ensure function and performance is maintained. The conclusion also indicated that the ICW provides sustainable and effective management of surface waters from the site.

The River Moyle has experienced impacts in recent history which were caused mainly by diffuse agricultural, or point source pollution from waste water treatment plants, septic tanks and industry. In 2001 a report from the south eastern river basin district the river Moyle was found to have two locations that were found to be moderately polluted at times and seriously polluted at times. In 2002 the EPA published an interim report on the biological survey of river quality. This report included the river Moyle and indicated biological Quality ratings at various monitoring locations on the river Moyle from 1981 to 2002.

To assess the potential for discharge from the ICW to impact the Moyle River, two surface water samples were collected immediately downgradient of the Milltown ICW discharge point SW1a in February 2022. Sample location M1 was from the surface water drain that receives water from SW1a and M3 was located in Stillimity Stream approximately 100 m upstream of the confluence with the Moyle River. The analysis results indicated that surface water in the drainage ditch and in the Stillimity Stream immediately downgradient from the surface water outlet from the ICW at the Milltown Site (i.e., SW1a) was of good quality. The COD concentrations were less than the Surface Water Guideline limit of 40 mg/l and BOD in surface water prior to flowing to the Moyle River (i.e., M3) was less than the 2009 Surface Water Regulation limit of 2.6 mg/l. Ammonia concentrations were also less than the limit of 0.14 mg/l outlined in the 2009 Surface Water Regulation. The sampling results from the surface drain and Stillimity Stream

located downgradient of SW1a indicated that concentrations of parameters that would indicate potential nutrient impacts on the receiving Moyle River were less than the Regulatory Limits and indicated that discharged surface water from the Milltown ICW at SW1a would not have any impact on water quality in the Moyle River.

The assessments completed as part of the EIA indicated that the mitigation measures in place at the existing composting site are effective at treating surface water runoff from the site through biological treatment in the ICW system. The conclusion of the ICW assessment completed in February 2022 was that the ICW also has the capacity to accept and treat storm water from the proposed development maturation sheds and as such the additional processing as part of the proposed development will not have a negative impact on surface water quality in the area. Milltown Composting is located at an elevated position in relation to the surface water bodies. Generally, there is a low risk of flooding at the site. This was checked on the Flood Maps Ireland website. The increase of waste to 240 tonnes per day but not exceeding 75,000 tonnes per annum will have a negligible impact on surface waters due to the improved mitigation measures at the site as part of previous developments at the site (i.e., covered waste reception building and closed re-circulation system for water from the reception building floor and reception ramp where the water is stored and used on the compost process bays in Shed 1).

Mitigation measures for construction works will include appropriate bunded storage of fuels or chemicals associated with the construction works and as a result surface waters will be protected during the construction phase of the proposed development.

Groundwater

Groundwater is considered a receptor when it is being used or can be used for either public or private water supply and where it may potentially be having an impact, through hydraulic connectivity, on surface water receptors in the area. The groundwater assessment is divided into two groups: existing and potential abstractions and potential impacts on surface water receptors in the area (i.e., River Moyle).

There is no municipal mains water supply in the Milltownmore area and is not in the vicinity of any Source Protection Areas. The Composting facility and private residences in the area obtain potable water from individual groundwater wells and a search on the Geological Survey of Ireland (GSI) public Spatial Resources Database identified eight (8) domestic wells within a 2.5km radius of the Milltown Composting Facility site. The wells identified are listed below.

Groundwater Wells on GSI Spatial Resources System within 2.5km of Milltown Composting

GSI Ref.	Townland	Well Type	Depth to Rock	Well Yield
2013SEW001	Colman – SE of Site	Domestic - BH	15m	Moderate
2013SEW024	Colman – SE of Site	Domestic - BH	No Depth Recorded	Poor
2013SEW002	Barretstown – NE of Site	Domestic - BH	18m	Moderate
2013SEW003	Barretstown – NE of Site	Domestic - BH	4m	Moderate
2013SEW006	Barretstown – NE of Site	Domestic - BH	2.5m	Moderate
2013SEW010	Tullamaine – N of Site	Domestic - Spring	No Depth Recorded	Good
2013SEW011	Fethard – N of Site	Domestic - BH	No Depth Recorded	Good
2013SEW012	Fethard – N of Site	Domestic - BH	4.9m	Good

To assess if there is any potential for impact on domestic borehole wells or surface water receptors in the area the groundwater Risk and ground waterbody WFD status was reviewed on the GSI online Groundwater Spatial Resource. The review indicated that the Groundwater Region reference at Milltownmore is IE_SE_G_040 and that the Groundwater Risk for IE_SE_G_040 is “Under Review”. Ground Waterbody WFD Status 2013-2018 for IE_SE_G_040 is “Good”, which would indicate that the groundwater is considered to be of good quality and not a significant source of impact to domestic users in the area or to surface water receptors in the area.

Historically there were some instances of elevated ammonia found in groundwater samples collected on site. The elevated ammonia concentrations may have been due to runoff from the exposed reception yard area that historically existed at the Milltown site. Because the yard area was uncovered there was some potential for runoff to ground surface and potential for ammonia impacts. However, in August 2015 planning permission was granted (Ref. 14600521) to construct a covered structure over the reception yard to mitigate against runoff from the facility and potential impacts on soils and groundwater. The shed, and the leachate recirculation system was constructed in 2016/2017 to provide mitigation against potential impacts to soil and groundwater from potential migration of leachate from the reception area.

The analysis results for ammonia in the three on-site wells since the site Licence Review in 2019 show that the mitigation measure put in place is effective as no sample result since 2019 has exceeded the drinking water limit for ammonia.

Additional groundwater sampling for ammonia concentrations in all three wells was also completed in January and February 2022 to assess the concentration of that parameter in groundwater at the site. The samples were analysed for ammonia because it was considered a potential contaminant of concern related to the composting of organic material. The results for ammonia sampling show that all samples analysed from the wells between 2020 and 2022 contained ammonia concentrations less than the groundwater protection and drinking water limits.

All areas of the existing composting facility and all areas of the proposed development are/will be concrete paved floors which are enclosed in sheds, this includes storage areas. The main threat to groundwater's is from leachate spills, leakages and contaminated surface water runoff. However, the proposed increase in throughput at Milltown will be completed within the process sheds where mitigation measures are in place to ensure the protection of groundwater. These are outlined below.

Construction Phase

It is not anticipated that there will be large stockpiles of fill soil or large areas of exposed fill soil from construction works that would result in run-off water containing silt.

- Surface water runoff in the area of the proposed construction works is directed towards the first pond of the ICW and as a control measure the input to Pond 1 will be visually monitored to ensure that the pond is not silting up. If required, silt settlement traps and or silt fences consisting of straw bales could be installed to mitigate silt migration from the construction area.
- A buffer distance with no storage of soils will be maintained along field ditches and close to the ICW. Due to the site location there will be no storage of soils near streams and this would negate any requirement to comply with fisheries guidelines "*Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters*" (IFI, 2016).
- Any temporary storage of excavated fill soil will be carefully managed. Stockpiles will be tightly compacted to reduce runoff and graded to aid in runoff collection. This will prevent any potential negative impact on the storm water drainage.
- Weather conditions will be considered when planning construction activities to minimise the risk of run-off from the site and the suitable distance of topsoil piles from surface water features will be maintained.
- Designation of a bunded refuelling areas on the site;
- Provision of a spill kit at the construction area;
- All machines will be refuelled in a hardstanding surface area connected to the on-site oil/water separator.
- Portable generators or similar fuel containing equipment will be placed on suitable drip trays.
- Secure storage of all containers that contain potential polluting substances in a dedicated internally bunded chemical storage cabinet unit or inside a concrete bunded areas;

- Clear labelling of containers so that appropriate remedial measures can be taken in the event of a spillage;
- All drums to be quality approved and manufactured to a recognised standard;
- If drums are to be moved around the site, they should be done so secured and on spill pallets; and
- Drums to be loaded and unloaded by competent and trained personnel using appropriate equipment.
- All ready-mixed concrete will be brought to site by truck. A suitable risk assessment for wet concreting will be completed prior to works being carried out which will include measures to prevent discharge of alkaline waste waters or contaminated storm water to the underlying subsoil. Wash-down and washout of concrete transporting vehicles will take place at an appropriate facility offsite only.

Operational Phase

Below are the mitigation measures which are proposed to ensure that the operation of the proposed development does not result in a negative impact on the soils, groundwater and the geological environment:

Existing Mitigation Measures

- As part of the compost site development a Containment Tank (47.54 m³) was installed as part of the recirculation system at the southwest corner of Shed 1. This tank is used for the storage and recirculation of potentially contaminated surface water runoff from the ramped intake area of the reception shed to ensure that any runoff is directed in a controlled manner to the on-site contaminated water/leachate recirculation system. The impacted water is used as part of the composting process (dampening the pre-composting bays in Shed 1).
- The on-site leachate collection system located in the reception shed area collects impacted water and directs it initially to a pump/sump tank located south of the amendment storage area, from where it is pumped to the recirculation tank for recirculation into the process.
- The provision of an impermeable surface at the turn table area for vehicles delivering organic material to the facility. This also includes the appropriate management of potentially contaminated surface water runoff from this area, which is directed to the dedicated contaminant/recirculation system.
- To manage any possible spillage risk on the turntable area Milltown will continue to operate their Waste Acceptance Procedure (SOP MC01), the Cleaning and Hygiene Procedure (SOP MC 03) and the site Emergency Response Procedure. The on-site SOPs will ensure that the turntable area is inspected after every delivery for spillage and if in the event of a minor spillage that a spill kit including a suitable absorbent material will be at hand in order to undertake a clean-up if required, meeting license condition

- A kerb exists around the footprint of the reception building and connects to the eastern end of the south wall of the pump house and the south wall of Shed 1, thereby allowing the use of this area for the retention of any runoff and ensuring that any possible spillage is directed into the leachate collection system via the new pump house drainage and not to soils surrounding the process building.
- As part of the leachate/impacted surface water collection system, collected water is directed initially to a pump sump tank located south of the amendment storage area. Depending on the volume of liquid directed to the pump sump tank through the leachate collection system the collected liquid is manually pumped from the pump/sump tank back up to the filtration system in the pump house for re-circulation to the pre-composting bays. For large volumes of liquid release (i.e., large spill or fire water) automatic pumping will take place to pump any possible initial firewater or major spillage liquid back up the consigned contaminated water storage tank. This pump/sump tank has a high level liquid alarm which sends a text to the site managers and operators in the event of a problem.
- All areas of the compost handling and processing facility are roofed and have impermeable concrete floors to reduce the potential for run off of impacted surface water to open ground, where it could potentially migrate to soils and the underlying aquifer.
- All potentially impacted surface water runoff at the reception building are collected and recirculated back into the process. No water from the reception area will be allowed to migrate from the building to surrounding soils.
- All non-impacted surface water from the existing site yard is diverted to the oil/water interceptor and released from there to the surface water drain and then to the Integrated Constructed Wetlands (ICW) onsite. All stormwater from the existing compost facility shed roofs (which is considered clean) is directed directly to the ICW. The ICW ponds provide treatment on the non-impacted water prior to discharge from site.

Proposed Additional Mitigation Measures

- The floor of the proposed maturation sheds 2B and 3B will consist of an impermeable concrete floor and will have a surrounding concrete wall. These features will contain any minor liquid migrating from the maturing organic material in the aerated static piles.
- The transfer of processed organic material from the end of shed 1 to the proposed maturation sheds 2B and 3B will take place using a front-end loader that will deposit the material over a low dividing wall between the reception shed and the proposed maturation shed. The provision of the low divider wall will allow for the division of the areas and no surface runoff from the reception area can enter maturation sheds 2B and 3B.
- The exit door for the proposed maturation sheds 2B and 3B will be ramped or sloped back towards the shed interior. This will ensure that there can be no migration of floor liquid from the building to the exterior yard.

- All non-impacted storm water from the proposed maturation sheds 2B and 3B roofs will be directed to the Integrated Constructed Wetlands (ICW) onsite, See Drawing P2-A in Attachment C.3. The ICW ponds provide treatment on the non-impacted water to ensure that there are no emissions from the facility.
- All surface water from the concrete surfaces at the entrance, and other external areas around the new proposed maturation sheds (i.e., 2B and 3B) will be directed to a dedicated full retention oil water separator prior to discharge to the ICW system as outlined in the drawing P-2A included in Attachment C.3.

It is not considered that the existing facility operations are negatively impacting on the underlying site soils, geology or hydrogeology, the implementation of the existing mitigation measures are ensuring that potential for the migration of contaminants from the facility buildings into the underlying soils and geology are negligible. Similarly, the implementation of the mitigation measures related to the proposed maturation sheds 2B and 3B will ensure that potential impacts to soils, geology or hydrogeology are contained and controlled and remain negligible.

The proposed development includes measures to protect against any accidental discharges to ground (e.g., adequate containment measures for oil storage, control of any runoff from composting areas, use of hardstand in loading areas and drainage through oil interceptors). As such it is considered that the cumulative impact of the proposed development will be neutral and imperceptible in relation to soil and groundwater

Soils & Geology

The Geological Survey of Ireland (GSI) Bedrock Map for Milltown indicates that the underlying bedrock at Milltownmore is comprised of muddy siltstone and silty mudstone belonging to the Killeshin siltstone Formation. The subject lands are not at risk of subsidence. There were no fault lines identified on the GSI map for the area around the site.

A review of the Teagasc soils map for the area indicated that the soils in the area are deep poorly drained mineral soils derived from mainly non- calcareous parent materials. The parent materials are mostly shale and sandstone till derived chiefly from Naumarian rocks. The soil maps can be seen in Attachment H.1.

The side area of the old agriculture sheds where the proposed maturation sheds would be constructed is exposed and the profile of the soils beneath the area of the old agricultural buildings could be assessed without the requirement to dig beneath the material for assessment. The soil profile beneath the old agricultural sheds consist of Soil Fill mainly made up of clayey subsoil, medium plasticity and some fine to coarse angular shale rock. The depth of the soil profile beneath the old shed structure is approximately 1.8m. A soil log outlining the soil profile at the assessment area is provided in Attachment H.8.

The fill soils beneath the area of the old agricultural shed is illustrated below.



The old agricultural sheds contained four (4) underfloor concrete slurry storage tanks (see Section Drawing in Drawing P3-A provided in Attachment C.2) and it is proposed that any excavation related to footings for the new sheds would not extend beneath the elevation of the old tank bases. The section also shows the proposed depth of footings in relation to original ground level. This would reduce any potential impact on underlying native soils or geology.

Some limited excavation of the fill material beneath the existing old agricultural sheds footprint to accommodate the construction of the proposed maturation sheds 2B and 3B will be required. Contractors should prepare and adhere to a method statement indicating the extent of the areas likely to be affected and demonstrating that this is the minimum disturbance necessary to achieve the required works.

As part of the method statement the contractor must include for assessing when excavation of fill material has been reached and natural ground has been encountered. There should be no excavation into natural soils as part of the construction works.

Any excavated fill material produced during construction will be stored and reused on site. Soil stockpiles have the potential to cause negative impacts on air and water quality. The effects of soil excavation and stockpiling will be mitigated through the implementation of an appropriate earthworks handling protocol during construction.

The mitigation measures employed for the protection of groundwater (above) will also serve to protect soils and geology in the area.

Although it is not anticipated that there will be any impacts from the facility operations on the underlying site soils, geology or hydrogeology, the implementation of the mitigation measures will help ensure that potential for the migration of contaminants from the building surface into the underlying soils and geology are negligible.

Noise

Milltown are required to monitoring environmental noise at the nearest sensitive location as part of their waste licence compliance requirements. The main noise sensitive receptor is a residential property to the northwest of the site. Annual monitoring at the NSL location indicated no exceedances of the ELV's set in

the site Industrial Emissions Licence. The main sources of noise were mainly from animals associated with agricultural lands in the area and traffic both associated with surrounding farmland and the composting facility.

Potential noise sources during the construction phase of the maturation sheds 2B and 3B would be:

- Machines used for excavation and building works
- Use of electrical and hand tools associated with building works
- Traffic associated with workers travelling to and from site
- Traffic associated with the delivery of construction materials.

Potential noise sources during the operational phase of the composting facility would be:

- A maximum of 16 additional vehicles (i.e., 8 cars/vans and 8 HGV) movements per day for 6 days per week
- Operation of processing equipment inside the facility building that may be audible if doors are open;
- Movement of waste from the facility.
- Extraction fans for air exchanges within the facility building.

Noise emissions from the facility itself is not seen as an issue even with increased throughput due to the location of the site in relation to the nearest noise sensitive receptors. However, with an increased throughput at the Milltown facility there may be noise impacts related to vehicle movements associated with the proposed development. The increased throughput would also require the use of maturation sheds 2B and 3B and would include some additional air handling, management and mitigation through the use of extraction fans. The mitigation measures to mitigate noise impacts associated with construction and the revised operations of the site are outlined below.

Construction Phase

With regard to construction activities, reference has been made to BS5228 Parts 1 and 2, which offer detailed guidance on the control of noise and vibration from demolition and construction activities. Various mitigation measures will be considered and applied during the construction of the proposed maturation sheds 2B and 3B. As an example, the following measures may be implemented on site:

- limiting the hours during which site activities likely to create high levels of noise are permitted;
- establishing channels of communication between the contractor/developer, Local Authority and residents;
- appointing a site representative responsible for matters relating to noise; and
- limit the number of deliveries to the construction site in any one day.

Furthermore, a variety of practicable noise control measures should be employed, such as:

- selection of plant with low inherent potential for generation of noise;

- erection of barriers as necessary around items such as generators or high duty compressors;
- situate any noisy plant as far away from sensitive properties as permitted by site constraints.

Operational Phase

- According to the traffic assessment, as outlined in Chapter 12 of this report, there will be an increase of approximately 8 truck movements which will be spread over the whole day to ensure that the noise impacts are spread over the day to ensure a minimal effect on the noise sensitive receptors surrounding the Milltown facility
- Any new fans and motors for air input to the maturation bays and beds in sheds 2B and 3B would be situated within the fabric of the building to mitigate potential noise from the fan/motor operations. The metal cladding structure of the building coupled with the distance from the proposed sheds to the nearest noise sensitive receptor will ensure that noise impacts related to the air intake fans is negligible.
- The two proposed air extraction fans installed at maturation sheds 2B and 3B for the removal and treatment of exhausted air from within the building will be located at the south of the shed close to the proposed new biofilter. Based on the noise output from the fans and the distance from the fans to the nearest noise sensitive receptor to the northwest, the air extraction fans have been calculated to have a negligible impact on the noise climate of the area.
- All machinery at the Milltown facility will have frequent maintenance carried out to ensure that the machinery is operating optimally and not emitting at a high noise output.
- With the increased levels of traffic owing to the increase of throughput at the facility, Milltown will ensure that no queuing of incoming lorries will occur on the local access road to prevent the noise emitted from the lorries effecting noise sensitive receptors in the vicinity
- Milltown will ensure that there are no deliveries or transfer of material off site occurring outside of the operational hours of the facility
- It will be advised by Milltown that the trucks arriving and leaving the facility avoid using air brakes to reduce the potential noise emitted from their movements
- During operational activities occurring at the facility, all doors will be closed to ensure that no unnecessary noise emissions occur

The main noise contribution from the facility on noise sensitive receptors in the vicinity of the Milltown facility is mainly due to intermittent traffic movement related to deliveries to and from the site. Due to the distance of the facility from the closest noise sensitive receptor it is not considered that the site operations are impacting on the noise climate of any noise sensitive receptors in the area. The increase in traffic due to the proposed development will result in approximately 8 additional truck movements per day to the site during the operational phase which is not considered significant over a 12 hour working day. If the mitigation measures are implemented during the construction and operational phases it is not considered that the proposed development would have a significant impact on noise sensitive receptors in the area.

Air Quality

The main potential impact to air quality from composting facilities is considered to be odour emanating from the breakdown of organic matter. The existing facility has a number of control measures in place to mitigate against odour pollution being released by the Milltown facility. These measures include an aeration system for the composting process to prevent anaerobic digestion which will produce odourous compounds. The maturation areas in sheds 2 and 3 include underfloor forced aeration of static stockpiles of composted material, this allows for the continuous aeration of the maturing static piles without the need to turn the material. The composting and maturation sheds also have extraction fans to remove air from inside the existing composting facility buildings, with air from shed 1 and the reception shed removed and treated in biofilter A2-1 located to the south of shed 1 and air from sheds 2, 3 and 4 removed and treated in biofilter A2-2 located to the north of shed 3. The inlets and outlets of the biofilters are regularly monitored as part of the site's Industrial Emissions licence compliance criteria.

Odour monitoring carried out in accordance with Schedule C of the site Industrial Emissions Licence indicated that the site has no odour impact on the surrounding environment. Monitoring results, as seen in Chapter 10 of the EIAR, indicated that no odours from the facility operation were noted at sensitive receptors.

Monitoring of emissions from the inlets and outlet of the biofilter system for treating extracted air from the process sheds indicated that all samples contained concentrations of parameters of concern far below the emission limit values outlined in the Industrial Emissions Licence. Dust and particulate monitoring also indicated concentrations less than the applicable emission limit values and the air quality standards.

The proposed increase in organic waste throughput will lead to an increase in the volume of air that needs to be extracted and treated from the process sheds to ensure that odour is not an issue.

As part of the proposed development the increase in tonnage throughput would not require additional composting infrastructure but would require additional maturation capacity. Proposed maturation sheds 2B and 3B would have forced air bays and beds for an extension of the maturation operations currently completed in sheds 2 and 3. The proposed sheds would also have an air extraction system that would be directed to a dedicated new biofilter (i.e., A2-3) located to the south of proposed shed 2B. Air Emissions from the proposed development will be from the additional air extracted and treated from maturation sheds 2B and 3B at the Milltown facility. The proposed development processes as described in Chapter 3 of this EIAR will result in ambient odour emissions from the entrance / exit roller doors and the air extract fans in maturation sheds 2B and 3B. Also, there will be engine combustion emissions from the increased traffic associated with the proposed development. The mitigation measures for the construction and operational phases of the proposed development are outlined below.

Construction Phase Mitigation Measures

The objective of dust control at the site is to ensure that no significant nuisance occurs at nearby sensitive receptors. The aim is to ensure good site management by avoiding dust becoming airborne at source. This will be done through good work practices and effective control strategies.

The movement of construction trucks along site roads (particularly unpaved roads) can be a significant source of fugitive dust if control measures are not in place. The most effective means of suppressing dust emissions from unpaved roads is to apply speed restrictions and to suppress dust sources, see below.

- A speed restriction of 20 km/hr will be applied as an effective control measure for dust for on-site vehicles using unpaved site roads;
- Bowers or suitable watering equipment will be available during periods of dry weather throughout the construction period. Research has found that watering can reduce dust emissions by 50% (USEPA, 1997). Watering shall be conducted during sustained dry periods to ensure that unpaved areas are kept moist. The required application frequency will vary according to soil type, weather conditions and vehicular use;
- Hardstanding surfaces and roads will be swept to remove mud and aggregate materials from their surface.
- Vehicles delivering or collecting material with potential for dust emissions should be covered with tarpaulin to restrict the escape of dust.

Operational Phase Mitigation Measures

The results for air monitoring completed between 2018 and 2020 indicated that the existing composting facility does not have a negative impact in terms of odour or air emissions associated with the composting process (i.e., ammonia, H₂S or mercaptans). The proposed new maturation sheds 2B and 3B would be designed and built with air input for the maturation process and with an air extraction and treatment system that would be exhausted through a dedicated biofilter system. In order to meet the requirements of the current 'Draft BAT Conclusions Specific to Indoor Composting for Vessel or Enclosed Building Design'- air extraction should be designed and maintained to move and handle the volume of air to provide a clear working environment.

As outlined in section 10.4.1 of the EIAR, "Operational experience of the facility has found that it has not been necessary to continuously operate at maximum capacity, and an air change rate of 1 volume per hour has been effective in controlling odour emissions and allows for a longer residence time for exhausted air in the biofilter media". The exhaust fans can be controlled and are typically run at 1 building volume air exchanges per hour for A2-1 and A2-2.

Intermittently the air extraction rate may be increased to 1.5 building volumes per hour for a short period to clear condensation emanating from the compost piles, but this would be irregular and only for a short period. The odour dispersion model completed as part of the licence review application allowed for typical highest extraction rate based on production experience the odour dispersion model initially calculated 1.5 air changes per hour for the sheds based on the volume of the existing buildings air extractions, see below.

- Biofilter A2-1 – air flow to biofilter at 1.5 air changes per hour would be approx. 26,561m³ per hour
- Biofilter A2-2 - air flow to biofilter at 1.5 air changes per hour would be approx. 55,950m³ per hour

For the immediate and near future the Milltown site will concentrate solely on the biostabilisation of organic fines at the facility and approximately 1/3 of organic fines material processed in Shed 1 would be transferred to the proposed new maturation sheds (i.e., sheds 2B and 3B). The odour dispersion model completed as part of the licence review application allowed for typical highest extraction rate based on production experience the odour dispersion model initially calculated 1.5 air changes per hour for the proposed new sheds (i.e. sheds 2B and 3B) based on the volume of the proposed buildings, see below.

- Biofilter A2-3 - air flow to biofilter at 1.5 air changes per hour would be approx. 48,960m³ per hour

This would mean that the designed volume of biofilter A2-3 would be more than large enough to treat typical volumes of air extracted from the new sheds, see Table below.

To allow for an extended worst-case scenario the odour dispersion modellers calculated the maximum air flows to the biofilters (i.e., A2-1, A2-2 and A2-3) that would ensure that the odour concentrations modelled would still be below the acceptable limit of 1.5 OuE/m³ at the closest sensitive receptor. The calculated maximum air flows that can be exhausted through each biofilter to ensure compliance with the odour model are:

- A2-1 – 31,884m³/hr (maximum of 1.8 air changes per hour)
- A2-2 – 70,865m³/hr (maximum of 1.9 air changes per hour)
- A2-3 – 71,600m³/hr (maximum of 2.2 air changes per hour)

The revised air flows to the biofilters are well above the existing operational air exhaust flows (i.e., 1 air exchange per hour) to the biofilters that provide good abatement of odour from the facility sheds. The maximum air flows outlined above (i.e., 31,884m³/hr for A2-1, 70,865m³/hr for A2-2 and 71,600m³/hr for A2-3) will be the final maximum volumes exhausted to the biofilter units.

To allow for significant residence time for extracted air in the biofilter medium the design size of the proposed third biofilter (A2-3) is based on 2.2 air changes per hour within shed 2B and shed 3B and is based to meet the minimum residence time within the biofilter media for extracted air.

The calculated residence time for air in the biofilter is outlined in the Table below.

Biofilter A2-3 Proposed Size and Capacity and Exhaust Air Retention Time for Biofilter A2-3

Building Volume	Volume (m ³)	
Sheds 2B and 3B Volume	32,640	
TOTAL	32,640	
Air Volume to be Treated in Biofilter	2.2 x Air changes per hour in Shed 2B and Shed 3B	
	71,600	
Air volume arriving at the biofilter	71,600	m ³ /hr
	19.88	m ³ /s
Biofilter surface area	485	m ²
Calculated Speed of Air through Filter	0.04099	m/s
Media Depth	1.90	m
Residence time in media	46.35	seconds

With the installation of the proposed air control and treatment system for maturation sheds 2B and 3B the impacts on air quality from the proposed development would be expected to continue to be low.

The odour management plan for the site will be reviewed to ensure that odours are minimised, including;

- Control of waste input characteristics (e.g. C: N ratio, particle size) - This is controlled by the addition of wood chips to the material;
- Control of moisture content;
- Control of air diffusion through the organic material – through the automatic control system;
- Control of temperature – through the automatic control system;
- The control or aeration of material to ensure that anaerobic conditions do not take place in composting bays or in maturing static piles.

Landscape & Visual Impact

The assessment on landscape and visual impact of the facility was completed with reference to the guidelines included in the document entitled ‘Landscape and Landscape Assessment, Consultation Draft of Guidelines for Planning Authorities’ published by the Department of the Environment and Local Government in June 2000. Terminology used in the assessment for the description of the quality of visual impacts are outlined below:

- **Landscape Effects** – The likely nature and scale of changes to landscape elements and characteristics and the effect on the landscape character and quality resulting from the development; and
- **Visual Effects** – The change in the character of the views resulting from the development and the change in the visual amenity of its receptors (i.e., those viewing the area).

In considering the significance of the visual and landscape changes due to the development the following elements were also considered;

- The sensitivity of the view, taking into account the public accessibility of the land where views are possible and the likely sensitivity of that view given the distance, intervening vegetation and land use;
- The quality and value of the existing landscape at Visual Reference Points;
- The degree to which the proposal will be visible within the surrounding area; and
- The buildings are not clearly visible from the public road and the overall impact of the proposed development on the landscape is considered negligible due to its location and the surrounding area.

Potential Visual Impacts

The proposed development comprises of the increased throughput of tonnage at the facility and the reconstruction of two old agricultural sheds as maturation sheds 2B and 3B to the west of the existing compost reception shed.

The proposed new maturation sheds will be largely located on the footprint of the old agricultural buildings but the roof apex will be higher than the old agricultural sheds. The construction and appearance

of the new maturation sheds will be similar to the existing site shed structures, and the old agricultural sheds that they will replace, and will blend into the existing agricultural shed appearance of existing sheds at the site. The sheds will be constructed of similar materials as the existing sheds and the old agricultural sheds and so would fit in the existing site structures and would not be expected to have a significant impact on the landscape.

Mitigation Measures

The purpose of mitigation is to avoid, reduce and potentially remedy any significant negative effects arising from the development. Because the maturation sheds will replace old agricultural sheds, will be constructed of similar materials as the existing site sheds and will be a similar colour (e.g., green), are consistent with similar agricultural units in the immediate area, and the facility is located in an area with low visual amenity value, it is not considered that any mitigation measures are required to offset visual impact from the reconstructed shed buildings.

Traffic

In April 2021, DBFL Consulting Engineers and Transportation Planners (DBFL) completed a traffic and transport assessment report for the Milltown Composting Facility as part of the requirements of the Environmental Impact Assessment Report (EIAR) for the proposed development at Milltownmore, Co. Tipperary. The objective of this assessment was to assess the impact that the increased throughput of waste material (and the subsequent increase in traffic volumes) and construction works at the Milltown facility will have with respect to traffic considerations. The report calculated the expected volume of traffic that will be generated by the extended throughput of material and assess the impact that this traffic will have on the operational capacity of the road network in the vicinity of the development. Road safety conditions are also considered as part of the assessment.

Current and Predicted Traffic Levels

Network Impact – Construction Phase

The projected HGV and cars / LGV traffic generation during the worst case construction programme are shown in the Table below.

Predicted ‘Worst Case’ Construction Traffic Generation

Time Period	HGV	Cars / LGV	Total (Vehicles)
Daily	18	16	34
Peak AM	2	2	4
Peak PM	2	2	4

Based on the predicted additional vehicle trips on the local road network during the worst case peak hour period, the resultant peak hour (short term) construction impact at the R688 / L1409 priority controlled

junction and the aforementioned ATC locations A and B have been calculated and summarised in the Table below, and are included in the TTA Report in Attachment L.1.

Network Impact – Construction Stage

Junction / Link	AM Peak	PM Peak
R688 / L1409 Junction	0.8%	0.8%
L1409 Link – Location A	9.5%	7.2%
L1409 Link – Location B	8.5%	7.4%

The analysis demonstrated that the proposed development will, in the adopted worst case scenario (i.e. during the pouring of the base slabs where construction traffic is envisioned to be at its highest) generate an impact of less than 1% at the R688 / L1409 junction during both the AM and PM peak hours. This level of impact is significantly below the TII’s TTA thresholds for normal (i.e. non-congested) networks. Furthermore, whilst the impact upon the L1409 is found to be well below the 10% threshold on non-congested networks

Network Impact – Operational Phase

The Institution of Highways and Transportation document ‘Guidelines for Traffic Impact Assessments’ states that the impact of a proposed development upon the local road network is considered material when the level of traffic it generates surpasses 10% and 5% on normal and congested networks respectively. When such levels of impact are generated a more detailed assessment should be undertaken to ascertain the specific impact upon the networks operational performance. These same thresholds are reproduced in the NRA document entitled “Traffic and Transport Assessment Guidelines”.

In accordance with the IHT and NRA guidelines DBFL undertook an assessment to establish the potential level of impact upon the key junctions and links of the local road network. To enable this calculation to be undertaken they based the analysis upon the 2022 Opening Year scenario. The predictions are included in the Table below.

Network Impact – Operational Stage

Junction / Link	2022 Opening Year		2037 Future Design Year	
	AM Peak	PM Peak	AM Peak	PM Peak
R688 / L1409 Junction	0.4%	0.4%	0.3%	0.4%
L1409 Link – Location A	4.8%	3.6%	4.4%	3.3%
L1409 Link – Location B	4.2%	3.7%	3.9%	3.5%

The analysis demonstrates that the subject proposals will, in the adopted worst case scenario (i.e. peak November traffic levels) generate an impact of less than 1% at the R688 / L1409 junction during both the AM and PM peak hours. This level of impact is significantly below the TII’s TTA thresholds for normal (i.e. non-congested) networks. Furthermore, the impact upon the L1409 link is very modest (i.e. Only 4

additional vehicle movements) with the resulting impact distorted by the extremely low baseline traffic flows along this corridor (i.e. AADT of only approximately 350).

Three potential HGV arrival/departure scenarios have been observed including;

- Full load truck in / Full load truck out (Dual Trips) – Lin-Lout
- Full load truck in / Empty load truck out - Lin-Eout
- Empty load truck in / Full truck load out – Ein-Lout

Influenced by a number of parameters, dual trips proportions have traditionally been quite low. However, over the past few years there has been a notable increase in dual trips (approximately 30%). As dual trips benefit both the supplier of materials and the exporter, this trend is expected to continue with the potential to represent 50% of all HGV trips in the next 5 years. Nevertheless, with the objective of providing a robust appraisal DBFL have assumed that Lin-Lout trips will increase to represent only 40% of all HGV trips in the future design year scenarios. Accordingly, DBFL assumed that the number of dual trips will increase by 10% above the existing quantum

A comparison of the existing on-site operations vehicle trips and the proposed development’s post development generated vehicle trips are summarised in the Table below for the ‘average’ daily Peak Month (i.e., November) scenario. This is further discussed in section 5.3 of Attachment L.1.

Average Peak Hour Traffic Movements- Existing and Proposed Development

Period / Vehicle Trip	AM Peak Hour (08:30-09:30)		PM Peak Hour (17:00-18:00)		Daily	
	Existing	Proposed	Existing	Proposed	Existing	Proposed
Inbound	5	7	1	1	15	23
Outbound	1	1	5	7	15	23
Two Way	6	8	6	8	30	46

The analysis reveals that the proposed development results in a modest increase in all vehicles during peak hour movements however due to the proposed new materials transfer structure there is not expected to be an increase in HGV trips during peak hours. The daily average increase in two-way vehicle trips has been estimated at 16 additional vehicles, eight of which are attributed to the additional staff movements (i.e., cars and vans) and eight (8) attributable to HGV movements.

Mitigation

With the objective of reducing the scale, frequency and severity of the potential impacts generated by the subject proposals in addition to improving the operational efficiency of the on-site composting activities a number of mitigation measures are planned as part of the subject proposals.

Existing Traffic Mitigation

Milltown Composting Systems has implemented a number of mitigation measures over the last number of years following a previous application for increased throughput at the site (Pl. Ref. 17600372) which includes both operational and infrastructure enhancements including;

- A booking system has been implemented which provides notice of impending inbound HGV's to the site from suppliers who's arrival rates are spread across the day
- A dedicated pass-by area has been provided immediately inside the site access allowing two HGV vehicles to pass each other at this location thereby minimising the instances of HGV's meeting each other on the access road between the Rosegreen-Fethard Road and the subject site access;
- Lands in the vicinity of the Rosegreen-Fethard Road / local road (leading to site access) junction have recently been purchased by the applicant and localised widening is proposed to be introduced to enhance the junction layout thereby allowing HGV's to pass each other when turning off Rosegreen-Fethard Road even if a vehicle is waiting to exit the local access road onto Rosegreen-Fethard Road

Proposed Traffic Mitigation

With the objective of reducing the scale, frequency and severity of the potential impacts generated by the subject proposals in addition to improving the operational efficiency of the on-site composting activities a number of management (M) and Infrastructure (I) mitigation measures are planned as part of the subject proposals

- **M1 – Management Regime:** As part of the existing booking system, which at current levels of operation works efficiently, all 'inbound' material loads sent to the subject Milltownmore facility by suppliers generally arrives with at least one day's prior notification given in regard to the day of arrival at the subject site. Whilst this current arrangement gives advance notice to Milltown Composting of the materials delivery day and approximate time. A new management regime is to be implemented to complement the existing regime thereby helping mitigate potential impacts arising from the subject proposals and minimising the potential for HGV traffic travelling in opposite directions to meet each other between Rosegreen and the composting facility. This potential new regime would require the supplier (or their transport operator) to pre-book a 'delivery window' (i.e. specific prearranged time based window of arrival on-site) at the composting facility. This practice will be similar to the concept operated at national / regional distribution centres in the retail sector. This new system would enable the composting facility to further manage the arrival of material on-site through the implementation of a fixed number of delivery windows over the entire working day. In addition to assisting the operation of the composting facility this measure will give additional control to the operator resulting in an even more controlled distribution of HGV's over both (i) the entire day, and (ii) days of week. The potential for a dedicated app is to be investigated that could allow suppliers book their proposed delivery within available delivery windows' through the dedicated app which in turn can be managed by Milltown Composting.

- **M2 – Management Regime:** With the objective of minimising the number of HGV's traveling across the local L1409 'haul route' during the networks peak hour period (e.g. AM between 0830 and 0930) it is proposed that a delivery window for this specific period each weekday is not issued to suppliers. To accommodate this initiative, it is proposed to allow 'inbound' vehicles enter the subject site during an initial delivery window of 0700-0830. This could be facilitated via the aforementioned app where this 'peak hour' window would not be made available for deliveries to the facility.
- **M3 – Management Regime:** It has previously been investigated as to the potential for an improved 'notification and hold' management measure to be implemented. With the objective of minimising the occurrence of site generated HGV traffic meeting one another (when travelling in opposite directions) along the L1409 'haul route' following the implementation of the subject proposals, an improved 'notification and hold' management measure is proposed incorporating the following management regime;
 - a) All HGV vehicle drivers traveling inbound to the composting facility will be required to contact (via hands free telephone) the plants office to inform the onsite operatives that they are approaching one of the 'strategic notification locations' detailed below and request permission to proceed straight to site via the R688 corridor and the L1409 'haul route'. The strategic 'notification' points have been identified as follows;
 - M8 Southbound approach – Junction 7 which lies approximately 10.5 km from Rosegreen (R688 / L1409 junction).
 - M8 Northbound approach – prior to departing motorway slip road at Junction 8 which lies approximately 8 km from Rosegreen (R688 / L1409 junction).
 - N74 (Tipperary) / R505 (Dundrum) Eastbound approach – Cashel Rd Roundabout junction (N74 / R639) which lies approximately 8.5 km from Rosegreen (R688 / L1409 junction).
 - R688 Northbound approach – prior to reaching Ballyclerahan which lies approximately 8 km from Rosegreen (R688 / L1409 junction).
 - b) In the potential situation where a HGV is about to leave the Milltown facility the outbound vehicle will be held on-site (until the inbound vehicle arrives) with the inbound vehicle driver instructed to proceed straight to site.
 - c) In the potential situation where a HGV has just left the Milltown site the inbound vehicle driver will be instructed to proceed to the site. This instruction is considered appropriate as the outbound vehicle will have already cleared Rosegreen (and entered the R488 corridor) prior to the arrival of the inbound vehicle at Rosegreen due to the additional journey time it will take the inbound HGV vehicle to travel from each of the identified strategic notification points, compared to the shorter journey time that the outbound HGV require (to reach Rosegreen along the L1409 'haul' route).
 - d) In any potential emergency where the on-site operative considers that it is inappropriate to instruct the inbound vehicle driver to proceed straight from the adopted strategic notification point into the Milltown facility via Rosegreen, the operative will instruct the inbound vehicle driver to proceed to

the HGV lorry parking area (and await further instructions) as located at the Motorway Service Area (Topaz) at Junction 8 of M8. As illustrated in the photograph below this dedicated HGV parking area is now (due to recent enhancements) completely segregated from the service area.

- **M4 – Management Regime:** Over the last number of years' transport operators have increased the number of 'reverse load' HGV trips due to the operational and financial benefits such practices offer to the supplier / haulage operator. The practice considers the delivery of a full load of waste material followed by the same vehicle (now empty) being loaded with recycled compost. Whilst such practices have been relatively infrequent in the past they now account for over 30% (on average) of all HGV movements to/from the subject site (based upon 2020 data) which is an increase of 6% compared to 2015 data. It is reported that this trend has continued to increase with such 'reverse load' practices now predicted to increase to levels where it has the potential to account for approximately 50% of all HGV traffic movements in the future. Nevertheless, for the purpose of the assessments 2022 and 2037 design years we have assumed a 'reverse load' average of only 40% (i.e., 2020 level of 30% plus 10%).
- **I1 – Infrastructure:** The findings of both the site audit and the traffic surveys reveals that the opposing (i.e. vehicles travelling in opposite directions) vehicle movements along the L1409 'haul route' predominately consist of (i) car with car; (ii) Car with Van, and (iii) Car with HGV / Agricultural Vehicle. In the majority of such instances these opposing vehicle movements can generally safely manoeuvre past one another with not too much difficulty. Nevertheless, the analysis reveals that on rare occasions when HGV's meet either other HGV's or large agricultural vehicles one or both vehicles may (i) need to encroach onto the adjoining verge, or (ii) yield right of way to the other large vehicle; thereby ensuring that they can pass one another when traveling along the L1409 haul route. Notwithstanding the above mitigation measures (the implementation of which will actively reduce the occurrence of such opposing vehicle movements) a number of areas along the L1409 haul route have been identified which through the provision of localised road carriageway widening works will provide additional opportunities for opposing large HGV's and Agricultural vehicles to safely pass one another (i.e., Pass-by facilities). A number of potential sites are identified in Figure 6.2 of Attachment L.1 which, subject to discussions with the local roads authority, could readily accommodate such localised carriageway enhancements. In the context of the low level of vehicle flows travelling along the L1409 haul route (e.g. AADT of 350) and the other mitigation measures being implemented as part of the subject proposals; it was recommended that new pass-by facilities incorporating local carriageway widening works are implemented at identified potential formal pass-by areas (see Figure 6.2 in Attachment L.1) with the objective of further mitigating the impact of the subject development works and associated operational traffic movements.

Conclusion

Based upon the information and analysis detailed within the TTA in Attachment L.1 it has been demonstrated that;

- The analysis of the traffic survey data reveals that the L1409 'haul' route is lightly trafficked even considering the existing on-site operations currently direct all HGV traffic along this access route.

In reference to the survey data, the busiest section of the L1409 haul route has an AADT value in the region of less than 350 vehicles.

- The proposals will result, when operating at full capacity, in an additional 16 two-way vehicle movements on average per day of which 8 are HGV movements.
- The construction stage of the proposals is predicted to generate an additional 4 no. two-way vehicle movements during the AM and PM peak hours and a total of 34 daily two-way vehicle movements during the peak construction period which will be short-term (i.e., approximately 10 working days).

The analysis demonstrates the specific impact of these additional vehicle movements upon the local road network as being sub-threshold in terms of TII and IHT 'material' thresholds.

- A package of both management (M) and Infrastructure (I) mitigation measures have been identified to manage the impact arising from this modest increase in vehicle numbers across the local road network.
- The assessment of the impact upon the operational performance of the key R688/L1409 junctions demonstrates that the proposed development will not generate a material impact at this junction. The PICADY analysis reveals that the modest increase in vehicle flows (as generated by proposals) will have an insignificant influence upon the junction's performance (RFC, queue lengths etc.) with a significant level of reserve capacity remaining at this key junction in the 2037 post development scenario.
- The assessment of the seasonal peak development traffic flow periods (i.e., November - December) do not coincide with the local areas peak agricultural periods (i.e. August – September). Accordingly, the potential for such traffic to occur along the L1409 'haul' route is minimised.

If the mitigation measures are adhered to, there are no anticipated traffic impacts as a result of the proposed development. However, the potential development of pass-by areas on the local road network may result in residual impacts as a result of the proposed development. Based on the works required for the development of the pass-by areas there may be impacts associated with development and construction works.

The TAA completed by DBFL concluded that the impact on the surrounding road network, as a result of the proposed intensification of use at the Milltown Composting facility and implementation of the proposed mitigation measures will be modest compared to the existing on-site operations. This is based on the anticipated levels of traffic generated by the proposed development, and the information and analysis summarised in the above 'worst case' assessment.

Archaeology & Cultural Heritage

The site of the proposed development is located in the Townland of Milltown More (Baile an Mhuilinn Mór), Civil Parish of Mora (Baile na Móna), Barony of Middlethird (An Trian Meánach) in the county of Tipperary (Tiobraid Árainn). Milltown More townland is located 4.5 km southeast of Rosegreen and 5 km

southwest of Fethard. The centre of the proposed development is situated at National Grid XY co-ordinates 615612/633471, latitude/ longitude co-ordinates 52°27'08"/07°46'13" and is situated at c. 135 m OD. The townland name Milltown More is an anglicised rendering of the original Irish place name meaning "The settlement/ homestead of the big Mill". Milltown More as a place name is recorded as early as 1308-1309 on the Calendar of Ormond Deeds. Milltown is first depicted on the Down Survey map of 1656-1658.

The site is situated in an agriculturally productive, undulating landscape with several small hills interspersed with flat agriculturally productive lowland in the south east of county Tipperary. Overall the landscape in the vicinity of the proposed development site has moderate surface water resources as well as widely occurring agriculturally useful soil deposits. The proposed development site is situated near the crest of a low ridge. The landscape falls away to form a shallow valley to the west and south of the proposed development. The elevated site of the proposed development provides views of the surrounding countryside in all directions. The Galtees, Slievenamon and the Kill Hills are within the visual territory of the site.

Potential Impacts Based on 2022 Site Assessment

The site assessment completed in 2022 shows that the proposed development involves the reconstruction and extension of an existing agricultural storage structure for use as an organic material maturation facility and an extension to existing storage. This proposed development will be focussed on the old cattle sheds / slatted units built here in the 1970s and later changed to store dry feed in 2001 (Ref: PA. 01357). The southern shed was demolished in 2019.

The site of the proposed development lies southeast of the location of the RMP site TS069-059 – Ringfort/rath. While the development is quite close to the site of the ringfort it does not encroach on the area where buried remains of the monument might survive.

The location of the current proposed development should be considered as being of low risk. The formation level of the proposed structure is c.3.00m below the original ground level which corresponds to the floor level of the Composting Facility abutting the development site to the east (Area 1, Ó'Droma, 2015). Ó'Droma identified and excavated potential archaeological features in Area 1, all of which were located at a level c. 3.00m above the floor level of the slurry tanks defining the proposed formation level of within the footprint of the development. A well-established haul road/farm track leads south from the main access road between the development site and the disused lagoon/pond on the western boundary. This road passes through the location of the reed beds and allows access to the fields to the south and east. The archaeological landscape has also been impacted on by the creation of these reed beds to the south and southwest, the lagoon/pond on the western boundary and the haul road/track that leads to the southern fields.

Because the proposed development is largely sited within the footprint of the 1970s cattle sheds/slatted units and later dry storage units dramatically reduces the archaeological risk as the location of the sheds was dug out to accommodate the tanks beneath the cattle sheds. If buried archaeological remains were present on this site, they would have been directly impacted on at that time. The final footprint of the

proposed extension will extend beyond the footprint of the cattle sheds by to accommodate a biofilter. This extension will encroach on the area of the reed beds but would not be considered to impact on the RMP site or zone of notification.

The placement of a new concrete apron extending to the west and northwest of the proposed structure will encroach into the zone of notification for the site of the RMP site TS069-059 with the probability of impacting on the site of the ringfort itself (although the ringfort is no longer intact). As this apron will consist of a screed of concrete it is likely to be contained within the area which was impacted during the initial developments on the site in 2008 and granted retention in the same year (PA. 08/834).

The historic agricultural and current composting activity on this site has directly affected the archaeological landscape that existed on this ridge in the past. The current proposed development does not present any major risk to the surviving archaeological landscape in this location.

Remedial & Mitigation Measures

The test pit excavation in the raised fill material on which maturation shed 2B and 3B are proposed indicated that the material is fill material to a depth of at least 2m in that area. As a mitigation measure, the groundworks of the proposed development of sheds 2B and 3B would not extend beneath a depth of 2m and so would not impact on natural grounds or any potential archaeological features that could exist at deeper soil depth.

Section 9 of the excavation report in Attachment M.1 recommends that all archaeological remains that would have been impacted by the proposed development have been fully resolved through excavation (preservation by record) and no further mitigation measures are deemed necessary in relation to planning application (14/600521). Because the proposed development does not further impact on archaeological artefacts, it is not considered that further mitigation measures are required.

Section of the 2022 Archaeological Assessment completed by RedArc outlines a number of mitigation measures that should be implemented during the construction phase of the proposed development, in particular related to the concrete apron to be constructed to the west of the proposed buildings. The mitigation measures proposed include;

- The developer should consider retaining the services of an archaeological consultant to advise on the proposed development throughout the construction phase
- Where the proposed development extends into the zone of notification for the RMP site that a suitably qualified archaeologist is present on site to monitor groundworks in those locations
- During construction the area defined as the zone of notification for the RMP site should not be used for any purpose relating to the development (including material stockpiles, storage, parking, plant, heavy vehicular trafficking, or construction compounds).
- Any proposed temporary works associated with the proposed development should be discussed with an archaeological consultant to avoid potential impacts

- A traffic management plan should be created for the construction phase of the development in discussion with the archaeological consultant to ensure that the RMP site is not trafficked by heavy plant and that avoidance of impacts is ensured.

Predicted Impacts of the Proposed Development

Because the proposed construction works for sheds 2B and 3B are on existing raised fill material (as outlined in Section 6 of the Archaeological Assessment Report in Attachment M.1) and not natural ground.

The proposed development is largely contained within the footprint of the 1970s cattle sheds and slurry tanks. These structures would have had a major impact on the archaeological landscape given that to construct the slurry tanks required a major excavation to reduce the ground level by up to c.3.00m. This bulk excavation in the 1970s de-risks most of the proposed development footprint.

The proposed development site is located in good agricultural land within a rich cultural heritage landscape but should be considered to be largely of low archaeological risk. Any potential risk related to the construction of the 'new concrete apron' to the west of the proposed structure (i.e., within the zone of notification for the RMP) would be mitigated against through the control measures outlined in section 13.5 above.

Material Assets

Projections of resource usage associated with the proposed increase throughput on site. No projections of resource usage were required for construction with regards to increased production on site as the existing facility can cater for the proposed increase in tonnage.

The facility is owned by the client (Milltown Composting Ltd) and has been in operation at this location since 2004.

The land use in the immediate surrounding area is agricultural and the site is located in a rural area used predominately for agriculture purposes, mainly grassland and tillage. A farm yard, approximately 600 meters (m) to the southwest, is the closest property to the site. The nearest residential property is approximately 800m to the northwest along the local access road. There are three more residences within 1km of the site to the north, north east and south east of the facility. Neither the facility or its immediate environs have a significant leisure or amenity value.

The proposed development will have no impact on the existing land settlement pattern.

The proposed development will result in a limited increase in traffic volumes on local roads. However, the design capacity of the local road network will be more than adequate to facilitate the increase, as is highlighted in Chapter 12 and Attachment L.1.

The increase in the amount of organic waste material accepted at the site will result in additional diesel and electricity usage for the process and may require additional transporting and turning equipment such as JCBs etc. The proposed development will also require an increase in diesel usage used by delivery trucks bringing material to the facility and for increased use of facility equipment.

The proposed development will have no impact on local amenity value and have a negligible impact on the local road network, as outlined in Attachment M.1. There will be an associated resource usage increase with the proposed development to operate the fixed and mobile equipment and the increased truck movements (i.e., increase in diesel usage used by delivery trucks bringing material to the facility). The proposed development will have no impact on the archaeology, architecture or cultural heritage in the vicinity of the proposed development.

Cumulative Impacts and Interaction Between Factors

A review was completed to assess the significance of the actual and potential direct, indirect and cumulative effects of the proposed development based on interaction between receptors. Only those receptors between which there is an identifiable existing or potential relationship are addressed.

Human Beings / Air

Composting activities have the potential to impact on human beings from odours, dust and air emissions from vehicle emissions. Effective mitigation measures are in place at the facility and will be sufficient in mitigating any potential emission from onsite activities. There will be a limited increase in exhaust gases from the additional vehicle movements. Given the location of the facility in relation to the closest residence and the surrounding land use in the area, the main source of odours is from agricultural activities outside of the facility. Based on on-going ambient air quality and emission monitoring results completed of the site as part of their licence compliance (Chapter 10), and the results of the odour model completed as part of the Licence Review, the site does not have a negative impact on human beings and the surrounding environment in terms of air quality.

Human Beings / Traffic

The proposed increase in tonnage at the facility will result in increased traffic at the facility. The existing road network has the design capacity to handle the traffic related to the facility and the increase in traffic will have a negligible impact on residents or the public according to the Traffic and Transportation Assessment carried out by DBFL Consulting Engineers and Transportation Planners. Mitigation measures have been outlined in Chapter 12 to ensure minimum impact on neighbours of the facility.

Human Beings / Landscape

The proposed increase in tonnage at the site will not require any additional land or construction. The existing buildings are not clearly visible from the public road and the overall impact of the proposed development on the landscape is considered negligible due to its location and the surrounding area.

Ecology / Water

The location of the facility is not in close proximity to any SAC or SPA. The closest SAC is the Lower Suir which is approximately 7 km to the east of the site, outside Fethard. The closest water body to the facility is the River Moyle, which was a poor Q value as mentioned in Chapter 7 of this report. The Habitats Directive and Bird Directive do not apply to this water body according to water framework Ireland. The only concern for ecology and water quality is the ammonia (NH₄N) concentrations at SW1. The elevated

concentrations main source is from condensate and surface water runoff from the main composting sheds. The construction of an enclosure over the reception yard and a new recovery system have been developed to mitigate the potential discharge of ammonia to surface waters. There is also a proposal to direct surface water runoff not associated directly with the process (i.e., yard and roof) to an existing wetland system on site prior to discharge. This would act as a further mitigation measure against potential impacts to surface water from the site.

Ecology / Air

As seen in Chapter 10, the existing air quality at the facility does not have a negative impact on the ecology of the surrounding area in terms of air quality and it is not expected that this will change with the proposed increase throughput.

Traffic / Ecology / Water

The development of three pass-by areas on the local road network may have the potential during construction to cause nuisance or impact to the local ecology, receiving waters or residents. The main impact to ecology would be disturbance of birds or mammals living in the immediate area. However, because the three locations are not located in protected areas or contain any known protected species the potential impact is considered minimal. Similarly, impacts from the development and construction of the pass-by areas may have potential for impacts to surface water receptors from run-off (e.g., sedimentation or fuel impacted water). Control measures put in place during construction (e.g., no re-fuelling at the construction location and silt barriers to control sediment run-off) would protect the receptors during the pass-by construction phase.

Noise / Ecology / Human Beings

Chapter 9 of this report details the environmental noise monitoring results as required by the facility's Waste Licence. The main potential noise of noise pollution and impacts on the noise sensitive locations are from the movement of vehicles to and from the site. There have been occasional exceedances of the day time L_{af} of 55 dB(A) seen in Table 9.2, which has been attributed to facility operations and outside sources elevating the L_{afMAX} readings. However, an increase in production at the facility will increase the traffic which will in turn have a negative impact on noise sensitive locations if the mitigation measures outlined in Chapter 9 are not followed.

Cumulative Effects

The assessment of impacts took into consideration the existing facility and the proposed increase in waste throughput at the facility. With the completion of the enclosure of the reception yard and recirculating system the main potential impact on the environment is related to traffic increase and the associated impact on the road network and noise impacts on neighbours.

However, the traffic review indicated that the increase in traffic associated with the facility would have a negligible impact on the local road network and the air quality assessment indicated that air emissions from increased exhaust output would be negligible.