



SECTION 4 – NON-TECHNICAL SUMMARY

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ENVIRONMENTAL IMPACT STATEMENT NON-TECHNICAL SUMMARY

SUBMITTED WITH AN APPLICATION FOR A WASTE LICENCE W0260-01

For:

**AN EXISTING INERT SOIL AND STONE RECOVERY FACILITY AND INERT
C&D MATERIALS RECYCLING FACILITY AT THE QUARRY
GRANNAGH, KILMACOW,
CO. KILKENNY**

Applicant:



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Submitted to:

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**ENVIRONMENTAL IMPACT STATEMENT
NON-TECHNICAL SUMMARY**

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4.1. Introduction

In accordance with Section 40 (2A)(C) of the Waste Management Acts (1996-2013), the EPA has addressed the information submitted for a Waste Licence Application W0260-01 by CHI Environmental Ltd. and considers that the waste licence application must be made subject to an Environmental Impact Assessment (EIA). Therefore in accordance with Section 42 (II)(b) of the Waste Management Acts (1996-2013), CHI Environmental Ltd. hereby submits an Environmental Impact Statement (EIS). This is a non-technical summary of the main EIS report.

This Environmental Impact Statement (EIS) is being submitted to the Environmental Protection Agency (EPA) by CHI Environmental Ltd., Dunbrinn, Grannagh, Kilmacow, County Kilkenny to accompany an application for a Waste Licence, W0260-01 for an existing inert soil and stone recovery facility and inert construction and demolition (C&D) materials recycling facility at The Quarry, Grannagh, Kilmacow, Co. Kilkenny, National Grid Reference 257881E, 114843N.

The works proposed under the Waste Licence involves the recovery of approximately 125,000 tonnes per annum of inert soil and stones for the purposes of restoring a former rock quarry to beneficial agricultural use, and for the importation and recycling of approximately 45,000 tonnes per annum of inert construction and demolition material for the purposes of re-sale as certifiable secondary (recycled) aggregate for re-use in the construction industry. The total quantity required to restore the former quarry is calculated at 550,000 tonnes. 20,000 Tonnes/Annum of soil and stone material and C&D materials may be stored on the site (prior to recovery/reclamation)

It is envisaged that based on present intake rates of inert soil and stone that it will take approximately 15-20 years to complete the restoration of the quarry due to the availability of soil and stones having contracted during the recent recession.

The existing activity of the importation and recycling of inert construction and demolition material for the purposes of re-sale as certifiable secondary (recycled) aggregate for re-use in the construction industry is an on-going business which does not have a finite time-scale. It is envisaged for the purposes of this EIS and the Waste Licence that it will have a time-span of at least 20 years.

The waste recovery facility site consists of 5.3 hectares (13.1 acres). CHI Environmental Ltd. commenced recovery and recycling operations at The Quarry at Grannagh in April 2004, when they applied for and were granted a Waste Permit WMP 22/2003 from Kilkenny County Council. The existing permitted site was granted another Waste Permit (No. WMP 23/2007) by Kilkenny County Council in November 2007. In December 2006, full planning permission was granted by Kilkenny County Council for the site recovery activities - Register no. 06/1772.

CHI Environmental Ltd. applied for a Waste Licence (Ref: W0260-01) to the EPA on 13/2/2009 and in accordance with the relevant legislation, they continue to operate under their present Waste Permit (No. WMP 23/2007) under the authority of Kilkenny County Council until the waste licence application is decided upon by the Agency.

The application for Waste Licence W0260-01 is for the continued recovery operations as per the existing Waste Permit, and the application for a Waste Licence creates no proposed



significant change to the content, nature, composition or volume of materials intended for recovery at the site as already permitted and authorised by the existing waste permit and planning permission. The sole reason a Waste Licence was applied for, was due to the changes in the National Waste Permit legislation and the obligations which this brought.

The site activities carried out under the existing Waste Permit and which are subject to the Waste Licence Application W0260-01, have been fully examined by Kilkenny County Council and assessed in relation to matters relating to the environment and proper planning and development of the area. In making their decision to grant planning permission for the restoration of the former rock quarry and the C&D recycling activities, Kilkenny County Council were satisfied that the development would not negatively impact upon the environment.

Furthermore, the recovery activities do not entail the excavation of material from the site (say like a quarry) but rather the restoration of the exhausted rock quarry site with inert soil and stone. Therefore any direct impacts upon the landscape and any visual impact would have occurred in an historical sense during the past excavation of the quarry void which removed all surface features and the rock below.

The following are the established hours of waste acceptance and handling under the Waste Permit and are proposed under a Waste Licence:

8.00am to 6.00pm - Monday to Friday

8.00am to 2.00pm - Saturday

Closed - Sundays & Bank Holidays

For the past ca. 10 years, the Grannagh facility has operated under strict and rigid controls and conditions to protect the environment and local residents and residential amenity. As such there have never been any environmental incidents or cause for concern from the site operators or the Local Authority concerning any potential environmental impacts. This is confirmed by annual environmental audits carried out by Kilkenny County Council and the on-site Environmental Management Program which records and incidents or complaints of which there have been none.

CHI Environmental Ltd., is a local County Kilkenny owned/operated company, which provides employment to ca. 8 no. people in the Kilmacow area. The company entered the Waste Management Area in 2004, when they applied for and received a Waste Facility Permit WMP 22/2003 from Kilkenny County Council. CHI Environmental Ltd is a member of the Soil Recovery Association (SRA) which is a National Organisation affiliated to the Construction Industry Federation (CIF) which represents Members involved in the excavation, transport and recovery of soil and stones at authorised permitted and licensed soil and stone recovery facilities.

CHI Environmental Ltd. were requested by the Environmental Protection Agency (EPA) to Screen for Appropriate Assessment. An Appropriate Assessment Screening Report considers whether any activity or proposed increase in activity on the lands, either individually or in combination with other plans or projects is likely to have a significant effect on Natura 2000 sites, in view of best scientific knowledge and the conservation objectives of the site(s). To that end, the Appropriate Assessment Screening Report considers whether any activity or proposed



increase in activity on the lands, either individually or in combination with other plans or projects is likely to have a significant effect on Natura 2000 sites, in view of best scientific knowledge and the conservation objectives of the site(s).

The Appropriate Assessment Screening Report finds that:

“The site does not contain any of the habitats or species that are the special interests of the cSAC and therefore it cannot act as a reservoir to replenish the Natura 2000 site in the event of loss. The only possible impact would be through site drainage reaching the estuary in significant quantities and carrying some kind of detrimental matter. The organisms that occur in the nearest section of river are sea lamprey, river lamprey, the Atlantic salmon, Twaite shad and otter. The fish migrate through the estuary to breed upstream while the otter is resident, feeding on many species of fish and on frogs”.

The Appropriate Assessment Screening Report findings are discussed further in Section 3.2 of the EIS and it concludes that:

“The protective measures built into the design and operation of the facility will prevent this project having any significant effect on the Natura 2000 site – the Lower River Suir (Site Code 2137) – or its conservation objectives. This applies both to the on-going operation phase and final restoration. Since this is the case there is no likelihood of ‘in combination’ effects on the Natura site Network”.

Therefore the site can be screened out of further stages of Appropriate Assessment.

4.2 Summary of Site Activities

4.2.1 Principal Elements

The Waste Licence Application provides for an existing inert soil and stone recovery facility for the restoration of a former rock quarry to beneficial agricultural use at Grannagh, Kilmacow, County Kilkenny.

In addition, the site operates as an inert construction and demolition materials recycling and transfer facility whereby construction and demolition waste is screened and crushed in order to produce a secondary aggregate which can be recycled, stored and re-sold as certifiable secondary aggregate products for re-use by the construction industry. Suitable soil and stones of a size of 0 – 40 mm are re-incorporated into the restoration of the former quarry.

Figure 4.2.1.1 is a site plan which shows the existing (as built) site infrastructure and layout of the location of site activities to service the existing authorised permitted soil and stone and inert construction and demolition materials recovery facility.

As under the existing waste permit, the facility at Grannagh, Kilmacow, County Kilkenny operates following a very simple two prong recovery and recycling process, as shown in the 'Flow Diagram' in **Figure 4.2.1.2**. **Figure 4.2.1.3** is the site survey and cross sections drawing.

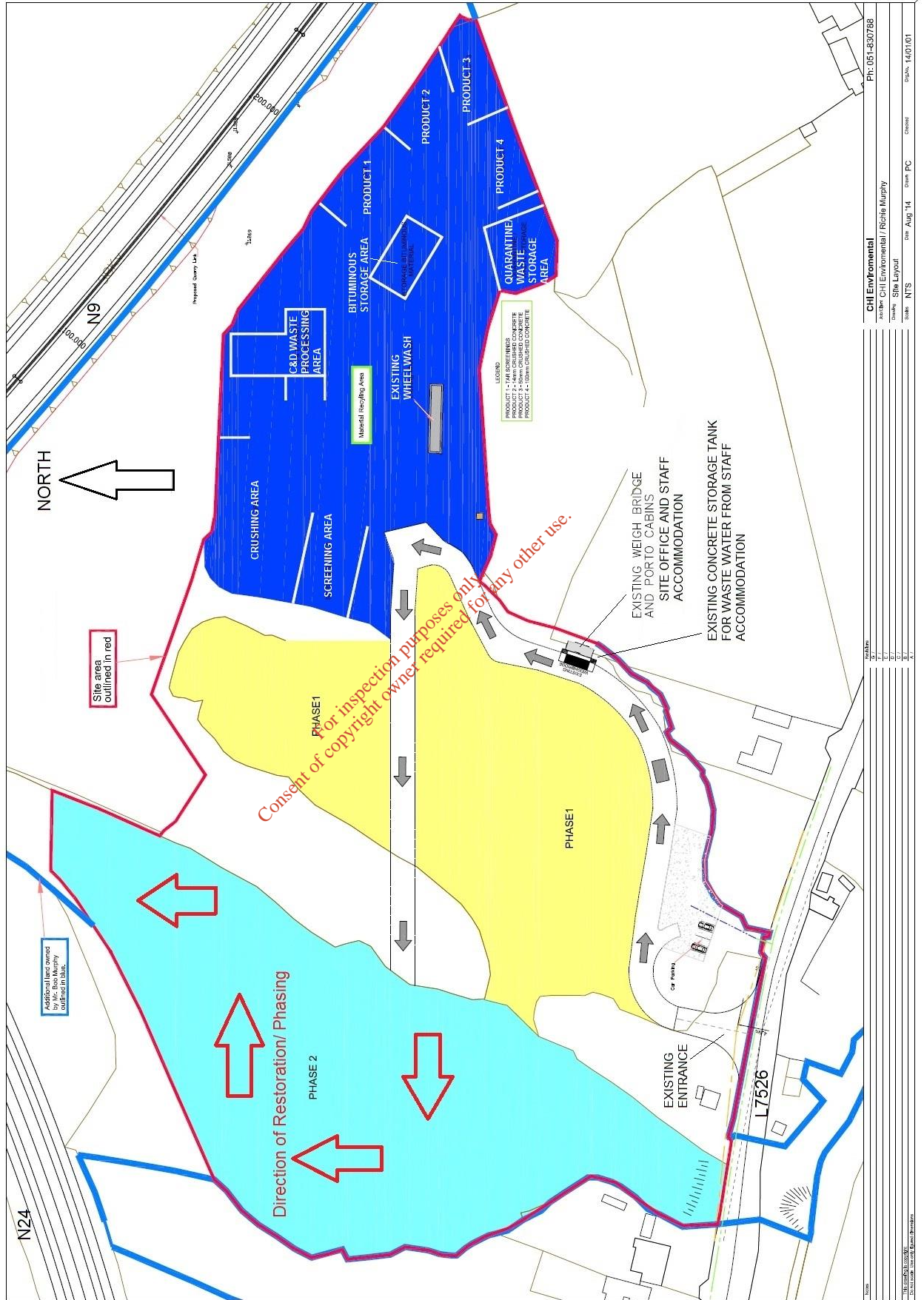
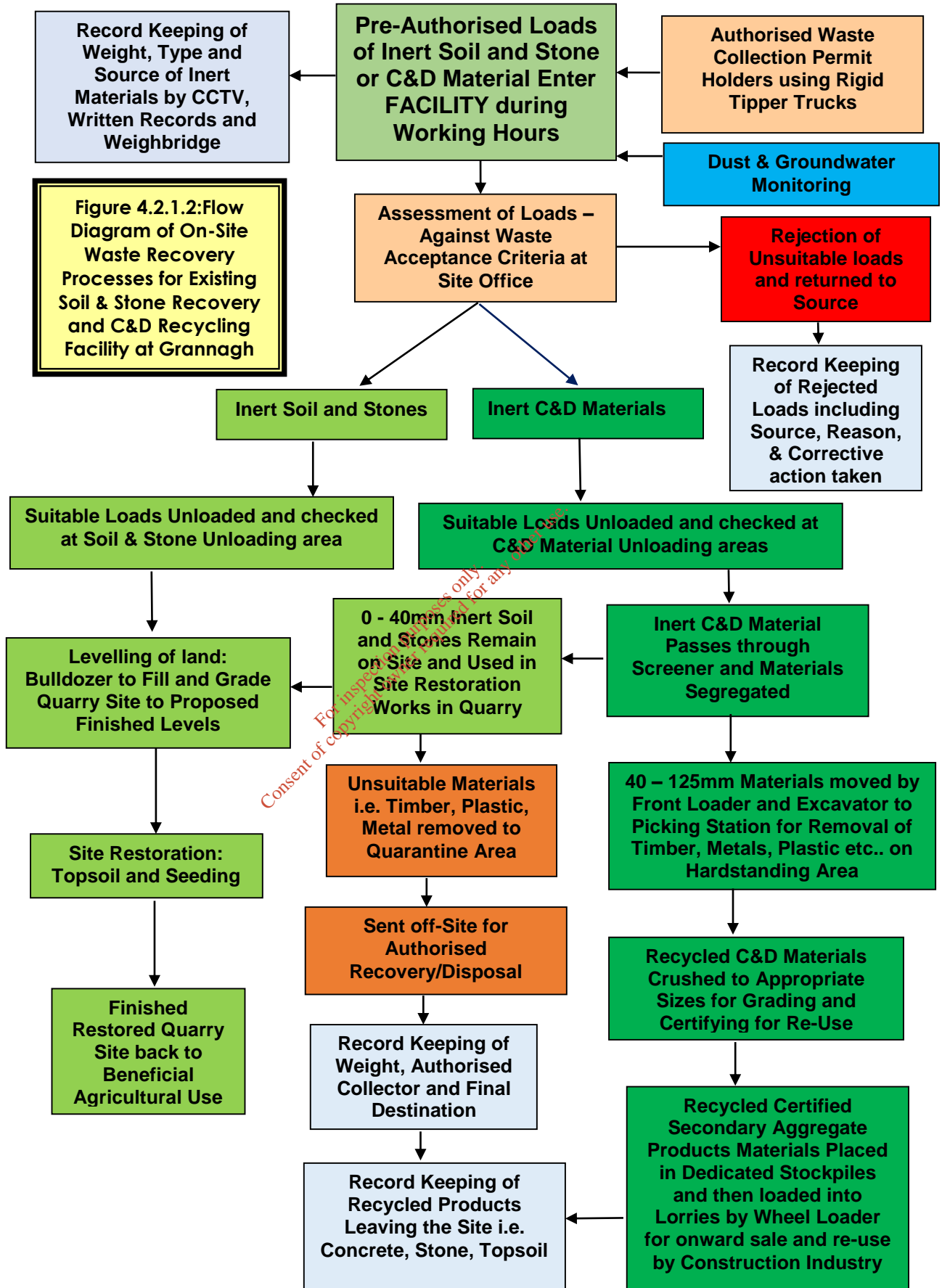


Figure 4.2.1.1 Existing Site Infrastructure Plan for Grannagh Facility



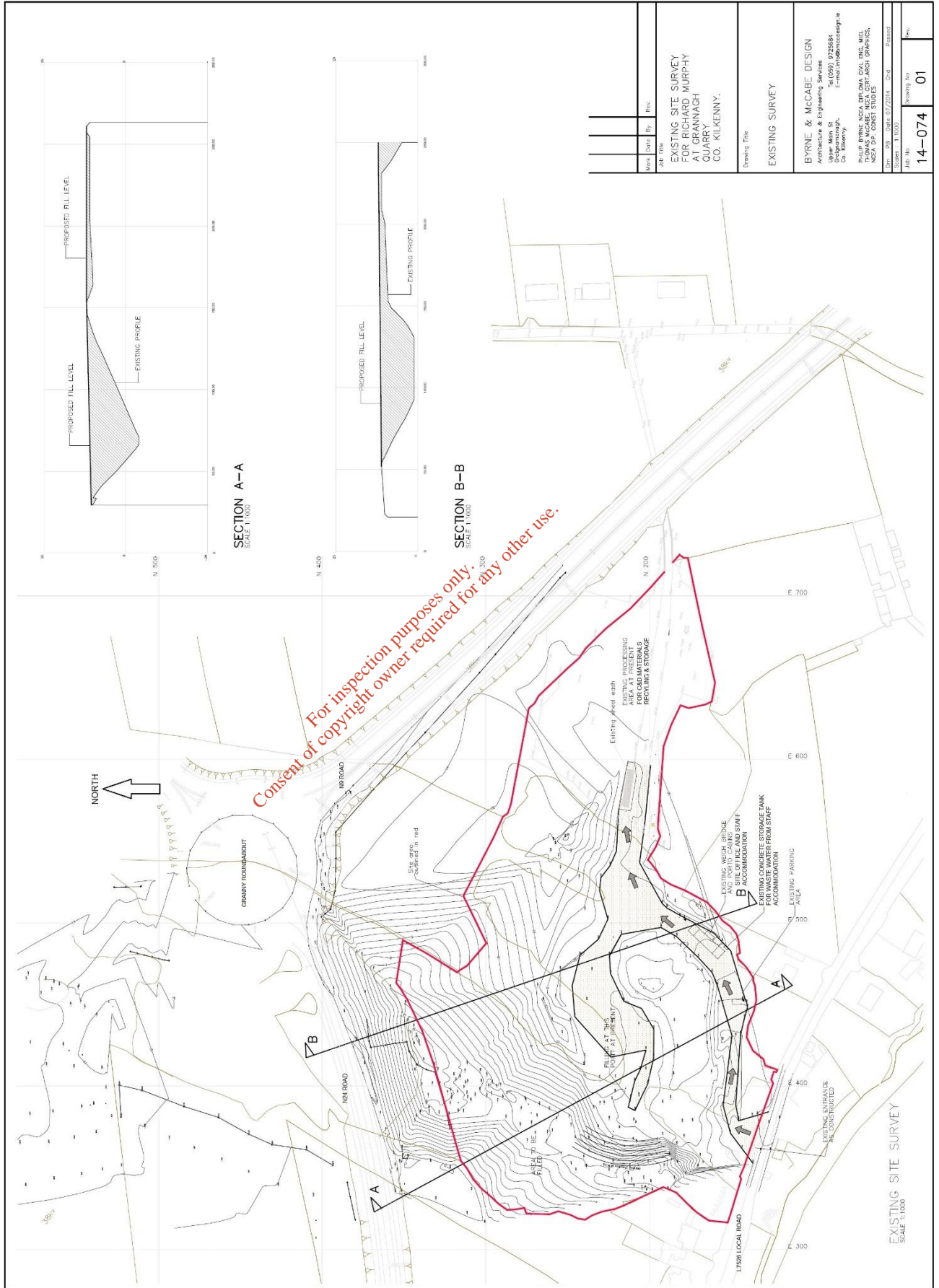


Figure 4.2.1.3: Site Layout Plan with Cross Sections



Based on the proposed annual intake, it is expected that there will be approximately 10,000 rigid tipper truckloads of soil and stone, and construction and demolition material delivered to the site on an annual basis (i.e. ca. 200 loads per week). A large proportion of the lorries that leave the site will be reloaded and used for deliveries off-site of recycled secondary aggregates. These therefore do not generate any new or additional traffic movements. Based on a recovery/recycling rate of ca. 85% plus, then ca. 38,250 tonnes of certified secondary aggregates will be sold off-site per annum. This equates to about 2,400 lorry loads per annum or ca. 48 lorry loads per week based on a 50 week year leaving the facility.

This number of truck movements in accordance with the planning on the site is not expected to have any effect on traffic in the area of the site. This is especially considering the proximity of the site to all major routes including the N24 and M9, and access directly into Waterford City and environs.

The principle activity undertaken at the application site is the restoration of lands within a former limestone rock quarry which is envisaged based on current intake levels will take ca. 15-20 years to complete. The site will be restored on a phased basis to give a landform which merges into the surrounding undulating pastoral landscape, as shown in the site survey plan and cross sections.

Following completion of the recovery activity in a particular section, topsoil will be spread evenly over the site to a minimum depth, after firming, of at least 300 mm. Any topsoil which is delivered to the site during the recovery activity will be stockpiled separately for this purpose. The site will then be prepared for seeding by raking or harrowing, and by rolling. The site will then be restored for agricultural purposes. The land will be returned to productive agricultural land to be used for grazing probably for sheep or cattle and will be subject to standard agricultural practises.

On completion, the final landform will be profiled to give a domed shape in order to facilitate rain water to percolate into the in-situ sand and gravels along the site boundary. It will then be sown with grass in order to promote stability and minimise soil erosion and dust generation and the lands will be progressively returned to their former use as agricultural grassland.

The construction and demolition material recovery and recycling activity will continue to operate as a going-concern long after the site quarry restoration works are completed. It is envisaged that the life time of this business is in excess of twenty years as the recycling of C&D material is only going to become more important for society especially with the recycling targets set for C&D waste by 2020 under the Waste Directive 2008/98/EC

If and when the C&D recycling operation ceases, all mobile plant and equipment would be progressively removed off-site or decommissioned.

Whenever possible, hardstanding surfaces would be broken up using a hydraulic breaker and subjected to validation testing to confirm the materials are acceptable for re-use in ongoing land restoration works. Any materials are found to exceed inert waste criteria will be transferred off site to a suitable licensed waste disposal or recovery facility. Following completion of the restoration and site decommissioning works, provision would be made for further, short term (<1 year) environmental monitoring groundwater.



4.2.2 Site Infrastructure and Operations

There is no discharge of trade effluent or other matter, to sewer (existing or proposed) from the site and no surface water discharges on site. All rainwater percolates naturally into the ground and to groundwater.

Existing waste inspection areas and a separate waste quarantine area are maintained at the facility and an impervious concrete base is provided for the waste quarantine area. These areas are maintained in a manner suitable, and are of an appropriate size, for the inspection of waste and subsequent quarantine if required.

The waste inspection areas and the waste quarantine area are clearly identified and segregated from each other. All waste deposited at the waste quarantine area is stored in a covered skip to minimize potential contamination of surface water run-off. The covered skip is maintained for the off-site disposal/recovery of unsuitable material or items found in loads of inert material delivered to the site.

As undertaken under the existing waste permit, the Grannagh Recovery Facility operates strict waste acceptance procedures which ensure that as far as possible only authorised material as outlined in the permitted waste types, enters the facility.

Access to the application site can only be gained via an authorised bell-mouth site entrance off a secondary road (L7526) which was downgraded and was previously the N24 Waterford to Limerick national primary route. Upon entering the site, authorised vehicles pass through double lockable security gates and then proceed along the access road and are directed towards the site office and weighbridge. Here a record sheet is completed; weight taken on the weighbridge and then the vehicle is directed to the appropriate unloading and inspection area.

The existing recovery site operates a comprehensive CCTV recording system with up to 7 (seven) cameras operating at any one time. These are strategically positioned to be able to fully monitor site access and security.

All trucks delivering inert materials to this site will be confined within the Applicant's landholding. Trucks will initially travel over a paved road surface on to the site before travelling over a network of unpaved internal roads to get to the active restoration area or the C&D materials recycling area. All site roads will be maintained to ensure the safe movement of vehicles within the facility. Provision for employee and visitor car parking is currently provided on a paved area adjacent to the site office, where all visitors must report to before entering the site.

Internally within the application site, warning notices, direction signs and speed restriction signs are located along paved and/or unpaved roads leading to and from the active restoration areas and the construction and demolition waste recycling area.

In order to prevent soiling of public roads with dust and soil materials from rigid tipper trucks, a temporary wheelwash facility has been installed. All egressing site traffic is required to pass through the wheel wash. Also paved roads on site are cleaned with the on-site tractor driven mechanical road sweeper.



With regards specifically to loads of inert soil and stone, the Facility Manager/Machine Operative will inspect each load, as it is being deposited, to ensure the material is fully compliant with. If the material is non-compliant, the Facility Manager/Machine Operative will insist that the material is reloaded onto the haulage truck and removed from the site, for authorised disposal elsewhere.

Once the haulage trucks deposit their material, along the perimeter of the restoration area, the bulldozer shifts the inert material, from where it is deposited by the haulage trucks and spreads it over the area of the deposition site, in compliance with the Waste Permit and the Waste Licence when issued. If waste objects are identified within the inert material (whilst shifting/reclaiming the material), which are not compliant with the Waste Permit or Waste Licence (e.g. pieces of wood, plastic, metal), they will be removed and transported to the Waste Quarantine skips.

The Facility Manager/Deputy Facility Manager maintain a record of all material arriving at the facility, including the following information:

- Date;
- Time;
- Owner ruck;
- Truck Licence Plate No.;
- Waste Collection Permit number;
- Type of Material;
- Origin of Material;
- Weight of Material.

This then forms the basis of the Annual Environmental Report (AER) which is currently submitted to Kilkenny County Council, but will under a Waste Licence be issued to the EPA.

The Facility Manager on the site maintains a record of the tonnage of each load entering and leaving the site. This allows him to keep an accurate record of volumes/quantities of materials being accepted at the facility on a daily, weekly and annual basis.

It is not proposed to store any fuel on site and it is not intended to provide bunded fuel storage tanks at the application site. A fuel tanker will visit the site, when required and fill the onsite plant. Refuelling for mobile plant takes place on the concrete hardstanding area of the quarantine area, and booms and spill kits are kept adjacent to this. Static tracked plant such as screeners etc. are refuelled directly at their location with the use of mobile spill trays.

A small bunded tank for waste oils will be provided on the concrete slab at the waste quarantine area. This tank will be emptied at intervals by a licensed waste contractor and disposed off-site at a suitably licensed waste facility.

No re-fuelling of HGV trucks will take place on site. Oil and lubricant changes for wheeled or tracked plant will be undertaken on-site at the existing concrete hardstanding area at the quarantine area.



Plant maintained on site principally comprises mechanical excavators and/or bulldozers, mobile screening and crushing plant. Both tracked and wheeled plant will be serviced as necessary at their location on the hardstanding area or, if necessary, on the concrete slab at the waste quarantine area

There are no installed Plant Sheds, Garages or Equipment Compounds or proposals for these installations at the existing authorised site and there will be no change to the above in relation to the application for Waste Licence.

Due to the inert nature of the soil and stone recovered & reclaimed at the licensed facility, and the inert C&D materials recycled at the existing facility, bird activity does not present an environmental nuisance and there will be no change in this regard in the application for a Waste Licence.

The unloading of material from the haulage trucks, and the subsequent movement/spreading of the inert material over the area of the deposition site, may produce dust on the site, during periods of dry weather. However, the site restoration works take place within a depression in the topography of the surrounding area which helps mitigate any dust moving off-site. This depression is also surrounded by a mature tree line as is the C&D recycling operation.

It is proposed that during extended periods of dry weather, a tractor with water bowser will sprinkle water over hardcore areas and the access road to dampen down any dust. This presently occurs under the Waste Permit. The site wheel wash also helps to mitigate against fugitive dust by ensuring no mud or dust is carried onto the public road.

Dust emissions from established restoration activities at the application site and the C&D recycling operations are measured using Bergerhoff dust gauges at 2 No. locations across the site, as described later in the EIS. These gauges are located along the boundary of the application site, close to the nearest sensitive receptors, all of which are private residential properties.

It is currently envisaged that the existing dust monitoring regime will remain in place for the duration of the site restoration works and will continue for during the on-going C&D materials recycling operation thereafter.

Due to the inert nature of the soil and stone recovered & reclaimed at the site, there is very little risk of fire breaking out on the site. However, a fire extinguisher will be stored in the cabin of the site plant (Excavator, Loading Shovel, Tractor with water bowser) and within the site Portacabin.

Water is provided at the site at the site office and staff accommodation and toilets by mains. Effluent is collected in a sealed concrete storage tank for authorised emptying by an approved contractor.

Due to the inert nature of the soil and stone and C&D Material recovered at the site, litter does not present a significant environmental nuisance and there will be no change in this regard in the application for a Waste Licence. The site picking station as part of the C&D recycling activity has a blower with an enclosed cage to remove any light fractions found within consignments of C&D material. All skips stored on site will be covered.



Staff will 'walk the site' once a week and recover any litter identified, for authorised disposal offsite.

Due to the inert nature of the soil and stone and C&D material recovered & reclaimed at the site, vermin do not present an environmental nuisance and there will be no change in this regard in the application for a Waste Licence.

The applicant provides an on-site a mechanical sweeper for any necessary road cleansing together with a tractor and bowser for prolonged dry periods. This is in combination with the existing site wheel wash and the concreted road section from the site entrance to the site office.

No chemicals (e.g. Insecticides, Herbicides, Rat Poisons, Cleaning Agents, Water Treatment Chemicals, Cooling Water/Boiling Water Additives, Laboratory Chemicals, etc.) will be required or accepted at the facility.

4.2.3 Emissions and Potential Impacts from the Recovery Activity

From scoping the existing recovery activity, the existing waste permit and planning permission and the content of the waste licence and in particular Sections E.1 - E.6 of the application for a Waste Licence, the potential Emissions associated with the facility have been clearly identified.

The scoping concludes that, as currently permitted, the potential emissions from the facility are noise emissions from plant onsite and traffic associated with the activity. The noise assessment survey as outlined however demonstrates (as does the compliance history of over 10 years without any complaints) that noise is not an issue with this facility upon noise sensitive receptors.

There is no surface water on-site nor surface water features, so it is groundwater that is monitored on-site. Site mitigation measures are in place on site to protect groundwater and annual monitoring occurs upgradient and downgradient from the existing recovery facility.

Potential dust produced by the recycling operation, and the unloading of material from the haulage trucks, and the subsequent movement/spreading of Soil and Stone over the area of the deposition site is discussed in relation to dust as a potential environmental nuisance rather than a site emission.

It is proposed to manage the potential environmental nuisance caused by dust by bringing a tractor with water bowser onto site during extended periods of dry weather, to sprinkle water over hardcore areas and the access road, to dampen down any dust. An existing wheel wash is in use at the site for trucks egressing the site.

4.2.4 Environmental Monitoring

There is an established programme of environmental monitoring at the site which complies with the requirements the existing Waste Permit and Planning Permission at the site. This includes groundwater monitoring at two boreholes annually and dust monitoring at two locations annually. Records of environmental monitoring and testing will be maintained on-site and will be forwarded to the EPA as required.



For the past ca. 10 years, the Grannagh facility has operated under strict and rigid controls and conditions to protect the environment and local residents and residential amenity. As such there have never been any environmental incidents or cause for concern from the site operators or the Local Authority concerning any potential environmental impacts. This is confirmed by annual environmental audits carried out by Kilkenny County Council and the on-site Environmental Management Program which records and incidents or complaints of which there have been none

4.3 Flora and Fauna

The purpose of this section of the EIS is to assess the flora and fauna within and surrounding the subject site and to assess the potential impacts (if any) on any designated sites for Wildlife such as NHAs, SPAs or SACs. Potential impacts on flora and fauna are identified together with appropriate mitigation measures to limit or eliminate any impact on flora and fauna.

The conclusions of the AA Screening Report prepared by Roger Goodwillie and Associates in June 2014 found that:

“The protective measures built into the design and operation of the facility will prevent this project having any significant effect on the Natura 2000 site – the Lower River Suir (Site Code 2137) – or its conservation objectives. This applies both to the on-going operation phase and final restoration. Since this is the case there is no likelihood of ‘in combination’ effects on the Natura site network.”

If one were considering this existing soil recovery facility as a new “Greenfield” site with no previous authorisations; ecological assessments; or consideration of potential impacts upon flora and fauna and ecology, then one could suggest that the reclamation of the site could have the potential to impact upon the naturally occurring habitats and species of flora and fauna.

However a thorough assessment of the site has found that the site does not contain any rare or protected habitats and many of the habitats and species present are mainly due to the past intervention of man through past quarrying and in the present day restoration activities.

Any habitats or species present today are as a consequence of man’s industrial interventions in the past and do not necessarily represent the habitats that were present at this site, which would have more than likely been agricultural pasture land prior to quarrying.

The subject lands have little or no agricultural benefit at present due to extensive and historical quarrying activities. Historically, rock quarrying only sought to remove the valuable rock resource with little if any thought of restoration or further use for the quarried lands. The restoration activities carried out by CHI Environmental Ltd. addresses this issue by the phased restoration of the quarry void back to beneficial agricultural use. The importation of subsoil involves land levelling, reinstatement of topsoil and reseeded with a good quality grass seed mixture, the end result will be beneficial to soils in the area from an agronomy perspective.

All boundary treelines and hedgerows will remain intact and will be augmented where necessary so that the linear habitats on-site remain unaffected by the restoration works and the C&D recycling activity. In fact the presence of the mature treelines and hedgerows provides



an ideal natural visual barrier into the site and also provides a buffer to potential dust and noise emissions from the site.

It is important to note that current best practise in quarrying and in getting authorisation for quarry development, is to be able to demonstrate full restoration plans in a phased and logical manner. This fully complies with the policies set out in the current Kilkenny County Development Plan 2014 -2020 which states in Section 6.4.2 with regards to quarries:

- Ensure that all existing workings shall be rehabilitated and that all future extraction activities will allow for the rehabilitation of pits and proper land use management.
 - The Council may require that development is phased and that each phase is rehabilitated before the next phase is developed/commenced;
 - The Council shall require applicants to submit a restoration programme with their application on the manner and timing of restoration;
 - The Council will consider the current land/quarry resource of the applicant and may seek that current quarries are restored before new sites are developed.

and:

- The Council will consider the current land/quarry resource of the applicant and may seek that current quarries are restored before new sites are developed.

The site activities carried out under the existing Waste Permit and which are subject to the Waste Licence Application W0260-01, have been fully examined by Kilkenny County Council and assessed in relation to matters relating to flora and fauna. In making their decision to grant planning permission for the restoration of the former rock quarry and the C&D recycling activities, Kilkenny County Council were satisfied that the development would not negatively impact upon flora and fauna or any protected wildlife sites such as NHAs, SPAs or SACs.

The application for Waste Licence W0260-01 is for the continued recovery operations as per the existing Waste Permit, and the application for a Waste Licence creates no proposed significant change to the content, nature, composition or volume of materials intended for recovery at the site as already permitted and authorised by the existing waste permit and planning permission. The sole reason a Waste Licence was applied for, was due to the changes in the National Waste Permit legislation and the obligations which this brought.

Given that the AA screening report and the site ecological survey have concluded that the continued operation of the existing Grannagh facility will not have any significant impacts upon flora and fauna and any rare or protected habitats, or on any protected designated sites for nature, no further specific mitigation measures are required or are proposed.

That said common sense should prevail in ensuring that any wildlife present on site is respected and that best practice is adopted in terms of any habitat disturbance during the bird nesting season.

Monitoring of groundwater and dust emissions will continue to demonstrate that the activity is having no negative impact upon the environment and so that compliance with the Waste Licence standards when issued can be maintained.



Actions to ensure dust abatement include spraying of haul roads in dry weather and their general. In addition re-vegetation of grassland species will be carried out on completed restoration sections on an on-going basis.

Final site restoration will include the removal of all machinery and structures and the levelling of the site contours to facilitate the establishment of grassland and grazing animals.

Attention will be given to the possible occurrence of Japanese knotweed or any other invasive alien species and these will be controlled at an early stage. They do not seem to be present at the site.

4.4 Surface Water

The purpose of this section of the EIS is to assess the water environment within and surrounding the subject site.

There are no surface water features (i.e. streams) within the former quarry site and no discharges to surface water features or surface water links to the River Suir. This is well established as the site has undergone a full assessment in the granting of planning permission and in the issuing of two waste permits by Kilkenny County Council.

Groundwater and the protection of groundwater is covered comprehensively within Section 3.6 of this EIS.

With the exception of the sealed concrete slab at the waste quarantine area, it is not intended to provide any site drainage infrastructure to collect and remove surface water runoff at the application site.

During the infilling and restoration of the quarry site, surface water will be allowed to run over the existing ground surface to percolate through the deep soils to groundwater. At no time during the restoration works will surface water run-off be directed to watercourses or ponds beyond the site boundary.

The waste quarantine area, will be sealed by a 100mm thick reinforced concrete slab over 150mm of granular sub-base and bunded to a design storm volume. Any surface water running over the surface of the concrete slab will be directed toward an underground collection tank with double skin protection located on the western side of the hardstanding area. Surface water will only be collected in the buried tanks when suspect waste consignments are stored at the quarantine facility.

At all other times, surface water run-off from the impervious concrete slabs will be diverted and allowed to percolate directly through the soils to the underlying groundwater table.

Any wastewater collected in the underground tank will be emptied by licensed waste collectors and transferred to a collection tanker for disposal off-site at an approved waste water treatment facility.



The soil recovery facility and C&D materials recycling facility, does not have existing or proposed extraction wells from Groundwater. No groundwater wells were identified in close proximity to the site supplying water for domestic or animal needs as shown in Section 3.6. All potable water requirements come from an existing mains supply to the site office and staff cabin.

With regards to ensuring that there are no significant impacts upon waters and in particular groundwater, the following mitigation measures will ensure that the continued operation of the The soil recovery and the C&D materials recycling facility at Grannagh will not impact upon groundwater:

- The plant machinery is refuelled using a Mobile Fuel Bowser. No fuel is stored on the site. This eliminates the risk of potential fuel leakages from storage tanks and prevents any environmental impact on groundwater.
- Spill kits are provided, in the unlikely event of a spillage, that the spillage is confined to the immediate area.
- As part of the Environmental Management System on site, Emergency Response Procedures have been put in place to deal with emergencies.
- In the unlikely event of a larger fuel spillage, either from the site plant or refuelling tanker, the emergency procedures listed in the EIS will be followed.

The Grannagh Facility has been in operation since 2004, and has since that time been granted two waste permits from Kilkenny County Council and has also been granted full planning permission by Kilkenny County Council. Therefore the site has operated under strict and rigid controls and conditions to protect groundwater and soils. As such there have never been any environmental incidents or cause for concern from the site operators or the Local Authority concerning groundwater or groundwater quality or contamination.

There will be no significant impacts upon the groundwater or water environment as identified in this section of the EIS as there will be no process emissions to either the ground, surface water or groundwater.

All appropriate mitigation measures have been put forward and are implemented for a soil recovery and C&D materials recycling site of this nature. The Grannagh facility is a low risk activity which poses little or no threat to hydrogeology, groundwater, or surface waters. To ensure the recovery and recycling activity is not having any significant impact upon water and in particular groundwater it is proposed to continue to monitor groundwater at the two on-site groundwater monitoring wells (upgradient GW1 and downgradient GW2) on an annual basis

4.5 Climate, Air Quality and Dust

This section of the EIS deals with Climate, Air Quality and Dust associated with the on-going operation of the existing soil and stone recovery and inert materials recycling facility at Grannagh, Kilmacow, Co. Kilkenny.



It is important to stress that CHI Environmental Ltd. commenced recovery and recycling operations at The Quarry at Grannagh in April 2004, when they applied for and were granted a Waste Permit WMP 22/2003 from Kilkenny County Council. The existing permitted site was granted another Waste Permit (No. WMP 23/2007) by Kilkenny County Council in November 2007. In December 2006, full planning permission was granted by Kilkenny County Council for the site recovery activities.

Therefore the site has operated under strict and rigid controls and conditions to protect air quality and to prevent dust. As such there have never been any environmental incidents or cause for concern from the site operators or the Local Authority concerning dust or nuisance associated with dust upon local residents or to air quality in general.

Soil recovery facilities and C&D materials recycling and storage facilities operate site activities which by their very nature have the potential to generate dust. Dust arises predominantly from wind-blown dust from inert soil and C&D materials during prolonged dry periods. The main elements influencing dust emissions from an inert soil and C&D materials recovery facility include site plant and mobile machinery; stockpiles; traffic on internal haul roads; unloading of soil material C&D materials and temporary storage; stripping and topsoil storage.

The dust deposition measurements from D1 & D2 for the years of 2009 through to 2013 are well below the 350 mg/m²/day threshold. Therefore, the ongoing operation of the soil recovery and C&D materials recycling facility is having no significant direct or indirect impacts from dust upon sensitive receptors and is having no negative impact upon air quality in general.

Dust emissions from such facilities are generally dispersed sources rather than point sources and this dictates the measures required to mitigate potential dust related impacts. There are certain measures that are adhered to in effectively minimising dust emissions from the existing site operations at the Grannagh Facility. The principal cause of fugitive dust is from traffic movements on-site. Air emission abatement measures are already achieved through the following on-site control and mitigation measures:

- Provision of paved internal roadways, where appropriate.
- Provision of on-site speed limits to prevent unnecessary generation of Fugitive dust emissions.
- Mobile water bowsers deployed around the site and/or mobile road sweeper deployed around the site and site entrance.
- Reduction in the volume of the stockpiles and use of landscaping berms where applicable.
- All stockpiles are conditioned with water to minimise dust during dry weather.
- Minimising drop heights of material.
- All completed areas of land reclamation will be spread with topsoil and grass seeded to eliminate any wind blown dust.
- Dust monitoring will be carried out annually.
- Water spraying stockpiles and access roads during prolonged dry periods.
- Where crushing and screening occurs on-site then the drop height of falling material should be minimised.

With the above mitigation measures in place, no likely significant effects on air quality are envisaged at the Grannagh facility. Furthermore detailed measures at the facility also include:



- All trucks delivering inert materials to this site will be confined within the Applicant's landholding. Internally within the application site, warning notices, direction signs and speed restriction signs are located along paved and/or unpaved roads leading to and from the active restoration areas and the construction and demolition waste recycling area.
- Trucks will initially travel over a paved road surface on to the site before travelling over a network of unpaved internal roads to get to the active restoration area or the C&D materials recycling area. All site roads will be maintained to ensure the safe movement of vehicles within the facility. Provision for employee and visitor car parking is currently provided on a paved area adjacent to the site office, where all visitors must report to before entering the site.
- The unloading of material from the haulage trucks, and the subsequent movement/spreading of the inert material over the area of the deposition site, may produce dust on the site, during periods of dry weather. However, the site restoration works take place within a depression in the topography of the surrounding area which helps mitigate any dust moving off-site. This depression is also surrounded by a mature tree line as is the C&D recycling operation.
- In order to prevent soiling of public roads with fugitive dust and soil materials from rigid tipper trucks, a temporary wheelwash facility has been installed close to the site entrance. All egressing site traffic is required to pass through the wheel wash. Also paved roads on site are cleaned with the on-site tractor driven mechanical road sweeper.
- It is proposed that during extended periods of dry weather, a tractor with water bowser will sprinkle water over hardcore areas and the access road, to dampen down any dust. This presently occurs under the Waste Permit.
- Dust emissions from established restoration activities at the application site and the C&D recycling operations are measured using Bergerhoff dust gauges at 2 No. locations across the site, as described in the EIS. These gauges are located along the boundary of the application site and monitoring results demonstrate that the site operations are not having any significant impact upon air quality from dust.
- It is currently envisaged that the existing dust monitoring regime will remain in place for the duration of the site restoration works and will continue for during the on-going C&D materials recycling operation thereafter.

Monitoring of Dust Levels at the two site boundary locations (D1 and D2) will continue at the site as part of the Environmental Management Monitoring Programme. There is already an existing Dust Monitoring Programme in place as demonstrated by the existing monitoring results presented in the EIS. Certificates of dust results will be maintained on-site as part of the on-going Environmental Management Program.



4.6 Noise

This section of the EIS deals with Noise associated with the on-going operation of the existing soil and stone recovery and inert materials recycling facility at Grannagh, Kilmacow, Co. Kilkenny.

It is important to stress that CHI Environmental Ltd. commenced recovery and recycling operations at The Quarry at Grannagh in April 2004, when they applied for and were granted a Waste Permit WMP 22/2003 from Kilkenny County Council. The existing permitted site was granted another Waste Permit (No. WMP 23/2007) by Kilkenny County Council in November 2007. In December 2006, full planning permission was granted by Kilkenny County Council for the site recovery activities. In making their decision to grant planning permission for the restoration of the former rock quarry and the C&D recycling activities, Kilkenny County Council were satisfied that the development would not negatively impact upon human beings or noise sensitive locations.

For the past ca. 10 years, the Grannagh facility has operated under strict and rigid controls and conditions to protect noise sensitive receptors from noise. As such there have never been any environmental incidents or cause for concern from the site operators or the Local Authority concerning noise or noise nuisance. This is confirmed by annual environmental audits carried out by Kilkenny County Council and the on-site Environmental Management Program which records and incidents or complaints of which there have been none.

The prevailing wind direction at the Grannagh site are those winds from a south-westerly direction. There are also winds originating in the south and west and to a lesser extent in the north-west. Very few winds blow from the north, north-east or east or south-east. What this means in practical terms is any noise generation is likely to be carried from the site from a south-westerly direction towards a north-easterly direction. This means that the prevailing winds blowing across the site do not tend to blow towards the cluster of houses located along the southern side of the site along the L7526 local road. The three dwellings located to the north-east of the existing Grannagh Quarry are physically separated from the site by intervening fields; treelines and hedgerows; the N9 dual carriageway; and a local road. These factors combined with a good separation distance help ensure that potential noise emissions off-site do not negatively impact upon these residences.

Soil recovery facilities and C&D materials recycling facilities by their very nature of using machinery and vehicles for delivery have the potential to generate noise albeit low levels and occasional in nature.

The only Noise Emissions from the facility will be from mobile plant and the screeners and crushers with occasional trucks delivering soil material and C&D materials for recycling. The recycling equipment is principally located in the north-eastern corner of the site and are far away from noise sensitive receptors located to the south of the site. Furthermore the downgrading of the N24 to a secondary local road, the L7526 has resulted in a decrease in road noise for noise sensitive receptors located close to the southern boundary of the site. Other plant such as the wheel loader, bullbozer and mechanical excavator operate around the site where needed. The soil recovery section of the site to the west of the site, again is away from noise sensitive receptors.



The plant on site, is used intermittently on daily/weekly basis, thus does produce high levels of noise emissions to the atmosphere and there is certainly no continuous noise emissions.

Based on the proposed annual intake, it is expected that there will be approximately 10,000 rigid tipper truckloads of soil and stone, and construction and demolition material delivered to the site on an annual basis (i.e. ca. 200 loads per week). A large proportion of the lorries that leave the site will be reloaded and used for deliveries off-site of recycled secondary aggregates. These therefore do not generate any new or additional traffic movements. Based on a recovery/recycling rate of ca. 85% plus, then ca. 38,250 tonnes of certified secondary aggregates will be sold off-site per annum. This equates to about 2,400 lorry loads per annum or ca. 48 lorry loads per week based on a 50 week year leaving the facility.

A baseline noise monitoring study took place in October 2006 by Malone O'Regan to assess the existing noise levels associated with the operation of the soil recovery facility at Grannagh and how this might have an impact on air quality and on potential noise sensitive receptors. The Malone O'Regan Noise Impact Assessment report concluded that: *"Provided the conditions of the waste permit are adhered to then the impact of the waste recovery activity upon the nearest sensitive receptors will not be significant"*.

The only noise source on the site is intermittent machinery noise. All activities take place during the stated daylight working hours with no night time operation at all. The applicant will take all adequate steps to minimise noise and ensure where possible that site operations adhere to BS 5228, 1997 Noise Control on Construction and Open Sites.

In relation to exhaust emissions from the site plant, all machinery is serviced regularly to ensure exhaust emissions are kept to a minimum. The engines are turned off when not in use. The operators take all reasonable steps as far as is practical to minimise noise emissions from material handling operations and use reasonable techniques for minimising the release of noise into the atmosphere.

If any complaint were to be received regarding noise, then the Facility Manager would investigate this as a matter of urgency and address the problem immediately with appropriate mitigation measures.

4.7 Hydrogeology – Geology, Groundwater and Soils

The following report provides a hydrogeological description of the Groundwater at the site and provides information relating to the local Bedrock Geology; Aquifer Classification; and Groundwater Vulnerability Rating relating to the existing soil recovery and inert materials recycling facility at Grannagh, Kilmacow, Co. Kilkenny. The soils and subsoils of the site and local area are also discussed within this section.

It is important to stress that the Grannagh Facility has been in operation since 2004, and has since that time been granted two waste permits from Kilkenny County Council and has also been granted full planning permission by Kilkenny County Council. Therefore the site has operated under strict and rigid controls and conditions to protect groundwater and soils. As such there have never been any environmental incidents or cause for concern from the site



operators or the Local Authority concerning groundwater or groundwater quality or contamination.

The subject lands have little or no agricultural benefit at present due to extensive and historical quarrying activities. Historically, rock quarrying only sought to remove the valuable rock resource with little if any thought of restoration or further use for the quarried lands. The restoration activities carried out by CHI Environmental Ltd. addresses this issue by the phased restoration of the quarry void back to beneficial agricultural use. The importation of subsoil involves land levelling, reinstatement of topsoil and reseeded with a good quality grass seed mixture, the end result will be beneficial to soils in the area from an agronomy perspective.

From a groundwater protection perspective, the spreading of suitable soil and stones over the site will provide many additional metres of protective soil cover which will have a positive impact upon the protection of groundwater in the area. The lands adjacent to the Grannagh facility are principally used for productive pasture land for the grazing of livestock.

In accordance with Condition 11 of planning permission P.06/1772, two no. groundwater monitoring wells were installed on-site by CHI Environmental in 2012 to monitor groundwater quality upgradient (GW1) and downgradient (GW2) of the existing facility.

The soil recovery and the C&D materials recycling facility as presently permitted, does not have any existing or proposed Emissions to Groundwater any and does not propose to have Emissions to Groundwater through the application for a Waste Licence.

Existing toilet facilities are located in the staff changing room and effluent is directed to a concrete holding tank which is emptied as required by an approved Waste Contractor. It is envisaged that this arrangement will continue for the duration of the site restoration works. There are no discharges of sewage to ground and therefore no potential impact upon soils or groundwater will occur.

During the infilling and restoration of the quarry site, surface water will be allowed to run over the existing ground surface to percolate through the deep soils to groundwater. At no time during the restoration works will surface water run-off be directed to watercourses or ponds beyond the site boundary.

The waste quarantine area, will be sealed by a 100mm thick reinforced concrete slab over 150mm of granular sub-base and bunded to a design storm volume. Any surface water running over the surface of the concrete slab will be directed toward an underground collection tank with double skin protection located on the western side of the hardstanding area. Surface water will only be collected in the buried tanks when suspect waste consignments are stored at the quarantine facility.

At all other times, surface water run-off from the impervious concrete slabs will be diverted and allowed to percolate directly through the soils to the underlying groundwater table.

Any wastewater collected in the underground tank will be emptied by licensed waste collectors and transferred to a collection tanker for disposal off-site at an approved waste water treatment facility.



No groundwater wells have been identified in close proximity to the site supplying water for domestic and animal needs.

Given that the materials to be deposited are non-leachate forming and given the mitigation measures proposed with regards to waste acceptance, the impact of groundwater contamination on groundwater in the area during operation and upon completion of the project will be negligible.

It is not proposed to store any fuel on site and it is not intended to provide bunded fuel storage tanks at the application site. A fuel tanker will visit the site, when required and fill the onsite plant. Refuelling for mobile plant takes place on the concrete hardstanding area of the quarantine area, and booms and spill kits are kept adjacent to this. Static tracked plant such as screeners etc. are refuelled directly at their location with the use of mobile spill trays.

A small bunded tank for waste oils will be provided on the concrete slab at the waste quarantine area. This tank will be emptied at intervals by a licensed waste contractor and disposed off-site at a suitably licensed waste facility.

No re-fuelling of HGV trucks will take place on site. Oil and lubricant changes for wheeled or tracked plant will be undertaken on-site at the existing concrete hardstanding area at the quarantine area.

Plant maintained on site principally comprises mechanical excavators and/or bulldozers, mobile screening and crushing plant. Both tracked and wheeled plant will be serviced as necessary at their location on the hardstanding area or, if necessary, on the concrete slab at the waste quarantine area

With regards to ensuring that there are no significant impacts upon groundwater, the following mitigation measures will ensure that the continued operation of the The soil recovery and the C&D materials recycling facility at Grannagh will not impact upon groundwater:

- The plant machinery is refuelled using a Mobile Fuel Bowser. No fuel is stored on the site. This eliminates the risk of potential fuel leakages from storage tanks and prevents any environmental impact on groundwater.
- Spill kits are provided, in the unlikely event of a spillage, that the spillage is confined to the immediate area.
- As part of the Environmental Management System on site, Emergency Response Procedures have been put in place to deal with emergencies.

In the unlikely event of a larger fuel spillage, either from the site plant or refuelling tanker, the emergency procedures will be followed.

All appropriate mitigation measures have been put forward and are implemented for a soil recovery and C&D materials recycling site of this nature. The Grannagh facility is a low risk activity which poses little or no threat to hydrogeology, groundwater, geology or soils. To ensure the recovery and recycling activity is not having any significant impact upon groundwater



it is proposed to continue to monitor groundwater at the two on-site groundwater monitoring wells (upgradient GW1 and downgradient GW2) on an annual basis.

4.8 Cultural Heritage

This section of the EIS outlines a brief summary of any Architectural, Archaeological and Cultural Heritage features that could relate to the existing soil recovery and C&D materials recycling facility at Grannagh.

Within the planning permission description, it is stated by Kilkenny County Council that: "*The existing quarry is included in the Record of Protected Structures listed in the 2002 County Development Plan as a Grade 4 industrial archaeology site (RPS Ref: D129)*". Notwithstanding this, the restoration of the site back to beneficial agricultural use was obviously something that was viewed as being a positive development and one that would not compromise the former quarry (as the former quarry footprint would still remain intact, but would be filled in with suitable material – something which is not irreversible in archaeological terms).

The aerial photographs and maps clearly show that there are no known archaeological sites or monuments within or within close proximity to the existing soil recovery and C&D materials recycling facility at Grannagh, Kilmacow, Co. Kilkenny. The historical 6 inch Ordnance Survey Map also show that there were no known archaeological sites within the site prior to it being fully quarried out. One protected SMR record is shown on the maps at a distance of ca. 400 metres west of the Grannagh facility site boundary. This is SMR Record KK043-034001 and is an unclassified castle in ruins called Granny Castle. This site is so far removed from the Grannagh Facility that there will be no possible impact whatsoever on this site.

There are no schools or churches or places where people congregate in close proximity to the site either. The landscape where the site is located does not have specific historical, cultural or archaeological significance apart from its historical significance as an area of past quarrying.

There are no standing structures within the area of land interest and due to the nature of the existing soil and stone recovery activity it is envisaged that there will be no direct negative impacts on the architectural heritage or the local area. The emplacement of soil and stone within the void of the quarry cannot destroy any unknown subsurface archaeological features as the site is not being excavated or cleared, but rather layers of inert soil and stone will be placed upon the existing excavated land surface (historically, the original excavation works would have removed any known or unknown archaeology anyway) .

As the development intends to reinstate the land for beneficial agricultural use and will not stretch past its current limits there will be no disturbance to the townland boundary or name. Therefore, there are no potential impacts of the proposed development to the cultural heritage record.



4.9 Human Beings and Material Assets

This section of the EIS outlines a brief summary of any potential impacts upon Human Beings and Material Assets from the existing soil recovery and C&D materials recycling facility at Grannagh, Kilmacow, Co. Kilkenny. In undertaking this study, due regard has been had to aspects such as infrastructure and economic activities and recreation and cultural matters in the vicinity of the site, and the impact of the continued restoration of the application site on these factors.

CHI Environmental Ltd. commenced recovery and recycling operations at The Quarry at Grannagh in April 2004, when they applied for and were granted a Waste Permit WMP 22/2003 from Kilkenny County Council. The existing permitted site was granted another Waste Permit (No. WMP 23/2007) by Kilkenny County Council in November 2007. In December 2006, full planning permission was granted by Kilkenny County Council for the site recovery activities - Register no. 06/1772.

The site activities carried out under the existing Waste Permit and which are subject to the Waste Licence Application W0260-01, have been fully examined by Kilkenny County Council and assessed in relation to matters relating to human beings and protection of residential amenity and material assets.

In making their decision to grant planning permission for the restoration of the former rock quarry and the C&D recycling activities, Kilkenny County Council were satisfied that the development would not negatively impact upon human beings or material assets such as roads and traffic.

For the past ca. 10 years, the Grannagh facility has operated under strict and rigid controls and conditions to protect human beings and material assets such as roads. As such there have never been any environmental incidents or cause for concern from the site operators or the Local Authority concerning impacts upon human beings or material assets. This is confirmed by annual environmental audits carried out by Kilkenny County Council and the on-site Environmental Management Program which records and incidents or complaints of which there have been none.

The subject lands have little or no agricultural benefit at present due to extensive and historical quarrying activities. Historically, rock quarrying only sought to remove the valuable rock resource with little if any thought of restoration or further use for the quarried lands. The restoration activities carried out by CHI Environmental Ltd. addresses this issue by the phased restoration of the quarry void back to beneficial agricultural use. The importation of subsoil involves land levelling, reinstatement of topsoil and reseeded with a good quality grass seed mixture, the end result will be beneficial to soils in the area from an agronomy perspective.

In addition, the site operates as an inert construction and demolition materials recycling and transfer facility whereby construction and demolition material is screened and crushed in order to produce a secondary aggregate which can be recycled, stored and re-sold as a certifiable secondary aggregate products for re-use by the construction industry. Suitable soil and stones of a size of 0 – 40 mm are re-incorporated into the restoration of the former quarry.



In general, the recycling of inert construction and demolition waste in this way is the highest tier on the waste hierarchy to which this waste stream can be assigned. The Grannagh Facility is a vital part of Waste infrastructure to help Ireland meet the targets set for 2020 for C&D Waste under the EU Waste Framework Directive (2008/98/EC). This is beneficial in terms of serving society with alternatives to primary aggregates and also reduces CO² emissions in the production of cement and concrete products.

Agriculture, particularly livestock grazing is a fundamental part of the local economy and culture of the local community and this recovery project will further assist in providing productive agricultural land in the area for future generations without having any detrimental impact upon the local environment.

CHI Environmental Ltd., is a local County Kilkenny owned/operated company, which provides employment to ca. 8 no. people in the Kilmacow area.

Baseline noise and dust studies and on-going monitoring of dust has been carried out to assess the existing noise and dust levels associated with the operation of the existing recovery facility at Grannagh and how this might have an impact on potential sensitive receptors. These surveys demonstrate that the existing operation is not impacting upon Human Beings in a negative manner and therefore there is no impairment of their amenities or a reduction in property values as a consequence of the existing and proposed site activities.

The existing recovery facility, as permitted, does not have existing or proposed extraction wells from Groundwater (there are only two groundwater monitoring wells). No groundwater wells were identified in close proximity to the site supplying water for domestic and animal needs. There is therefore no likely impact upon drinking water for Human Beings.

The application for Waste Licence W0260-01 is for the continued recovery operations as per the existing Waste Permit, and the application for a Waste Licence creates no proposed significant change to the content, nature, composition or volume of materials intended for recovery at the site as already permitted and authorised by the existing waste permit and planning permission. The sole reason a Waste Licence was applied for, was due to the changes in the National Waste Permit legislation and the obligations which this brought.

This site at Grannagh has been subject to industrial activity in terms of rock extraction for almost 200 years and therefore this area has always had a visible presence within the local community and the restoration and recycling activities at the site seek to restore this former rock quarry whilst also operating a market leading C&D materials recycling facility.

Due to the inert nature of the soil and stone recovered & reclaimed at the site, vermin do not present an environmental nuisance and there will be no change in this regard in the application for a licence review.

The existing authorised Hours of Operation during daylight hours only ensure that site operations and traffic do not cause nuisance to Human Beings. These hours are as follows:

8.00am to 6.00pm - Monday to Friday

8.00am to 2.00pm - Saturday

Closed - Sundays & Bank Holidays



As it is concluded that there will be no direct or indirect negative impacts upon Human Beings or Material Assets of the area no mitigation measures outside those already set out in the EIS concerning the day to day operation of the site are required or are proposed. Any mitigation measures outlined in other sections of this EIS are primarily directed to the protection of adjacent sensitive receptors such as residential dwellings.

The facility has therefore no potential significant negative impacts upon Human Beings or Material Assets but rather is a recovery and recycling facility with environmental gains and benefits to the local area and Co. Kilkenny and Waterford City. Rather there will be positive impacts as a consequence of the application for a Waste Licence W0260-01 such as continued local employment; increased agricultural productivity; and increased recycling of C&D materials and their re-use and sale as secondary aggregates to the construction industry.

4.10 Landscape and Visual Assessment

This section of the EIS describes the existing landscape and includes a visual assessment of the existing landscape and provides a description of how the final restored site will appear. This section of the EIS identifies potential impacts upon landscape and visual amenity and examined mitigation measures (if required).

There has been quarrying activity at the Grannagh site for ca. 200 years. The former quarry site at Grannagh has been used for the authorised land restoration using inert soil and stone material for the consequential benefit to agriculture since 2004. A small portion of the quarry site has been infilled satisfactorily to date as part of this process, and is presently partially covered in hardstanding and is partially where the C&D material recycling and stockpiling occurs.

The subject lands have little or no agricultural benefit at present due to extensive and historical quarrying activities. Historically, rock quarrying only sought to remove the valuable rock resource with little if any thought of restoration or further use for the quarried lands. The restoration activities carried out by CHI Environmental Ltd. addresses this issue by the phased restoration of the quarry void back to beneficial agricultural use. The importation of subsoil involves land levelling, reinstatement of topsoil and reseeded with a good quality grass seed mixture, the end result will be beneficial to soils in the area from an agronomy perspective.

The existing Grannagh soil recovery and C&D materials recycling facility is located within the Landscape Character Type: "Lowland" within Figure 8.2 of the Kilkenny County Development Plan 2014-2020.

A protected view pointing west is located to the east of the site and it is presumed that this relates to the view towards Granny Castle.

Within the planning permission description, it is stated by Kilkenny County Council that: "*The existing quarry is included in the Record of Protected Structures listed in the 2002 County Development Plan as a Grade 4 industrial archaeology site (RPS Ref: D129)*". Notwithstanding this, the restoration of the site back to beneficial agricultural use was obviously something that was viewed as being a positive development and one that would not compromise the former



quarry (as the former quarry footprint would still remain intact, but would be filled in with suitable material – something which is not irreversible in archaeological terms).

Within the current Kilkenny County Development Plan the Granny Quarry is listed as a County Geological Site as Site no. 11 listed in Appendix E and shown on Figure 8.1 in the plan. It is noted for being a “Disused quarry exposing limestone”.

As the new N24 has bisected the original quarry footprint and split the former rock quarry into separate sections, it is likely in the short term that the northern sections will remain as exposed disused limestone quarries. The N24 road recently went through the full planning process and an EIS to address any environmental or landscape issues and was allowed to proceed. The existing Grannagh facility has been granted full planning permission by Kilkenny County Council for the site restoration works to the former limestone quarry. This is with the knowledge that the site was on the RPS as a County Geological Site.

It is important to note that current best practise in quarrying and in getting authorisation for quarry development, is to be able to demonstrate full restoration plans in a phased and logical manner. Historically, rock quarrying only sought to remove the valuable rock resource with little if any thought of restoration or further use for the quarried lands. The restoration activities carried out by CHI Environmental Ltd. addresses this issue by the phased restoration of the quarry void back to beneficial agricultural use. The importation of subsoil involves land levelling, reinstatement of topsoil and reseeded with a good quality grass seed mixture, the end result will be beneficial to agriculture in the area from an agronomy perspective.

This fully complies with the policies set out in the current Kilkenny County Development Plan 2014 -2020 which states in Section 6.4.2 with regards to quarries:

- Ensure that all existing workings shall be rehabilitated and that all future extraction activities will allow for the rehabilitation of pits and proper land use management.
 - The Council may require that development is phased and that each phase is rehabilitated before the next phase is developed/commenced;
 - The Council shall require applicants to submit a restoration programme with their application on the manner and timing of restoration;
 - The Council will consider the current land/quarry resource of the applicant and may seek that current quarries are restored before new sites are developed.

and:

- The Council will consider the current land/quarry resource of the applicant and may seek that current quarries are restored before new sites are developed.

A detailed photographic survey was carried out, taking into account all potential viewing points from which the Grannagh soil and stone recovery and C&D materials recycling facility may be visible from the surrounding landscape i.e. from major transport routes or roads.

It is important to stress that the Grannagh facility has been continuously operational since 2004 and that the N24 and N9 roads are relatively new within the landscape and the Grannagh Facility pre-dates these. Therefore these roads have encroached on the existing Grannagh facility, rather than the other way around. Previous, to these roads being constructed the only major road was the now downgraded N24 which ran along the southern boundary of the site. This has now been downgraded to a secondary local road, the L7526.



It is fair to state therefore that the potential viewing points into the Grannagh facility have increased as a consequence of the new road network which now essentially encircles the Grannagh Facility. Notwithstanding this, the operators of the Grannagh Facility continue to ensure that the authorised facility has as minimum a visual impact upon the local landscape as much as is practicable. This is achieved through the strategic placing of landscaping berms on potentially exposed view points and the maintenance and retention of all mature treelines and hedgerows. As the former Grannagh Quarry left a void, much of the restoration work occurs below the surrounding existing topography which also assists in the assimilation of the recovery operation within the existing landscape.

The thorough visual assessment carried out has demonstrated that the Grannagh Facility is not highly visible within the landscape. This is despite encroachment closer and closer to the site by new roads and major traffic routes.

It is accepted that as time progresses the restoration works will progress closer towards the N24 and Grannagh Roundabout, but this must be considered in the context that these works are fully authorised and covered under the current waste permit and the planning permission and seek to fully restore the former quarried lands to productive agricultural lands consistent with the surrounding landscape.

It is therefore concluded that the Grannagh facility, does not and will not have a significant impact upon the landscape in terms of visual impact or compatibility of use.

As it is concluded that there will be no direct or indirect negative impacts upon landscape or Visual Assessment, no mitigation measures outside those already set out in the EIS concerning the day to day operation of the site are required or are proposed. The operators already minimize visual impacts through the strategic siting of equipment; use of landscape berms and maintenance and retention of mature hedgerows and treelines.

Rather there will be positive impacts as a consequence of the continuation of the Grannagh Facility, such as the restoration of a formerly abandoned and unrestored rock quarry and scar on the landscape. The site works will also provide additional reclaimed and productive agricultural land; increased agricultural productivity; and increased land values. Furthermore, the activity will occur as already permitted and as covered under planning permission granted by Kilkenny County Council. This provides a win-win scenario for the site operator; the local community; and the regulatory authorities (i.e. EPA)

Furthermore, the site has been up and running for the past ca. 10 years under a Waste Permit and under planning permission without any complaints or enforcement issues relating to landscape intrusion or impacts upon the landscape.



4.11 Interaction of the Foregoing

The interaction of the various environmental media and their potential impacts and mitigation measures have been covered within each of the sub-sections contained within Section 3. There are many interactions and in many cases information has had to be repeated in more than one section of this EIS.

Table 3.10.1 presents a matrix of interactions between the various environmental media. Where an interaction is likely to occur, then this is highlighted in green. Where the operation of the existing soil recovery and C&D material recycling facility at Grannagh does not have the potential to impact or affect the interaction then that interaction is not highlighted (i.e. Water and Noise).

Table 3.10.1: Matrix of Interaction between Environmental Media

	Flora & Fauna	Water	Climate Air Quality & Dust	Noise	Hydrogeology geology, groundwater and soils	Cultural Heritage	Human Beings & Material Assets	Landscape & Visual Assessment
Flora & Fauna								
Water								
Climate, Air Quality & Dust								
Noise								
Hydrogeology geology, groundwater and soils								
Cultural Heritage								
Human Beings & Material Assets								
Landscape & Visual Assessment								

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As an example, the interaction of Climate, Air Quality and Dust and Human Beings has been discussed in Section 3.4 of the EIS, and Noise and Human Beings has been addressed in Section 3.5 of the EIS. The interaction of Flora and Fauna and Landscape and Visual Assessment has been addressed in Sections 3.2 and 3.9 of the EIS.