



SECTION 2 – DESCRIPTION OF THE PROPOSED DEVELOPMENT

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2. DESCRIPTION OF THE PROPOSED DEVELOPMENT

This part of the EIS provides a detailed description of the proposed development, including information on the site, design and size of the proposed development. This also includes operational considerations and final restoration schemes. This section also identifies the data required to assess the main effects which the development is likely to have on the environment.

2.1 Site Location

The existing inert soil and stone recovery facility and inert materials recycling and transfer facility is located at The Quarry, Grannagh, Kilmacow, Co. Kilkenny ca. 4 km north of the City of Waterford on the Waterford and Kilkenny County boundary, National Grid Reference 257881E, 114843N. **Figure 2.1.1** is a Regional Site Location Map.

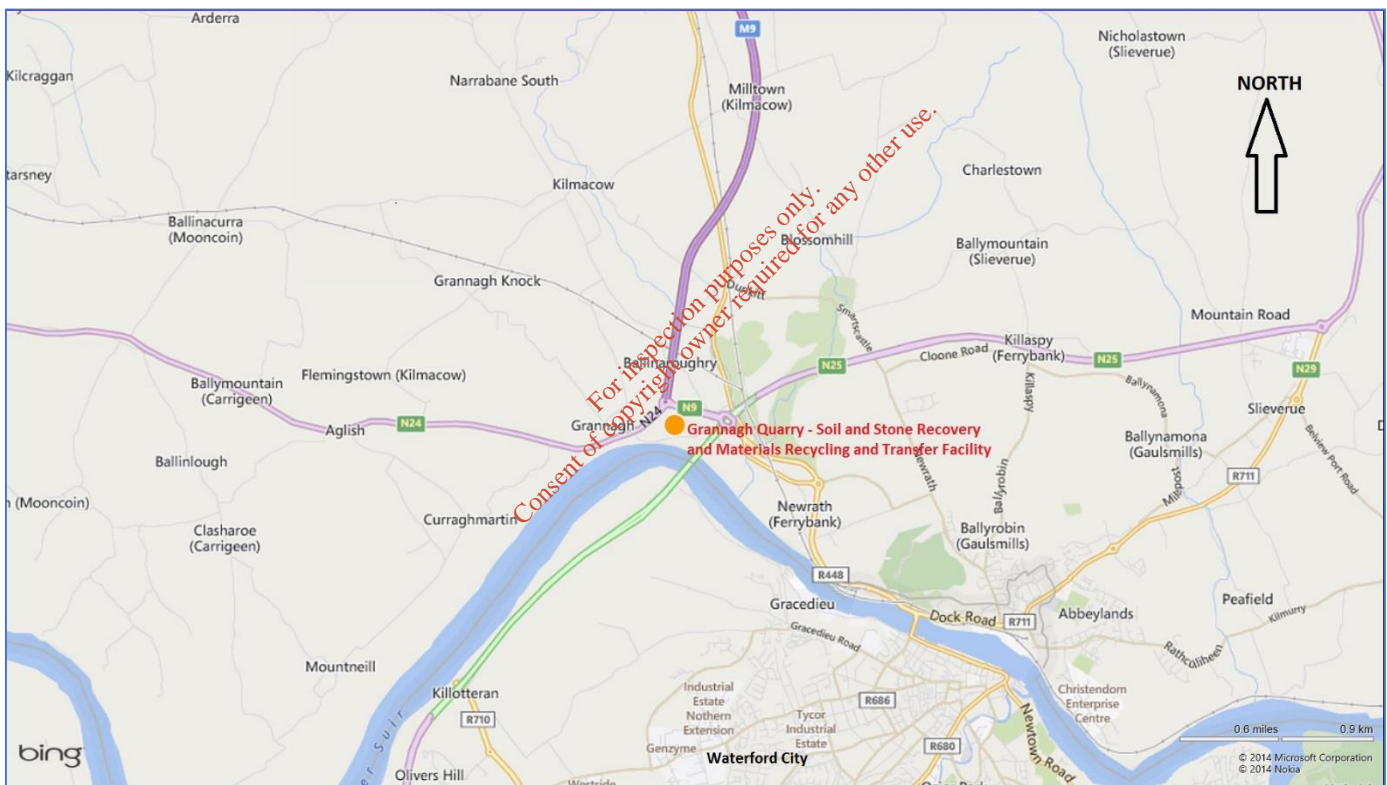


Figure 2.1.1: Regional Site Location Map

Figure 2.1.2 is a larger scale, aerial photo of the site and **Figure 2.1.3** is a site survey plan showing the site boundary, and other relevant features including cross sections showing the existing and proposed levels of the restored Grannagh Quarry Site.



Figure 2.1.2 Aerial Photo of the Site

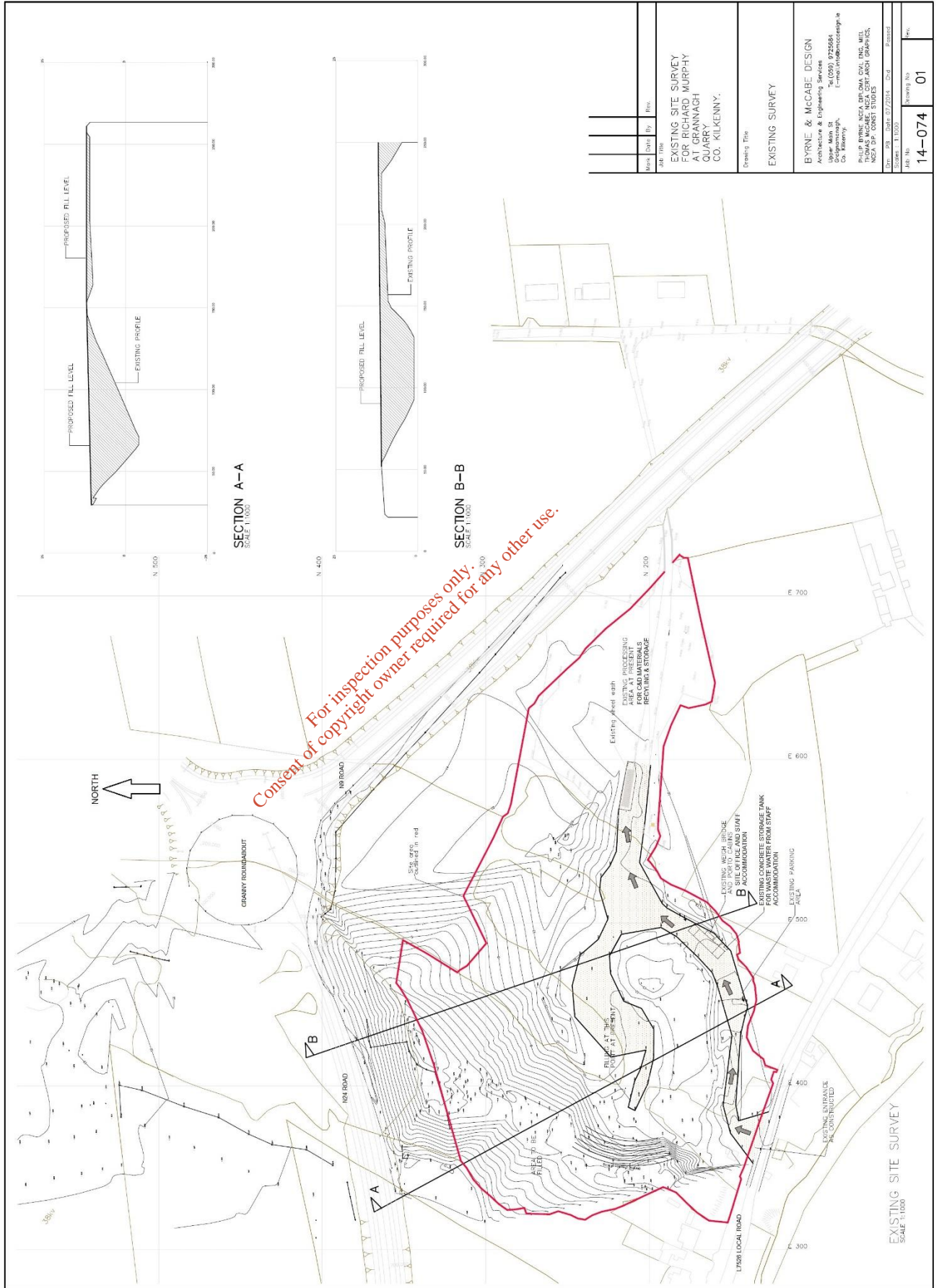


Figure 2.1.3: Site Layout Plan with Cross Sections



2.2 Land Ownership and Site Area

The existing inert soil and stone recovery facility and inert materials recycling and transfer facility is located land within lands owned by Mr. Bob Murphy who is a director of CHI Environmental Ltd. The land is being leased to CHI Environmental Ltd to facilitate restoration of the site to agricultural use.

The waste recovery facility site consists of 5.3 hectares (13.1 acres) within Folio 7736f located within the townland of Grannagh, Kilmacow, County Kilkenny.

2.3 General Site Description and Surrounding Land Use

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

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: WO260-01) 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.

Figure 2.3.1 shows the surrounding land use within the geographical location of the existing Grannagh Recovery Facility. This is described in greater detail below.



Figure 2.3.1: Existing Site and Surrounding Land-Use



The main features to note with regards to the existing Waste Recovery facility are as follows:

- The former N24 Waterford to Limerick National Primary route was in the recent past downgraded to a secondary local route – the L7526 and this is now where the site entrance into the facility is located. This had a significant effect on the overall landholding owned by Mr. Bob Murphy upon which CHI Environmental Ltd. lease their waste recovery facility. The new Granny Roundabout and N24/M9 routes effectively bisected the existing quarry site into two distinct sections (see **Figure 2.3.2**). This plan also shows the 5 different sections of the quarry. This plan also shows the 5 different sections/phases of the quarry restoration. Whilst all 5 phases of the quarry restoration are covered under the planning permission for the site, the present waste permit only covers Phase 1 and 2 and this is what is being applied for under a waste licence.



Figure 2.3.2: Different Sections of the Quarry Restoration as a Consequence of the Bisecting by Granny Roundabout and N24/M9 routes

- The southern section of the facility is subject to the current waste permit and the Waste Licence application W0260-01. The main portion located to the west is currently being used for the purpose of restoration of the former rock quarry by means of recovery of inert soil and stones for the consequential benefit to agriculture.
- On the eastern side of the site, which has already been partially restored, construction and demolition materials are recycled by screening and crushing for storage prior to sale off site as certifiable secondary aggregates for re-use in the construction industry.



- Both operations are being carried out in accordance with requirements of waste permit number WMP023/2007 issued by Kilkenny Count Council.

The principle features to note from **Figure 2.3.1** with regards to the existing the local landscape are as follows:

- The city of Waterford is ca. 4 km south-east of the existing site and the facility provides an essential piece of waste recovery and recycling infrastructure to the city and hinterland.
- The lands adjacent to the Grannagh facility are principally used for productive pasture land for the grazing of livestock.
- The existing site has excellent access to the National Roads network, with the N24, M9 and N25 all accessible within ca. 1 km of the site. Furthermore the site is encircled by public roads which has a bearing on existing background noise levels in the vicinity of the facility. There is also the main Irish Rail line which passes within 1 km to the east of the site before branching into two arms, with the western arm running within 1 km of the site in a northerly direction.
- There is a large existing active rock quarry operated by Roadstone located west north west of the site off the N24. This demonstrates the history and importance of rock extraction in the area in addition to the former Granny rock quarry.
- To the west of the site, within 1 km is the Dawn Meats Factory. This demonstrates other industrial land uses within the vicinity of the existing waste recovery facility.
- The existing recovery site which has been in operation since 2004 is located within good fertile agricultural pasture lands. Many of the fields in the area have been amalgamated into larger field units and farming is the principal land use in the area. The quarry areas currently being restored will be returned back to productive agricultural land upon completion of the works with a consequential benefit to agriculture.
- To the south of the site and separated by the intervening landscape, topography and the former N24 road (now downgraded to a secondary local route - the L7526) is the River Suir. This is located at a much lower level than the floor of the former quarry and also therefore the proposed finished restoration profile of the reclaimed quarry. The former quarry site and the recovery facility have no surface water features, i.e. streams or rivers which connect to the River Suir.

2.4 Site Infrastructure

Figure 2.4.1 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. The following sections refer to **Figure 2.4.1** and provide a greater amount of detail regarding specific site features.

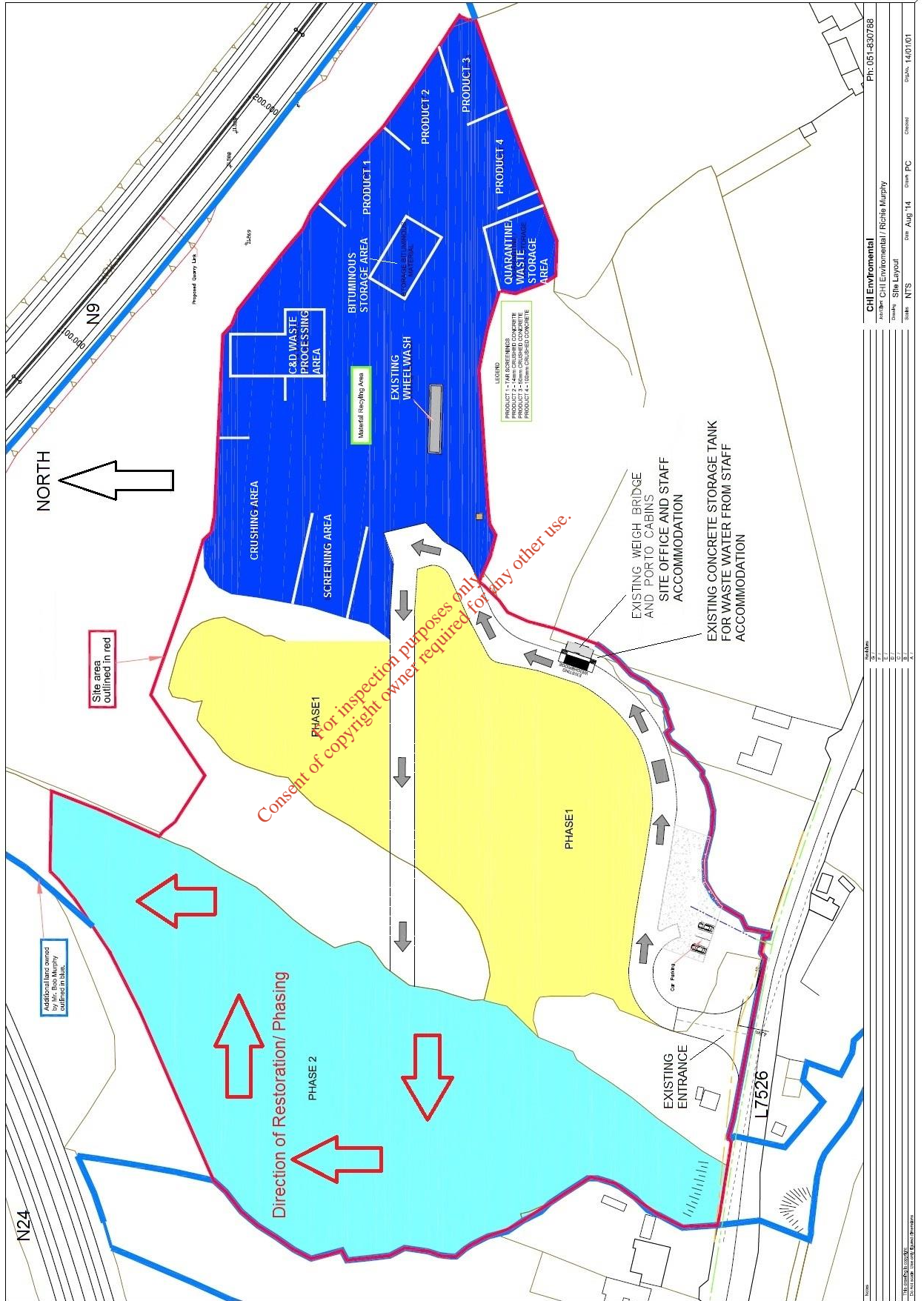


Figure 2.4.1 Existing Site Infrastructure Plan



2.4.1 Facility Notice Board

The applicant presently maintains a Waste Permit Notice Board at the entrance to the Grannagh Facility as shown in **Photo 2.4.1.1**. This is accordance with conditions of the present Waste Permit which is operational at the site.



Photo 2.4.1.1: Existing Waste Permit Notice at the Facility

Under a Waste Licence when issued, the licensee will be conditioned by the Agency to maintain a Facility Notice Board on the facility so that it is legible to persons outside the main entrance to the facility. The typical minimum requirements of the dimensions of the board are 1200 mm by 750 mm. The notice board will be maintained thereafter.

The board will clearly show:

- the name and telephone number of the facility;
- the normal hours of opening;
- the name of the licence holder;
- an emergency out of hours contact telephone number;
- the licence reference number; and
- where environmental information relating the facility can be obtained.



2.4.2 Site Security including Gates, Fencing and CCTV

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. Four of the CCTV cameras are located around the former quarry site, whilst the remaining three are strategically placed covering site access and vehicle details. This more specifically includes the following CCTV locations:

- CCTV camera at site entrance off public road to monitor potential unauthorised access or illegal fly-tipping;
- CCTV camera on access road again to monitor access into the site; and
- CCTV camera positioned at high level at the weighbridge area to be able to record vehicle registration details and to view contents inside rigid tipper lorries.

Aside from the access road to the existing facility, the entire site boundary is closed off by post and wire fences or an outlining dry ditch and there are also 2 No. agricultural field gates. All agricultural gates will remain padlocked for the duration of the site restoration activities and will only be opened occasionally under supervision for machine access.

The principle vehicles accessing the site for recovery purposes at the present time are heavy good vehicles (rigid tipper lorries) carrying inert soil and stone for backfilling operations or construction and demolition material for recycling.

Site operating hours are between 08.00 hours and 18.00 hours each weekday and 08.00 hours to 14.00 hours on Saturday. No materials are accepted at any other time including Sundays and Public Holidays. The site entrance gates are locked shut when the facility is closed and unsupervised.

2.4.3 Site Roads

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. Existing paved and unpaved haul roads across the application site are indicated on the existing site layout drawing in **Figure 2.4.1**. 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.



2.4.4 Hardstanding Areas

An existing hardstanding area constructed of secondary aggregate is provided in the eastern part of the application site for the recovery, recycling and processing of inert construction and demolition materials imported to site and for separation and storage (in skips) of any separated non-inert construction and demolition wastes inadvertently mixed with it, most likely to comprise of metal, timber, PVC pipes, plastic etc. This hardstanding area also provides for the storage of plant, equipment and recycled secondary aggregate materials.

The hardstanding area is pervious and any rain falling over this area percolates downwards into the underlying soils. There are no surface water drains or streams on site within this former rock quarry and groundwater is not evident close to the present day topography of either the restored quarry areas or the areas pending restoration.

An impervious concrete base is provided for the waste quarantine area, upon which a 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.

The facility entrance and hardstanding areas will remain appropriately paved and maintained in a fit and clean condition.

2.4.5 Site Office and Accommodation

All site administration and management functions are based at a temporary site office cabin near to the weighbridge. This office is suitable for the processing and storage of documentation. All visitors entering the facility must report to the site office. Permanent telephone, fax and email facilities are all provided at the temporary site office. The site health and safety statement; copies of environmental information, including copies of the current waste permit are stored in the site office. All key site personnel with responsibility for site backfilling and restoration works and for the C&D materials recovery and recycling operations at the existing site are contactable by mobile phone. This includes the facility manager and deputy facility manager who are contactable by mobile phone at all times during the facility operation times,

There is currently site accommodation for staff personnel in the form of a temporary on-site welfare cabin which provides changing facilities, hand washing, cooking facilities and toilet. This is located adjacent to the office facility.

2.4.6 Other Services

Electric power, lighting and heating are provided to the temporary site office near the entrance to the existing recovery facility. Permanent telephone, fax and email facilities are all provided at the temporary site office.

Given the lack of combustible waste materials at this site, it is considered highly unlikely that a fire will break out during backfilling and recovery operations. Fire extinguishers will be kept at the site office to deal with any localised small scale fires which might occur. Additional fire-fighting capacity will be provided by storing water in a mobile bowser at the hardstanding area.



No buried services are understood to occur across the application site. Overhead electricity distribution cables once traversed the Eastern corner of the existing site, but are now removed. There is no health and safety implications in implementing phased restoration of the application site due to there not being any cables within the restoration area.

2.4.7 Sewerage Infrastructure

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.

2.4.8 Surface Water Drainage

There are no surface water features (i.e. streams) within the former quarry site and no discharges to surface water features.

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.

2.4.9 Wheel wash

In order to prevent soiling of public roads with dust and soil materials from rigid tipper trucks, a temporary wheelwash facility has been installed, as shown on the site layout plan in **Figure 2.4.1**. 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.



2.4.10 Weighbridge

In order to track and record the amount of inert material entering the existing recovery facility, a weighbridge is positioned along the internal access road in front of the site office. A CCTV camera is also placed in this area to record the vehicle registration number and to also visually record the contents of each load delivered.

Secondary aggregates exported off-site for re-sale and any non-inert construction and demolition waste dispatched to other licensed waste disposal or recovery facilities will also be weighed. Records of waste and secondary aggregate tonnages will be maintained within the site office for waste auditing purposes.

2.4.11 Laboratory Facilities

All environmental analysis occurs off-site with approved private laboratories. As such none are provided or are necessary on-site.

2.4.12 Refuelling of Machinery

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

2.4.13 Plant Sheds, Garages and Equipment Compound

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.

Plant and equipment used in the backfilling and/or recovery activities will be stored on the hardstanding area in the eastern side of the application site. Given the limited access into the site, it is not considered necessary to provide a security fence around this area to create a secure compound.



No workshops will be provided on site. The applicant has a mobile workshop at its disposal. Any plant or equipment which requires specialist repair or overhaul will be removed off-site if required.

Small items of mobile or hand-held plant and equipment will be stored in closed metal containers at the hardstanding area

2.4.14 Traffic Control

The works proposed under the existing waste permit and 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.

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.

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.

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 and traffic movement.

The site operational hours are between 08.00 hours and 18.00 hours each weekday and 08.00 hours to 14.00 hours on Saturday. No materials are accepted at any other time including Sundays and Public Holidays. The site entrance gates are locked shut when the facility is closed and unsupervised.



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.

2.4.15 Waste Inspection and Quarantine Areas

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 facility staff inspect each load, as it is being unloaded, to ensure the material is fully compliant with the wastes acceptable for recovery. If the material is non-compliant, staff will insist that the material is reloaded onto the haulage truck and removed from the site, for authorised recovery/disposal elsewhere

If waste objects are identified within the inert material (whilst shifting/reclaiming the material), which are not compliant with the waste acceptance criteria (e.g. pieces of wood, plastic, metal), they are removed and transported to the Waste Quarantine area.

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.

2.4.16 Fire Control System, Including Water Supply

All materials accepted at the facility for recovery are inert and are non-flammable and as such site activities will not present a fire or explosion risk at any stage. Accordingly, no specific fire control measures shall be implemented at the site. Mains water is supplied to site at main gate and piped to site accommodation. A fire extinguisher is stored in the cabin of the site plant (Excavator, Bulldozer, Tractor and Bowser) and within the site office. In the unlikely event of a fire, a list of emergency numbers and contacts are maintained in the site office.

2.4.17 Any Other Waste Recovery Infrastructure

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.

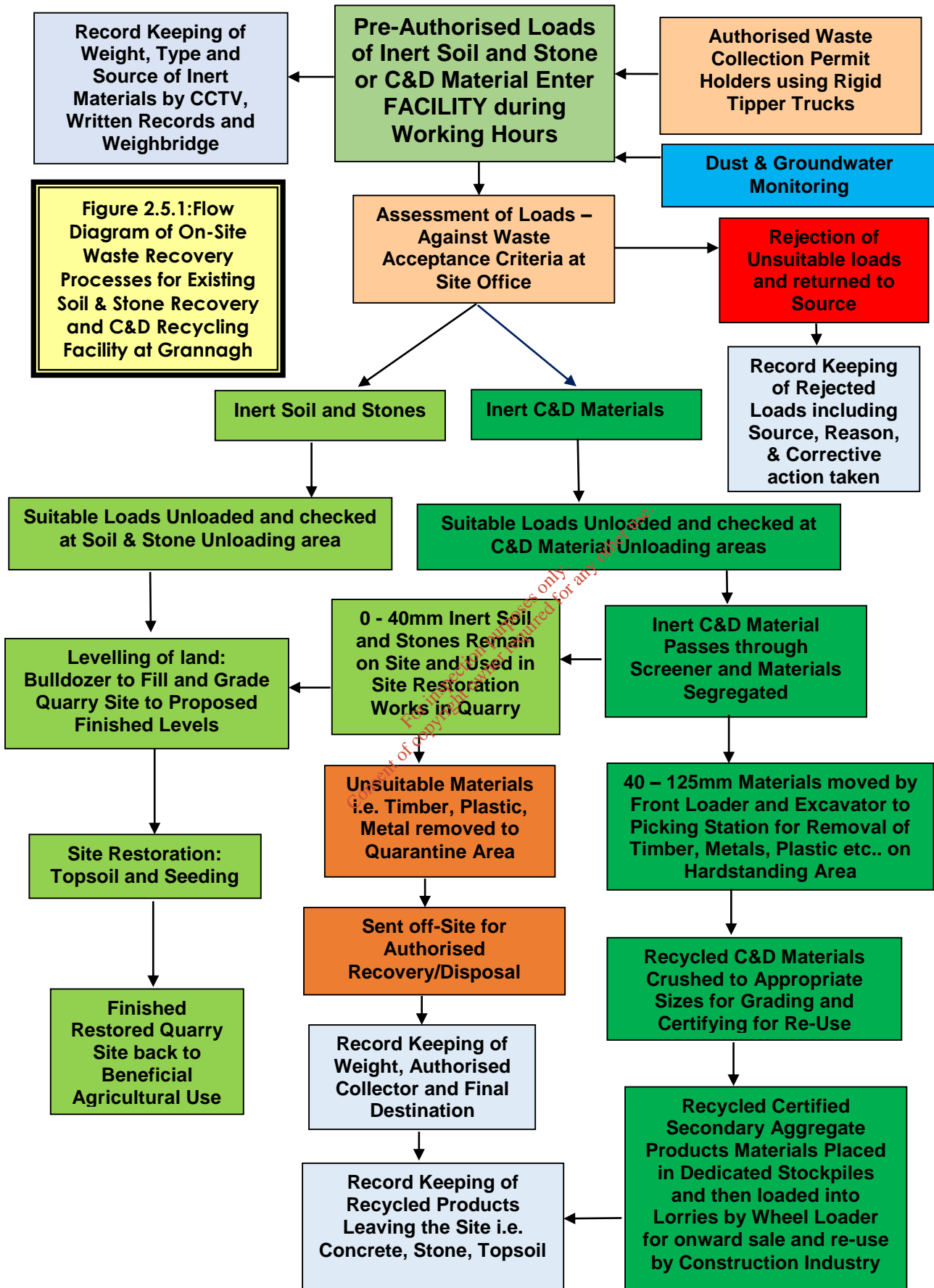
In addition, the site operates as an inert construction and demolition materials recycling and transfer facility whereby construction and demolition waste is crushed and screened in order to produce a secondary aggregate which can be recycled, stored and re-sold as a certifiable secondary aggregate products for re-use by the construction industry

At present no additional infrastructure is required or proposed for the operation of the site and the site is considered to operate in line with Best Available Technology (BAT). However with likely future technological advances in recycling equipment, in time it may be necessary in the future to replace/upgrade or invest in new site equipment and plant.

2.5 Facility Operation

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 2.5.1**.

- 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. The backfilling of the existing void with inert soils and stone is deemed to constitute inert waste recovery for the purposes of land improvement or restoration. The material will be brought to the tipping area and post visual inspection will be graded over the active restoration area with a bulldozer.
- 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.





The following is a written summary of the facility site operations:

- Each load is weighed at arrival on site.
- Visual inspection of load is carried out to determine which area of site it is to be tipped. Driver fills out record sheet and load proceeds to tipping areas. There are 5 different locations for the material to be tipped prior to recovery.
- If clean soil and stones is the incoming material it is tipped on the land recovery area. It is then levelled using the bulldozer. It is again subject to visual inspection post tipping and any extraneous matter such as timber, metal, plastic are removed to the waste quarantine area.
- Phased restoration of the backfilled void will occur (including placement of topsoil and seeding) and return to beneficial use as productive agricultural grassland.
- Temporary stockpiling of topsoil and subsoil pending reuse as cover material for phased restoration of the site.
- If a load entering the site contains solely concrete it is brought to the crusher for crushing.
- It is then loaded into the crusher with the excavator and any reinforced metal is removed using an overband magnet. Any plastic or timber is removed to the waste quarantine area.
- The crushed concrete products are stockpiled for re-use on site or sent off-site for sale. The end product is produced to 6f2 standard and tested to B.S. 1377:Part 2:1990:9.2. Testing is carried out on a production year basis.
- If there is a mixture of concrete and soil it is first screened and any material above 40mm is crushed as per above description. The soil product is then brought to the filling area for use in the land reclamation.
- Any non-hazardous bituminous material is stockpiled on site and crushed to 40mm for use as road binding material.
- Any mixed material (concrete and soil) that may contain timber, plastic etc. will be passed across the picking station and have the relevant items segregated by hand and also mechanical process.
- The timber, metal, and plastic are removed to waste storage area for onward transport to offsite waste facility.
- Again the concrete material is then sent to the crushing process as above for sizing. The soil material is sent to the land recovery process.
- Each load of product that is old from the facility is weighed and dockets issues to the haulier/end site of what the product is and the weight of same



2.6 Plant

Various pieces of mobile plant equipment are used in the recovery and recycling operations on the Grannagh Waste recovery facility.

- A Komatsu 65PX bulldozer is used to grade and level the soil in the restoration of the quarry back to productive agricultural land.



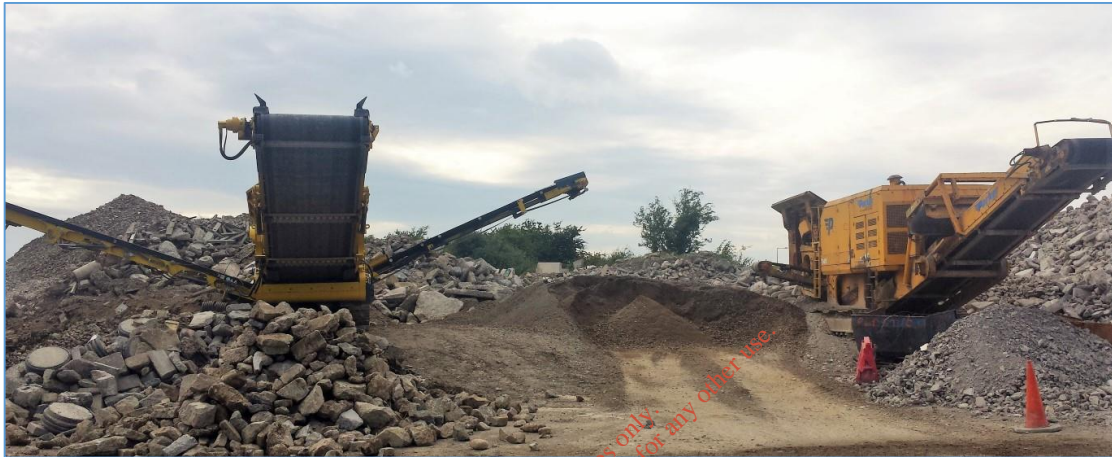
In the recovery and recycling of the construction and demolition material a number of pieces of plant are used.

- A mechanical 21 tonne excavator Kobelco SK210LC loads the C&D material into the screeners and crushers.





- A Kestrac 3 way screener (on LHS of photo below) screens the C&D materials into 3 grades: 0-40mm inert clay and stone (to be used in site restoration); 40-125mm grade – to be sent to the picking station; and 125mm and over to be crushed.
- Screened material of a size 125mm and over is then fed into the Parker Jaw Crusher which is also fitted with an overband magnetiser to remove any metal fraction. The crusher produces a concrete product of 100mm and downwards used as 4 inch recycled crushed concrete secondary aggregate. A tarmac bay is used to store tarmac which is also crushed into three sizes of between 0 – 40mm for resale.



- Picking Station – This is electrically driven from a generator and 40-125mm grade C&D material is fed via the excavator onto the picking station. A rubber belt brings the material past a number of picking stations where materials such as plastic, metal, timber is manually and mechanically picked into dedicated skips below. Any light fraction i.e. paper, cardboard or aeroboard, is removed by a blower at the end within an enclosed cage. There is also a magnetizer which removes any metals. The concrete material then passes into a stockpile awaiting further screening and crushing.





- An Erin Fingerscreener 165T is used for secondary screening on site but is not part of the principal recycling process for C&D materials.



- A Tesab Impact Crusher is kept on site for secondary crushing of concrete and produces grades of 100mm and downwards to sizes of 15mm crushed concrete. This also has an overband magnetiser to remove any steel (i.e. in reinforced concrete).



- A Fiat Hitachi wheel loader is used to load the recycled secondary aggregate material into lorries for off-site sale. It is also used for stockpile management of recycled secondary aggregate materials.





- Also a tractor and water bowser/mechanical sweeper are used when required by site conditions i.e. during prolonged dry periods.

2.7 Waste Authorisation

2.7.1 Existing Waste Authorisation

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.

The two Waste Permits granted to date on site (as far back as April 2004), were granted under the Waste Management (Permit) Regulations, 1998 by Kilkenny County Council and authorised CHI Environmental Ltd. to carry out the following waste recovery activities under the Fourth Schedule of the Waste Management Act 1996 (as amended). These are stated in the current permit using the older Fourth Schedule Recovery Class descriptions which have since been amended and updated:

- Class 2. Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological processes).
- Class 4. Recycling or reclamation of other inorganic materials.
- Class 10. Spreading of any waste on land with a consequential benefit for an agricultural activity or ecological system, including composting and other biological transformation process.
- Class 12. Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule.
- Class 13. Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other *than* temporary storage, pending collection on the premises where such waste is produced.

Existing and proposed inert waste recovery activities (including for the purposes of Improvement or Development of Land) which may have previously operated under a Waste Permit under the Waste Management (Permit) Regulations, 1998 became subject to the Waste Management (Facility Permit and Registration) Regulations 2007 (S.I 821 of 2007) as amended by the Waste Management (Facility Permit and Registration) (Amendment) Regulations 2008 (S.I. No. 86 of 2008) as from 1st June 2008.

These new Regulations set out new thresholds for inert waste recovery facilities and in particular for operating under Waste Facility Permits.

CHI Environmental Ltd. applied for a Waste Licence (Ref: WO260-01) to the EPA on 13/2/2009 and in accordance with the relevant legislation, they continue to operate under their Waste Permit (No. WMP 23/2007) until this licence is decided upon by the Agency.

The Waste Management (Facility Permit and Registration) Regulations 2007 (S.I 821 of 2007) as amended by the Waste Management (Facility Permit and Registration) (Amendment)



Regulations 2008 (S.I. No. 86 of 2008) under Article 3 (2) and (4) confirm that the existing Waste Permitted Facility at Grannagh operating under Waste Permit WMP 23/2007 will continue to be subject to the Waste Management (Permit) Regulations, 1998 (until such time as the Waste Licence is granted) as this Permit was granted under the 1998 Regulations, prior to the coming into effect of the newer Regulations.

2.7.2 Proposed Waste Authorisation under a Waste Licence

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 European Waste Directive 2008/98/EC and the European Communities (Waste Directive) Regulations 2011 (S.I. No. 126 of 2011) set out new Descriptions and Codes for Disposal and Recovery Activities for the Third and Fourth Schedules and these are being used in this application.

Waste Recovery activities to be licensed as per the fourth schedule of the Waste Management Acts 1996-2011	
Insert Class Number:	Insert Class Description
R5	Recycling / reclamation of other inorganic materials, which includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials
R10 Principal Class	Land Treatment resulting in benefit to agriculture or ecological improvement
R13	Storage of waste pending any of the operations numbered R 1 to R12 (excluding temporary storage (being preliminary storage according to the definition of 'collection' in section 5(1)), pending collection, on the site where the waste is produced).

The Principle Waste Recovery Activity to be licensed in accordance with the Fourth Schedule of the Waste Management Act 1996-2011 is:

Class R10: "**Land Treatment resulting in benefit to agriculture or ecological improvement**"

This is for the restoration of the quarry with inert soil and stones.

The current site will also be covered under the following class of activity according to the Fourth Schedule:

Class R5: "*Recycling / reclamation of other inorganic materials, which includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials*". .

and:



Class R13 "Storage of Waste intended for Submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced"

As no composting or shredding of green waste will occur on-site, it is not necessary to include Class R3: "Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes) which includes gasification and pyrolysis using the components as chemicals"

2.8 Waste Types

Table 2.8.1 outlines using the current European Waste Catalogue Code(s) (EWC Waste Codes) of waste types to be handled at the existing recovery facility under the Waste Licence. The materials listed include those presently permitted for acceptance at the facility under the Waste Permit with the addition of EWC Codes 17 05 06 and 17 05 08 for the purposes of the Waste Licence.

Table 2.8.1: Waste Types to be accepted Under the Waste Licence W0260-01

EWC Code (6 Digits)	Waste Description
17 05 04	Soil and stones other than those mentioned in 17 05 03
17 01 01	Concrete
17 03 02	Bituminous materials other than those in 17 03 01
17 01 02	Bricks
17 04 07	Mixed Metals
17 01 07	Mixture of concrete ,bricks, tiles and ceramics other than those mentioned in 17 01 06
17 09 04	Mixed Construction and demolition wastes
17 05 06	Dredge Spoil (other than those mentioned in 17 05 05)
17 05 08	Track Ballast (other than those mentioned in 17 05 07)

2.9 Waste Quantities to be Recovered

The works proposed under the Waste Licence involves the recovery of a maximum of 125,000 tonnes per annum of inert soil and stones for the purposes of restoring a former rock quarry to beneficial agricultural use. The total quantity required to restore the former quarry is calculated at 550,000 tonnes. This a class R10 recovery activity under the Fourth Schedule of the Waste Management Acts 1996-2013.

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. As a consequence past AER returns for Class R10 activities have been significantly less than the proposed maximum figure of 125,000 tonnes per annum of inert soil and stones. This figure is to account for the likely increase in building and construction activity as Ireland moves out of recessionary times.

The existing activity is also permitted to carry out the activity of 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. This 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. This is a Class R5 recovery activity under the Fourth Schedule of the Waste Management Acts 1996-2013.

20,000 Tonnes/Annum of soil and stone material and C&D materials may be stored on the site (prior to recovery/reclamation), under Class 13 of the Fourth Schedule as per **Table 2.9.1**

Table 2.9.1: Proposed Maximum Waste Recovery Tonnages per Annum

Schedule 4 Recovery Activities	
Class R5	45,000 tonnes per annum
Class R10	125,000 tonnes per annum
Class R13	20,000 tonnes per annum

2.10 Waste Acceptance Procedures

2.10.1 Existing Waste Acceptance under the Waste Permit

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.

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. Four of the CCTV cameras are located around the former quarry site, whilst the remaining three are strategically placed covering site access and vehicle details. This more specifically includes the following CCTV locations:

- CCTV camera at site entrance off public road to monitor potential unauthorized access or illegal fly-tipping;
- CCTV camera on access road again to monitor access into the site; and
- CCTV camera positioned at high level at the weighbridge area to be able to record vehicle registration details and to view contents inside rigid tipper lorries.

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 truck;
- 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.

2.10.2 Proposed Additional Waste Acceptance under the Waste Licence

To confirm that the various soil and C&D waste streams are suitable for processing at the CHI Environmental facility and to ensure compliance with the Waste Permit (WP) and the waste licence when issued, a three stage waste acceptance procedure has been developed and will be implemented at the facility. This is described below.

Stage 1: Desk Study / Preliminary Enquiries

1. The operator of the site acting as the waste producer will complete a Waste Soils Questionnaire (WSQ)/Waste Information Form (WIF). This form seeks relevant information including details of the nature and volumes of the waste/soil. Copies of any existing site investigation reports and other information relating to the waste/soils will be sought and reviewed.
2. Attention will be paid to soils descriptions on the borehole / trial pit logs and any geotechnical test reports (grading / PSDs) to ensure that soils can be physically handled through the plant.
3. Any records of visual / olfactory evidence of contamination will be noted.
4. Chemical data included within the reports will be reviewed against a framework of in-house Generic Acceptance Criteria (GAC).



5. A judgment will be made as to whether or not the scope of testing will be sufficient based on historic site usage and any identified / suspected contamination based on visual/olfactory evidence.

6. The relevant section of the WSQ will then be completed following the initial review process. If relevant, this will identify any areas of the site containing soils/materials that may be considered 'unauthorised waste' at the CHI Environmental facility. Advice for site managers/foremen will be issued including any requirements for a Watching Brief and any special quarantine measures to be adopted on-site to ensure that no unauthorised wastes will be received at the CHI Environmental facility.

Stage 2: Provisional Waste Acceptance

1. The waste producer will be advised of the outcome of the review and whether or not the waste/soil is suitable for processing at the facility by way of the completed WSQ/WIF Fax Back.

2. Details of the site / job will be entered onto a database maintained by CHI Environmental Limited. Each record will include the following details:

- Customer / Waste Producer Name
- Site / Collection Address
- Waste / Soil description
- Any special notes / precautions [e.g. site with former fuel storage use or invasive plants, plus specific instructions for site foreman]
- Details of the registered waste carrier and vehicle details transferring the waste.

3. Each load of soil/waste that arrives at the facility will be checked in at the weighbridge. Information on the conveyance note will be cross-checked against the electronic records held on the database. If the information provided conforms to the information on the database, the driver will be asked to proceed to the designated waste reception area. Personnel operating within the waste reception area will be advised of any need to carry out a more rigorous inspection of the deposited wastes.

4. Any load that is deemed unauthorised or unsuitable waste [based on visual/olfactory evidence] will be loaded back on to the delivery vehicle and the driver instructed to leave the facility. All deliveries from the source site will be suspended until inquiries are completed and appropriate measures put in place to prevent a re-occurrence.

5. Should materials be identified that are potentially hazardous/unauthorised/unsuitable following a satisfactory initial inspection, they will be transferred to a designated quarantine area until they can be disposed of at an appropriately licensed facility in accordance with the relevant conditions of the WP.

Stage 3: Verification / Validation

Verification / validation sampling of any quarantined wastes may be undertaken to further assess the risks / hazards associated with the material and therefore ensure that it is disposed of at an appropriately licensed facility.



2.11 Soil Recovery Method in Restoration of the Quarry

Figure 2.11.1 is a site survey plan showing the site boundary, and other relevant features including cross sections showing the existing and proposed levels of the restored Grannagh Quarry Site.

The existing waste permit and planning permission at the site provides for the restoration of the former rock quarry at Grannagh back to productive agricultural use. The existing permitted soil recovery site includes the site access road, the proposed area of deposition and the existing C&D materials recovery and recycling and processing/storage area.

The Application for a Waste Licence proposes no change to the final topographic level as granted under planning permission or as permitted under the waste permit. The application for a Waste Licence is for the acceptance of a maximum of 125,000 Tonnes per annum of Soil and Stone, for deposition as described above. The total quantity of soil and stone required to restore the former quarry site at Grannagh is calculated as ca. 550,000 tonnes.

The former N24 Waterford to Limerick National Primary route was in the recent past downgraded to a secondary local route (the L7526) and this is now where the site entrance into the facility is located. This had a significant effect on the overall landholding owned by Mr. Bob Murphy upon which CHI Environmental Ltd. lease their waste recovery facility. The new Granny Roundabout and N24/M9 routes effectively bisected the existing quarry site into two distinct sections.

The southern section of the facility may be considered as being two sections. The main portion located to the west is currently being used for the purpose of restoration of the former rock quarry by means of recovery of inert soil and stones for the consequential benefit to agriculture. The phasing of this restoration will progress in a north-westerly direction following the shape of the quarry void towards the new N24 embankment.

On the eastern side of the site, which has already been partially restored, construction and demolition materials are recycled by screening and crushing for storage prior to sale off site as certifiable secondary aggregates for re-use in the construction industry. Up to 45,000 tonnes of C&D materials will be accepted on site per annum.

In addition up to 20,000 tonnes of material may be stored on site under recovery class R13.

Both operations are being carried out in accordance with requirements of waste permit number WMP023/2007 issued by Kilkenny Count Council and Planning Permission - Register no. 06/1772.

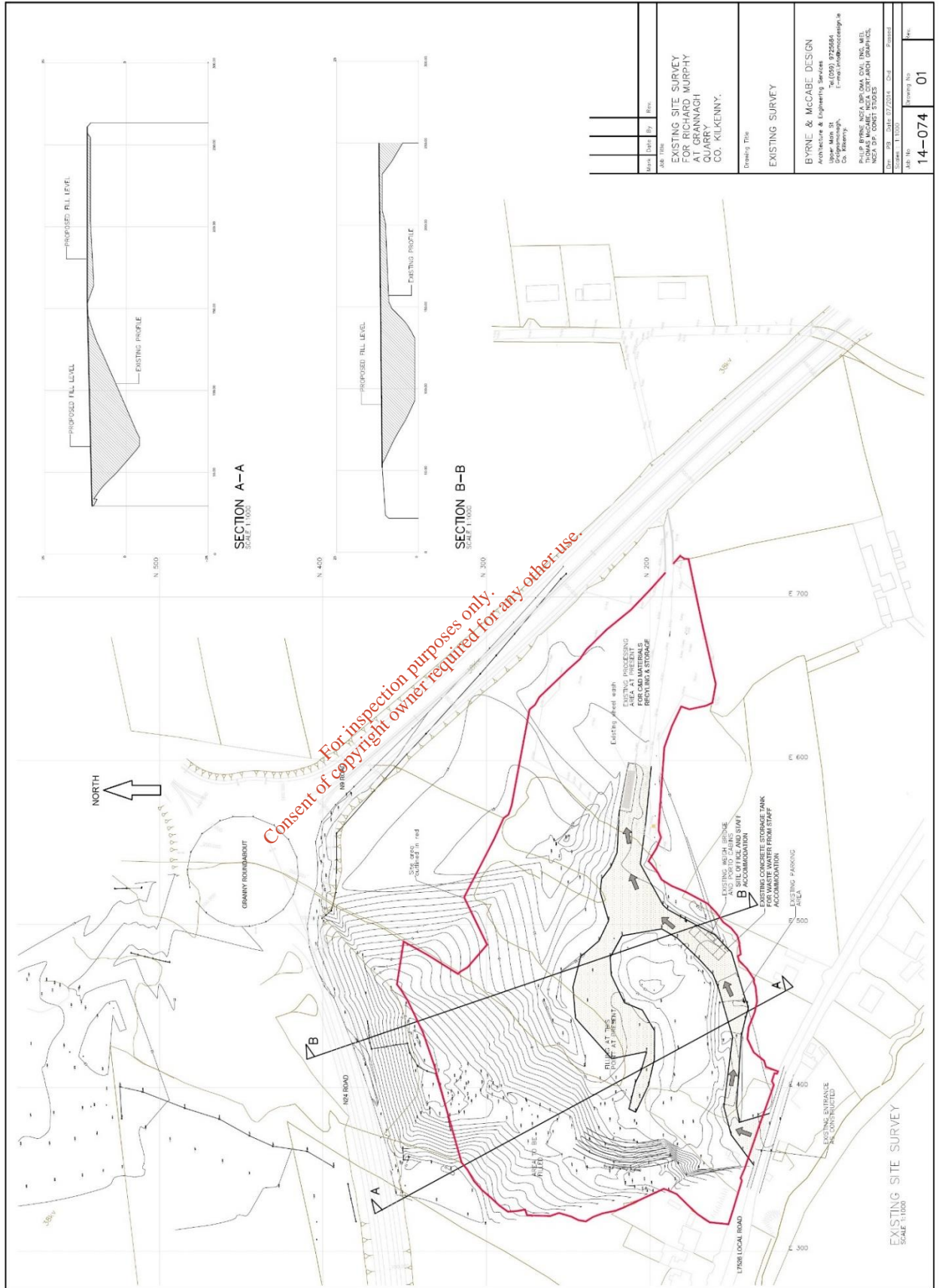


Figure 2.11.1: Site Survey Plan of Restoration of Former Quarry



2.12 Hours of Operation

Hours of Operation and Waste Acceptance and Handling:

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

8.00am to 6.00pm - Monday to Friday

8.00am to 2.00pm - Saturday

Closed - Sundays & Bank Holidays

Proposed Hours of Construction and Development Works at the Facility and Timeframes:

The existing facility has been in operation since 2004 and no Construction and/or Development Works are proposed for the facility under the Application for a Waste Licence. Upkeep of security arrangements (i.e. fences, gates, signs, etc.) will be carried out during the 'Proposed Hours of Operation'.

Any Other Relevant Hours of Operation Expected:

There are no other relevant hours of operation known to date. Approval shall be sought from the EPA should any other hours of operation become apparent, other than those listed above.

2.13 Waste Arising

The only Waste Arising at the facility are those materials moved to/stored in the Waste Quarantine Area (e.g. wood, plastics, metals, paper) and wastes from the facility portacabin (office and staff accommodation). The amounts of these materials generated on the basis of experience in operating the existing facility to date are very low. Waste acceptance letters are in place for acceptance of these waste streams by the appropriate waste recovery/disposal facilities.

The wastes from the Quarantine skips are removed by authorised Waste Collection Permit Holders for disposal or recovery to authorised waste facilities.

All wastes in the site office/staff accommodation are divided into 'Recyclable Waste' and 'Landfill Waste' and appropriately disposed of/recovered.

Full records are maintained in the site office of all wastes leaving the site and these form part of the Annual Environmental Report (AER).

2.14 Raw Materials, Substances, Preparations and Energy

The materials used in the site restoration works comprises inert soil and stone. The C&D materials recycled on site include concrete, bricks, stone and non-hazardous bituminous products. These are sorted, crushed and graded and certified as secondary aggregate products for re-use and sale to the construction industry.



Small scale energy requirements for site offices, lighting, heating etc. are provided by an existing ESB supply to the site.

Earthwork plant machinery placing and compacting the imported soil and stone will be powered by diesel fuel, as will the screening and crushing equipment used to recycle the inert construction and demolition material. The picking station is powered by an electric generator.

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.

The fuel consumed per week by the placement, compaction and recovery of waste and ancillary activities is assessed as follows:

Soil and Stone Recovery for Restoration of Quarry:	
Bulldozer	350 Litres/Week
C&D Material Recycling Operation:	
Mechanical Excavator	300 Litres/Week
Crushing Plant	350 Litres/Week
Screening Plant	300 Litres/Week
Generator for Picking Station	300 litres/week
Other Site Vehicles (2 no.)	80 Litres/Week
TOTAL WEEKLY FUEL CONSUMPTION	1,680 Litres/Week

Note that the assessed fuel consumption is based on the following assumptions:

- (1) Backfilling at the operation continues at the same rate as heretofore
- (2) There will be no improvement in fuel efficiency of mechanical plant and site vehicles over the operational life of the facility
- (3) No alternatives to diesel fuel become commercially available over the operational life of the facility.

No chemicals (e.g. Insecticides, Herbicides, Rat Poisons, Cleaning Agents, Water Treatment Chemicals, Cooling Water/Boiling Water Additives, Laboratory Chemicals, etc.) are required or accepted at the facility and there is no change in this regard in the application for the Licence.

Water will be provided to the facility (Portacabin) by mains.



2.15 Energy Efficiency

The only 'Energy' used at the site is that to run the Earthworks plant machinery and C&D recycling screening and crushing equipment. To ensure energy efficiency, the facility plant engines are switched off when not in use. Furthermore energy efficiency is adopted in the site office and staff accommodation with energy saving light bulbs and lights being switched off when not in use.

2.16 Technical Competence, Site Management and Employment

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.

The SRA has been instrumental in preparing the new EPA Waste Licence Form and Guidance Notes for Waste Soils Recovery Facilities in conjunction with the EPA. In this regard the SRA had had extensive discussions with the EPA concerning the implementation of the new Regulations including meetings on 12/6/2008 and more recently on 29/1/2009.

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 2009, CHI Environmental Ltd applied for a Waste Licence for the operation of the Grannagh site. The site continues to operate under the existing Waste Permit, WMP 23/2007, until such time as the application for a waste licence is decided upon.

All personnel working at the Waste Licenced Facility are qualified on the basis of appropriate education, training and experience (as is required) and all are fully aware of the requirements.

The site Managing Director has completed the FAS waste management course for facility operation in 2006.

CHI Environmental Ltd. track record in the Waste Management area indicates that they are a company determined to operate in an organised and efficient manner, in strict compliance with the relevant permits/licences, and at all times ensuring that protection of the environment is foremost in their company practices.

The 'Management Structure' for CHI Environmental Ltd. Is presented below:

- Mr. Bob Murphy is the owner/managing director of CHI Environmental Ltd.
- Mr. Richie Murphy is the 'Facility Manager' and director of the Grannagh site and is a qualified Construction Manager. It is Mr. Richie Murphy's responsibility to ensure that the



facility is operated in full compliance with any conditions imposed by the EPA Licence. He is the person in ongoing contact with the EPA in relation to Licence compliance. Licence compliance may require the sub-contracting of works to contractors (e.g. upkeep of fencing, gates, etc.) and/or consultants (e.g. environmental monitoring, completion of AER Reports, topographic surveying, etc.). It is Mr. Richie Murphy's responsibility to communicate and manage these sub-contracts.

- Mr. Pat Murphy is a director of the company and is involved in the day to day running and operation of the Grannagh facility.
- External Consultants will be contracted to carry out the environmental monitoring and associated reporting when necessary as dictated by the Waste Licence (when issued).

2.17 Accident Prevention & Emergency Response

The Material Recovery Facility is operated in compliance with the latest Health & Safety Regulations and CHI Environmental Ltd. has a current Safety Statement on site which deals with hazards and emergencies which may arise and provides contingencies for dealing with these occurrences. In relation to 'Accident Prevention and Emergency Response', there are 2 contingencies that must be allowed for:

1. Accidental fuel spillage;
2. Fire within the facility.

Notification:

In the event of an emergency the following are to be notified.

1. Fire Services – in the event of a fire or a significant fuel spillage or serious accident involving mobile plant;
2. Ambulance Services/Medical Team – should there be a threat to human life or serious injury;
3. Gardai – In the event of fire, explosion or road accident;
4. Senior Personnel – CHI Environmental Ltd. Management
5. Environmental Protection Agency;
6. Kilkenny County Council.

Control of Operations:

In the event of any Accident/Emergency, the Facility Manager will take control.

Communications:

It is essential that the following communication systems are available for priority usage during an emergency:

1. Fire Services Radio Link;
2. Garda Radio Link;



3. Ambulance Services Radio Link – linking the mobile units to the medical officers and the hospital;
4. Private lines – either landlines or mobile phones to enable contact between all parties concerned and their respective headquarters.

All parties involved in the Emergency Response Procedure will be issued with these procedures. Any further recommendations by the Agency will be adhered to.

Response Procedures:

1. Accidental fuel spillage:

Fuel is not stored on site and there are no proposals to store fuel on site. A Fuel Tanker will visit the site on a weekly basis (or when required) to fill the onsite plant. Refuelling of mobile plant will take place at the quarantine area. Booms and spill kits are kept adjacent to this.

Other plant refuelling will take place on the hardstanding areas. When refuelling and maintaining machinery on site an appropriate sized drip collection tray will be provided as a catchment for any spill that may occur. A small bunded oil storage tank will be positioned adjacent to the quarantine area. The bunding of this tank will provide adequate protection against hazardous spills.

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

In the event of a threat to groundwater the following is to be implemented:

- Inform the EPA and Kilkenny County Council.
- Contain any spillage as far as possible using the spill kits and booms
- Detect source and carry out necessary remedial works;
- Monitor situation hourly until threat is removed.

In the event of a threat to outside the site:

- Detect source;
- Inform the EPA and Kilkenny County Council;
- Monitor extent of contamination;
- Inform public if risk is posed;
- Take appropriate action to alleviate situation.

2. Fire in the Facility:

Fire within site confines:

- Call Fire Services;
- On arrival of Fire Services liaise with fire officer and follow his directions.



Fire in incoming vehicle:

- Call Fire Services;
- Instruct driver to unload at Inspection Area;
- Initiate on site fire drill;
- On arrival of Fire Services liaise with fire officer and follow his directions.

Fire outside boundary but adjacent to facility:

- Call Fire Services and direct to scene;
- On arrival of Fire Services liaise with Fire Officer and monitor closely for risk of fire spread into facility;

Explosion:

- Evacuate immediate area;
- Call Fire Services, Ambulance Services, Medical team in the event of fire or serious injury;
- Close main gate to incoming traffic;

The Facility Manager Operative takes precautions at the site in regard to fire abatement, response, training and awareness. These include:

- To provide and maintain suitable fire extinguishers in the Portocabin and site plant;
- Fire Safety Systems - telephone numbers of local fire, police and hospital are posted at head height on the wall in the site office;
- Emergency Response Procedures;
- Fire Prevention and Containment Design Features.

2.18 Environmental Nuisances

2.18.1 Bird Control

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.

2.18.2 Dust Control

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.

2.18.3 Fire Control

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.

2.18.4 Litter Control

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.

2.18.5 Traffic Control

As discussed earlier in this EIS, 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 M9 and access directly into Waterford City and environs.



2.18.6 Vermin Control

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.

2.18.7 Road Cleansing

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.

2.19 Environmental Performance

CHI Environmental Ltd. have operated the Grannagh Facility since 2004 under waste permits issued by Kilkenny County Council with no non-conformances; no environmental incidents; no prosecutions and are regularly inspected and audited by environmental staff of Kilkenny County Council.

CHI Environmental Ltd. as an organisation pride themselves as being market leaders in the recycling and recovery of soil and stone and inert C&D Materials and in their on-going environmental performance, which to date has been and remains exemplary.

2.20 Restoration and Aftercare

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. As previously noted, 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.

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.

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