This report has been cleared for submision to the Board by Programme Manager Frank Clinton.
Signed: [signature] Date: 23/8/13

Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

OFFICE OF CLIMATE, LICENSING & RESOURCE USE

INSPECTORS REPORT ON A LICENCE APPLICATION		
TO:	DIRECTORS	
FROM:	Ewa Babiarczyk	**ENVIRONMENTAL LICENSING PROGRAMME**
DATE:	23 August 2013	
RE:	Application for a waste Licence from Cemex (ROI) Limited, Killeen Road, Dublin 12, Licence Register No. W0254-01 in relation to a facility at the townlands of Walshestown, Tipperkevin, Bawnogue and Blackhall.	

1. Application details

Type of facility:	Inert waste landfill
Classes of Activity (**P** = principal activity):	3rd Schedule: D1, D5 [P], D15 4th Schedule: R3, R4, R5, R13
Category of Activity under IPPC Directive (2008/1/EC):	Not in Annex 1
Quantity of waste managed per annum:	330,000 tonnes
Classes of Waste:	Inert soils and stones; inert construction and demolition waste
Location of facility:	Walshestown, Blackhall, Tipperkevin, Bawnoge, Naas, County Kildare
Licence application received:	23/12/2008
Third Party submissions:	Two
EIS Required:	Yes
Article 14 Notices sent:	30/07/ 2010
Article 14 compliance date:	28/09/2010
Article 16 Notices sent:	6/06/2011, 9/08/2007, 19/04/2013
Article 16 Compliance date:	25/06/2013
Site visit and site notice check:	23/03/2009

2. Applicant and facility

The site is owned by Readymix plc. trading as Cemex (ROI) Limited. The applicant applied for a licence to operate an inert waste landfill on a site which is a worked-out sand and gravel pit called the Walshestown Pit (see Figure 1 for illustration). The site occupies an area of 68 ha and is located 5 km south east of Naas and 6km northeast of the town of Blessington in Co. Wicklow. The lands to the west of the site are occupied by the Punchestown Complex. The excavation works on this site have been taking place since the late 1960's/early 1970's. The southern part of the lands was filled using existing overburden materials on the site. Since this reinstatement was undertaken, the lands have been in use for grazing livestock. All restoration works were completed by the applicant. This previously restored area is within the proposed licence boundary but no activities will take place there.

3. Operations Description

Cemex (ROI) Ltd., has planning permission (planning Ref. No. 08/2159) for the restoration of the worked-out pit. The objective is to return the site to its former landscape character (Figure 5).

The development site will include buffer lands (where no works will be carried out), reception area, an inert waste processing area (Figure 2), surface water management ponds, perimeter screening and landscaped berms, and engineered cells (Figure 3) where inert soils and stones and construction & demolition waste will be placed to restore the site and create a new landform. Most of the proposed infrastructure will be provided on a temporary basis and will be removed upon completion of the capping and final landscaping works. Permanent works will include drainage channels and surface water management ponds/infiltration basins for surface water run-off, screening berms and embankments, some access roads, monitoring installation and security measures. Temporary works will include site accommodation, paved roads and hard-standing areas, weighbridge, wheel-wash facility, fuel tanks and storage/load out areas, waste quarantine areas, inert waste processing area with crushing and screening plant, and laboratory facilities. It is envisaged that five full time workers will be employed at the facility. The inert waste processing area will be used to treat loads of mixed inert waste arriving on site. The screening and crushing plant will be employed to treat waste for use at the facility or for dispatch from the facility.

Waste to be accepted at the facility

Originally, the applicant proposed to landfill 4.2 million m^3 of inert waste at facility. This amount was reduced as part of the planning process and it is now proposed to landfill 2.4 million m^3 of inert waste. Using a conversion factor of 1.8 tonnes per cubic metre, this equates to approximately 4.3 million tonnes. **Schedule A** of the RD limits waste acceptance to 330,000 tonnes per year which gives an expected lifespan of 13 years for the development. However, the actual amount of imported waste in any year will depend on market forces.

The types of materials to be accepted at the landfill will be confined to inert dry waste arising mainly from civil engineering, building construction and demolition projects. The waste types acceptable for restoration purposes will include inert materials such as stone and soil, concrete, brick, tiles, ceramics, etc. Putrescible household and commercial waste will not be accepted at the facility. Materials such as wood, plastic, etc., found in stockpiles will be removed and stored in quarantine areas. This waste will be transported off-site for re-use, recycling or disposal.

The applicant requested that EWC code 17 09 04 [mixed C&D wastes (other than those mentioned in 17 09 03, 17 09 02 and 17 09 03)] also be licensed to be accepted at the facility. In effect EWC code 17 09 04 would be mixed building materials and rubble which would require extensive testing to prove it is acceptable and is in any case untreated waste. EWC 17 09 04 waste could contain wood, glass, plastics, bituminous mixtures (non-coal tar), metals, dredging spoil, insulation materials, gypsum based materials, etc.

In addition Article 6 (a) of the landfill directive states:

Member States shall take measures in order that:

(a) only waste that has been subject to treatment is landfilled. This provision may not apply to inert waste for which treatment is not technically feasible, nor to any other waste for which such treatment does not contribute to the objectives of this Directive, as set out in Article 1, by reducing the quantity of the waste or the hazards to human health or the environment;

It is technically feasible to sort such material at C&D waste facilities and such treatment would contribute to delivering the aims of the landfill directive. The lack of pre-treatment, the wide variety of types of materials included in the EWC code and the extensive testing that would be required to ensure the material will meet the landfill acceptance criteria make the acceptance of EWC code 17 09 04 material at the landfill unacceptable and unfeasible and so EWC code 17 09 04 has not been permitted for deposit in the landfill. This mixed waste may however be accepted for treatment at the inert waste processing area as set out in **Schedule A** of the RD.

In the past, waste was deposited at the site under a permit granted by Kildare County Council in 2002, although it may be that waste was also deposited prior to this time. The applicant believes that only inert soil, sand, stone and inert concrete waste was placed on the site for restoration purposes. The applicant estimates that approximately 76,560 tonnes of waste was deposited on an area of approximately 5,800 m^2 to an estimated depth of 6 m. This previously deposited waste will be removed, processed at the inert waste processing area and reused as secondary aggregate for development at the facility, or alternately it must be dispatched directly to an appropriately authorised facility (**Condition 8.14**).

Landfill liner

The base of the landfill liner will be located above the winter high water table. The liner will be a mineral liner that will comprise a layer of compacted clayey silt with a minimum thickness of 1 m in accordance with the requirements of the Landfill Directive. The soil liner will have a co-efficient of permeability of less than or equal to $1x10^{-7}$ m/sec, both in the base and side slopes. The existing ground surface will be graded and/or excavated to allow construction of the lining system. Suitable existing in-situ soils will be excavated and re-used to form the liner. Some imported materials may also be required.

Existing on-site pondwater and groundwater quality

Currently, there are three ponds at the northwest of the site (Pond A1, A2 and A3) and one pond to the south of the site (Pond B). There is also a small silt settlement pond near the site entrance (Pond C).

Water quality monitoring at Ponds A1, A2, A3 and B was carried out in September 2011. The water in the ponds was visually clear and no discernible odours were recorded on the day of sampling. No exceedances were recorded for any of the parameters tested when compared to the environmental quality standards (EQSs) in the Groundwater Regulations (S.I. No. 9 of 2010) and the Agency Interim Guideline Values for groundwater.

In respect of the groundwater beneath the site, elevated parameters recorded in boreholes included potassium, calcium, cadmium, orthophosphate, ammoniacal nitrogen, copper, chromium, manganese, nickel, lead and zinc. The licence application states that given that the site is located in an intensive agricultural area, and is quite permeable due to the presence of sands and gravels in the overburden, the use of fertilisers, pesticides, herbicides and application of animal waste to land can give rise to some of the exceedances observed, in particular potassium, ammoniacal nitrogen and orthophosphate. Also, historical site operations mentioned above may also have contributed to groundwater contamination. Removal of previously deposited waste eliminates this risk factor for groundwater contamination. **Condition 6.13.1** requires a risk screening and, if necessary, a technical assessment in accordance with *Guidance on the Authorisation of Discharges to Groundwater*, EPA, 2011.

The landfill construction works will incorporate the management of the existing pond water and will comprise of the following steps, illustrated broadly in Figure 4:

1) A so-called 'new water feature' (referred to as new pond hereafter) will be excavated into the water table mid-way along the western boundary of the site in order to store water from the pumping out of Ponds A1, A2 and A3. This new water feature will also serve as a receptor for surface water after the landfill is completed.
2) When the new pond is excavated an infiltration swale will be cut (through native soils and down to beneath winter-high water table) southward along the western boundary to connect ponds A1 and A2 with the new pond.
3) Pond A3 will be pumped out into the infiltration swale and backfilled with native site-won free-draining natural materials to an elevation 1 m above winter-high water table (approximately 142 m Ordnance Datum (OD)).
4) Pond A2 will be pumped out into the infiltration swale and backfilled with native site-won free-draining natural materials to an elevation 1m above winter-high water table.
5) Pond A1 will be pumped out to the infiltration and backfilled in the same manner as Ponds A3 and A2.

Once the above steps are complete, the liner system will be constructed along the western boundary (Cells 1, 2 and 3). At all times, a liner system will be in place prior to the placement of inert waste. A total of seven cells will be constructed at the facility (Figure 3).

The new pond will have its base excavated to 135 m OD and will be 10 m deep. Once the new pond is constructed, groundwater will percolate through it with groundwater flow from the east to the west. The new pond will also capture surface water run-off. Only clean surface water run-off will be able to enter the new pond which will be isolated from landfilling activities (see below for further details). Periods of increased run-off will be managed by installing an overflow pipe from the new pond to the existing Pond B which will ensure the water level in the new pond is regulated to a maximum. It is expected that discharges from the new pond into Pond B will only occur during sustained/heavy rainfall events.

The proposed location of the inert waste processing area will be excavated and graded so that all run-off is directed to Pond C which is an existing silt pond at the north-east of the site beside the site entrance.

4. Emissions

4.1 Air

The main potential impact during the construction and operational phases will be airborne dust and potential dust deposition outside the site boundary. The release of dust will be minimised through the mitigation measures which include:

- Management of stockpiles;
- Vegetation of berms in sensitive areas around the site;
- Speed restriction for vehicles;
- Wheel wash facility for all vehicles; and,
- Sweeping and water spraying haul roads.

4.2 Emissions to Sewer

There will be no discharge to sewer from the facility.

4.3 Emissions to Surface Waters

The will be no process emissions to surface waters.

4.4 Storm Water Runoff

Four storm water emission points to surface water (SW1 to SW4) have been identified in the licence application. Of these, SW1 is an outlet from the existing Pond C and discharges to a tributary of the Morell River. Emission points SW2 and SW3 are located within the site boundary and are, respectively, the internal discharge to the new pond and the internal discharge between the new pond and the existing Pond B. Thus they are not emissions from the facility. SW4 gathers water from the previously restored part of the site and is a diffuse overland flow to neighbouring fields. Thus only SW1 requires regulation as a storm water emission point from the facility to surface water. However SW2 comprises a discharge to groundwater (see below for further explanation) and is subject to monitoring and control in the RD (**Condition 6.12** and **Schedule C.4**).

Storm water from other parts of the facility will be allowed to percolate into the ground and this is described in the next section of this report.

Surface water run-off during and post restoration activities will be collected in a network of trenches and infiltration drains located on the surface and perimeter of the restored area.

4.5 Emissions to ground/groundwater

No process emissions to groundwater will take place.

Storm water from the facility will generally be allowed to discharge through the ground to groundwater. From the inert waste processing area and other hardstanding areas of the facility, storm water will pass through a silt trap and oil/water separator (**Condition 3.23**) before being allowed into a network of drains and trenches that have been designed to handle run-off from around the facility. Clean storm water will discharge either:

- directly into the ground from the drains themselves (there will be a number of soakaways constructed within the drains for this purpose);

- through Pond C where it will be attenuated prior to discharge to the adjacent stream (Pond C will also receive direct overland flow from profiled areas when the landfill is complete); and
- through the new pond which will be excavated to a depth below the water table and will in effect act as a direct discharge to groundwater. **Condition 6.12** requires that only verifiably clean run-off can enter the new pond.

The applicant has proposed that a berm is constructed to isolate the new pond from the operational parts of the site. Leachate emanating from within the landfill is to be collected for appropriate disposal off-site. After restoration of the landfill, the new pond will receive direct overland flow from restored areas.

The conceptual site model for the facility shows that the landfill liner will be constructed at least 1 metre above the winter high water table. The existing ponds (A1, A2 and A3) will be infilled with free-draining materials to formation level and the liner will be constructed on this surface. The LandSim model developed for the facility shows minimal risk of contamination of groundwater beneath the landfill. There are certain limitations on the applicant's current knowledge of the water environment in ponds A1, A2 and A3 and **Condition 6.13.1** requires a reassessment of the risk of groundwater pollution within 6 months of the date of grant of the licence and every 3 years thereafter.

The licence application identifies eight surface/storm water emission points to groundwater (GW1 to GW8). Emission points GW1 to GW7 serve the inert waste processing area. Emission points GW1 to GW6 are proposed soakholes located along French drains and GW7 is a percolation area alongside the entrance to the facility. The new pond is emission point GW8. Discharges of clean, uncontaminated surface water to soakpits are permitted under Condition 47 of the planning permission (planning Ref. No. 08/2159). However, as a precautionary measure to ensure that groundwater beneath the site is not affected by potential contaminants that might be contained in surface/storm water from the inert waste processing area or the restoration area, **Condition 5.6** prohibits any direct discharges to groundwater with the exception of the discharge to the new pond.

Vulnerability/Aquifer Classification

The rockhead beneath the southeast corner of the site is highly elevated. For that reason the aquifer in this part of the site has been classified by the Geological Survey of Ireland (GSI) as having extreme vulnerability. Accordingly, no materials will be placed in this area and an appropriate 100 m exclusion zone has been applied when planning the restoration works. The remainder of the site was classified as having high vulnerability. The applicant argues that, as the results of a ground investigation indicate that there is a minimum of 10 m of glacial deposits (mainly silty sands) underlying the site, a vulnerability rating of moderate is more appropriate. The landfill will be lined on accordance with the Landfill Directive thus mitigating the risk of landfill leachate percolating without attenuation into groundwater. Leachate generation is expected to be minimal given that only inert waste will be deposited and the facility will receive an impermeable cap.

Treated sanitary effluent discharge

It is proposed to install a new waste water treatment system and percolation area for the sanitary effluent arising at the facility. **Condition 3.28** requires that any waste water treatment system and percolation area satisfies the criteria set out in the Agency's code of practice.

4.6 Wastes Generated

Other than construction waste that will be generated during the construction stage of the facility infrastructure, no waste other than canteen and office waste will be generated on site.

Waste engine oil and lubrication oil will be generated during the servicing of plant and equipment. All waste oils will quarantined until collected.

4.7 Noise

The main construction phase will last approximately nine months and in order to minimise noise impacts, berms to reduce noise emissions from the site will be constructed. All construction activities will be undertaken in general accordance with the National Road Authority (NRA) *'Guidelines for the treatment of noise and vibration in normal road schemes' 2004.*

Significant noise nuisance is not anticipated. **Condition 6.14** requires a noise survey to be undertaken annually or as requested by the Agency. **Schedule B.4** sets noise limits of 55/50/45 dB $L_{Ar,T}$ during daytime/evening-time/night-time, measured at the noise-sensitive locations.

4.8 Nuisance

Litter arising from the waste to be accepted at the site is not expected to cause nuisance as this waste will be predominantly mineral soils or broken rock. All vehicles transporting waste on public roads will be required to have their loads covered (**Condition 6.19.4**)

Vermin control is not expected to be required as no putrescible waste will be accepted at the facility. However, procedures will be put in place to deal specifically with this issue if required.

Also, it is highly unlikely that birds will be attracted by the on-site operations due to the fact that putrescible waste will not be accepted at the facility.

5. Use of Resources

Condition 7 deals with energy efficiency at the facility.

Drinking water will be obtained from Kildare County Council mains supply. Water for dust suppression and wheel wash will be abstracted from an existing on-site groundwater well.

6. Restoration

The operation of the landfill will itself result in the restoration of the worked-out sand and gravel pit and the key objective is to return this site to its former landscape character. The applicant stated that the principal objective of this application is to fulfil a specific objective of the Kildare County Development Plan 2005 to 2011, which states that rehabilitation clauses are essential for any further planning permissions for the Walshestown Pit. **Condition 10.2** of the RD requires the licensee to maintain a Closure, Restoration and Aftercare Plan (CRAMP). **Condition 6.22** requires an annual stability assessment of the side slopes of the facility. **Condition 6.23** requires the applicant to carry out an annual topographical survey.

7. Waste Management, Air Quality and Water Quality Management Plans

According to Kildare County Council, until a national review of waste management plans has been completed, the Waste Management Plan 2005 - 2010 is currently the plan which is standing for the county. There is no reference in the 2005 - 2010 plan to the applicant site.

8. Compliance with Directives/Regulations

The facility does not fall under the scope of the IPPC, IED and Seveso Directives.

8.1 Landfill Directive – 1999/31/EC

The RD conditions have been specified in line with the Landfill Directive and with the principles of Best Available Techniques (BAT).

8.2 Water Framework Directive (2000/60/EC)

- European Communities Environmental Objectives (Surface Water) Regulations S.I. No. 272 of 2009 and
- Groundwater Directive (80/68/EEC) and (2006/118/EC) and European Communities Environmental Objectives (Ground Water) Regulations, S.I. No. 9 of 2010

There are no process emissions to waters. The only emissions to surface water will be clean storm water. Only clean storm water that is within trigger levels will be discharged to surface water or groundwater. **Schedule C.4** requires the applicant to carry out daily visual inspection and weekly monitoring of pH, conductivity, suspended solids and other parameters in the storm water leaving the site. There are no emissions to groundwater from the installation except for the clean storm water discharging to the new pond. **Schedule C.7.2** requires monitoring of groundwater. The RD also includes conditions to prevent accidental spillage to water/ground/groundwater. Overall, mitigation measures as set out in the RD satisfy the requirements of the regulations.

8.3 Environmental Liabilities Directive (2004/35/EC)

The applicant submitted a Closure, Restoration and Aftercare Management Plan (CRAMP), Environmental Liabilities Risk Assessment (ELRA) as part of the licence application, discussed further below.

Condition 10.2 of the RD requires the licensee to maintain and update the CRAMP annually and **Condition 12.2.2** requires that ELRA be reviewed and updated to reflect any significant changes on site, and in any case every three years following initial agreement.

8.4 Habitats Directive (92/43/EC) & Birds Directive (79/409/EEC)

There are no discharges from the facility directly into any site designated under the E.U. Habitats or Birds Directives.

The nearest protection areas include:

- The Red Bog, Kildare SAC (site code 000397) located 5 km north east of the site;
- Poulaphouca Reservoir SPA (site code 004063) located 6 km south east of the site. This SPA is also classified as NHA (site code 000731).

However, these sites are not connected by water courses to the facility. It is not expected that emissions from the site could impact these sites.

The closest designated sites downstream of the facility are South Dublin Bay and River Tolka Estuary SPA (Site Code 004024) and South Dublin SAC (Site Code 000210), located approximately 45 km downstream of the facility.

The Agency has conducted a screening for Appropriate Assessment to assess, in view of best scientific knowledge and the conservation objectives of the sites, if the activities, individually or in combination with other plans or projects is likely to have a significant effect on the European Sites. The screening assessment undertaken demonstrates that the activities are not likely to have significant effects, in terms of maintaining favorable conservation status of the qualifying interests, on the European Sites having regard to their conservation objectives. In summary, it was concluded that given the nature and location of the facility, and the potential sources, pathways and receptors, there will be no resulting impact on the designated Natura 2000 sites either as a result of the development or in combination with any other developments.

9. Environmental Impact Assessment Directive (85/335/EEC)

An Environmental Impact Statement (EIS) was prepared in support of planning application Ref. 08/2159 and has been submitted with the Waste licence application. I have examined the EIS and having regard to the statutory responsibilities of the EPA, I am satisfied that it complies with the Waste Management (Licensing) Regulations (S.I. No. 394 of 2004, as amended).

I have considered the EIS and planning permission, and I have examined the information submitted in the licence application, the EIS and planning permission. I consider that having examined the relevant documents and with the addition of this Inspector's Report that the likely significant direct and indirect effects of the activity have been identified, described and assessed in an appropriate manner as required in Article 3 and in accordance with Articles 4 to 11 of the EIA Directive as respects the matters that come within the functions of the Agency.

Environmental Impact Assessment (EIA)

An EIA, as respects the matters that come within the functions of the Agency, has been carried out as detailed below.

A notice requesting the planning authority to submit observations in relation to the EIS was issued by the Agency under Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment on 25 April 2013. No response to this notice has been received to date.

The submitted EIS and the assessment as described in this Inspector's Report address the likely significant direct and indirect effects arising from the activity, as respects the matters that come within the functions of the Agency.

Likely significant effects

The following section identifies, describes and assesses the main likely significant direct and indirect effects of the proposed activity on the environment, as respects the matters that come within the functions of the Agency, for each of the following factors: human beings, flora, fauna, soil, water, air, climate, the landscape, material assets and cultural heritage. The main mitigation measures proposed to address the range of predicted significant impacts arising from the activity have also been outlined in the tables below.

1. Human Beings

Likely significant effect	Description of effect	Mitigation measures proposed by applicant in EIS or Waste licence application [Note 1]
Impact on human health and safety.	Potential for incidents, human health impacts that might be caused by unsafe and poor operational practices.	Health and safety policies and standards and obligations. Training of staff. Also, see the mitigation measures for dust and noise listed under Point 6. Also see Point 3 for measure on potential spillages.

Note 1: and/or as outlined above in this report

2. Flora & fauna

Likely significant effect	Description of effect	Mitigation measures proposed by applicant in EIS or Waste licence application [Note 1]
On-site activities (soil stripping, dust, noise).	Loss of habitats.	Retaining most of treelines and hedgerows. Development of species-rich grassland upon completion of development. Mitigation measures for protection of badgers and bats in consultation with NPWS. Restriction of time period for vegetation removal. Sediment and pollution control measures. Dust minimisation measures. Retaining of wet pasture fields in the southern part of the site and screening it off from the site. Planting native species.
Pollution caused by poor operational practices.	Pollution caused by spillages of substances like oils, fuels, greases etc.	Storage of materials in bunded compounds; refuelling of machinery and other related works in bunded areas or off-site. Regular inspection and maintenance of the plant. Also see *Point 3* below.

Note 1: and/or as outlined above in this report

3. Soil & Geology

Likely significant effect	Description of effect	Mitigation measures proposed by applicant in EIS or Waste licence application [Note 1]
Effect caused by soil stripping, ingress of polluting substances to groundwater and poor operational practices.	Risk of localised erosion. Potential loss of soils off-site. Pollution caused by spillages of substances like oils, fuels, greases etc.	Keeping areas of exposed soils to minimum. Installation of a landfill liner to protect groundwater resources. Temporary vegetation cover. Storage of oils and other liquid materials within bunded containers or tanks. Collection and treatment of surface water run-off from paved areas by an oil interceptor. Storage of waste residuals such as hydrocarbons in bunded storage areas. Use of spill kits and adsorbent packs. Backfilling

		and restoration of the site. Capping, grading and re-vegetation. Inspection of silt traps and oil interceptors.

Note 1: and/or as outlined above in this report

4. Surface Water

Likely significant effect	Description of effect	Mitigation measures proposed by applicant in EIS or Waste licence application [Note 1]
Potential impact on watercourses.	Potential risk of down-gradient groundwater contamination caused by escape of leachate from the landfill. Run off of polluting substances from the site reception area.	Rigorous waste acceptance procedures. Acceptance of only inert waste. Keeping waste awaiting testing in contained and covered skips on a concrete hard-standing area. Grading of surfaces to direct flowing water to treatment/containment.
	Localised soil erosion and potential siltation of water bodies.	Keeping the area of exposed soils to minimum. Vegetation. Drainage system for surface water. Grading of all surfaces in the inert waste processing area to direct run-off to the drainage system.
	Contamination of surface water arising from spillages.	Storage of oils and other liquid materials in bunded containers. Trained staff. Oil and fuel storage tanks in hardstanding bunded area. Containing filling and draw–off points within a contained concrete hardstand are where run-off is collected and treated in oil interceptor. Inspection and maintenance of the plant. Bins for oily rags, oil fiters etc. Storing waste residuals such as hydrocarbons in bunded areas withing the quartantine facility. Spill kits and hydrocarbon adsorbent packs. Inspection of silt traps and oil interceptors.

Note 1: and/or as outlined above in this report

5. Groundwater

Likely significant effect	Description of effect	Mitigation measures proposed by applicant in EIS or Waste licence application [Note 1]
Groundwater pollution.	Contamination of groundwater caused by materials imported to the facility.	Rigorous waste acceptance procedures. Filling the existing ponds with free-draining sand and gravel. Storage of unsuitable for acceptance waste in skips on a bunded concrete hardstanding area or in waste quarantine facilities.

	Contamination caused by material spillages.	Storage of oils and other liquid materials in bunded containers. Training staff. Oil and fuel storage tanks in hardstanding and bunded areas. Designating filling and draw-off points within a contained hardstanding area with run off collection stystem. Maintenance of all infrastructure in good condition. Bins for oily rags, oil filters, etc. Storing waste residuals such as hydrocarbons in bunded areas withing the quartantine facility. Spill kits and hydrocarbon adsorbent packs.
	Contamination caused by the landfill leachate.	Construction of liner with permeability of $\leq 1x10^{-7}$m/s bringing about attenuation of leachate discharges. Grading of surfaces in order to direct run-off to surface water collection/infiltration drains in order to minimise the volume of leachate and migration of potential contaminants.
	Potential contamination caused by discharge from Ponds A1, A2 and A3 to the new water feature.	Only clean water is permitted to be discharged to the new pond controlled by trigger levels for water quality.

Note 1: and/or as outlined above in this report

6. Air

Likely significant effect	**Description of effect**	**Mitigation measures proposed by applicant in EIS or Waste licence application** [Note 1]
Potential pollution of air.	Airborne dust and potential dust deposition outside the site. The release of fine particulates during periods of ground disturbance.	Speed restriction for vehicles using the site. Wheel wash facility for the leaving vehicles. Sweeping and spraying haul roads with water and other areas. Regular inspection and if necessary cleaning of roads outside the site. Dust suppression system. Regular service of vehicles in order to reduce levels of combustion gases. Capping and vegetation of bare areas of the landfill site.
	Noise	Where possible meet the NRA guidance values for noise. Development of screening/acoustic berms around the fill areas. Selection of plant with low inherent

		potential for generation of noise and/or vibration. Restricted access for plant to sensitive areas. Construction of berms around the processing area close to sensitive areas. Planting and maintenance of berms around fill areas. Restriction of operational times in the inert waste processing area. Minimising drop heights of material from plant and machinery. Use of rubber linings on chutes and transfer points. Use of machines with mufflers. Maintenance of all machinery in good working condition. Avoidance of audible tones or impulsive noises. Internal traffic routing.

Note 1: and/or as outlined above in this report

7. Climate

Likely significant effect	Description of effect	Mitigation measures proposed by applicant in EIS or Waste licence application [Note 1]
No significant effects.		

Note 1: and/or as outlined above in this report

8. Landscape and Visual Impact

Likely significant effect	Description of effect	Mitigation measures proposed by applicant in EIS
Change of the existing topography of the site.	Creating an elevated landform, filling the existing ponds and creation of a new water feature.	Screen mounding, perimeter planting. Seeding and greening of the eastern slopes. Reinstatement of fields of similar shape, size and composition to those surrounding the site. Use of the restored land for grazing. Establishment of grassland and reinstatement of hedgerows and hedgerow enhancement. The use of native plant species.

9. Material Assets

As the site already has existing utilities, it will not require further connections in terms of electricity, telecoms and water. The restoration of the site will have both positive and negative impacts on the public amenities in the area, however the negative impact will be mitigated by measures described under Points 1 to 8 above.

10. Cultural Heriatage

There will be no impacts on cultural heritage.

Assessment of parts 1 to 10 and the interaction of effects and factors

An EIA as regards the functions of the planning authorities was carried out by the planning authority when granting planning permission for the development (Planning File Ref. 08/2159). The Planning Authority did not provide any additional observations to the Agency.

The detailed assessment set out in the remainder of the Inspector's Report fully considers the range of likely significant effects of the activity on human beings, flora, fauna, soil, water, air, climate, landscape, material assets and cultural heritage, as respects the matters that come within the functions of the Agency, (as identified in parts 1-10 above), with due regard given to the mitigation measures proposed to be applied.

A matrix of the potential significant interaction of impacts was provided in the EIS received in December 2008 as follows:

	Human Beings	Flora & Fauna	Climate	Air	Noise	Soils & Geology	Water	Traffic	Land-scape	Material Assets
Human Beings										
Flora & Fauna	x									
Climate										
Air	x	x	x							
Noise	x									
Soils & Geology										
Water	x	x								
Traffic	x				x					
Landscape	x	x								
Material Assets										

I have considered the interaction between the factors referred to in parts 1-9 above and the interaction of the likely effects identified (as well as cumulative impacts with other developments in the vicinity of the activity). The EIS identifies mitigation measures to address identified potential significant interactions.

I am satisfied that the proposed mitigation measures are adequate. I do not consider that the interactions identified are likely to cause or exacerbate any potentially significant environmental effects of the activity. The RD includes conditions as considered appropriate to key interactions associated with the licensable activity.

Overall Conclusion on Environmental Impact Assessment

All matters to do with emissions to the environment from the existing activity and proposed new development, the licence application documentation and EIS have been considered and assessed by the Agency.

I consider that having examined the relevant documents and with the addition of this Inspector's Report that the likely significant direct and indirect effects of the activity have been identified, described and assessed in an appropriate manner as required in Article 3 and in accordance with Articles 4 to 11 of the EIA Directive, as respects the matters that come within the functions of the Agency.

It is considered that the mitigation measures as proposed and the licence conditions included in the PD will adequately control any likely significant environmental effects from the activity.

11. Cross Office Liaison

Mr. Matthew Craig of the Office of Environmental Assessment, Aquatic Environment was consulted on matters related to potential groundwater impacts of the proposed activity. Mr. Stephen McCarthy of the Office of Environmental Enforcement was consulted in relation to the CRAMP and ELRA.

12. Best Available Techniques (BAT)

I have examined and assessed the application documentation and I am satisfied that the site, technologies and techniques specified in the application and as confirmed, modified or specified in the attached Recommended Decision comply with the requirements and principles of BAT. I consider the technologies and techniques as described in the application, in this report, and in the RD, to be the most effective in achieving a high general level of protection of the environment having regard, as may be relevant, to the way the facility is located, designed, built, managed, maintained, operated and decommissioned.

13. Fit & Proper Person Assessment

The 'fit and proper person' assessment requires three areas of examination:

i. Technical Ability

The applicant's management team are appropriately qualified and experienced with regard to their technical ability to carry out the proposed waste activities.

ii. Legal Standing

The applicant Cemex (ROI) Limited has never been convicted of any relevant offence.

iii. Financial Standing

A report containing:

- a Closure, Restoration and Aftercare Management Plan (CRAMP);
- Environmental Liabilities Risk Assessment (ELRA); and
- quantification of financial provision,

was provided by the applicant in 2013. The Agency's *Guidance on Environmental Liability Risk Assessment, Residuals Management Plans and Financial Provision*, EPA 2006, was followed in the preparation of the report.

In relation to the CRAMP, the following deficiencies in the submitted document were identified:

- No potential existing liabilities have been identified, being liabilities that might exist on the day a licence may be granted. It is noted in this regard that there is waste deposited at the site, however it was deposited legally in accordance with a waste facility permit granted by Kildare County Council.
- The cost of capping and restoration of the landfill were not identified. This will add a significant amount to the estimated closure plan cost of €212,500 and the 5-year aftercare management costs of €60,000.
- There is no contingency provided for unplanned/unexpected closure of the facility and the liabilities arising in such a scenario.

- There is no provision for security during the CRAMP period, the general maintenance of grassland and drainage systems nor for general contingency.
- The costs have not been adjusted for inflation.

Condition 10.2.1 of the RD requires a revised CRAMP to be agreed by the Agency prior to commencement of waste acceptance at the facility.

The ELRA addressed those costs not identified in the CRAMP which could potentially arise in the event of incidents or accidents. In relation to the ELRA, the following deficiencies in the submitted document were identified:

- The potential liability arising from fuel leakage from vehicles was not considered.
- The risk of unsuitable waste being accepted and deposited at the landfill, despite the recommended controls in the licence, was not considered.
- There is no contingency built into the total estimated cost arising from potential liabilities.

The estimated 'most likely' cost of unknown environmental liabilities appears low at €9,938. However an upper 'worst case scenario' of €23,000 is also estimated. The applicant proposes to obtain environmental pollution liability insurance with indemnity over €1,000,000 to cover the cost of unexpected pollution.

Condition 12.2.2 of the RD requires the submission of a revised ELRA prior to commencement of waste acceptance.

The applicant has proposed that financial provision will be required, quantified as follows:

Known liability – closure	CRAMP	€212,500
Known liability – restoration and aftercare management	CRAMP	€60,000
Unknown liability	ELRA	€23,000 (insurance cover of €1m proposed)

No financial instrument for financing the CRAMP was proposed by the applicant. **Condition 12.2.3** of the RD requires the making of a financial provision that is agreeable to the Agency prior to commencement of licensed activities.

Having regard to the provision of Section 40(8) of the Waste Management Acts 1996 to 2013, the applicant can be deemed a Fit & Proper Person for the purpose of this licence application.

14. Complaints

No complaints have been received by the Agency in respect of the activity.

15. Proposed Decision

I am satisfied that the conditions as set out in the RD will adequately address all emissions from the facility and will ensure that the carrying on of the activities in accordance with the conditions will not cause environmental pollution.

16. Submissions

There were two submission made in relation to this application.

Submission No. 1 from Health Service Executive (HSE) received on 22 Jan 2009

The HSE states that there has been a proliferation of landfill, quarry reclamation and recycling facilities in North Kildare and some of these facilities caused nuisance and consequently complaints to HSE regarding operational practices at these sites. The HSE continues that it is unproven that there is any demand for even more of these facilities in North Kildare.

The HSE refers to Class 2 *"Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes), which includes gasification and pyrolisis using the components as chemicals"* and Class 13 relating to storage of waste of the Fourth Schedule of the Waste Management Acts 1996 to 2013 which are applied for in the licence application. The HSE states that it would appear that these classes of activity are applied for in order to pave the way for carrying out the activities of recycling or reclamation of organic substances including composting and other biological processes, and for the storage of waste for any purpose. The HSE states that the granting of a waste licence that allows the activities of recycling or reclamation of organic substances including composting and other biological processes at the facility cannot by recommended by it.

Comment
On the need for this facility in North Kildare, the Kildare Waste Management Plan shows the existence of no other operational landfills for inert waste in the county. Whilst not indicative of itself of the need for this infrastructure in the county, a facility of this scale would have a regional or national, as opposed to local, catchment in terms of waste disposal. The development objective of backfilling the worked-out quarry with inert waste received planning approval from Kildare County Council.

In respect to Class 2 of the Fourth Schedule, the applicant stated that the wastes accepted at the facility for recovery in the inert waste processing area may from time to time contain organic material such as incidental wood. Such organic materials will be removed from the imported waste and stored in designated areas for recovery, recycling or landfilling at facilities off-site. Topsoil deemed to be waste from other external sites will be recovered at the site for the purpose of restoration of the landform and external berms. No proposals for composting or other biological processing were stated in the licence application. **Condition 8.13** states that no biological treatment of waste shall take place at the facility.

Submission No. 2 from Inland Fisheries Ireland (IFI) received on 20 October 2010

The IFI expresses a concern that discharges from the facility could negatively affect the population of Atlantic salmon and other species in the Morell River and states that only clean, uncontaminated water should leave the site and drain to the river network.
The IFI continues that ground preparation and associated construction works, including large-scale topographic alteration, importation of waste materials and the creation of roads and buildings, as proposed in the licence application, have significant potential to cause the

release of sediments and various pollutants into surrounding watercourses and pollution of the adjacent freshwaters. The IFI continues that best available technology (BAT) mitigation measures should be implemented to ensure protection of the surface water and ground water system.

Comment
The RD contains a wide range of measures and controls to ensure the necessary ongoing protection of water quality in the adjacent stream that discharges to the Morell River. **Schedule B.2.1** requires that there shall be no emissions to water of environmental significance. The only authorised emission to surface water is of clean storm water from Pond C to the adjacent stream which is a tributary of the Morell River. **Schedule B.2.2** sets out an emission limit value of 25 mg/l for suspended solids. This limit is in accordance with the Salmonid Water Regulations. **Condition 6.12** of the RD consists of measures regarding the management of storm water and its monitoring. This condition also sets out the requirement for trigger levels for suspended solids, total organic carbon (TOC) and ammonia in storm water discharge.

17. Charges

A charge of €**10,842** is proposed in the RD, based on the enforcement effort predicted for the facility.

18. Recommendation

I have considered all the documentation submitted in relation to this application and recommend that the Agency grant a licence subject to the Conditions set out in the attached RD and for the reasons as drafted. I am satisfied that the Conditions set out in the RD will adequately address all emissions from the facility and will ensure that the carrying on of the activities in accordance with the Conditions will not cause environmental pollution.

Signed

Ewa Babiarczyk
Inspector
Environmental Licensing Programme

Procedural Note

In the event that no objections are received to the Proposed Decision on the application, a licence will be granted in accordance with Section 43(1) of the Waste Management Acts 1996-2013.

Figure 1: The site

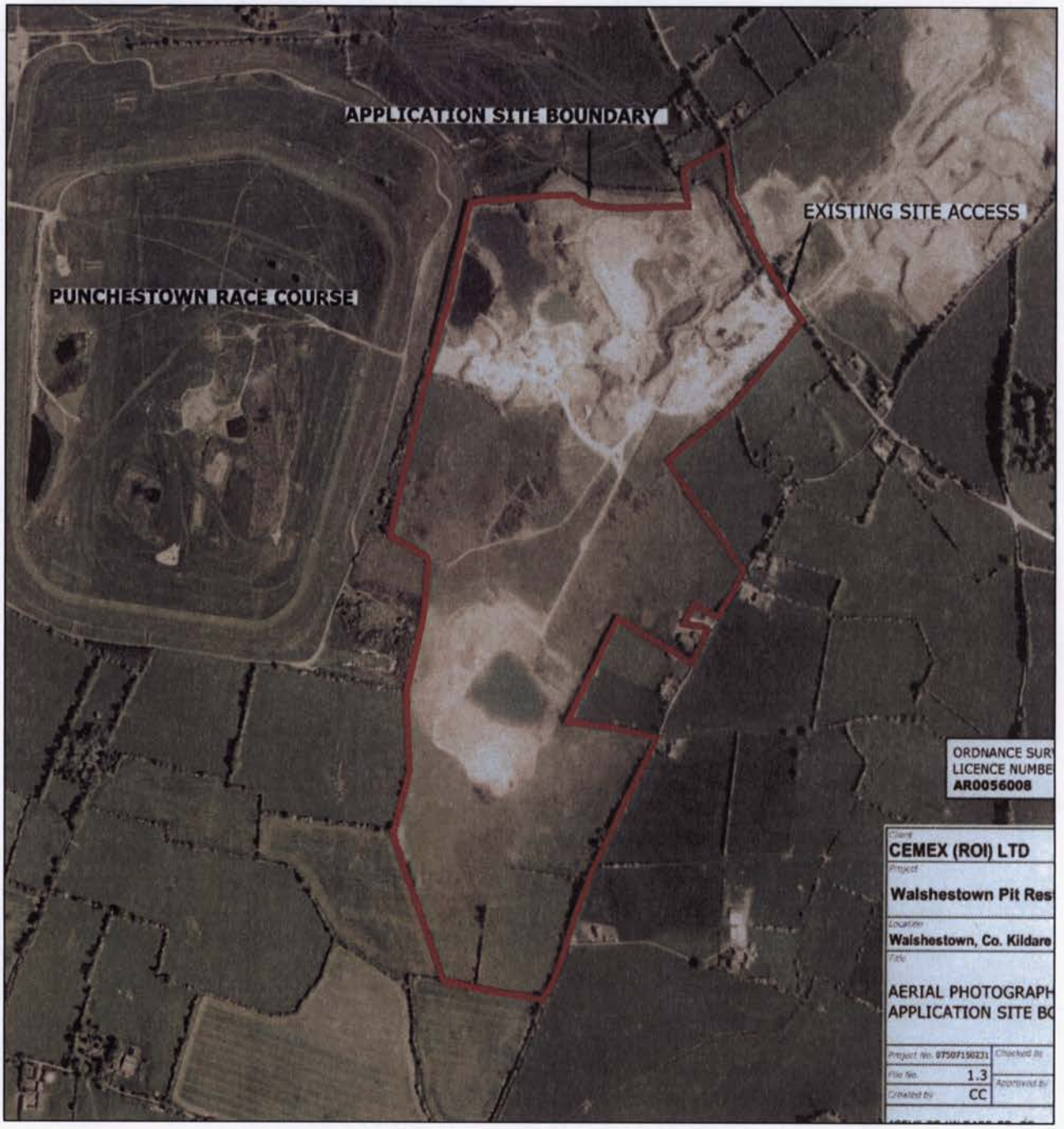

Figure 2: The Inert Waste Processing Area

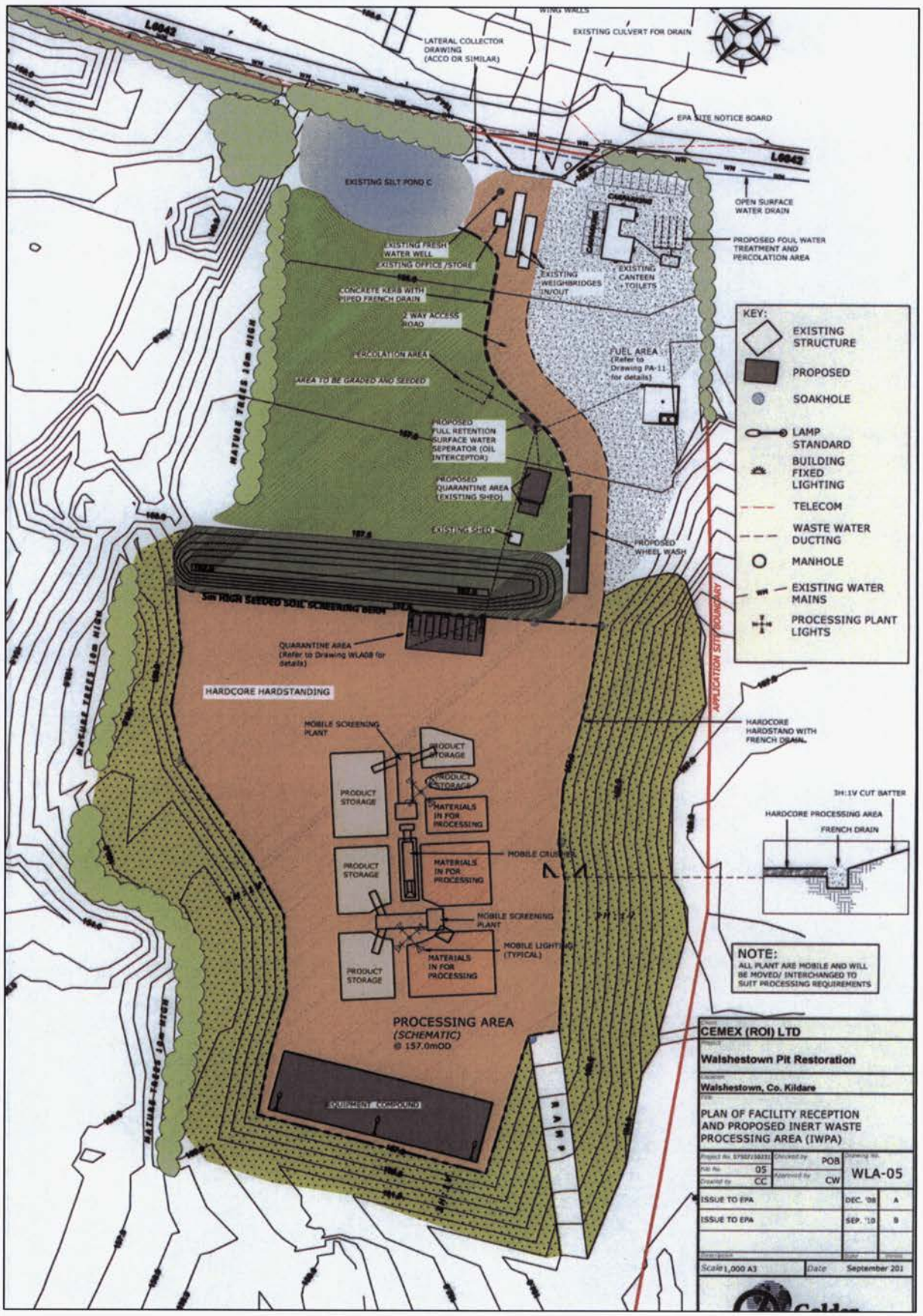

Figure 3: Landfill Cells

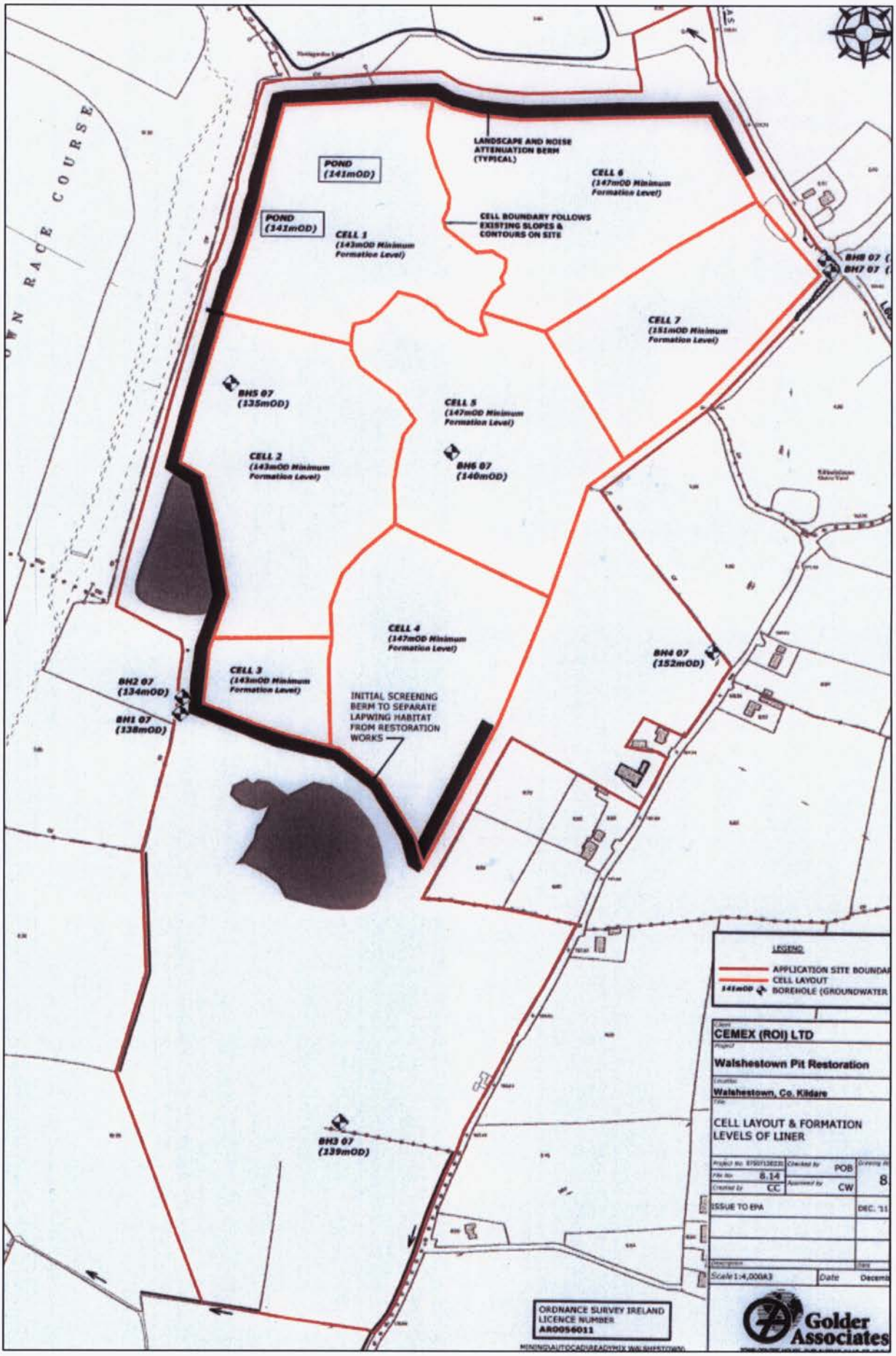

Figure 4: Development steps for the New Water Feature

Figure 5: Final restoration surface