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Making Sustainability Happen

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Existing Development

2.1 The application area covers a total area of approximately 19.5 hectares (48.2 acres) and comprises reclaimed agricultural land, currently under pasture.

2.2 The site is a reclaimed former cutaway bog, with a thin layer of residual organic rich clay material remaining, below which there are reserves of sand and gravel both above and below the underlying water table.

2.3 The general site layout is shown on **Figure 2-1** and consists of a flat site with elevations only varying between c. 78m –79m AOD over the proposed extraction area. The access road and existing site entrance are slightly elevated from the main site area being at an elevation of c. 80m AOD. There are no overhead powerlines or underground services within the application area. There are no hedgerows within the application area; and the proposed extraction area consists of one large agricultural field sub-divided by stockproof fencing.

2.4 The northern application (red line) boundary consists of a stockproof fence and field drain. Beyond this is an area of slightly elevated higher ground within which turbine T7 of the Yellow River Windfarm is located. The base of the turbine is c. 41m from the application boundary but within the overall landowner landholding boundary. The northern landholding boundary is denoted by the unnamed stream and directly beyond that the local access road.

2.5 The entire eastern landholding boundary is denoted by the Yellow River. The application boundary runs along the western bank of the river and consists of a post and wire stockproof fence and intermittent trees and vegetation.

2.6 The southern application boundary consists of a stockproof fence. Beyond this is an agricultural access track that runs along the southern boundary before taking a ninety degree turn north along a small section of the eastern boundary to a bridge access over the Yellow River to access the lands on the eastern side of the river.

2.7 The western application boundary is set back slightly and runs parallel to the western edge of the existing agricultural access track which provides access within the overall landholding from the landowners farm to the northern application area. Beyond this internal agricultural access track are similar agricultural lands within the ownership of the landowner.

2.8 The application area includes an extensive deposit of sand and gravel which is proposed to be extracted and processed on site, the majority of which will be used by the applicant in the manufacture of concrete at their existing concrete batching plant located c. 600m to the northwest, and the balance distributed to their other sites in the region.

Proposed Development

Development Overview

2.9 The proposed extraction of the sand and gravel will be wet working, (i.e., extraction below the natural groundwater level of the site). Processing of the extracted materials will be carried out on-site to produce a range of aggregates for use by the applicant in the manufacture of concrete. The application also includes for the ancillary facilities required to serve the development, as outlined below. Details are shown in plan on **Figures 2-2** and **2-3**, and in cross section on **Figure 2-4**, and will consist of:

- An overall application area of c. 19.5 hectares;
- Phased extraction of sand and gravel (wet working) over an area of c. 11.7 hectares with processing that includes crushing and screening and all ancillary works and structures;

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- Provision of new site facilities to include wheelwash (c. 35m²), weighbridge (c. 69m²); mobile welfare pod facility (c. 16m²) consisting of office, canteen, toilet and drying room; dedicated parking area, perimeter vegetation planting and fencing.
- Access to the site will be via an existing entrance onto the local access road to the north of the site;
- Progressive restoration of the site to naturally regenerated wildlife habitat and a permanent water body;
- The proposed development life is for 15 years to complete extraction and restoration operations.

Construction Phase (Ancillary Facilities, Hardcore Access Track & Fencing)

2.10 As this is a greenfield site, there is a requirement for new welfare and ancillary facilities and infrastructure to be installed to service the site for the duration of the proposed development.

2.11 It is anticipated that the construction stage works as outlined below will be carried out within a 3-6 month period. It should be noted that extraction and production operations may be commenced within this 6-month period and carried out in tandem with the below-mentioned development works.

2.12 A new internal access road will run from the existing site entrance (which provides access to turbine T7 and shown in Plate 1-1 in Chapter 1) in a south-westerly direction to the new site facilities compound area. There is already a section (c. 120m) of the internally access inside the site entrance where hardcore is already in place serving the turbine compound location. An additional section (c. 210m) of hardcore road will be constructed between the existing hardcore road and the new site facilities area.

2.13 The site facilities area will also consist of a hardcore surface where the weighbridge and wheelwash will be installed on the outbound carriageway. Adjacent to this will be the mobile welfare pod (office, canteen, toilet) and a dedicated parking area. The perimeter will be fenced and an automated barrier will be installed to control access to the site.

2.14 Beyond the compound area, a hardcore surface track will run south to the proposed extraction and stripped soil stockpile storage areas.

Operational Phase (Phased Soil Stripping / Berm Construction and Sand & Gravel Extraction / Processing)

2.15 The extraction of the sand and gravel will be carried out in line with best international practice.

2.16 The volume, lateral extent and depth of overburden / sands and gravels for the site have been determined from site investigations. The proposed extraction and processing tasks and activities to be implemented at the site consist of:

- removal of the in-situ residual clay overlying the sand and gravel;
- wet working extraction, i.e., extraction of the sand and gravel materials from beneath the natural water table of the site to a depth of typically from 6m up to 10m;
- long-reach excavator will dig out the sand and gravel and stockpile it in a row beside excavation;
- stockpiling of the sand and gravel adjacent to the working extraction area to allow drying of the materials, i.e., to allow water within the extracted materials to percolate back to the ground;
- stockpiled material is allowed to dry out for typically 2-3 days;

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- mobile tracked screener is moved along with the advancing extraction face and the stockpiles and the materials are screened and put into 4 different stockpiles
- sand, 10mm, 20mm and oversize;
- the oversize stockpiles will be crushed as required to produce aggregates of a suitable size in the concrete production process;
- trucks will be loaded directly from the screener or from adjacent stockpiles;
- trucks weigh out on weighbridge and receive a delivery docket and exit the site via the wheelwash.

2.17 The overall extraction footprint is c. 11.7 hectares, and it is proposed to extract the materials on a gradual and phased basis as shown in **Figure 2-3** as follows:

• Phase 1	c. 3.2 hectares	c. Years 1-4
• Phase 2	c. 3.4 hectares	c. Years 5-8
• Phase 3	c. 3.5 hectares	c. Years 9-12
• Phase 4	c. 1.6 hectares	c. Years 13-14
• Total	c. 11.7 hectares	

2.18 The phased approach to extraction will be carried out within the individual phase areas consisting of soil stripping, followed by sand and gravel extraction followed by restoration using onsite materials. Extraction operations within a particular phase (*e.g., Phase 2*) will only be carried out when extraction in the previous phase (*e.g., Phase 1*) has been completed. All lands will remain in agricultural use until required for extraction.

2.19 There is no requirement for hedgerow or tree removal during any of the development phases. The following is an overview of the proposed works to be carried out on a phased basis over the life of the proposed development.

Phase 1 – Extraction

- Initial soil stripped from both the Phase 1 extraction area (c. 3.2 ha.) and the soil/overburden storage area (c. 1.9 ha.) will be stored on ground level in permitter screening berms as shown in **Figure 2-3** – Phase 1;
- The external perimeter of the berm will be secured with stockproof fencing;
- Sand and gravel extraction within Phase 1, with the wet working face advancing in a westerly direction, leaving a permanent waterbody feature behind.

Phase 2 – Extraction / Restoration

- Soil stripped from the Phase 2 extraction area (c. 3.4 ha.) will be used to extend the screening berm along the eastern and western boundaries and construct a new berm along the southern boundary as shown in **Figure 2-3** – Phase 2;
- Any excess stripped soils will be stored in the soil/overburden storage area to the north of Phase 1;
- The external perimeter of the newly constructed sections of berm will be secured with stockproof fencing;
- The soil material in the existing berm between Phases 1 & 2 will be used to regrade the lake edges in parts and to construct peninsula type features from the edge of the

extraction area into the lake. Backfilled areas that reach above the water level will be left for natural regeneration to provide greater biodiversity within the site;

- Sand and gravel extraction within Phase 2, with the wet working face advancing in a westerly direction, leaving a permanent waterbody feature behind.

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Phase 3 – Extraction / Restoration

- Soil stripped from the Phase 3 extraction area (c. 3.5 ha.) will be used to extend the screening berm along the eastern and western boundaries and construct a new berm along the southern boundary as shown in **Figure 2-3** – Phase 3;
- The external perimeter of the newly constructed sections of berm will be secured with stockproof fencing;
- Any excess stripped soils along with the soil material in the existing berm between Phases 2 & 3 will be used to regrade the lake edges in parts and to construct peninsula type features from the edge of the extraction area into the lake. Backfilled areas that reach above the water level will be left for natural regeneration to provide greater biodiversity within the site;
- Sand and gravel extraction within Phase 3, with the wet working face advancing in a westerly direction, leaving a permanent waterbody feature behind.

Phase 4 – Extraction / Restoration

- Soil stripped from the Phase 4 extraction area (c. 1.6 ha.) will either be stored in the soil/overburden storage area to the north of Phase 1 or used to regrade the lake edges in parts and to construct peninsula type features from the edge of the extraction area into the lake. Backfilled areas that reach above the water level will be left for natural regeneration to provide greater biodiversity within the site;
- Sand and gravel extraction within Phase 4, with the wet working face advancing in a northerly direction, leaving a permanent waterbody feature behind.

2.20 The phased extraction and restoration scheme has the benefit of:

- retaining existing land for agricultural use for as long as possible thereby minimising the stripped areas being exposed at any one time;
- progressive restoration will expedite the return of the lands to a beneficial biodiversity and water feature afteruse and minimise the overall duration required to carry out the extraction and restoration works;
- where possible, minimising soil handling by stripping from one area and placing directly onto the area previously extracted and ready for restoration;
- replanting of new vegetation at the earliest opportunity.

Restoration Phase (Reinstatement to Ecological Habitat)

2.21 The extraction and restoration activities proposed for the site will be on a phased basis. Working in this manner will facilitate the progressive restoration of each area which will generally comprise reinstatement of excavated deposits to the extracted areas, the establishment of a permanent water body and allowing the lake edges and external perimeter berms to naturally regenerate / revegetate over time. There is no requirement to import any materials to site for restoration purposes.

2.22 Evidence from similar existing operations is that following extraction works, areas will become colonised with locally occurring grass, wildflower and scrub species, as well as aquatic

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species along the lakes edge. It is most likely that the lake will be regularly visited by bird species, such as Whooper Swan and Mute Swan which are observed at other wet working extraction operations within the vicinity of the site.

2.23 During the post-operational stage, the progressive landscape restoration measures would already be in place across much of the site and, as such, the area will be left undisturbed and allowed to naturally regenerate with secondary woodland and scrub becoming established over a number of years.

2.24 Any soil that was previously stripped and stored within the soil/overburden storage area to the north of Phase 1 will be along the northern boundary of Phase 1 to regrade the lake edges in parts and to construct peninsula type features from the edge of the extraction area into the lake. Backfilled areas that reach above the water level will be left for natural regeneration to provide greater biodiversity within the site. The soil/overburden area will be left to naturally regenerate and provide a valuable ecological habitat area adjacent to the permanent water body feature.

2.25 The perimeter berm around the final extraction profile will be retained as it will have been colonised for some time with native species. The stockproof fence will also be retained and along with the berm will provide an adequate security barrier to the water body.

2.26 The 20m riparian corridor along the length of the easter extraction boundary between the retained screening berm and the Big River will be planted with blocks of native tree species and allow to develop naturally and will provide a habitat refuge linking the new water body created by the extraction works and the river and into the areas of forestry and scrubland beyond.

2.27 Redundant structures, plant equipment and stockpiles will be removed from the site on permanent cessation of extraction activity. Machinery and structures will either be utilised by BD Flood on other sites or be sold as working machinery or scrap.

2.28 The restoration works will be carried out in accordance with the EPA Guidelines (2006). Ecological advice will also be incorporated into the restoration process to facilitate future habitat value in the area for flora and fauna, refer to **EIAR Chapter 5**.

2.29 All existing boundary fences and hedgerows will be retained to ensure that the site is secure.

2.30 It is anticipated that the restored site will contain a variety of habitats and plant species, making it considerably more diverse than the existing monoculture type grassland currently present.

Aggregate Reserve Assessment

2.31 A detailed topographical survey of the site was commissioned by BD Flood (refer to **Figure 2-1**). The survey data was used to produce a 3D digital terrain model using a quarry design software package called LSS. In preparing the design, standard criteria were adopted with regard to extraction depth and stand-offs to the site boundaries etc. with the sand and gravel pit design provided in plan on **Figures 2-2** and **2-3** in cross section on **Figure 2-4**).

2.32 Site investigations were also undertaken by the applicant across the site. These works, which principally comprised of a geophysical survey (non-invasive), trial pits and boreholes; encountered clay overlying sand and gravel deposits.

2.33 The sand and gravel material deposit is inferred to be c. 6-10m in depth across the proposed extraction area. The total in-situ reserves are assessed to be of the order of 0.67 M m^3. The in-situ bulk density of the sand and gravel, is assumed at 2.1t/m^3, indicating an overall reserve of approximately 1.4 M tonnes.

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Duration of Extraction

2.34 It is envisaged that the annual extraction rate of sand and gravel at the site will be up to a maximum of 100,000 tonnes per year. Assuming a total reserve of 1.4 M tonnes across the extraction area, this indicates that the life of the development will be c. 14 years, based on the maximum extraction rate of 100,000 tonnes per annum.

2.35 The planning application seeks a proposed development life of 14 years to extract the sand and gravel reserves at the site and a further 1 year period to carry out any final restoration works given an overall development life of 15 years.

2.36 It is considered that planning permission for the proposed development should be commensurate with the life of the reserves. This will ensure the developer has security for this investment and that the operation is carried out in accordance with proper planning and development guidelines. An adequate operational life is required to secure an acceptable return on investment, when the costs of investment in the site development, aggregate processing plant, operational costs and development contributions are considered.

Site Screening and Boundary Treatment

2.37 The boundary treatment at the existing site is typical of an agricultural setting and currently comprises post and wire fencing, agricultural style field gates at the site entrance from the access road, as well as a mix of hedgerows, and scrub along the river boundaries.

2.38 It is envisaged that the planning boundaries of the proposed site are already broadly defined. It is proposed to construct a perimeter screening berm and erect stockproof fencing around the operational pit area, and this will increase in areas as the operational area increases through the various extraction phases as outlined above and shown on **Figure 2-3**. The final perimeter berm and fencing will be retained following cessation of operations at the site.

2.39 There is no proposed upgrade required at the existing site entrance onto the local access road which has a security gate set back from the edge of the carriage way.

Hedgerows / Trees

2.40 As noted previously, there is no requirement for the removal of any hedgerows or trees as part of the proposed development

2.41 The proposed landscaping / restoration plan is shown on **Figure 2-5**. On commencement of the development, native hedge planting would be carried out along the western and southern boundary of the application area, to increase the screening by vegetation in views from locations to the west and south and to provide habitat corridor connections around the site.

2.42 As part of the final restoration works, it is proposed to carry out tree planting within the 20m wide riparian corridor between the eastern screening berm and the Yellow River, to encourage biodiversity between the application site and the adjacent river. Any trees planted as part of the proposed restoration plan will be comprised of native and typically occurring species present in the local vegetation and/or hedgerows in Co. Offaly.

Site Drainage

2.43 The existing agricultural lands are currently drained by a combination of percolation down through the soil and sub-strata to the groundwater table. There is a shallow cut drainage channel along the northern application boundary running in a west to east direction towards the unnamed stream.

2.44 The surface water management system at the proposed site will be relatively simple. Rain falling across the application site will infiltrate naturally into the ground across in-situ residual soil / sand & gravel areas, internal haul roads or stripped processing areas. In worked out

areas it will fall into the permanent waterbody (restoration lake) and become part of the surface water body.

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2.45 Due to the high permeability of the underlying materials, little rainwater run-off is expected to arise within the application site. There will be no discharge of water from the extraction area to any surface watercourse. Therefore, no specific surface water management plan is required in respect of the proposed development.

2.46 The Yellow Stream flowing in a northerly direction to the east / northeast of the site and the unnamed stream flowing in an easterly direction to the north of the site are the only notable surface watercourses in the vicinity of the site.

2.47 As there is no discharge of surface water off-site to either the Yellow River or unnamed stream or any other watercourse, it is envisaged that the proposed development will not present any pollution risk to surface water.

2.48 A hydrological / hydrogeological assessment has been carried out taking into consideration the existing water regime at the site and to determine what the requirements are for the proposed development. It addresses mitigation measures to eliminate and/or minimise the potential impacts, if any, on surface water and groundwater. These measures will be incorporated into the pit design and operation (refer to Chapter 7 – Surface Water and Groundwater).

Method of Extraction

Removal of overlying soils

2.49 In order to gain access to the sand and gravel deposits within each phase, efficient removal of the overlying soil materials is required. The excavated materials will either be backfilled along the edges of a previously excavated area or will be placed in mounds within the soil/overburden storage are to the north of Phase 1 to await use in final restoration operations.

2.50 It is proposed to work the extraction area in a series phases as outlined above. Within each phase, stripping will be carried out in blocks which will be cleared to allow sufficient area for aggregate excavation (described in detail below). The removal of the overlying materials will thus be an intermittent operation which will progress in advance of aggregate excavation with site stripping typically taking place during periods of drier weather.

Extraction and Blasting

2.51 There will be no blasting associated with the proposed sand and gravel extraction process.

Excavation of Sand & Gravel Aggregate Deposit

2.52 The excavation of the sand and gravel aggregate deposit will follow on from the overlying materials removal stage. Aggregate excavation will occur predominantly beneath the water table. Working methods are specifically designed to account for excavations beneath the water table. No pumping or lowering of the water table will occur that could potentially impact existing localised groundwater flow.

2.53 Extraction will proceed on a phased basis, through Phases 1 to 4 (refer to **Figures 2-3** for phasing plan). In each phase, activities will commence with the establishment of a working platform across land which has been stripped of soils. A long reach excavator will then be used to excavate the sand and gravel deposit. The method of working will proceed in a series of strips / blocks. The material will be stockpiled behind the excavator on previously stripped ground in order to:

- prevent contamination of the excavated materials;

- to allow water within the material to drain directly over the ground to the sand and gravel extraction area and the existing water table; and
- to allow collecting trucks access to the available stockpile.

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Processing, Screening and Stockpiling

2.54 Initial stockpiling of excavated aggregate will occur behind the mobile long-reach excavator where stockpiling of the sand and gravel adjacent to the working extraction area will allow drying of the materials, i.e., to allow water within the extracted materials to percolate back to the ground. The stockpiled material will be allowed to dry out for typically 2-3 days. A mechanical loader will then transfer the extracted material to the mobile tracked screener to screen the materials into 4 different stockpiles: sand, 10mm, 20mm and oversize.

Dispatch of Aggregates

2.55 Trucks will be loaded directly from the screener or from the screened stockpiles by means of a mechanical loading shovel. Trucks will then leave the working area and travel to the weighbridge on the exit route out of the site where loads dispatched off-site will be weighed and recorded. The dispatch office will monitor the movement of incoming and outgoing HGV's and will also be responsible for the issuing of dispatch dockets.

2.56 Prior to leaving the site, all HGV's will pass through the wheelwash facility to minimise dust / mud carry onto the public carriageway.

Pit Working Hours

2.57 It is intended that the proposed development will be operated during the hours of 07:00 to 18:00 hours from Monday to Friday (excluding Bank Holidays) and from 07:00 to 14:00 hrs on Saturday. with no extraction, processing or associated activities being permitted on Sundays or public holidays.

2.58 The proposed working hours are consistent with Section 4.7(b) of the DoEHLG Quarries and Ancillary Activities Guidelines for Planning Authorities (2004).

Employment

2.59 The proposed sand and gravel extraction development will provide employment for 2 staff members directly, with a further estimate of 3 sub-contractors, hauliers and service providers on-site on a regular basis, and it is not anticipated that these numbers will increase.

2.60 Therefore, the proposal will secure direct employment for site staff for the duration of the extraction development i.e., 14 years.

2.61 The proposed pit will provide a vital feedstock for the construction sector locally and within the wider Midland regions. In view of the significant quantities of sand and gravel aggregate to be won at the pit, the site will provide an important aggregate supply to BD Flood and their existing business which is a firmly established and integral part of the regional construction supply chain. In addition to supporting direct and indirect employment, it will also support downstream jobs in the construction and development sectors, principally at concrete / block production and added value production facilities.

Site Infrastructure

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Site Access and Security

2.62 As noted previously, the existing site entrance located to the north of the landholding will be used to provide a single dedicated and secure access to the proposed development. The site entrance has direct access onto the local access road, and beyond to the R400 Regional Road and Junction 3 of the M6 Motorway.

2.63 The existing entrance onto the local access road (as shown in Plate 1-1 in Chapter 1) consists of a recessed double agricultural style gate that will be locked outside of site operating times. The application site itself will be fully enclosed with a stockproof fence and an automated barrier will be installed immediately north of the site wheelwash to further control access to the site.

Parking, Hardcore Areas and Internal Access

2.64 Adequate provision for car parking by employees and visitors will be provided within a dedicated hardcore area at the welfare compound area, as shown on **Figure 2-2**.

2.65 Internal access roads will be provided within the site, with the main route running from the site entrance past the proposed weighbridge/wheelwash/welfare facilities compound, then south towards the extraction and soil storage area. The internal access roads and the site compound area will consist of hardcore surfaces.

2.66 HGV traffic movements will be straightforward with HGV traffic entering the site and keeping left along the internal road to gain access to the working area. Once loaded, the HGV traffic again keeps left leaving the site to pass over the weighbridge and wheelwash before exiting the site.

2.67 Depending on the phase of extraction development, informal haulage routes will be established between the active extraction area and the weighbridge. These routes will be dynamic and will change as extraction advances through the various phases.

Wheelwash

2.68 A wheel wash facility will be constructed within the facilities compound area on the outbound side of the access track (as shown on **Figure 2-2**) and will be set back c. 350m from the edge of the public road at the site entrance. This will help to eliminate the risk of mud and dust being carried from the development onto the local access road. All aggregate haulage vehicles will be required to pass through the wheelwash prior to leaving the site.

2.69 The new unit will be utilised throughout the life of the development, with due maintenance as required. It will consist of a wheel bath system whereby the trucks drive through the water bath to dislodge any debris before exiting the site. The water level is maintained by top-up from an adjacent reservoir tank with the reservoir tank being topped up a water bower that will source water from the adjacent working pit as required. Details of the proposed wheelwash are provided in Planning **Drawing 10**.

2.70 In the event of material being spilled on the public road the operator will ensure that spilled material is removed from the road surface in a safe and timely manner as soon as they notice or are notified that a spillage has arisen. BD Flood has its own road sweeper to maintain entrances and any emergency spillages on roads etc.

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Weighbridge

2.71 All heavy goods vehicles (HGVs) existing the site will be required to pass over the weighbridge which will be set-back c. 370m from the site entrance adjacent to and in-line with the proposed wheelwash. Details of the weighbridge are provided in Planning **Drawing 11**.

2.72 The weighbridge will be utilised to establish a weight for each truck used for hauling products from the site. All loaded trucks will pass over the weighbridge before exiting the site so that a record of each load can be made. Apart from keeping a record of the sites' productivity, the weighbridge will also be used to ensure all loads exiting the site do not exceed the legal weight limit.

Offices and Ancillary Facilities & Equipment

2.73 A new welfare pod (consisting of canteen, office, toilet and drying room) will be towed to site prior to the commencement of works. The welfare pod is a fully self-contained welfare unit which is regularly serviced by the provider to refill the water tank and empty the waste tank. Details are provided in Planning **Drawing 12**.

2.74 There is no requirement for any garage / workshop at the application site. Servicing of HGVs will be carried out off site.

Refuelling of Plant / Machinery

2.75 There will be no diesel fuel stored on site. HGV's will be refuelled off-site at other BD Flood sites. The long reach excavator, loading shove and crusher / screener will be re-fuelled on-site using a mobile 'bunded' double-skinned fuel dispenser that will be brought to site by a third-party fuel supplier (with road certified trucks, competent drivers, and spill kits). Refuelling will typically be carried out every 2 days. There is no requirement to store any oils at the application site.

2.76 Refuelling procedures are included in the company environmental management system (EMS) which is accredited to ISO 14001 standard. A site specific refuelling procedure will be compiled for the proposed development to ensure compliance with any planning consent conditions.

2.77 A number of spill kits will be available on-site to stop the migration of any minor accidental leakages or spillages should they arise. Spill kits will be located at the main site office and at the mobile processing plant. Spill kit training will be provided to staff when they start first and refresher training will be provided periodically thereafter. In addition, a drip tray will be used when refuelling is being carried out to further prevent any spillages within the exposed pit floor area.

Lighting

2.78 Lighting will be provided at the site, only as necessary. This will include fixed downlights outside the office / welfare facilities; and mobile lighting on the machinery used within the working pit area. All lighting would only be in use for wintertime operations, when darkness has fallen, within the proposed site operating hours of 07.00 hours until 18.00 hours Monday to Friday and until 14.00 hours on Saturdays. There will therefore be a period where such lighting will be required for up to 1 hour in the morning and up to 2.5 hours in the evening, during periods in winter. Any night-time light pollution caused by the proposed development will therefore be of brief duration during winter months and is not considered significant.

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Utilities and Services

2.79 The ancillary site infrastructure will be powered by mains electricity from the ESB's national grid via a new connection to the existing power lines in the area. This will be done in consultation with ESB Networks through standard connection arrangements.

2.80 Site based staff at the application site will be contactable by mobile phone, and email and broadband connections to the site office will be provided via a mobile network.

2.81 The provision of a serviced welfare pod (with toilet) on site will negate the requirement for installing a septic tank / propriety effluent treatment system. The wastewater from the welfare pod will be serviced by contract with the hire company, under its waste management licence. The welfare pod will also contain a clean water tank for washing and hygiene purposes.

2.82 Drinking water will be supplied by means of bottled water.

2.83 Given the lack of combustible waste materials at this site, it is considered highly unlikely that a fire will break out during quarry operations. A range of fire extinguishers (water, foam and CO_2) will be kept at the site office to deal with any localised small scale fires which might occur. Additional fire-fighting capacity can be provided by storing water in a mobile bowser.

Waste Management

General Waste Management

2.84 Potential waste produced and the proposed measures used to control it are described as follows:

- **Scrap metal** – these materials are chiefly produced from the maintenance of the plant and can cause a nuisance if allowed to build up in an uncontrolled manner. A designated scrap metal area will be demarcated on site, and the build-up of scrap will be controlled by the regular removal by licensed scrap metal contractors.
- **Used Oil and Oil Filters** – servicing of machinery will be carried out off-site at the adjacent BD Flood concrete batching facility site any waste oil/oil filters that may arise from servicing will be removed from the site by a licensed waste contractor.
- **Used Batteries** – similarly all used batteries will be removed from site for collection and recycling by a licensed waste contractor in accordance with the Waste Management Regulations.
- **Domestic Waste** (Canteen Waste) – domestic waste generated at the offices and employee's facility will be collected by a licensed waste collection contractor.

Extractive Waste Management

2.85 Almost all products and by-products arising from the aggregate processing have commercial value. Any waste materials from the site will be stored, collected, recycled and/or disposed of in accordance with any requirements of Offaly County Council.

2.86 In Ireland, the management of extractive waste is regulated by the Waste Management (Management of Waste from the Extractive Industries) Regulations 2009 (SI No. 566 of 2009). Under these Regulations, quarry operators are required to prepare an Extractive Waste Management Plan (EWMP) which outline the plans and procedures for minimisation, treatment, recovery and disposal of extractive wastes, having regard to the principle of sustainable development.

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Description of the Waste Generating Operation

2.87 There is no intention on behalf of BD Flood to discard, where possible, any material extracted from the sand and gravel pit at Derryarkin. The principal aim of the extractive waste management plan for the site is to prevent waste production which is in accordance with Section 5(2)(a) of the 2009 Regulations.

2.88 Extracted material will fall into the following categories:

Soil and Sub-soil (Overburden) Stripping

2.89 This material will be excavated to expose the underlying sand and gravel resource.

2.90 **Topsoil** – all topsoil stripped will be used to construct perimeter visual/noise screening mounds. Any additional stripping of soils will be stockpiled on site, again for reuse in final restoration operations.

2.91 **Sub-soil (Overburden)** – this material will be dealt with in a similar manner to the Topsoil listed above.

2.92 An Extractive Waste Management Plan for the site will be prepared prior to commence of the development, should planning permission be granted.

Environmental Controls

General

2.93 Extraction, processing and ultimately restoration activities at the application site will require a number of environmental controls to eliminate or minimise the potential nuisance to the public arising from the extraction and processing operations. The environmental control measures to be put in place at the site are outlined in the following sections.

Surface Water Drainage

2.94 The surface water management system at the proposed site will be relatively simple. Rain falling across the application site will infiltrate naturally into the ground across residual areas, internal haul roads or stripped processing areas. In worked out areas it will fall into restoration ponds and become part of the surface water body.

2.95 Due to the high permeability of the underlying materials, little rainwater run-off is expected to arise within the application site. There will be no discharge of water from the application site to any surface watercourse. Therefore, no specific surface water management plan is required in respect of the proposed development.

Groundwater

2.96 There will be no dewatering of groundwater for the proposed sand and gravel extraction activity as it will be worked 'wet' and excavated below the groundwater level at the site using mechanical long-reach excavator. There is therefore no requirement to manage any dewatered groundwater at the application site.

2.97 An open groundwater lagoon/lake will remain in-situ following extraction of the sand and gravel resource, meaning that the regional groundwater table will coincide with the surface water level in the lagoon/lake. The lagoon / lake will receive direct rainfall but given that it is located within an excavated void in a low-lying, topographically constrained peatland area surrounded by higher ground on all sides, there will be no direct discharge off site to any surface watercourse.

2.98 Water for the wheel wash and any dust suppression will be taken from lagoon/lake. Potable water for human consumption will be provided by bottled water brought to the site.

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Dust Control

2.99 Although it is anticipated that the dust related impacts of the planned development will be insignificant, a number of best practice measures will be implemented wherever practicable to minimise the potential dust impact of on-site activities. These will include minimising drop height when handling materials, avoiding work in adverse or windy conditions, using water spraying to dampen surfaces during dry weather periods, restricting vehicle speeds, employed road sweepers and seeding mounds / stockpiles to stabilise them where and if appropriate.

2.100 Details of dust and air quality impacts and proposed dust management / mitigation measures are described in more detail in Chapter 8 of this EIAR.

Noise Control

2.101 Although it is anticipated that the noise related impacts of the planned development will be negligible, a number of best practice measures will be implemented wherever practicable to minimise the potential noise impact of on-site activities. These measures will include ensuring all plant is properly maintained and complies with required noise emissions standards and fitted with silencers were appropriate, maintaining roads in a good state of repair, restricting revving of engines and taking care when loading / unloading vehicles.

2.102 Details of noise impacts and proposed noise management / mitigation measures are described in more detail in Chapter 10 of this EIAR.

Traffic Control

2.103 The existing entrance onto the local access road will not require any alteration or upgrade to provide the necessary visibility splays in both directions. The site entrance is also provided with a secure and lockable gate, set-back off the carriageway.

Litter Control

2.104 As the proposed development will be largely free of litter, the daily operational activities are unlikely to give rise to problems with windblown litter. Accordingly, there is no requirement to implement any specific litter control measures at the site.

2.105 In the unlikely event that any litter waste is identified, it will be immediately removed off-site to an authorised waste disposal or recovery site.

Odour Control

2.106 As the sand and gravel extraction activities at the site will not be biodegradable and will not therefore emit odorous gases, site activities will not give rise to odour nuisance. Accordingly, it is not intended to implement any specific odour control measures at the site.

Vermin Control

2.107 As the proposed development will be free of putrescible (food / kitchen) waste, on-site activities will not attract vermin (rats) for the duration of the extraction or subsequent restoration operations. Accordingly, no specific vermin control measures are required to be implemented at the site.

Fire Control

2.108 As the proposed development will be free of flammable and biodegradable materials which could create a fire or explosion risk, on-site extraction activities will not present a fire risk for

the duration of the extraction operations. Accordingly, there will be no requirement to implement specific fire control measures at the site.

2.109 In the unlikely event that a fire does occur, the fire stations in either Mullingar, Kilbeggan or Tullamore will be contacted, and emergency response procedures will be implemented. Fire extinguishers (water and foam) will be provided at the office / canteen to deal with any small outbreaks which may occur.

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Environmental Monitoring

Environmental Management System (EMS)

2.110 BD Flood is part of the Flood Group who has implemented an environmental management system (EMS) at their existing operational sites - refer to **Appendix 2-A**. A copy of the Flood Group ISO14001 accreditation is also provided in **Appendix 1-B**.

2.111 Should planning permission be granted, a site specific EMS will be implemented to incorporate the requirements set out in any relevant conditions attached to the permission such as limit values for environmental emissions arising from the site activities. Environmental sampling, monitoring and testing will generally be undertaken by external consultants as and when required. Records of environmental monitoring and testing will be held by BD Flood and submitted to the Local Authority as required.

2.112 Environmental noise, dust and water monitoring will be carried out on a regular basis to demonstrate that the sand and gravel pit is not having any significant adverse effects on the surrounding environment.

Dust Monitoring

2.113 Baseline dust monitoring has been carried out monthly between March and June at the 3 no. dust monitoring station locations, around the overall application site, and shown on EIAR **Figure 8-1**).

2.114 It is proposed that the dust monitoring stations will remain in place for the duration of extraction and processing operations at the site. Monitoring will be undertaken on a monthly basis during March and September using the industry standard Bergerhoff method of monitoring.

2.115 Baseline monitoring and experience from similar types of development indicate that, subject to implementation of appropriate mitigation measures (as described in Chapter 8 of the EIAR), the development can comply with the DoEHLG (2004) / EPA (2006) recommended total dust deposition threshold of 350 milligrams per day (averaged over a 30 day period).

Noise Monitoring

2.116 Baseline noise monitoring has been carried out at the existing site at 2 no. noise monitoring stations, at noise sensitive receptors, with the locations shown on EIAR **Figure 10-1**.

2.117 It is proposed that the noise monitoring survey will be carried out for the duration of extraction and processing operations at the site on a BI-annual basis.

2.118 Baseline monitoring and experience from similar types of development indicate that, subject to implementation of appropriate mitigation measures (as described in Chapter 10 of the EIAR), the development can comply with the noise threshold limit of 55 dB(A) recommended in the EPA (2006) environmental management guidelines for the sector. The mitigation measures are in accordance with the 'best practice / mitigation' measures described in Section 3.2 of the DoEHLG (2004) guidelines.

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Water Monitoring (Groundwater / Surface Water)

2.119 The following monitoring activities will be carried out to demonstrate that the proposed development is not having an adverse impact on the surrounding environment and to document any improvements in water quality:

- surface water quality monitoring to be undertaken on a bi-annual basis for the duration of the proposed development, with grab sample from the Yellow River upstream and downstream of the site;
- groundwater levels in all boreholes will be monitored on a bi-annual basis for the duration of the proposed development; and
- groundwater quality monitoring to be undertaken on an annual basis for the duration of the proposed development.

Proposed Landscape Management & Final Restoration

2.120 It is proposed to restore the application area on a phased basis to a natural habitat land use. The water body within the restoration scheme includes shallow sand & gravel slopes in some locations along the edge of the water body. This will help increase the potential for biodiversity-rich habitats along the edges of the final water body. The proposed restoration to a natural habitat land use, is in line with the beneficial after uses recommended in the EPA Guidelines: 'Environmental Management in the Extractive Industry' (2006).

2.121 It is anticipated that the restored site will contain a variety of habitats and plant species, making it considerably more diverse than the existing monoculture type grassland currently present.

2.122 The principal landscaping aims are:

- the physical and visual integration of the existing site and associated features into the surrounding landscape;
- screening to minimise visual intrusion and to reduce any significant negative aspects regarding the visual impact of the proposed development on adjacent sensitive receptors;
- retention of boundary planting to reduce/eliminate visual prominence of the proposed development area to the closest receptors.

Proposed Landscape Scheme

2.123 On commencement of the development, native hedge planting would be carried out along the western and southern boundary of the application area, to increase the screening by vegetation in views from locations to the west and south and to provide habitat corridor connections around the site.

2.124 Shallow sand & gravel slopes would be retained, instead of extracting the sand and gravel at a steeper angle all the way to the edge of the water body. This will create more biodiversity friendly shallow water areas. In tandem with the extraction phasing, material stripped from the extraction areas would be backfilled along the edges of the completed wet working areas to further create shallow water areas and/or additional dry areas.

Proposed Restoration Scheme

2.125 The proposed restoration scheme envisages that the worked-out area will ultimately be reinstated to a landscaped lake, interspersed with constructed peninsulas, capable of supporting new habitat.

2.126 The principal activity which will be undertaken at the application site is the extraction of the in-situ sand and gravel, with ultimate restoration of the overall application site to a natural wildlife and biodiversity diverse habitat, which is a beneficial after use listed in the EPA Guidelines: 'Environmental Management in the Extractive Industry' (2006). The final restoration scheme and detail is shown on the restoration plan and cross sections in **Figure 2-5** and **2-6**.

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2.127 It is expected that the proposed restoration scheme would integrate into the surrounding landscape. The proposed restoration scheme relates to the overall site and will be achieved by the following measures:

- stockpiles and processing plant to be removed from site;
- all welfare and ancillary facilities to be removed from site;
- all existing boundary hedgerows will be retained;
- the final earth screening berm and stockproof fencing will be retained to ensure that the site is secure;
- the entrance gates at the site entrance will be retained and kept locked at all times, except for maintenance access.

2.128 Most restoration works will be carried out on a phased basis as outlined previously. The only restoration works that will remain on permanent completion of extraction works will be the removal of all of the site welfare and ancillary facilities such as the welfare pod, weighbridge, wheelwash and parking area.

2.129 The restoration works will be carried out in accordance with the EPA Guidelines (2006). Ecological advice will also be incorporated into the restoration process to facilitate future habitat value in the area for biodiversity.

Site Management and Supervision

2.130 The Applicant will clearly define the management responsibility for the site restoration work and will ensure that this person has the necessary information (from the planning application) and authority to manage the whole restoration process (both ongoing phased and final). Relevant staff will be briefed on the scheme and will be adequately supervised / controlled. A system of record keeping for the key restoration activities will be put in place.

Long Term Safety and Security

2.131 All components of the barrier system of the site consisting of existing mature boundary hedgerows, fences and walls will remain in place after extractive/ processing operations have ceased.

2.132 As the lands will be restored to natural habitat use with a body of open water, the secure fencing provided around the perimeter of the site will be retained. Existing hedges surrounding the development will be gapped up and thickened where required. These combined with the secure and locked entrance gates to the development will prevent unauthorised third-party access.

Long Term Surface Water and Groundwater

2.133 There will be no requirement for any active long-term surface water or groundwater management at the site.

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Decommissioning of Plant and Machinery

2.134 Redundant structures, plant equipment and stockpiles will be removed from site on permanent cessation of extraction activity. Machinery and structures will either be utilised by BD Flood on other sites or be sold as working machinery or scrap.

Aftercare and Monitoring

2.135 There will be no on-going requirement for monitoring noise or dust after extraction and processing and manufacturing operations have ceased.

2.136 Establishment maintenance will be carried out for 2 years following the restoration works on a (minimum) quarterly basis. This will include weed control, replacement planting, watering (if required) and the adjustment of spiral guards, ties, and stakes.

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Figures

Turbine T6

Skeagh Farms Piggery

Existing Derrycoffey Sand and Gravel Pit Extraction Development

P. Ref. 22490
Proposed Materials Recovery Facility

BD Flood Ltd.
Landholding

Existing BD Flood Ltd.
Concrete Batching Plant
(P. Ref. 13/122)

Existing Site
Access gate

Local Access Road

Unnamed
Stream

782.1m

Doire Dhraighneach
Derrygreenagh

Doire Aircean
Derryarkin

293.9m 264.5m

96.4m

Yellow River Windfarm Turbine **T7**
Nordex N117/3600 Model:
Rotor Ø 116.8m
Hub height TBC

57.2m

Yellow
River

20.2m

35.0m

Existing Access Track

35.0m

20.0m

259.2m

178.2m

Residence **R2**

Residence **R1**

An Baile Beag
Ballybeg

Yellow
River

0 50 100 150 200 250m
Scale 1:4,000

A
A'
B
B'
C
C'
D
D'

6.29
2.27
6.11
169.78
1.92
0.78
1.97
8.18
2.00
24.74
5.24
2.54
7.94
8.20
4.34
0.76
0.28
0.20
0.29
0.45
0.97
5.55
536.10
13.44

N

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Notes:

Tailte Éireann OSi Mapping 5,000 scale - sheet no.'s 3180 & 3181

Legend:

- Applicant Land Interest Boundary c. 19.5 hectares
- Proposed Planning Application Area 19.5 hectares
- Proposed Sand and Gravel Extraction Area 11.7 hectares
- BD Flood Ltd. Land Interest Boundary 2.5 hectares
- Existing BD Flood Ltd. Concrete Batching Facility (P. Ref. 13/122)
- Surface Water Features (Yellow River / Unnamed Stream)
- Proposed Haulage Route from Proposed Sand & Gravel Extraction Area to Existing Concrete Batching Plant (c. 1.2km)

Rev	Amendments	Date	By	Chk	Auth

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Client
BD Flood Unlimited Company

Project
Proposed Sand and Gravel Development
at Derryarkin, Co. Offaly

Figure Title
Existing Site Layout

Scale		SLR Project No.
1:4,000	@ A3	501.00023.065461

Designed	Drawn	Checked	Authorised
smcd	smcd	lh	lh
Date	Date	Date	Date
01/25	01/25	09/25	09/25

Figure Number **Figure 2-1** Rev. **0**

21/10/2025

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Turbine T6

Existing Derrycoffey Sand and Gravel Pit Extraction Development

Skeagh Farms Piggery

P. Ref. 22490
Proposed Materials Recovery Facility

BD Flood Ltd. Landholding

Existing BD Flood Ltd. Concrete Batching Plant (P. Ref. 13/122)

Unnamed Stream

Existing Site Access gate

Local Access Road

Doire Dhraighneach
Derrygreenagh

Doire Aircean
Derryarkin

Proposed Hardcore Access Track

Proposed Security Gate

Wheelwash

Weighbridge

Proposed Site Facilities

Welfare Pod

Parking Area

Yellow River Windfarm Turbine **T7**
Nordex N117/3600 Model:
Rotor Ø 116.8m

Soil / Overburden Storage Area

Proposed Perimeter Stockproof Fence

Yellow River

Phase 1
c. 3.4 Ha. / Years 1-4

Phase 2
c. 3.4 Ha. / Years 5-8

Phase 3
c. 3.5 Ha. / Years 9-12

Phase 4
c. 1H Ha. / Years 13-14

Proposed Perimeter Stockproof Fence

Existing Access Track

Proposed Perimeter Berm (2m high)

Proposed Perimeter Berm (3m high)

Riparian Corridor (20m)

An Baile Beag
Ballybeg

Residence **R2**

Residence **R1**

A
A'
B
B'
C
C'
D
D'

N

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Notes:

Tailte Éireann OSi Mapping 5,000 scale - sheet no.'s 3180 & 3181

Legend:

- Applicant Land Interest Boundary c. 19.5 hectares
- Proposed Planning Application Area 19.5 hectares
- Proposed Sand and Gravel Extraction Area 11.7 hectares
- Surface Water Features (Yellow River / Unnamed Stream)
- Proposed Perimeter Berms
- Proposed Perimeter Stockproof Fencing
- Proposed Hardcore Areas
- Proposed Haulage Route from Proposed Sand & Gravel Extraction Area to Existing Concrete Batching Plant
- Proposed Direction of Sand & Gravel Extraction within Each Phase
- Existing Contours: extraction will be below the water table to a depth of 6-10m (c. 69-73m AOD)

Rev	Amendments	Date	By	Chk	Auth

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Client
BD Flood Unlimited Company

Project
Proposed Sand and Gravel Development
at Derryarkin, Co. Offaly

Figure Title
Proposed Site Layout: Development Overview

Scale	SLR Project No.
1:4,000 @ A3	501.00023.065461

Designed	Drawn	Checked	Authorised
smcd	smcd	lh	lh
Date	Date	Date	Date
01/25	01/25	09/25	09/25

Figure Number
Figure 2-2

Rev.
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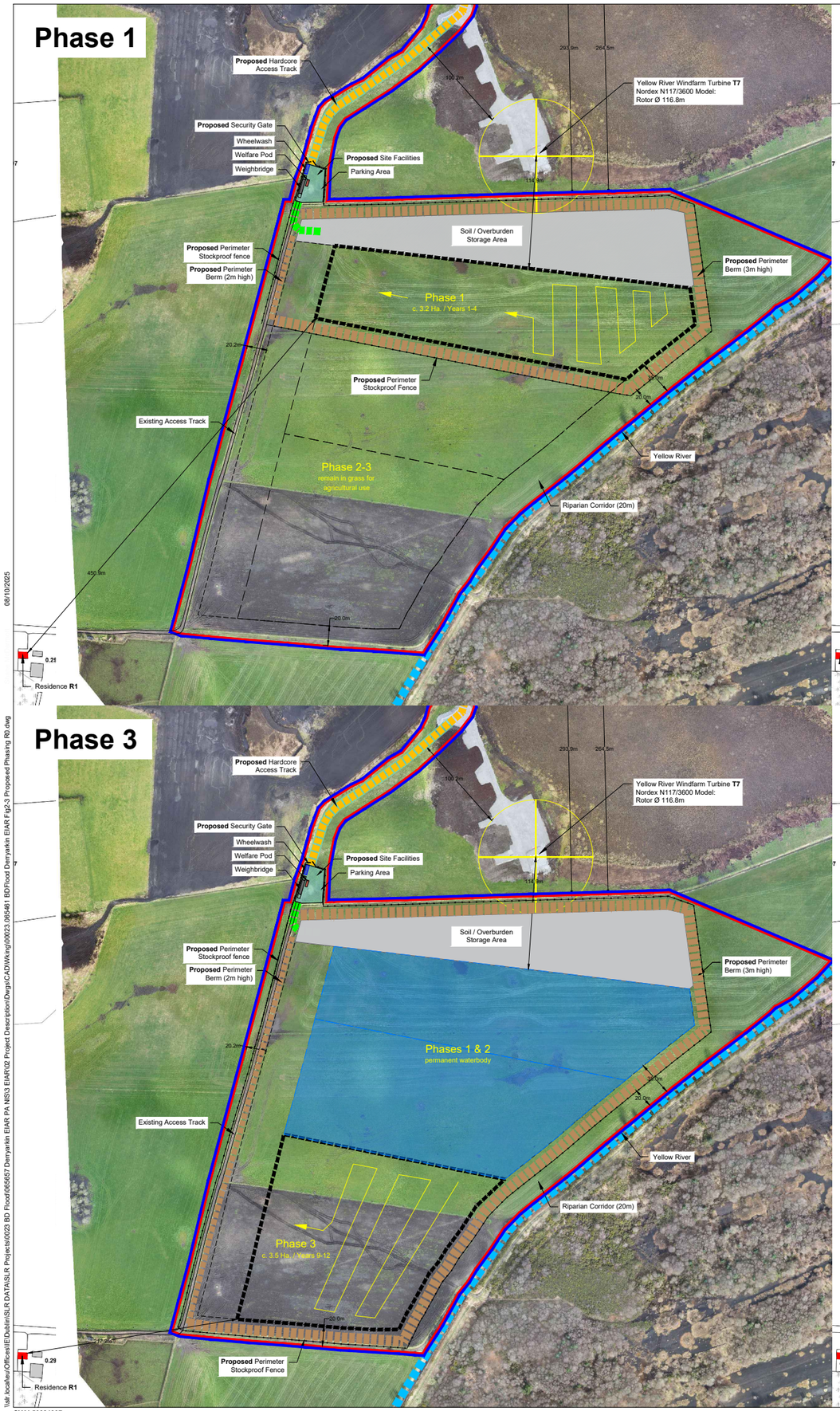

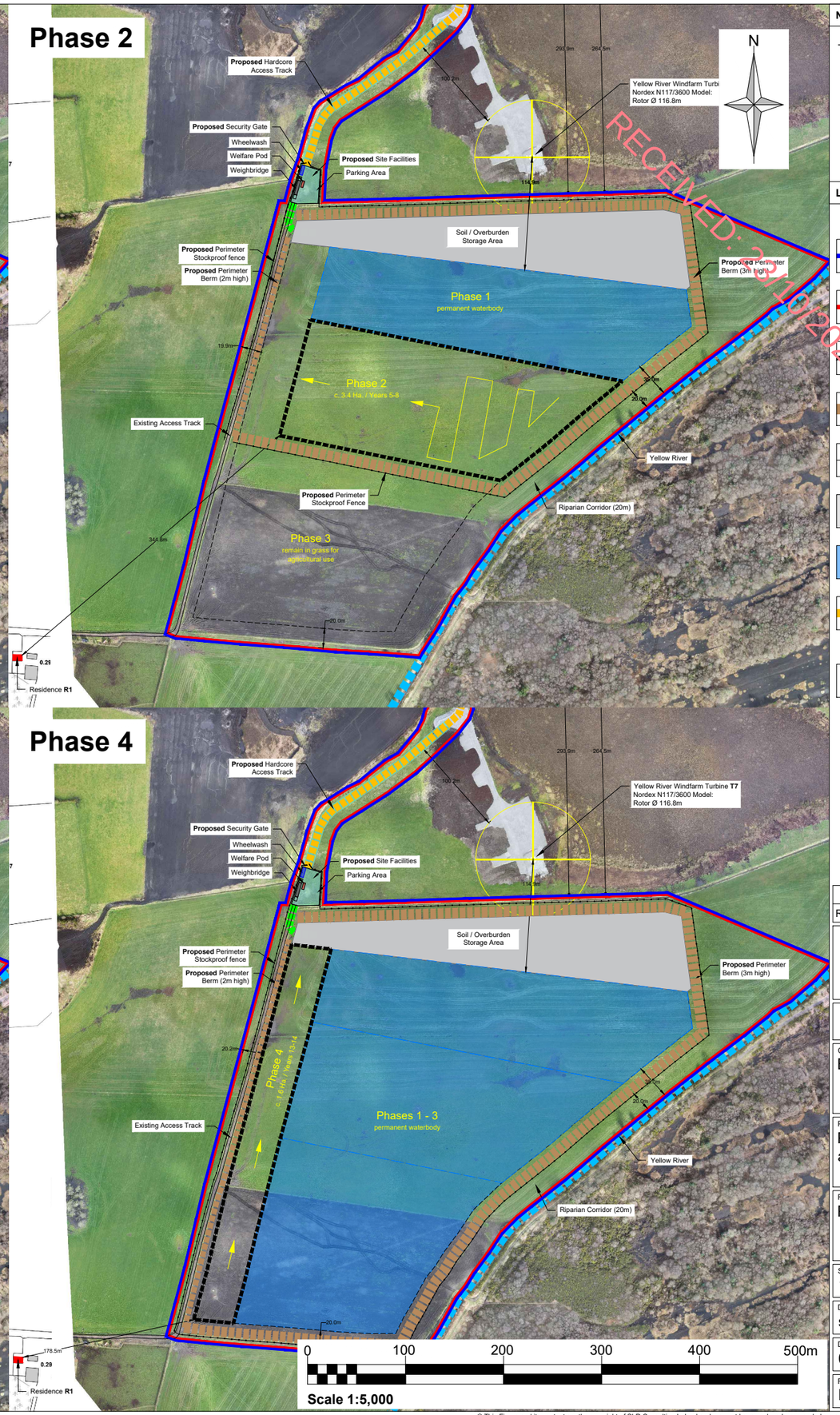

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Notes:

Tailte Éireann OSi Mapping 5,000 scale - sheet no.'s 3180 & 3181

Legend:

- Applicant Land Interest Boundary c. 19.5 hectares
- Proposed Planning Application Area 19.5 hectares
- Proposed Sand and Gravel Operational Extraction Area Phase
- Proposed Perimeter Berms
- Proposed Perimeter Stockproof Fencing
- Proposed Hardcore Areas
- Proposed Permanent Waterbody (created following S & G extraction)
- Proposed Haulage Route from Proposed Sand & Gravel Extraction Area to Existing Concrete Batching Plant
- Proposed Direction of Sand & Gravel Extraction within Each Phase

Rev	Amendments	Date	By	Chk	Auth

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Client
BD Flood Unlimited Company

Project
Proposed Sand and Gravel Development at Derryarkin, Co. Offaly

Figure Title
Proposed Phasing Layout Plan

Scale		SLR Project No.
1:5,000	@ A3	501.00023.065461

Designed	Drawn	Checked	Authorised
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Date	Date	Date	Date
01/25	01/25	09/25	09/25

Figure Number **Figure 2-3** | Rev. **0**

0 100 200 300 400 500m

Scale 1:5,000

08/10/2025

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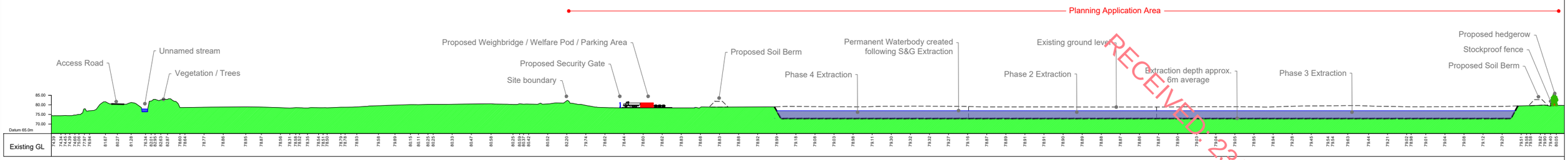

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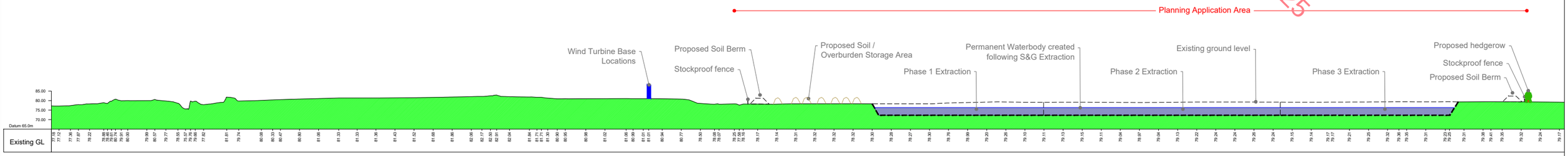

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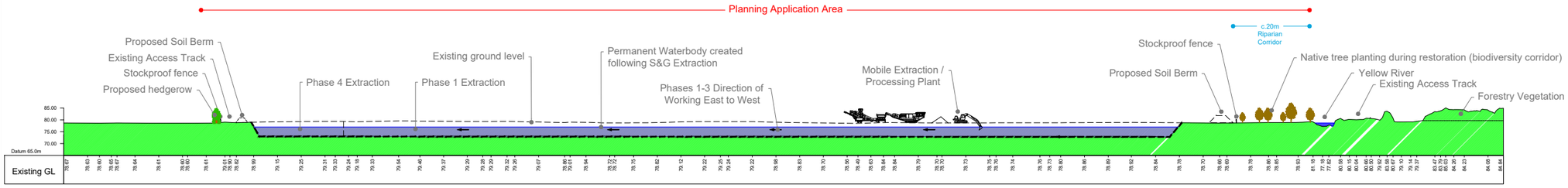

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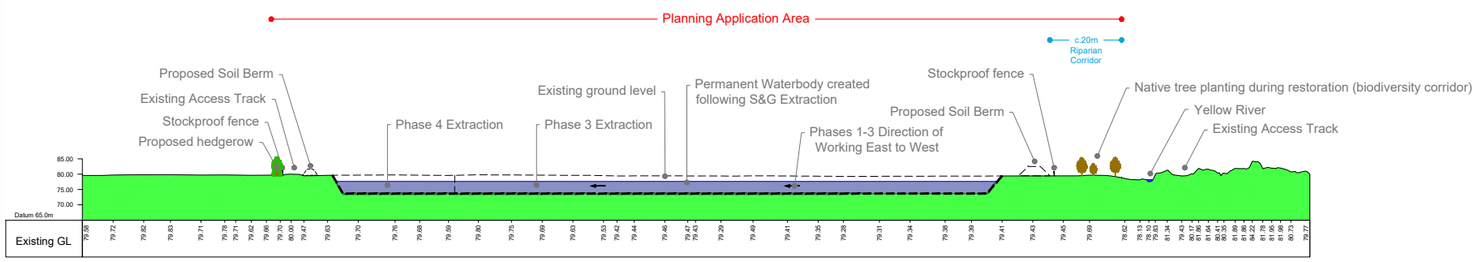

Section D-D'

Scale 1:2,000

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Client
BD Flood Unlimited Company

Project
Proposed Sand and Gravel Development at Derryarkin, Co. Offaly

Figure Title
Existing & Proposed Cross Sections

Scale	SLR Project No.
1:2,000 @ A3	501.00023.065461

Designed	Drawn	Checked	Authorised
smcd	smcd	lh	lh
Date 01/25	Date 01/25	Date 09/25	Date 09/25

Figure Number **Figure 2-4** | Rev. **0**

08/10/2025

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LANDSCAPE AND RESTORATION SCHEME

It is proposed to restore the application area on a phased basis to a natural habitat land use, which is in line with the beneficial afteruses recommended in the EPA Guidelines: 'Environmental Management in the Extractive Industry' (2006).

The sand and gravel pit will worked wet and the resulting water body will be retained on completion of the extraction works. Undulating and shallow edges will be created, to help increase the potential for biodiversity-rich habitats along the edges of the final water body. Native hedge planting and blocks of native trees along some of the boundaries will increase habitat linkage and provide additional biodivestity potential.

LANDSCAPE PHASE 1

The following works will be carried out on commencement of the proposed development:

- **Native Hedge Planting** will be carried out along the western and southern boundaries, to augment the screening provided by the proposed perimeter berms in views from a number of residential properties to the west and south, as well as increase biodiversity.

LANDSCAPE PHASE 2

The following works would be carried out in tandem with the extraction works:

- In the approximate locations indicated on the plan, undulating shallow sand & gravel slopes would be retained, instead of extracting the sand and gravel at a steeper angle all the way to the edge of the water body; and / or
- any surplus material (i.e. not used in perimeter berm construction) stripped from the extraction areas will be backfilled along the edges of the completed wet working areas to create / enhance the undulating shallow water and dry areas.

RESTORATION PHASE

The following works would be carried out on completion of the extraction works:

- Both the perimeter berms and stock proof fencing will be retained.
- The site facilities near the site entrance will be cleared and the ground decompacted. The soil / overburden storage area will also be cleared and both areas left for natural regeneration. (note: during the one-year restoration period, any dry areas along the edge of the water body will be monitored for the level of natural regeneration. Should there be large bare areas, these will be planted with willow and birch, to initiate the natural regeneration of these areas. It is however expected that this will not be an issue, as natural regeneration is readily taking place within the local area).
- Some blocks of native trees will be planted along the buffer with the Yellow River, to increase habitat linkage and biodiversity futher.

GENERAL NOTES:

- All plant handling, planting and establishment works to be carried out in accordance with current best practice and to take place in the appropriate planting season (e.g. bareroot planting: November to March only) and in favourable weather conditions.
- All works to be carried out by a suitably qualified landscape contractor.
- Establishment maintenance to be carried out for 2 years following the completion of planting (minimum 3 maintenance visits per year; i.e. spring, summer and autumn). Works to include weed control, replacement planting (where required) and the adjustment/removal of spiral guards.

NATIVE HEDGE PLANTING

Hedge to be planted as a double row, with plants 40cm apart (i.e. 2.5 plants per m, Approx. 720m in total = 1,800 plants). To be planted randomly in same species groups of 3-8 and to be supplied with spiral guards.

No.	*Plant Name*	*Common Name*	*Height (cm)*	*Age*	*%*
Transplants/Container Grown Shrubs					
180	*Betula pendula*	Silver Birch	60-90	1+1	10
270	*Corylus avellana*	Common Hazel	60-90	1+0	15
630	*Crataegus monogyna*	Hawthorn	60-90	1+1	35
270	*Prunus spinosa*	Blackthorn	60-90	1+0	15
270	*Rosa canina*	Dog Rose	40-60	1+1	15
180	*Salix aurita*	Eared Willow	60-120	0+1	10

NATIVE TREE MIX

To be planted at 1.5m centres (i.e. 1 plant/2.25m²; approx. 2,475m² in total = 1,100 plants). To be planted randomly with no more than 4-6 plants of the same species in one group and to be supplied with spiral guards.

No.	*Plant Name*	*Common Name*	*Height (cm)*	*Age*	*%*
Transplants/Container Grown Shrubs					
165	*Betula pendula*	Silver Birch	60-90	1+1	15
165	*Corylus avellana*	Common Hazel	60-90	1+0	15
165	*Crataegus monogyna*	Hawthorn	60-90	1+1	15
165	*Prunus spinosa*	Blackthorn	60-90	1+0	15
165	*Rosa canina*	Dog Rose	40-60	1+1	15
165	*Salix aurita*	Eared Willow	60-120	0+1	15
110	*Pinus sylvestris*	Scots Pine	60-80	R/B	10

Notes:

Tailte Éireann OSi Mapping 5,000 scale - sheet no.'s 3180 & 3181

Legend:

- Applicant Land interest boundary
- Proposed planning application area
- Proposed extraction phasing boundaries
- Proposed hardcore access track

Landscape Phase 1 (to be carried out on commencement of the development)

- Native hedge planting (720m in total)

Landscape Phase 2 (to be carried out in tandem with the extraction works)

- Wet working area to be retained as wetland habitat
- Undulating / shallow edges to be created by retaining edge / backfilling with overburden material

Restoration Phase (to be carried out on completion of all extraction works)

- Site facilities and soil / overburden storage area to be removed and area to be left for natural regeneration
- Grassed perimeter berms to be retained
- Stock proof fence to be retained
- Native tree planting blocks (2,450m² in total)

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Client: BD Flood Unlimited Company

Project: Proposed Sand and Gravel Development at Derryarkin, Co. Offaly

Figure Title: Proposed Landscape & Restoration Plan

Scale	SLR Project No.
1:2,500 @ A3	501.00023.065461

Designed	Drawn	Checked	Authorised
CN	CN	AM	AM
Date	Date	Date	Date
09/25	09/25	09/25	09/25

Figure Number: **Figure 2-5** Rev.: **0**

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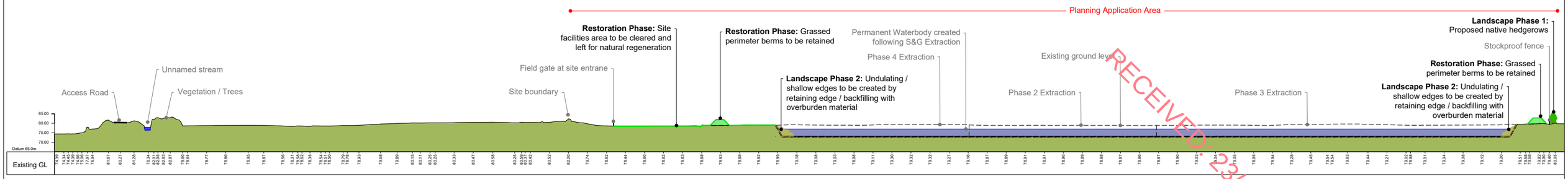

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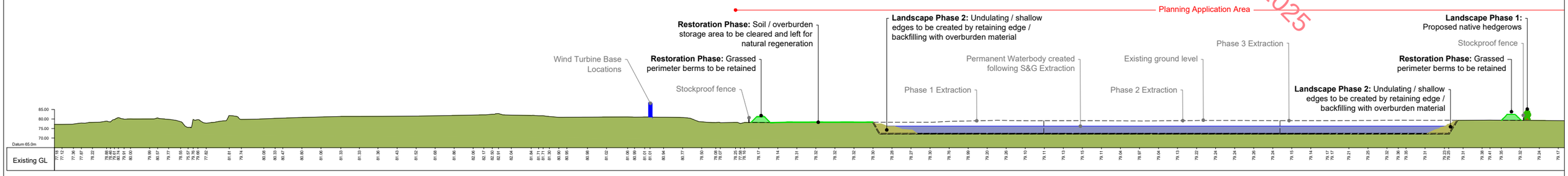

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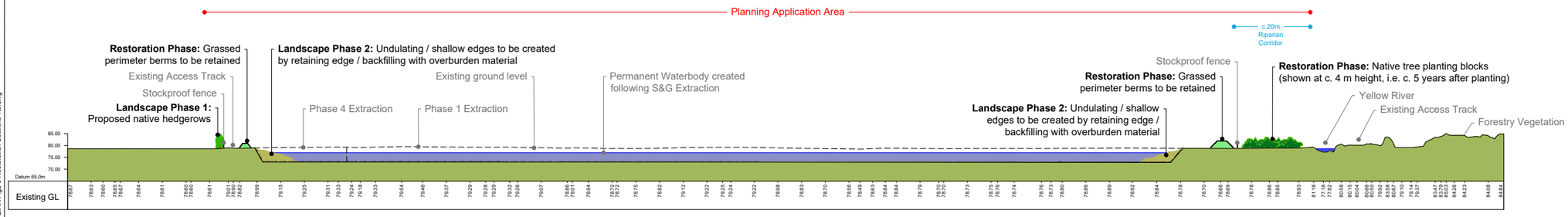

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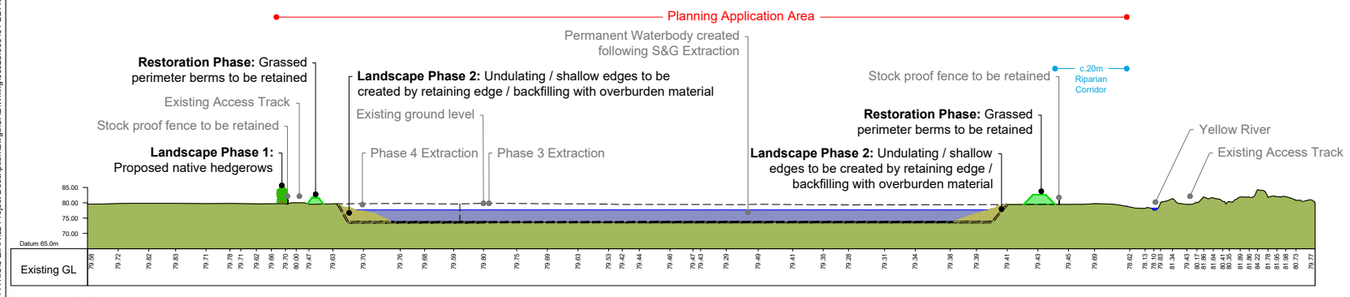

Section D-D'

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Scale 1:2,000

Rev	Amendments	Date	By	Chk	Auth

SLR

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Client
BD Flood Unlimited Company

Project
Proposed Sand and Gravel Development at Derryarkin, Co. Offaly

Figure Title
Restoration Cross Sections

Scale	SLR Project No.
1:2,000 @ A3	501.00023.065461

Designed	Drawn	Checked	Authorised
CN	CN	AM	AM
Date 09/25	Date 09/25	Date 09/25	Date 09/25

Figure Number **Figure 2-6** Rev. **0**

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Appendices

Appendix 2-A: Environmental Management System (EMS)

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Appendix 2-A

Environmental Management System (EMS) Example

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Rev(2) 31/01/2025

BD Flood Ltd.
The Murrens, Hilltown, Oldcastle, Co. Meath

Environmental Management System - Contents

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MANAGEMENT ORGANISATION & RESPONSIBILITIES.

John Flood Managing Director

Vincent Flanagan Operations Manager

Sean Monaghan Environmental Manager

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LIST OF RELEVANT IRISH PLANNING AND ENVIRONMENTAL LEGISLATION.

Table of Statutes

The Forestry Act 1946

Local Government (Planning and Development) Act 1963
Local Government (Planning and Development) Act 1976
Local Government (Water Pollution) (Amendment) Act 1976
Local Government (Water Pollution) Act 1977
Local Government (Planning and Development) Act 1982
Local Government (Planning and Development) Act 1983
Air Pollution Act 1987
Safety, Health and Welfare at Work Act 1989
Derelict Sites Act 1990
Local Government (Water Pollution) Act 1990
Local Government (Planning and Development) Act 1990
Local Government (Planning and Development) Act 1991
Local Government (Planning and Development) Act 1992
Environmental Protection Agency Act 1992
Local Government (Planning and Development) Act 1993
Waste Management Act 1996 & Amendments
Planning & Development Act 2000

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Table of Statutory Instruments

Local Government (Planning and Development) Regulations 1964.
Local Government (Planning and Development) Regulations 1977 (SI. No.65)
The EC (Waste) Regulations 1979
The EC (Toxic and Dangerous Waste) Regulations 1982
Air Pollution 1987 (Air Quality Standards) Regulations 1987 (SI No.244)
Local Government (Water Pollution) Regulations 1987 (SI No.108)
Air Pollution 1987 (Licensing of Industrial Plant) Regulations 1988 (SI No.266)
European Communities (Environmental Impact Assessment) Regulations 1989 (SI No.349)
The EC (Environmental Impact Assessment) Regulations 1990
The EC (Asbestos Waste) Regulations 1990
Local Government (Planning and Development) Regulations 1990 (SI. No.25)
The EC (Waste oil) Regulations 1992
Local Government (Water Pollution) Regulations 1992 (SI No.271)
Access to information on the Environment Regulations 1996
The EC (Waste) Regulations 1994
Environmental Protection Agency Act 1992 (Commencement) Order 1994 (SI No.82)
Environmental Protection Agency (Licensing) Regulations 1994
European Communities (Environmental Impact Assessment) (Amendment) Regulations 1994 (SI No.84)
Local Government (Planning and Development) Regulations 1994 (SI No.86)
Local Government (Planning and Development) Regulations 2001 (SI No.600)

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List of Technical Reference Documents

1. Sand and Gravel Association (SAGA) Code of Practice, August 1991.
2. BACMI The British Aggregate Construction Materials Industries, Environmental Code, March 1992.
3. The Extractive Industry and the Environment in Ireland, Britain and the rest of the EC. Irish Mining and Quarrying Society Conference 1993.
4. Environmental Practices and Audit Checklist for the Ready Mixed Concrete Industry. ERMCO 1996.
5. Environmental Protection Agency (EPA). Guidance Notes on Noise in Relation to Scheduled Activities 1996.
6. Secretary of State's Guidance - Blending, packing, loading and use of bulk cement. Department of the Environment, London, February 1991.
7. (a) Secretary of State's Guidance - Quarry Processes PG3/9 (96) Department of the Environment, London.
   (b) Secretary of State's Guidance - Mineral Drying and Roadstone Coating Processes, PG3/15 (96) Department of the Environment, London.
   (c) Secretary of State's Guidance - Mobile Crushing and Screening Processes, PG3/16 (96) Department of the Environment, London.
8. Minerals Planning Guidance: The control of noise at surface mineral workings (MPG 11), Department of Environment, London, April 1993.
9. Quarries and Ancillary Activities, Guidelines for Planning Authorities, Dept. of the Environment, Heritage & Local Government, April 2004
10. Environmental Management in the Extractive Industry, EPA, 2005

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SECTION 4 - ENVIRONMENTAL GUIDELINES

Introduction

These Guidelines provide advice on possible Environmental Standards and Emission Limit Values to be adopted in accordance with the BATNEEC principle (Best Available Technology Not Entailing Excessive Cost).

Note: The Irish Concrete Federation Environmental Code shall apply where no particular environmental standards have been set for the Location in applicable Planning Permissions, Air Pollution Licenses, Water Discharge Licences, etc.

Areas of Environmental Concern

- **Noise Control**
- **Control of Air Emissions**
- **Water Management**
- **Waste Management**
- **Visual Amenity & Housekeeping**
- **Archaeology, Ecology & Reinstatement**
- **Energy and Transport**
- **Security & Public Safety**

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Section 4.1 - Environmental Guidelines on Noise Control

Introduction
The guideline provides advice on possible actions to improve environmental performance and to minimise impacts in accordance with the BATNEEC the principle (Best Available Technology Not Entailing Excessive Costs).

This guidance refers to general quarry operations including overburden removal, drilling & blasting, crushing & screening, materials handling & loading and to the production of concrete and blocks.

	Emissions Limit Values:		
	Parameter	**Emissions Standard**	**Basis of Standard**
	Noise-day (08.00-20.00 hours)	<55 dB (A)	ICF Environmental Code
	Noise-night (20.00-08.00 hours)	<45 dB (A)	ICF Environmental Code

Monitoring of Emissions:
Night work noise emissions
- Measure noise at property boundary at least twice a year
- Noise measurement to be monitored for a period of 60 minutes

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Guideline Basis/Useful References:
- *"Guidance note for noise in Relation to Scheduled Activities"* EPA, Wexford 1995
- *"Environmental Code",* ICF, Dublin, 2005 Revised Edition

Some possible Actions to Control Noise (-refer BATNEEC principle):
- Where practical, operate within day hours
- Close door of buildings
- Repair damaged cladding of buildings
- Regular maintenance of noisy plant & equipment
- Use rubber or polyurethane cloths in screens
- Enclose noisy equipment such as, crushers, screens, burners, compressors, etc
- Fit silencers or attenuators
- Fit anti-vibration mountings
- Place screening berms
- In relation to control of noise, maintain plant & equipment, deal promptly with malfunctions and train staff.

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Section 4.2 - Environmental Guidelines on Control of Air Emissions

Introduction

The guideline provides general advice on possible actions to improve environmental performance and to minimise impacts in accordance with the BATNEEC the principle (Best available Technology Not Entailing Excessive Cost)

This guidance refers to operations including loading materials & blocks. Not that processing of wet Sand & Gravel is not normally likely to result in release of dust to air.

	Emissions Limit Value:		
	Parameter	**Emission Standard**	**Basis of Standard**
	Measured total solids deposition rate	<350 mg/m²/day (Total=Soluble+ Insoluble)	T.A. Luft
	Visibility of dust emission	Aim for no visible dust emissions	ICF

Monitoring of Emissions to Air:

- Visually check emissions at least once per day–aim to minimise visible dust/smoke/fume emissions
- Measure fugitive dust deposition levels monthly (using T.A. Luft Bergerhoff Gauges as the property perimeter)

Guideline Basis/Useful References:

- *"Environmental Code",* ICF, Dublin, 2005 Revised Edition
- *Environmental Management in the Extractive Industry*, EPA, 2005

Some Possible Actions to Control Emissions to Air(-refer BATNEEC principle):

- Hard surface internal roadways with compacted stone generally and with macadam or concrete to exit
- Keep roadways clean or wet with adequate drains to avoid ponding
- Install a wheel-wash – ensure use, keep clean & filled with water
- Ensure all vehicle exhausts are vertical & modify dumptruck radiator fans to minimise dust rising
- Use deep trough conveyors at ground level to minimise wind whipping
- Enclose conveyors to minimise wind whipping (check strength of structure for increased wind loading) & fit belt scrapers
- Fit last meter of stockpile conveyors & first 0.5 metre of the fall with a full hood, and use water suppression
- Fit a properly sized filters on top of bulk powder silos and control filling/blowing rate
- Condition material containing 0-5mm fines with water before handling
- Place stockpiles in sheltered areas; construct & profile stockpiles to minimise wind-entrainment
- Load to & from stockpiles and load trucks so as to minimise the generation of airborne dust
- Sheet or dampen trucks loaded with material containing 0-3mm fines – as soon as possible after loading
- Avoid the generation of smoke – do not burn rubbish
- In relation to control of emissions, maintain plant & equipment, deal promptly with malfunctions and train staff

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Section 4.3 - Environmental Guidelines on Water Management

Introduction

The guideline provides general advice on possible actions to improve environmental performance and to minimise impacts in accordance with the BATNEEC the principle (Best available Technology Not Entailing Excessive Cost)

	Emissions Limit Value:		
	Parameter	**Emission Standard**	**Basis of Standard**
	Total suspended solids	<=35 mg/litre	ICF
	Biological Oxygen Demand	<= 25 mg/ litre	ICF
	pH	<= 9	ICF

Monitoring of Water Discharges (where appropriate):

- Check quality of discharge quarterly or as conditioned in planning permission/discharge licence
- Visually check discharges at least once per month
- Visually check settlement lagoons at least once per month for efficiency

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Guideline Basis/Useful References:

- *"Environmental Code",* ICF, Dublin, 2005 Revised Edition
- *Environmental Management in the Extractive Industry*, EPA, 2005

Some Possible Actions to Manage and Protect Water Quality (-refer BATNEEC principle):

- **Eliminate discharges if possible**
- Minimise use of water generally
- Maximise catchment and recycling of process water and storm water (as appropriate)
- Recycle water from washouts and wheel wash by use of suitable settlement tanks
- Ensure sewage treatment facilities are fully functional and comply with good practice
- Ensure fuel oils are properly bunded, attachments and pumps inside the bund
- Install an oil class interceptor to receive surface water in the area of bunded fuel tanks or as appropriate
- Minimise use of drummed products, see also Section 4.4 Waste Management
- **Refer also to Section 5 on Emergency Response Procedures**

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Section 4.4 - Environmental Guidelines on Waste Management

Introduction

The guideline provides general advice on possible actions to improve environmental performance and to minimise impacts in accordance with the BATNEEC the principle (Best available Technology Not Entailing Excessive Cost)

Monitoring:

- Check property regularly for waste generation

Guideline Basis/Useful References:

- *"Environmental Code",* ICF, Dublin, 2005 Revised Edition
- *Environmental Management in the Extractive Industry*, EPA, 2005

Some Possible Actions to Manage Waste(-refer BATNEEC principle):

- Minimise production of waste generally
- Maximise recycling through careful separation of waste streams
- Maintain designated areas for different streams such as metal, timber, tyres, batteries, oils/filters etc.
- Install suitable arrangements for storing old batteries, oil filters etc
- Appoint specialist contractors for the collection and disposal of wastes as appropriate
- If appropriate, specify that suppliers remove the old component when supplying new ones
- Discontinue use of drums or IBCs by installing tanks for bulk deliveries
- Use Just In Time purchasing techniques, if possible, where drum supplies must continue
- **Ensure staff are aware of need for diligence where waste is concerned by ongoing training**
- **Where applicable, ensure returned concrete is reused immediately or recycled regularly to avoid being contaminated and becoming a waste product**
- **Refer also to Section 4.5 on Visual Amenity & Housekeeping**

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Section 4.5 - Environmental Guidelines on Visual Amenity & Housekeeping

Introduction

The guideline provides advice on possible actions to improve visual amenity & housekeeping.

Monitoring:

- Check property regularly

Guideline Basis/Useful References:

- ***"Environmental Code",*** ICF, Dublin, 2005 Revision
- Down, C.G. "Amenity Banks and Quarry Landscaping", *Quarry Management and Products,* September 1997

Some Possible Actions to Improve Visual Amenity (-refer BATNEEC principle):

- Keep entrance tidy
- Tidy up litter and remove unsightly features
- Clean up spillages
- Keep scrap in designated areas
- Maintain buildings in good condition and renew paintwork regularly
- Repair damaged cladding on buildings
- Maintain signs in good condition
- Maintain lighting and roadways and entrances
- Place screening berms to minimise visual impact
- Profile overburden mounds with regard to visual amenity avoiding long, uniform banks
- Seed newly constructed overburden mounds
- Where necessary, plant hawthorn hedging along the property boundary to provide a tough, hardy, fast growing and inexpensive dense barrier
- Where applicable, minimise and monitor dust & smoke emissions
- Where applicable, ensure discharged water is clear of silt & free of oil traces
- Where applicable, phase the final restoration of the site

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Section 4.6 - Environmental Guidelines on Archaeology, Ecology & Reinstatement

Introduction
The guideline provides advice on possible actions to improve protection of Archaeology & Ecology

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Monitoring:

- Check property regularly
- Check water discharges regularly

Guideline Basis/Useful References

- *"Environmental Code",* ICF, Dublin, 2005 Revised Edition
- *"Irish Field Monuments*", Edition, 1991, Stationery Office, Dublin
- *"Code of Practice between the ICF & the Minister for Arts, Heritage, Gaeltacht and the Islands,* Dublin, 2002

Some Possible Actions to Improve Archaeology & Ecology Management (-refer BATNEEC principle):

- Refer to the Record of Monuments and Places for your county before carrying out soil stripping operations (copies may be obtained from the ICF Archaeology Manager). Give two months notice to the Monuments Section, Department of the Environment, Heritage and Local Government of your intention to carry out works within an archaeological zone defined within the record.
- Report discoveries of archaeological features or artifacts to the Chief Archaeologist, Monuments Section, Department of the Environment, Heritage and Local Government, or the ICF Archaeology Manager can report them on your behalf.
- If you require any advice regarding archaeology contact the ICF Archaeology manager.

- Protect habitats, including hedgerows, which have had to be removed
- Plant new hawthorn hedging along the property boundary to provide a trough, hardy fast growing and inexpensive barrier which will protect colonising vegetation & will provide visual amenity.
- Give at least 21 days notice to Gardai of intention to fell trees using a Felling Notice to be obtained at any Gardai station
- Plant new native trees to replace trees, which have had to be removed
- Contain dust emissions
- Ensure discharged water is clear of silt & free of oil traces
- Progress after use plans

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Section 4.7 - Environmental Guidelines on Energy and Transport Management

Introduction

The guideline provides general advice on possible actions to improve environmental performance and to minimise impacts in accordance with the BATNEEC the principle (Best available Technology Not Entailing Excessive Cost)

Monitoring:

- Check property regularly for waste generation

Guideline Basis/Useful References:

- *"Environmental Code",* ICF, Dublin, 2005 Revised Edition
- *Environmental Management in the Extractive Industry*, EPA, 2005

Some Possible Actions to Manage Waste(-refer BATNEEC principle):

- Minimise production of waste generally
- Maximise recycling through careful separation of waste streams
- Maintain designated areas for different streams such as metal, timber, tyres, batteries, oils/filters etc.
- Install suitable arrangements for storing old batteries, oil filters etc
- Appoint specialist contractors for the collection and disposal of wastes as appropriate
- If appropriate, specify that suppliers remove the old component when supplying new ones
- Discontinue use of drums or IBCs by installing tanks for bulk deliveries
- Use Just In Time purchasing techniques, if possible, where drum supplies must continue
- **Ensure staff are aware of need for diligence where waste is concerned by ongoing training**
- **Where applicable, ensure returned concrete is reused immediately or recycled regularly to avoid being contaminated and becoming a waste product**
- **Refer also to Section 4.5 on Visual Amenity & Housekeeping**

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Section 4.8 - Environmental Guidelines on Security & Public Safety

Introduction

The guideline provides advice on possible actions to improve locations security and public safety.

Monitoring of Security & Public Safety:-

- Check that lifebelts are in place at ponds – at least each month
- Check that fencing is in place at ponds – at least each month
- Check perimeter fencing & signs – at least each quarter
- At a minimum, fences should be designed to keep out farm animals & toddlers and to prevent easy access by adults.
- Signs should read **DANGER/HAZARD IDENTIFICATION/DO NOT ENTER**

Guideline Basis/Useful References:

- Occupier's Liability Act,1995
- Specification for Chain Link Fences up to 1.8 high BS 1722:part 1:1986
- Down, C.G. "Amenity Banks and quarry Landscaping", *Quarry Management and Products,* November 1997
- Local Government (Planning & Development) Regulations, 1994, S.1. No.86 of 1994
- *"Environmental Code",* ICF, Dublin 2005 Revised Edition

Some Possible Actions to Improve Security (-refer BATNEEC principle):

- Post **DANGER//HAZARD IDENTIFICATION/DO NOT ENTER** signs along property boundary
- Post **DANGER/HAZARD IDENTIFICATION/DO NOT ENTER** signs at ponds & water bodies
- Safety warning notices should be clearly visible from all along the length of the fence, give clear warning of the danger, prohibit entry, be of black text on yellow background and should include an appropriate pictorial symbol of the danger to warn children or those who cannot read
- Erect fence along property boundary and around ponds
- Place large boulders along side of roads over high fences
- Fences should be designed to keep out farm animals & toddlers and to prevent casual access by adults.
- 1.4m general purpose chain link with 1 row of barbed wire to keep out farm animals & toddlers and to prevent casual access by adults – refer BS 1722; Part 1:1986
- Barbed wire should be fixed so as to be clearly apparent and not be a hidden hazard. Any dangers from the fence must be obvious to the trespasser and it is necessary to ensure that the trespasser can only be harmed by his own decision to risk the danger.
- Fences under 2m in height are classed as "exempt development" not requiring planning permission
- Advise Gardai of trespassers
- Promptly clear material spills on public roads
- Fences, gates, signs & hedgerows need to be regularly inspected and needs to be maintained (Assign Person for this task)

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Environmental Guidelines on Security (Contd.)

The following are examples of possible **Warning Signs:-**

DANGER
High Quarry Faces
DO NOT ENTER

DANGER
Deep Water
NO SWIMMING – NO FISHING
DO NOT ENTER

DANGER
Quarry Traffic
HAULIERS MUST STOP AT WEIGHBRIDGE

DANGER
Quarry Machinery
ALL VISITORS MUST REPORT TO OFFICE

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SECTION 5 - ENVIRONMENTAL EMERGENCY RESPONSE PROCEDURE

To ensure that environmental accidents and potential emergency situations relating to oil and chemical spills are dealt with in an appropriate manner, it is necessary to identify the potential occurrence and appropriate response to such incidents and to prevent and mitigate any associated harm to human health and the environment.

Oil and chemical spills present a great environmental risk to this business, and as such, spill response is a key competency requirement for the Environment Manager. However, in the event of spillage, it is imperative that all staff are aware of the need for immediate implementation of containment measures and communication with Environment Manager.

The Environment Manager, or his nominee, is responsible for carrying out this procedure in the event of a spillage. It is the responsibility of the individual who discovers the spill to:

1. Immediately contain the spill ONLY IF IT IS POSSIBLE AND SAFE TO DO SO.
2. Report it immediately to the Environment Manager.

If a spill occurs out of hours, the Manager or his nominee shall be contacted for advice. The Environment Manager shall identify the substances involved, direct the response accordingly and contact the appropriate personnel and external emergency services as necessary. Where the spill is of a high risk nature, the Environment Manager shall inform the Managing Director and, if appropriate, the Regulatory Authorities.

It is the responsibility of the Environment Manager concerned to ensure that all personnel are trained and are aware of this procedure and that it is periodically tested.

The Environment Manager concerned will ensure all sources of ignition are extinguished. In the event of a fire the Fire Safety Procedure shall be followed. Keep the area well ventilated if the spill is in a confined space. Ensure that all unnecessary untrained personnel are kept well away from the scene. The main risk associated with oil or chemical spills is the potential for the spill to enter drains watercourses, soils and the ground water system, causing contamination and/or fire or explosion risk. Site drainage is detailed on individual site plans, copy held by the Environment Manager.

Identify the material spilled and obtain the MSDS to ensure that handling and PPE requirements are clearly understood and that those tackling the spill are wearing the appropriate PPE. Stop the spill and contain it as best as possible, use the materials provided in the Environmental Spill Kits and ensure that the drains in the surrounding areas are sealed. Spill kits shall be maintained in the garage and chemical storage areas.

Remediation depends on the impact the contaminant has on the receptor. Remediation may involve aeration, addition of biological surfactants and restocking of fish reserves. Contact the appropriate government or concerned body to discuss, as and when required. Any waste or contaminated materials generated during the clean up of a spill shall be disposed of as per the Waste Management Guidelines.

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A report form shall be completed by the Environmental Manager and reviewed after each incident by the whole management team.

This emergency Response Procedure shall be tested at least once annually under the direction of the Environmental Manager. These drills cover both key personnel and operatives whose work involves a significant degree of environmental risk. These drills will either comprise of items 1 and/or 2 below:

1. A "desktop" exercise conducted where the Manager or personnel concerned is questioned closely on how he/they would respond to various environmental incidents. Responses are compared to the procedure. Immediately on completing the desktop exercise, a follow-up check is carried out to verify the actual availability of any spill kit etc. that would have been used.

2. A drill involving the practical demonstration of spill kit materials –(booms, pads, granules etc.) and how they would be used/deployed in various environmental accidents.

Such drills shall be followed by a review of the response conducted by the Environment Manager and changes made to training and/or the procedure as appropriate. Names of drill attendees and a brief description of the drill content will be recorded by the Environment Manager after each drill has been completed.

EMERGENCY TELEPHONE NUMBERS

CONTACT NUMBERS **049 8541477 or 049 8542420**

FIRST AIDERS **First Aid Box in main office**

EMERGENCY NUMBERS		
EMERGENCY	All Services	999 or 112
AMBULANCE	North East Regional	999 or 112
DOCTOR	Coole Surgery	044 9661104
GARDAI	Kells Oldcastle	046 9280820 046
CATHOLIC PRIEST **CHURCH OF IRELAND**	Parish Priest, Oldcastle	
E.S.B.		1850 372 999
TELECOM	Repairs Service	1902
MAYO COUNTY COUNCIL	Navan	046 9021581
POISONS INFORMATION		01 8379964 01 8379966
OIL SPILLAGE RECOVERY	Atlas Oil	050 222411
Boyne Waste Oil Seperators	Co.Meath	046 9024860

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SECTION 6 – HARMFUL SUBSTANCES

OPERATIONAL GUIDELINES

- Guidelines for Fuel & Fuel Tanks
- Receiving Oil, Fuel & Chemical Deliveries
- Operation & Maintenance of Oil Interceptors
- Septic Tanks
- MSDS for Diesel / Gas Oil
- MSDS for Oils, Lubricants etc.

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Guidelines for Fuels and Fuel Tanks

Introduction

Fuels, (hydrocarbons, liquid chemicals, lubricating oils, greases and waste oils) should be kept at a waterproof bunded area, and treated with extreme caution. In the case If hydrocarbons and waste oils the capacity of the bund should be 110% of the largest tank volume or 25% of the total volume of tanks bunded, whichever is the greater. All valves and pumps on the tank should be contained within the bunded area. The bunded area should be fitted with a locking valve that should only be opened to discharge storm water to the interceptor. Alternatively, a sump should be provided in the floor of the bunded area to allow for a suction pipe to be inserted when discharging storm water.

Environmental Instructions

Environmental Instructions should be posted or distributed to anybody working with or in the general area of fuels. These instructions should include steps on how to deal with an oil/fuel spill. All staff should be aware of the need for immediate implementation of containment measures in the likelihood of a spillage.

Guidelines when working with fuels / lubricants:

The following guidelines should be followed when working with fuels and handling lubricant

- There should be no smoking in and around the substances
- Ignition sources should be kept at a distance
- The Material Safety Data Sheets (MSDS) should be checked on or should be easily accessed
- PPE should be worn at all times
- When handling drums, the proper loading equipment should be used
- Stands and bunded trays should be provided
- Drums should be stored under cover and the surrounding area kept clean
- A spill kit should be present

In the event of spillage the Environment Manager is notified and he must record the details on a nonconformity notice, and the Emergency Response Procedure implemented.

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RECEIVING OIL, FUEL AND CHEMICAL DELIVERIES

1.0 Scope

1.1 Receiving bulk and containerised oil, fuel and chemical deliveries should be carried out in a controlled and environmentally responsible manner to minimise the risk of spills and their environmentally harmful effects.

2.0 Bulk oil and fuel deliveries to site

2.1 Delivery requests – deliveries of oils and fuels are ordered by the Purchasing Manager, who will advise the supplier of the grade and quantity to be delivered.

2.2 All delivery drivers shall report to the weighbridge office on arrival. The weighbridge operator shall contact the Quarry Manager or his nominee who shall direct the driver to the appropriate fill or delivery point and supervise the delivery. He shall check that there is sufficient ullage to receive the complete load, monitor the delivery and ensure that after delivery all valves are properly closed and locked. The delivery driver should remain at the vehicle shut-off valve while the discharge is taking place. The Quarry Manager or his nominee shall sign the delivery note to confirm the product quantity received and that the delivery has been made correctly and safely.

2.3 Fuelling company vehicles, bowsers, generators and mobile plant – The driver shall check the ullage in the tank to receive the load, and remain at the delivery point at all times to monitor the delivery. After delivery he shall check that all valves are properly closed and locked. Drivers of lorries, vans and cars, not using the electronic key system, record the date, the vehicle registration and volume received in the office fuel log.

3.0 Spills

3.1 Any spillages occurring during delivery should be immediately dealt with as from the Emergency Response Procedure. Any waste materials generated as a result of this should be disposed of as waste.

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OPERATION AND MAINTENANCE OF OIL INTERCEPTORS

(Where appropriate)

Oil interceptors must be inspected and maintained to ensure their effective operation, All interceptors shall be checked visually by the designated person for the presence of oil on an annual basis or after a recorded environmental spillage.

3.0 If oil is present

3.1 Three chambered interceptors – if any depth of oil is present in any of the interceptor chambers, it should be cleaned out ASAP by an approved special waste contractor using a vacuum tanker.

3.2 In the event of an interceptor failing and oil being released to the drain system, the Emergency Response Procedure should be followed.

4.0 Maintenance of oil interceptors

4.1 On a yearly basis, or as and when required, interceptors shall be cleaned by an approved and licensed waste contractor using a vacuum tanker as follows;

1. Remove manhole cover(s)
2. Remove surface oil or scum, being careful not to draw up uncontaminated water.
3. Lower the vacuum tanker hose carefully to the base of the chamber and move around to draw off settled sediment or grit.
4. At no time shall any personnel attempt to gain entry to the interceptor.
5. At no time shall the level of water in the interceptor be lower than 50%.
6. The unit shall be filled with clean water up to the invert level of the outlet pipe before recommencing interceptor operation after cleaning.
7. Replace access shaft manhole cover(s) on completion of cleaning.

5.0 Disposal of wastes from interceptors

5.1 Any waste liquids or materials shall be disposed of as per the Waste Disposal Procedure.

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Guidelines on Harmful Substances

a) Diesel, Gas Oil, Other Oils & Lubricants

Ref – Supplier Material Safety Data Sheet

b) Septic Tank

Introduction:
The septic tank should be located in an area where minimal activity occurs on the ground. The distribution box must be designed and constructed to ensure equal distribution among the various distribution pipes. Access manholes should be located at ground surface and covers should be visible and not allow the entry of surface water. Trees and plants are limited to a 3m distance from the tank and heavy machinery should not circulate over the percolation area

Useful References:

"*Wastewater Treatment Manuals, Treatment Systems for single houses",* EPA, Wexford.

Advantages of a Septic Tank:

- Septic tanks are a cost effective treatment system
- There is no need for external power requirements
- No noise emissions
- It is a natural treatment process
- It produces a high quality effluent

Maintenance

In order to gain maximum performance from the septic tank regular maintenance is essential. The tank should be de-sludged at least once a year.

Maintenance is required when:

1. Scum is noticeable in the second chamber of the tank
2. Also when the depth of the sludge in the second chamber is greater than 400mm.

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SECTION 7 – ENVIRONMENTAL INSPECTION

(i) Audits

(ii) Monitoring Reports

(iii) Environmental Action Plan

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SECTION 8 – TRAINING RECORD SHEET

Training Record – BD Flood.

	Employee	Safety Training (Initial and date)	Environmental Awareness (Initial and date)	Operational Work Procedures (Initial and date)	Other (Reference, initial and date)

Other skills referenced:

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SECTION 9 – PERMITS, PLANT LAYOUT etc.

This section contains records of Planning Permissions, Permits, Plant Layouts, Site Layout Maps etc as applicable to this site.

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SECTION 10 – COMMUNITY RELATIONS

The Aggregate Industry provides essential building materials for the social and economic development of the Country. Without aggregates, the built environment could not be enhanced with safe, structurally sound buildings for homes, schools, offices, shops and hospitals. In terms of protection of the environment, no water or wastewater treatment systems could be constructed. The Industry recognises that each activity and product it provides has a potential impact on the environment and the overall objective of ICF members is to minimise the environmental impacts and maximise the environmental enhancements at their sites. The ICF Environmental Award Competition is held on an annual basis for the membership to promote and showcase positive and proactive on-site environmental measures that have been taken.

This company will aim at all times to be a good neighbour and play its part in the community, for example giving presentations on their work to local groups, allowing schools and other local parties interested in their activity to visit the quarry pit or plant on conducted tours or local open days or by supporting local events.

Concerns in relation to new developments at this site will be examined and designed for, where practicable and reasonable, by consulting with the public at an early stage in the development process.

To ensure good environmental practice is achieved on-site, This company is committed to maintaining an on-site Environmental Management System (EMS). As part of this EMS, this company will maintain written records of all complaints and incidents, including the company's actions to investigate the problem, the causes and necessary mitigation measures required, as applicable. The following complaints record sheet shall be used for this purpose.

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Complaint Record

1.0 Date of Complaint:_____ **2.0 Time:** _____

3.0 Complaint Method:_____

4.0 Taken by:_____

5.0 Name & Address of Complainant:

_____

_____

6.0 Nature of Complaint:_____

_____

_____

7.0 Detail Investigative Action Taken & Identify the Investigating Person

_____

_____

_____

8.0 Detail Weather Conditions_____

9.0 Detail Results of Investigation

_____

_____

10.0 Detail any corrective & preventative action taken

_____

_____

11.0 Detail whether complainant was contacted

_____

_____

Signed: _____ **Date:**_____