2

PROJECT DESCRIPTION

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This Remedial Environmental Impact Assessment Report (rEIAR) has been prepared to accompany a substitute consent application for an existing quarry located in the townlands of Athgarrett, Philipstown and Redbog, Co. Kildare.

The substitute consent application is to be made concurrent with an application for further development of the quarry for extraction under S.37L of the Planning and Development Act, 2000 as amended that is accompanied by an EIAR.

The lands the subject of this rEIAR extend to 95.8 ha. and are the EIA project boundary for the rEIAR (as well as the EIAR submitted as part of the concurrent Section 37L application). The EIA project boundary reflects the Planning Reg. Ref.: 07/267 permitted and operational areas, and encloses current workings and proposed future workings. The quarry area that makes up the application for substitute consent planning unit currently extends to approximately 71.9 ha.

The Site is accessed via a shared laneway connecting to the N81, national road. The town of Blessington is located ca. 1.8 km south of the Site along the N81 (Figure 2-1). The undulating land surrounding the Site slopes upwards in a north-westerly direction to the north of the Application Site, and away in a south-easterly direction to the south of the Application Site. The southern boundary of the Application Site lies adjacent to the Kildare-Wicklow county border. The quarry is accessed via Danker Lane through lands owned by the client in Co. Wicklow. The Co. Wicklow land is accessed via the N81 National Secondary Road.

The current quarry void is centrally located within the EIA unit. At the east of the current quarry area is the existing processing plant and maintenance area over approximately 5 ha.

Lateral extents and changes during the assessment period of September 2020 to the present day have been described in this chapter and assessed in the relevant technical chapters of this rEIAR.

2.1 LOCATION OF SUBJECT LANDS

The rEIAR project unit is located in the townlands of Philipstown and Redbog, Co. Kildare centered at ITM coordinates 697315, 716516, 53°11'24.7"N 6°32'37.6"W.

The lands are located approximately 500m east of the R410 (Blessington to Naas road). The town of Blessington is located ca. 1.8 km south of the Site along the N81. The Site is bound to the south by the Kildare / Wicklow border, see Figure 2-1, below.

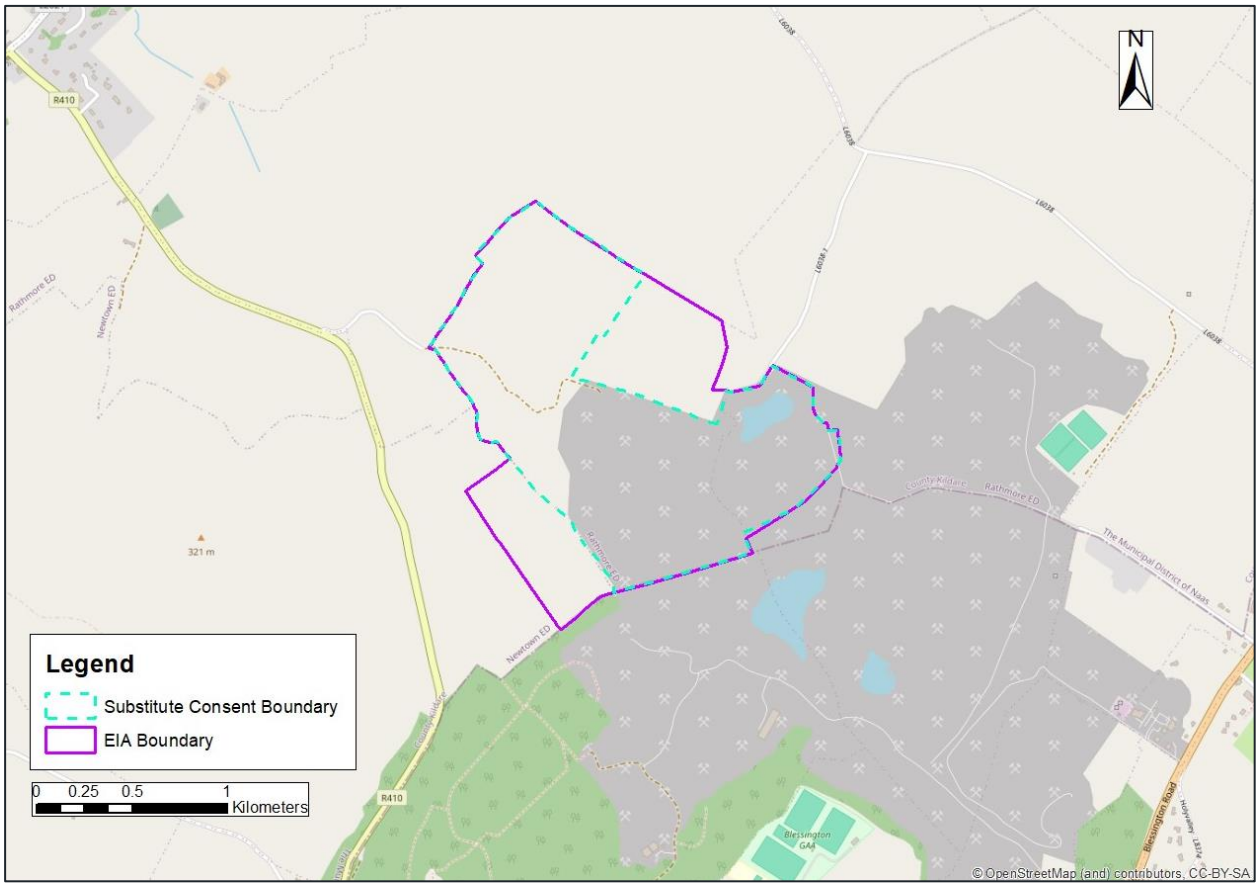

Figure 2-1 – Substitute Consent application area and the lands the subject of the EIAR.

2.2 CONTEXT AND LANDSCAPE CHARACTER OF SUBJECT LANDS AND OVERVIEW OF OPERATION

The lands the subject of this rEIAR are roughly triangular in shape. The lands are bound to the south by the Kildare / Wicklow border, and are located approximately 500 m to the east of the R410 Blessington / Naas regional road, and approximately 1.4 km north west of the N81 national road.

A number of other aggregate companies operate from sites adjacent to the Application Site. The sand and gravel pits in the Blessington area are a major source of sand and gravel used in the production of construction material in the Greater Dublin and Mid Leinster regions. Other land uses surrounding the Application Site are for residential (single-house residential) and agricultural purposes, mainly pastoral grazing of sheep and cattle, and forestry. Land uses in the area have remained consistent during the assessment period (September 2020 to present day).

In this way, the immediate character of the lands is rural in nature with low density, one off roadside housing and agricultural activities. Moving more south of the lands towards the town of Blessington, the landscape becomes predominantly peri-urban in nature.

The subject lands have been used for quarrying since the 1950's. As such, the quarry and associated uses are an established feature of the landscape and the main feature of the EIA project lands.

The quarry is accessed via Danker Lane through lands owned by the client in Co. Wicklow. The Co. Wicklow land is accessed via the N81 National Secondary Road. The Client's Wicklow lands

contain the administration/office area for their business and are permitted under WCC Reg. Ref.: 06/6932

In terms of the detailed operation of the quarry; sand and gravel, and rock, has been extracted by two separate methods:

The first method involves the extraction of overlying sand and gravel by mechanical means (excavation by mobile excavator). An excavator loads the material onto dump trucks, which transports the material to the fixed aggregate processing plant on the quarry surface. This aggregate processing plant has operated a wet process where the aggregate is washed and screened before being segregated into stockpiles of different sized product which is then loaded by a front-end loader onto road going trucks for export to market. The aggregate processing plant operates a closed circuit washing system where water is recirculated. This system has resulted in significantly lower fugitive dust emissions compared with dry screening processes. Silt from the washing process is pumped to silt storage ponds south west of the plant site.

The second method extracted rock by rock breaking (excavator attachment), and crushing and screening on the pit floor, (carried out by mobile crushing and screening units). Prior to the expiration of the KCC Reg. Ref.: 07/267 permission blasting was used as a means to extract rock, however, blasting has not occurred in the period since the expiration of that permission in September 2020. Following the crushing/screening on the pit floor the screened rock is segregated into stockpiles of different sized product. Front-end loaders then load the rock products at onto trucks for onward transportation to market.

The quarry plant area is approximately 5 ha. in size and that currently holds:

- 1 no. maintenance shed (including underbody truck wash on a concrete apron surrounding the shed, staff welfare facilities [shower and toilet], proprietary wastewater treatment system and percolation area, interceptor and soakaway). Within this plant/maintenance shed area is a fuel storage and refuelling area;
- 1 no. generator/power house (within a shipping container),
- 1 no. control room,
- 1 no. office and canteen, a water recycling plant, an aggregate processing plant (washing, crushing, and screening),
- 1 no. bunded fuel tank and generator room,
- 1 no. storage shed,
- 1 no. shipping container storage structure, and
- 1 no. shipping container.

The plant area also holds a dormant secondary crusher and aggregate screen, a dormant crushing plant, and a dormant former concrete plant. These infrastructure items are not in use and are not part of the substitute consent application. These items of plant have remained unused for a period prior to the expiration of the KCC Reg. Ref.: 07/267 permission. These will be decommissioned in conjunction with the restoration plan for the Site. However, given the challenges of the post-2008 economic downturn and the potential for a severe Covid-19 related economic crisis the Applicant believes it prudent to classify the structure as ‘dormant’ and will not be operated without prior consent from the appropriate planning approvals.

Having regard to the purpose of the rEIAR at Chapter 1, to illustrate development evolution for application for substitute consent, set out below is a summary description of the lands the subject of this rEIAR (subject site) at the current time and at baseline in September 2020.

2.3 DEVELOPMENT OF SUBJECT SITE FROM BASELINE TO CURRENT TIME

Section 3.6.1 of the 2017 Draft EPA EIAR Guidance states that together: the description of the project *"…the description of the baseline scenario is the second of the two factual foundations of the EIAR."*

In this instance an rEIAR is presented and thus relates to development already undertaken. For this reason, the baseline scenario required to be described has passed.

The quarry has been in use since the early 1950's and has been formally registered under Section 261, Planning & Development Act 2000 (Quarry Ref. No. QR42) and subsequent planning permission for continuance of quarrying operations was granted under Planning Reg. Ref. 07/267. The expiry of the Planning Reg. Ref. 07/267 appropriate period was 18 September 2020 as confirmed by Kildare County Council, and as such the baseline of this rEIAR has been set at that appointed day. Therefore, the drawings submitted in support of the substitute consent application identify the site as it existed circa September 2020 onwards to today. The rEIAR assessment period has similarly been established as the period of 18 September to the present day.

2.3.1 SOURCES OF INFORMATION AND METHODOLOGY

To retrospectively build a narrative of the development of the subject lands over the period of 18 September 2020 to the present day we have reviewed and rely upon publicly available resources; mapping and photography; HBL business records; and monitoring records.

Environmental monitoring records (undertaken by Golder Associates Ireland Ltd, (now WSP), WSP, and other contractors) made available by the developer have been utilised alongside site visits and monitoring undertaken specifically for the preparation of this rEIAR and concurrent EIAR to support the S37L planning application. In addition, the developer and associated company employees, running the quarry site provided extraction rates and information on the direction of the phased extraction. The various rEIAR/EIAR contributors have utilised these results, relative to the level and location of extraction and processing to assess the retrospective impact of development during the assessment period.

Information including, maps, raster data and aerial photography in respect of ground levels, ground cover and development is available from Ordnance Survey Ireland [OSI], and from surveys undertaken on the Site. Section 11 is an overlay of the EIA project boundary and planning application boundaries on Google Earth imagery from 2020 to 2023 and has been produced in order that an independent source of description information for the lands at baseline and during the intervening years could be made. Approximation of average depths during the period in question has been made based on progression of excavations. A topological survey of the lands was carried out in October 2023 and provides a more recent snapshot of the quarry extent.

2.3.1.1 Changes in Quarry Area

The quarry area and surrounding land is presented for available imagery in Figure 2-2, Figure 2-3, Figure 2-4, Figure 2-5 and Figure 2-6 below, with the outline of the quarry depicted. Approximate

areas of change have been calculated below. These areas occur within the Substitute Consent application boundary.

The quarried area remained consistent between March 2020 and March 2022 at approximately 37.3 ha (0.373 km^2). This is due to quarrying focusing on removal of the previously blasted greywacke rock in the centre of the quarry. There is then an increase in quarry area to approximately 37.8 ha (0.378 km^2) in January 2023 (Figure 2-5) and a further increase to approximately 38.8 ha (0.388 km^2) in October 2023 (Figure 2-6). This increase in area is associated with expansion within the northwest corner of the Site boundary, with digging of the sands and gravels.

Extraction did not occur outside of the Planning Reg. Ref.: 07/267 over the assessment period.

Figure 2-2 – Quarry Area During March 2020 from Google Earth Imagery

Figure 2-3 – Quarry Area During June 2020 from Google Earth Imagery

Figure 2-4 - Quarry Area During March 2022 from ESRI World Imagery

Figure 2-5 - Quarry Area During January 2023 from Drone Survey

Figure 2-6 - Quarry Area During October 2023 from Drone Survey.

The figures above shows the approximate active pit extents over the assessment period of extractive site use. Please see Site Layout plans submitted as part of substitute consent application (planning drawing pack) for the quarry that reflect baseline and current site conditions.

2.3.1.2 Quarry Elevations

Detailed elevation data from within the quarry is available from surveys over the review period. The January 2023 and October 2023 surveys are presented in Figure 2-8 and Figure 2-9 respectively. As a baseline comparison, these are compared to the elevation contours from a survey in February 2019 (Figure 2-7). Note that the February 2019 contours are presented alongside the March 2020 aerial photography, so have some discrepancies.

The elevation contours in February 2019, prior to the review period, show that the deepest part of the quarry was at approximately 190 mAOD, in the location of Pond K2 in the northern corner of the quarry. The central area, excavated into the greywacke bedrock had an elevation of approximately 201 mAOD.

The elevation contours from the January 2023 survey show that the deepest part of the quarry was at approximately 190 mAOD, in the location of Pond K2 in the northern corner of the quarry. This shows that extraction activities did not deepen this section of the quarry in the four years since the February 2019 aerial. Excavation of greywacke bedrock in the central and southern sections of the quarry lowered the floor to 195 mAOD.

In the latest October 2023 survey, the deepest part of the quarry is currently at 188 mAOD, in the centre of the quarry within the greywacke bedrock. The elevation of 192 mAOD in the vicinity of Pond K2 is the result of increased surface water following heavy rainfall. There is therefore little change in geometry in this part of the quarry. It should be noted that October 2023 aerials identify surface water in the base of the quarry and not groundwater (Figure 2-9). There was significant rainfall in September and October 2023 (112.5 mm and 116 mm recorded at Casement Aerodrome ca. 13 km northeast of the Site), preceding the October 2023 survey. This survey was undertaken in the days following Storm Babet, which has resulted in the significant amount of surface water across the Site seen in the October 2023 aerial.

It is estimated that ca. 1 Mt of rock and sand and gravel was excavated from the Site each year over the review period.

The potential impacts on groundwater from excavation of the bedrock to the 188 mAOD level are addressed in Chapter 6.0 Water of this rEIAR. It should be noted however, that the water table was not encountered with extraction of rock to this depth.

Figure 2-7 - Survey Contours February 2019 and Imagery March 2020

Figure 2-8 - Survey Contours and Imagery January 2023

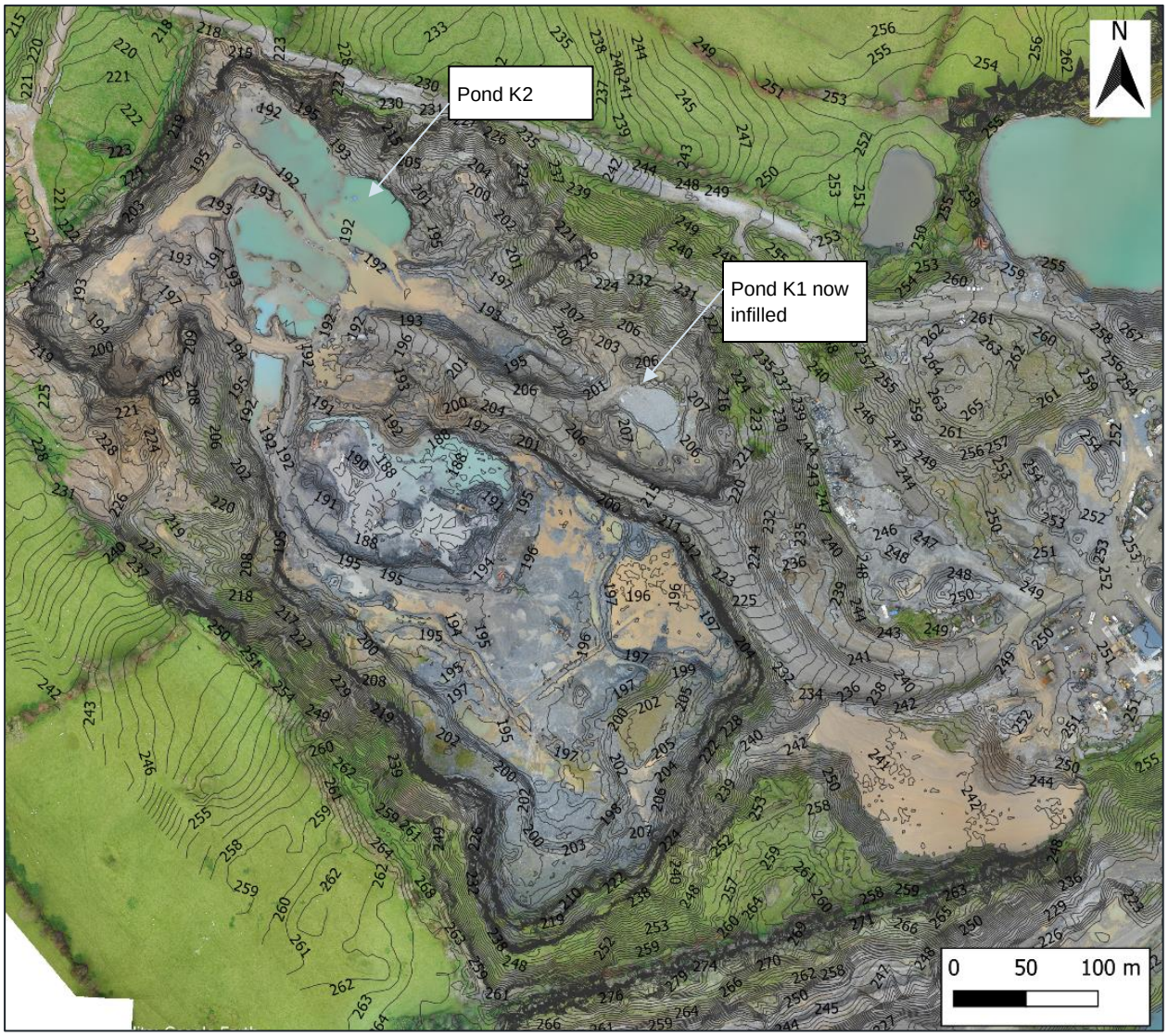

Figure 2-9 - Survey Contours and Imagery October 2023

2.3.2 SUMMARY OF PROGRESSION OF EXTRACTION FROM BASELINE TO CURRENT TIME

The single most significant feature of the development the subject of this rEIAR is that it consists of a quarry and therefore there has been movement of soils and subsoils and extraction of aggregate beneath and across the void area.

The amalgamation of mapping, business records, surveys and aerial photographs has provided an estimation of total volumes (sand and gravel, and rock) extracted and loads exported from the Site from September 2020 to present, (Table 2-Table 2-1).

The extraction of sand and gravel moved north westward and the extraction of rock continued within void deeper from a depth of approximately 201 mAOD to 188 mAOD which is above the watertable. These extraction activities occurred within the Planning Reg. Ref.: 07/267 permitted area.

Table 2-1 - Estimated extraction rate from 2020 baseline to present and estimated number of loads.

Year	Estimated Extracted Material (Tonnes)	Estimated Number of Loads
2020	840,075	33,603
2021	740,075	29,603
2022	1,131,300	45,252
2023	703,825	28,153

**2020 and 2021 were subject to site closures in line with Covid-19 government guidance.*

2.3.3 FUTURE EXTRACTION

This rEIAR is to accompany an application for substitute consent and therefore does not conceive of future extraction as substitute consent may only apply to development that has taken place.

It is the applicant's intention to submit a concurrent applicant under S.37L of the Planning and Development Act, 2000 for extraction to the west and north of the current void area. The rates of extraction predicted as part of that application, will be accompanied by an EIAR that has regard to the historic rates previously permitted for the development.

2.3.4 TRAFFIC CONTROL

All traffic occurring within the quarried unit is internal traffic using internal haul routes. No pedestrian access is permitted to the active extraction areas of the site. Internal traffic speed limits are also posted to maintain vehicular speeds below 30 kmph.

As noted in Section 2.2, sand and gravel, and rock are extracted and processed in separate methods. halt or concrete), storage and on selling from the plant area. The Traffic section of this rEIAR at Chapter 11, sets down a description and assessment of the traffic arisen on site. Material transported into the public realm is by the only operational entrance / exit to the quarry site located on the N81. It is of note that this is the primary entrance for the development and thus caters for all employees, visitors and movement of aggregate products and materials (import/export). Access to the quarry only takes place from the existing main quarry access road off the N81 as HGVs are required to enter / exit via the weighbridge and wheelwash at that location. No quarry access is utilised other minor access roads including along the cul-de-sac 380 m to the northeast of the main quarry road entrance on the N81 to the HBL site.

2.3.5 HOURS OF OPERATION

The hours of operation were prescribed in Condition 14 of the KCC Reg. Ref.: 07/267, which are:

> *'Excavation and processing of material shall be carried out between 0800 hours and 1800 hours, Monday to Friday and between 0800 hours and 1300 hours on Saturdays. However, loading and transporting of processed material may be carried out between 0700 hours and 1800 hours: Monday to Friday and between 0700 hours and 1300 hours on Saturdays. No activities shall be permitted on Sundays or public holidays.'*

However, it was noted that there were occasions where rock breaking commenced prior to 0800 hours on weekdays for a period during the assessment period. HBL noted that this occurred in error

due to a misunderstanding with specific activities that were permitted between 0700 hours and 0800 hours. The timing of these site practices was immediately rectified following this observation.

2.3.6 EMPLOYMENT

Direct and indirect employment levels vary in accordance with market demand and associated extraction and processing requirements. Direct employment is in the categories of plant operators, fitters, laboratory technicians and administrative staff.

The operations on site are part of a family business, established and led by the owners' / operators' family who have worked on the site since the 1950s.

During the assessment period levels of employment on the Site have ranged between ca. 30 to 50 employees, depending on market conditions. Employment has for the most part remained on the higher side due to increased market conditions experienced. Indirect employment has also increased through the maintenance of existing ancillary services required for the operation of the development.

The quarry operator has a fleet of haulage vehicles and drivers but some of the haulage requirements of the site are met by independent contractors who do not have their permanent work place on site.

It is noted that in the times when peak demand existed; the work undertaken by direct employees, sub-contractors, haulier, maintenance contractors, material suppliers etc. has increased from time to time.

2.3.7 FUEL AND CHEMICAL STORAGE

Fuel storage is in bunded fuel tanks in the plant area. Refueling and maintenance of equipment occurs at the maintenance shed over a concrete apron with associated interceptor. Oils, chemicals and admixtures are ordered and used as needed and used oil and chemical containers are separately stored within the maintenance shed for disposal by licensed contractor.

Static plant (e.g., generators) or tracked excavators are refuelled with care. In addition, spill kits are maintained on site to deal with all spills and leaks, and spill training will be provided to relevant staff members.

2.3.8 WASTE MANAGEMENT

The waste arising on site is municipal waste from staff welfare activities and is disposed of via domestic waste collection. Similarly, scrap metal arising on site is stored within a designated area at the site prior to collection by a licensed waste contractor.

2.3.9 WASTE WATER

There exists a holding tank on site of sufficient capacity to cater for full-time site employees and contractors. It was previously proposed to upgrade the existing holding tank to a proprietary wastewater treatment system (Oakstown BAF 6PE). Such upgrades will be the subject of a separate future planning application for the site.

In addition, an Oakstown BAF 6 PE wastewater treatment system is located at the maintenance shed. This system was included in the 2019 retention application KCC Reg. Ref.: 19/1230 which was initially invalidated. The location of this tank and system is incorporated on the submitted site layout. Chapter 6 (Water) of this rEIAR describes this system. Drawings for this system have been

provided in the accompanying substitute consent drawing pack. A Site Suitability Report was completed by O'Reilly Oakstown Environmental on 22 August 2019 for the wastewater treatment system at the Application Site. This has is provided in Appendix 2A. Also included in this appendix are the treatment performance results for the system.

The originally submitted report for 'Certification of Compliance of an On-site Wastewater Treatment System with The EPA Code of Practice: Wastewater Treatment and Disposal Systems Serving Single Houses – 2009', prepared by Trinity Green has also been provided in Appendix 2A for completeness.

2.3.10 POTABLE, SURFACE AND GROUNDWATER

Office / Canteen

Water for the office / canteen and control room is supplied from a public supply.

Maintenance Shed Welfare Facilities

Water associated with the toilets in the maintenance shed are sourced from existing water infrastructure feeding the adjacent wash plant area, which is abstracted from a pond at the base of the quarry on site (Pond K2). This source negates the requirement for a mains water connection and the need to develop a dedicated groundwater well to service the shed's welfare facilities. An ultraviolet (UV) water purification system from Glenngorey Pumps & Plant Limited was identified as an efficient, economical and chemical-free process to safeguard water in the welfare unit of the maintenance shed. The system is wholly enclosed within a container installed adjacent to the maintenance shed. The stages of the treatment system are outlined below. Specification sheets for items described below have been provided in Appendix 2B.

1) Water is taken from the incoming supply line;
2) This incoming water is screened through a 50 µm filter;
3) Water is then stored in a 950 litre storage tank;
4) This water is then pumped through a 25 µm screen filter;
5) Following this the water undergoes softening. The water passes through a water softener system which uses Resinex KW-8 (water softening resin);
6) Water is then sent to the UV water purification system (SC-200/SCM-200 provides sufficient capacity for the current use); and
7) The water then goes on for use.

Other system details are:

- The pipe fittings used in the system are 25 mm Jason compression fittings, (these fittings are approved by the UK Water Regulation Advisory Scheme (WRAS));
- A GE 760i valve will be used for the control at the water softening stage;
- The system will be installed and maintained by Glenngorey Pumps & Plant Ltd; and
- The annual service of the system which will be conducted by Glenngorey Pumps & Plant Limited, includes; the replacement of the 50 µm and 25 µm filters, and the replacement of the UV bulb

(which has a ca. 8,000 hour life span). The system incorporates an alarm notification to identify servicing when required.

Maintenance Shed Run-off

Water run-off from the area at the Maintenance Shed is collected on a hardstand and flows to a sump/silt-trap and then to a hydrocarbon interceptor. Run-off is then infiltrated to ground via the installed soakaway.

Processing Plant Water Management

Water for the processing of the sands and gravels is abstracted from a pond at the base of the quarry void. The pump runs periodically on demand between 0700 and 1800 hours Monday to Friday and between 0700 and 1300 hours on Saturday, estimated water abstraction volume have been documented and assessed in Chapter 6 of this rEIAR (Water). No formal discharge takes place from the Site, with the majority of the water used on-site in the processing of sands and gravels in a closed circuit system. The Site uses modern recycling systems to minimise water consumption when processing sand and gravel, however top-up water is required when necessary. Silt laden water from the Aggregate Processing Plant is discharged to a silt pond (for use in future restoration).

Water is also sourced from the pond (via a water bowser) for dust suppression which is undertaken to mitigate environmental nuisances to the surrounding environment.

2.3.11 POWER SUPPLY AND TELECOMMUNICATIONS

Power is supplied to the subject lands via the electricity network. The service maps provided by ESB indicates that the Site is connected to the grid by an underground medium/low voltage cable. Premises around the site are serviced by medium and low voltage overhead lines which traverse the area to the west, east and north.

Telecommunication transmission poles carry over ground services along the R410 and L6038-1. These lines service the ribbon residential developments situated adjacent to them. No other telecommunication lines or services were identified within the Site including telecom masts or underground services.

2.3.12 SAFETY AND SECURITY

The application site is required to meet conditions of existing planning permissions and in particular, the relevant Health and Safety legislation (*Safety, Health and Welfare at Work Act, 2005*, the *Mines and Quarries Act, 1965)* and subsequent Quarries Regulations relating to health and safety, training, appropriate site management etc. will be complied with in the main quarry complex. Amongst these regulatory requirements are the need to keep on site an up-to-date Health and Safety File which records safe procedures, deviations from those procedures and accident reports.

Compliance with these health and safety requirements has been complied with throughout the life of the operations and during the assessment period (September 2020 to present). The operator maintains a Health and Safety File and facilitates site inspections by the Health and Safety Authority (HSA)

The site boundary is fully fenced with any agricultural entrance permanently closed and locked. The only vehicular entrance in operation is that from the Danker Lane (internal route to the HBL Wicklow site) which is gated at the entrance leading to the N81. All vehicles entering the site must do so

from the N81 entrance and travel along the dedicated internal route which is observed by the shipping office into the operational areas of the site.

There is no requirement for lighting outside of the subject lands but within the lands, certain working hours (after dark in winter periods) necessitate lighting that is extinguished when the site is closed, thus no external light spill occurs.

2.3.13 CONCEPTUAL RESTORATION

This rEIAR has been prepared for a substitute consent application for quarrying under S.261A of the Planning and Development Act, 2000 as amended. Restoration was never undertaken after the expiry of 07/267 as the extraction for which that planning permission was granted was never undertaken. The concept restoration plan provided, (see Chapter 11 of this rEIAR, Landscape and Visual), seeks to incorporate restoration proposals for the 07/267 permission that has expired and the restoration required for works and activities that have occurred since September 2020 to the current day.

2.4 PLANNING HISTORY

2.4.1 S261 REGISTRATION BY KCC AND WCC

Aggregate extraction and processing in the general area is an historic use with the application lands having been used for aggregate production and aggregate processing since at least the 1800s prior to Hudson's presence in the area. The current business has operated since the 1950's i.e.. well before 1963. Following the coming into force of section 261 of the PDA in 2004, the applicant registered their facility with both Wicklow County Council under their reg. ref. QY/43, and Kildare County Council under their reg. ref. QR/42. The applicant's operational facility was correctly and properly registered in accordance with section 261 of the PDA and both registrations related to pre 1963 quarrying.

The planning decisions on the subject site are set out in Table 2-2 below.

Table 2-2 - Summary of key planning decisions on subject site

Time	Reference / Source	Events
2007	07267	Continuation of aggregate extraction and processing at Philipstown and Redbog, by mechanical means, blasting, aggregate processing, washing, screening, crushing, powerhouse, control rooms, office building etc
2020	191230	a single storey truck and plant maintenance shed of ca. 432m2 G.F.A. that includes staff welfare facilities of a shower and W.C.; an underbody truck wash located on the concrete apron surrounding the shed; proprietary wastewater treatment system; interceptor; soakaway; and all ancillary works. Revised by significant further information consisting of; a new water purification system to welfare facilities
Invalidated	20511	(A) The continuation of aggregate extraction and processing as permitted under Reg. Ref. 07/267 that arose following S.261 registration of the extraction operation under reference No. QR42. (B) The lateral extension of the permitted extraction activities in westerly and northerly directions. Over a combined area of approx. 13.8 ha to match existing extraction depth that is above water table. The proposed western extension is for the extraction of sand and gravel, and rock over an area of approx. 10.7 ha. The proposed northern extension is primarily for the extraction of sand and gravel over an area of approx. 3.1 ha. The extension areas are proposed to be extracted on a phased basis that incorporate into the existing extraction and

		restoration plans. The proposed lateral extension areas of sand and gravel, and rock will be processed using existing site processing facilities and are intended to maintain the extraction and aggregate production capabilities of the existing construction aggregate production operation. The proposed extension areas will include ancillary development in the form of landscaped screening bunds. (C) The replacement of existing wastewater holding system for the existing canteen/office with proprietary wastewater treatment system. (D) Ancillary site works. The application site area under reg. Ref. 07/267 was 57.9 ha. The proposed lateral extraction extension areas will increase the overall extraction area to approx. 54.3 ha. The total application area is approx. 75.0 ha and includes the ancillary processing plant and welfare facilities. The application site excludes an area of 0.23 ha that is the subject of a current planning application for retention of a maintenance shed under Reg. Ref. 19/1230.
2020	20532	(A) The continuation of aggregate extraction and processing as permitted under Reg. Ref. 07/267 that arose following S.261 registration of the extraction operation under reference No. QR42. (B) The lateral extension of the permitted extraction activities in westerly and northerly directions. Over a combined area of approx. 13.8 ha to match existing extraction depth that is above watertable. The proposed western extension is for the extraction of sand and gravel, and rock over an area of approx. 10.7 ha. The proposed northern extension is primarily for the extraction of sand and gravel over an area of approx. 3.1 ha. The extension areas are proposed to be extracted on a phased basis that incorporate into the existing extraction and restoration plans. The proposed lateral extension areas of sand and gravel, and rock will be processed using existing site processing facilities and are intended to maintain the extraction and aggregate production capabilities of the existing construction aggregate production operation. The proposed extension areas will include ancillary development in the form of landscaped screening bunds. (C) The replacement of existing wastewater holding system for the existing canteen/office with proprietary wastewater treatment system. (D) Ancillary site works. The application site area under reg. Ref. 07/267 was 57.9 ha. The proposed lateral extraction extension areas will increase the overall extraction area to approx. 54.3 ha. The total application area is approx. 75.0 ha and includes the ancillary processing plant and welfare facilities. The application site excludes an area of 0.23 ha that is the subject of a current planning application for retention of a maintenance shed under Reg. Ref. 19/1230.

NOTES: Reg. Ref. = Planning Application Register Reference Number under Planning & Development Acts
KCC = Kildare County Council
ABP= An Bord Pleanála

A short time following registration of this quarry which occurred in 2005, this applicant applied for planning permission to Wicklow County Council for those components of the existing quarry that lay within that county's jurisdiction under their reg. Ref. 06/6932 and for which planning permission was granted for 25 years.

Setting aside the grant of planning permission for 25 years by WCC under their reg. ref. 06/6932, for what is essentially the administrative part of the business, the key planning decisions are as follows:

- S261 registration by KCC and WCC;
- Planning permission granted under KCC reg. ref. 07/267;
- Refusal of planning permission under KCC reg. ref. 19/1230 for a maintenance shed;
- Invalidated planning application under KCC reg. ref. 20/511 for continuation of development granted under 07/267 and extended area of quarrying extraction;

- Invalidated planning application under KCC reg. ref. 20/532 for continued use for quarrying of aggregates and ancillary plant and welfare facility; and
- The grant of leave to apply for Substitute Consent conferred on the applicant by ABP under your Reg. Ref. 311622.

Planning permission was sought and obtained by the applicant under KCC reg. ref. 07/267 and ABP ref. PL09.235502 for 10 years expiring on 18th September 2020. The applications subsequently lodged upon the expiry of that permission are identified above and are set out in further detail in the accompanying planning statement by Cunnane Stratton Reynolds Limited. The inability of this applicant to apply for retention under normal planning circumstances meant at the time that they had to apply for leave to lodge a substitute consent application which was duly granted on 1st August 2023. That has dictated the requirement to simultaneously lodge a substitute consent application with this S37L application.

A planning search has been undertaken of recent and extant planning permissions in the area, both within County Kildare and County Wicklow, and in particular any developments that might have cumulative impact with the subject development. The majority of relevant decisions in the area relate to one off housing and these are considered in the impact assessments contained within this document. There are no such decisions having potential cumulative impact with the subject development.

2.5 PLANNING GUIDANCE AND POLICY

2.5.1 NATIONAL PLANNING FRAMEWORK (PROJECT IRELAND 2040) AND NATIONAL DEVELOPMENT PLAN 2018-2027

These joint documents set out a vision for the future development of the State and support the sustainable development of rural areas by encouraging growth. National Policy Objective 23 seeks to *'Facilitate the development of the rural economy through supporting, amongst other sectors, a sustainable and economically efficient extractive industry sector, whilst at the same time noting the importance of maintaining and protecting the natural landscape and built heritage which are vital to rural tourism.'*

On page 78 under the heading 'Aggregates and Minerals' the importance of the aggregates and minerals sector to the Irish economy and to development in general is recognised where it stated in the NPF that:

> *'Extractive industries are important for the supply of aggregates and construction materials and minerals to a variety of sectors, for both domestic requirements and for export. The planning process will play a key role in realising the potential of the extractive industries sector by identifying and protecting important reserves of aggregates and minerals from development that might prejudice their utilisation.*
>
> *Aggregates and minerals extraction will continue to be enabled where this is compatible with the protection of the environment in terms of air and water quality, natural and cultural heritage, the quality of life of residents in the vicinity, and provides for appropriate site rehabilitation.'*

2.5.2 QUARRIES AND ANCILLARY ACTIVITIES GUIDELINES FOR PLANNING AUTHORITIES 2004

In light of the commencement of Section 261 of the Planning and Development Act 2000 the Department of the Environment, Heritage and Local Government (DoEHLG) published the Quarries and Ancillary Activities Guidelines for Planning Authorities (2004). The Guidelines are intended as a practical guide to the implementation of Section 261 and to offer guidance to planning authorities in determining applications for planning permission for quarrying and ancillary activities and to land use strategies for same.

Section 1.3 of the Guidelines states that:

> *'aggregates are an essential input to the construction industry, worth about €20 billion to the Irish Economy each year' and 'there will be a continuing need for some new or expanded aggregate quarrying operations on land to meet regional and local requirements'*.

The Guidelines further recognise that there is a:

> *'continuing need for some new or expanded aggregate quarrying operations on land to meet regional and local requirements. There is thus a need to identify and protect aggregate resource areas through the planning system, to ensure an adequate supply of aggregates to meet the likely scale of future demand, while at the same time protecting Irelands natural and cultural heritage.'*

The Guidelines set out the potential environmental effects of quarries and, sand and gravel pits thereby providing guidance on appropriate mitigation measures for each identified effect. Guidance is also provided on matters such as restoration and after-use. It is the intention of this EIAR document to meet these Guidelines where practicable.

2.5.3 ENVIRONMENTAL MANAGEMENT GUIDELINES – ENVIRONMENTAL MANAGEMENT IN THE EXTRACTIVE INDUSTRY (NON – SCHEDULED MINERALS) 2006

These guidelines were published by the Environmental Protection Agency (EPA) and are intended to further compliment the Guidelines which were published by the DoEHLG.

The EPA Guidelines go further than those of the DoEHLG in that they identify, in so far as is possible, all potential environmental effects of extractive industries and suggest mitigation measures for these effects. Suggestions on mitigation measures include advice on monitoring limits and methods of identifying and measuring environmental effects. These guidelines are aimed at practitioners and officers of the Council alike as they outline best practice measures and are considered in Chapters 3.0 to 13.0 of this EIAR. It is the intention of this EIAR document to meet these Guidelines where practicable.

2.5.4 REGIONAL PLANNING GUIDANCE

Eastern and Midlands Regional Assembly Regional Spatial and Economic Strategy

The Eastern and Midlands Regional Assembly (EMRA) Regional Spatial and Economic Strategy (RSES) 2019-2031 sets out regional goals and objectives deriving from the NPF.

Under the title 'Enabling and Sustaining the Rural Economy' the RSES states that '*The rejuvenation of rural towns and villages requires that appropriate job creation can be supported in rural areas.*

Traditional sectors such as agriculture, tourism, extractive industries and forestry are complemented by diversification in [other] sectors'. There is an explicit recognition of the need to accommodate and maintain extractive industries in the countryside.

Regional Policy Objective 6.7 also encourages extractive industry development where it states that the regional authority will:

> *'Support local authorities to develop sustainable and economically efficient rural economies through initiatives to enhance sectors such as agricultural and food, forestry, fishing and aquaculture, energy and extractive industries, the bioeconomy, tourism, and diversification into alternative on-farm and off-farm activities, while at the same time noting the importance of maintaining and protecting the natural landscape and built heritage.'*

The need to reconcile rural based employment and activity with the needs of tourism and protecting the environment is recognised in these guidelines such as building on strengths to sustain a strong economy and support the creation of jobs and to ensure a good standard of living for all.

It is interesting to note that page 94 of the RSES indicates that Blessington is one of those towns recording the highest growth rate in the country over the 10 years prior to the adoption of the RSES at >32% but with lower levels of employment provision.

2.5.5 KILDARE COUNTY DEVELOPMENT PLAN 2017-2023

The period covering this substitute consent is that from 19th September 2020 (i.e., the expiry of the 2007 consent on 18th September to the date of determination of that same application). The S37L application covers the period from that date of S261A determination into the future and the 12 years sought under that S37L planning permission.

The following are the key requirements of the 2017-2023 County Plan which covers the period 2020 to 2023 of the substitute consent and prior to the adoption, and taking effect, of the current 2023 CDP.

Section 10.4.9 of the 2017 CDP recognises that mineral extraction is generally located within rural areas and that the **nature of the extractive industry is such that the industry must be developed where resources occur**. The 2017 CDP also recognises that the industry can have damaging environmental effects and states that planning permission will only be granted where the County Council is satisfied that residential and natural amenities are protected, pollution will be prevented, and aquafers and groundwater safeguarded.

Section 10.7 of the 2017 CDP states that the local authority's aim regarding mineral extraction is '*To ensure that adequate supplies of aggregates are available to meet the future needs of the county and region in line with the principles of sustainable development and environmental management*.'

The following policies contained within the 2017 CDP are considered relevant in the context of this **substitute consent application**.

> *Policy EI 1 Have regard to Section 261A of the Planning and Development Act 2000 (as amended) and related provisions, Guidelines for Planning Authorities, DECLG (2012) and Quarries and Ancillary Activities Guidelines for Planning Authorities (2004).*

Policy EI 2 Recognise the role and facilitate the exploitation of County Kildare's natural aggregate resources in a manner which does not duly impinge on the environmental quality and the visual and residential amenity of an area, while continuing to regulate the extraction of aggregates and to seek the delivery of environmental benefits in the form of sustainable habitat creation in conjunction with the restoration phases of development.

Policy EI 3 Facilitate the sourcing of aggregates for and the operation of the extractive industry in suitable locations, subject to the protection of landscape, environment, road network, heritage, visual quality and amenity of the area.

Policy EI 4 Ensure that extraction activities address key environmental, amenity, traffic and social impacts and details of rehabilitation. In the assessment of planning applications for new development, intensification of use or diversification of activity, the Council will have regard to the nature of the proposal, the scale of activity proposed, the impact on the adjoining road network, the effect on the environment including important groundwater and aquifer sources, natural drainage patterns and surface water systems and the likely effects that any proposed extractive industry may have on the existing landscape and amenities of the county, including public rights of way and walking routes.

Policy EI 5 Ensure that development for aggregate extraction, processing and associated concrete production does not significantly impact the following:

- *Special Areas of Conservation (SACs) – Special Protection Areas (SPAs).*
- *Natural Heritage Area (NHAs).*
- *Other areas of importance for the conservation of flora and fauna.*
- *Zones of Archaeological Potential.*
- *The vicinity of a recorded monument.*
- *Sensitive landscape areas identified in Chapter 14 of the Development Plan.*
- *Scenic views and prospects.*
- *Protected Structures.*
- *Established rights of way and walking routes.*

Policy EI 6 Consult with the Geological Survey of Ireland (GSI) with regard to any developments likely to have an impact on Sites of Geological Importance listed in the County Development Plan (Chapter 12).

Policy EI 7 Require submission of an Appropriate Assessment under Article 6 of the Habitats Directive where any quarry/sand and gravel extraction is likely to have an impact on a Natura 2000site (see Chapter 13.)

Policy EI 8 Require relevant planning applications to be accompanied by an Environmental Impact Statement. An Ecological Impact Assessment (EcIA) may also be required for sub-threshold development to evaluate the existence of any protected species/habitats on site.

Policy EI 9 Require a detailed landscaping plan to be submitted with a planning application indicating proposed screening for the operational life of the site. The predominant use of native plant species in the proposed landscaping plan is encouraged.

Policy EI 10 Require detailed landscaping and quarry restoration plans to be submitted with each application. Habitats and species surveying shall be carried out and shall influence the restoration plan for the site.

Policy EI 11 Ensure that the full cost of road improvements including during operations and at time of closure, which are necessary for the quarrying of sand and gravel, shall be borne by the industry itself and that the industry shall also contribute to the recreation and amenity of the county.

Policy EI 12 Ensure that all existing workings are rehabilitated to suitable land-uses and that extraction activities allow for future rehabilitation and proper land-use management.

Policy EI 13 Require, where permission is granted for quarrying/extraction of aggregates, the submission by the developer of a bond (cash deposit, bond from an insurance company or other security acceptable to the planning authority) for the satisfactory completion and restoration of the site.

Policy EI 14 Consider, in certain circumstances, granting planning permission for quarrying/sand and gravel extraction for a temporary period. Such a period to be decided by the planning authority depending on the merits of the application.

Policy EI 15 Protect and safeguard the county's natural aggregate resources from inappropriate development, by seeking to prevent incompatible land-uses that could be located elsewhere from being located in the vicinity of the resource, since the extraction of minerals and aggregates is resource based.

Policy EI 16 Has regard to the following guidance documents (as may be amended, replaced or supplemented) in the assessment of planning applications for quarries and ancillary facilities:

- Quarries and Ancillary Activities: Guidelines for Planning Authorities DEHLG (2004).
- Environmental Management Guidelines: Environmental Management in the Extractive Industry (Non-Scheduled Minerals), EPA 2006.
- Archaeological Code of Practice between the DEHLG and ICF (2009).
- Geological Heritage Guidelines for the Extractive Industry (2008).
- Wildlife, Habitats and the Extractive Industry - Guidelines for the protection of biodiversity within the extractive industry, NPWS (2006).'

The above policies in the 2017 CDP in relation to **aggregate extraction and quarrying** are broadly consistent with the policies and objectives of the current 2023 CDP. The following objectives are contained within the 2017 CDP and are considered relevant.

Objective EO 1 Continue to implement the provisions of S261A of the Planning and Development Act 2000 (as amended), including taking enforcement action against quarry owners/operators who do not comply with the requirements of the Act.

Objective EO 2 Support regional policy for the adequate supply of aggregate resources to ensure continued growth of the county and region.

Objective EO 3 Ensure that the extractive industry minimises and/or mitigates any adverse visual and/or environmental impacts on the built or natural environments through adherence to the EPA publication Environmental Management in the Extractive Industry (Non-scheduled minerals) (2006) and any subsequent revisions and the requirements of the Programme of Measures from the River Basin Management Plans.

The 2017 CDP recognises the requirement for the mainly upland or elevated location of quarries which it also acknowledges has the potential for significantly affecting the local landscape by visual

intrusion, especially when the development reaches primary ridgelines. The 2017 CDP goes on to state that '*Major ridgelines (i.e. skylines) are visible over a wide area and consequently are vulnerable features because any development on or in the vicinity of skylines has the potential to affect the visual integrity of a wide area.'* It is also stated that 'In some cases, visibility can be partially screened by occurring topography (i.e. the quarry will only be visible on one side of the hill, or screened by undulating lands) and vegetation (i.e. forestry and planting will screen the lower quarry faces). Nevertheless, the visual impact of quarry works is likely to be significant on the local landscape.

In response to the above recognised potential concerns with quarries and the extractive industry generally, section 10.7.2 (Layout and Design of Extractive Industries) sets out the practical means by which visibility of such operations including overburden (topsoil, subsoil and waste) may be minimised by being located to enclose and screen the proposed development from the surrounding countryside. Section 10.7.2 states that this objective must take account of the operation's reasonable requirement to minimise the length of haulage routes and to avoid double handling of material within the site.

Section 13.2 prioritises the protection and conservation of nationally important and EU designated sites including Special Protection Areas, candidate Special Areas of Conservation and proposed Natural Heritage Areas; to promote conservation and development measures while promoting the orderly and sustainable development of County Kildare; to avoid undue negative impacts upon the natural environment; to promote appropriate enhancement of the natural environment as an integral part of future development; to mitigate the effects of harm where it cannot be avoided.

Section 13.3 seeks to protect and enhance national heritage and promote the enhancement of biodiversity.

In terms of **general natural heritage** the following policies are relevant:

> *Policy NH 1 Facilitate, maintain and enhance as far as is practicable the natural heritage and amenity of the county by seeking to encourage the preservation and retention of woodlands, hedgerows, stonewalls, rivers, streams and wetlands. Where the removal of such features is unavoidable, appropriate measures to replace like with like should be considered, subject to safety considerations.*
>
> *Policy NH 2 Promote the carrying out of basic habitat assessments to inform the design of new developments in order to ensure that proposals for development integrate the protection and enhancement of biodiversity and landscape features wherever possible, by minimising adverse impacts on existing habitats (whether designated or not) and by including mitigation and/or compensation measures, as appropriate.*
>
> *Policy NH 3 Require compliance with Article 10 of the Habitats Directive with regard to encouraging the management of features in the landscape which are of major importance for wild fauna and flora. Such features are those which, by virtue of their linear and continuous structure (such as rivers with their banks or the traditional systems for marking field boundaries) or their function as stepping stones (such as ponds or small woods), are essential for the migration, dispersal and genetic exchange of wild species.*

It is an objective of the Council to:

> *Objective NHO 1 Identify and protect, in co-operation with the relevant statutory agencies and other relevant groups, sites of local biodiversity importance (Local Biodiversity Areas), not otherwise protected by legislation.*
>
> *Objective NHO 2 Implement the actions contained in the County Biodiversity Plan through the identification of priority actions subject to the availability of funding.*
>
> *Objective NHO 3 Integrate biodiversity considerations into Local Area Plans, programmes and activities.*
>
> *Objective NHO 4 Identify, conserve and provide guidance on development in important local biodiversity sites.*
>
> *Objective NHO 5 Carry out habitat mapping on a phased basis (including wetlands) within the plan area. This habitat mapping will identify Local Important Biodiversity areas in cooperation with NPWS, DAHG and Inland Fisheries Ireland.*

Table 13.1 of the 2017 CDP identifies **Natura 2000 Sites** in Co Kildare include Red Bog SAC/NHA and Poulaphoca Reservoir SPA and NHA.

Under the 2017 CDP the Council will: support the conservation and enhancement of Natura 2000 Sites and to protect the Natura 2000 network from any plans/projects that are likely to have a significant effect on the coherence or integrity of a Natura 2000 Site under NH4; prevent development that would adversely affect the integrity of any Natura 2000 site located within and immediately adjacent to the county and promote favourable conservation status of habitats and protected species including those listed under the Birds Directive, the Wildlife Acts and the Habitats Directive under NH 5; ensure Appropriate Assessment under Article 6(3) and Article 6(4) of the Habitats Directive and with DEHLG guidance (2009) in terms of assessing whether there will be a significant effect on a Natura 2000 site, either individually or in combination with other plans or projects and to ensure that projects which may give rise to significant cumulative, direct, indirect or secondary impacts on Natura 2000 sites will not be permitted (either individually or in combination with other plans or projects) unless for reasons of overriding public interest under NH 6.

In respect of **NHAs** it is the policy of the Council to: contribute towards the protection of the ecological, visual, recreational, environmental and amenity value of the county's Natural Heritage Areas and associated habitats under NH 7; ensure that any proposal for development within or adjacent to a Natural Heritage Area (NHA), Ramsar Sites and Nature Reserves is designed and sited to minimise its impact on the biodiversity, ecological, geological and landscape value of the site, particularly plant and animal species listed under the Wildlife Acts and the Habitats and Birds Directive including their habitats under NH 8; ensure the impact of development within or adjacent to national designated sites Natural Heritage Areas, Ramsar Sites and Nature Reserves that is likely to result in significant adverse effects on the designated site is assessed by requiring the submission of an Ecological Impact Assessment (EcIA) prepared by a suitably qualified professional, which should accompany planning applications and council developments, as not all developments are likely to result in adverse effects under NH 9.

Protected Habitats and Species are protected under Policy NH 11 ensuring no significant adverse impact on rare and threatened species, including those protected under the Wildlife Acts 1976 and 2012, the Birds Directive 1979, the Habitats Directive 1992, and the Flora Protection Order species;

under NH 12 ensure that, where evidence of species that are protected under the Wildlife Acts 1976-2012, the Birds Directive 1979 and the Habitats Directive 1992 exists, appropriate avoidance and mitigation measures are incorporated into development proposals as part of any ecological impact assessment. Under Policy NH 12 in the event of a proposed development impacting on a site known to be a breeding or resting site of species listed in the Habitats Regulations or the Wildlife Acts 1976 -2012 a derogation licence, issued by DAHRRGA, may be required.

In terms of **geology** Policy NH 16 maintains the conservation value and seeks the sustainable management of the county's geological heritage resource. Objective NHO 9 seeks to protect Geological Natural Heritage Areas that become designated during the life-time of the plan from inappropriate development.

It is a **green infrastructure** policy of the Council under GI 1 to ensure the protection, enhancement and maintenance of Green Infrastructure and recognise the health benefits as well as the economic, social, environmental and physical value of green spaces through the integration of Green Infrastructure (GI) planning and development in the planning process and through GI 2 to develop and support the implementation of a Green Infrastructure Strategy for County Kildare.

Trees, woodlands and hedgerows are protected through Policy GI 8 where they are of amenity or biodiversity value and/or contribute to landscape character and where they strengthen local networks. Policy GI 9 seeks to ensure that proper provision is made for the consideration, protection and management of existing networks of woodlands, trees and hedgerows when undertaking, approving or authorising development. Policy GI 10 seeks to ensure that a Tree Management Plan is provided to ensure that trees are adequately protected during development and incorporated into the design of new developments. Policy GI 11 seeks to ensure that hedgerow removal to facilitate development is kept to an absolute minimum and, where unavoidable, a requirement for mitigation planting will be required comprising a hedge of similar length and species composition to the original, established as close as is practicable to the original and where possible linking in to existing adjacent hedges. Native plants of a local provenance should be used for any such planting. Policy GI 12 restricts the period of the cutting of hedges during the bird-nesting season.

> *Policy GI 15 encourages the protection of historic hedgerows or significant hedgerows which serve to link habitat areas to each other and the surrounding countryside. Policy GI 16 encourages the planting of woodlands, trees and hedgerows as part of new developments using native plants of local provenance.*

Table 14.1 **Landscape Sensitivity** Classification, Landscape Character Areas, and Table 14.2 Landscape Sensitivity Areas are the same as the current 2023 CDP. Table 14.3 Likely compatibility between a range of land-uses and Principal Landscape Areas also replicate what is in the current 2023 CDP as does Table 14.4 Likely Compatibility between a range of land-uses and proximity to Principal Landscape Sensitivity Factors.

Section 14.5.5 repeats section 13.4.2 of the 2023 CDP regarding the characteristics of the East Kildare Uplands.

Section 14.6 (**Scenic Routes and Protected Views**) of the 2017 CDP indicates that scenic routes and protected views consist of important and valued views and prospects within the county. Table 14.5 of the 2017 CDP lists the specific scenic routes which provide views of the landscape of the county and many built and archaeological features. Maps 14.2 and 14.3 of the previous CDP also outline the scenic routes within the county. In addition to scenic routes there are a number of

protected views throughout the county. These are located particularly along water corridors and to and from the hills in the countryside. The Council recognises the need to protect the character of the county by protecting views and scenic routes. However, it is acknowledged that in certain circumstances, some development may be necessary.

Scenic routes are identified in Table V1-14.3 of the 2017 CDP. Those that are relevant are set out in our own Table 2-3 below:

Table 2-3 - Scenic Routes in the 2017 CDP.

No.	Name	Location
12	Views West of Kildare Plains from Redbog Area and Views towards Caureen; from Rathmore Cross Roads to Pipershall	Greenmount, Redbog, Pipershall, Rathmore West
22	Views to the North-West of the Open Countryside; from Kilteel Village to Rathmore Village	Furryhill, Kilteel Lower, Rathmore East

It should be noted that 2 no. prospects are located within the landscape and visual study area with no.21 falling outside consideration as it is east facing and facing away from the application site. Prospect 21 is identified as 'Prospect of Poulaphouca' and the subject site is more than 2km away from Poulaphouca Reservoir. It should be noted that viewpoint 29 is relatively close to the subject application site but faces away from the site. It should also be noted that views 33 and 34 of the Wicklow County Development Plan 2016-2022 are located within the application study area, but neither of which is orientated in the general direction of the application site.

There are 2 no. **Areas of Outstanding Natural Beauty** (AONBs) within the study area but both the Mountain Uplands and Poulaphouca Reservoir AONB are located some 2km away from the application site.

Section 14.8 contains the following landscape policies:

> *Policy LA 1 Ensure that consideration of landscape sensitivity is an important factor in determining development uses. In areas of high landscape sensitivity, the design, type and the choice of location of proposed development in the landscape will also be critical considerations.*
>
> *Policy LA 2 Protect and enhance the county's landscape, by ensuring that development retains, protects and, where necessary, enhances the appearance and character of the existing local landscape.*
>
> *Policy LA 3 Require a Landscape/Visual Impact Assessment to accompany significant proposals that are likely to significantly affect:*
>
> - − Landscape Sensitivity Factors;
> - − A Class 4 or 5 Sensitivity Landscape (i.e. within 500m of the boundary);
> - − A route or view identified in maps 14.2 and 14.3 (i.e. within 500m of the boundary).
>
> *Policy LA 4 Seek to ensure that local landscape features, including historic features and buildings, hedgerows, shelter belts and stone walls, are retained, protected and enhanced where appropriate, so as to preserve the local landscape and character of an area, whilst providing for future development.*

Policy LA 5 Prohibit advertising structures and hoardings in the open countryside. The Council will use its enforcement powers under the Planning Acts to secure the removal of unauthorised advertising signs and hoardings including those that are affixed to trailers, wheeled vehicles etc.

Policy LA 7 Be informed by consideration of the County Landscape Character Appraisal.

There is also a suite of **landscape based policies** within Section 14.8.3 of the 2017 CDP entitled Upland Character Areas including East Kildare Uplands (Area of High Amenity) where it is stated that it is policy to:

Policy LU 1 Ensure that development will not have a disproportionate visual impact (due to excessive bulk, scale or inappropriate siting) and will not significantly interfere with or detract from scenic upland vistas, when viewed from areas nearby, scenic routes, viewpoints and settlements.

Policy LU 2 Ensure that developments on steep slopes (i.e. >10%) will not be conspicuous or have a disproportionate visual impact on the surrounding environment as seen from relevant scenic routes, viewpoints and settlements.

Policy LU 3 Facilitate, where appropriate, developments that have a functional and locational requirement to be situated on steep or elevated sites (e.g. reservoirs, telecommunication masts or wind energy structures) where residual adverse visual impacts are minimised or mitigated.

Policy LU 4 Maintain the visual integrity of areas which have retained a largely undisturbed upland character.

Policy LU 5 Have regard to the potential for screening vegetation when evaluating proposals for development within the uplands.

The following objectives contained within section 14.10 also apply to **high amenity areas**:

Objective LO 1 Have regard to the Landscape Sensitivity Factors in the vicinity of sites in the consideration of any significant development proposals.

Objective LO 2 Ensure landscape assessment will be an important factor in all land-use proposals.

Objective LO 4 Protect the visual and scenic amenities of County Kildare's built and natural environment.

Objective LO 5 Preserve the character of all important views and prospects, particularly upland, river, canal views, views across the Curragh, views of historical or cultural significance (including buildings and townscapes) and views of natural beauty.

Objective LO 6 Preserve and protect the character of those views and prospects obtainable from scenic routes identified in this Plan, listed in Table 14.5 and identified on Map 14.3.

Objective LO 7 Encourage appropriate landscaping and screen planting of developments along scenic routes. Where scenic routes run through settlements, street trees and ornamental landscaping may also be required.

Section 14.11 (Recreation and Amenities) seeks to develop **recreation areas and the amenities of County Kildare** in an equitable, environmentally sensitive and sustainable way. Objective CR 1

supports the diversification of the rural economy through the development of the recreational potential of the countryside in accordance with the National Countryside Recreation Strategy.

A full version of all designations, policies and objectives for the Kildare 2017-2023 Plan are set out in the planning statement prepared by Cunnane Stratton Reynolds Limited, which accompanies this application.

2.5.6 KILDARE COUNTY DEVELOPMENT PLAN 2023 – 2029

This is the current development plan covering the application Site. Chapter 9 of the Kildare County Development Plan 2023-2029 indicates that extractive industries require sensitive management. Section 9.9 (Mineral Resources and Extractive Industry) identifies the following:

- The extractive industry can only be developed where the required resources occur;
- Residential and natural amenities will be protected, pollution will be prevented, and aquifers and ground water safeguarded;
- Principles of sustainable development and environmental management;
- Aggregate resources are important to the general economy;
- The industry provides a valuable source of employment in some areas of the county;
- Environmental and landscape impact must be managed or minimised insofar as siting is based on resource locations, and the Council will protect high amenity/special/unique sensitivity areas and limit new and/or extending existing extractive industries in this area;
- Rehabilitating ecology and biodiversity and restoration plans will provide for a mosaic of habitats. Infilling may be considered preferable to reverting to agricultural grassland for ecological and biodiversity purposes.

The proposal is consistent with Policy RD P8 which supports and manages appropriate future development of Kildare's natural aggregate resources in appropriate locations to ensure that there are adequate supplies to meet future needs of the county and the region consistent with the principles of sustainable development and environmental management.

The following **extractive industry specific objectives** are met:

> *RD O42 which seeks to ensure that there is no significant impact on any Designated Site;*
>
> *RD O43 that there shall be no impact on any site of Geological Importance and that the planning authority shall consult with the Geological Survey of Ireland;*
>
> *RD O44 requiring AA Screening; EIAR; EcIA; detailed landscape plans indicating proposed screening for the operational life of the site; the predominant use of native plant species in proposed landscaping; detailed landscape ad quarry restoration plans; habitats and species surveys will be carried out; comprehensive site restoration plan and /or after use strategy having regard to the principles of 'Rehabilitation Ecology; and finally a transport impact assessment.*
>
> *RD O45 submission of a bond (cash deposit, bond from an insurance company or other security acceptable to the planning authority) to ensure satisfactory completion and restoration of the site.*
>
> *RD O46 requiring road re-instatement work to be on-going during operations in the interests of road and traffic safety;*

RD O47 protecting and safeguarding the county's natural aggregate resources from inappropriate development;

RD O48 managing the finite aggregate resources being mined to supply the future needs of the region while working to reach climate change targets;

RD 049 be consistent with the Guidelines on Quarries and Ancillary Activities; Evironmental Management Guidelines, Environment Management in the Extractive Industry (non-schedules minerals); the Archaeological Code of Practice between the DEHLG and ICF; Geological Heritage Guidelines for the Extractive Industry; and Wildlife, Habitats and the Extractive Industry Guidelines for the protection of biodiversity within the extractive industry.

RD O50 ensuring the satisfactory and sensitive re-instatement and/or re-use of disused quarries and extraction facilities where extraction has ceased and seeking consistency with the criteria set out in Section 15.9.6 of that CDP and where there is no significant or unnecessary alteration of the natural landscape and topography unless it can be demonstrated that significant landscape remodelling would enhance the landscape and/or not give rise to adverse impacts.

RD O51 requiring that quarry remediation plans provide for environmental benefit, biodiversity and re-wilding in all instances. It is noted that the 80% requirement for environmental/biodiversity may be waived at sites closer to urban areas where a significant portion of the site is being provided for sports, recreation and amenity.

The aforementioned Section 15.9.6 sets out the requirements for assessing planning applications under Section 261A of the PDA and in particular accordance with the previously cited guidelines as well as the requirements for impact assessment including the environmental baseline of the area in which extraction is imposed, the likely impacts and proposed mitigation measures in relation to: human health; groundwater; Natura 2000 sites, Natural Heritage Areas, proposed Natural Heritage Areas and other sites for environmental or ecological protection; flora and fauna; sensitive local receptors including residences, Areas of High Amenity, Landscape Sensitivity Areas, Key Scenic Views and Prospects, and Key Amenity Routes, all of which have been assessed in this application; landscaping, berms and screening proposals; local transport networks including haul routes, trip movements and articulated lorry heights; noise, vibration and dust emissions; and archaeological an architectural heritage of the area.

The current CDP also sets out the technical requirements of planning applications including necessary details of the of the subject development, all of which are provided in this application. We emphasise in this instance there is no blasting.

There are several **economic based policies** all of which support the subject development as an existing quarry.

RE P1 seeking to facilitate employment creation;

RE P2 supporting economic development in the county;

In terms of **access and transport** the following is noted by the applicants and assessed by their consultant team:

Objective TM A24 which seeks to upgrade the N81 National Secondary Road.

In terms of **biodiversity** the subject proposal is consistent with the following biodiversity based policies and objectives:

> *BI P1 requiring the protection and enhancement of biodiversity and landscape features by applying the mitigation hierarchy to potential adverse impacts on important ecological feature, where mitigation and/or compensation measures as appropriate. The applicant notes that opportunities for biodiversity net gain are encouraged.*
>
> *BI O6 which applies the precautionary principle in relation to developments in environmentally sensitive areas, and which seeks to ensure that all potential impacts on a designated NHA or Natura 2000 site can be avoided, remedied or mitigated.*
>
> *BI O7 seeking insofar as possible a biodiversity nett gain.*
>
> *BI P2 seeking the maintaining or restoration of the conservation status of all designated or proposed designated sites.*
>
> *BI O9 avoid development that would adversely affect the integrity of any Natura 2000 site.*
>
> *BI O10 ensuring that Appropriate Assessment Screening is carried out to determine the likelihood of having any significant effect on a Natura 2000 site ether individually or in combination with other plans or projects.*

In respect of **natural heritage areas**, including Red Bog NHA, and Poulaphouca Reservoir, the subject development is consistent with the following:

> *BI P3 ensuring that any proposal within or adjacent to any NHA is designed and sited to minimise its impact on the biodiversity, ecological, geological and landscape value of the site, particularly plant and animal species listed under the Wildlife Acts and the Habitats and Birds Directive including their habitats.*
>
> *BI O12 requiring ecological impact assessment in accordance with the appropriate guidance by a suitably qualified for proposals within or adjacent to a NHA or proposed NHA to ensure that development is designed and sited to minimise impact on biodiversity, ecological, geological and landscape value of the site and particularly plant and animal species listed under the Wildlife Acts.*
>
> *BI O14 minimising impact on ecological and landscape values on sites under National ad European legislation and International Agreements.*

In respect of **protected habitats and species** the subject development accords with the following:

> *BI P4 ensuring development does not have a significant adverse impact, is not incapable of satisfactory mitigation on plant, animal or bird species which are protected by law.*
>
> *BI O15 ensuring that there is no significant adverse impact on rare and threatened species.*
>
> *BI O16 ensuring that appropriate species and habit avoidance and mitigation measures are incorporated into all new development proposals.*
>
> *BI O17 requiring a derogation licence where necessary.*
>
> *BI O18 requiring developments to identify, protect and sensitively enhance the most ecological features and habitats and incorporate these into the overall open space network and making provision of local diversity.*

BI O22 identifying and protecting areas of high nature conservation value (including but not limited to SAC, SPA, pNHA) and supporting landscape features which act as ecological corridors/networks and stepping-stones such as river corridors, hedgerows etc so as to minimise loss of habitats and features of wider countryside which are of major importance for wild fauna and flora.

In respect of ecologically important sites the following policy requirements are met:

BI P8 ensuring that Kildare's wetlands and watercourses are retained.

BI O49 requiring that any development within the zone of influence of listed wetland sites should be subject to EcIA and where appropriate hydrological assessment.

BO O50 protecting and conserving wetlands and resisting development that would destroy, fragment or degrade any identified wetland in the county.

BI O52 requiring preparation and submission of a hydrological report/assessment for significant developments within and in close proximity to protected raised bogs and the assessment of impact on the integrity of peatland ecosystems.

BI O55 protecting conserving and managing the character and appearance of ecological and archaeological heritage.

BI O56 preventing impact on sensitive water habitats without mitigation measures.

In the terms of **geology** the subject development complies with the following on geology as follows:

BI P10 maintaining and protecting the conservation of value of geological sites of national or local importance and seek sustainable management of the county's geological heritage resource.

BI O60 consulting with Geological Survey of Ireland regarding development likely to impact on Sites of Geological Importance.

BI 062 promoting, encouraging and supporting provision of access to geological and geo-morphological features of interest in co-operation/consultation with landowners where practicable.

BI O63 Where appropriate support the restoration of Sites of Geological Importance (identified in Table 12.7).

BI O74 Strengthen ecological networks between urban areas to create greater linkages to Natura 2000 sites, proposed Natural Heritage Areas, parks and open spaces and the wider regional Green Infrastructure network.

In respect of **green infrastructure** the subject development is consistent with the following:

BI O77 which seeks to integrate nature-based solutions and climate change considerations into the design, planning and implementation of development proposals at the earliest possible stage of the design process.

BI O78 which actively promotes and encourages nature-based approaches and green infrastructure solutions as viable mitigation and adaptation measures to surface water management.

In terms of landscape character and landscape and visual impact the subject site is located within an area of medium landscape sensitivity where extraction of sand, gravel and rock is shown of medium appropriateness and is 'likely to be compatible with great care.

The subject development is consistent with the following:

LR P1 which seeks to protect and enhance the county's landscape.

LR O2 which requires a landscape/visual impact assessment where proposals may affect landscape sensitivity factors or may affect a route or view contained within 500m of the site boundary.

LR O4 requiring retention of local landscape features.

LR O7 restricting the quarrying of sensitive sites within Landscape Character Areas and protecting and conserving ecological, archaeological, biodiversity and visual amenity surrounding quarry.

LR O8 requiring all quarrying activities and projects associated with the extractive industry comply with the relevant guidelines and legislation.

LR O12 requiring appropriate environmental assessment for any development that may impact on boglands.

LR O14 maintaining the visual integrity of the Eastern Transition Lands which have retained an upland character.

LR O15 continuing to facilitate appropriate development in the Eastern Transition Lands in an incremental and clustered manner, where feasible, that respects the scale, character and sensitivities of the local landscape, and recognising the need for sustainable economic activity within the county.

In respect of assessing impact on **designated high amenity areas** the subject development, although not within such a defined area, is consistent with the following:

LR P2 protecting High Amenity Areas from inappropriate development and reinforcement of their character, distinctiveness and sense of place in so far as this is a well-established use, and a key or determining feature of the existing and well-established landscape.

LR O17 controlling development that will adversely affect the visual integrity of Areas of High Amenity by restricting incongruous structures out of scale with the landscape within the Areas of High Amenity and where they will disrupt the open nature of these areas.

LRO30 facilitating the utilisation of existing structures taking account the visual absorption opportunities provided by existing topography ad vegetation.

LR O30 considering the need for activities that have a functional and locational requirement to be situated on elevated sites where it can be explicitly demonstrated that residual adverse visual impacts are minimised or mitigated.

LR O31 having regard to potential for screening vegetation when evaluating proposals for development within Upland Character Areas including the East Kildare Uplands.

In respect of **protected views and prospects** the following policy requirements are met in this instance:

LR P3 protecting, sustaining and enhancing the established appearance and character of all important views and prospects.

LR O32 avoiding any development that could disrupt the vistas or have a disproportionate impact on the landscape character of the area, particularly upland views and listed views. Listed views that may be affected by the subject development are not affected.

LR O33 ensuring no disproportionate visual impact or significantly interfere with or detract from scenic upland vistas when viewed from nearby areas, scenic routes, viewpoints and settlements.

LR O35 encouraging appropriate landscaping and screen planting along scenic routes.

In terms of recreation the following is complied with:

LR P4 protecting and maintaining existing recreation infrastructure in the county and supporting diversification of the rural economy.

Each of the designations, policies and objectives of the 2023 – 2029 Kildare Development Plan are reproduced in full in the accompanying planning statement undertaken by Cunnane Stratton Reynolds Limited.

2.5.7 CIRCULAR LETTER EUIPR 02/2023

This circular letter follows the enactment of the Planning and Development, Maritime and Valuation (Amendment) Act 2022 (Commencement of Certain Provisions) (no.2) Order 2023 (SI 645 of 2023) which was signed onto law on 15 December 2023 and came into effect on 16 December 2023. This letter set out the amendments to the PDA and PDR to facilitate a more streamlined substitute consent process providing for a single-stage application process without the need for seeking leave to apply for substitute consent to the Board.

In this case that seeking leave process has already been passed under ABP's determination under their Ref. 311622.

SI 645 now indicates that the criteria previously under S177D (2) are contained within S177K(1J) and are the exceptionality criteria which the Board must have regard to, in being satisfied that whether exceptional circumstances exist in order to justify a grant of substitute consent.

2.6 REFERENCES

Kildare County Development Plan 2023 – 2029.

Environmental Impact Assessments of Projects Guidance on the Preparation of the Environmental Impact Assessment Report (Directive 2011/92/EU as amended by 2014/52/EU). European Commission 2018.

Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment, Department of Environment, Community and Local Government, 2018.

Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EIAR) 2023.

Environmental Protection Agency, Johnstown Castle Estate, Co. Wexford, Ireland. EPA. 2017.

Circular Letter PL 1/2017 - Implementation of Directive 2014/52/EU on the Effects of Certain Public and Private Projects on the Environment (EIA Directive).

Circular Letter EUIPR 02/2023 - Following the enactment of the Planning and Development, Maritime and Valuation (Amendment) Act 2022 (Commencement of Certain Provisions) (no.2) Order 2023 (SI 645 of 2023).

Guidelines on the Information to be contained in Environmental Impact Assessment Reports. Environmental Protection Agency, Johnstown Castle Estate, Co. Wexford, Ireland. EPA. 2017.

Key Issues Consultation Paper - Transposition of 2014 EIA Directive (2014/52/EU) in the Land Use Planning and EPA Licencing Systems, 2017.

EU Environmental Impact Assessment Directive (Council Directive 2014/52/EU).

Guidelines for the Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements. Institute of Geologist of Ireland, 2013.

Archaeological Code of Practice20 (Irish Concrete Federation, 2009);

Geological Heritage Guidelines for the Extractive Industry (Irish Concrete Federation, 2008).

HSA's 'Guidelines to the Safety, Health and Welfare at Work (Quarries) Regulations 2008.

Environmental Management in the Extractive Industry: Guidelines for Regulators 2006.

Environmental Code (Irish Concrete Federation, 2005).

Department of the Environment, Quarries and Ancillary Activities, Guidelines for Planning Authorities 2004.

Appendix 2A

MAINTENANCE SHED WASTEWATER TREATMENT SYSTEM DETAILS

Hudson Brothers
Philipstown & Redbog
Blessington
Wicklow

O'Reilly Oakstown Environmental

O'Reilly Oakstown Environmental

Oakstown, Trim
Co. Meath
Tel: 046 - 943 - 1389
Fax: 046 - 943 - 7054

E: info@oreillyoakstown.com
W: www.oreillyoakstown.com
V.A.T Reg. No.: IE 6401624D
Company Reg. No.: 381624

Date: 22nd August 2019

Applicant Name: Hudson Brothers

Site Address: Philipstown & Redbog, Blessington, Wicklow

The following is the design specification for the Oakstown BAF 6 PE wastewater treatment system.

1. Waste Water Treatment System Design Details:

- Maximum Daily Design Loadings as per client & EPA - Commercial Loading Rates:

	Max No. of users	Flow Litres/day/ person	Total Hydraulic Load	B0D5 (grams/day /person)	Total Organic Loading (grams/day)
Workers	2	40	80 litres	25	50
Visitors	5	10	50 litres	10	100
Total			130 Litres ~1 PE		150 grams ~ 3 PE

- Oakstown BAF 6 PE Maximum Capacity Design Loadings:

Total Organic Loading	0.36kg BOD/day
Total Hydraulic loading	0.9m³ /day

- Average treated effluent standard

BOD	20mg/litre
TSS	30mg/litre

- Proposed system details: ► Oakstown BAF 6 P.E.

Volume of Total Plant	6.7m³
Volume of Primary Sedimentation Chambers	2.86m³
Volume of Secondary Aeration Chamber	1.2m³
Volume of Biomedia	0.8m³

O'Reilly Oakstown Environmental

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V.A.T Reg. No.: IE 6401624D
Company Reg. No.: 381624

2. Wastewater Treatment system description:

The Oakstown BAF 6 PE is designed to provide proven, cost effective primary and secondary wastewater treatment in robust steel reinforced concrete tanks.
The primary sedimentation chamber has a 2.2m³ capacity to allow anaerobic digestion to occur naturally while letting sludge settle on the tank floor.
Once primary treatment has taken place the effluent is further degraded in the aeration chamber where oxygen enriched wastewater provides ideal conditions for aerobic bacteria to thrive.
Before pumping to the percolation area the clear water is left to further settle in the clarifier chamber to eliminate any remaining settle able solids.

3. Guarantee and warrantees:

O'Reilly Oakstown provide a 12 month maintenance service contract on all systems from date of first occupation. We provide a 24 month warranty on all parts.

4. Percolation:

The percolation area designed must conform to the requirements of Chapters 8 & 10, Table 8.2 and / or Table 10.4 of the EPA Code of Practice 2009 Wastewater Treatment and Disposal System serving single houses.

The percolation area requirements are as follows:
Groundwater Protection Response: R1.
T-value: 0.25 as per Site Characterisation Form.
P-value: Not Specified as per Site Characterisation Form.
Depth from ground surface to water table: 1.5m BGL.
Depth from ground surface to bed rock: None Encountered BGL.
Depth from ground surface to mottling: None Encountered BGL.
Tertiary Treatment is achieved through a sand polishing filter sized: 15m².
Area recommended for disposal of treated wastewater from sand polishing filter: 30m².
►See Site Characterisation report for percolation area details.

O'Reilly Oakstown Environmental

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V.A.T Reg. No.: IE 6401624D
Company Reg. No.: 381624

5. Client Responsibilities unless included in our quotation:

- Excavation and backfill.
- Construction of the percolation / polishing filter as recommended by the site engineer on the Site Characterisation report and/or drawing.
- Provision of access for delivery by hi-ab truck to within 3 metres of the excavation.
- Provision of a power ducting from the tanks to the Plant Room.
- Mounting and connection of control panel to mains power in the Plant Room.

6. Operation and Maintenance:

The client is responsible for the operation and maintenance of the wastewater treatment system in accordance with the owner's manual supplied by O'Reilly Oakstown.

Please do not hesitate to contact us if there are any further queries.

Yours sincerely,

Paula Murphy

Prüfinstitut für Abwassertechnik GmbH

TREATMENT PERFORMANCE RESULTS

O'Reilly Oakstown Environmental Ltd.
Oakstown, Trim, Co. Meath, Ireland

EN 12566-3
Results corresponding to EN 12566-3 and S.R. 66

PIA-SR66-1603-1036

Oakstown BAF System
Submerged aerated fixed film bioreactor

Nominal organic daily load	0.38 kg/d		
Nominal hydraulic daily load	1.20 m³/d		
Material	Concrete		
Watertightness	Pass		
Structural behaviour (Calculation)	Pass (also wet conditions)		
Durability	Pass		
Treatment efficiency (nominal sequences)		Efficiency	Effluent
	COD	93.0 %	46 mg/l
	BOD_5	97.5 %	8 mg/l
	NH_4-N	61.0 %	13 mg/l
	SS	96.7 %	12 mg/l
Number of desludging	Not more than once		
Electrical consumption	2.0 kWh/d		

Performance tested by:

PIA – Prüfinstitut für Abwassertechnik GmbH
(PIA GmbH)
Hergenrather Weg 30
52074 Aachen, Germany

This document replaces neither the declaration of performance nor the CE marking.

Notified Body No.: 1739

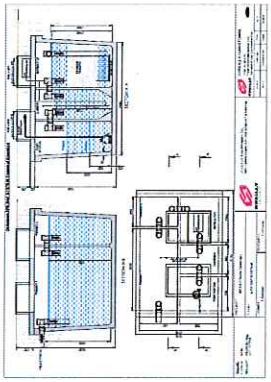
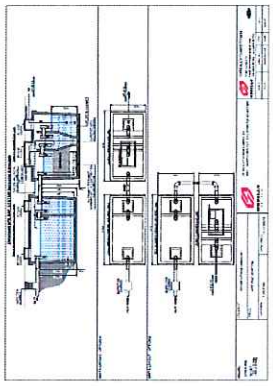
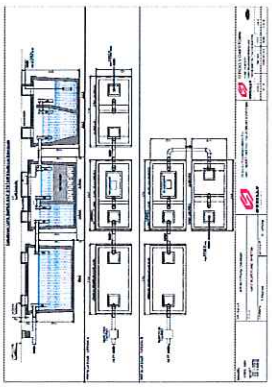
Certified according to ISO 9001:2008

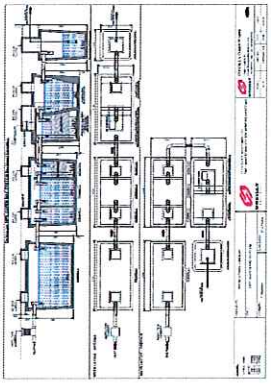
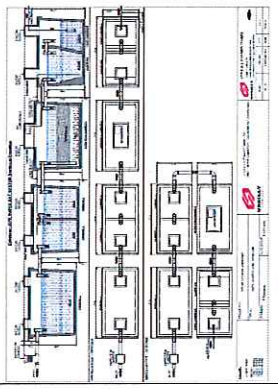
DAkkS Deutsche Akkreditierungsstelle D-PL-17712-01-00

Prüfinstitut für Abwassertechnik GmbH
geprüft - tested - testé

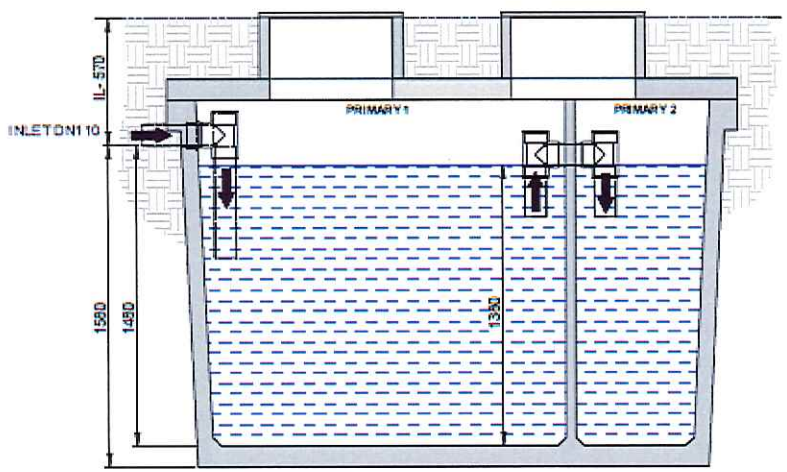
Elmar Lancé January 2017

Oakstown BAF range and its referring test reports:

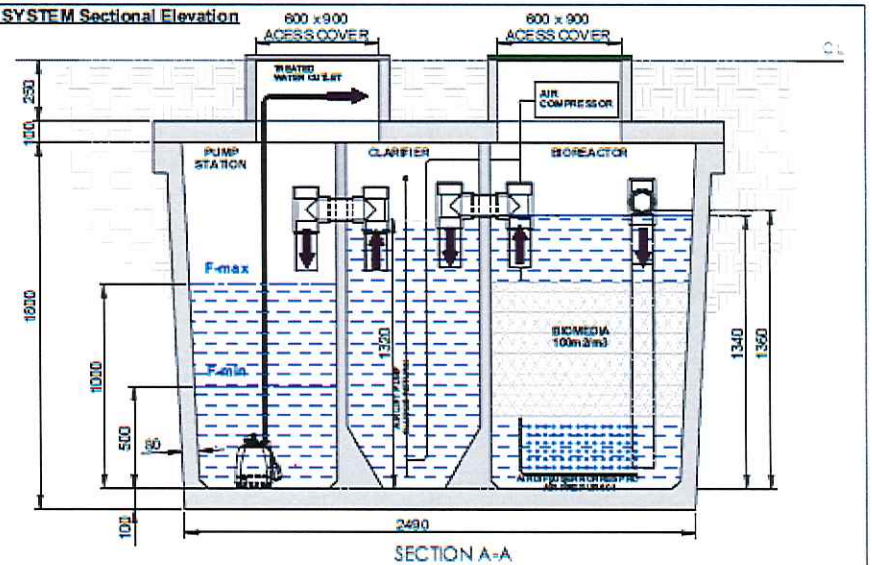
Population equivalent (PE)	Drawing of model of the range	Watertightness (EN 12566-3 Annex A)	Treatment Efficiency (EN 12566-3 Annex B)	Structural Behaviour (EN 12566-3 Annex C)	Durability
6 PE		Pass PIA2016-WD-1603-1036.02	Pass Range conformity according to S.R. 66:2015	Pass For wet ground conditions also, installation depth 1.50 m from inlet invert	Pass PIA2017-DH-1603-1036.01
Initial Type Test (ITT) 8 PE		Pass PIA2012-WD/NC-1209-1059	Pass PIA2008-094B04	Pass PIA2009-ST-AT0809-1071 For wet ground conditions also, installation depth 1.50 m from inlet invert	Pass PIA2017-DH-1603-1036.01
12		Pass PIA2016-WD-1603-1036.01	Pass Range conformity according to S.R. 66:2015	Pass For wet ground conditions also, installation depth 1.50 m from inlet invert	Pass PIA2017-DH-1603-1036.01

Population equivalent (PE)	Drawing of model of the range	Watertightness (EN 12566-3 Annex A)	Treatment Efficiency (EN 12566-3 Annex B)	Structural Behaviour (EN 12566-3 Annex C)	Durability
16		Pass PIA2016-WD-1603-1036.01	Pass Range conformity according to S.R. 66:2015	Pass For wet ground conditions also, installation depth 1.50 m from inlet invert	Pass PIA2017-DH-1603-1036.01
20		Pass PIA2016-WD-1603-1036.01	Pass Range conformity according to S.R. 66:2015	Pass For wet ground conditions also, installation depth 1.50 m from inlet invert	Pass PIA2017-DH-1603-1036.01

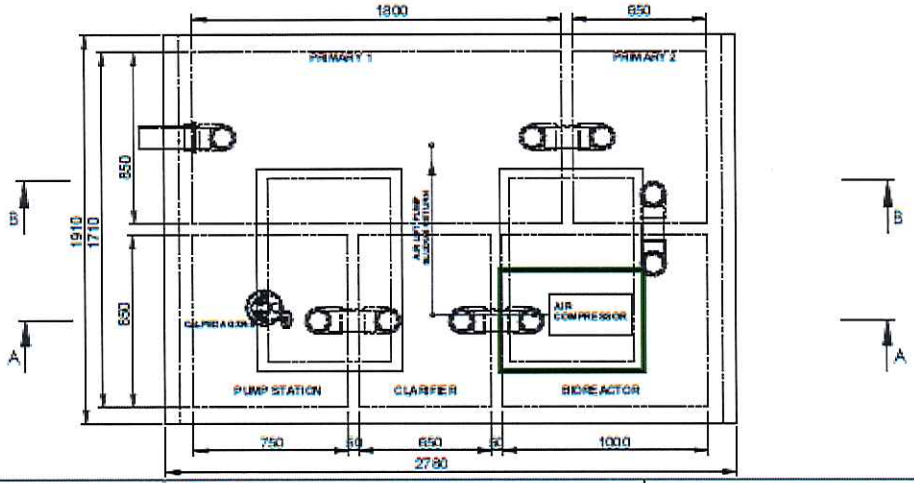
Oakstown 6PE BAF SYSTEM Sectional Elevation



SECTION B-B



SECTION A-A

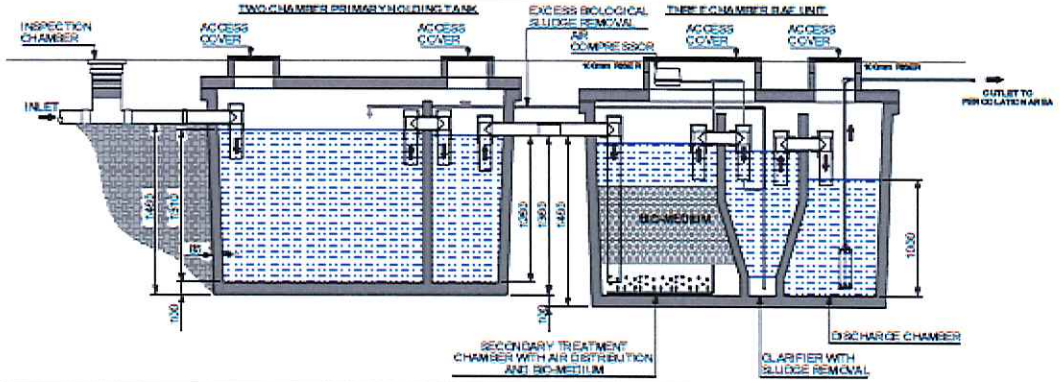


VOLUME: LITRES: 6730 WEIGHT: TANK 6500kg LID 1010kg	PROJECT: SR-66 O'Reilly Oakstown	O'REILLY CONCRETE	O'REILLY OAKSTOWN LTD. BAF - WASTEWATER TREATMENT SYSTEM
	TITLE: 6 PE BAF SYSTEM		
	DRAWN: T.Nichell / CHECKED: D.O'Reilly		

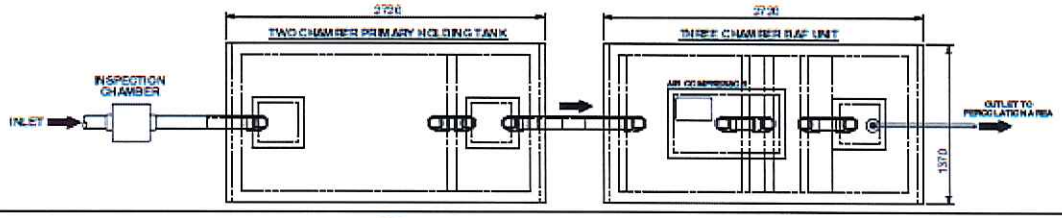
O'REILLY OAKSTOWN
TRIM, Co.MEATH
Email: info@oreillyoakstown.com
Tel:(046)9431088 Fax:(046)9431084

SCALE	DWG NO	REV	DATE
N.T.S	OWR2017-01	SR66	19/09/18

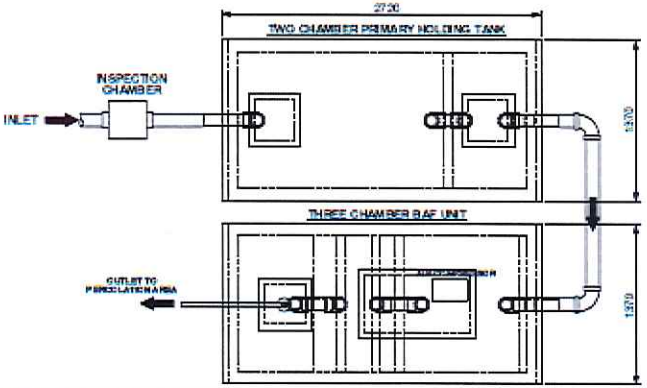
Oakstown 8PE BAF SYSTEM Sectional Elevation



WWTS LAYOUT - OPTION A



WWTS LAYOUT - OPTION B



VOLUME UTRES 8000 WEIGHT TANK 1: 8000kg TANK 2: 8000kg	PROJECT: SR-66 O'Reilly Oakstown	O'REILLY CONCRETE	O'REILLY OAKSTOWN LTD. BAF - WASTEWATER TREATMENT SYSTEMS
	TITLE: 8PE BAF SYSTEM		
	DRAWN: T.Nolinski / CHECKED: D. O'Reilly		

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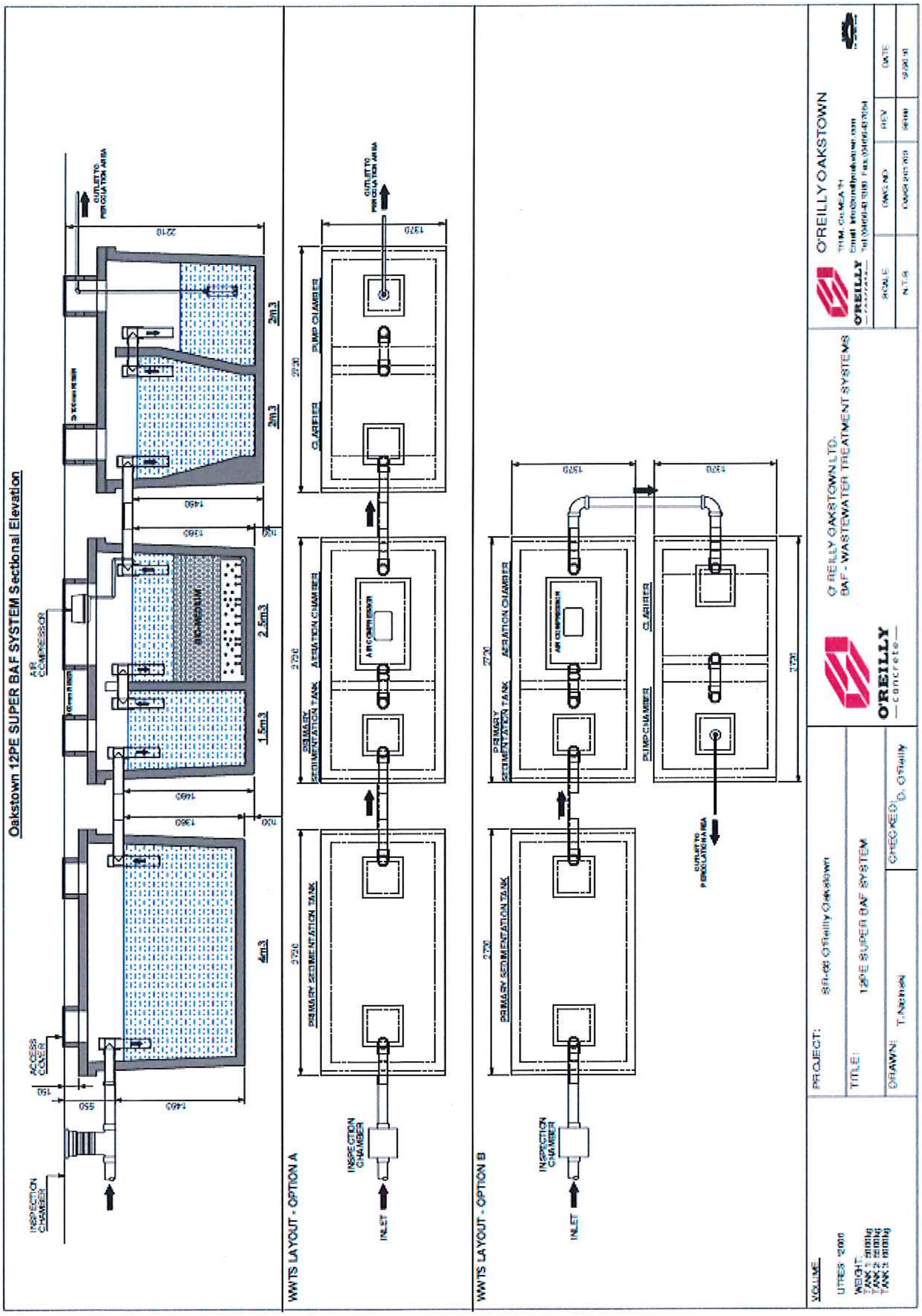
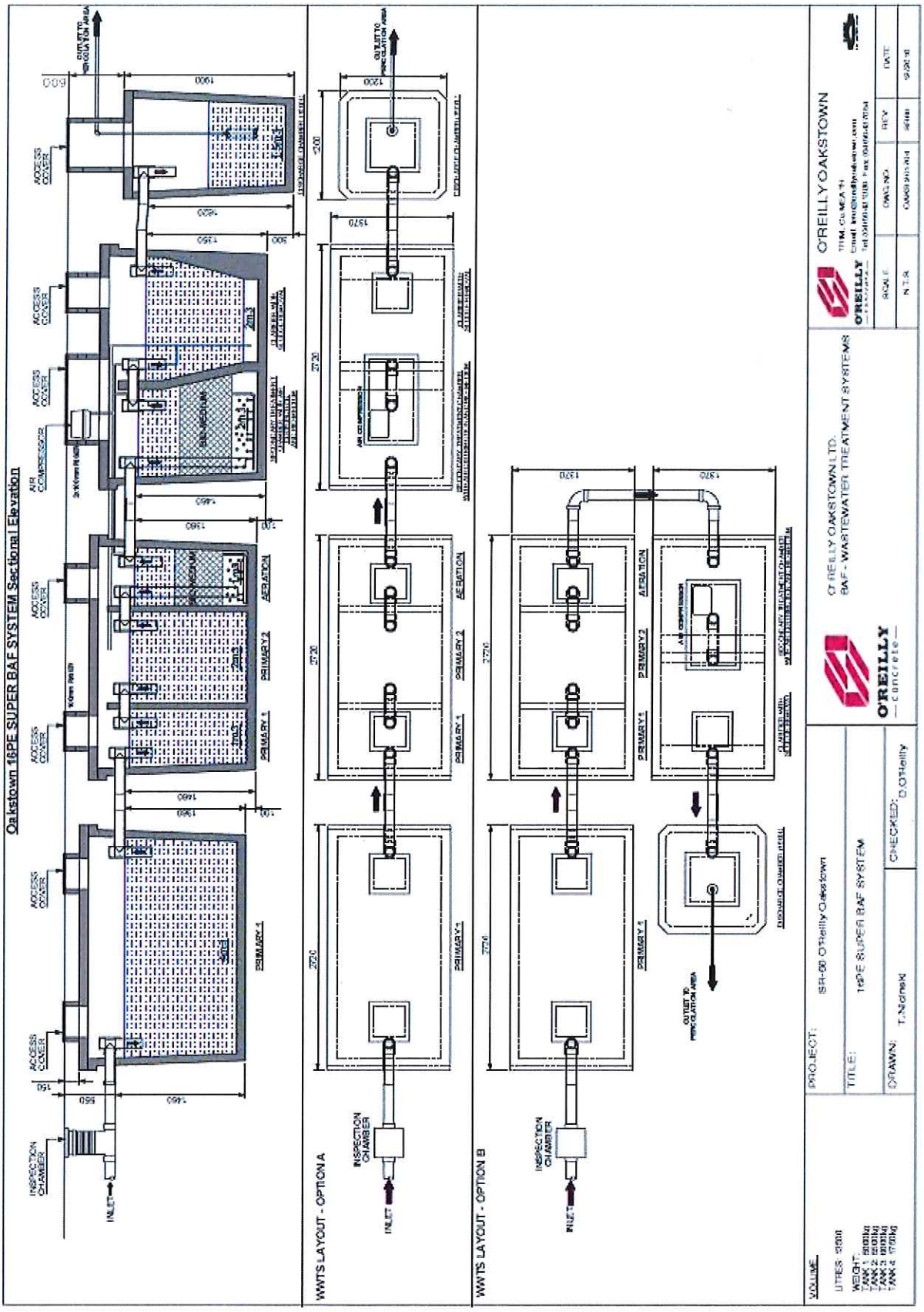
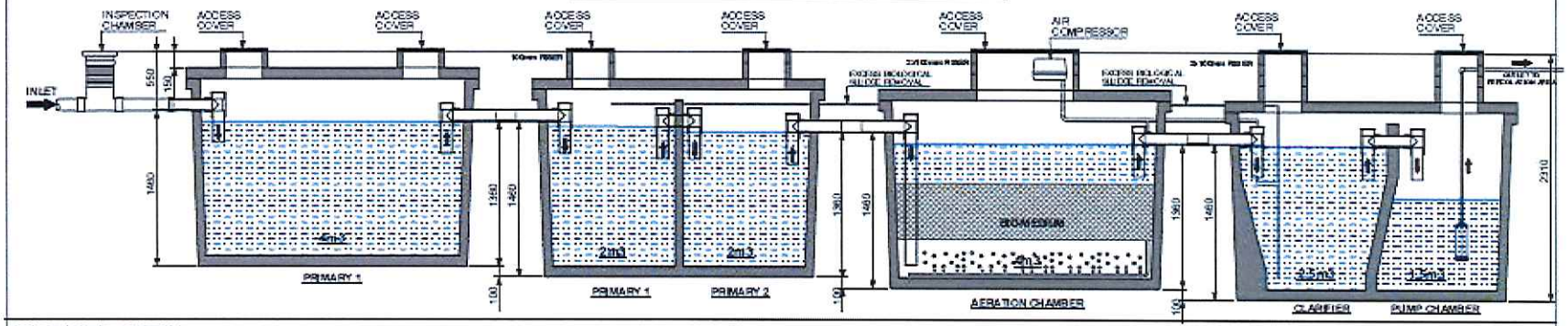
Tel:(046)943 1980 Fax:(046)943 0164

SCALE	DWG NO	REV	DATE
N.T.S	SR66-2101-012	SR66	9/2016


Oakstown 12PE SUPER BAF SYSTEM Sectional Elevation
INSPECTION CHAMBER
ACCESS COVER
AIR COMPRESSOR
OUTLET TO PERCOLATION AREA
4m3
1.5m3
2.5m3
2m3
2m3
WWTS LAYOUT - OPTION A
INLET
INSPECTION CHAMBER
PRIMARY SEDIMENTATION TANK
PRIMARY SEDIMENTATION TANK
AERATION CHAMBER
AIR COMPRESSOR
CLARIFIER
PUMP CHAMBER
OUTLET TO PERCOLATION AREA
WWTS LAYOUT - OPTION B
INLET
INSPECTION CHAMBER
PRIMARY SEDIMENTATION TANK
PRIMARY SEDIMENTATION TANK
AERATION CHAMBER
AIR COMPRESSOR
CLARIFIER
PUMP CHAMBER
OUTLET TO PERCOLATION AREA
VOLUME
PROJECT: SR-66 O'Reilly Oakstown
TITLE: 12PE SUPER BAF SYSTEM
CHECKED: D. O'Reilly
O'REILLY concrete
O'REILLY OAKSTOWN LTD.
BAF - WASTEWATER TREATMENT SYSTEMS
O'REILLY OAKSTOWN
SCALE
N.T.S
DWG NO
REV
DATE


Oakstown 16PE SUPER BAF SYSTEM Sectional Elevation
WWTS LAYOUT - OPTION A
WWTS LAYOUT - OPTION B
O'REILLY OAKSTOWN
O'REILLY OAKSTOWN LTD.
BAF - WASTEWATER TREATMENT SYSTEMS
O'REILLY
— concrete —
PROJECT:
SR-66 O'Reilly Oakstown
TITLE:
16PE SUPER BAF SYSTEM
DRAWN:
T.Nugent
CHECKED:
D.O'Reilly
SCALE:
N.T.S.
DWG NO:
REV:
DATE:
INLET
OUTLET TO PERCOLATION AREA
INSPECTION CHAMBER
PRIMARY 1
PRIMARY 2
AERATION
ACCESS COVER
AIR COMPRESSOR

Oakstown 20PE SUPER BAF SYSTEM Sectional Elevation



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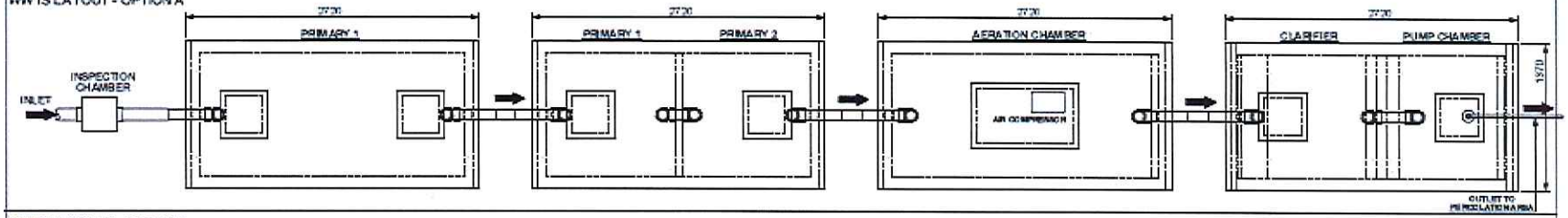
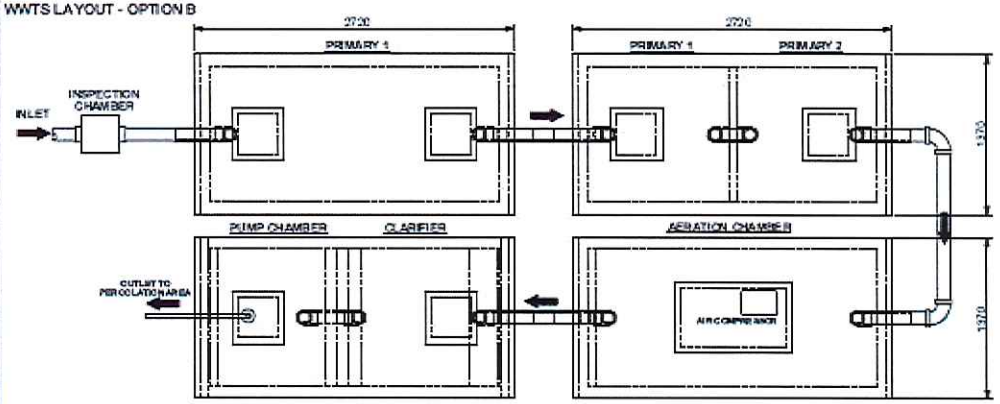


WWTS LAYOUT - OPTION B



VOLUME: UTRES 9000 WEIGHT: TANK 1: 9000kg TANK 2: 9000kg TANK 3: 9000kg TANK 4: 6000kg	PROJECT: SR-66 O'Reilly Oakstown TITLE: 20PE SUPER BAF SYSTEM	O'REILLY CONCRETE	O'REILLY OAKSTOWN LTD. BAF - WASTEWATER TREATMENT SYSTEMS
	DRAWN: T.Nolinski / CHECKED: D.O'Reilly		O'REILLY OAKSTOWN
	SCALE: N.T.S. / DWG NO: [illegible] / REV: [illegible] / DATE: [illegible]		

Trinity Green
Environmental Consultants

Clonfert
Maynooth
Co. Kildare
t: 01-6290616
m: 086-2434828
Vat No. 3251411B

Site Characterisation Report

By

Dr. Eugene Bolton

Applicant: Hudson Brothers

Clonfert,
Maynooth
Co. Kildare
Email: info@trinitygreen.ie
Mobile 086-2434828

Background

Hudson Brothers are upgrading the toilet facility that serves the Maintenance Plant in their quarry at Blessington. Trinity Green was requested to complete a Site Assessment to determine if an on-site treatment and disposal system can be employed.

Site Characterisation Report

A site assessment was completed in accordance with the EPA Code of Practice. The results are presented in the attached report. At the proposed location there is about 1.5 of pebble overlying a Silt/Clay material that is very compacted and has limited soakage. However, water moves freely in the upper material. Any liquid entering this soil will move too fast through the upper 1.5m (T is less than 3) and is likely to have to move horizontally over the silt/clay layer until a more permeable layer is encountered. This upper layer however is unsuitable for treatment or polishing of treated wastewater. It is therefore proposed to treat the wastewater in a secondary treatment system and to polish it in a Tertiary Sand Polishing filter. It will then be discharged to ground via a layer of soil in order to ensure compliance with the EPA Code of practice. It is recommended to remove 750mm of pebble and to place a layer of soil with good soakage over the pebble. This layer should be 500mm deep. This is to ensure there is in excess of 300mm soil between the base of the infiltration gravel and any sensitive target.
Once the soil layer is in place the 300mm deep layer of washed gravel is placed over the soil and the sand filter is constructed on this gravel.

Sources of waste.

There are 2 workers in the plant. As it is within the quarry it is assumed there may be other workers who will use the toilet while visiting the maintenance facility. The sources of waste are summarised in the Table.

Sources of waste

Source	Number	Hydraulic (Litres/day)		Organic (Grams BOD/Day)	
Workers	2	40	80	25	50
Visitors	5	10	50	10	100
Total			130		150
PE			1		3

Proposed Solution

Install an Oakstown BAF P6 secondary treatment system. Effluent from this system is polished in a Sand Polishing Filter. Although the Hydraulic load is the equivalent of 1 PE it is recommended to install a 15m2 sand filter so that it has the same capacity as the secondary plant. This sand filter is constructed on a gravel infiltration bed. As stated above there will be a layer of 500mm deep soil under this gravel pad. Base on EPA Regulations the size of this pad is given as 0.125 x PE x T. On this site the T-value is taken as 30 (T-value of the soil layer) and the PE is taken as 6. The size of the gravel pad is therefore 22.5m2. It is recommended to make this up to 30m2.

Conclusion

The site is unusual in that there is a layer of material with very rapid soakage over material that has very poor permeability. The loading however is very low and if the recommendations above are followed than the risk of pollution is minimised.

19/08/2019

SITE CHARACTERISATION FORM

File Reference:

1.0 GENERAL DETAILS (From planning application)

Prefix: First Name: Hudson Brothers Ltd Surname:

Address:

Site Location and Townland: Philipstown and Redbog, Blessington, Co. Kildare

Telephone No: Fax No:

E-Mail:

Maximum no. of Residents: No. of Double Bedrooms: No. of Single Bedrooms:

Proposed Water Supply: Mains ☐ Private Well/Borehole ☐ Group Well/Borehole ☐

OTHER: Water for application site welfare facilities are sourced from an existing permitted abstraction from Pond-K (KCC Reg Ref 07/267). Water purification using UV system, part of this retention application.

2.0 GENERAL DETAILS (From planning application)

Soil Type, (Specify Type): Limestone Sands and Gravels

Aquifer Category: Regionally Important ☐ Locally Important Lg Poor ☐

Vulnerability: Extreme ☐ High ☑ Moderate ☐ Low ☐ High to Low ☐ Unknown ☐

Bedrock Type: Silurian Metasediments and Volcanics

Name of Public/Group Scheme Water Supply within 1 km: None

Groundwater Protection Scheme (Y/N): Yes Source Protection Area: SI ☐ SO ☐

Groundwater Protection Response: R1

Presence of Significant Sites (Archaeological, Natural & Historical): None

Past experience in the area: Rapid Soakage

Comments:

(Integrate the information above in order to comment on: the potential suitability of the site, potential targets at risk, and/or any potential site restrictions).

The surface water and groundwater are likely to be targets at risk

Note: Only information available at the desk study stage should be used in this section.

3.0 ON-SITE ASSESSMENT

3.1 Visual Assessment

Landscape Position: Within a working Quarry

Slope: Steep (>1:5) ☐ Shallow (1:5-1:20) ☐ Relatively Flat (<1:20) ✔

Surface Features within a minimum of 250m (Distance To Features Should Be Noted In Metres)

Houses: No houses within 500m

Existing Land Use: Sand & Gravel Quarry

Vegetation Indicators: large site - nothing to suggest poor soakage

Groundwater Flow Direction: To South

Ground Condition: Firm - no surface water

Site Boundaries: Hedge Roads: Minor rd. to Northeast

Outcrops (Bedrock And/Or Subsoil): Sands and Gravels

Surface Water Ponding: None except silt ponds Lakes: None within 500m

Beaches/Shellfish: None Areas/Wetlands: None

Karst Features: None Watercourse/Stream*: None

Drainage Ditches*: No ditches Springs / Wells*: No Springs / Wells

Comments:
(Integrate the information above in order to comment on: the potential suitability of the site, potential targets at risk, the suitability of the site to treat the wastewater and the location of the proposed system within the site).

Ground conditions are dry.
It is a working quarry with sand and gravel extracted - expect rapid soakage

Water for application site welfare facilities are sourced from an existing permitted abstraction from Pond-K (KCC Reg Ref 07/267). Water purification using UV system, part of this retention application.

***Note and record** water level

3.2 Trial Hole (should be a minimum of 2.1m deep (3m for regionally important aquifers))

To avoid any accidental damage, a trial hole assessment or percolation tests should not be undertaken in areas, which are at or adjacent to significant sites (e.g. NHAs, SACs, SPAs, and/or Archaeological etc.), without prior advice from National Parks and Wildlife Service or the Heritage Service.

Depth of trial hole (m): 2.80

Depth from ground surface to bedrock (m) (if present):

Depth from ground surface to water table (m) (if present): 1.50

Depth of water ingress:

Rock type (if present): None Present

Date and time of excavation: 06/08/2019

Date and time of examination: 07/08/2019

	Depth of P/T Test*	Soil/Subsoil Texture & Classification**	Plasticity and dilatancy***	Soil Structure	Density/ Compactness	Colour****	Preferential flowpaths
0.1 m	P	Fill Pebbles	No trds or Ribs	Structureless	Firm	Grey	None
0.2 m	P						
0.3 m	P,						
0.4 m	P,T1,3						
0.5 m	T1-3						
0.6 m	T1-3						
0.7 m	T1-3						
0.8 m	T2						
0.9 m							
1.0 m							
1.1 m							
1.2 m							
1.3 m							
1.4 m							
1.5 m		---	---	---	---	---	
1.6 m		SILT/CLAY	Not Dilatent Trds = 6,2,3 Ribs 60/90/70	Massive	Very Hard	Grey/Black	
1.7 m							
1.8 m							
1.9 m							
2.0 m							
2.1 m							
2.2 m							
2.3 m							
2.4 m							
2.5 m							
2.6 m							
2.7 m							
2.8 m		---	---	---	---	---	
2.9 m		Base of trench					
3.0 m							

Evaluation:

Topsoil is likely to have good soakage. Subsoil is Silt/Clay, is very compacted and will have poor or no soakage. There was very rapid ingress of water at base of pebbles. The material below 1.5m is similar to sediment from a former silt pond

Likely T value: 1.00

Note: *Depth of percolation test holes should be indicated on log above. (Enter P or T at depts as appropriate).
** See Appendix E for BS 5930 classification.
*** 3 samples to be tested for each horizon and results should be entered above for each horizon.
**** All signs of mottling should be recorded.

3.3(a) Percolation ("T") Test for Deep Subsoils and/or Water Table

Step 1: Test Hole Preparation

Percolation Test Hole	1	2	3
Depth from ground surface to top of hole (mm) (A)	600	600	600
Depth from ground surface to base of hole (mm) (B)	1,000	1,000	1,000
Depth of hole (mm) [B - A]	400	400	400
Dimensions of hole [length x breadth (mm)]	300 x 300	300 x 300	300 x 300

Step 2: Pre-Soaking Test Holes

Date and Time pre-soaking started	07/08/2019		07/08/2019		07/08/2019	

Each hole should be pre-soaked twice before the test is carried out. Each hole should be empty before refilling.

Step 3: Measuring T_{100}

Percolation Test Hole No.	1	2	3
Date of test	08/08/2019	08/08/2019	08/08/2019
Time filled to 400 mm	08:49	09:04	09:10
Time water level at 300 mm	08:50	09:05	09:11
Time to drop 100 mm (T_{100})	-1,794,180.00	44,640.00	0.00
Average T_{100}			-583,180.00

If T_{100} > 300 minutes then T-value >90 – site unsuitable for discharge to ground
If $T_{100} \leq$ 210 minutes then go to Step 4;
If T_{100} > 210 minutes then go to Step 5;

Step 4: Standard Method (where $T_{100} \leq 210$ minutes)

Percolation Test Hole	1			2			3		
Fill no.	Start Time (at 300 mm)	Finish Time (at 200 mm)	Δt (min)	Start Time (at 300 mm)	Finish Time (at 200 mm)	Δt (min)	Start Time (at 300 mm)	Finish Time (at 200 mm)	Δt (min)
1	08:50	08:51	0.00	09:05	09:06	437,760.00	09:11	09:12	0.00
2	08:51	08:52	0.00	09:06	09:07	437,700.00	09:12	09:13	0.00
3	08:52	08:53	0.00	09:07	09:08	437,760.00	09:13	09:14	0.00
Average Δt Value			1.00			1.00			1.00
	Average Δt/4 = [Hole No.1]		0.25 (t_1)	Average Δt/4 = [Hole No.2]		0.25 (t_2)	Average Δt/4 = [Hole No.3]		0.25 (t_3)

Result of Test: T = 0.25 (min/25 mm)

Comments:

Soakage is too rapid for treatment or polishing of effluent and it will be necessary to have effective treatment before discharge. However soil down to 1.5m bgl will be suitable for discharge of the hydraulic load

Step 5: Modified Method (where $T_{100} > 210$ minutes)

Percolation Test Hole No.	1				2				3			
Fall of water in hole (mm)	Time Factor = T_f	Time of fall (mins) = T_m	K_{fs} = T_f / T_m	T – Value = 4.45 / K_{fs}	Time Factor = T_f	Time of fall (mins) = T_m	K_{fs} = T_f / T_m	T – Value = 4.45 / K_{fs}	Time Factor = T_f	Time of fall (mins) = T_m	K_{fs} = T_f / T_m	T – Value = 4.45 / K_{fs}
300 - 250	8.1				8.1				8.1			
250 - 200	9.7				9.7				9.7			
200 - 150	11.9				11.9				11.9			
150 - 100	14.1				14.1				14.1			
Average T- Value	T- Value Hole 1= (t_1)			0.00	T- Value Hole 1= (t_2)			0.00	T- Value Hole 1= (t_3)			0.00

Result of Test: T = 0.00 (min/25 mm)

Comments:

3.3(b) Percolation ("P") Test for Shallow Soil / Subsoils and/or Water Table

Step 1: Test Hole Preparation

Percolation Test Hole	1	2	3
Depth from ground surface to top of hole (mm)	0	0	0
Depth from ground surface to base of hole (mm)			
Depth of hole (mm)	0	0	0
Dimensions of hole [length x breadth (mm)]	300 x 300	300 x 300	300 x 300

Step 2: Pre-Soaking Test Holes

Date and Time pre-soaking started						

Each hole should be pre-soaked twice before the test is carried out. Each hole should be empty before refilling.

Step 3: Measuring P_{100}

Percolation Test Hole No.	1	2	3
Date of test			
Time filled to 400 mm			
Time water level at 300 mm			
Time to drop 100 mm (P_{100})	0.00	0.00	0.00
Average P_{100}			0.00

If P_{100} > 300 minutes then T-value >90 – site unsuitable for discharge to ground
If $P_{100} \leq$ 210 minutes then go to Step 4;
If P_{100} > 210 minutes then go to Step 5;

Step 4: Standard Method (where $P_{100} \leq 210$ minutes)

Percolation Test Hole	1			2			3		
Fill no.	Start Time (at 300 mm)	Finish Time (at 200 mm)	Δp (min)	Start Time (at 300 mm)	Finish Time (at 200 mm)	Δp (min)	Start Time (at 300 mm)	Finish Time (at 200 mm)	Δp (min)
1			0.00			0.00			0.00
2			0.00			0.00			0.00
3			0.00			0.00			0.00
Average Δp Value			0.00			0.00			0.00
	Average Δp/4 = [Hole No.1]		0.00 (p_1)	Average Δp/4 = [Hole No.2]		0.00 (p_2)	Average Δp/4 = [Hole No.3]		0.00 (p_3)

Result of Test: P = 0.00 (min/25 mm)

Comments:

No P-test was completed due to fact that there was no topsoil

Step 5: Modified Method (where $P_{100} > 210$ minutes)

Percolation Test Hole No.	1				2				3			
Fall of water in hole (mm)	Time Factor = T_f	Time of fall (mins) = T_m	K_{fs} = T_f / T_m	P – Value = 4.45 / K_{fs}	Time Factor = T_f	Time of fall (mins) = T_m	K_{fs} = T_f / T_m	P – Value = 4.45 / K_{fs}	Time Factor = T_f	Time of fall (mins) = T_m	K_{fs} = T_f / T_m	P – Value = 4.45 / K_{fs}
300 - 250	8.1				8.1				8.1			
250 - 200	9.7				9.7				9.7			
200 - 150	11.9				11.9				11.9			
150 - 100	14.1				14.1				14.1			
Average P- Value	P- Value Hole 1= (p_1)			0.00	P- Value Hole 1= (p_2)			0.00	P- Value Hole 1= (p_3)			0.00

Result of Test: P = 0.00 (min/25 mm)

Comments:

4.0 CONCLUSION of SITE CHARACTERISATION

Integrate the information from the desk study and on-site assessment (i.e. visual assessment, trial hole and percolation tests) above and conclude the type of system(s) that is (are) appropriate. This information is also used to choose the optimum final disposal route of the treated wastewater.

Not Suitable for Development ☐

Suitable for [1]		**Discharge Route**
1. Septic tank system (septic tank and percolation area)	No	Discharge to Ground Water
2. Secondary Treatment System		
a. septic tank and filter system constructed on-site and polishing filter; or	Yes	
b. packaged wastewater treatment system and polishing filter	Yes	

5.0 RECOMMENDATION

Propose to install: Packaged wastewater treatment system and polishing filter

and discharge to: Ground Water

Trench Invert level (m):

Site Specific Conditions (e.g. special works, site improvement works testing etc.

It is recommended to install a Package aeration system and to polish the effluent through a Sand polishing filter and discharge to ground. The wastewater will be treated in a BAF secondary treatment system. The treated wastewater will be polished in a sand filter. It is proposed to remove the fill down to about 750mm bgl. A layer of soil 500mm deep with good soakage (T <30) to be placed over area. a 300mm layer of washed gravel (8-32mm diameter) is placed over the Soil. The Sand Filter is placed on this gravel. Effluent flows from the sand filter into the gravel by gravity.
On this site the T-value is 30 (T-value of 500mm soil layer and the PE is 6. Area for disposal = 0.125 x 30 x 6 m2 = 22.5m2. It is recommended to increase this to about 30m2
The sand filter can be loaded at up to 60 litres/m2 - and sizing the filter for a PE of 6 - same as the treatment lant - then a 15m2 filteris required. It must be constructed in accordance with the EPA code of practice using Sand certified to be of the required particle size and with a Cu <4
The BAF should be at least 7m from the dwelling and 10m from all ditches. The Sand Filter and disposal pad should be located at least 10m from all dwellings,10m from all ditches and 3m from all boundaries. The system should be located to th rear of the site.

[1] note: more than one option may be suitable for a site and this should be recorded

[2] A discharge of sewage effluent to “waters” (definition includes any or any part of any river, stream, lake, canal, reservoir, aquifer, pond, watercourse or other inland waters, whether natural or artificial) will require a licence under the Water Pollution Acts 1977-90. Refer to Section 2.6.2.

6.0 TREATMENT SYSTEM DETAILS

SYSTEM TYPE: Septic Tank System

Tank Capacity (m^3)		Percolation Area		Mounded Percolation Area	
		No. of Trenches		No. of Trenches	
		Length of Trenches (m)		Length of Trenches (m)	
		Invert Level (m)		Invert Level (m)	

SYSTEM TYPE: Secondary Treatment System

Filter Systems

Media Type	Area (m^2)*	Depth of Filter	Invert Level
Sand/Soil			
Soil			
Constructed Wetland			
Other			

Package Treatment Systems

Type	Oakstown BAF P6
Capacity PE	6.00
Sizing of Primary Compartment	3.50 m^3

SYSTEM TYPE: Tertiary Treatment System

Polishing Filter: Surface Area (m^2)*	15.00
or **Gravity Fed:**	
No. of Trenches	
Length of Trenches (m)	
Invert Level (m)	

Package Treatment System: Capacity (pe)	
Constructed Wetland: Surface Area (m^2)*	

DISCHARGE ROUTE:

Groundwater	✔	Hydraulic Loading Rate * ($l/m^2.d$)	60.00
Surface Water **		Discharge Rate (m^3/hr)	

TREATMENT STANDARDS:

Treatment System Performance Standard (mg/l)	BOD	SS	NH_3	Total N	Total P
	20.00	30.00	20.00		10.00

QUALITY ASSURANCE:

Installation & Commissioning	On-going Maintenance
Installation supervised and Certified by qualified assessor or a suitably qualified person familiar with the EPA Code of Practice 2009.	Annual maintenance contract - including desludging

* Hydrolic loading rate is determined by the percolation rate of subsoil

** Water Pollution Act discharge licence required

7.0 SITE ASSESSOR DETAILS

Company: Trinity Green

Prefix: Dr. First Name: Eugene Surname: Bolton

Address: Clonfert, Maynooth, Co. Kildare

Qualifications/Experience: PhD Microbiology, Site Suitability Assessment Course (FETAC)

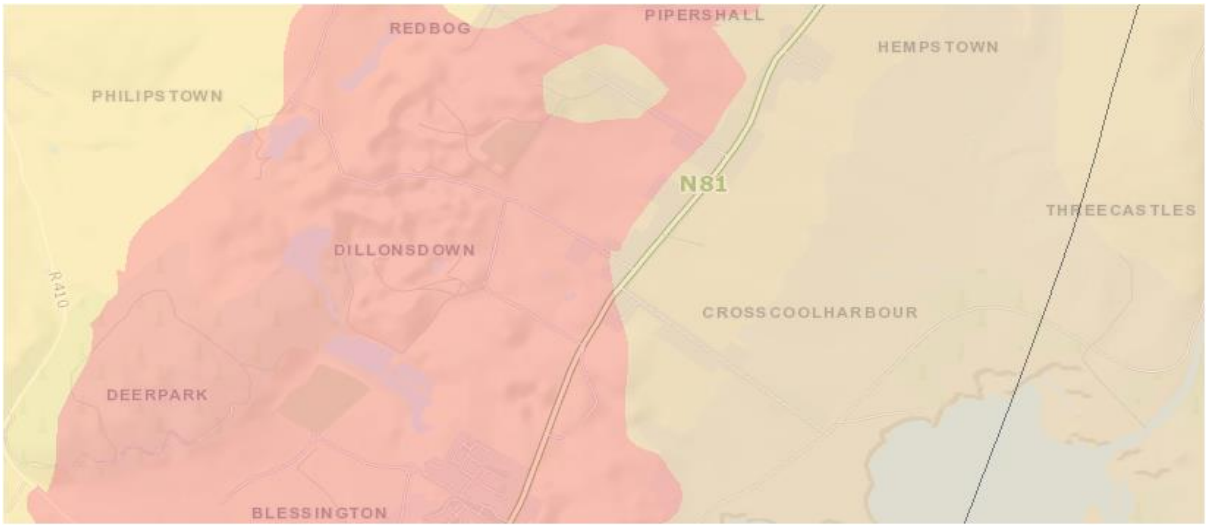
Date of Report: 19/08/2019

Phone: 086 2434828 Fax: e-mail info@trinitygreen.ie

Indemnity Insurance Number: PSE00185337

Signature: 

Maps – Aquifer, Vulnerability, Bedrock



Aquifer is Lg

Vulnerability is High

Berdock is Silurian Metasediments and Volcanics

Photos

T1

Row 2 - P3, T1

Row 3 - T2, T3

Trial Pit

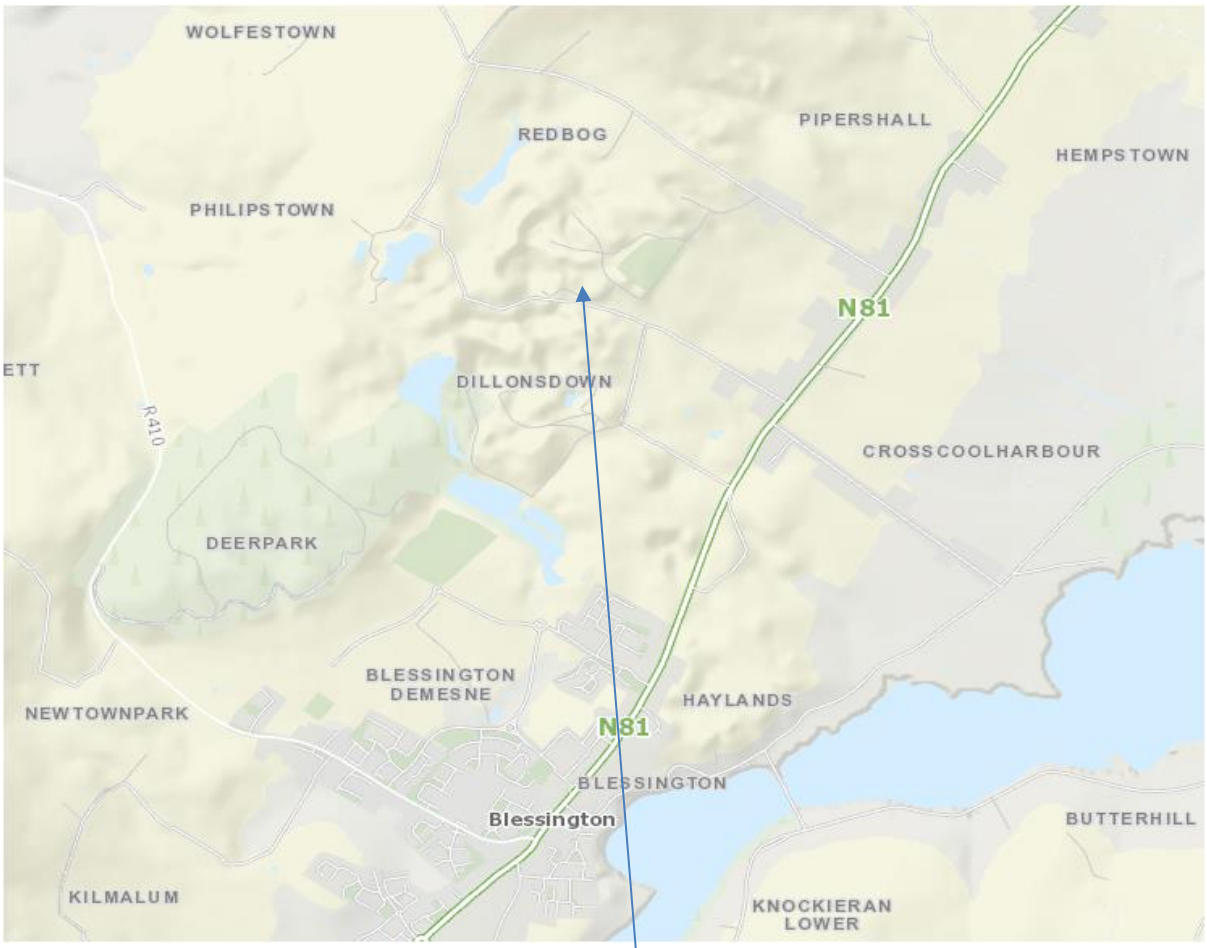
Site overview

Soil

Parent Material	GLs
Parent Material Name	Glaciofluvial sands and gravels
Parent Material Desciption	Limestone sands and gravels (Carboniferous)
Soil Group	Renzinas, Lithosols
IFS Soil Code	BminSW

IFS Soil Description	Derived from mainly calcareous parent materials
County	WICKLOW
Category	Shallow well drained mineral (Mainly basic)
Legend	BminSW - Shallow well drained mineral (Mainly basic)

Site Location



Site

Appendix 2B

SPECIFICATION SHEETS FOR MAINTENANCE SHED WATER

GE Infrastructure
Water & Process Technologies

Professional Series

Residential Components and Products

imagination at work

Autotrol™ Brand Residential Valves

Reliability and convenience from the company most recognized for innovative products.

- The industry innovator in driving new designs to market
- Always refining current technologies for maximum market impact
- Almost a half century of experience in residential water conditioning equipment, focusing on independent water treatment professionals

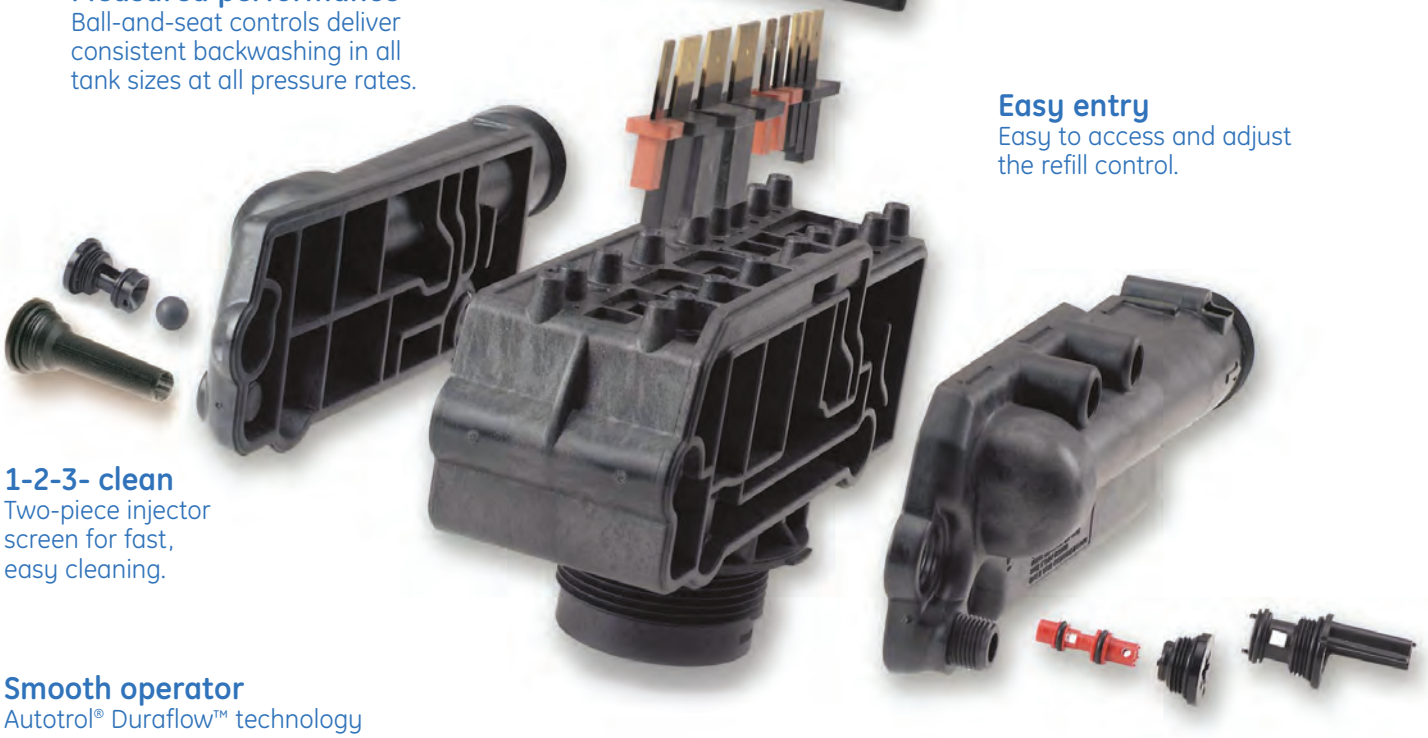
Satisfaction guaranteed
All the confidence and peace of mind with the GE 5-year warranty.

Service simplicity
Access to the entire valve is accomplished with only two screwdrivers (Phillips and Torx).

Tough under pressure
Noryl®, the thermoplastic resin developed by GE, provides exceptional corrosion resistance and precision-fit components.

Measured performance
Ball-and-seat controls deliver consistent backwashing in all tank sizes at all pressure rates.

Easy entry
Easy to access and adjust the refill control.



1-2-3- clean
Two-piece injector screen for fast, easy cleaning.

Smooth operator
Autotrol® Duraflow™ technology features a frictionless seal for longer life. Excellent for applications with high turbidity and suspended solids.

Sealed to perfection
Heat weld bonding protects against micro-leaks and ensures years of reliable operation.

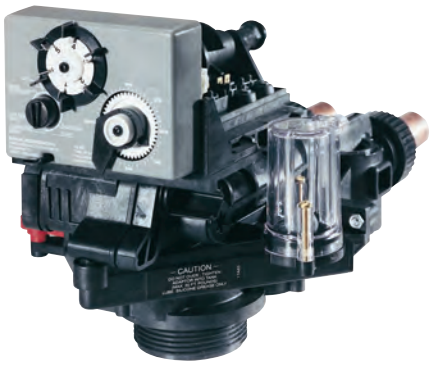
Measured performance
One-piece injector provides accurate flow rate in the brining cycle and is color-coded for easy identification.

Residential Valve Bodies

The 255 and Performa series provide water conditioning professionals with a valve solution for virtually every residential application.

- Engineered to outperform other brands in performance and service life
- Built with the business professional in mind – fast installation and quicker service calls increase profit
- Multiple controller options available at a variety of price points
- Noryl®, the thermoplastic resin developed by GE, provides exceptional corrosion resistance and precision-fit components

Autotrol™ 255 Series – 3/4-inch ports



Easy on the water
Efficient valve design decreases the amount of water required for regeneration.

Do not disturb
Tank adapter permits disconnection from valve without disturbing the resin bed.

A steady stream
3/4-inch port opening provides good softener flow performance.

A clear view
Includes a clear-sight air check for easy brine line troubleshooting.

Performa Series – 1-inch port

The name says it all
Performa means performance – large one-inch ports for high-flow applications.

Three and out
Valve quickly changes from softener to filter application in three easy steps.

Fewer the better
Designed with fewer service parts than any valve of comparable function – longer life, shorter service calls.

Easier to service
Bypass attachment makes maintenance exceptionally fast.

Valve	Inlet/Outlet	Riser Diameter	Service Flow at 15 psi		Backwash at 25 psi		Backwash Capabilities
			gpm	m^3h	gpm	m^3h	
255 Valve	1- or 3/4-inch	1- or 13/16-inch	15	3.4	6.0	1.36	6 – 14-inch Tanks
Performa Valve (268) Logix and 900	1-inch	1-inch	25	5.7	20	7.3	7 – 14-inch Tanks
Performa Filter Valve (263)	1-inch	1-inch	25	5.7	20	7.3	7 – 14-inch Tanks
Performa Cv (278)	1-inch	1-inch	25	5.7	20	7.3	7 – 24-inch Tanks

Residential Controllers

GE Infrastructure builds the most technologically-advanced valve controllers for the residential market.

- Controls for any application: mechanical, simple electronic, and advanced control electronics
- Electronic controls feature safe, low-voltage (12V) operation – higher voltage controls are also available
- Single- or twin-tank applications

Logix controllers lead the way

The Logix Controller is unrivaled in simplicity and is easier to program than any other electronic controller on the market. In fact, it's as simple as setting an alarm clock! Patented, unique technology places the Logix in a class not shared by any other manufacturer.

Seven is a winner
New 7-cycle high-efficiency regeneration sequence exceeds 4100 g.p.p.

Calendar of events
The Logix Controller learns the owner's water usage patterns in the 28-day variable reserve mode, virtually guaranteeing continuous soft water.

Remote control
Remote mount kit allows programming module to be installed up to 40 feet away.

Fill 'er up
Optional no-salt detector can be added to the controller.

Rain or shine
Optional weatherproof in-line transformer available for outdoor installations.

The big picture
LCD readout displays large, high-contrast numerals and icon graphics.

The touch of convenience
The Logix is factory-programmed with complete salt tables and operational parameters. Simply program the resin volume, set the timing schedule and input the salt and hardness data – it's that easy!

Good for business
Easy to understand means faster training. Simple set-up means faster installation. Logix makes sense for growing your business.

Controller Series

GE offers a full range of valve controllers to meet all residential water-conditioning applications.

Logix Series

740 Time Clock

- Simple, economic electronic time clock (chronometric)
- 7- or 99-day regeneration setting
- High efficiency regeneration sequence
- 12-volt operation
- Filter or conditioner setting in one control
- Operates 255, 263, 268 with one controller

742 Time Clock

Same features as the 740 time clock, plus:

- Fully programmable cycle times
- Salt setting in 1-pound increments
- Optional no-salt detector
- Operates 255, 263, 268, 278, and Magnum IT with one controller

760 Demand

- Simple, economic electronic demand (volumetric)
- Calendar override
- 12-volt operation
- 28-day variable reserve
- High efficiency regeneration sequence
- Automatic capacity calculations
- Operates 255, 263, 268 with one controller

762 Demand

Same features as the 760, plus:

- Fully programmable cycle times
- Salt setting in 1-pound increments
- Optional no-salt detector
- Operates 255, 263, 268, 278, and Magnum IT with one controller

400 Series

440i Time Clock

- Value priced, reliable mechanical control
- Time-clock regeneration
- Set it and forget it
- 12-volt or 120-volt versions available
- 6- or 7-day regeneration
- Operates 255, 263, 268 valves

460i Time Clock

- Economical electronic-demand control
- Simple set-up and programming
- Calendar override
- 12-volt operation
- 7-day variable reserve
- Operates 255, 268 valves

Control Valve Capabilities

	Valve Body			
Controller	**255 Conditioner**	**263 Filter**	**268 Conditioner**	**278 Conditioner**
440i Time Clock	X	X	X	
460i Demand	X		X	
740 Time Clock	X	X	X	
760 Demand	X	X	X	
742 Time Clock	X	X	X	X
762 Demand	X	X	X	X

Control Valve Features

Controller	Regeneration Type	Cycles	Reserve	Voltage
440i	Time Clock	Fixed	Time Clock	12 or 120
460i	Demand	Fixed	7-Day Variable	12
740	Time Clock	Computer Adjusted	Time Clock	12
760	Demand	Computer Adjusted	28-Day Variable	12
742	Time Clock	Fully Programmable	Time Clock	12
762	Demand	Fully Programmable	28-Day Variable	12

Residential Pressure Tanks

GE professional series tanks go the extra step to ensure homeowners the ultimate in performance and lasting quality. Team up the GE professional series tanks and control valves for an unbeatable package.

- Superior in every way, this pro-quality tank is the choice for homeowners wanting the very best
- Available sizes up to 36 inches in diameter and 72 inches in height, with a 2-1/2- or 4-inch tank opening

Lightweight champion
Reinforced composite construction makes this tank one-third the weight of steel tanks and comparable in strength.

Safety wrap
Tank construction of thermoplastic composite resin and wrapped in high-tensile filament windings.

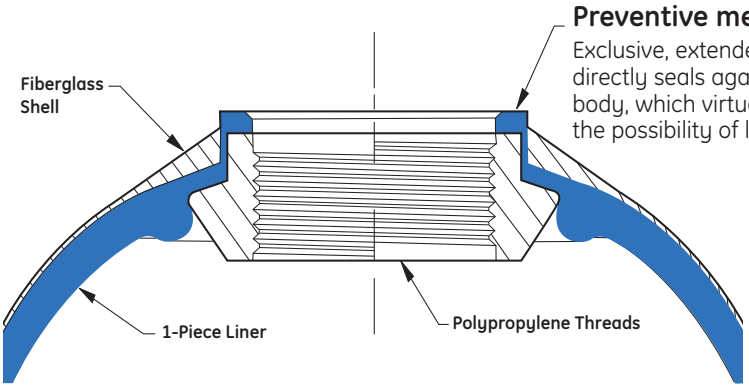
Inner strength
High-strength polyethylene liner in thicknesses from 0.150" (3.8mm) to 0.30" (7.6mm).

Great under pressure
Burst testing up to four times the rated operating pressure (150 psi).

The test of time
Cycle tested up to 250,000 times (range: 10 to 150 psi).

Stamp of approval
NSF certification – This water softener pressure vessel is tested and certified by NSF against NSF/ANSI Standard 44 for material and structural integrity requirements only.

Quality guaranteed
10-year warranty in residential installations.



Preventive measure
Exclusive, extended tank liner directly seals against the valve body, which virtually eliminates the possibility of leaks.

Valve not included

NSF Component

Accessories

Improve the performance and extend the life of your Professional Series Control Valves

No-Salt Detector
Always know when you're out of salt with this Logix accessory.

Turbulator
Increase resin bed performance with the turbulator.

Protective Covers
A complete line of covers to protect your valves.

I-Lid Cover
440/460 Controls

L-Lid Cover for 255 Valve

Logix Cover

Decorative Logix Skirt Covers

Logix Outdoor Cover

Custom Color Covers Available

Bypass Valves
Simplify maintenance with the use of a bypass valve.

1265
Performa

256
For 255 Valve

Tube Adapters and Plumbing Connections
Tubing adapters and manifolds for every plumbing type.

Copper Tube Adapters
3/4, 1, 1-1/4-inch,
22, 28 mm

CPVC Tube Adapter
3/4-inch, 1-inch,
25 mm

Plastic Threaded Adapter
3/4-inch, 1-inch
NPT, BSPT

Brass Adapter
3/4-inch, 1-inch
BSPT, NPT

Male Manifold
3/4-inch, 1-inch
NPT, BSPT
(255 valve)

Turbine Manifold
and Female Manifold
3/4-inch, NPT, BSPT
(255 valve)

Wall Mount Kit
Mount up to 40 feet away from Logix

Drain Line Flow Controls

External DLFC

Electrical Options
12-volt power adapters and switch kits are available for nearly any location or need.

Standard
Wall Mount

Outdoor
Transformer

Under Top-Plate
Transformer

Relay Switch
Mount-to-Top-Plate

Auxiliary
Switch Kits

North American Sales
5730 N. Glen Park Road
Milwaukee, WI
53209-4403
USA
(262) 238-4400 Phone
(262) 238-4402 Fax

For More Information:
Call GE Infrastructure
Water & Process Technologies;
Household Water Group at
(262) 238-4400 or
(800) 279-9404,
or visit www.gewater.com/equipment/valve/index.jsp

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WRAS®

Water Regulations Advisory Scheme

This certifies that

MEGAGROUP TRADE HOLDINGS B.V

has had the undermentioned product examined, tested and found, when correctly installed, to comply with the requirements of the United Kingdom Water Supply (Water Fittings) Regulations/Scottish Water Byelaws.

JASON RANGE OF COMPRESSION FITTINGS (20MM – 63MM). COLD WATER USE ONLY.

Reference should be made to the accompanying acceptance letter for installation requirements

The product so mentioned will be listed in the Water Fittings and Materials Directory for a period until:

02 NOVEMBER 2015

1011319

Certificate No.

Chairman, Test and Assessment Group

Secretary

WRAS APPROVED PRODUCT

January 2008

Ultraviolet Water Purification System

Basic

Monitored

The quality of drinking water can change with time and become contaminated with harmful bacteria. The Sterilight Cobalt™ system is a reliable, economical and chemical-free way to safeguard drinking water in any residential application. The Sterilight Cobalt™ system has been designed and tested to ensure quality drinking water is at everyone's finger tips.

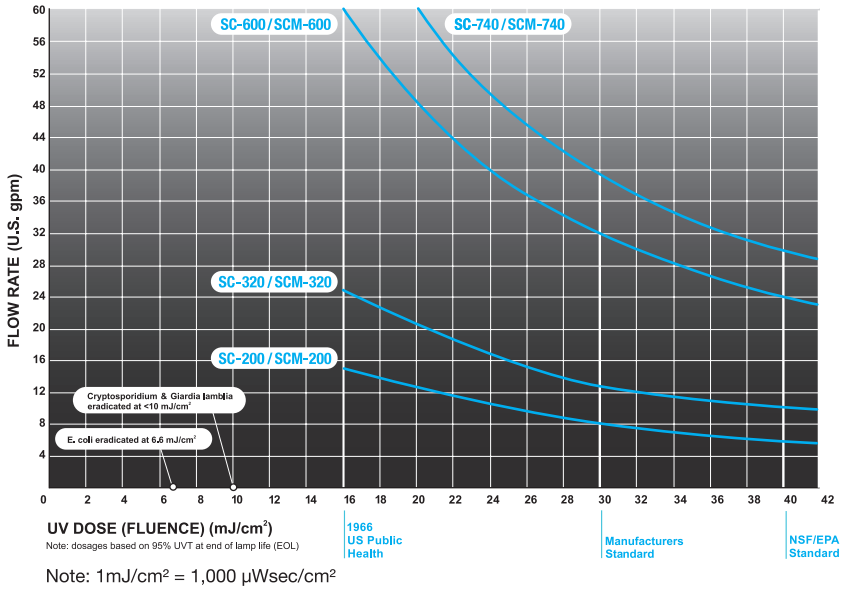
Features of the Sterilight Cobalt UV purification system

- Equipped to inactivate chlorine-resistant parasites such as *Cryptosporidium* and *Giardia*, harmful bacteria like *E.Coli* and viruses not visible to the naked eye.
- Specially designed and tested Sterilume™ -HO lamps provide consistent and reliable ultraviolet output over the entire life of the lamp (9000 hours) to ensure continuous purification.
- The system is easy to maintain and service.
- The ultraviolet lamp can be changed without interrupting the water flow.
- Built with a durable stainless steel chamber to prolong life and eliminate ultraviolet light degradation.
- The Cobalt™ ICE power supply visually displays the remaining lamp life and will go into alarm if the lamp fails to notify the homeowner. Monitored systems also have the ability to read the percentage of UV output.
- The power supply has a sealed case to prevent damage from accidental water intrusion and is fully CSA and CE compliant.
- Monitored systems have a specialized 254nm UV intensity sensor which notifies homeowner of changes in UV performance.
- Monitored systems have an optional solenoid valve which will stop the flow of water through the chamber should any changes in the UV performance falls below a safe level.

SPECIFICATIONS

MODEL	SC-200/ SCM-200	SC-320/ SCM-320	SC-600/ SCM-600	SC-740/ SCM-740
FLOW RATES[1]				
US Public Health (16 mJ/cm²)	75.7 lpm (20 gpm) (4.5 m³/hr)	128.7 lpm (34 gpm) (7.7 m³/hr)	227.1 lpm (60 gpm) (13.6 m³/hr)	227.1 lpm (60 gpm) (13.6 m³/hr)
VIQUA Standard (30 mJ/cm²)	37.9 lpm (10 gpm) (2.3 m³/hr)	68.1 lpm (18 gpm) (4.1 m³/hr)	132.5 lpm (35 gpm) (7.9 m³/hr)	158.9 lpm (42 gpm) (9.5 m³/hr)
NSF/EPA (40 mJ/cm²)	30.3 lpm (8 gpm) (1.8 m³/hr)	49.2 lpm (13 gpm) (2.9 m³/hr)	98.4 lpm (26 gpm) (5.9 m³/hr)	117.3 lpm (31 gpm) (7.0 m³/hr)
DIMENSIONS				
Reactor	45.2 cm x 8.9 cm (17.8" x 3.5")	57.9 cm x 8.9 cm (22.8" x 3.5")	78.0 cm x 8.9 cm (30.7" x 3.5")	100.0 cm x 8.9 cm (39.4" x 3.5")
Controller	24.1 cm x 8.1 cm x 6.4 cm (9.4" x 3.2" x 2.5")	24.1 cm x 8.1 cm x 6.4 cm (9.4" x 3.2" x 2.5")	24.1 cm x 8.1 cm x 6.4 cm (9.4" x 3.2" x 2.5")	24.1 cm x 8.1 cm x 6.4 cm (9.4" x 3.2" x 2.5")
Inlet/Outlet Port Size	Combo - 3/4" FNPT/1" MNPT	Combo - 3/4" FNPT/1" MNPT	1" MNPT	1.5" MNPT
Shipping Weight	5.4 kg (12 lbs.)	6.8 kg (15 lbs.)	8.6 kg (19 lbs.)	10.9 kg (24 lbs.)
ELECTRICAL				
Voltage	100-240V./50-60Hz	100-240V./50-60Hz	100-240V./50-60Hz	100-240V./50-60Hz
Power Consumption	35 W	42 W	73 W	88 W
Lamp Watts	27 W	34 W	65 W	80 W
Maximum Operating Pressure	8.62 bar (125 psi)	8.62 bar (125 psi)	8.62 bar (125 psi)	8.62 bar (125 psi)
Ambient Water Temperature	2-40°C (36-104°F)	2-40°C (36-104°F)	2-40°C (36-104°F)	2-40°C (36-104°F)
Lamp Type	Sterilume™ - HO (high-output)			
Visual "Power-On"	Yes	Yes	Yes	Yes
Audible Lamp Failure	Yes	Yes	Yes	Yes
Lamp Replacement Reminder	Yes	Yes	Yes	Yes
Visual Lamp Life Remaining	Yes	Yes	Yes	Yes
Total Running Time	Yes	Yes	Yes	Yes
Chamber Material[2]	304 SS	304 SS	304 SS	304 SS
SCM MODELS ONLY	**SCM-200**	**SCM-320**	**SCM-600**	**SCM-740**
254nm UV Monitor	Yes	Yes	Yes	Yes
Solenoid Output *(solenoid not included)*	Yes	Yes	Yes	Yes
4-20 mA Output	Yes (optional 260134)			

[1] Flow rates stated @ 95% UVT EOL [2] 316 stainless steel available on request



Note: 1mJ/cm² = 1,000 µWsec/cm²

Replacement Parts

- **S200RL-HO** – UV lamp for SC-200/SCM-200
- **S320RL-HO** – UV lamp for SC-320/SCM-320
- **S600RL-HO** – UV lamp for SC-600/SCM-600
- **S740RL-HO** – UV lamp for SC-740/SCM-740
- **QS-200** – quartz sleeve for SC-200/SCM-200
- **QS-320** – quartz sleeve for SC-320/SCM-320
- **QS-600** – quartz sleeve for SC-600/SCM-600
- **QS-740** – quartz sleeve for SC-740/SCM-740
- **410867** – o-ring for all quartz sleeves
- **RN-001** – gland-nut for all systems
- **BA-ICE-C** – electronic ICE controller (100-240V./50-60Hz.)
- **BA-ICE-CM** – electronic ICE monitored controller (100-240V./50-60Hz.)
- **254NM-C1** – UV monitor assembly for Cobalt "Plus" series

Warranty

Please visit www.viqua.com for the comprehensive warranty for our Sterilight product line.

Powered by VIQUA™ A TROJAN TECHNOLOGIES COMPANY

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