PART I – PROPOSED DEVELOPMENT

This section of the EIAR describes the proposed development, comprising an upgrade and extension of an existing abattoir facility within the townlands of Meenwaun and Boheradurrow, at Banagher, Co. Offaly, which includes the construction of stormwater and effluent drainage systems, water treatment plant, electrical sub-station, truck wash, security hut, waste and by-product area and gas compound, site access roads and all ancillary development including internal road surfacing, the provision of outdoor artificial lighting, an extension to the existing lairage facility and site landscaping.

A discharge to surface water is included in the proposed development for this application for planning consent.

This section also describes the existing development at the Banagher site, including a description of the current infrastructure and wastewater treatment system at the site, and summarises previous planning applications and consents for the site.

2.0 DESCRIPTION OF THE DEVELOPMENT

2.1 INTRODUCTION

The following is the wording of the proposed development for which planning permission is being sought by the applicant Banagher Chilling Limited:

"We Banagher Chilling Limited intend to apply for permission for development at Boheradurrow and Meenwaun, Banagher, Co. Offaly R42HX24 the development will consist of a single storey extension to existing abattoir of 1061 square meters to include processing rooms, staff changing rooms, offices, increase roof height by 2 meters, extend existing lairage and elevation alterations. In addition the construction of a food processing factory of 4925 square meters with a part first floor of 2299 square meters to include processing rooms, cold store, loading bay, chill rooms, plant rooms, staff changing rooms, staff canteen and administration offices. External works consisting of staff car parking, service yards, new public road entrance, widening of existing public road, effluent treatment compound, water storage tank, gas storage tanks, truck wash bay, integrated constructed wetlands, security hut of 23 square meters, electrical room of 168 square meters, water treatment building of 72 square meters, effluent treatment control house of 30 square meters, all associated siteworks and landscaping works on a site of 19.60 hectares. This application is accompanied by an Environmental Impact Assessment Report (EIAR) and a Natura Impact Statement.

The planning application, EIAR and Natura Impact Statement may be inspected, or purchased at a fee not exceeding the reasonable cost of making a copy, at the offices of the Planning Authority during its public opening hours. A submission or observation in relation to the application may be made in writing to the planning authority on payment of the prescribed fee (€20) within the period of 5 weeks beginning on the date of receipt by the authority of the application."

The existing abattoir facility is located in the townland of Meenwaun, while the proposed extension and associated development would be located within the townlands of Boheradurrow and Meenwaun, Co. Offaly. It should be noted that both "Boheradurrow" and "Boherdurrow" are referenced in this EIAR, with both variances referring to the same townland. This reflects the variances observed from mapping sites and other information sources.

The proposed upgrade and extension of the existing facility would facilitate a maximum cattle slaughter rate of 140 per day.

Banagher Chilling Limited intends to provide for the discharge of final treated effluent to the Feeghroe Stream, which passes along the western site boundary. Prior to discharge to this watercourse, the final treated effluent would be directed to newly constructed integrated wetlands. A preliminary assessment on the potential risks arising from the proposed discharge, including an assimilative capacity assessment, has been undertaken for the Feeghroe (discussed in detail in Section 10). It was concluded that the proposed discharge from the Banagher Chilling facility would not in and of itself result in the Feeghroe Stream failing to achieve good status.

The construction of the proposed development would take place over approximately 18 months, providing employment for approximately 250 personnel. Once operational, the facility would provide employment for approximately 110 personnel.

2.2 PLANNING AND CONSENTS HISTORY

The existing facility at Meenwaun was originally developed as an abattoir by the Lynch family in the 1990s and was acquired by Banagher Chilling Limited in 2018. An overview of planning permissions lodged for the site is included in Table 2.1 below.

Table 2.1: Overview of Planning for the Site at Meenwaun Townland, Co. Offaly

PLANNING REFERENCE	DECISION DATE	PERMISSION	DESCRIPTION
90465	24/05/1991	Permission	Construction of an Abattoir

According to the Offaly County Council planning map, an Enforcement Notice (Ref. No. UD 03043) was issued within the development site, to the west of the existing abattoir.

The most significant development within the vicinity of the proposed development site is the Meenwaun Wind Farm, which received conditional 10-year planning permission on the 22nd April, 2015 for the following:

"The construction of a wind farm comprising up to five turbines with a maximum tip height of up to 169m and associated turbine foundations, hardstanding areas and drainage, one permanent meteorological mast up to 80m in height, tree felling, a stream crossing, upgrading of existing and provision of new site tracks and associated drainage, provision of new site entrance'".

This 10MW maximum export capacity (MEC) site consisting of four GE manufactured 2.75MW turbines, was energised in December 2017 via the 20kV on-site substation and an underground cable to the ESB's Dallow 110kV substation. The access road to the wind farm site, and the planning reference marker indicated upon the Offaly Country Council e-plan map, is located 1.6km to the south-east of the proposed site. However, the closest turbine to the proposed site boundary is approximately 500m to the north-east.

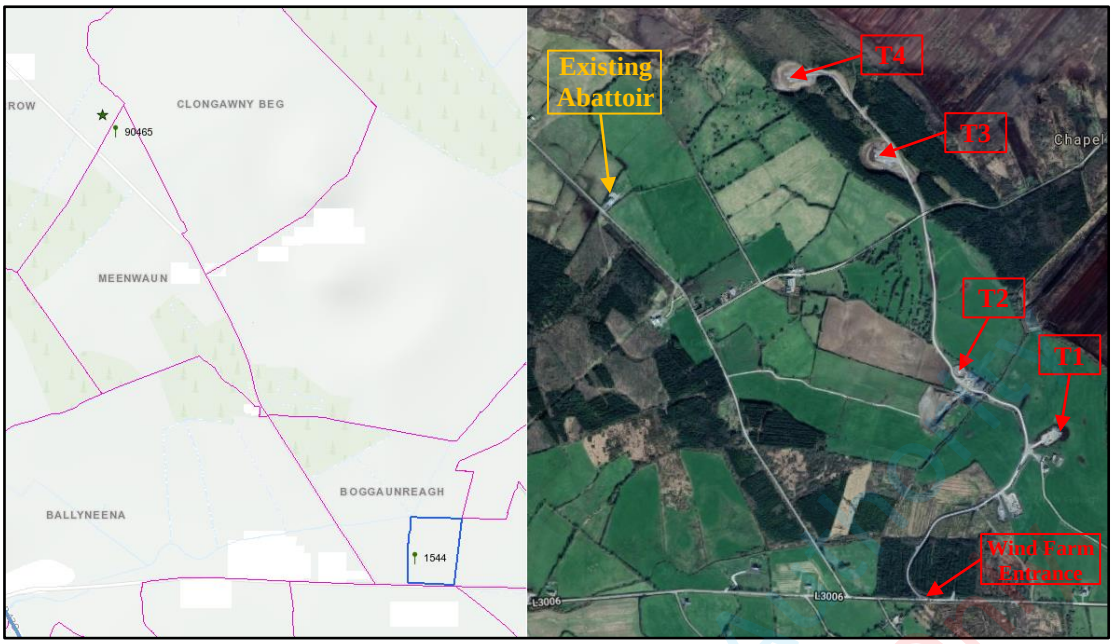

Figure 2.1: Planning Reference and Turbine Location Map

2.3 EXISTING DEVELOPMENT

2.3.1 SITE AND SURROUNDING AREA

The existing abattoir facility is located in the townland of Meenwaun, approximately 2.4km south-east of Banagher and 8.0km north-west of Birr, Co. Offaly. The remainder of the site comprising of agricultural land, is located in the townlands of Boheradurrow and Meenwaun. The approximate Irish National Grid (ING) reference for the site is 204143E, 213196N. A site location map is included as Attachment 2.1. The site is approximately 19.6 hectares in size and includes buildings, hardstanding areas and agricultural fields.

The nearest settlement to the existing facility is the town of Banagher, located approximately 2.4km north-west of the site. The towns of Birr and Portumna are located approximately 8km and 20km respectively from the facility. Tullamore is the closest large-size town and is located approximately 31.5km to the north-east of the site.

The site is accessed via the L3010, a local road linking to the R438 road. The R438 road connects to the N65 National Primary Road some 21.5km to the south-west and N62 National Primary Road some 7.0km to the north-east

The site is located in a rural, farming area predominantly comprised of pastureland, hedgerows and peatland. Arable fields and wooded areas can also be found scattered around the landscape. Residential development in the area is predominantly linearly aligned along the existing road network. A number of large farmsteads, as well as some commercial developments, are located within the area. The nearest national road to the site is the N62, which connects Athlone to Thurles. The Feeghroe Stream travels along the site's western boundary, which connects to the River Shannon via the Rapemills River. The River Shannon flows in a south-westerly direction and is located, at its closest, 4.4 km north-west of the site.

The topography surrounding the site is gently undulating between low points of around 48m AOD and a number of local highpoints of over 53m AOD. The existing facility is located between 48-50m AOD. Levels fall to under 33m AOD along the course of the local Rapemills and Shannon Rivers.

The proposed site does not lie within an area designated as a Special Area of Conservation (SAC), Special Protection Area (SPA) or Natural Heritage Area (NHA). The closest protected sites to the facility are the All Saints Bog and Esker SAC (Site Code: 000566) and the All Saints Bog SPA (Site Code: 004103), located approximately 2.1km and 2.4km south-west of the facility respectively.

2.3.2 EXISTING INFRASTRUCTURE AND UTILITIES

Within the landholding, there is an established farmyard complex of buildings and an existing permitted abattoir extending to approximately 748 m^2. The existing site layout is included in Attachment 2.2.

The existing abattoir facility was managed by Ossory Meats, and has ceased operation circa November 2016. At the time of their operation, Ossory Meats were slaughtering 100 cattle per week, and for a period, the site was also slaughtering horses under licence.
The existing abattoir development is comprised of the following:

- Main building housing the slaughter hall, boning hall, cold room, loading area and amenities (including offices, locker rooms, kitchen and toilets);
- Lairage and holding pen areas;
- Offal skip shed;
- Septic tank and percolation area servicing staff facilities;
- Surface water tank;
- Wastewater treatment system, comprising of inlet sump and storage sump;
- Lorry-wash.

Given that the site ceased operation in 2016 and has since changed ownership to Banagher Chilling Limited, there is limited information available on the existing utilities onsite.

Energy

The site is connected to the national grid for electricity supply. There are no existing boilers onsite.

Refrigeration

There are no available details on the existing refrigeration system.

Water Supply

It is not known if water was sourced from an onsite mains water supply, or if it was sourced from the onsite well located within the existing abattoir facility.

Drainage Networks

There were no discharges to sewer at the site. Foul sewer drainage from staff facilities was directed to a septic tank and percolation area. Process emissions from the factory, dirty yard drainage and lorry-wash run-off were all directed to a wastewater inlet sump and wastewater storage sump. The contents of the wastewater storage sump were tankered off-site for either landspreading or for treatment at a municipal WWTP. Further details of the wastewater drainage network are provided in Section 2.3.3.

Stormwater from the roof areas was directed to a surface water tank. It is presumed that the contents of this tank were directed to a percolation area.

2.3.3 EXISTING WASTEWATER INFRASTRUCTURE AND PROCESS

All process effluent, dirty yard drainage and lorry-wash material gravity drained to the inlet sump (107 M^3) located at the back of the factory. Raw effluent was stored in this inlet sump tank and an adjoining 113 M^3 storage tank, before being tankered off-site for either landspreading or for treatment at a municipal WWTP. No treatment of effluent was carried out onsite.

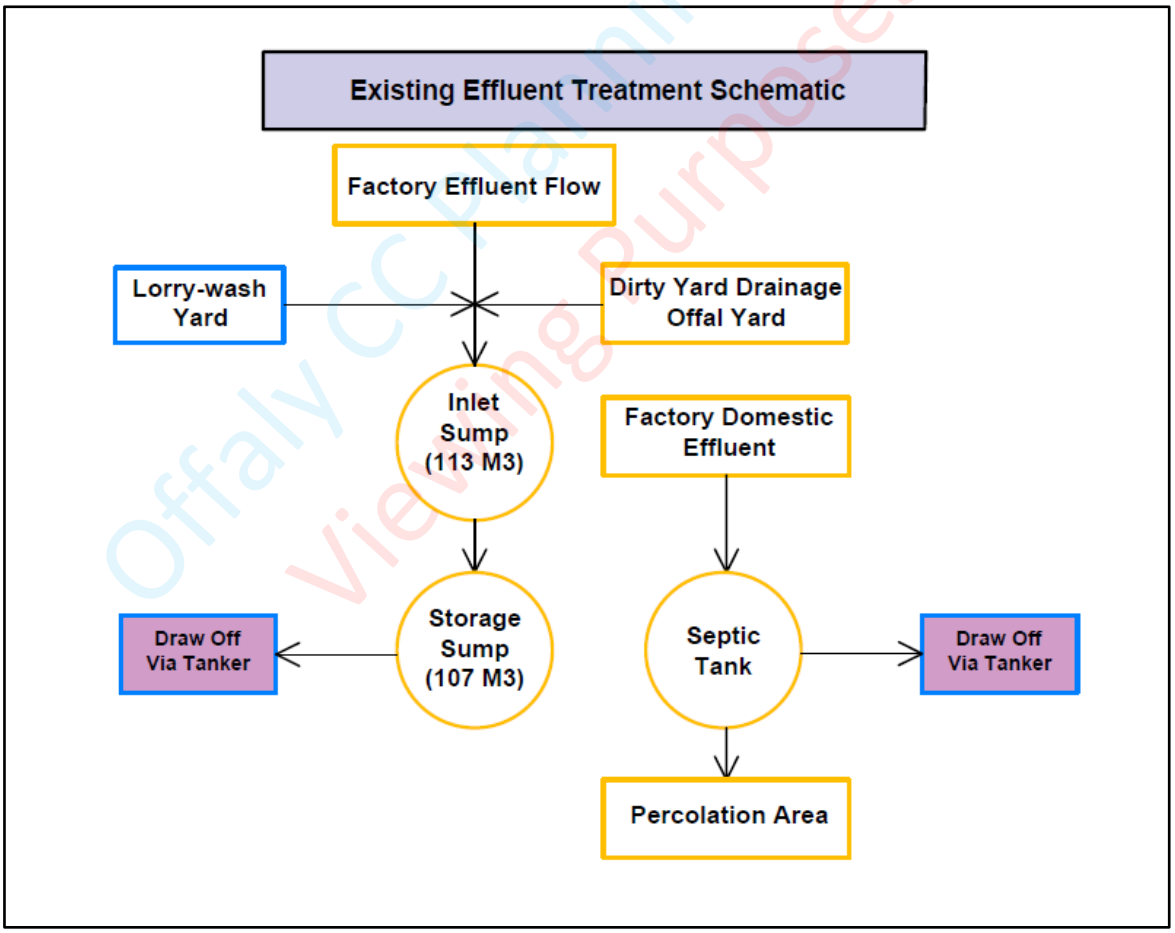

Figure 2.2: Schematic of Existing Effluent System

2.4 PROPOSED DEVELOPMENT

2.4.1 PROPOSED INFRASTRUCTURE AND UTILITIES

The proposed development would comprise of the refurbishment and extension of the existing abattoir on the site, to allow a maximum cattle slaughter rate of 140 per day. To achieve this, the existing slaughter line would be modified and lengthened within the existing abattoir building. The existing abattoir building would be extended to provide for additional cattle chills, processing rooms, waste-out rooms, offices and staff facilities, in addition to the construction of a meat cutting, packing, blast freezing and cold storage facility with an output of approximately 40 tonnes per day.

Other facilities to be constructed would include the associated plant rooms, packaging storage, electrical sub-station, water treatment system and wastewater treatment plant (WWTP). The existing lairage would also be extended, and the livestock yard increased in size.

The proposed site layout is included in Attachment 2.3. A summary of the proposed new infrastructure and areas is provided in Table 2.2.

Table 2.2: Proposed Development Infrastructure and Areas

INFRASTRUCTURE	AREA (M^2)
New buildings at Ground Floor Level	5,986
First Floor Facilities	2,299
Security Entrance Building	23
ESB Electrical Room	168
Waste Water Treatment Building	30
Water Treatment Building	72
Overall Total Proposed	**8,578**

A 3D model of the proposed development is included as Figure 2.3 below.

Figure 2.3: 3D Model of the Proposed Development

Abattoir and Lairage

It is proposed to extend the existing abattoir and lairage buildings onsite, which currently have a combined area of approximately 750m^2. The new extension would result in an overall area of 1,061m^2. The existing abattoir would be redesigned to contain the following areas: killing line, red offal chill and pack freeze, green offal chills (x2), dispatch, hides and gut room. The proposed extension would contain the following areas: hide, blood and feet storage, offices, staff and vet area, waste area, CAT1 and CAT3 trailer-bays. The existing lairage building, located to the north of the abattoir building would be extended to provide for further lairage facilities for the intake of animals. The new lairage extension would also include an extension to the underground lairage tank.

Food Processing Factory

The food processing factory onsite would have a ground floor area of 4,925m^2, and a first floor area of 2,299m^2. The structure would have a maximum height of 12.8m from the ground. The food processing factory would include processing rooms, cold store, loading bay, chill rooms, plant rooms, staff changing rooms, staff canteen and administration offices.

Security Hut

The security hut, which would be located inside the site access gate, would consist of a single room structure. The structure would have a maximum height of 3.61m from the ground level. The building would have an overall footprint of 23m^2. The finished internal floor height would be 36cm above the ground level. Within the structure, there would be a 1m x 2m washroom facility area.

ESB Substation

The ESB substation, which would be located within the rear yard area approximately 14.8m north of the plant room, would consist of a rectangular structure divided into two areas; the ESB Room and Electrical Room. The structure would have a maximum of height of 4.4m from the ground level. The building would have an overall footprint of 168m^2. The finished internal floor height would be 17.5cm above the ground level. The ESB room would have an internal area of 39m^2, while the Electrical Room would have an internal area of 129m^2.

Water Treatment Building

The water treatment building, which would be located within the rear yard area approximately 41m north-west of the plant room, would consist of a single room structure. The structure would have a maximum of height of 5.5m from the ground level. The building would have an overall footprint of 72m^2. The finished internal floor height be at ground level, with the first 34cm of wall being constructed from 215mm blockwork.

WWTP Compound

The waste-water treatment compound would consist of a 1,598m^2 area of concrete hardstand, and would contain the following structures:

Balance Tank	113 m^2	Clarifier Tank	50 m^2
Sludge Tank	50 m^2	Sand Filter	5 m^2
Sludge Press Gantry	8 m^2	Final Effluent Sump	9 m^2
Anoxic Tank	113 m^2	Operators Cabin	30 m^2
Aeration Tanks (x2)	95 m^2	Grey-water Tank	7 m^2
DAF Unit	10 m^2		

Total approximate area of all WWTP structures = 585m^2

Truck-Wash

The site truck-wash would be located within the rear yard area of the site. Wash-water would be supplied to this wash from a 20m^3 grey-water tank, located within the WWTP compound. This tank would be filled using water from the final effluent sump. It is anticipated that this wash would use approximately 5m^3 of water per day.

Waste and By-Product Area

The site waste storage area would be located in the rear yard area and would contain segregated waste bins including; cardboard recycling, plastic recycling, wood recycling, metal recycling and general waste. CAT1 and CAT 3 waste would be stored within designated trailers in this area, while blood would be stored within a refrigerated stainless steel tank adjacent the abattoir building. Sludge would be stored in a trailer within the WWTP compound.

Gas Compound

The site liquefied petroleum gas (LPG) tanks would be strategically placed within the rear yard area and would be surrounded by protective barriers. This structure would have an overall maximum length of 13.5m and an overall maximum width 5.8m.

Car Parking

The site carpark would be located to the south of the main building. The car park would be accessed from the main site entrance, and would contain 146 car parking spaces, 3 e-car spaces and 12 disabled parking spaces.

Site Access

The site would be accessed via a newly constructed site entrance on the L3010, as shown in Attachment 2.3. The existing site entrance to the existing abattoir would not be used for site traffic, with all traffic diverted to the new entrance, however this entrance would remain for emergency use only. The existing entrance to the agricultural buildings would be made redundant.

Energy

The site proposes to use the following energy sources:

1. LPG for the boilers and external forklifts;
2. Diesel for the back-up generator;
3. Electricity for process and offices.

Electricity would be used as efficiently as possible throughout the site. Significant investment has been put into the site planning and initial build programme to ensure good overall site energy monitoring and control.

All equipment where possible would be sourced to be energy efficient. Energy saving LED lights would be used throughout the facility where possible. LED lights are the most energy efficient and practical lighting source. They are longer lasting than compact fluorescents (CFL) and incandescents - up to 10 times as long as compact fluorescents, and far longer than typical incandescents. They are less hazardous as they do not contain mercury. They give better quality light. They are more efficient - using only 2-17 watts of electricity (1/3rd to 1/30th of Incandescent or CFL).

The main users of electricity on site would be the refrigeration plant, production lines and office areas. The facility would set energy efficiency targets as part of the site's Environmental Management Programme. The site would undertake regular energy audits to ensure maximum efficiency and to identify energy saving measures.

It is estimated that the annual consumption of LPG at the site would be 80m^3, with the annual consumption of electricity estimated to be 922 MWhrs. Figure 2.4 below provides an estimate of the energy consumption based on Sector Guidance information.

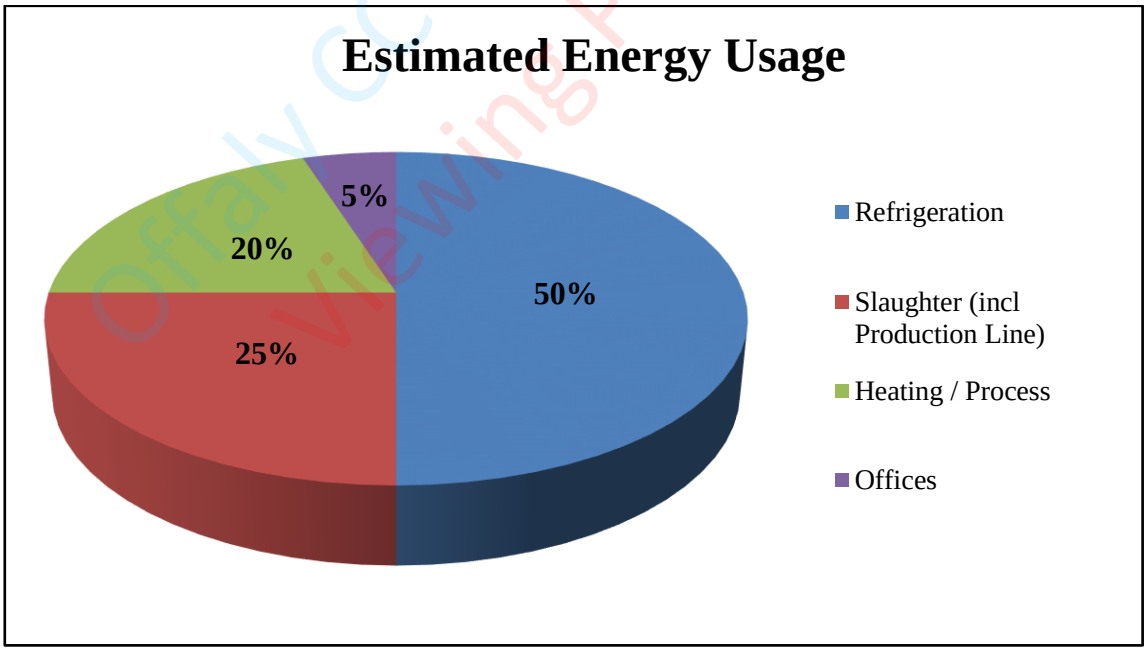

Figure 2.4: Estimated Energy Usage for Main Processes

Boilers

Two steam boilers are proposed as part of the development, each with a capacity of approximately 900kgs per hour. The boilers would be located within the plant room, to the rear of the abattoir facility. The specifications of the boilers would be determined following planning approval and the detailed design stage. However, it is likely that the boilers would each have a stack diameter of 0.6m, and would measure approximately 2m in height from the plant room roof level. Both stacks would be capped.

Refrigeration

The refrigeration system would comprise of a primary ammonia (NH_3) system with 7,500kgs of liquid ammonia contained within a sealed, pressurized system. Work areas, chill rooms and packaging rooms would be refrigerated using a secondary Glycol refrigerant from a central chiller unit.

Water Supply and Consumption

Should conditions allow, it is intended that the site's water requirement would be sourced via water abstraction onsite. A geophysics survey has been undertaken of the entire site, which identified two potential locations for trial wells. Upon approval of planning permission, site investigation works and water well drilling would be undertaken to assess the viability of the trial wells. It is estimated that water consumption at the site would be 150 – 200 m^3/day, however this is likely to be an overestimate.

Water conservation measures have been included as part of the proposed development design. Rainwater harvesting would be implemented, with all roof water collected for use in staff sanitary facilities and site landscaping.

The final WWTP design includes for the capture of treated effluent water in a holding tank (grey water tank) to be used in lairage and lorry wash-out. This practice is currently undertaken by a number of slaughtering facilities in Ireland. The grey water tank would be fed via level probes from the final sump when required. It is estimated that final treated effluent would be required at a rate of 5m^3 per day for the lorry-wash and 5m^3 per day for the lairage.

Drainage Network

There would be no discharges to sewer at the site.

It is intended to adopt best management practices in stormwater management as outlined in both the SuDS manual from CIRIA and the Technical Guidance document on SuDS published by British Water in conjunction with the Environment Agency along with other European and international industry standards.

Stormwater from clean-yard areas and car parking areas would pass through a silt trap and Class 1 By-Pass Separator before being directed to a modular underground attenuation system. From here, the stormwater would be pumped to a manhole prior to discharge to the Feeghroe Stream. The proposed stormwater drainage design is included as Attachment 2.4. Stormwater from the roof areas would be directed to the rainwater harvesting tank onsite, and

stored for use in toilets and site landscaping. This tank would contain an overflow valve, which would be directed to the site's stormwater network.

Run-off from "dirty" yard areas, process waters and sewage from staff welfare facilities would be directed to the site's new WWTP, and to constructed integrated wetlands following treatment, discussed in detail in Sections 2.4.3 and 2.4.4.

The lairage area floor would be slatted, with slurry and any bedding material collected within the underground lairage tank. The contents of the lairage tank would be likely tankered offsite for landspreading, or alternatively directed for anaerobic digestion or composting as appropriate.

Grey-water, sourced from the final treated effluent sump, would be used for lairage and lorry washing activities, supplementing the groundwater / mains water supply. The water from lorry washing activities would be directed back to the WWTP, while washings from the lairage would be directed to the lairage tank.

Waste Management

The waste arising at the facility would come under the broad European category of LoW 02 01 wastes – Wastes from Agriculture, Horticulture, Aquaculture, Forestry, Hunting and Fishing, Food preparation and processing.

Wastes generated at the facility would be managed in order of priority in accordance with Section 21A of the Waste Management Act 1996, as amended, commonly referred to as the waste hierarchy. Wastes would be segregated as much as possible in order to avoid cross contamination. Where practicable, the generation of wastes would be reduced at source. Where it is not possible to avoid the generation of wastes, wastes would be sent for recycling or recovery as a priority. The generation of waste for disposal would be minimised as much as is practicable, and would be sent for incineration, with no general waste going to landfill.

Measures to prevent any significant effect of the proposed development on environmental parameters would be directed towards ensuring that the systems for collecting wastes and removing them from the site for appropriate treatment in authorised waste treatment installations would be adequate for that purpose.

Solid animal derived wastes produced are CAT 1, CAT 3 and packaging waste generated during the production process. From an economic viewpoint, loss management control would be utilised to prevent or recover as much product as possible, however a certain base loss is attributable to each process. The only waste that would be produced at the effluent treatment operations would be screenings from the Meva and Drum Screens, which are disposed of as CAT 1 waste.

All waste handling contractors and waste disposal facilities to be used by Banagher Chilling would be fully permitted (by Local Authorities) and/or licensed by the EPA as relevant. In addition, all transportation of waste materials from the site would be undertaken by contractors whom have valid Waste Collection Permits (WCPs) in place.

All waste would be stored in an area designated specifically for each particular waste and would be clearly labelled. All putrescible wastes would be stored in an area of hardstanding

that drains to the foul drainage network. It would be site practice that all putrescible waste be removed regularly as required.

Details of estimated waste generation and waste management are included in Section 16 Material Assets – Waste Management.

Rodent Baiting

It is important to control vermin, rodents and other pests on the site in order to prevent disease spread and potential public nuisance. Rodent control at the proposed development site would be managed by baiting in designated areas around the site.

A pest control contractor would be employed by the site to carry out rodent control measures. This would involve the placing of rodent baiting boxes at strategic locations throughout the site. The pest control contractor would inspect and remove the boxes as necessary. Baiting locations, along with an accompanying map, would be determined upon completion of the construction phase of the proposed development and consultation with the pest control contractor.

2.4.2 PROCESS DESCRIPTION

The main stages of meat production and processing at the facility are discussed below and outlined in Figure 2.5.

Lairage

Cattle scheduled for slaughter would be delivered to the site by road. On arrival, the documentation for the animals would be checked; only those animals having the necessary documentation would be accepted. The animals would be placed in livestock holding pens in the lairage. After unloading, the cattle delivery vehicles would be taken to the lorry wash area for washing before leaving the site. The lairage would include a slatted tank for the collection of slurry, and the area would be washed down daily to prevent the build-up of organic material on concrete surfaces. The site procurement procedure would ensure that the number of breaks in slaughtering processing would be minimised, by ensuring that there is a constant supply of animals to the slaughter floor.

Slaughter and Bleed Lines

Cattle would be stunned / killed in a purpose designed stun box using a captive bolt pistol. The animals are then hung by their back legs on an overhead rail system. The cattle then have the main arteries in their throats cut by trained slaughter operatives. Slaughter lines would normally only operate on weekdays (i.e. Monday to Friday), however, slaughtering may be undertaken at weekends for reasons such as casualty animals and demand.

Blood from slaughtered animals would collected by means of a dedicated collection system. The blood trough is designed to facilitate ‘squeegeeing’ of partially congealed blood into the blood collection system. There would be no additional bleed points on the slaughter floor. Blood would then be transferred from the blood trough to the blood storage tank, where it would be held until it is removed off site by tanker. Citric acid would be added to the blood removal system and blood would be chilled to aid coagulation of the blood so that it can be used for plasma removal.

Head, Horn and Hoof Removal
Heads, horns and hooves would be manually removed from cattle carcass using hydraulically operated cropping shears and would be sent to Specified Risk Material (SRM) skips for staining with blue dye.

Hide Removal
After bleeding, cattle have the mask and ear manually removed. After removal, the mask, which is classed as SRM, would be stored in dedicated storage areas and stained with blue dye before disposal. Hides would be removed from cattle by means of an automated hide puller system and stored pending removal off-site for further processing.

Trimming and Evisceration
Green offal (lungs, trachea and paunches) would be collected and taken for processing as pet food at off-site facilities. The spleen, intestines and pancreas are classed as SRM and would be stained with blue dye and sent to the relevant skips. Gut (paunch) contents would also be removed at this stage and stored for collection by a contractor for land-spreading. The respiratory, pulmonary and digestive organs would then be removed and the resulting offal sent for disposal or further processing as required. Red offal (heart, liver and kidneys) would be removed and sent to the Red Offal processing area.

Red Offal Further Processing
Further to being initially chilled, red offal would be trimmed, packed, labelled and weighed and sent to the chill for storage. This process may produce some waste packaging such as broken boxes, backs of labels, transit packaging for the packaging materials etc. and as these volumes are so small they would be treated as general waste.

Carcass Quartering
After the removal of offal, the cattle carcasses would be split along the spine using purpose designed electric saws. The spinal cords would then be removed from the carcass using a vacuum suction system. The spinal cords are classed as SRM and would be stained with blue dye and sent to the correct SRM skip. Each side would be cut, resulting in beef quarters. Following quartering, the beef quarters would be sent to the chill.

Chilling
The beef quarters would be placed in chilled storage prior to deboning. Meat would be kept in chilled storage, at between 0-5°C, before being transferred to the de-bone area.

De-boning
Beef quarters would be de-boned, with bones directed to the designated bones skip. The product would then be weighed and inspected, before being packaged and palletised.

Freezing
The final product would be sent to the coldstore, in preparation for dispatch.

Cleaning
Procedures would ensure that residual material would be removed from floors, water would be used efficiently and employees would be trained in the handling and making up of working solutions and their applications.

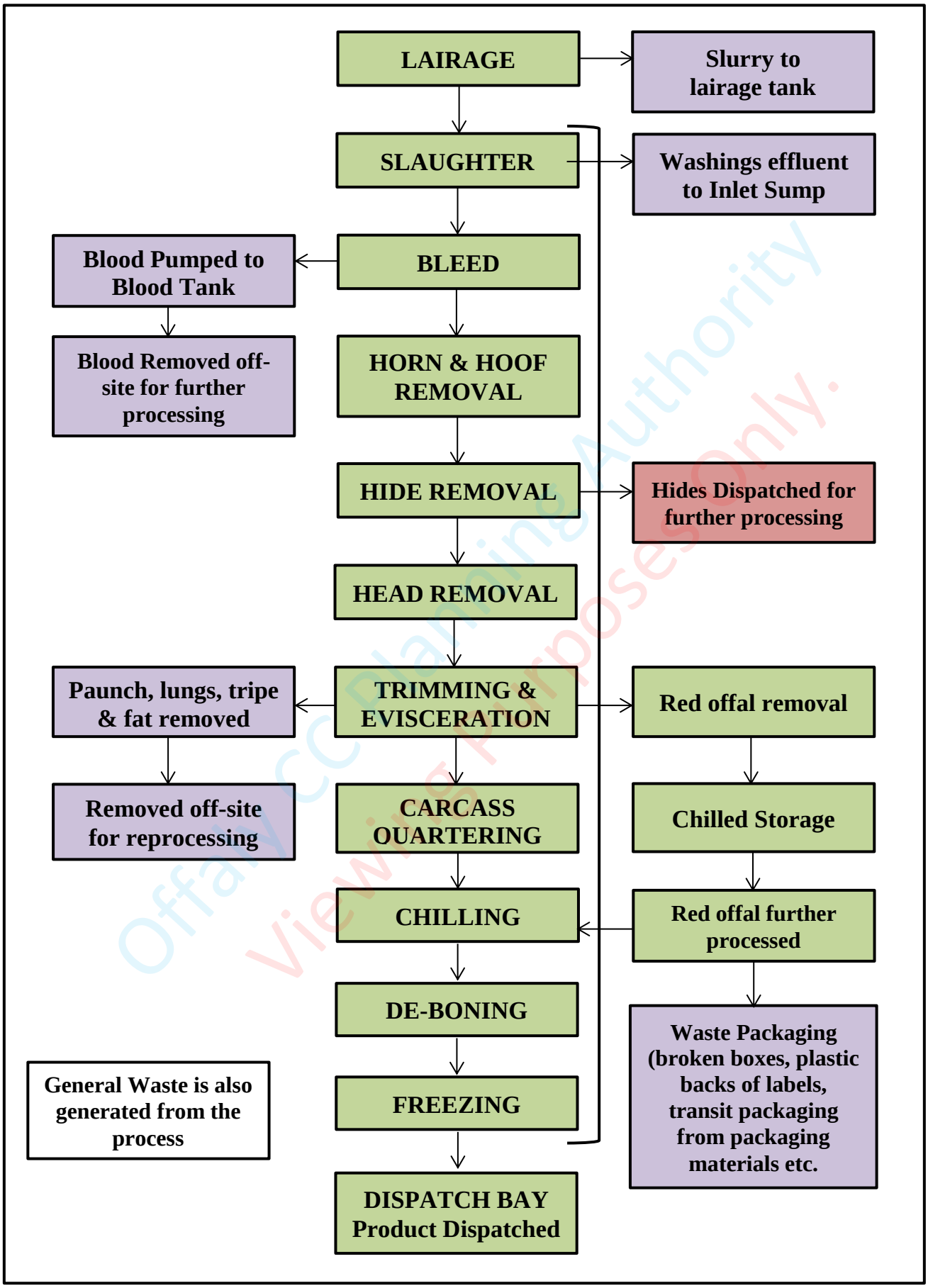

Figure 2.5: Process Flow Diagram

2.4.3 PROPOSED WASTEWATER INFRASTRUCTURE AND PROCESS

Banagher Chilling Limited are proposing to extend the existing on-site effluent system to provide treatment for the process effluent produced at the facility. The proposed layout for the WWTP can be seen in Figures 2.6 and 2.7.

Banagher Chilling Limited are proposing to develop a WWTP designed for a maximum capacity of 15,667 P.E. (where 1 P.E. = 64 g BOD / person / day) and 250 M^3 per day, and propose to discharge the final treated effluent to the Feeghroe Stream, which travels along the western site boundary.

Effluent generated on the site would comprise of wash-down of the production floor, drainage from dirty yard areas, drainage from the floor of chill areas, domestic effluent and centrate return from fertiliser by-product (belly-grass) dewatering.

All process drains, domestic drains and dirty yard surface water drains would be directed to the on-site effluent treatment plant and would firstly enter the raw effluent inlet sump.

The effluent treatment plant would consist of the following stages;

A. Primary Treatment

- Raw inlet sump,
- Meva Screen,
- Drum Screening,
- Balance Tank,
- Dissolved Air Flotation (DAF) Unit,
- Sludge Holding Tank,
- Sludge Screw Press,
- Grey water tank (final effluent re-use tank),

B. Biological Treatment

- Anoxic Tank,
- Aeration Basins x 2,
- Clarifier,
- Sand Filter (Tertiary treatment).

These stages can be described in more detail as follows:

A. Primary Treatment

The first stages of the primary treatment plant, the raw inlet sump and meva screen would be located to the back of the main factory. The drum screen, balancing tank, DAF unit and sludge press would be located in the designated effluent plant compound towards the north/west boundary of the facility.

The proposed primary effluent plant would comprise of the following stages:

A.1. Raw Inlet Sump

Raw process effluent, process wash waters, domestic effluent from the main production building and yard drainage from contaminated yard areas would be collected via a network of process drains and drain to the raw inlet sump.

A.2. Meva Screen

Located inside the inlet sump, a 20 M^3/hour meva screen with 5mm openings would be connected to the inlet pipe and receive effluent from the factory. This would be designed to remove all gross contaminants to prevent build-up of rejects and blockages in the effluent treatment equipment and piping. The Category 1 screening materials would be transferred to dolavs and from there to the Category 1 trailer in the main facility yard.

A.3. Drum Screen

Effluent from the inlet sump would be pumped to a 20 M^3/hour drum screen located in the main effluent treatment area, at which point, further secondary fine screening (1 mm) would take place to remove additional solids from the wastewater. This would be designed to remove all gross contaminants to prevent build-up of rejects in the balance tank and blockages in the effluent plant equipment and piping. Drum screen solids would be collected in dolavs which would be regularly emptied into the CAT 1 waste trailer in the main facility yard.

A.4. Balancing Tank

The proposed Balance Tank (12m diameter x 4.5m high) would have a maximum operating volume of 500 M^3. This would be an over-ground, glass-lined steel tank, with adequate mechanical propeller-type mixing provided. The tank would be a covered tank, with ventilation provided to an adjacent odour carbon scrubber in order to prevent potential odour emissions.

This new balance tank would provide storage capacity to buffer the effluent composition/loading and balance out flow fluctuations from the plant in order to facilitate the treatment of effluent via the DAF and biological stages at a steady rate. The balance tank would provide for approximately 2 days retention at the plant maximum hydraulic capacity of 250 M^3 per day.

The flow to the DAF unit would be maintained under flow control via a flow control valve in the feed line and an ultrasonic level sensor / controller on the balancing tank, which would be linked to a main control SCADA system.

A.5. DAF Unit

The DAF unit would treat the screened and balanced effluent. Solids would be removed from the raw effluent using a chemical programme with a coagulant and flocculent, followed by diffused air floatation. pH control would be achieved by the controlled addition of acid and caustic into the DAF inlet point as required.

The DAF unit would be designed to accept flows of 25 to 30 M^3 per hour. The aeration system would be sized to optimise fat removal and sludge concentration.

Treated effluent would be pumped to the anoxic tank for further biological treatment.

The DAF sludge would gravity feed into a sludge transfer tank/trough which would form an integral part of the DAF unit. The sludge transfer tank would be fitted with duty/standby sludge pumps and the level in this tank would be controlled by starting and stopping the duty pump between levels. Sludge would be fed from the DAF sludge transfer tank into the sludge holding tank.

A.6. Sludge Holding Tank

A 200 M^3 sludge holding tank (8m diameter x 4m high) would be required to store the DAF sludge and biological activated sludge prior to on-site dewatering and then off-site treatment. This would be an over-ground, glass lined steel tank, with adequate mixing (2.5 Kw/hr submersible mixer). The tank would be covered with ventilation provided to an adjacent odour carbon scrubber in order to prevent potential odour emissions.

At the proposed maximum 250 M^3/day effluent capacity, an estimated maximum 5 tonnes of DAF sludge (250*850mg/l = 212 Kgs = 5 tonnes @4% solids) and 30 tonnes of biological sludge (solids concentration of 1%) would be created daily.

This would be collected by a registered contractor for off-site treatment, such as anaerobic digestion, composting or land-spreading. Any land-spreading would be required to be completed in compliance with a Nutrient Management Plan in compliance with the Nitrates Regulations (S.I. 605 of 2017).

A.7. Sludge Screw Press

A sludge screw press is structured with a filter element that consists of two types of rings: a Fixed Ring and a Moving Ring; and a screw that thrusts the filter element and transfers and pressurizes the sludge. The gaps between the rings and the screw pitch gradually get narrower towards the direction of sludge cake outlet and the inner pressure of the filter element increases due to the volume compression effect, which thickens and dewaters the sludge.

The proposed sludge press would have the capacity to process 10 M^3/hour of sludge, producing a sludge cake at 20% solids content. This would result in 5 tonnes of dewatered sludge produced daily.

B. Biological Treatment

B.8. Anoxic Tank

The anoxic tank (12m x 6.5m high) would have a maximum operating volume of 700 M^3. This would be an over-ground, glass-lined steel tank, with an internal submersible mixer in order to ensure adequate treatment of all inflow.

Anoxic Mixers are used in de-nitrification basins in waste water treatment plants. The process involves the de-nitrification of waste streams through the use of bacteria which breaks down

the nitrate in the waste to use as an oxygen source (energy source). This breakdown of nitrate from the waste stream releases oxygen and nitrogen gas. The oxygen is consumed by the bacteria and the nitrogen gas releases to the atmosphere. The waste stream then has acceptable nitrogen levels so the water can be discharged into the environment (streams, ponds, lakes, etc.).

In the anaerobic/anoxic tank, denitrification would take place by mixing the food source (DAF out-flow), microorganisms (return activated sludge from clarifier) and nitrates (aeration tank mixed liquor return loop).

Mixed liquor containing nitrates would be pumped and recirculated from the aeration tanks back to the anoxic tank.

The anoxic tank would contain a submersible mixer to allow constant mixing of the tank contents. The nitrates would be converted to nitrogen gas and available oxygen (denitrification) in this tank. After this processing, the effluent would flow to the biological aeration tanks.

B.9. Aeration Tanks

The two aeration tanks, when constructed, would be arranged in a split flow format, where the effluent from the anoxic tank can be divided equally between both aeration tanks. The aeration tanks (11m x 5.7m high) would have a maximum operating volume of 500 M^3 each. These would be over-ground, glass-lined steel tanks, with adequate diffused-bubble aeration/mixing in order to ensure adequate oxygen for the microbial population.

This is where the biological breakdown of the effluent takes place. The aeration tanks would be fitted with an air diffuser network and three air blowers which run as duty, duty and assist to manage any high loading on the treatment plant from the effluent. The speed and operation of the blowers would be varied by the plant control system in response to signals received from the dissolved oxygen sensor mounted in the aeration basin. This sensor would also be linked to the sites building management system which allows continuous monitoring and real time readings.

Each aeration tank, anoxic tank and sludge tank would have manual valves between each tank which would enable tanks to be isolated / segregated if required.

B.10. Clarifier

The proposed clarifier would act as a settling tank, diameter 8 metres x height 2.5 metres.

The purpose of the secondary settlement tank is to:

- Remove suspended solids.
- Return settled sludge to the aeration tank.

Success in meeting the outflow quality objectives of the treatment system depends on the settleability of the mixed liquor. While settlement of solids is prevented from occurring in the aeration tank by the action of the aeration equipment, the secondary settlement tank is designed to promote settlement.

Design overflow rates are lower in a secondary settlement tank than in a primary settlement tank. Overflow rate are typically 21-28.8 m^3/m^2/day. Adequate retention time must be allowed in the settlement tank to allow good separation of the mixed liquor. Other design parameters to be considered include tank depth weir placement and shape, MLSS, sludge settleability and draw-off rate and solids flux. Solids (or sludge) mass flux, expressed as kg/m2h, bases the design of the settlement tank on the solids loading rate, the settleability of the sludge (SSVI) and the return sludge flow-rate.

Design Solids loading ($kg/m^2/h$) = $\frac{\text{Solids applied (kg/h)}}{\text{Clarifier surface are (m2)}}$

For activated sludge, the solids loading rate is typically 3.0 to 6.0 $kg/m^2/h$.

Mixed liquor from the aeration tanks would flow to the clarifier via an inter-connecting over-ground pipe. The heavier sludge settles to the bottom of the clarifier while the lighter clear water flows over the weir launder to a pump sump where it would be pumped through the column sand filter.

Waste sludge would be pumped from the clarifier to the sludge holding tank for a set time daily. Otherwise, activated settled sludge would be continuously returned to the anoxic tank via sludge return pumps.

B.11. Sand Filter – Tertiary Treatment

Clarified effluent from the clarifier would be pumped through a column sand filter. This is a simple sand filtration system, with a diameter of 2.5 M and height of 5 metres.

A sand filter is mainly used to reduce the suspended solids in the final effluent. Suspended solids removal at this stage would also lower the COD/BOD level of the effluent.

The method of backwash is important and the most common and acceptable method is a continuous backwash system.

Treated effluent from the sand filter would gravity feed to a final discharge sump.

12. Final Sump

From the final sump, treated effluent would be pumped to the constructed integrated wetlands (ICW) system using two submersible pumps (duty / stand-by) operated on ultra-sonic float level probe.

The expected dimensions of the final effluent sump would be 3M x 3M x 2M deep, giving a total capacity of 18 M^3. The sump would be split into two chambers, the first chamber over-flowing into the second one. Grey water would be pulled from the first chamber when required.

The final sump would have an emergency return connection to the balancing tank, providing storage for emergencies or other such contingency purposes.

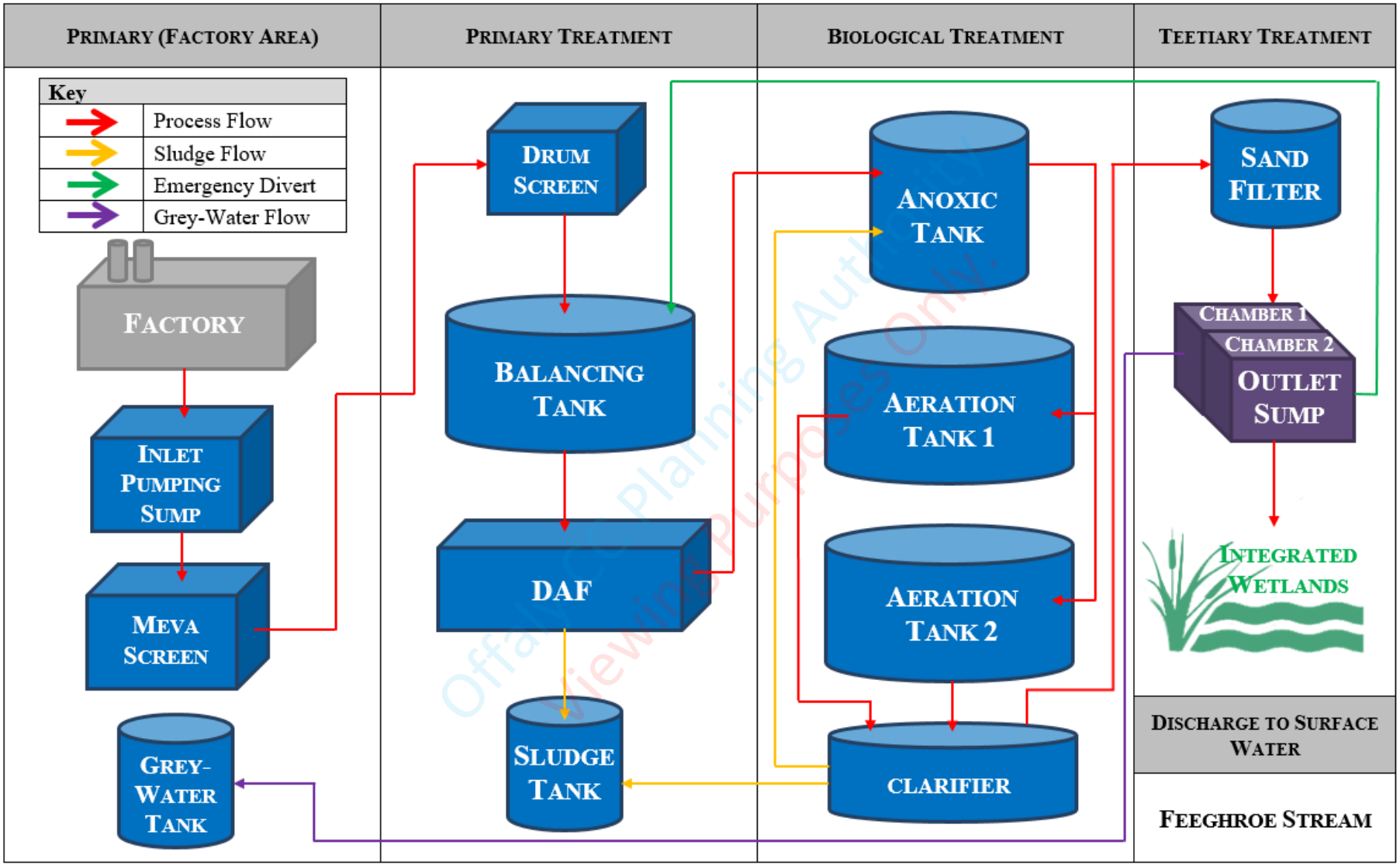

Figure 2.6: Proposed Stages of Wastewater Treatment and Associated WWTP Plant

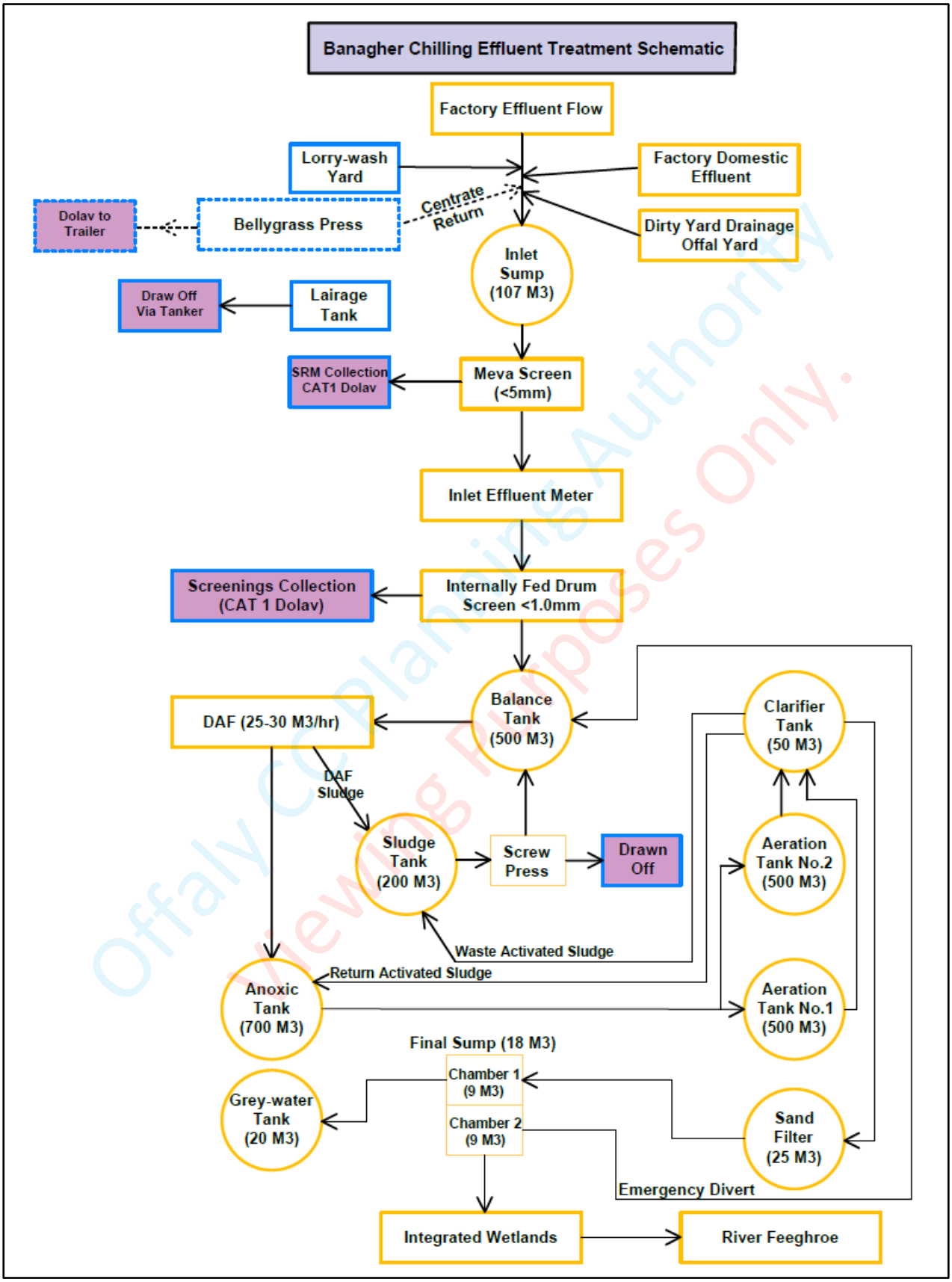

Figure 2.7: Schematic of Proposed Effluent Treatment System

2.4.4 PROPOSED INTEGRATED CONSTRUCTED WETLANDS

Following treatment at the proposed WWTP, treated effluent would be pumped to the proposed ICW system. The ICW system has been designed by Vesi Environmental Limited., who have prepared a Planning Report (Ref. 19315_3_PlanningReport) and Preliminary Operation and Maintenance Plan (Ref. 19315_3_O&MPlan) to accompany this planning application. The proposed ICW layout by Vesi Environmental has been included in Attachment 2.3.

The ICW configuration applied at the proposed development site comprises of a five-treatment cell system. The system is designed with cascading levels to enable gravity flow across the system, and has been designed to maximise the distance over which the influent must travel for optimum residence time and treatment. The treated effluent from the WWTP would be pumped to the first ICW cell, and from here would flow sequentially through the remaining cells via interconnecting pipework. The final treated effluent from the ICW would be directed to the Feeghroe Stream, located immediately to the west of the proposed ICW system.

The ICW would serve as a tertiary treatment system, and would treat up to 250m^3 of wastewater a day from the WWTP. An ICW treatment area of 150m^2 per m^3 of influent has been determined by Vesi Environmental to be appropriate to satisfy the required treatment performance and achieve proposed licence limits (discussed in Section 2.4.5). The functional wetland treatment area achieved in the proposed design is 40,000m^2, as detailed in the table below.

Table 2.3: ICW Treatment Cell Areas

CELL NO.	CELL AREA (M^2)
Cell 1	7,000
Cell 2	7,935
Cell 3	9,620
Cell 4	7,740
Cell 5	7,705
Total ICW Area	40,000

Each cell would be densely planted with a selection of emergent plant species, including Reed Sweet-grass (*Glyceria maxima*), Common Sedge (*Carex riparia*), Reed Mace (*Typha latifolia*), Lesser Reedmace (*Typha angustafolia*) and Yellow Flag (*Iris pseudacorus*), along with a quantity of other suitable emergent plant species. The final cell, Cell 5, would differ from Cells 1-4, in that it would also be planted with a mixture of deciduous and evergreen tree species on mounds amongst the emergent wetland plants. This arrangement is designed to reduce the overall outflow from the system. The proposed plants would assist in the many physical, chemical and biological processes that occur within the wetland system to reduce the through-flowing water of its various potential pollutant contaminants. The vegetation would also play a very important role in reducing the volume of final treated effluent discharging from the ICW to the receiving waters, especially through the process of evapotranspiration.

The operational water depth within each cell would be between 150 mm and 200 mm, with capacity to allow for increased water depth during high rainfall events. The treatment wetland cells would have a minimum embankment height of 1m.

The maximum expected discharge flow from the ICW system would be variable due to the open nature of the system. The flow rate into and out of the system would at times be similar, however it is likely that there would be no discharge from the ICW during summer months, with higher flows expected during winter months coinciding with typically heavier rainfall events.

Additional landscaping is proposed around the ICW site, using native trees and shrubs common to the area, including Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), Birch (*Betula* spp.), Alder (*Alnus glutinosa*) and Willow (*Salix* spp.).

2.4.5 DISCHARGE OF TREATED EFFLUENT

Following treatment, it is proposed to discharge to the Feeghroe Stream. Table 2.4 details the proposed effluent quality following treatment onsite.

Table 2.4: Proposed Final Effluent Quality

PARAMETER	UNITS	FINAL EFFLUENT QUALITY
Volume Flow	M^3/Day	250
pH	pH Units	6 - 9
BOD_5	mg/l O_2	5
COD	mg/l O_2	50
Orthophosphate	mg/l PO_4-P	0.2
Nitrogen	mg/l N	5
Total Ammonia	mg/l N	0.4
Suspended Solids	mg/l SS	20

The following table indicates the expected effluent quality at each stage of the proposed treatment processes.

All data in rows 2 to 6 is based on average industry standards for the meat slaughtering sector.

Table 2.5: Expected Effluent Quality per Treatment Stage

1	2	3	4	5	6	7	8
PARAMETER	**RAW EFFLUENT (INDUSTRY AVERAGE)**	**AFTER DAF (INDUSTRY AVERAGE)**	**AFTER BIOLOGICAL CLARIFIER (EXPECTED)**	**AFTER BIOLOGICAL FILTER (EXPECTED)**	**AFTER ICWS (EXPECTED)**	**CURRENT RIVER QUALITY**	***PROPOSED LICENCE LIMITS**
Flow	250 M^3/day	250 M3/day	250 M3/day	250 M3/day			250 M3/day
pH (units)	7.11	7.17	7.0	7.0	7.0	7.0	6 - 9
BOD ($mg/l\ O_2$)	4,000	1,500	10	10	2.0	2.3	5
COD ($mg/l\ O_2$)	8,000	3,000	50	35	4.0	85	50
Total Phosphorus (mg/l)	100	15	4	2.5	0.075		
Orthophosphate ($mg/l\ PO_4$-P)	25	5	2.5	2.0	0.06	0.01	0.2
Total Nitrogen (mg/l N)	400	350	<10	10	2.4	3.67	5
Total Ammonia (mg/l N)	300	275	0.5	0.5	0.14	0.43	0.4
Total Suspended Solids (mg/l)	3,000	150	15	5	1	4.5	20

2.4.6 ORGANIC FERTILISER BY-PRODUCT MANAGEMENT AND STORAGE

Organic fertiliser by-product would include belly-grass, tank contents from the lairage tank, DAF sludge and biological sludge from the clarifier (Waste Activated Sludge). Lorry washings would be directed to the onsite effluent treatment plant.

Local hauliers, registered on the Department of Agriculture, Food and the Marine (DAFM) Animal By-Products (ABP) Transport Register, would be contracted for the collection of organic fertilisers from the facility.

The proposed development would comply with the Nitrates Regulations with regards the required storage facilities for organic fertiliser by-product. As is standard practice for the industry, exclusive use of appropriate offsite storage facilities would be secured with the by-product contractor.

The regulations require that storage facilities shall be maintained free of structural defect and be maintained and managed in such manner as is necessary to prevent run-off or seepage, directly or indirectly, into groundwater or surface water.

The European Union (Good Agricultural Practice for Protection of Waters) Regulations 2017 (S.I. 605 of 2017), require that storage facilities equal or exceed the capacity required to store all such livestock manure produced on the holding during the period specified in Schedule 3.

The required storage period for organic fertilisers for Co. Offaly, as per Schedule 3, is 18 weeks (i.e. the closed period of the 15th October to the 12th January plus 5 weeks).

The following table details the required storage volumes for organic fertiliser by-products generated at Banagher Chilling Ltd in an 18-week period.

Table 2.6: Required Storage Volume for Organic Fertiliser By-Products

ORGANIC FERTILISER BY-PRODUCT	GENERATION PER HEAD / DAY (M3)	GENERATION PER DAY (M3)	HEAD OF CATTLE / DAY	TOTAL STORAGE REQUIRED IN 18 WEEK PERIOD (M^3)	MAXIMUM PRODUCED PER ANNUM (M^3)
Lairage	0.0371	-	140	**655**	1,893
Bellygrass (wet)	0.12	-	140	**2,117**	6,115
DAF Sludge	-	5	-	**630**	1,820
Activated Sludge	-	30	-	**3,780**	10,920
Total Storage Volume Required	-	-	-	**7,182**	**20,748**

Therefore, an estimated maximum of 7,182 m^3 of storage volume would be required for organic fertilisers produced at the site. This storage requirement may be mitigated through the use of dewatering technologies.

2.4.7 SITE OPERATION AND MANAGEMENT

Site Personnel and Hours of Operation

Slaughtering activities at the facility would typically operate Monday to Friday. However, slaughtering may be undertaken at weekends for reasons such as casualty animals and demand. Upon completion of construction works, it is estimated the proposed development would provide employment for 110 personnel. Table 2.7 below provides a breakdown of the estimated breakdown of staff and working hours.

Table 2.7: Site Personnel and Working Hours

SITE PERSONNEL	ESTIMATED NO. OF STAFF	START TIME	FINISH TIME
Slaughtering and boning staff	80	7am	5pm
Administration Staff	20	9am	5pm
Cleaning Staff	10	5pm	10pm

Environmental Management

An Environmental Management System (EMS) would be put in place at the Banagher Chilling Limited facility. The form of the EMS would be based upon the principals of the ISO 14001 standard and would include the following:

- Environmental Policy;
- Management & Reporting;
- Schedule Objectives and Targets;
- Environmental Management Programme;
- Corrective Action;
- Awareness and Training;
- Environmental Management System Documentation;
- Communications Programme;
- Emergency Response and Accident Prevention Policy;
- Maintenance Programme;
- Efficient Process Control.

An Environmental Management Programme (EMP) would be put in place to implement the EMS onsite, with objectives and targets set. Objectives and targets would be reviewed regularly as part of on-going management of the facility.

Banagher Chilling Limited would put in place an experienced management team and operators at the facility, with the relevant meat industry experience.

Estimated Traffic Movements

The estimated traffic journeys (where a journey represents the travel to and from the site) for the operational phase are included in the table below. As is common practice, employee and visitor journeys have been calculated using a 1.8 car occupancy rate.

Table 2.8: Estimated Traffic Movements

PURPOSE	JOURNEYS	FREQUENCY: PER DAY / WEEK / MONTH	VEHICLE
Delivery of Cattle to Site (Variable)	2	Day	Large HGV
	2	Day	Rigid Large Truck
	5	Day	Towed Trailer
	15	Day	Towed Trailer
Finished Product Dispatch	5	Day	HGV 40 foot
Fuel Delivery	2	Month	Rigid Tanker
Waste Removal	3	Day	Rigid Truck
Sludge Removal	1	Day	Rigid Tanker
Chemical Delivery	1	Month	Rigid Truck
Staff	61	Day	Car
Visitors	5-6	Day	Car

2.4.8 CONSTRUCTION OF PROPOSED DEVELOPMENT

Outline Construction Environmental Management Plan

An Outline Construction Environmental Management Plan (CEMP) has been prepared as part of this application. The purpose of the Outline CEMP is to communicate key environmental obligations that apply to all construction site personnel and sub-contractors, while carrying out construction activities as part of the proposed development.

The outline CEMP defines the approach to environmental management at the proposed development site during the construction phase, outlining the work practices, construction procedures and responsibilities to be undertaken during the construction phase. The CEMP outlines, where necessary, the control measures that would be required to avoid, minimise or mitigate potential effects on the environment and surrounding area.

Construction Schedule

The approximate construction period for the proposed development is estimated to be 18 months, with hours of operation from 7am to 7pm Monday to Friday, and 8am to 2pm on Saturdays. Upon receipt of planning approval, the construction schedule would be finalised at a detailed design stage. The proposed development would include the following main construction activities:

General

- Mobilisation of personnel and equipment to site;
- Establishment of temporary site compound, including designated materials storage area;
- Site inductions and relevant training;
- Erection of health and safety / construction works signage;
- Installation of external lighting;
- Site clearance, including vegetation removal;
- Installation of silt control features where appropriate, such as silt fencing.

Upgrade Works to Existing Facility, Construction of Extensions and Ancillary Structures

- Excavations and earth moving activity;
- Stockpiling of topsoil for use in reinstatement / landscaping;
- Development of drainage network, water supply and services;
- Upgrade works to existing abattoir at the site;
- Pouring of building foundations;
- Construction of new buildings / extensions to existing facility;
- Construction of bases / plinths for proposed WWTP tanks;
- Construction of new WWTP tanks;
- Installation of interconnecting pipework;
- Installation of external lighting;
- Construction of internal access roads and car parking facilities;
- Construction of external yard hardstanding.

Integrated Constructed Wetlands

- Excavations and earth-moving activity;
- Stockpiling of excavated soils for use in enclosing embankments around each pond and for use in cell lining;
- Distribution of soils over the base of each cell;
- Placement of headwalls, pipe laying and connections to inlet and outlet chambers;
- Planting of cells with emergent vegetation;
- Landscaping of ICW cells;
- Construction of access roads on the ICW embankments and construction of access roads from the proposed facility to the ICW system.

Reinstatement / Landscaping

- Construction and landscaping of earth berm to the front of the proposed development site;
- Removal of temporary construction site compound;
- Reinstatement of temporary construction compound using stockpiled topsoil;
- Finishing / landscaping of proposed development site, in accordance with the Landscape Plan prepared by Macro Works Ltd.;
- Removal from site of any excess soils remaining following reinstatement and landscape works;
- Removal of silt control features once soil stabilisation has taken place / temporary storage of excavated materials has been removed.

Main Stages of Construction

Site Clearance and Excavations

During site clearance works, the top layer of vegetation of the proposed development footprint would be removed and would be either stored for re-use in landscaping activities at the development site upon completion of construction works, or, in the instances of larger vegetation (i.e. shrubs and trees) would be removed from the development site and appropriately disposed of to a licenced waste contractor.

To facilitate the proposed development, approximately 985m of hedgerow would require removal. This would include approximately 290m for the proposed abattoir building, 265m for the ICWs and 430m to accommodate site access sightlines and road widening works. It should be noted that a section of the 265m hedgerow scheduled for removal along the eastern boundary of the ICW system may not require removal once the ICW system layout and site layout have been finalised at the detailed design stage. However, for the purpose of the EIAR, it has been assumed that this section would be removed.

Where possible, no hedgerow removal works would be undertaken during the bird nesting season, from the 1st of March to the 31st of August. Where removal works are required during the bird nesting season, the sections of hedgerows which require removal would be inspected for the presence of breeding birds prior to any clearance works taking place. Where nests are identified, a qualified ecologist would determine if a licence from the National Parks and Wildlife Services (NPWS) is required, or if it is possible to establish a suitable buffer zone around the active nest.

During excavation works, subsoil and topsoil would be temporarily stored for re-use in landscaping and reinstatement where possible. Any excess soils would be transported offsite by a licenced contractor for disposal at a suitably licenced facility. The storage of excavated material on site would be temporary, until the completion of site reinstatement and landscaping activities.

Archaeological monitoring would be undertaken during excavation works and earth moving activities to ensure that should any archaeological features be present, they would be

identified and recorded, and the appropriate course of action taken. A cultural, archaeological and architectural assessment has been included as part of this EIAR, prepared by Shanarc Archaeology.

Provision / Upgrade of Services

Following site clearance and excavations, works would commence on the installation / upgrade of underground utilities to the site required for water supply, wastewater, electricity and telecommunications.

As discussed in Sections 2.4.1 and 2.4.3, new stormwater and effluent drainage systems would be constructed. The new stormwater drainage system would comprise of a silt trap, by-pass separator and modular underground attenuation tank, prior to being discharged to the Feeghroe Stream. Run-off from "dirty" yard areas, process waters and sewage from staff welfare facilities would be directed to the site's new WWTP, with final treated effluent directed to ICWs prior to discharge to the Feeghroe Stream.

Artificial outdoor lighting would be installed along the internal access network and within the main site yard. The lighting design for the development would be determined at a detailed design stage.

Construction of New Buildings, New Tanks and Upgrade Works to Existing Structures

Following site clearance, excavations and works for the provision of services, works would commence on the construction of the extensions to the existing abattoir and lairage area, the construction of ancillary development including the Security Hut, ESB Substation, WWTP Compound, ICWs, Water Treatment Building, the construction / upgrade of drainage systems and the construction of site hardstanding. The pouring of concrete foundations and bases / plinths would be supervised at all times.

Site Reinstatement and Landscaping

The reinstatement and landscaping process shall commence upon completion of construction activities at the proposed development site. Reinstatement and landscaping activities would include the levelling of the development site with stockpiled soil from excavations where possible, the removal of the temporary site compound and associated plant, equipment and materials, the reseeding of exposed soil where required and the planting of trees and shrubs. Reinstatement and landscaping activities would also include the removal of silt control features, once soil stabilisation has taken place.

A landscaping plan has been prepared for the proposed development by Macro Works Ltd., and accompanies the planning application (Document Ref. LD.BNGHMPF 1.0). As noted above, hedgerow removal works would be required to accommodate the development. Landscaping activities would include replacement planting for approximately 400m along the southern site boundary, set-back from the site boundary and 115m along the eastern boundary of the ICW system. Native species, including Hawthorn, Blackthorn and Holly (*Ilex aquifolium*) would be used. The landscape plan also includes a section of proposed woodland planting adjacent the internal site access to the rear yard, which would be comprised of native species including Pendunculate Oak (*Quercus robur*), Scots Pine (*Pinus sylvestris*), Alder,

Birch, Wild Cherry (*Prunus avium*), Crab Apple (*Prunus padus*), Hazel (*Corylus avellana*), Holly, Hawthorn, Blackthorn and Spindle (*Euonymus europaeus*).

Additional landscaping is proposed around the ICW site, using native trees and shrubs common to the area, including Hawthorn, Blackthorn, Birch, Alder and Willow.

Temporary Construction Site Compound

A temporary site compound would be established by the construction works contractor for the storage of all machinery and plant when not in use, dedicated storage for oils and fuels required for construction plant and for the re-fuelling of plant. The temporary site compound would also house the temporary site offices and construction staff welfare facilities including a canteen, toilets and first aid supplies. The construction works contractor, once appointed, would determine the location for the temporary site compound at the development site.

Works to establish the compound would include removing and storing the existing topsoil on site for reinstatement and constructing a new hardcored area by laying a geotextile membrane over the entire compound area and covering with a suitable layer of graded granular material / hardcore.

Portable cabin structures would be used to provide the temporary site office and staff canteen. A storage container would be provided for the storage of construction equipment, tools and materials required for construction. All fuels and oils required would be stored within a designated bunded area, located within the storage container or at an alternative designated location with the temporary site compound.

Self-contained port-a-loo toilets / holding tanks would be installed at the temporary compound, and would be emptied by a licenced contractor on a weekly basis or earlier if required.

The site compound would also be the designated location for waste receptacles onsite. Waste would be segregated where possible and placed within recycling and general waste skips provided by a licenced waste contractor.

During the construction phase, a portable water supply would be provided via a mobile water tanker, or alternatively a connection to the mains water supply would be obtained. Power would be provided via the existing electricity supply to the site. Telecommunications would be provided using mobile phones and broadband.

Following the completion of construction works, the temporary structures, hardcore and geotextile would be removed and the area landscaped or reinstated as required using the stockpiled topsoil.

2.5 CONSULTATION

Consultation has been undertaken with the following statutory bodies and competent authorities in relation to the potential impact of the proposed development. Details of any concerns raised relating to the EIAR are outlined in the table below. Concerns have been addressed as part of this EIAR.

Table 2.9: Consultation with Statutory Bodies and Competent Authorities

STATUTORY BODY / AUTHORITY	PERSONNEL	DATE OF MEETING / CONTACTED	COMMENT
Inland Fisheries Ireland (IFI)	Limerick Office	07/03/2019	A copy of the correspondence is contained in Attachment 9.2. No response has been received to date.
Development Applications Unit (DAU), Department of Culture, Heritage and the Gaeltacht	Manager of DAU	05/03/2019	A copy of the correspondence is contained in Attachment 9.2. A response was received from the DAU on the 14th of June 2019. The recommendations within the response letter have been incorporated into this EIAR and relevant documents.
Offaly County Council	Mr. Andrew Murray Mr. Joe Dunican Mr. Hugh McConnell Ms. Mary Hussey Mr. Aidan Grant Mr. Martin Quinn	04/02/2019	• Given that the proposed development is located in close proximity to a number of designated sites, an Appropriate Assessment would be required as part of the application. *A Natura Impact Statement has been prepared for the development and accompanies the application (Report Ref. PES_NIS_19_9201).* • The application should be undertaken at a detailed level, and should address all potential concerns. *The EIAR and associated documents have been undertaken at a detailed level. Where required, additional expertise was contracted.* • The L3010 road to the development site may require road widening works or passing bays to accommodate the development. *A Transportation Assessment Report has been undertaken for the development (Section 8), and recommends that road widening works are undertaken. Existing hedgerows would be removed and set-back to facilitate the necessary sightlines.* • A pre-condition road survey should be completed as part of the application. *A pre-condition road survey has been undertaken, and is included as part of this application.*

STATUTORY BODY / AUTHORITY	PERSONNEL	DATE OF MEETING / CONTACTED	COMMENT
Department of Agriculture, Food and the Marine	-	July 2018	Initial discussions. Banagher Chilling Limited will be the subject of an E.U. Licence to Operate a Meat Processing / Cold Store Establishment for specified activities under the European Communities (Food & Feed Hygiene) Regulations 2009 (S.I. No. 432 of 2009)
	-	04/12/2018	The applicant formally submitted a Notification of Intent form
	Ms. Eilish O'Brien (Regional Superintending Veterinary Inspector) Senior Veterinary Inspector	06/02/2019	DAFM Officials carried out a site inspection
	Ms. Eilish O'Brien (Regional Superintending Veterinary Inspector)	07/02/2019	Email correspondence noting that the applicant will contact the DAFM with additional drawings and details once received from the slaughter line contractor.