

**ENVIRONMENTAL IMPACT  
ASSESSMENT SCREENING  
REPORT FOR NEW WATER  
TREATMENT PLANT,  
ABBOTT NUTRITION,  
COOTEHILL, CO. CAVAN**

**EPA Reg. P0687-02**

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Technical Report Prepared For

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<b>Attachment A</b>	Noise Impact Assessment Report
<b>Attachment B</b>	De-Chlorination Procedure
<b>Attachment C</b>	MSDS sheet Sodium Bisulphite

## **1.0 INTRODUCTION**

AWN Consulting Ltd (AWN) has prepared the following Environmental Impact Assessment (EIA) Screening Report on behalf of Abbott Ireland, Cootehill to accompany the planning application for a new Water Treatment Plant (WTP) at their Abbott Ireland Facility located in Cootehill, Co. Monaghan.

This report has also been prepared to support an application to the Environmental Protection Agency (EPA) for a Technical Amendment to the Facility EPA IPC License (P0687-02).

As described in detail in Section 2.0 of this report, the proposed development is considered to be outside the mandatory requirements for EIA. This report has been prepared with the primary aim to provide sufficient information to the planning and environment departments of Monaghan County Council (MCC) and the EPA to allow them to determine that the proposed development is not likely to have a significant effect on the environment.

It is AWN's opinion, based on the information provided in the following sections that the proposed development will not have a significant effect on the environment and therefore, an EIA Report (EIAR) would not be required on a discretionary, nor a mandatory basis.

## 2.0 LEGISLATION AND GUIDANCE

### 2.1 Introduction

This section describes the relevant European, national and local legislation for this EIA screening report.

### 2.2 Overview

The current requirements for EIA are set out by the European Union in Council Directive 2011/92/EU, as amended 2014/52/EU (EIA Directive). This legislation guides member states on the assessment of the effects of certain public and private projects on the environment.

The screening process followed in this report is in accordance with the 2014 EIA Directive (2014/52/EU) as transposed into Irish law by the *European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018* (the “Planning EIA Regulations”) (SI 296/2018) on the 26<sup>th</sup> of July 2018, as amended.

In Ireland, the requirements for EIA in relation to planning consents are specified in Part X of the *Planning and Development Act, 2000*, as amended and in Part 10 of the *Planning and Development Regulations, 2001 (600/2001)*, as amended. A review of this legislation was undertaken for the purpose of this EIA screening report.

The following guidance and consultation documents have also been considered during the preparation of this report:

- Department of the Environment, Community and Local Government (2018) *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (August 2018)*;
- Department of the Environment, Heritage and Local Government (2003) *Environmental Effect Assessment (EIA) Guidance for Consent Authorities regarding Sub-threshold Development*;
- Department of Housing, Planning, Community and Local Government (2017) *Transposition of 2014 EIA Directive (2014/52/EU) in the Land Use Planning and EPA Licencing Systems*;
- Department of Housing, Planning, Community and Local Government (2017) *Implementation of Directive 2014/52/EU on the effects of certain public and private projects on the environment (EIA Directive): Advice on the Administrative Provisions in Advance of Transposition*.
- Environmental Protection Agency (2017) *Guidelines on the Information to be contained in Environmental Impact Statements (Draft August 2017)*;
- Environmental Protection Agency (2015) *Revised Guidelines on the Information to be contained in Environmental Impact Statements (Draft September 2015)*;
- Environmental Protection Agency (2003) *Advice Notes on Current Practice in the Preparation of Environmental Impact Statements*;
- Environmental Protection Agency (2015) *Advice Notes for Preparing Environmental Impact Statements Draft September 2015*;
- Environmental Protection Agency (2018) *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment” (Draft August 2018)*; and
- European Commission (2017) *Guidance on EIA Screening*.

## 2.3 Mandatory EIA

Screening describes the process of ascertaining whether a development requires an EIA by assessing the project in the context of the statutory mandatory thresholds and discretionary requirements for EIA.

The EIA Directive sets out the requirements of the EIA process, including screening the need for an EIAR. Projects listed in Annex I of the EIA Directive require a mandatory EIAR whilst projects listed in Annex II require screening to determine as to whether an EIAR is required. With regard to Annex II projects, Member States can choose to apply thresholds, or use case by case examination, or a combination of both to assess where EIAR is required. In Ireland, a combination of both has been applied through the *Planning and Development Regulations 2001* (SI 600/2001).

The proposed new WTP is not listed under Part 1 of SI 600/2001 (detailing mandatory EIAR thresholds as per Annex I of the EIA Directive). A review of Part 2 of SI 600/2001 (implementing Annex II of the EIA Directive) has been conducted and the proposed new WTP will not lead to the facility triggering an EIAR at this level either. The closest possible categories that this WTP may come under are provided below along with explanatory notes,

10. *Infrastructure Projects (development not included in Part 1 of this Schedule)*
- (l) *Groundwater abstraction and artificial groundwater recharge schemes not included in Part 1 of this Schedule where the average annual volume of water abstracted or recharged would exceed 2 million cubic metres.*  
Note: The WTP is not abstracting any groundwater.
  - (m) *Works for the transfer of water resources between river basins not included in Part 1 of this Schedule where the annual volume of water abstracted or recharged would exceed 2 million cubic metres.*  
Note: The WTP is not transferring any water resources between River Basins.
13. *Changes, extensions, development and testing*
- (a) *Any change or extension of development which would:-*
    - (i) *result in the development being of a class listed in Part 1 or paragraphs 1 to 12 of Part 2 of this Schedule, and*
    - (ii) *result in an increase in size greater than-*
      - 25 per cent, or
      - an amount equal to 50 per cent of the appropriate threshold, whichever is the greater.
- Note: The replacement of the WTP does not result in any alteration to the nature or production capacity of the Facility which would result in it being of a class listed in Part 1 or paragraphs 1 to 12 of Part 2 of SI 600/2001, nor result in an increase of 25% or an amount equal to 50% of an appropriate threshold.

In light of the fact that a mandatory EIAR and mandatory screening is not required, the final step in the screening process is to determine the need for an EIAR on a discretionary basis.

Article 27 of Directive 2014/52/EU states that “*The screening procedure should ensure that an environmental impact assessment is only required for projects likely to have significant effects on the environment*”.

This Screening Report is therefore presented to show that the proposed development is not likely to have a significant effect on the environment.

### **2.3.1 Planning and Development Act, 2000, as amended**

As noted in Section 2.2, the current requirements for EIA in relation to planning consents in Ireland are outlined in Part X of the *Planning and Development Act, 2000*, as amended and in Part 10 of the *Planning and Development Regulations, 2001*, as amended.

Section 172 (1) of the Planning and Development Act, 2000, as amended states: “*Where a planning application is made in respect of a development or class of development referred to in regulations under section 176, that application shall, in addition to meeting the requirements of the permission regulations, be accompanied by an environmental impact statement.*”

The prescribed classes of development and thresholds that trigger the need for an EIAR are set out in Schedule 5 of the *Planning and Development Regulations, 2001*, as amended. A review of the classes of development was carried out to determine whether the proposed development falls into any of the development classes which require an EIA (Section 2.3).

It has been determined that the proposed development does not meet any of the classes described in Schedule 5 of the *Planning and Development Regulations, 2001*. The need for an EIAR has therefore not been triggered under the requirements of the *Planning and Development Regulations, 2001*, as amended.

## **2.4 European Guidance**

There is a requirement to undertake EIA for a development where it is considered likely that the development would have ‘*likely significant effects*’ on the environment. The consideration of ‘*likely significant effects*’ should take into account the size, nature and location of a development. The information provided herein, to allow an assessment of the ‘*likely significant effects*’ to be undertaken, is in accordance with Annex IIA of the EIA Directive as set out in Schedule 7A of the *Planning and Development Regulations 2011*.

### **2.4.1 Schedule 7A of the Planning and Development Regulations 2011 (Annex IIA of the EIA Directive)**

Schedule 7A sets out the information which a developer must provide to the competent authority for a screening determination.

This includes:

1. A description of the proposed development, including in particular:
  - (a) a description of the physical characteristics of the whole proposed development and, where relevant, of demolition works; and
  - (b) a description of the location of the proposed development, with particular regard to the environmental sensitivity of geographical areas likely to be affected.

2. A description of the aspects of the environment likely to be significantly affected by the proposed development.
3. A description of any likely significant effects, to the extent of the information available on such effect, of the proposed development on the environment resulting from:
  - (a) the expected residues and emissions and the production of waste, where relevant; and
  - (b) the use of the natural resources, in particular soil, land, water and biodiversity.

It is also stated in Schedule 7A that the information compiled must take into account the criteria set out in Schedule 7 of the *Planning and Development Regulations 2011* (Annex III of the New EIA Directive), where relevant.

#### **2.4.2 Schedule 7 of the Planning and Development Regulations 2011 (Annex III of the New EIA Directive)**

Schedule 7 sets out criteria that the planning authority will consider in determining whether a development would or would not be likely to have significant effects on the environment. Those criteria are as follows:

4. Characteristics of proposed development. The characteristics of proposed development, in particular:
  - (a) the size and design of the whole of the proposed development;
  - (b) cumulation with other existing development and/or development the subject of a consent for proposed development for the purposes of section 172(1A)(b) of the Act and / or development the subject of any development consent for the purposes of the New EIA Directive by or under any other enactment;
  - (c) the nature of any associated demolition works;
  - (d) the use of natural resources, in particular land, soil, water and biodiversity;
  - (e) the production of waste;
  - (f) pollution and nuisances;
  - (g) the risk of major accidents, and/or disasters which are relevant to the project concerned, including those caused by climate change, in accordance with scientific knowledge; and
  - (h) the risks to human health (for example, due to water contamination or air pollution).
5. Location of proposed development. The environmental sensitivity of geographical areas likely to be affected by the proposed development, with particular regard to:
  - (a) the existing and approved land use;
  - (b) the relative abundance, availability, quality and regenerative capacity of natural resources (including soil, land, water and biodiversity) in the area and its underground;
  - (c) the absorption capacity of the natural environment, paying particular attention to the following areas:
    - (i) wetlands, riparian areas, river mouths;
    - (ii) coastal zones and the marine environment;
    - (iii) mountain and forest areas;
    - (iv) nature reserves and parks;
    - (v) areas classified or protected under legislation, including Natura 2000 areas designated pursuant to the Habitats Directive and the Birds Directive;

- (vi) areas in which there has already been a failure to meet the environmental quality standards laid down in legislation of the European Union and relevant to the project, or in which it is considered that there is such a failure;
  - (vii) densely populated areas; and
  - (viii) landscapes and sites of historical, cultural or archaeological significance.
6. Types and characteristics of potential impacts. The likely significant effects on the environment of proposed development in relation to criteria set out under paragraphs 1 and 2, with regard to the impact of the project on the factors specified in paragraph (b)(i)(I) to (V) of the definition of 'environmental impact assessment report' in section 171A of the Act, taking into account:
- (a) the magnitude and spatial extent of the impact (for example, geographical area and size of the population likely to be affected);
  - (b) the nature of the impact;
  - (c) the transboundary nature of the impact;
  - (d) the intensity and complexity of the impact;
  - (e) the probability of the impact;
  - (f) the expected onset, duration, frequency and reversibility of the impact;
  - (g) the cumulation of the impact with the impact of other existing and/or development the subject of a consent for proposed development for the purposes of section 172(1A)(b) of the Act and/or development the subject of any development consent for the purposes of the New EIA Directive by or under any other enactment; and
  - (h) the possibility of effectively reducing the impact.

The DHPLG Guidelines (2017) note, at paragraph 3.10, that:

*"The developer may also describe features of the project and/or mitigation measures envisaged to avoid or prevent what might otherwise be significant adverse effects on the environment, and this forms part of the information on which the determination is to be based. Compensation measures are not considered in the screening determination process."*

The planning authority will determine whether a proposed development would be likely to have significant effects on the environment, and if the development is likely to have such effects, that an EIAR is required. The project will need to be considered in its entirety for screening purposes. This means that all existing impacts associated with the Abbott facility need to be identified and assessed at an appropriate level of detail.

## 2.5 Irish guidance

The Guidance for Consent Authorities regarding Sub-threshold Development from the Department of the Environment, Heritage and Local Government provides guidance on the determination of likely '*significant effects*' of a development in Ireland by way of criteria that aligns with EU policy. These criteria have been transposed into Irish legislation through the Third Schedule of the *European Communities (Environmental Impact Assessment) (Amendment) (S.I. No. 93 of 1999)* and Schedule 7 of the *Planning and Development Regulations 2001*, as amended.

The criteria in Schedule 7 of the regulations are grouped under the following three headings which are individually addressed in the following sections:

- (i) Characteristics of proposed development (Section 3);
- (ii) Location of proposed development (Section 4); and

(iii) Characteristics of potential effects (Section 5).

The most recent amendments to the EIA Directive has updated Annex III and included Annex IIA, therefore this screening report has prioritised the requirements of the EIA (rather than older Irish guidance) in parallel with the transposition into Irish legislation.

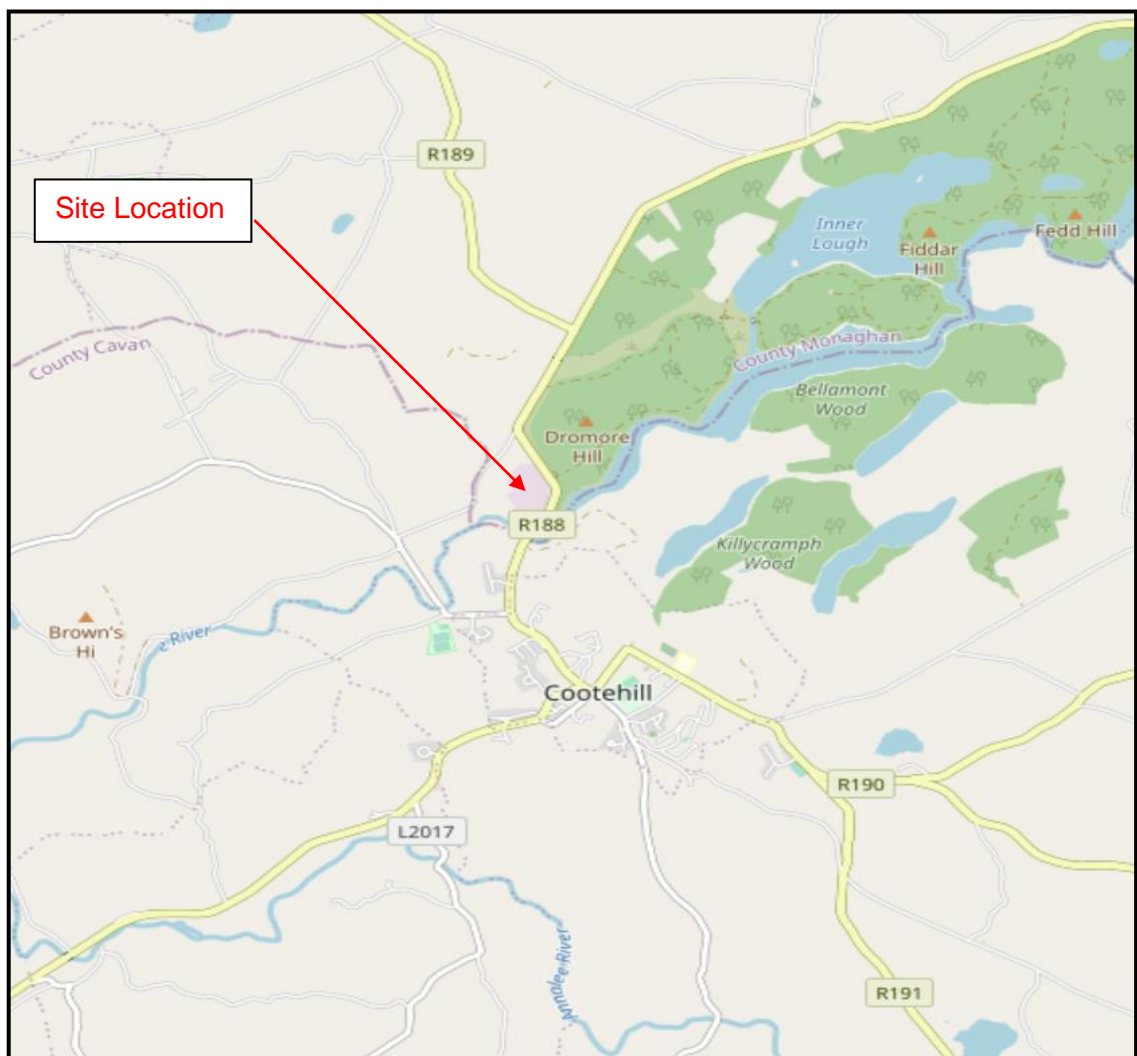
### 3.0 CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

#### 3.1 Introduction

This section describes the physical characteristics of the proposed development with particular regard to the design, construction and operational elements of relevance to this EIA screening report.

#### 3.2 Overview

The site of the proposed development area is currently a greenfield site, contained within the Abbot Ireland facility grounds. The location of the proposed development is presented in Figure 1 with the area of works depicted in Figure 2.



**Figure 1** Site Location



**Figure 2** Site Boundary and Layout (Source Coffey Engineers, 2020)

The Abbott Cootehill facility produces nutritional infant formulae from milk in a process whereby raw materials are combined with water and then evaporated to produce solid powder products. There are essentially two stages to this manufacturing; the wet process, and the dry process.

- The purpose of the wet process stage is to mix the streams of skim milk, blended oil, syrup and bulk dry materials. The wet process production process involves blending and heating liquid and/or powdered skim milk with water, sucrose, vegetable oils, syrup, flavouring, vitamins, minerals and other powdered foodstuff ingredients. The liquid mixture produced in the wet process area must be pasteurised and evaporated to reduce bacterial and enzyme activity and significantly reduce the water content and increase solids content. The condensate from the evaporation process is discharged to the Waste Water Treatment Plant (WWTP).
- Once the liquid product has been evaporated and pasteurized, it is then pumped via high pressure pumps to two dryers. Drying involves the application of heat under controlled conditions to remove remaining water in order to produce a solid product. The product is filled into a variety of can/container types and sizes and the product is labeled.

The availability of a secure, safe source of potable water for the production of nutritional powdered milk products is critical for Abbott. In order to provide a reliable source Abbott extract water from the nearby Dromore Lake and treat it on-site in a WTP. Internal reviews by Abbott have identified a need to replace the current WTP, with a new WTP providing a number of efficiencies;

- the proposed WTP will result in energy savings, with an estimated 10% reduction in energy consumption compared to the existing plant,
- a 68% reduction in volume of back wash water to be treated by the effluent plant.
- 13.6% reduction in water abstracted from Lake Dromore on a daily basis,
- 16% reduction in waste water being treated in the Wastewater Treatment Plant (WWTP).
- An overall reduction of water wastage from 30% to 8%.

The facility will maintain production, using the existing WTP throughout the construction and commissioning phase of the new WTP. Once the new WTP has been fully commissioned, the facility will switch over and decommission the old WTP.

As outlined in Section 1, in order to facilitate the WTP upgrade a Technical Amendment of EPA Licence P 0687-02 will be required for the following two parameters;

1. Temporary increase of Maximum Volume discharge limit.
2. Permanent alteration to discharge intake back-wash water to surface water discharge system.

Once operational the WTP will abstract water from Dromore lake at a reduced rate than is currently occurring. Due to the segregation of the intake screen backwash there is also reduced wastewater demand to be treated at the on-site WWTP.

There will be no air emissions from the new WTP. There are a number of plant items associated with the WTP, located both externally and internally. These will all be powered by electricity through the site Facility.

The WTP will not produce any new waste streams or waste categories.

The only potential environmental impact of concern is operational noise impact, and the temporary increase (c. 2/3 months) of water abstracted during commissioning and directly returned from the Dromore River and Lake system. A full noise impact assessment has been conducted (Attachment A) and further details are provided within this report. Section 5.12 of this report addresses the commissioning-related impacts to the water environment. As will be demonstrated there will be no significant impact to noise sensitive receptors, or the water environment.

### **3.4 Construction Phase**

There will be no demolition works with the initial phase as the WTP will be situated within a greenfield area within the Abbott Facility lands. Once the WTP is completed and commissioned however there will be a phased decommissioning and removal of some of the existing WTP equipment. Three of the current reservoir tanks in the exiting WTP will be re-used and relocated to the new WTP during the construction phase.

Construction of the development will initially involve excavations to facilitate the construction of foundations and the installation of services, and then construction of the building itself, tanks and external storage areas. The construction plan is at the stage of early design, however the construction methodology for the project would be finalised upon the completion of the detailed design and appointment of the contractor.

At this stage, it is envisaged that construction is likely to commence in 2021 subject to planning permission. Construction may have a duration of 18 months.

### 3.5 Commissioning Phase

Once the new WTP is constructed it will be necessary to commission it, testing it under a number of loading scenarios to ensure that the resultant water meets appropriate criteria for the manufacturing process. It is expected that this commissioning phase will run for c. 2/3 no. months.

During this commissioning phase water will be abstracted from Dromore Lake, screened, filtered and chlorinated, run through the WTP and then dechlorinated and discharged to the Dromore River via a temporary connection to SW-2. The water from the commissioning phase is not sent to production, and hence is not sent to the WWTP. The commissioning water is solely being used by and for the testing of the new WTP where it is filtered and chlorinated. It is then dechlorinated at the new WTP prior to being discharged to SW-2 such that it will not contain any residual chlorine levels higher than 0.03mg/L, as per the current EPA licence. Monitoring at SW-2 will confirm these levels.

Because there is no proposed increase to production and because the water being used for the commissioning of the new WTP does not come into contact with the process there will be no alteration to the normal waste loadings arising from the facility. As such there will be no impacts to the assimilative capacity of the Dromore Lake and River system.

However, for c. 2/3 months the two WTPs (both the existing WTP and the new WTP) will be running at the same time, and as such the two tandem operations will result in an increase in the volumetric discharge via SW-2 above the current EPA Licence limit of 3,200m<sup>3</sup>. The facility is currently discharging an average of 1,500m<sup>3</sup>/day, but for the c. 2/3 no. months that the new WTP is being commissioned the combined discharge volumes will range from 1,900m<sup>3</sup> to 4,300m<sup>3</sup>. Once the commissioning phase is complete, the existing WTP will be shut down and the new WTP will run full time and the discharge volumes will drop back to below the EPA licence limit.

In order to permit the commissioning phase for the new WTP Abbott are also seeking a Technical Amendment to their EPA licence for a temporary exceedance of their maximum allowable discharge volume from the current level of 3,200m<sup>3</sup> to 4,300m<sup>3</sup>.

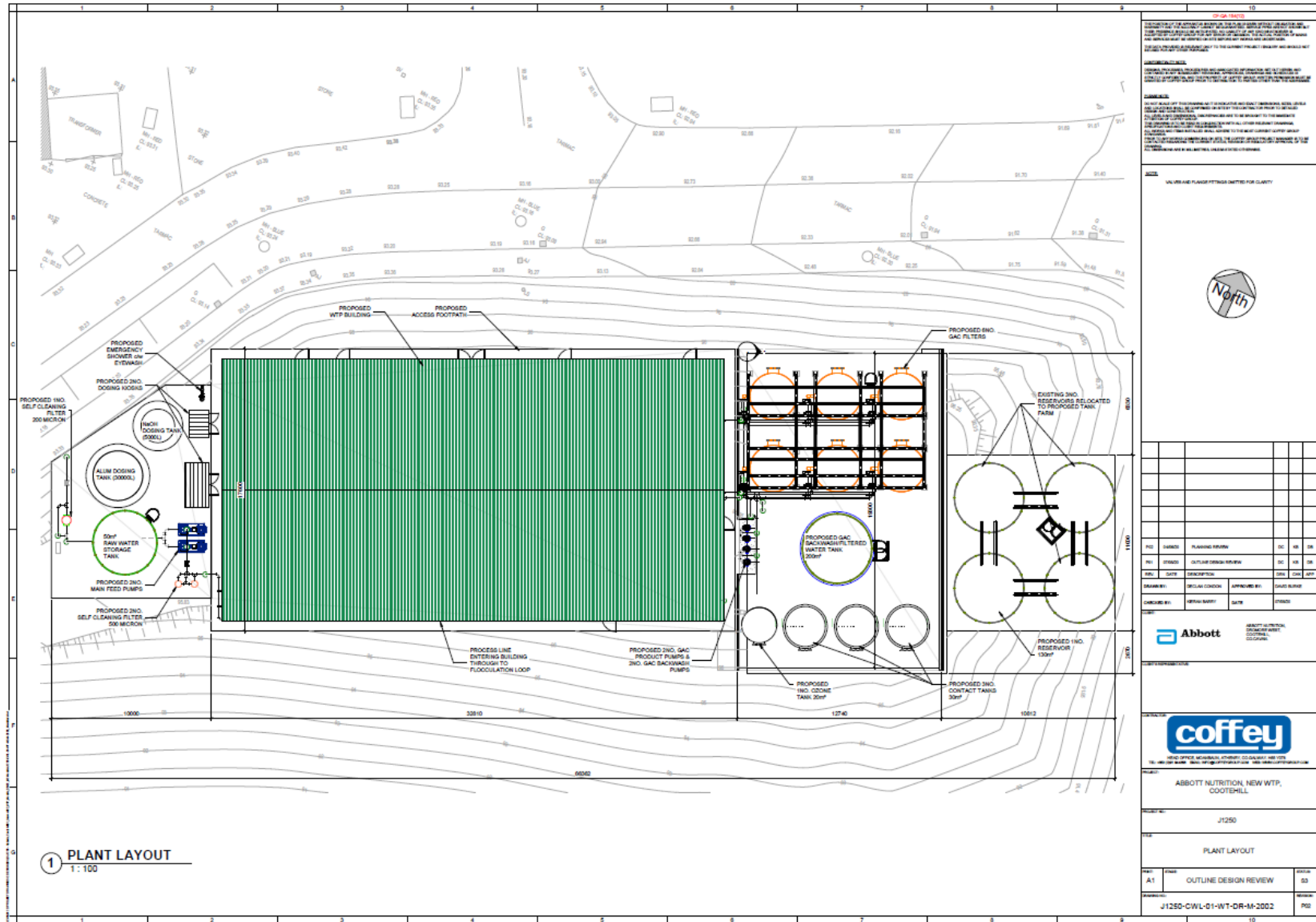
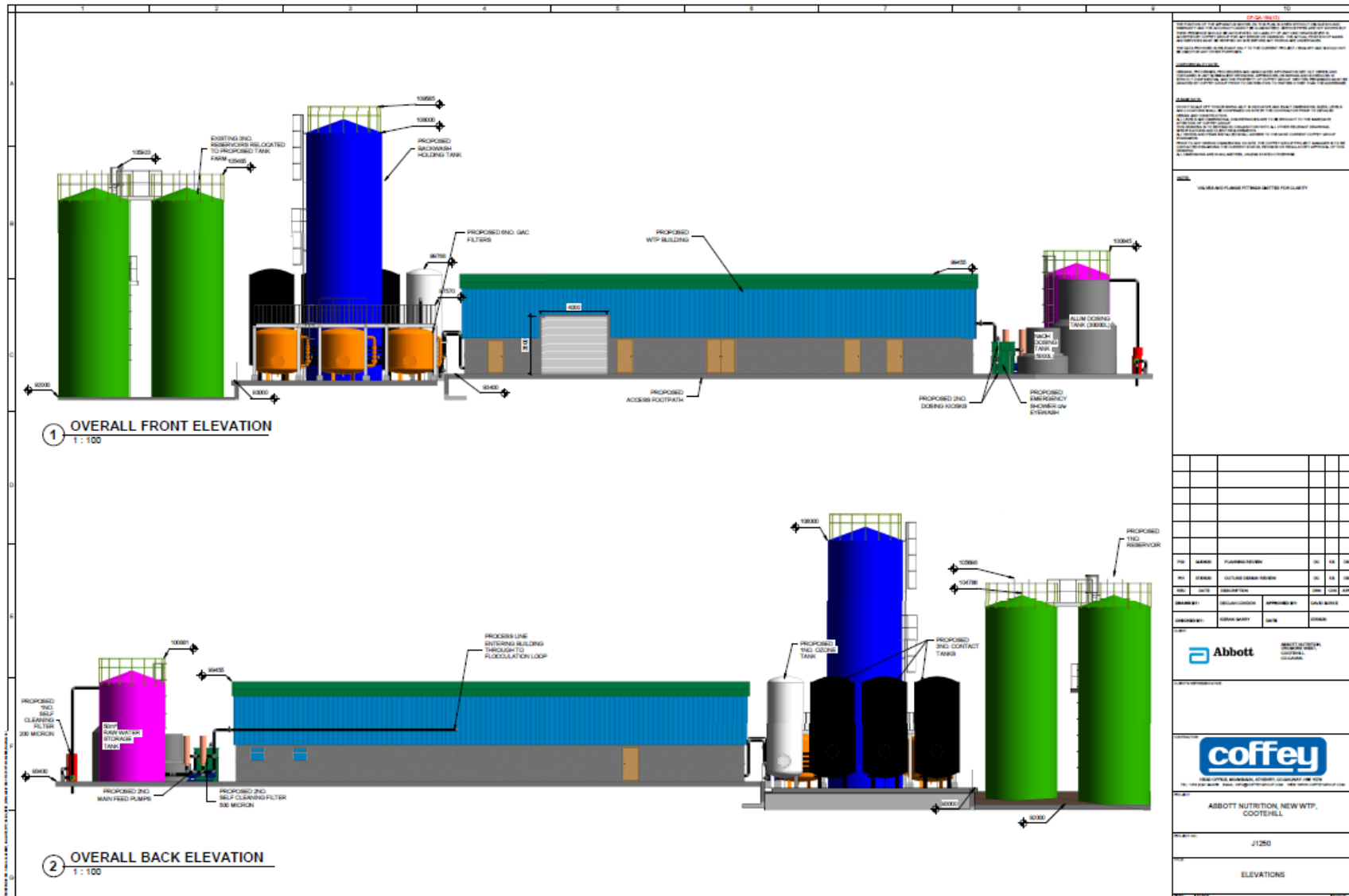


Figure 3 Site Layout of WTP



**Figure 4. Elevations of new WTP Please note that as built colour scheme will match the existing Abbott facility Colour scheme**



### **3.6 Operational Phase**

An overview of the site operations is provided in Section 3.2 above.

The installation of the new WTP provides Abbott with further opportunities to improve the environmental efficiency of their operations by segregating the backwash water from the intake screens to the surface water drainage system rather than the process water treatment system. This diversion will result in reductions in energy and raw materials input to the WWTP, and avoid the unnecessary treatment of unpolluted, naturally abstracted water.

It is estimated that c. 8.1m<sup>3</sup>/day of water that has been abstracted from Dromore Lake will be back-washed through the intake screens to dislodge any fouling of the filters. This backwash water will be the same water that has been abstracted from the lake. It will not have been chlorinated or come into contact with any of the facility processes. This water will be discharged to the surface water drainage system where it will pass through silt traps and 1no. by-pass hydrocarbon interceptor prior to discharging to the Dromore River at SW-1. There is no proposed alteration to monitoring requirements at SW-1.

### **3.7 Cumulation with other Existing Developments**

Other developments can lead to an elevated effect on the environment, therefore information has been sought on projects that have submitted applications for planning or have been recently approved in the site and surrounding area. Other developments need to be of a sufficient scale or proximity to the development being assessed for cumulative effects to be likely.

The Cavan County Council (CCC) and Monaghan County Council (MCC) Planning Department websites were consulted in order to generate a list of granted planning permissions from the surrounding areas of the proposed development within the previous 5 years. Table 1 below presents a list of the applications granted permission within that period for developments which may be likely to cause cumulative effects.

The EPA maps database was also consulted to generate a list of existing licensed facilities from the surrounding area of the Abbott facility. Table 2 below presents these findings.

<b>Table 1 Recent Planning Permissions within 2km of the Proposed Site (Planning search conducted by AWN on 20/5/20)</b>			
MCC Planning Application Reference No. & Applicant	Summary Description of Development	Location of Development	Decision Date
Reference No: 18163 Applicant Name: Abbott Ireland	Permission to 1. retain existing 280m <sup>2</sup> single storey modular office building plus construction of 80m <sup>2</sup> single storey extension located to the north east of the site; 2. retain existing 10m <sup>2</sup> single storey toilet blocks located to the north east area of the site; 3. demolish existing single-storey 46m <sup>2</sup> modular office building located to the north east area of the site and 4. retain 2 no. 3.05m diameter and 9m high silos located on the east elevation adjacent to already permitted; 5. construction of 9.6m <sup>2</sup> single storey airlock to existing loading bay located to the south west elevation of the warehouse building. This application relates to a development of a site with an existing Industrial Emissions Control Licence P0687-02.	Dromore West, Cootehill, Co Monaghan	23/04/2018
Reference No: 1664 Applicant Name: Abbott Ireland Cootehill	Permission to construct a new Boiler House located in the utilities area at the northern end of the site. The Boiler House will have an area of 402m <sup>2</sup> and will be 12m high. The external finishes of the building will match the existing Boiler House. The new boilers will discharge to the existing Boiler House flue and there will be 2 new flues to a height of 3.0m above the new Boiler House roof level. A transformer, 2.9m high shall be located at the western side of the new Boiler House and a new water tank is to be constructed to the western side of the existing production facility. The tanks will be 3.5m diameter and 14m high. The existing staff car park at the northern end of the site is to be extended with an additional 28 car parking spaces and associated landscaping. This application relates to a development on a site with an existing industrial Emissions Control license P0687-02	Dromore West, Cootehill, Co. Monaghan	25/02/2016
Reference No: 1855 Applicant Name: Abbot Ireland Cootehill	Permission to construct a 196m <sup>2</sup> internal first floor extension to manufacturing office and 94m <sup>2</sup> internal mezzanine extension plus 51m <sup>2</sup> mezzanine retention to QA office with all development located internally within existing building with no external modifications proposed. This application relates to a development of a site with an existing industrial Emissions Licence PO687-02	Abbott Ireland Cootehill, Dromore West, Cootehill	12/02/2018
Reference No: 19525 Applicant Name: Carleton Cake Company	permission for development consisting of extensions to the existing production facilities, alterations to facades to include new signage, alterations to the existing internal layout, alterations of existing site layout to include reconfiguration of existing car parking spaces, provision of additional car parking spaces including associated site services, reconfiguration and widening of the existing site entrance, erection of new free standing signage, upgrade of existing septic tank to treatment system and polishing filter in accordance with EPA Guidelines and all associated site works	Dyan, Cootehill, Co. Monaghan	26/11/2019
Reference No: 20121 Applicant Name: Cavan and Monaghan ETB	Permission to erect a single storey temporary sports hall and associated site works	Tonnagh, Rockcorry, Co Monaghan	06/04/2020

Reference No: 19370 Applicant Name: Cavan and Monaghan ETB	permission to demolish existing derelict buildings formerly used as Department of Defence living quarters and deconsecrated Church, demolished material from this building on site and re-use to fill in excavated and low level areas, re-contour the ground back to reflect the existing surrounding site topography and all associated site works. Significant further information relates to 19/370 and has been submitted	Tonnagh, Rockcorry, Co. Monaghan	09/08/2019
CCC Planning Application Reference No. & Applicant	Summary Description of Development	Location of Development	Decision Date
Planning No: 14320 Applicant Name: Brian & Carolyn McCarey	to construct a split level detached dwelling, detached domestic garage, new vehicular entrance onto public road, proprietary waste water treatment system, polishing filter and associated site works	Corbeagh , Cootehill , Co Cavan	07/10/2014
Planning No: 15542 Applicant Name: Brendan O'Reilly & Dr. Ellen G. O'Riordan	to upgrade existing septic tank to new en certified mechanical treatment system & polishing filter, together with all associated works	Corbeagh (Tullygarvey By) , Cootehill , Co. Cavan	23/12/2015
Planning No: 203 Applicant Name: Adrian Kelly	to erect single storey extension to side of existing dwelling and all associated works	Corbeagh , Cootehill , Co. Cavan	08/01/2020
Planning No: 1876 Applicant Name: Datum Contracts Ltd.	for development of i) the completion of external works to 13 no. substantially completed units, ii) alterations to the site layout and revisions to the site boundary, road and footpath layout, and layout of open space, iii) the construction of 40 no. 2 storey units comprising of 34 semi-detached units and 2 no. blocks of three townhouses, iv) completion of site services and all associated site works. The development is to be completed in 4 no. phases and will consolidate the site as a 53 no. unit housing development. (The development is partially constructed and pertains to previous grant of permission Planning Reg. No. 05/696)	Lois na Ri , Munnilly , Cootehill	21/02/2018
Planning No: 17396 Applicant Name: Darley NS Board of Management	to construct an extension to the rear of the existing school, together with all associated site works and connection to existing on site services	Munnilly Td , Cootehill , Co. Cavan	14/09/2017
Planning No: 8414650 Applicant Name: Thomas Brady	develop sites for 6 no. dwellinghouses	Munnilly , Cootehill	10/02/1984
Planning No: 1924 Applicant Name: D & D Developments Ltd	the completion of the erection of two no. fully serviced two storey dwellings with attached garages previously granted planning permission under register reference	Sites 1 & 2 Munnilly , Cootehill , Co Cavan	28/01/2019
Planning No: 18297 Applicant Name: John Manual Morehart & Lisa Cervantes Morehart	to retain and complete alterations and extension to existing gate lodge. The works include restoration of original gate lodge using appropriate materials and techniques and retention of the removal of previous extensions and completion of a new extension to the side and rear of the host building. The gate lodge is a protected structure Ref. No. CV17030	Bellmont House Lodge , Off Station Road , Cootehill	11/07/2018
Planning No: 17233 Applicant Name: Niall O'Leary	for change of use of existing single storey building from storage use to a home bakery to be used in conjunction with existing delicatessen premises together with all ancillary site development works	No. 14 Bridge Street , Cootehill , Co. Cavan	30/05/2017
Planning No: 18532 Applicant Name: Drumlin House Training Centre associated works	Retention for single storey prefabricated resource room and associated works	Cooney's Row , Cootehill , Co. Cavan	20/12/2018

Planning No: 15435 Applicant Name: Congregational Committee of Cootehill Presbyterian Church	alterations to an existing community hall building and to construct a new extension at ground floor and first floor levels, together with alterations to site boundary walls and all associated works including connections to existing services. The proposed works are within the curtilage of a protected structure	Munnilly , Cootehill , Co Cavan	19/10/2015
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<b>Table 2 EPA Facilities within the 5km of the Proposed Site (Search conducted by AWN on 19/06/2020)</b>			
EPA Licence No. & Applicant	Summary Description of Development	Location of Development	Decision Date
P0924-01 Corick Bridge Pig Farm	IPC - The rearing of pigs in an installation, whether within the same complex or within 100 metres of the same complex, where the capacity exceeds 285 places for sows in an integrated unit, where an 'integrated unit' means a piggery in which pigs are bred and reared to slaughter and 2,000 places for production pigs,	Corrick & Drummury Cootehill, Cavan	06/06/2012
P1071-01 Ak Agriculture Limited	IPC. The rearing of poultry in installations where the capacity exceeds 40,000 places.	Drumborisk, Drum Monaghan	10/01/2019
P1128-01 Carleton Poultry Limited	IPC - The rearing of poultry in installations where the capacity exceeds 40,000 places.	Dernamoyne, Dartry, Cootehill, Monaghan	Applied
P0953-01 Mr. Gary Pepper	IPC - The rearing of pigs in an installation, whether within the same complex or within 100 metres of the same complex, where the capacity exceeds 285 places for sows in an integrated unit, where an 'integrated unit' means a piggery in which pigs are bred and reared to slaughter and 2,000 places for production pigs,	GP Pigs, Maghemacaldry, Cootehill, Cavan	07/11/2012
P0827-02 Mr. Eamon Clerkin	IPC - the rearing of poultry in installations where the capacity exceeds 40,000 places	Edgerole/Coolkill West, Roackcorry, Monaghan	27/10/2016
P1058-01 Mr. John Sheridan	IPC - Intensive rearing of poultry (a) with more than 40,000 places for poultry.	Maghemacaldry, Cootehill, Cavan	26/09/2018
P1083-01 Mr. Darren Pepper	IPC - The rearing of poultry in installations where the capacity exceeds 40,000 places	Knockateane, Cootehill, Cavan	26/11/2019

The only potentially significant emissions from the new WTP will be water (from commissioning phase) and noise emissions (from operational phase). The potential impact of the water emissions from the site and the cumulative impact with other adjoining and neighbouring developments will need to be thoroughly assessed by carrying out an assessment of the emissions to water and a preliminary noise impact assessment of the site.

With regard to the other environmental aspects, each project currently permitted or under construction is subject to EIA and/or planning conditions which include appropriate mitigation measures to minimise environmental impacts. As long as mitigation measures for other developments are implemented as permitted, there will be no significant cumulative effects.

### 3.8 Use of Natural Resources

The construction of the new water Treatment Plant will not use significant quantities of natural resources. Some excavations of made ground, topsoil and subsoil will be required for the construction of foundations but these are not expected to be significant, and efforts will be made to reuse this material within . There are limited opportunities for reuse of this material on site. It is anticipated that the majority of the material will require removal from site for offsite reuse, recovery and/or disposal.

During construction, all construction materials will be sourced from local suppliers, where possible, to minimise the impact of natural resources used in the transportation of materials. Abbott have identified the opportunity to reuse their three no. existing water tanks within the new WTP design, thus reducing the use of natural resources for new water tanks.

Operationally the new WTP will result in;

- energy savings, with an estimated 10% reduction in energy consumption compared to the existing plant,
- a 68 % reduction in volume of back wash water to be treated by the effluent plant.
- 13.6%% reduction in water abstracted from Lake Dromore on a daily basis,
- and a 16% reduction in wastewater being treated in the Wastewater Treatment Plant (WWTP).

The site is a greenfield area located in an area of commercial/industrial land use. This is referred to as habitat type *Amenity Grassland (Improved) (GA2)*<sup>1</sup>. This habitat type is rated as being of Low Ecological Importance. There is no additional vegetation or habitat which will need to be removed as part of the construction works. The existing connection to Dromore Lake will be used by the new WTP and as such there will be no works within the riparian zone of Dromore Lake.

The power requirements for the proposed development will be provided via the existing substation and grid connection for the Abbott Facility. No additional external grid connections are required to facilitate the new WTP.

### 3.9 Production of Waste

The proposed development will not generate significant quantities of wastes. Some organic waste material will be generated from the site clearance for the proposed development.

Waste produced during the construction of the new WTP and the decommissioning of the old WTP will be managed in accordance with a site-specific Construction and Demolition (C&D) Waste Management Plan. This will ensure high levels of reuse, recovery and recycling of construction wastes arising.

The anticipated wastes during operations will be general non-hazardous domestic and packaging waste, WEEE, empty containers and landscaping waste. Please refer to Section 5.14.

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<https://www.npws.ie/sites/default/files/publications/pdf/A%20Guide%20to%20Habitats%20in%20Ireland%20-%20Fossitt.pdf>

### **3.10 Pollution/Nuisances**

Potential short-term nuisances (such as dust and noise etc.) associated with construction and proposed mitigation measures to address them are detailed in the relevant sub-sections of Section 5.0. Noise and the increased abstraction during the commissioning phase are the only potentially significant emissions/nuisances from the proposed development.

The potential for soil and/or water pollution is addressed in relevant sub-sections of Section 5.0 and mitigation measures are proposed to ensure that impact is insignificant. Therefore, it is considered highly unlikely that the development will result in significant pollution or nuisances.

## 4.0 ENVIRONMENTAL CONTEXT OF PROPOSED DEVELOPMENT

### 4.1 Introduction

This section describes the location of the proposed development with particular regard to environmental sensitivities on site and in the surrounding area.

### 4.2 Overview

The Abbott Facility is located along the Monaghan/Cavan border, situated within County Monaghan. The site for the new WTP is a greenfield area of land located within the existing Abbott Facility accessed via the R188 approximately 1.3km to the north of Cootehill town in County Cavan. The Abbott Facility is located in an area which is a mixture of agricultural, recreational and some residential use.

The Abbott Facility is bordered by Dromore Lough on the eastern side and immediately beyond lies the Bellamont Estate, which contains large areas of mixed and coniferous woodlands surrounding a connected lakeland system. To the north and west the predominant land use is agricultural. To the south the land use is initially agricultural giving way to residential and becoming more urban with greater proximity to the town of Cootehill.

### 4.3 Existing and Approved Land Use

The new WTP will be located within the Abbott Facility, surrounded to the north, west and south by the existing facility. The staff car park will lie to the east. It is considered that the location and operation of the new WTP is consistent with the existing land use.

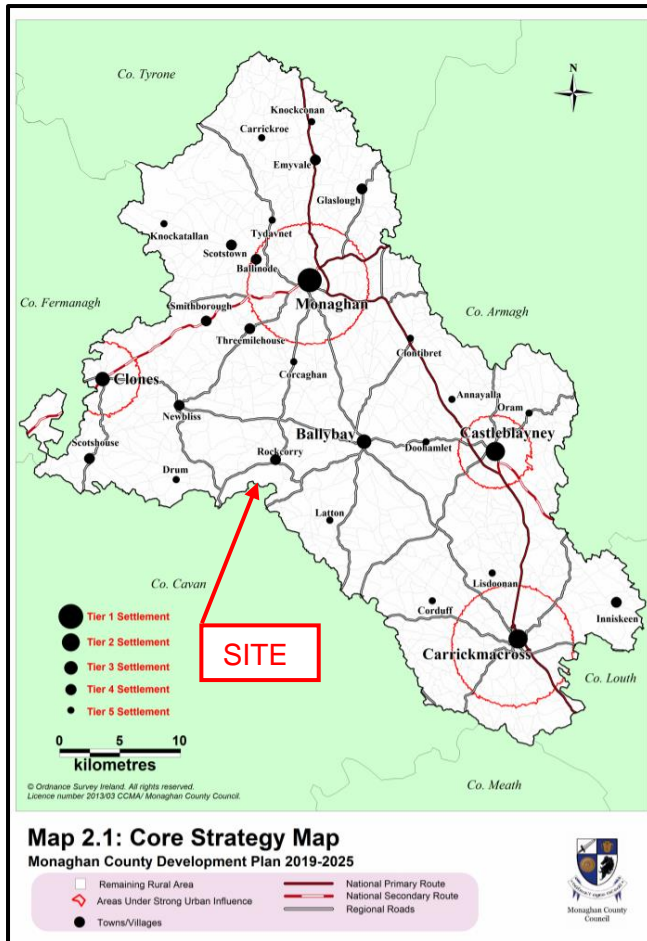
The *Monaghan County Development Plan 2019 – 2025* sets out a framework for the sustainable spatial and physical development of County Monaghan while considering the conservation and protection of the built and natural environment. It also aims to carefully consider all the needs of society, its individuals and groups.

The site is located within land defined as “*rural remaining area*” in the Monaghan County Development Plan Core Strategy Map (Figure 6). The nearest town to the Abbott Facility in Monaghan is Rockacorry, which is a Tier 4 Town. There is no specific land use zoning for the Abbott facility or the lands surrounding it within Monaghan County.

While the Abbott Facility is located within Monaghan County, the closest connected town is Cootehill which lies within Cavan County. In the Cavan County Development Plan 2014-2020 Settlement Strategy Cootehill is identified as a “large Town” which “*are important as centres of population and employment and act as drivers of growth within the County.*” There is also no specific land use zoning for the lands close to the Abbott Facility within Cavan County. Cavan County Council has set aside areas of land for residential growth in Cootehill town. This zoning is complementary to land use of the Abbott Facility and the new WTP to serve this facility.

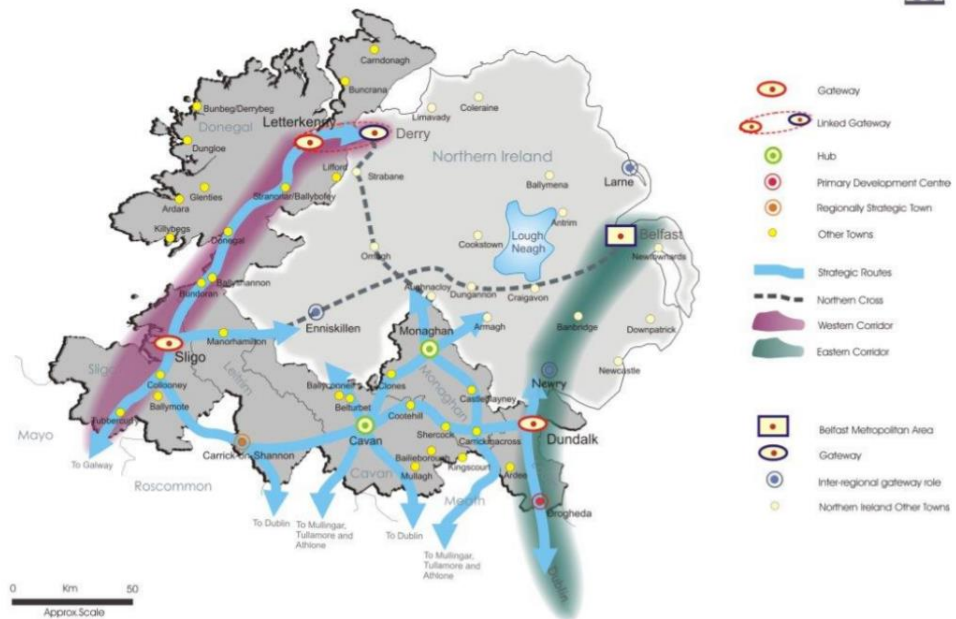
Within the *Border Regional planning Guidelines 2010-2022* the town of Cootehill is situated along a “*strategic route*” between Cavan and Dundalk.

Overall, the new WTP would be in keeping with the existing land use and associated objectives outlined in the Development Plan.



**Figure 6** Monaghan County Development Plan 2019 – 2025 Core Strategy Map

Border Region  
 Spatial Settlement Strategy



**Figure 7** Border Regional Planning Guidelines, 2010-2022

#### 4.4 Relative Abundance, Quality and Regenerative Capacity of Natural Resources in the Area

As outlined in Section 3.7 above, the proposed development does not require significant additional natural resources. For c. 2/3 months the commissioning of the WTP will require a slight increase in water abstraction from Dromore Lake, but this short-term increase will be directly returned to the Dromore River and as such is sustainable in terms of the regenerative capacity of the natural aquatic resources of the area.

#### 4.5 Absorption Capacity

Each of the sub sections in Section 5.0 below addresses the sensitivity of the existing environment and thereby the absorptive capacity of the natural environment to the potential emissions and nuisances generated by the proposed development. Please refer to Section 5.0 for information related to the following, where relevant to the site:

- (i) wetlands, riparian areas, river mouths (*see Section 5.12*).
- (ii) coastal zones and the marine environment (*none in immediate vicinity of the site or site surrounds*);
- (iii) mountain and forest areas (*See Section 5.3*);
- (iv) nature reserves and parks (*See Sections 5.3 and 5.9*);
- (v) areas classified or protected under legislation, including Natura 2000 areas designated pursuant to the Habitats Directive and the Birds Directive (*see Section 5.3*);
- (vi) areas in which there has already been a failure to meet the environmental quality standards laid down in legislation of the European Union and relevant to the project, or in which it is considered that there is such a failure. (*none in immediate vicinity of the site or site surrounds*);
- (vii) densely populated areas (*none in immediate vicinity of the site or site surrounds*); and
- (viii) landscapes and sites of historical, cultural or archaeological significance (*see Section 5.4*).

## 5.0 TYPES AND CHARACTERISTICS OF POTENTIAL EFFECTS

### 5.1 Introduction

The likely significant effects on the environment of the proposed development in relation to criteria set out under paragraphs 1 and 2, with regard to the impact of the project on the factors specified in paragraph (b)(i)(I) to (V) of the definition of 'environmental impact assessment report' in section 171A of the Act, are set out in the sections below, taking into account:

- (a) the magnitude and spatial extent of the impact (for example, geographical area and size of the population likely to be affected);
- (b) the nature of the impact;
- (c) the transboundary nature of the impact;
- (d) the intensity and complexity of the impact;
- (e) the probability of the impact;
- (f) the expected onset, duration, frequency and reversibility of the impact;
- (h) the possibility of effectively reducing the impact.

#### 5.1.1 Magnitude and Spatial Extent of the Impact (geographical and population size)

The new WTP will generate few emissions which will include noise emissions, surface water runoff from roofs and hardstanding areas and foul water discharges from welfare facilities. The only notable emissions will be noise emissions from a number of pumps, air blowers and other pieces of equipment. There will be no significant sources of air emissions, or water emissions. The impact on ambient noise quality will need to be assessed in order to determine if there will be any exceedances of the relevant noise quality standards as a result of the proposed development, although this is considered unlikely.

Any construction impacts will be minimised by adhering to best practice construction methods and a Construction Environmental Management Plan (CEMP).

#### 5.1.2 Nature of the Impact

Any impacts of this development on the surrounding environment i.e. air, noise, surface water and foul water networks are considered to be insignificant in nature.

#### 5.1.3 Transboundary Nature of the Impact

The proposed development will not generate any air emissions. There is limited potential for trans frontier impact.

#### 5.1.4 Intensity and Complexity of the Impact

The proposed development will generate noise emissions which are likely to comply with the relevant air quality standards and noise criterion. There will be no likely perceptible impact on the surrounding area, environment or the population.

#### 5.1.5 Probability of the Impact

There will be no likely perceptible impact on the surrounding area, environment or the population therefore the probability of significant impact is low/negligible.

### 5.1.6 Expected onset, Duration, Frequency and Reversibility of the Impact

The lifetime of the facility is not defined however it is anticipated that the facility will continue to operate within the prevailing best practice limits in terms of potential nuisance generation to ensure no significant impact on sensitive receptors.

Upon closure of the facility there will be no long-term impact arising from impacts associated with the proposed development i.e. all impacts arising are anticipated to be reversible.

### 5.1.7 Cumulation of the Impact with Other Projects

As detailed in Section 3.6, the only potential significant emissions from the development will be noise emissions. The impact of the noise emissions from the site and the cumulative impact with other developments will need to be thoroughly assessed by carrying out a Noise Impact Assessment on the new WTP.

### 5.1.8 Possibility of Effectively Reducing the Impact

No reduction of the impact of the proposed development will be required.

## 5.2 **Air Quality and Climate**

### 5.2.1 Sensitive Receptors

In the immediate region of the facility, the land use is predominantly agricultural and forested recreational. Air sensitive receptors in the vicinity of the subject site are 2 no. principally residential dwellings on the road connecting the R188 to the L 2032. These residential receptors would be the most sensitive receptors during the construction and operational phase of any future development at Abbott, Cootehill.

In terms of air quality impacts to ecosystems, the Dromore Lake and River system lies c. 160m to the east of the site which could have the potential to be impacted by activities at the Abbott facility. The nearest designated ecosystem is the Lough Oughter & Associated Loughs SAC which is located approximately 14.8km from the site.

### 5.2.2 Construction Impacts

The construction of the proposed development will require some excavations and may require some off-site removal of surplus soils etc. with the potential to generate dust. The CEMP for the proposed development will include a dust minimisation plan with the necessary mitigation measures to ensure the construction of the proposed development will not result in dust nuisance.

### 5.2.3 Operational Impacts

There will be no additional traffic associated with the operation of the new WTP.

There are also no stack or major air-emissions associated with the operation of the plant; all the machines are run on electricity provided from the grid.

#### 5.2.4 Climate Change

The usage of electricity will be captured in the annual reporting requirements to the EPA under their licence agreement. The new WTP will be more energy efficient than the existing plant, facilitating Abbott in reducing their overall carbon emissions.

The negligible impact of potential dust soiling during construction and lack of air emissions from the operation of the new WTP would not require an EIAR air quality grounds.

### 5.3 Biodiversity

According to the National Parks and Wildlife Services (NPWS) and the EPA website, there are two protected sites within close to 15km of the site. These sites are:

Site Code	Site name	Distance from site (km)
000007	Lake Oughter & Associated Loughs SAC	14.8
004049	Lough Oughter Complex SPA	>15km

**Table 3** Protected Natura 2000 sites (NPWS and EPA Online Mapviewer, accessed 2020)

The site adjoins the Dromore River. The Dromore River flows out of Dromore Lake, which is designated as a proposed Natural Heritage Area (Site Code: 000001), making its way downstream to the Annalee River, which in turn flows into the River Erne system. The southern section of this is designated as a pNHA and an SAC and SPA Lough Oughter and Associated Loughs SAC (Site Code: 000007) and Lough Oughter Complex SPA (Site Code: 004049). Given the small scale of the proposed development, there is no potential for connectivity to any other European sites.

An Appropriate Assessment Screening Report has been undertaken and this report concludes the proposed new WTP has no impacts with regard to designations for Lough Oughter under the Habitats Directive.

It is concluded that the proposed development will not have a significant effect on biodiversity due to the implementation of mitigation measures and the proposed development would not warrant preparation of an EIAR on biodiversity grounds.

### 5.4 Cultural Heritage, Architecture and Archaeology

#### 5.4.1 Construction Impacts

The proposed development will be constructed on a greenfield area within the Abbott Facility. The Ordnance Survey Ireland online historical maps were consulted as part of this assessment and it was determined that there are no historical land uses apart from vacant, agricultural, forested land use. However there is a lodge House located c. 200m to the west of the site, which is denoted as Dromore Lodge House on the historic 25" and 6" maps (1888- 1913).

A suitably qualified archaeologist could oversee any ground disturbance work (such as excavations) if deemed necessary by the Local Authority.

The existing WTP is not a protected structure. There will be no impacts on archaeology arising from the removal of parts of the existing WTP.

#### 5.4.2 Operational Impacts

There will be no operational impacts on archaeology.

In summary, the proposed development will not give rise to any adverse impacts on cultural heritage / archaeology and would not warrant preparation of an EIA on cultural heritage / archaeological grounds.

### 5.5 **Land and Material Assets**

Other than materials necessary for the construction of the plant, the new WTP will not require/consume any substantial quantities of additional raw materials or water.

#### 5.5.1 Construction Impacts

The construction of the new WTP and demolition of the old WTP will inevitably involve generation of a variety of construction wastes (from excavations, offcuts etc.). These wastes will be managed in accordance with the project specific Construction and Demolition Waste Management Plan which will be submitted to Monaghan County Council prior to commencement of construction. The Plan will be updated and refined by the nominated contractor once final methods of construction, building materials, waste collectors and waste receiving facilities have been determined

There will be a slight and temporary increase in water abstraction from Dromore Lake during the commissioning phase of the new WTP. This abstracted water however will be directly returned to the Dromore River and as such as such is sustainable in terms of the regenerative capacity of the natural aquatic resources of the area

#### 5.5.2 Operational Impacts

The proposed development will use moderate amounts of power once fully operational. The power required for the proposed development will be available from the existing connection to the national grid for the Abbott Facility which will be extended to the new WTP. No additional external grid connections will be required for the new WTP.

All wastes generated by the facility will be managed in accordance with the requirements of the Waste Management Act as amended and associated regulations.

Due to efficiencies of design the new WTP will be capable of producing up to 2,400m<sup>3</sup> per day of clean water as opposed to the current WTP which can only produce up to 1,500m<sup>3</sup> per day of water. This capacity for increased water production is viewed as sustainable in terms of water resources and is well within the EPA Licence limits of 3,200m<sup>3</sup>/day.

It is considered that the proposed development will not have any significant impact in terms of resources or waste generation and would not warrant preparation of an EIA on the basis of resource use, material assets or waste.

### 5.6 **Landscape and Visual**

The *Monaghan County Council Development Plan 2019-2025* is the statutory planning control document pertaining to the site and its surrounds. Given the proximity to the Cavan County Council border the *Cavan County Council Development Plan 2014-2020* has also been consulted. In terms of landscape and visual amenity, the site:

- Is not located within or adjoining an Architectural or General Conservation Area
- Does not have a listing for Trees of Special Amenity Value
- Is not covered by protected views, scenic routes or viewpoints

Moreover, the proposed development will be located within a small greenfield area within the Abbott Facility footprint. The proposed development is in keeping with the existing land use and character, and due to the dense tree line along the eastern boundary of the site will not be screened from some parts of the R188.

In conclusion, the new WTP will not give rise to any adverse landscape or visual impacts either from within or outside of the site boundary and would not warrant preparation of an EIAR on landscape and/or visual grounds.

## 5.7 Major Accidents

An assessment of the status of the new WTP in relation to the Seveso III Directive was conducted. Please see Table 3 below for an inventory of the chemicals to be stored on the site:

Product	Overall Volume (tonnes)
Ozone gas	0.04
Sodium hydroxide xx%	0.005
Alum	29

**Table 3** Chemical storage on the site

These chemicals will be stored in isotainers, batch storage tanks and drums and totes. None of the chemicals within Table 3 would bring the new WTP within the remit of Seveso. Of these three chemicals only ozone gas is a Seveso chemical; however the current threshold for oxidising gases such as ozone for a Seveso site is 50 tonnes. During the commissioning phase a similar small amount of ozone will be stored in the existing WTP, ozone gas is not ordinarily stored anywhere else within the facility.

It is concluded that the new WTP is not a Seveso III (or COMAH) facility. The provisions of the Seveso III Directive/2015 COMAH Regulations do not apply to the facility.

## 5.8 Noise and Vibration

### 5.8.1 Sensitive Receptors

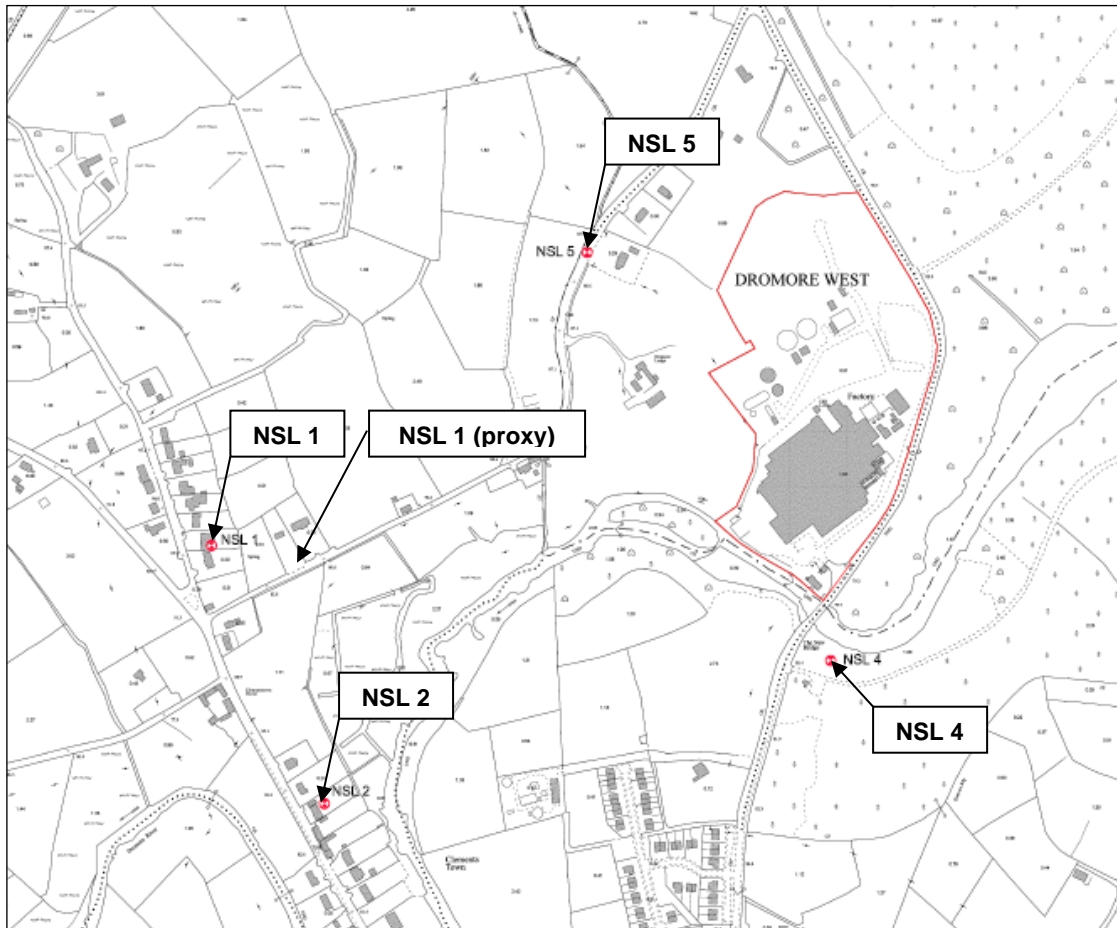
The nearest noise sensitive locations comprise dwelling houses situated to the north, south and west of the facility. An amenity park and lake lie to the east. Figure 8 illustrates the site in the context of the surrounding environment.

### 5.8.2 Construction Impacts

There will be periods of temporary high noise levels during the construction and demolition phase, however, the use of construction noise and vibration limits and best practice control measures can suitably reduce impacts to within acceptable levels.

It is proposed that a CEMP will be prepared and provided to MCC in advance of construction. This CEMP will include noise minimisation measures to ensure noise

arising from construction is prevented where possible and managed in accordance with best practice.



**Figure 8** Noise Sensitive Locations.

5.8.3 Operational Impacts

A noise impact assessment of the replacement WTP has been conducted by AWN Consulting and is provided in Attachment A. According to this report the predicted cumulative noise levels at each of the five noise sensitive locations will be well within EPA day and night time criteria.

Location	Existing Estimated Levels dB L <sub>Aeq,30min</sub>	Predicted WTP dB L <sub>Aeq,30min</sub>	Cumulative Noise level dB L <sub>Aeq,30min</sub>	EPA Criteria Day / Night dB L <sub>Aeq,30min</sub>	Complies?
NSL 1	28	21	29	55 / 45	✓
NSL 2	36	20	36		✓
NSL 4	39	26	39		✓
NSL 5	27	28	31		✓

**Table 4** Cumulative Noise Levels

The proposed development is not expected to generate any significant levels of noise once built and hence will not lead to any significant noise or vibration impacts to these properties.

Based on the above, it can be concluded that the proposed development is not likely to have any significant effects in terms of noise and would not warrant preparation of an EIAR.

## 5.9 Population and Human Health

The new WTP will be located within the Abbot Facility which is situated on the R188 c. 1.3km north of Cootehill town. The predominant land use surrounding the site is agricultural and recreational with some residential.

The nearest residential locations are some houses located along a road to the west of the facility (c. 220m west). Moving south from the facility on the R188 towards Cootheill town are a number of housing estates; Clemenstown (500m) Cnoic Alainn (880m), and Bellamont View (930m).

Holy Family Primary School and Darley National School are situated at 600m and 930m respectively south of the facility on the R188. While Clerkins Veterinary Surgery is located at 980m south of the facility.

The latest census data (2016) indicates that the electoral division of Dawsongrove has a population of 681 which is 3.7% of the total Municipal District of Ballybay-Clones and 1.1% of the total Monaghan population. The 2016 Census indicated a stable residential population with a 2.9% decrease in population from 2011.

The primary potential impacts of the new WTP on human health would be increased air pollution, noise, or pollution of groundwater/watercourses as a result of the new WTP. Visual impact and traffic are also potential but perhaps lesser significant impacts (based on the nature of the development).

### *Noise Impact on Human Health*

The design of the new WTP has taken due regard of the sensitivity of the surroundings to the Abbot Facility. An adverse impact due to noise quality in the operational phase has the potential to cause health issues. A Noise Impact Assessment (Section 5.8) has been undertaken to ensure that the impact of the new WTP complies with noise quality legislative limit values and, therefore, does not cause any significant adverse impacts to human health.

### *Air Impact on Human Health*

The proposed development is not expected to generate any significant levels of air emissions once built and hence will not lead to any significant adverse impacts to human health.

### *Soils, Hydrology and Geological Impact on Human Health*

There is no significant risk of pollution of soil, groundwater or watercourses associated with the proposed development. There will be an increased demand on water resources during the c. 2/3 month commissioning phase for the new WTP. An assessment of the impact of the commissioning phase upon the water environment has been undertaken (Section 5.11), where it has been shown that there will not be any adverse impacts to human health.

The replacement of the exiting WTP with a new WTP will bring about greater efficiencies, and reduced waste loadings. In conclusion, it is considered that the proposed development is not likely to have significant effects on socio-economic / human health aspects and would not warrant preparation of an EIAR on socio-economic / human health grounds.

## 5.10 Soils and Geology

According to the Geological Survey of Ireland (GSI) website, the lithology for the proposed development site is underlain by till derived from Lower Palaeozoic sandstones and shales. The bedrock geology underlying the site and surrounding area is mapped as *Slieve Glah Formation*, described as “siltstone, mudstone and thin tubidite”.

The underlying bedrock geology at the site (*Slieve Glah Formation*) has been classified by the GSI as a ‘*Poorly Productive Aquifer (Pp)*’, this being bedrock which is poorly productive in general. Groundwater vulnerability in the site and vicinity of the site was generally mapped as being ‘*Low*’. Local groundwater would therefore not be considered as a sensitive receptor.

The GSI data indicates that the site does not lie within a drinking water protection area. The GSI well data shows a number of wells / boreholes drilled in the vicinity of the site, please see Table 5 below for details:

GSI Name	Well Type	Drill Date	Depth (m)	Yield Class
2331SEW053	Borehole	July 15, 2000	114.3	N/A
2331SEW054	Borehole	July 15, 2000	76.2	N/A
2331SEW055	Borehole	September 20, 2000	72	N/A
2331SEW161	Borehole	December 30, 1899	65.4	Poor
2331SEW169	Borehole	December 30, 1899	50	Poor
2331SEW162	Borehole	June 15, 1963	61	Moderate
2331SEW155	Borehole	August 14, 1965	36.6	Good

**Table 5** Groundwater Wells and Springs (GSI Online Mapviewer, accessed 2020)

The first three wells in Table 5 are borehole monitoring wells associated within the Abbott Facility. The remaining wells are located within Cootehill town over 1km away from the Abbott Facility. The town is serviced by mains water supply therefore it is unlikely that any of these wells are used for potable water supply.

The groundwater body (GWB) in the region of the site (Cavan) is classified by the EPA under the Water Framework Directive (WFD) Risk Score system as under ‘*Review*’. Currently, the Cavan GWB is classified as “*Good status*” at the proposed development site and surrounding area.

### 5.10.1 Construction Impacts

Construction of the development will require excavations to facilitate the construction of foundations and the installation of services. General construction and demolition activities will require temporary storage of cement and concrete materials, oils, fuels

paints etc. which have the potential to cause localised pollution. It is proposed that a Construction Environmental Management Plan (CEMP) be prepared and provided to MCC in advance of construction. The CEMP will ensure best practice construction with respect to storage of any hazardous substances (fuels, chemicals and other construction materials that may pose a risk to the environment).

#### 5.10.2 Operational Impacts

There is a potential impact on the soil and geology environment during operation from localised accidental releases of chemicals stored on site. Chemical storage however will be bunded. The Abbott Facility Environmental Management Plan will apply to the development during the operational phase incorporating mitigation measures and emergency response measures.

Although the groundwater underlying the site can be considered as a sensitive receptor, it is considered that there is a limited likelihood of significant effects in terms of the land, soils and geological environment due to the implementation of a CEMP and mitigation measures and that the development would not warrant preparation of an EIAR on land, soils, geology or hydrogeology grounds.

### 5.11 **Traffic and Transportation**

#### 5.11.1 Construction Impacts

During the construction phase (c. 18 months) of the proposed development, there will be additional traffic movements to/from the site from construction personnel, security staff, professional staff (i.e. design team, utility companies), excavation plant, dumper trucks and deliveries/removal of materials (waste/spoil). It is anticipated that there will be from 1-10 HGV movements per day, and that traffic will access the site through the main entrance on the R188. The impact of the additional traffic movements will be assessed as part of any planning application.

All construction works will be completed within the site boundary with only minor offsite connection works required.

#### 5.11.2 Operational Impacts

The proposed development will not entail any additional traffic movements.

Traffic impacts are not in themselves a trigger for an EIAR to be prepared, any traffic impacts will be minor and will be assessed at planning application stage.

### 5.12 **Hydrology**

The nearest surface water feature to the site is Dromore Lough which is located 160m to the east of the site. Dromore Lough flows into the Dromore River which flows under the R188 and passes c. 300m south of the proposed site, flowing in a general south-westerly direction away from the facility. There is also a tributary to the Dromore River located c. 350m to the west of the proposed site. This tributary flows south and meets the main Dromore River c. 430m south-west of the proposed site.

According to the EPA Map Viewer, the status of Dromore Lake is hs-E (highly/strongly eutrophic), and the water quality is "poor". The Water Framework Directive (WFD) (2000/60/EC) status 2010-2015 for the Dromore River is "poor" and "at risk" of not achieving its Framework Directive objectives. There are two water quality monitoring

stations downstream of the proposed site, the first is at “new bridge north of Clementstown” which shows a Q-value of 3 (poor), and the second is at “bridge west of Clementstown which is also shows a Q-value of 3 (poor).

### 5.12.1 Construction Impacts

During construction, excavations will be required to facilitate construction of the development. All excavations will be managed so as to avoid the generation of silt laden run off or release of runoff without appropriate mitigation i.e. treatment via a silt trap and a suitable interceptor.

As for Land, Soils, Geology & Hydrogeology above, it is proposed that a CEMP be prepared and provided to LCC in advance of construction. The CEMP will ensure best practice construction with respect to storage of any hazardous substances (fuels, chemicals and other construction materials that may pose a risk to the environment).

*Potential Impacts Arising from Treatment of Commissioning Water and Discharge to Dromore River.*

As stated in section 3.5, for the commissioning phase of the new WTP it is proposed to abstract water from Dromore Lake and run it through the new WTP where it is chlorinated and tested for quality control. This commissioning phase water will then be discharged via a temporary pipe to connect in with SW-2 downstream of the WWTP. Once the commissioning phase is complete and Abbot are ready to switch to the new WTP this temporary pipeline will be removed and the treated water will run into the main facility for use as process water.

Chlorine is widely used in the safe disinfection of potable water, however residual chlorine within water discharged to the aquatic environment can have deleterious impacts. Residual chlorine at certain levels in wastewaters can be toxic to many kinds of aquatic life<sup>2,3</sup>, and the reaction of residual chlorine with organic materials in the receiving waterbody can form carcinogenic trihalomethanes and organochlorines<sup>4</sup>. In order to treat the water such that it can be returned to the Dromore River a temporary de-chlorination tank will be installed within the new WTP to ensure that the chlorine in the water is removed to residual levels no greater than 0.03mg/l as per the EPA Licence requirements. A report prepared by Coffey Construction is provided as Attachment B which details the de-chlorination procedure. In brief the chlorinated test water is diverted to temporary storage tanks where they are dosed with dechlorination tablets (sodium bisulphite) and retained for the requisite time until residual chlorine levels are not detectable above 0.03mg/L. This limit set by the EPA more than ensures compliance with the requirements of the *Freshwater Fish Directive [78/659/EEC]* and the *Salmonid Water Regulations (SI 293 of 1988)*.

Sodium bisulphite is commonly used in waste water treatment due its higher rate of dechlorination<sup>5</sup>. Sulphite salts can have less dichlorination efficiency than Sulphur dioxide gas; however they are preferred due to ease of storage, chemicals feeding into

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<sup>2</sup> Mattice, J. D. & Zittel, H. E. (1976) “Site Specific Evaluation of Power Plant Chlorination”, Journal of the Water Pollution Control Federation. 48:2284

<sup>3</sup> Brungs, W.A. (1973) “Effects of residual Chlorine on Aquatic Life”, Journal of the Water Pollution Control Federation. 45:2180.

<sup>4</sup> Water Environment Federation & American Society of Civil Engineers (1991) “Design of Municipal Wastewater Treatment Plants, 2 Vols. WEF Manual of Practice No. 8”. Water Environment Federation.

<sup>5</sup> EPA (2011) “Water Treatment Manual: Disinfection”, Environmental Protection Agency, Johnstown Castle, Wexford, Ireland.

reactor, and control and handling<sup>6</sup>. When compared with other dichlorination chemicals such as ascorbic acid, calcium thiosulphate and hydrogen peroxide, sodium salts have been demonstrated to present the least toxic option for aquatic species<sup>5</sup>. A copy of the MSDS sheet for the dichlorination tablets is provided in Attachment C where it can be seen that sodium bisulphite is “not regarded as dangerous to the natural environment”; it does not bioaccumulate, exhibits low toxicity and is comprised of inorganic compounds that will eventually degrade to inert salts in the natural environment.

#### *Potential Impacts Arising from Temporary Increase in Abstraction/Discharge*

For c. 2/3 no. months the new WTP will need to undergo commissioning for quality control testing, drawing in water from Dromore Lake and after it has been dechlorinated discharging it to the Dromore River. The Abbott facility will still maintain production, and the existing facility infrastructure (existing WTP and WWTP) will still be processing an average of 1,500m<sup>3</sup>/day of water in tandem with the commissioning of the new WTP. As such, for c. 2 no. months the *total* amount of water abstracted from Dromore Lake and discharged to the Dromore River will fluctuate between 1,900m<sup>3</sup>/day to 4,300m<sup>3</sup>/day. The Maximum volume to be emitted in any one day under the current EPA Licence is 3,200m<sup>3</sup>/day. The commissioning of the new WTP over the c. 2 no. months will be on a phased basis, starting with low volumes and gradually ramping up. In reality the commissioning phase is only likely to exceed the current limit of 3,200m<sup>3</sup>/day for c. 33% of the time, with the remaining 66% of the commissioning phase still remaining under the 3,200m<sup>3</sup>/day threshold. Table 6 below summarises these figures.

	<b>EPA IED Limits</b>	<b>Existing WTP</b>	<b>New WTP</b>	<b>Commissioning Period Flow Range</b>
Maximum Volume in any one day (m <sup>3</sup> /day)	3,200	1,500	2,400	1,900-4,300

**Table 6** Projected Flow Ranges

Water from Dromore Lake drains via a weir which contains a fish pass to the Dromore River. Water is abstracted by Abbott from Dromore Lake (upstream of the fish pass and weir) and is discharged at SW-2 to the Dromore River (downstream of the fish pass and weir). There are two principal areas of concern with respect to potential impacts of this water use to the aquatic environment; impacts related to lowered levels in Dromore Lake, and impacts related to reduced flow at the weir.

**Drawdown of water levels in Dromore Lake.** The EPA licence has placed conditions upon Abbott regarding any drawdown of Dromore Lake. Condition 6.14.2 states that

*“Lake water level shall be monitored continuously in accordance with Schedule C.6.2: River Flow and Lake Level Monitoring of this licence. Abstraction of lake water shall be prohibited at  $\geq 0.38m$  below lake level at which augmentation commenced. The licensee shall notify Inland Fisheries Ireland when the lake level has dropped 0.285m below lake level at which augmentation commenced (i.e. 75% of low level set point, 0.38m). In the event that the lake level drops by 0.38m, the licensee shall cease abstraction of lake water and shall cease the*

<sup>6</sup> Weerasinghe, B.N. (2008) “Kinetics of Tap Water Dechlorination and Aquatic Health Impacts of Selected Dechlorination Chemicals: A thesis submitted to the Faculty of Graduate Studies and Research in Partial Fulfilment of the Requirements for the Degree of Master of Applied Science”, Ottawa-Carleton Institute for Environmental Engineering, Carleton University, Ottawa, Ontario, Canada.

*discharge of effluent to the Dromore River. The lake level at which abstraction of lake water is prohibited may be reviewed by the Agency in consultation with Inland Fisheries Ireland and the licensee.”*

A study carried out by Awn Consulting in 2010<sup>7</sup> calculated that a 900m<sup>3</sup> abstraction from Dromore Lake would result in a 0.49mm (0.00049M) reduction in lake water level. The short time period and scale of the additional water abstraction arising from the commissioning phase should not result in any noticeable changes to the water level in Dromore Lake, and as such there is no risk to any ecological habitats located within, or reliant upon Dromore Lake. Regardless of this, Abbott are bound by their EPA licence and should it transpire that the commissioning phase occurs during a time of unseasonably low lake levels they will be required to cease any abstraction that would result in reduction of the lake level by more than 0.38m.

**Reduction of flow at weir.** A reduced flow at the weir could result in insufficient water at the fish pass and alterations to the flow-regime further downstream for the Dromore River. In order to ensure that this does not happen Condition 6.14.1 of the EPA licence states that

*“In periods of low flow ( $\leq 14,500\text{m}^3/\text{day}$ ), the licensee shall supplement the Dromore River flow above the weir by abstracting water from the Dromore Lake. The river flow shall be monitored continuously in accordance with Schedule C.6.2: River Flow and Lake Level Monitoring of this licence and a log kept of the dates where pumping occurs.”*

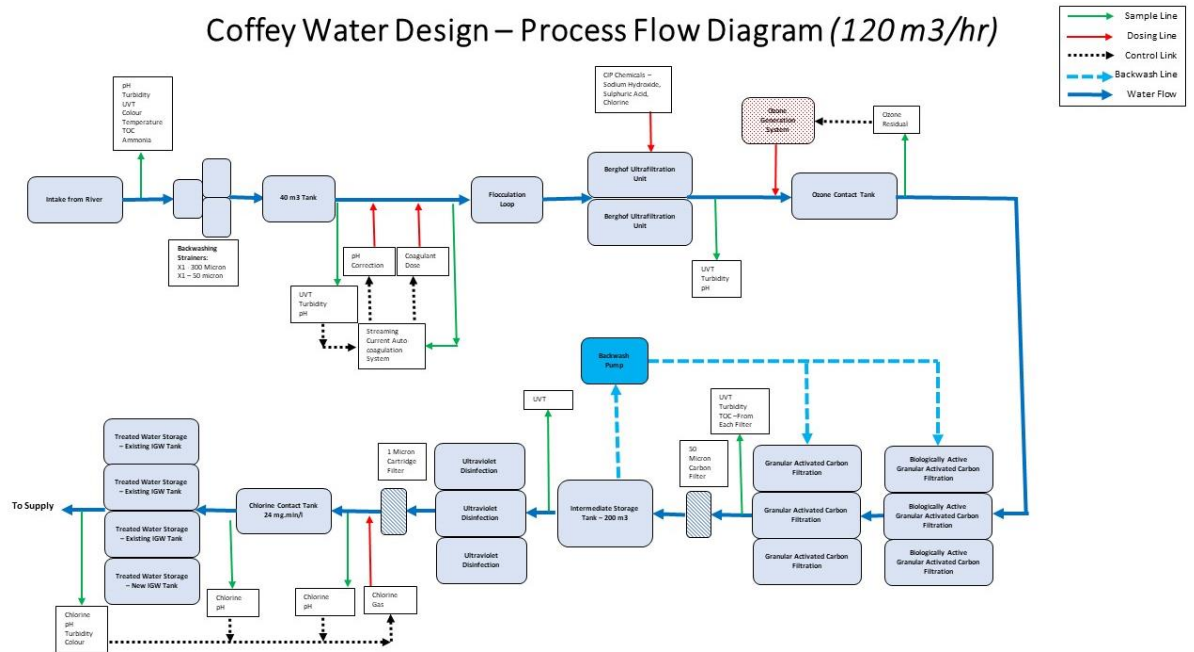
Abbott monitor the flow at the weir as per their license conditions and at any point during the new WTP commissioning were the water flow rate to fall below 14,500m<sup>3</sup>/day they will augment the flow. These actions will prevent any potential impact to the health of the Dromore River and any ecological habitats or species reliant upon it.

#### *Potential Impacts associated with discharge of backwash water via SW-1*

Abstracted water is taken in from Dromore Lake where it is initially passed through two micron strainers (300 micron and then 50 micron) to remove gross debris (leaves, stick etc.). These strainers automatically and periodically backwash the incoming waters back through the strainers to ensure that they do not get clogged up. The design for the new WTP will discharge these backwash water to the surface water drainage system for discharge to the Dromore River via SW-1. As can be seen in Figure 9 these backwash water have not had contact with any of the water treatment processes within the WTP, nor any of the manufacturing processes. The c. 8.1m<sup>3</sup>/day of backwash water arising from the backwashing strainers will be segregated at source and returned to aquatic environment.

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<sup>7</sup> Awn (2010) “Impact Assessment of Water Abstraction on Dromore Lake & River by Abbott Cootehill: Technical Report prepared for Abbott Cootehill”, 24<sup>th</sup> February 2010. MM/10/5356WR01Rev.1. Awn Consulting.



**Figure 9** Process Flow Diagram

Within the surface water drainage system, prior to discharge at SW-1, the backwash water will pass through 1no. full retention hydrocarbon interceptor.

In the Impact Assessment of Water Abstraction report carried out by AWN in 2010 it can be determined that the Dromore River downstream of SW-1 will benefit from the increased water flow in the channel.

*Conclusion of Potential Impacts to Aquatic Environment*

In light of the above, it can be concluded that the proposed temporary increase in abstraction of water from Dromore Lake, its treatment with chlorine and subsequent de-chlorination, and its discharge via SW-1 to the Dromore River will have no impact on the receiving waters. Similarly it has been shown that there will be no deleterious impact to the Dromore River arising from the discharge of back-wash water used in clearing the in-take strainers for the new WTP.

**5.12.2 Operational Impacts**

Surface water runoff will be generated from roofs and hardstanding areas. A stormwater drainage network will be installed to collect all surface water runoff and direct it to the existing Facility stormwater drainage network.

A stormwater drainage network will be installed on the site during the construction phase and will direct all additional stormwater generated from roofs and hardstanding areas to the Dromore River via a full retention hydrocarbon interceptor.

There is the potential for impact on the hydrological environment during operation from localised accidental releases of chemicals stored on site however all chemicals will be bundled.

As for Land, Soils, Geology & Hydrogeology above, it is proposed that an environmental management plan will apply to the development during the operational phase incorporating mitigation measures and emergency response measures.

It is considered that there is a limited likelihood of significant effects on water quality and that the development would not warrant preparation of an EIAR on hydrology grounds.

### 5.13 Flooding

The Office of Public Works (OPW) on-line database was reviewed with regard to incidences of historical, regional and local flooding relevant to the area. The proposed development site is regarded as a “*Less Vulnerable Development*” as it is planned to be used for industrial use. There were no flood events recorded at the site or immediate area. According to the draft CFRAM maps, there is no modelled flood event impacting on this site. Therefore, this development resides in Flood Zone C. The closest watercourse is Dromore Lough (c. 160 m to the east) which flows into the Dromore River c, 300m to the south of the proposed new WTP.

There are no historic flood events recorded for the proposed development site or the surrounding area. The nearest flood event is located c. 480m south-west of the proposed development site along Margaret’s Lane on the River Dromore. Flooding at this point occurs annually after periods of heavy rain.

It is considered that any localised drainage issues would be engineered out as required during construction.

It is concluded that the proposed development is located in an area which is not liable to flooding and will not in and of itself result in any additional flood risk.

### 5.14 Waste and Resource Management

The potential effects of the proposed development on waste and resource management are associated with the design and construction of the proposed development. The majority of waste is expected to be ‘clean’ material and appropriate mitigation measures would be defined in the CEMP to promote reuse, recycling and diversion from landfill. The three existing water retention tanks at the current WTP will be relocated and reused in the new WTP. Any materials that cannot be reused would be removed offsite by a licensed contractor. Inert waste generated during construction will be disposed of at a suitable licensed facility. The production and disposal of waste generated during operation will be managed in accordance with the relevant waste legislation.

It is considered that there is a limited likelihood of significant effects on waste and resource management and that the development would not warrant preparation of an EIAR on these grounds.

### 5.15 Interactive Effects

Interactive effects occur when a receptor is impacted by multiple effects. Potential interactive effects on the environment include:

- Potential traffic, pedestrian and utilities diversions on site during construction; and
- Elevated risk of accidental discharge to soil, water bodies, drainage networks and/or groundwater associated with the storage of plant, equipment during construction.

Any likely adverse interactive effects would be temporary in nature and are expected to be managed effectively through the implementation of the mitigation measures

outlined in the works method statements and construction environmental management plan.

## 6.0 CONCLUSIONS

On the basis of the information set out in Section 2.0 the proposed development does not mandatorily require an EIAR. The information set out in Sections 3.0, 4.0 and 5.0 confirm that the proposed development is not likely to have any significant environmental effects.

While it was not considered likely that there would be significant noise emissions, a noise impact assessment was undertaken to assess the impact of the development with reference to noise criteria, and to determine that the proposed development, once operational, will comply with the noise criterion set by MCC and the EPA for similar developments.

While the operation of the new WTP was not considered to pose any potential impacts to the aquatic environment, impact assessment has been conducted regarding the potential impact of the new WTP on the aquatic environment during the commissioning phase. These assessments have shown that during both the construction/commissioning and the operational phase that the new WTP will comply with all applicable aquatic criterion set by MCC, the EPA and the Inland Fisheries.

The preparation and compliance with a Construction Environmental Management Plan will ensure potential nuisances from the construction of the facility are avoided and minimised.

Implementation of an Environmental Management Plan once the development is operational will ensure the residual impact is of imperceptible significance.

In summary, the construction, commissioning and operation of the proposed development will generate few additional emissions. It is therefore concluded that no EIAR is required with the planning application, or request for a Technical Amendment from the EPA.

**Attachment A**

Noise Impact Assessment Report

AWN Consulting Ltd

**Attachment B**

De-Chlorination Procedure

Coffey Group

**Attachment C**

MSDS Sheet – Sodium bisulphite