



Attachment 7-1-3-2  
Receiving Environment Report

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# 1 Introduction

This Receiving Environment Report has been prepared on behalf of Anglo Beef Processors Ireland Unlimited Company (Waterford Proteins). Waterford Proteins was granted an Integrated Pollution Control (IPC) licence in 1997 (P0040-01). The licence was reviewed in 2001 (P0040-02) and was amended to an Industrial Emissions Licence (IEL) in 2013. This report forms part of the licence review application (Attachment 7-1-3-2) for the IEL for the facility.

The purpose of this report is to provide a description of the current state of the environment for the relevant thematic/media.

## 2 Site Description

### 2.1 Site Location

Waterford Proteins is located on a 5.5-hectare site in Christendom, Ferrybank, Co. Kilkenny. The facility site location is shown in Figure 1. The site is situated in the Kilkenny Local Authority functional area, but the postal address is Waterford. The site is situated adjacent to the estuary on the perimeter of Waterford City.

The area surrounding the site is primarily industrial with a small number of residential dwellings in relatively close proximity to the facility.

### 2.2 Site History

The facility was constructed in 1972 as a rendering plant by Clover Meats. Clover Meats closed in December 1984. The factory was acquired by ABP in 1985 along with the adjacent beef processing facility. The factory has operated as a rendering plant since the acquisition. The plant has been gradually upgraded over the years to the modern production facility in operation today. Major developments on the site included the installation of new cookers, crusher, presses, decanters, meal cooling, intake reception, meal offloading, thermal oxidiser, bio-filter, blood storage, workshop, control room and site aesthetics. The facility has operated under the IPC licensing system since 1997.

## 2.3 Surrounding Land Use

The site is located in a predominantly industrial setting. Surrounding neighbouring properties are as follows:

**North:** There are industrial units northwest of the site. Agricultural land borders the site to the north. There is a housing development approximately 400 m north of the site.

**South:** There are two residential dwellings south of the site; approximately 125 m and 250 m south. The River Suir is approximately 280 m south-west of the site.

**East:** The site is bordered by agricultural land to the east.

**West:** ABP Waterford (IE Licence No. P0205) is located approximately 10 m west of the site boundary.



**Figure 1: Site Location Map**

### 3 Ambient Air Quality

Ambient air quality monitoring and assessment in Ireland is carried out in accordance with the requirements of Directive 2008/50/EC on ambient air quality and cleaner air for Europe, also known as the CAFE Directive. The CAFE Directive has been transposed into Irish national legislation by the Air Quality Standards Regulations 2011.

As part of the implementation of the CAFE Directive, four air quality zones have been defined in Ireland for air quality management and assessment purposes. Dublin is defined as Zone A and Cork as Zone B. Zone C is composed of 23 towns with a population of greater than 15,000. The remainder of the country, which represents rural Ireland but also includes all towns with a population of less than 15,000 is defined as Zone D.

- **Zone A:** Dublin Conurbation;
- **Zone B:** Cork Conurbation;
- **Zone C:** Other cities and large towns comprising Limerick, Galway, Waterford, Drogheda, Dundalk, Bray, Navan, Ennis, Tralee, Kilkenny, Carlow, Naas, Sligo, Newbridge, Mullingar, Wexford, Letterkenny, Athlone, Celbridge, Clonmel, Balbriggan, Greystones, Leixlip and Portlaoise;
- **Zone D:** Rural Ireland, i.e. the remainder of the State excluding Zones A, B and C.

In terms of air quality, Waterford Proteins is the Waterford location which is within the Zone C (Other cities and large towns) air quality zone classification. At the time of writing, the Waterford Region (large Towns) AQIH (Air Quality Index for Health) Region is reported by the EPA as having '2-Good' air quality.

Further information on ambient air quality and background concentrations of pollutants is given in the Air Dispersion Modelling Report appended to Attachment 7-1-3-3 *Emissions Impact Assessment* to this application.



## 4 Receiving Noise Environment

### 4.1 Land Use

The existing land use in the proximity of the proposed development site is a combination of agricultural, residential and industry. The main sources of noise in the area include the Waterford Proteins facility, adjacent industrial facilities and traffic on the local road network.

### 4.2 Noise Sensitive Locations

The noise sensitive locations (NSLs) surrounding the Waterford Proteins site are outlined in Table 1 and shown in Figure 2. The impact of noise emissions is assessed in the Attachment 7-1-3-3 *Emissions Impact Assessment*.

| Noise Sensitive Location | Description          | Approximate Distance from Waterford Proteins Site |
|--------------------------|----------------------|---|
| NSL 1                    | Residential Dwelling | 125 m south                                       |
| NSL 2                    | Residential Dwelling | 250 m south                                       |
| NSL 3                    | Housing Estate       | 350 m northwest                                   |
| NSL 4                    | Housing Estate       | 400 m north                                       |
| NSL 5                    | Residential Dwelling | 430 m east  |
| NSL 6                    | Housing Estate       | 500 m east  |

**Table 1: Noise Sensitive Locations Surrounding the Waterford Proteins Facility**



**Figure 2: Noise Sensitive Locations Surrounding the Waterford Proteins Facility**

## 5 Underlying Soils, Geology & Hydrogeology

The GSI (Geological Survey Ireland) has defined groundwater bodies (GWBs) and published information for each body. The area that the site facility is located in forms part of the Waterford Groundwater Body. A Baseline Report Screening for the site is included as Attachment 4-8-2 *Baseline Screening Assessment Report*.

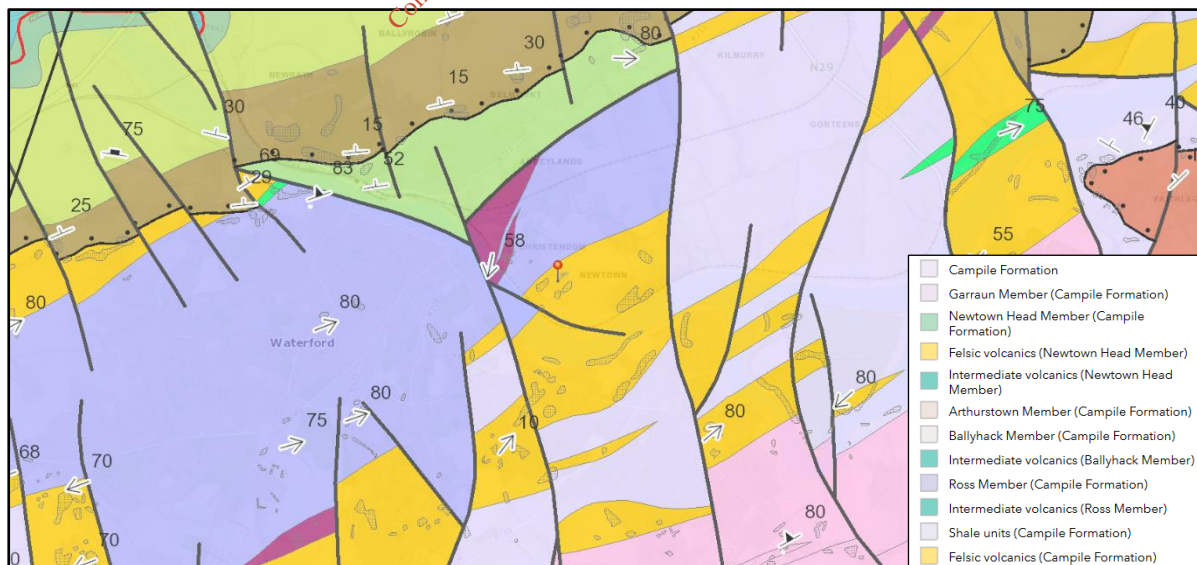
### 5.1 Site Topography

The highest elevations of the Waterford GWB are to the west, significantly Croughan hill at 391 mOD, the peak of which lies just outside the GWB. There are raised elevations to the south, west and northwest. The lower elevations are to the north, the lowest elevation being along the flood plain of the Suir River.

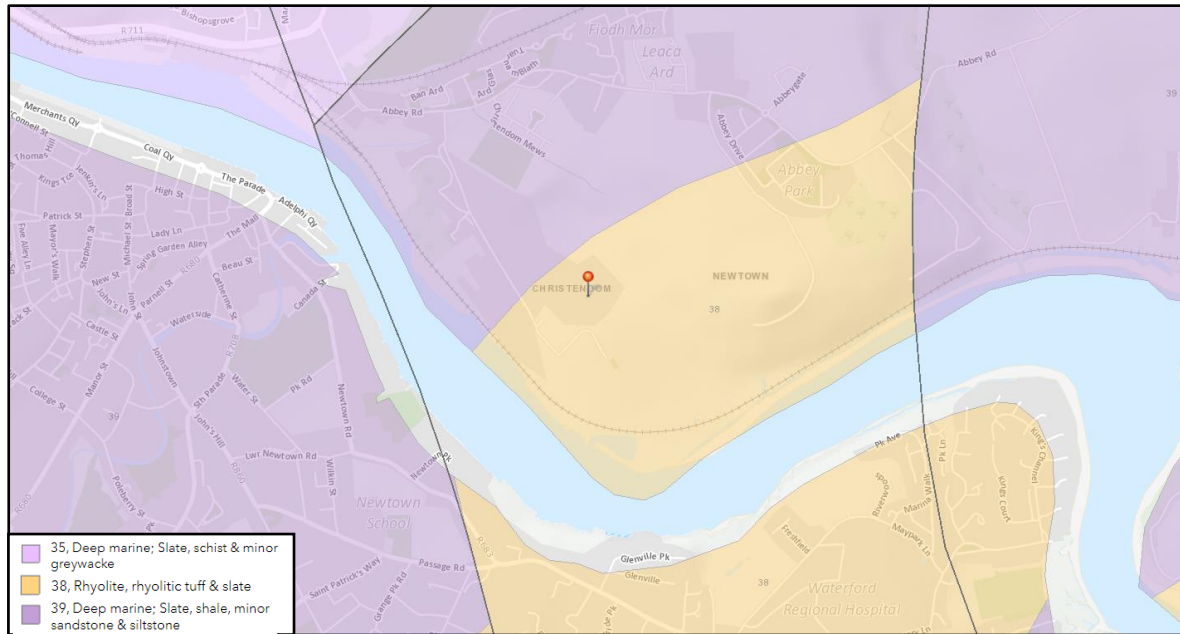
The drainage pattern of the area is mostly northwards to the River Suir. To the extreme west some drainage is northward to the Clodiagh River which is outside the GWB.

### 5.2 Geology

The underlying geology of the area consists of felsic volcanics (rhyolite, rhyolitic tuff & slate), which is a Ross Member of the Campile Formation, as shown in Figure 3. To the north of the site there is dark grey slate with thin siltstone. Rhyolitic volcanics, grey & brown slates are located to the south. There are no faults running through the site as shown in Figure 4.



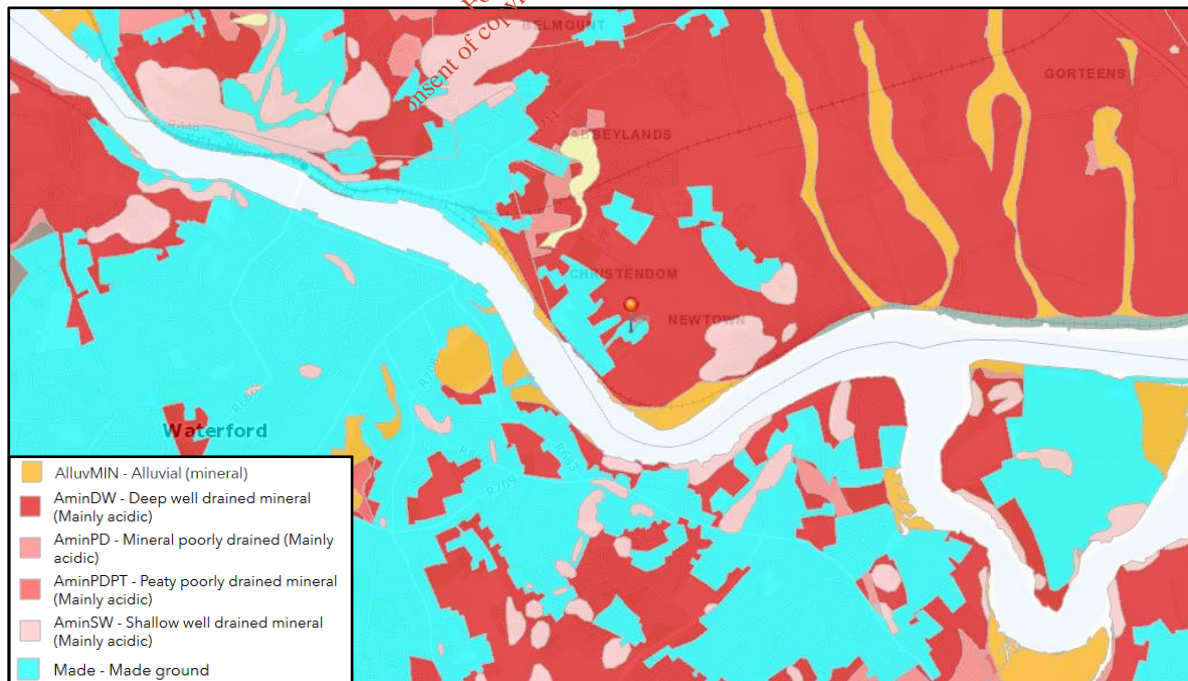
**Figure 3: Bedrock geology at the site and the surrounding area, (GSI 2021)**



**Figure 4: GSI 500K Fault Map (GSI 2021)**

### 5.3 Soil

The Teagasc Soil Map of Ireland shows the site to be underlain by made ground (see Figure 5). The land surrounding the site is underlain by tills (derived chiefly from Devonian sandstones). This is deep well drained mineral (mainly acidic).



**Figure 5: Teagasc Soils Surrounding the site, (GSI 2021)**



## 5.4 Hydrogeology

The site is underlain by the Waterford groundwater body (Ref: IE\_SE\_G\_149). There are elevations in this groundwater body to the south, west and northwest, with the highest elevations to the west, with the peak of Croaghan Hill (391 mOD) just outside the groundwater body. The lowest elevations are to the north, particularly the flood plain of the River Suir. The drainage pattern of the groundwater body is mainly towards the River Suir. There is also some drainage towards the Clodiagh River (outside of the body) at the west of the body.

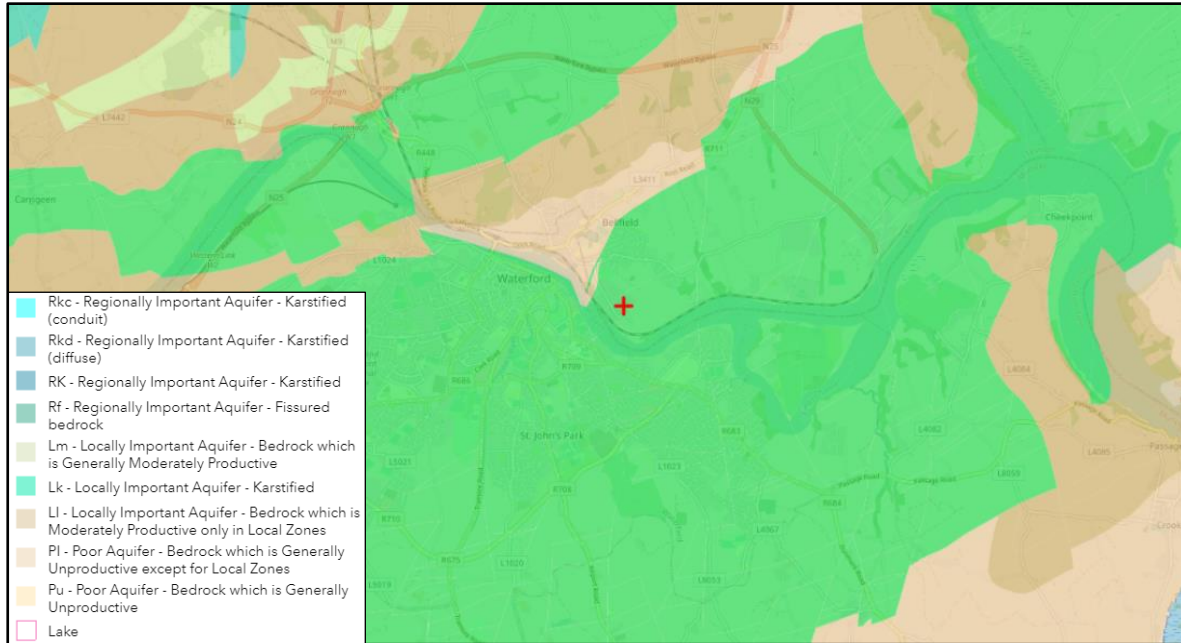
The groundwater body is a Regionally Important Fractured Aquifer. There are also very small regions of poorer aquifers throughout the main body.

Reference to the GSI GWB published information considers groundwater flow in the Campile to be entirely through fractures within these rocks (there may be a very minor component of primary porosity as a result of vesicles (gas bubbles) in some lava flows. Groundwater flow is likely to have a relatively high velocity in the west due to the upland topography. Regional flow systems are likely to take water in interconnected networks of fractures from these high elevations right down to the Suir river.

## 5.5 Aquifer Classification

Aquifers are underground layers of rock which contain water, and which are capable of yielding it to surface waters such as streams and rivers and groundwater-fed ecosystems. The GSI has developed a classification system for aquifers based on the value of the resource and the hydrogeological characteristics.

Reference to the GSI National Draft Bedrock Aquifer Map for the subject site indicates that the surrounding area is underlain by a Regionally Important Aquifer of fissured bedrock (Rf) (see Figure 6).

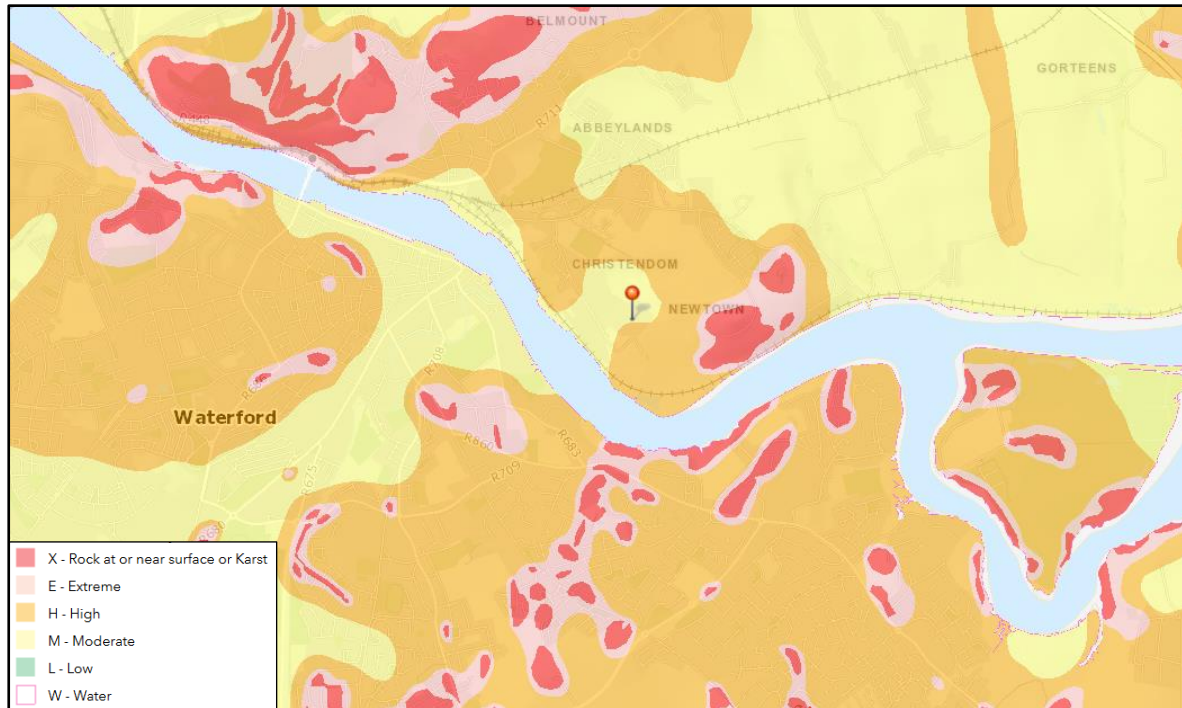


**Figure 6: Bedrock Aquifer Classification at the site, (GSI 2021)**

## 5.6 Groundwater Vulnerability

According to the GSI, groundwater vulnerability is a term used to represent the intrinsic geological and hydrogeological characteristics that determine the ease with which groundwater may be contaminated by human activities. The GSI uses a matrix comprising four groundwater vulnerability categories to classify aquifer vulnerability. These vulnerability categories range from Extreme (**E**) to High (**H**) to Moderate (**M**) to Low (**L**) and are dependent on the nature and thickness of subsoils above the water table.

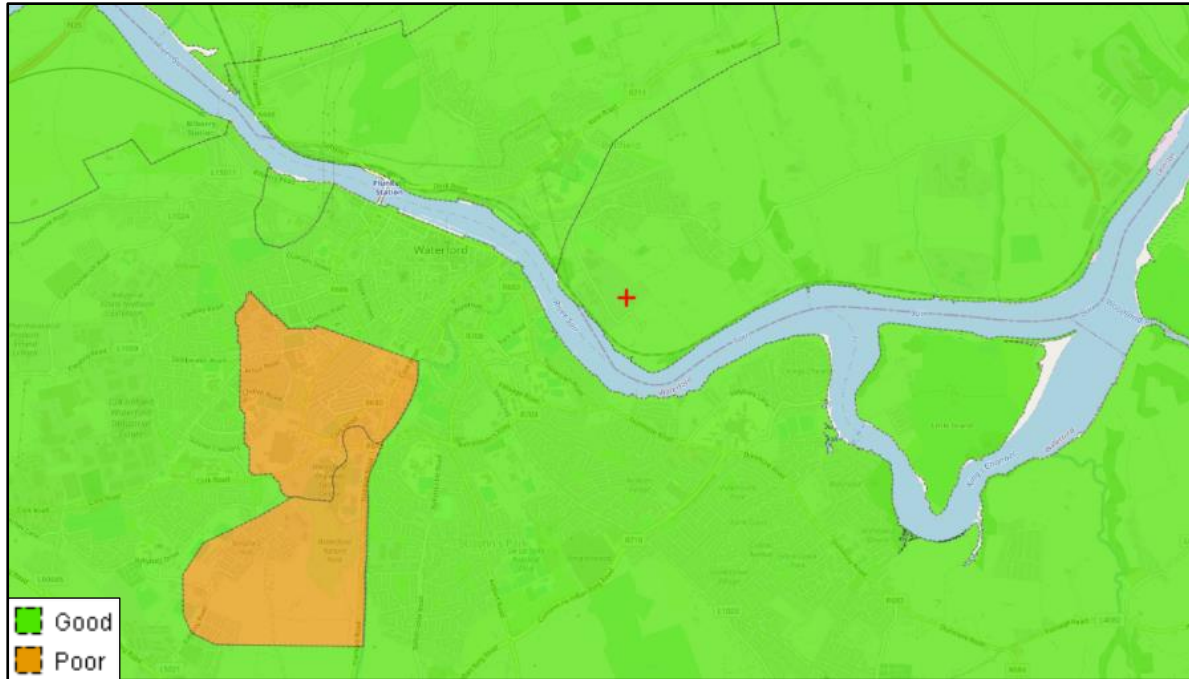
Reference to the GSI Vulnerability Groundwater Map indicates that the vulnerability of the bedrock aquifer has been classed as moderate for the northern section of the site and high for the southern section of the site (see Figure 7).



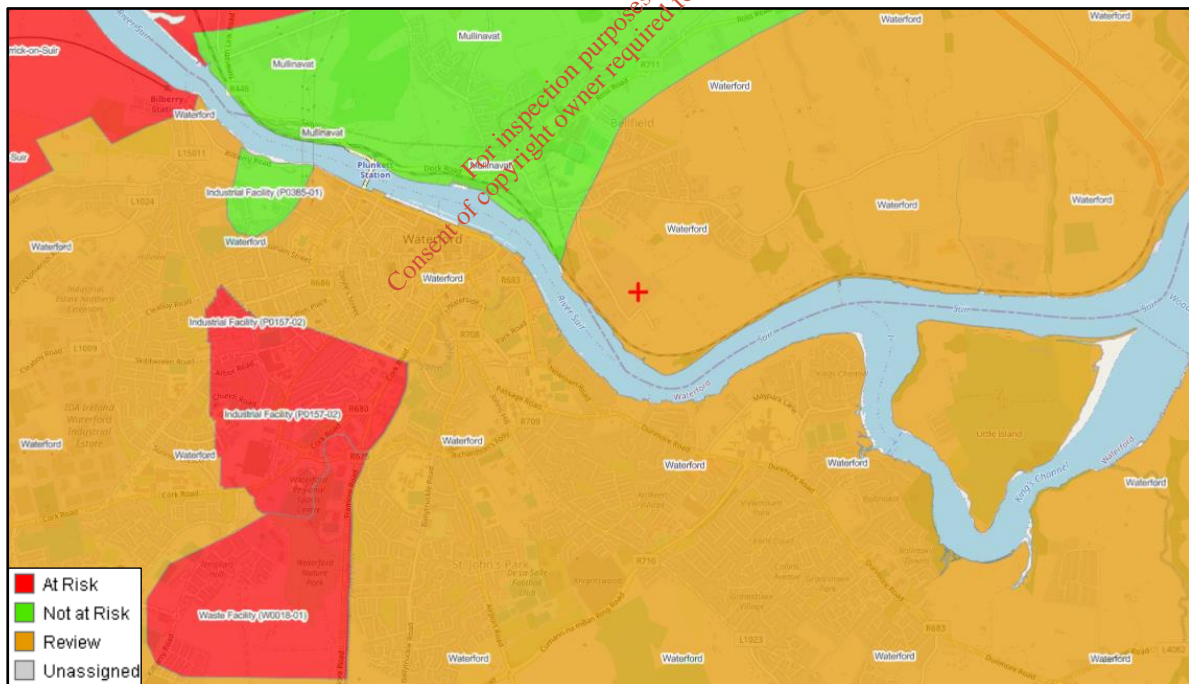
**Figure 7: Current Site Groundwater Vulnerability Map, (GSI 2021)**

## 5.7 Groundwater Quality

The S.I. No. 9 of 2010, EC Environmental Objectives (Groundwater) Regulations 2010, as amended, give effect to the criteria and standards to be used for classifying groundwater in accordance with the requirements of the Water Framework Directive (WFD). GWB's may be classified as either 'Good' or Poor'. The determination of a GWB status is based on an assessment of groundwater chemical and quantitative figures. Currently, the EPA classifies the Waterford GWB as having 'Good Status' (based on quality data for the period 2013-2018), as shown in Figure 8. The ground waterbody risk is currently under review as shown in Figure 9.



**Figure 8: Current Site WFD Groundwater Quality Status, (EPA 2021)**



**Figure 9: Current Site WFD Groundwater Risk Status, (EPA 2021)**



## 6 Receiving Surface Waters

The site is located within the Suir Catchment (Catchment Code: 16) and the Blackwater (Kilmacow) Subcatchment (Code 16\_29). The site is in a part of the subcatchment identified as an Area for Action under the 2<sup>nd</sup> cycle River Basin Management Plans (2015-2021) as per the Water Framework Directive (WFD) (European Communities Directive 2000/60/EC).

The River Suir (Transitional Waterbody Code: IE\_SE\_100\_0550) is located approximately 370 m south west of the site as shown in Figure 10.



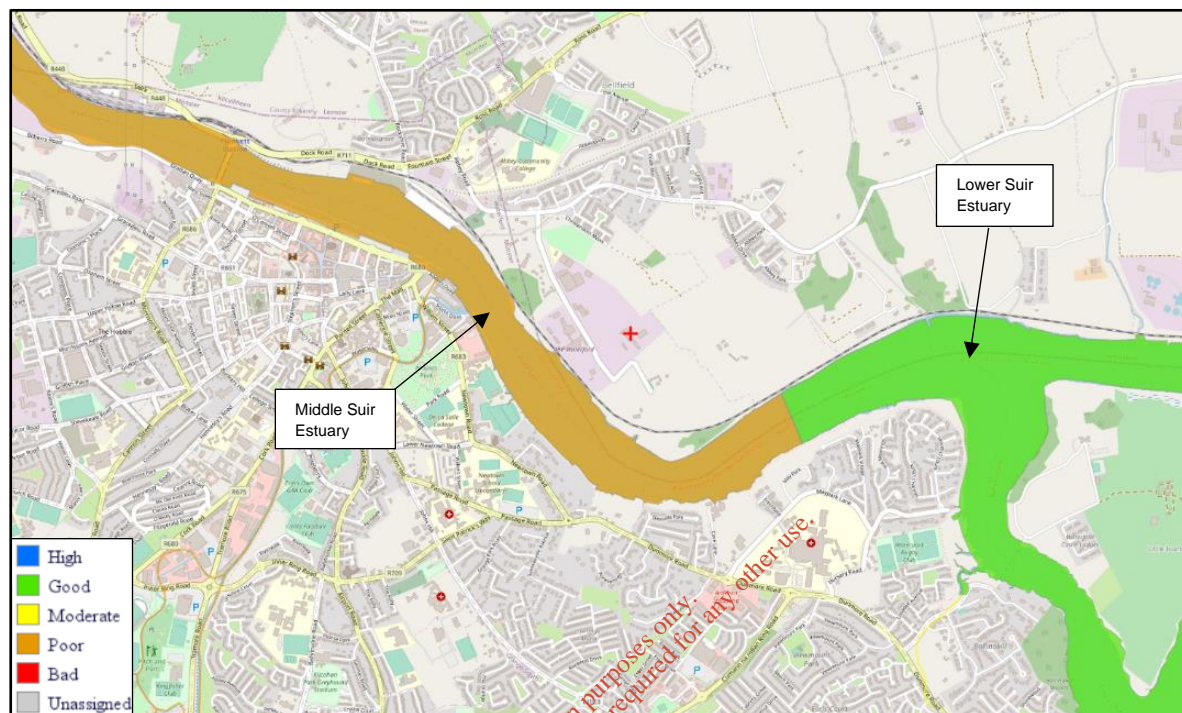
**Figure 10: Local Hydrological Waterbodies, (EPA 2021)**

### 6.1 River Suir

The River Suir flows west to east, south of the Waterford Proteins site. The Middle Suir Estuary (EU Code: IE\_SE\_100\_0550) has been assigned a status of ‘poor’ (see Figure 10) and has also been assigned ‘at risk’ status under the WFD (2015-2018), as shown in Figure 10. The Middle Suir Estuary flows into the Lower Suir Estuary (Little Island – Cheekpoint) approximately 775 m south east of the site. The Lower Suir Estuary has been assigned a ‘good’ status (see Figure 11) under the WFD (2015-2018) and has been assigned ‘at risk’ status.

It is understood that site stormwater is drained to local land drains. Drainpipes and storm drains are piped directly to storm water lines which flow into local ditches. The emission points SW-2 and SW-3 service stormwater from the north and east of the site. Stormwater from the main production building, tank farms, the office block, the carpark and other areas drains to the ABP WWTP for treatment. Stormwater is not

likely to be contaminated as all activities are undertaken within the building. All chemicals and liquid wastes stored on-site are banded. Emissions to surface water are monitored in accordance with IE licence requirements



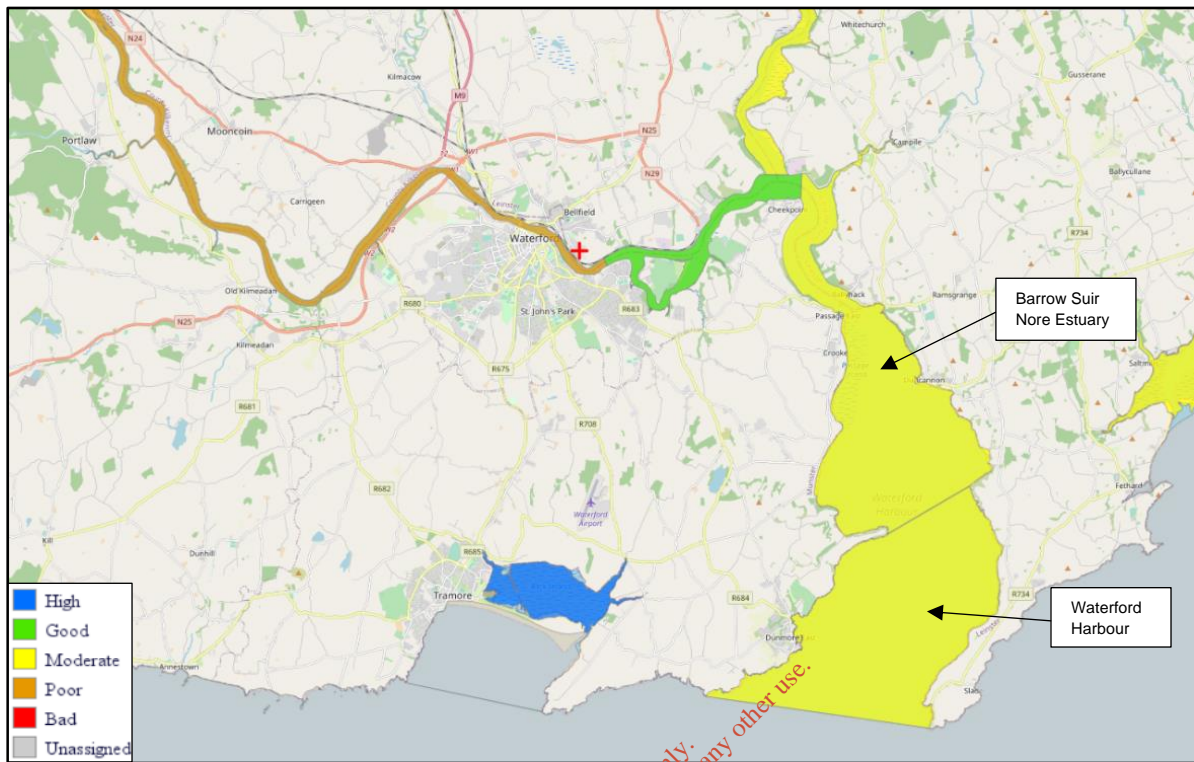
**Figure 11: Local Hydrological Waterbodies WFD Status, (EPA 2021)**

## 6.2 Barrow Suir Nore Estuary

The Barrow Suir Nore Estuary (Waterbody Code: IE\_SE\_100\_0100) is fed from the Suir and Barrow Rivers. The Barrow Suir Nore Estuary has been assigned a status of 'moderate' (see Figure 12) under the WFD (2015-2018) and has been assigned 'at risk' status.

## 6.3 Waterford Harbour

Waterford Harbour (Waterbody Code: IE\_SE\_100\_0000) is located within the Suir estuary and it is classified as a shellfish designated area under the EC (Quality of Shellfish Waters) (Amendment) Regulations 2009. The shellfish designated area extends north as far as the River Suir and River Barrow confluence. The Waterford Harbour Characterisation Report (No. 35) states that the water quality in the main shellfish designated area is of moderate quality due to excessive levels of dissolved inorganic nitrogen. Waterford Harbour has been assigned a 'moderate' quality WFD status (see Figure 12).



**Figure 12: Transitional & Coastal Waterbodies WFD Status, (EPA 2021)**

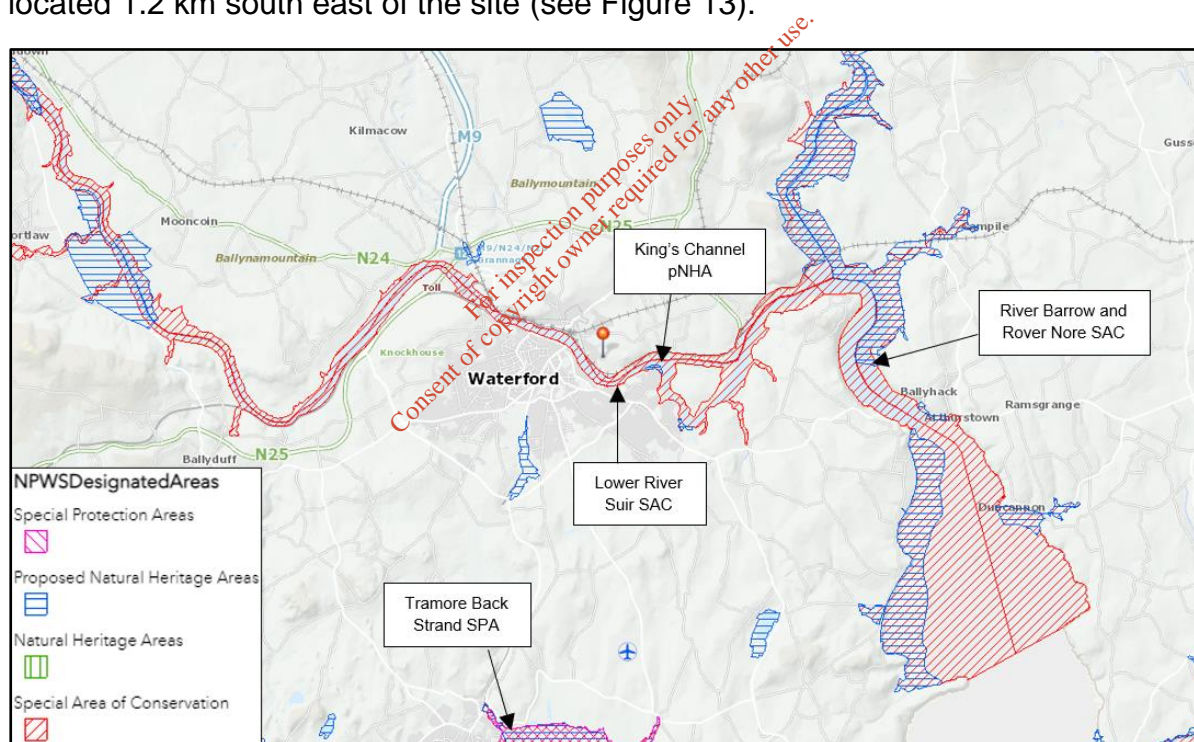


## 7 Designated Sites

The Lower River Suir (Lower River Suir SAC site ref. 002137) is a designated Special Area of Conservation (SAC) under the EU Habitats Directive (see Figure 13). The Lower River Suir SAC stretches as far as the confluence with the River Barrow east of Cheekpoint Co. Waterford. The section of SAC below Waterford City is notable for sections of intermixed Atlantic and Mediterranean salt meadow habitats (EU Habitats Directive, Annex I habitats) and the presence of species such as Red Fescue, Sea Aster and Sea Couch, amongst others.

There are no Special Protection Areas (SPA), Nature Reserves or National Heritage Areas (NHA) located within a 5 km radius of the site. The closest SPA is the Tramore Back Strand (SPA site ref. 004027) which is located approximately 10 km to the south of the site. The nearest residential receptors are located approximately 125 m south east of the facility.

Kings Channel proposed National Heritage Areas (pNHA) (Site Code: 001702) is located 1.2 km south east of the site (see Figure 13).



**Figure 13: Designated European Sites, (NPWS 2021)**