



Licence Review Application No. – LA001443

## NON-TECHNICAL SUMMARY

**Submission By:** Connolly's RED MILLS  
Grange Lower,  
Goresbridge,  
Co. Kilkenny

**Submission To:** Environmental Protection Agency.  
Office of Climate Licensing & Resource Use,  
PO Box 3000,  
Johnstown Castle Estate,  
Co. Wexford

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## **A INTRODUCTION**

### **A.1. General**

This document summarises the information included in the application to the Environmental Protection Agency (EPA) for Industrial Emissions Licence Application for Connolly's Red Mills, Goresbridge, Co. Kilkenny.

## **B FACILITY OVERVIEW**

### **B.1. Ownership & Location of Facility**

Connolly's RED MILLS (Red Mills) has been the home of the Connolly family business since 1908 in Goresbridge, County Kilkenny. With a wealth of experience in steam cooking, pressure cooking and extrusion, in 1963 the company began processing cereals for animal. By 1997, Connolly's RED MILLS was introduced into UK and the USA. The Red Mills brand is sold in 40 countries around the world, and we continue to build on their reputation for converting fresh, natural ingredients into the most trusted feed for peak performance right around the world. The facility is located approximately 1km to the north of the village of Goresbridge, Co. Kilkenny. The site has an area of approximately 67,600 m<sup>2</sup> as seen in Figure

## **C PROPOSED LICENCE ACTIVITIES**

Connolly's Red Mills is applying to the Environmental Protection Agency (EPA) for an Industrial Emissions (IE) Licence for their existing dry grain based Animal Feed Mill at Goresbridge, Co. Kilkenny. The facility currently has the capacity to process approximately 200,000 tonnes of animal feed per annum and if operated on a 24 hour basis for 365 days per year would have an estimated capacity of 300,000 tonnes per annum. The licence will result in the facility falling under the Environmental Protection Agency (Industrial Emissions) (Licensing) Regulations 2013.

Based on the site capacity the daily throughput of the facility it would exceed the 300 tonnes per day threshold under which the site would require an Industrial Emissions licence. According to the First Schedule to EPA Act 1992 as amended the facility falls under the following;

**Class 7.8(a) - The treatment and processing, other than exclusively packaging, of the following raw materials, whether previously processed or unprocessed, intended for the production of food or feed from;**

(ii) only vegetable raw materials with a finished product production capacity greater than 300 tonnes per day or 600 tonnes per day where the installation operates for a period of no more than 90 consecutive days in any year;

### Technical Competence & Site Management

The Directors have responsibility for the operation of the feed mill. The feed mill is operated by a dedicated management team. The staff of the feed mill are technically experienced and qualified in the areas of engineering; environmental management; finance; administration, human resources and maintenance.

## Environmental Management System

There is currently no Environmental Management System (EMS) in place at the site. It is intended that an EMS system will be developed on site as part of the Industrial Emissions licence compliance requirements. The EMS will cover the required resources and systems required to ensure control and continuous improvement in the environmental management of the feed mill. It would be proposed that a review and update of the EMS would be carried out on a continuous basis.

## Hours of Operation

The Animal Feed Mill operates 24 hours a day post-harvest season, and typically for 12 hours a day pre-harvest season. It would be intended that the licence hours of operation would be for 24-hour operation at the site.

The activity does not come under the EC (Control of Major Accident Hazards involving Dangerous Substances) Regulations (S.I. No. 74 of 2006) and a derogation under Section 86A(6) is not being sought for the facility.

### **C.1. Planning Authority**

The planning authority for the site is Kilkenny County Council. An outline of the planning permissions for the site are outlined in Table C-1 below:

**Table C-1 – Planning Permissions for Red Mills facility**

<b>Planning Reference</b>	<b>Description</b>
0797	Permission for the demolition of glazed entrance porch and toilet block, construction of new entrance porch, canopy and extension to existing shop facilities at ground floor level and office facilities at first floor level along with internal modifications which include new toilet block and alterations to existing facilities, signage and all associated site development works at Redmills, Lower Grange Goersbridge Co. Kilkenny
05223	Permission to erect a new block of outloading bins at existing mill at Lower Grange, Goresbridge, Co. Kilkenny.
07625	Permission for the demolition of glazed entrance porch and toilet block, construction of new entrance porch, canopy and extension to existing shop facilities at ground floor level and office facilities at first floor level along with internal modifications which include new toilet block and alterations to existing facilities, signage and all associated site development works at Redmills, Lower Grange Goersbridge Co. Kilkenny
08126	Permission to erect pallet storage building. New building will replace the pallet storage building that was destroyed by fire in October 2007 at Grange Lower, Goresbridge, Co. Kilkenny.
13196	Permission to construct an integrated constructed wetlands system and associated site works. The proposed integrated constructed wetlands system shall be located on lands directly opposite the existing Connolly's Redmills facility at Lower Grange, Goresbridge, Co. Kilkenny.
041204	Planning permission for the demolition of existing 2,100 sq.m. grain store and full planning permission for new 2,100 sq.m. grain store at Grange Lower, Goresbridge, Co. Kilkenny

Copies of the planning permissions associated with the site are attached with the licence application.

### **C.2. BAT Conclusions**

The proposed development will continue to operate in such a way as to minimise environmental impacts as far as practicable. The operation of the facility will be carried out in accordance with good practice and Best Available Techniques (BAT) guidelines. This review has taken into account the Best

Available Technology (BAT) Guidance Notes issued by the EPA “Final Draft BAT Guidance Note on Best Available Techniques for the Food and Drink Sector, Energy Efficiency and Emissions from Storage. A listing of the BAT notes reviewed and deemed applicable to the proposed development as part of the operational requirements as an Industrial Emissions facility are provided in Attachment 4 of the IED licence application.

## **D FACILITY OPERATIONS & POTENTIAL ENVIRONMENTAL IMPACTS**

### **D.1. Facility Operations**

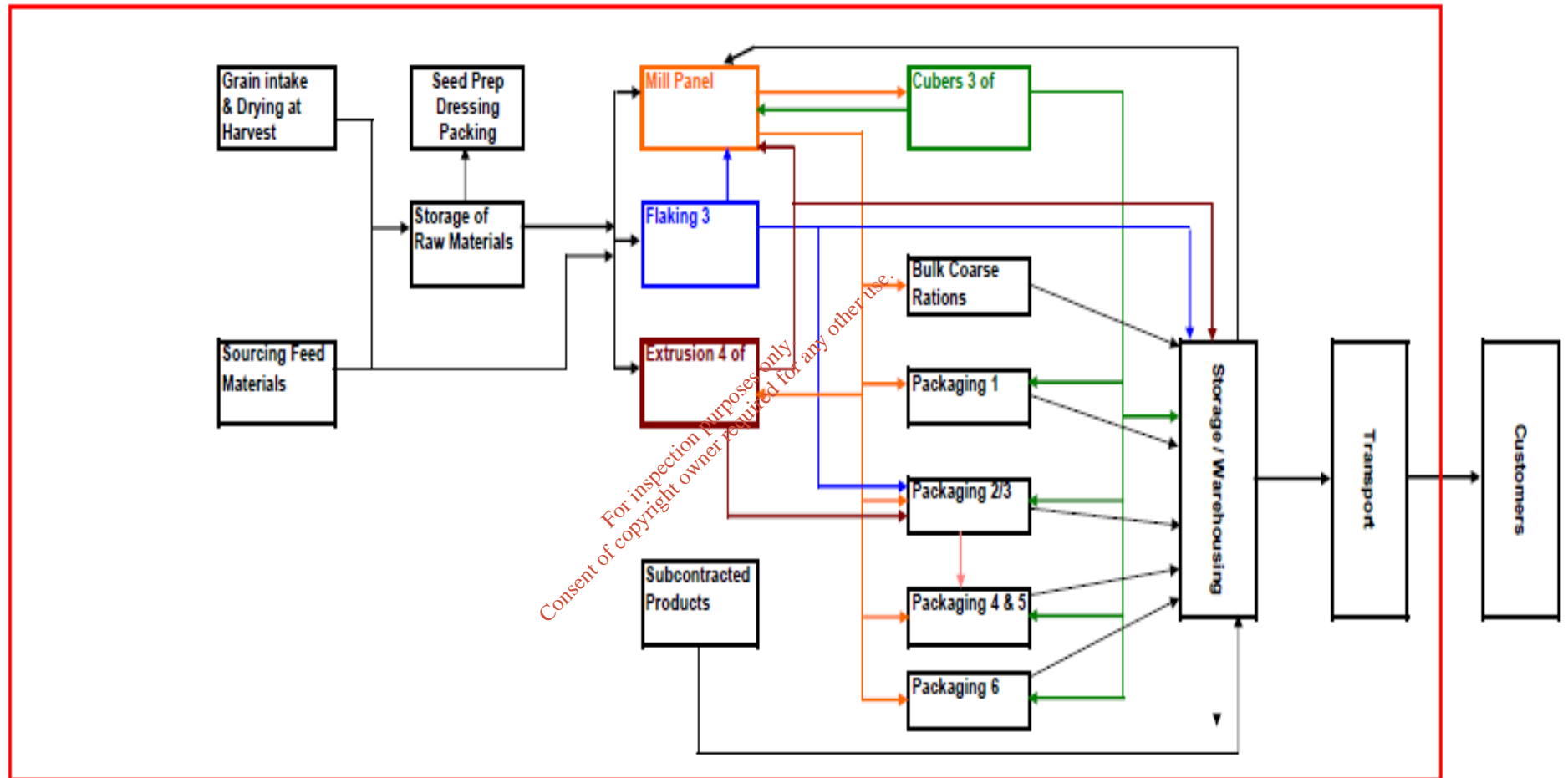
Connolly's RED MILLS (Red Mills) has been the home of the Connolly family business since 1908 in Goresbridge, County Kilkenny. With a wealth of experience in steam cooking, pressure cooking and extrusion, in 1963 the company began processing cereals for animal. By 1997, Connolly's RED MILLS was introduced into UK and the USA. The Red Mills brand is sold in 40 countries around the world, and we continue to build on their reputation for converting fresh, natural ingredients into the most trusted feed for peak performance right around the world. The facility is located approximately 1km to the north of the village of Goresbridge. The site has an area of approximately 67,600 m<sup>2</sup> as seen in Drawing 1, attached.

#### ***D.1.1. Site Operations***

Under the Red Mills brand, the feed mill produces nutrition for a wide range of animals using advanced feed manufacturing technology and nutritional research, together with fully traceable ingredients, Red Mills offer high-quality, consistent and nutritious feeds to their customers. An overview of the feed mill process is outlined in Figure 1.

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Figure 1: Feed Mill Process Outline



### **D.1.2. Facility Emissions**

As part of the licence application a Baseline Assessment Screening was completed and based on the site activities and materials and products used on site a full Baseline Assessment was not considered necessary.

The main environmental emissions from the proposed facility will be air emissions from particulate dust from the mill and ancillary processes at the site. There are also potential noise emissions from the operation of the facility aeration fans and trucks delivering grain and feed material to and from the facility. The feed mill is a dry process so there will be no process related water emissions from the facility. Storm water from the facility roofs and yard surfaces are directed to the site surface water system where they pass through an oil/water separator system before discharge off site to the integrated constructed wetland system located to the east of the site and then to the Barrow River. Staff toilets and sinks are directed to the Klargester treatment system located to the southeast of the site. The waste water is treated in the system and is then passed through a polishing bed system prior to being discharged to a percolation area adjacent to the polishing filter. As part of the licence application a site condition report was completed (see Attachment 4.8 of application). The results of sampling at the Red Mills site found the following:

#### *D.1.2.1 Surface Water*

Red Mills complete regular monitoring of discharge from the Klargester treatment system (SW3) to assess water quality. The results of the most recent monitoring event are included in Attachment 7.1 of the licence application.

#### *D.1.2.2 Groundwater*

Red Mills completed groundwater monitoring at the on-site groundwater well as part of their on-going environmental management for the site and as part of the licence application. The following parameters were analysed in the groundwater sample collected at the Red Mills site in December 2017;

Conductivity	Turbidity	Zinc
pH	Calcium	Phosphorus
Nitrate	Magnesium	Lead
Ammonium	Sodium	Total Hardness
Nitrite	Potassium	Total Chlorine
Total Coliforms	Iron	Dissolved Solids
E.coli	Manganese	
Alkalinity	Copper	

The groundwater sample collected at the Red Mills site in December 2017 indicated that all parameters in drinking water from the on-site well, were less than the European Union (Drinking Water) Regulations, 2014. The laboratory report was included in Section 7 of the Licence Application.

#### D.1.2.2 Sewer

There is no connection to a foul sewer mains system from the site and sanitary and sink wastewater from the site welfare facilities (i.e., toilets and canteen) is currently discharged to an on-site Klargestert treatment system, polishing filter. There is no waste water from the feed mill process. The water treatment system has a fish tank for assessment of treated water prior to discharge and the water at the water discharge point from the fish tank and the stream that the treated water discharges to were sampled in April 2017 to assess water quality. The following parameters were analysed in the treated effluent discharge samples collected at the Red Mills site in 2017;

Chemical Oxygen Demand	Biochemical Oxygen Demand	Conductivity
Chloride	Copper	E.coli
Total Coliforms	Iron	Manganese
Ammonia	Nitrate	Oils, Fats & Greases

The surface water sample collected at the Red Mills site in April 2017 indicated that all chemical parameters in surface water from the treatment system were less than the European Communities Environmental Objectives (Surface Water) Regulations, 2009 or the 1989 Surface Water Regulations. The concentration of microbiological parameters were elevated in the sample results. The laboratory reports were included in Section 7 of the Licence Application.

#### D.1.2.3 Storm Water/Surface Water

All storm water from the Red Mills facility roofs and yard surfaces pass through the site oil/water separator system before discharging to the site integrated constructed wetlands (ICW) system located to the northeast of the site. The ICW is in place to provide further treatment of surface water surface from the site prior to discharge to the River Barrow. The storm water entering and leaving the ICW, as well as upstream and downstream samples from the River Barrow are currently collected to assess the potential impact of the site on the receiving surface water receptor. Surface water samples were collected in April 2017 to assess water quality. The following parameters were analysed in the storm water entering and leaving the ICW and the surface water in the River Barrow upstream and downstream of the ICW discharge.

Chemical Oxygen Demand	Biochemical Oxygen Demand	Conductivity
Chloride	Copper	E.coli
Total Coliforms	Iron	Manganese
Ammonia	Nitrate	Oils, Fats & Greases

#### D.1.2.4 Air Emissions

The main air emissions from the Red Mills site is particulate dust from the mill process and also emissions from the boiler system on-site. All mill process stacks have dust abatement systems installed (i.e., cyclones and/or filter socks) to reduce the emissions from the facility to the lowest level practicable. As part of the licence application process a number of mill process stacks and the site

boiler stack were monitored to assess potential emission impacts from the facility on air quality. Monitoring was completed at the following locations at the Red Mills site:

- Boiler
- Cubing – Press Line 2
- Extruder 4
- Flaker 2
- Flaker 1
- Mix 1 – Mixing & Blending
- Extruder 2

Flue gas emissions from the boiler stack at the Red Mills Feed Mill site were monitored for nitrous oxides, carbon monoxide, carbon dioxide and sulphur dioxide in January 2017. The monitoring results indicated concentrations that did not significantly impact air quality in the area. The results are outlined in the Table below.

**Boiler Emissions Results for Red Mills Site - 2017**

Parameter	Units	Results
Carbon Monoxide (CO)	mg/m <sup>3</sup>	2.12
Oxides of Nitrogen (NOx)	mg/m <sup>3</sup>	228.56
Sulphur Dioxide (SO <sub>2</sub> )	mg/m <sup>3</sup>	17.08
Oxygen (%)	% v/v	5.00

Particulate Matters

Particulate emissions were sampled from the flakers, cubers and extruder stacks at the Red Mills Feed Mill site were sampled in January 2017. The majority of results were less than or marginally greater than the ELV of 50 mg/m<sup>3</sup>. The results from the isokinetic particulate sampling programme completed in January 2017 at the Red Mills site are presented in the Table below.

**Red Mills Process Stack Particulate Sampling Results - 2017**

Process Location	Parameter	Units	Results
Cubing	Total Particulate	mg/m <sup>3</sup>	12.90
Extruder 4	Total Particulate	mg/m <sup>3</sup>	54.45
Flaker 2	Total Particulate	mg/m <sup>3</sup>	40.34
Flaker 1	Total Particulate	mg/m <sup>3</sup>	67.46
Mixing & Blending	Total Particulate	mg/m <sup>3</sup>	41.86
Extruder 2	Total Particulate	mg/m <sup>3</sup>	32.11

*D.1.2.5 Noise Emissions*

Noise emissions emanating from the Red Mills Feed Mill site are not envisioned to have an impact on sensitive receptors in the vicinity of the facility. Noise emission monitoring was carried out in January 2017 as part of the EPA Industrial Emissions Licence Application. Monitoring was completed at four



(4) boundary locations and no tonal or impulse noise component was recorded during the monitoring event. The results indicated no impact to noise sensitive receptors in the immediate vicinity of the Mill site. The results of the noise assessment completed at the Red mills site in January 2016 are presented in the Tables below.

**Noise Measurements at N1 at the Southwest Boundary of the Site**

Monitoring Location	Monitoring Period	Time	L <sub>Aeq</sub> (dBA)	L <sub>A10</sub> (dBA)	L <sub>A90</sub> (dBA)
N1	Daytime	10.45 – 11.15	63.3	63.1	47.8
		11.16 – 11.46	65.8	63.5	50.8
		11.47 - 12.17	63.3	64.8	51.1
	Evening	20.45 – 21.00	49.1	50.2	46.9
	Night time	23.15 – 23.30	45.3	46.4	44.0
		23.32 – 23.47	45.5	45.7	43.7

**Noise Measurements at N2 at the Northern Boundary of the Site**

Monitoring Location	Monitoring Period	Time	L <sub>Aeq</sub> (dBA)	L <sub>Amax</sub> (dBA)	L <sub>A10</sub> (dBA)	L <sub>A90</sub> (dBA)
N2	Daytime	12.35 – 13.05	60.1	78.7	60.9	57.8
		13.09 – 13.39	60.9	90.7	61.0	43.5
		13.39 – 14.09	53.6	77.7	53.9	43.4
	Evening	21.11 – 21.26	61.9	86.2	57.5	38.3
	Night time	01.02 - 01.17	42.9	68.0	44.5	40.3
		01.17 – 01.32	42.0	67.8	42.7	39.9

**Noise Measurements at N3 at the Northeast Boundary of the Site**

Monitoring Location	Monitoring Period	Time	L <sub>Aeq</sub> (dBA)	L <sub>Amax</sub> (dBA)	L <sub>A10</sub> (dBA)	L <sub>A90</sub> (dBA)
N3	Daytime	14.26 – 14.56	48.8	80.9	48.1	35.7
		14.58 – 15.28	52.4	75.4	50.2	35.1
		15.30 – 16.00	45.4	78.3	49.9	34.8
	Evening	21.30 – 21.45	43.1	71.4	45.8	31.8
	Night time	23.50 – 00.05	45.1	64.1	47.6	38.4
		00.07 – 00.22	45.6	61.8	47.7	38.2

### Noise Measurements at N4 at the Eastern Boundary of the Site

Monitoring Location	Monitoring Period	Time	L <sub>Aeq</sub> (dBA)	L <sub>Amax</sub> (dBA)	L <sub>A10</sub> (dBA)	L <sub>A90</sub> (dBA)
N4	Daytime	16.05 – 16.35	48.9	79.4	51.0	42.4
		16.36 – 17.06	58.3	86.0	56.5	42.9
		17.06 – 17.36	48.7	68.2	51.3	42.0
	Evening	21.49 – 22.04	47.6	73.0	48.3	45.4
	Night time	00.28 – 00.43	45.6	69.8	46.7	43.2
		00.44 – 00.59	46.3	68.8	47.9	43.5

#### D.1.3. Waste

The site process does not produce significant volumes of waste materials but the process is monitored to ensure that waste production is minimised where possible. Wastes are produced from areas such as the administration offices, stores, equipment maintenance and interceptor are recovered or recycled where possible by a licensed or permitted waste contractor. The oil interceptor on the surface water drainage system is routinely cleaned and the contents removed off-site for disposal at an appropriately licensed waste treatment/disposal facility.

#### Waste Types Produced at the Redmills Facility

European Waste Catalogue (EWC) Code	Description
20 03 01	Mixed Municipal Waste
15 01 01	Cardboard Packaging
15 01 06	Mixed Packaging
15 01 02	Mixed Plastic Film
15 01 02	Polypropylene Bags
15 01 01	Paper Packaging
15 01 03	Wooden Packaging
13 02 05	Waste Oil
13 05 07	Sludge from Oil Interceptor

### E. PREVENTATIVE MEASURES

There are a number of preventative and control measures in place at the Red Mills feed mill facility to mitigate against potential pollution impacts from the facility. The main emissions from the facility that could impact the environment are considered to be surface water, air and noise.

#### Measures to Comply With Environmental Quality Standards

The Red Mills site will continue the site management to identify and target areas of potential improvement to reduce environmental impacts as far as possible. The completion of on-going monitoring as part of the IE licence and the operation of existing (e.g., ICW for further treatment of surface water emissions and use of cyclones on emission stacks) control measures will provide measures to allow the facility to comply with environmental quality standards.

## **E.1. Surface Water**

The Red Mills site has a Surface Water Management Plan in place to manage potential spills or impacts to surface water quality in the vicinity of the site. The plan includes a number of preventative measures including cereal control, separation tank and gully inspections and maintenance and personnel training. The plan also includes an emergency response procedure for dealing with accidental spillages to surfaces that may impact surface water receptors. The development and use of the integrated constructed wetlands provides an additional mitigation measure for all surface water run-off from the site prior to discharge to receiving surface water receptors.

### *E.1.1 Surface Water Environmental Quality Standards*

Connolly Red Mills will endeavour to meet the environmental quality standards (EQS) for the potential parameters of concern that may be included with surface water runoff from the site. Analytical results will be compared to the applicable regulatory standards that are presently in place in Ireland and the European Union (EU) and are contained in the following Regulations:

- European Communities Environmental Objectives (Surface Water) Regulations, 2009 – S.I. No. 272 of 2009.
- European Communities Environmental Objectives (Surface Water)(Amendment) Regulations, 2015 – S.I. No. 386 of 2015

Where a parameter concentration limit is not included in the 2009 or 2015 Surface Water Regulations results will be compared to the following:

- Parameters of Water Quality - Interpretation and Standards, Environmental Protection Agency, 2001

To comply with environmental quality standards for surface water Connollys Red Mills have developed and implemented a surface water management plan. The plan outlines the emergency response procedure in the event of a site spill or leak that may impact surface water receptors. Storm water from the site roofs and yard surfaces are directed to on-site oil/water interceptor and then to a dedicated ICW system for final polishing prior to discharge to the River Barrow. The control measures in place at the site will help ensure that surface water discharges from the site meet the applicable environmental quality standards (EQS).

## **E.2 Air**

One main potential emission from the Red Mills site will be associated with particulate dust from the mill process and ancillary processes (e.g., seed shed). The air emissions stacks from the facility are all fitted with cyclone and/or filter sock abatement systems to minimise particulate emissions from the facility.

The exhaust system and the abatement measures on each are included in an on-going maintenance programme to ensure that they are operating to the manufacturers specifications. The particulate concentrations from the feed mill and ancillary buildings will be monitored to ensure that they meet regulatory compliance concentrations.

### *E.1.2 Air Emissions Environmental Quality Standards*

Connolly Red Mills will endeavour to meet the environmental quality standards (EQS) for particulate emissions from their facility that could impact sensitive receptors in the area. Analytical results will be

compared to the applicable regulatory standards that are presently in place in Ireland and the European Union (EU) and are contained in the following Regulations:

It is proposed that the emission limit values associated with the feed mill total particulate stack emissions will be similar to those set for facilities completing similar processes (i.e., 50 mg/m<sup>3</sup>).

### **E.3 Noise**

The current operations are not considered to be having an impact on the surrounding area or on noise sensitive receptors. However, to ensure that this remains the case a number of controls and preventative measures will be put in place to ensure minimal noise nuisance at the site. The proposed measures are outlined below:

- truck movements will be spread over the whole day to ensure that the noise impacts to noise sensitive receptors are spread over the working day.
- All machinery at the Red Mills facility have frequent maintenance carried out to ensure that the machinery is operating optimally and not emitting at a high noise output.
- It will be advised by Red Mills that the trucks arriving and leaving the facility avoid using air brakes to reduce the potential noise emitted from their movements
- During operational activities occurring at the facility, doors at the plant will be closed to ensure that no unnecessary noise emissions occur

#### *E.3.1 Noise Environmental Quality Standards*

Noise monitoring results will be assessed against the limits outlined in section 4.3 of the “Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4), EPA 2016”.

The IE licence will be for the continued operation of the existing feed mill facility. The process operation will require the use of the same operations and process equipment that is currently in use at the site. As is the case with the existing facility, there will be limited noise generated during the operational phase of the proposed development that could impact the closest noise sensitive receptors in the vicinity of the feed mill facility.

### **E.4 Groundwater**

According to the GSI the groundwater vulnerability at the site has been designated as high and the aquifer is classified as a “Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones”. However, the site is not located in any groundwater protection zones. Red Mills have completed groundwater monitoring at their on-site well and the results indicated that the groundwater sample results were compliant with the 2010 Groundwater Regulation limits and EPA guideline values.

The measures in place on site to comply with Council Directive 80/68/EEC and 2006/118/EC in relation to the protection of groundwater are outlined below;

- All yard areas are concrete paved which prevents ingress of surface water to underlying soils and groundwater receptors.
- All potentially polluting substances are appropriately stored in secondary containment (e.g., bunds or double skinned tanks).

- All surface water from the site is directed to the surface water collection system and not allowed to flow to unpaved ground, the surface water is then directed to the site interceptor system and to the ICW.

The regulatory standards that will be used to assess groundwater water quality reflect relevant standards that are presently in place in Ireland and the European Union (EU) and are contained in the following Regulations:

- European Communities Environmental Objectives (Groundwater) Regulations, 2010 – S.I. No. 9 of 2010
- European Communities Environmental Objectives (Groundwater) (Amendment) Regulations, 2016 – S.I. No. 366 of 2016

Where regulatory standards do not exist for a particular chemical parameter the analysis results will be compared to EPA guidelines to assess the sample quality. The guidelines used for comparison when regulatory standards could not be applied included:

- Towards Setting Guideline Values for the Protection of Groundwater in Ireland - Interim Report, Environmental Protection Agency, 2003.

#### **F. ENVIRONMENTAL EMISSIONS MONITORING**

Environmental monitoring would be completed as required under the schedules of the Industrial Emissions Licence issued by the EPA. It would be intended that monitoring would be completed as set out below:

- Annual Air Emissions Sampling from Process Stacks
- Quarterly surface water sampling at the site ICW and receiving River Barrow
- Annual groundwater sampling from on-site well
- Annual noise monitoring at site boundary

#### **G. SITE OPERATION CESSATION**

The Red Mills feed mill site does not yet have a closure plan in place but one will be developed as part of the Industrial emissions Licence requirements. In the case of the Red Mills site there is no landfill or historical large heavy industrial activity on site, and no groundwater or soil contamination has been recorded on the site since commencement of operations. If the facility was to cease operations it would be considered that the controls currently in place on the site and the available monitoring data for the facility would demonstrate that there are no outstanding environmental issues associated with the site and that a clean closure could be achieved. This will be assessed further as part of the Industrial Emissions Licence conditions.

#### **H. TRANSBOUNDARY IMPACTS**

Due to the limited nature of the facility it is not considered that the operation will have any impacts over long distances or outside Ireland

# Drawing 1

## Red Mills Site and Site Boundary

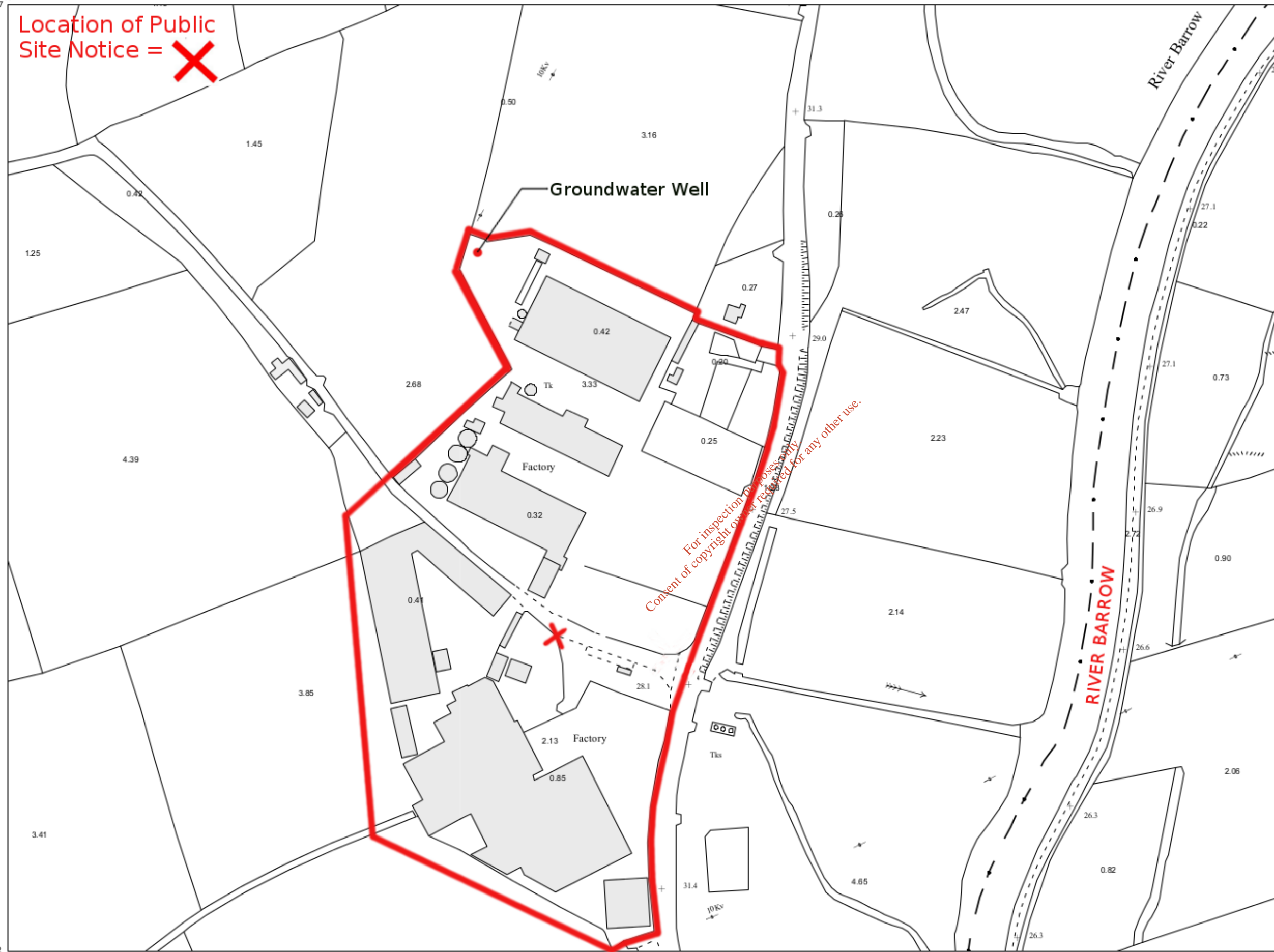
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Surveyed 1999-2000  
Revised 2015-2016  
Levelled

# Rural PLACE Map



Location of Public  
Site Notice = **X**



### ITM CENTRE PT. COORDS

668057,654450

### DESCRIPTION

### MAP SHEETS

1:2500  
4771-C

Digital Map  
4771 4770



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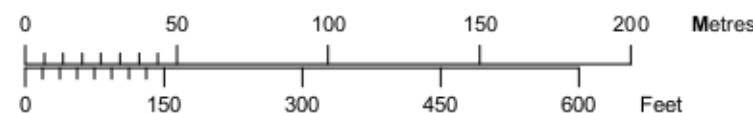
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Ní thaispeánann léarscáil de chuid Ordanáis Shuirbhéireacht na hÉireann teorann pointí deathúil de mhaoin riamh, ná úinéireacht de ghnéithe fhisiciúla. Ordnance Survey maps never show legal property boundaries, nor do they show ownership of physical features.

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