

# PADRAIG THORNTON WASTE DISPOSAL LTD

## THORNTONS RECYCLING CENTRE

Waste Licence Reg. No W0044-02



## ANNUAL ENVIRONMENTAL REPORT 2017

SUBMITTED January 2018

*Prepared By:*

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## 1 INTRODUCTION

This report is the Annual Environmental Report for Thorntons Recycling Centre, Killeen Road, Dublin 10. It has been prepared in compliance with Condition 11.5 of the Waste Licence (Licence Reg. No. W0044-02).

This licence was granted by the Environmental Protection Agency (EPA) to Padraig Thornton Waste Disposal Ltd (PTWDL) on the 2<sup>nd</sup> May 2003. The contents of this report are as required by Schedule F of Waste Licence W0044-02.

### 1.1 OPERATOR

The facility operator of licence number W0044-02 is Padraig Thornton Waste Disposal Ltd (PTWDL), T/A Thorntons Recycling. This AER relates to Thorntons Recycling Centre, Killeen Road, Dublin 10.

The address and contact details for the company headquarters are;

Thorntons Recycling,  
Unit S3B Henry Road,  
Park West Business Park,  
Dublin 12.

**Telephone:** 01- 623 5133

**Fax:** 01- 623 5131

### 1.2 REPORTING PERIOD

The reporting period for this Annual Environment Report (AER) is 12 months between the 01/01/17 and the 31/12/17.

## 2 FACILITY ACTIVITIES

### 2.1 WASTE ACTIVITIES CARRIED OUT AT THE FACILITY

Part 1 of the current Waste Licence W0044-02 lists those activities contained in the Third and the Fourth Schedule of the Waste Management Act 1996, which are licensed to be carried out at Thorntons Recycling Centre, Killeen Road, Dublin 10. These activities are as follows:

#### *Third Schedule*

*Third Schedule, Class 11:* Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule

*Third Schedule, Class 12:* Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule

*Third Schedule, Class 13:* Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned was produced.

#### ***Fourth Schedule***

*Fourth Schedule, Class 2:* Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes)

*Fourth Schedule, Class 3:* Recycling or reclamation of metals and metal compounds

*Fourth Schedule, Class 4:* Recycling or reclamation of other inorganic materials

*Fourth Schedule, Class 8:* Oil re-refining or other re-reuses of oil:

*Fourth Schedule, Class 9:* Use of any waste principally as a fuel or other means to generate energy:

*Fourth Schedule, Class 11:* Use of waste obtained from any activity referred to in a preceding paragraph of the Schedule:

*Fourth Schedule, Class 13:* Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced:

## **2.2 OPERATION PROCESSES - WASTE ACTIVITIES AT THE FACILITY**

The following section details the operational procedure for dealing with each particular waste type which enters Thorntons Recycling Centre. (Appendix 1 displays location of each building where processes are carried out).

### **Process - SRF**

#### **Building Number 1**

Building 1 contains the inclined feed conveyor for mixing the SRF suitable residual waste from both the dry recycling MRF (Park West) and the CID skip line (building 2&5, Killeen road) with the SRF suitable residual waste from the MSW line (building 3). Once all materials are shredded inside building 3 the resultant SRF material is conveyed via covered conveyors into Building 1, where it passes under a magnet to remove any remaining metals. The material passes through an Eddie current to remove any nonferrous metals before it is conveyed to a stock pile awaiting consignment.

## **Process - Household and Commercial Municipal Waste Building Number – 3**

All Municipal Solid Waste (MSW) waste is accepted using our waste acceptance procedure, weighed on our weigh bridge and recorded in our automated computer system (WIMS). All putrescible and odorous MSW waste is tipped inside Building 3 and inspected for any non-conforming waste material by the Fuchs operator. The presence of such items is handled using procedure EP04, "Handling unacceptable wastes". Oversize materials such as mattresses and large steel are mechanically picked out by the Fuchs machine and stockpiled for recycling.

Once material is accepted as suitable for processing it is loaded using the Fuchs machine into the M&J 2000. Here the MSW is passed through a waste reducer, which opens any bags and tears larger items. The material, once small enough passes out the bottom of the M&J and is brought up an incline conveyor into the waste screener. The holes in the screener allow the fines and small organic material to fall out on to a conveyor belt underneath. These organic fines are passed over a magnet, which removes small pieces of metal and are discharged into a separate bay, where they are bulked for onward transport to a facility to be stabilized.

Larger materials are bounced down onto a separate conveyor belt. A magnet over the belt removes off any large metal items before the MSW material is conveyed to a processing line. The MSW is passed into a Nihot separator. This separates the MSW by density. The light material mostly consists of paper and plastic is blown forward in the Nihot and is discharged onto a conveyor belt. Before the light MSW material falls to the elevated conveyor it is passed under a magnet which again removes metal. The light MSW falls on to the elevated conveyor and is brought into the top of either of two Linder shredders. The material is shredded to a particle size of less than 25mm. Once the material is less than 25mm it passes through the base of the Linder shredders on to a conveyor belt and is brought under a final magnet, to remove the last remaining pieces of metal and through the Eddie current to remove any remaining nonferrous metals before it is conveyed to a stock pile awaiting consignment to a facility where it is used as a source of energy in the production of cement.

The Nihot separates the heavy MSW from the light MSW (which goes on to become SRF). The heavy MSW is discharged from the back of the Nihot and is fed into a ballistic separator. The ballistic separator removes any remaining fines and discharges them into a bay, which is emptied daily and consigned for stabilisation. Any remaining paper or plastic is bounced along the ballistic separator and is discharged and mixed with the light MSW that goes on to become SRF. The 3-dimensional materials, such as bottles, cans, nappies, shoes etc. rolls back off the ballistic separator and are conveyed under a magnet to remove the metal. The MSW then passes through an Eddie current, which removes the aluminium cans and the remaining material falls into a bay to be bulked and loaded into artic trailers and consigned to landfill or for incineration.

**Process – Compostable Waste (Brown Bin, Source segregated and green waste).  
Building Number – 3**

Thorntons Recycling accepts and collects source segregated compostable waste from third parties, domestic and commercial customers. This material is tipped in Building 3 in a designated bay and is stored separately from normal household and commercial municipal waste. Waste is inspected on tipping and bulky material is removed by a grab as non-conforming waste for processing as MSW. Suitable compostable waste is reloaded daily into artic trailers using a loading shovel, for further processing in Thorntons Recycling composting facility, Kilmainhamwood, Co Meath, waste licence W0195-02.

**Process - Mixed Unsegregated Commercial/Industrial Municipal waste (CI) and Mixed Unsegregated Household waste/ Skip Waste  
Building 2 and 5**

All skip waste is accepted at the facility as per the waste acceptance procedure and is weighed at our weigh bridge and recorded on our waste recording software system (WIMS). All skip waste is tipped in Building 2 and inspected for any non-conforming waste material, the presence of such items is handled using procedure EP04 “Handling unacceptable wastes”. All skip waste is fed into the M & J waste reducer where it is broken into smaller particles and fed into a slot conveyor and in turn into the long objector remover. This equipment through its action can remove long pieces of metal or timber, which are then fed back into the waste reducer to break them up.

The remaining materials then pass through the first stage of the process under an over band magnet. The over band magnet removes ferrous metal which pass onto a metal conveyor into a picking station where contaminants such as small pieces of paper or plastic which have become tied up in the metals are manually removed. The trommel transfer conveyor then transports the remaining materials minus the ferrous metals through a trommel drum. The materials are turned in the trommel and the soil fines and small stones (<50mm in size) pass through the 50mm holes present in the trommel onto a trommel discharge conveyor which in turn passes through the back of building 2 into the construction and demolition processing area for further processing.

The remaining material is fed directly into the Nihot system. Within the Nihot system circulation fans 1 & 2 discharge jets of air to sort the material by weight. Drum 1 separates the stone from the rest of the materials which in turn joins the trommel discharge conveyor mentioned above and are passed through the back of building 2 to the C&D processing area. Drum 2 of the Nihot then removes the timber which in turn moves along to be further sorted. The remaining material after the stone and timber has been removed falls onto a light fraction conveyor under the Nihot and is conveyed to a compactor and loaded into an artic trailer. Once the artic trailer is full, it is disconnected and tipped into building 1 where it is loaded into the metering drum for shredding to make SRF.



Timber which is separated from the Nihot processing area is transported via a transfer conveyor through a picking station, where timber, wiring and copper are removed manually. The timber then passes into a ballistic separator where contaminants such as plastic and paper are removed. The plastic and paper is conveyed under a magnet and combined Eddie current to remove any small metallic and non-metallic objects before the paper and cardboard is conveyed to the compactor and loaded into an artic trailer. The remaining timber from the ballistic separator passes through a final picking station. The timber is manually picked and dropped into a bay. The contaminants fall into a separate bay and is taken into building 1 for further processing to separate out any suitable combustible material. The clean timber is transported to a wood chipping facility in Fassaroe for further processing.

## **Process – Construction and Demolition Waste (C&D) Building - 2**

Construction and Demolition waste is loaded into the M&J waste reducer as with the skip waste above. The soil and stones are segregated at the trommel and Nihot stages and the resultant materials pass along a conveyor in building 2 to the C&D processing area. The mixed material first passes through a 50mm trommel. Stone which is greater than 50mm in size will then pass on to a conveyor belt under an air blower and then through a picking line where contaminants are removed, before passing under a magnet to remove any ferrous metal. The clean stone product is stored in a purpose build storage shed in Yard 2/Josie's Yard, from where it is loaded and consigned to its end destination.

Stone less than 50mm, fines and soil enter a flip flop 8mm screen. Particles/soils which are less than 8mm fall through the screen and are stored underneath in a purpose-built storage bay. Small stone and remaining material which is greater than 8mm in size is conveyed into a Nihot single drum separator where debris/contamination such as polystyrene etc are removed by an air blower and fall into a storage bay beneath. All small stone which is greater than 8mm and less than 50mm are conveyed via several conveyors to the storage area of building 4 where it is stored and then loaded into trailers before being consigned to its end destination.

The process produces products such as small stone, clean rubble and ferrous metals, all of which are diverted from landfill void space. The fines which are removed from the C & D process are sent to landfill for use as daily cover.

### **2.3 WEIGHBRIDGE CALIBRATION**

Precia Molen carried out a calibration on both weighbridges on the 14<sup>th</sup> October 2017. Both weighbridges are due to be re tested on the 14<sup>th</sup> October 2018.

### 3 QUANTITY AND COMPOSITION OF WASTE RECEIVED, RECOVERED AND DISPOSED OF IN 2017

#### 3.1 WASTE HANDLED IN THORNTONS RECYCLING CENTRE

The quantities of waste received during the current AER reporting periods are summarised in *Table 1*

Year	Waste Tonnes in
2017	249,723.78

**Table 1 - Total Waste received 2017**

All waste is checked and documented at the weighbridge in accordance with our waste licence and our waste acceptance procedure. Waste is then inspected, segregated, processed and reloaded for either disposal at a licensed facility or bulked for delivery to an approved recycling or recovery facility for further processing. Should any non-conforming waste come to the attention of our staff it is either rejected before collection or segregated and quarantined to be disposed of by a licensed contractor, paperwork is maintained on site. Our Environmental Management System (EMS) which contains procedures, including our waste acceptance procedure, is certified to ISO 14001 standard; information in relation to our EMS can be located at any of the Thorntons Recycling offices.

All waste destinations used by Thorntons Recycling Centre in 2017 have been approved by the Environmental Protection Agency. A register of all EPA agreed facilities for recycling, recovery or disposal of waste is maintained on site.

#### 3.2 WASTE ACCEPTANCE

Below is a simplified diagram explaining our waste acceptance procedure at Thorntons Recycling Centre.

All new staff employed by the company in 2017 received an Environmental, Health and Safety Induction which includes licence training, waste acceptance procedures, emergency procedures and environmental awareness. All staff employed at the facility are diligent in assisting in eliminating the occurrence of non-conforming wastes.

Thorntons Recycling has a certified management system for Environmental (ISO14001), Quality (ISO 9001), Health and Safety (OHSAS18001). The Integrated Management System (IMS) is available for inspection on the IMS Drive at any of the companies' offices.

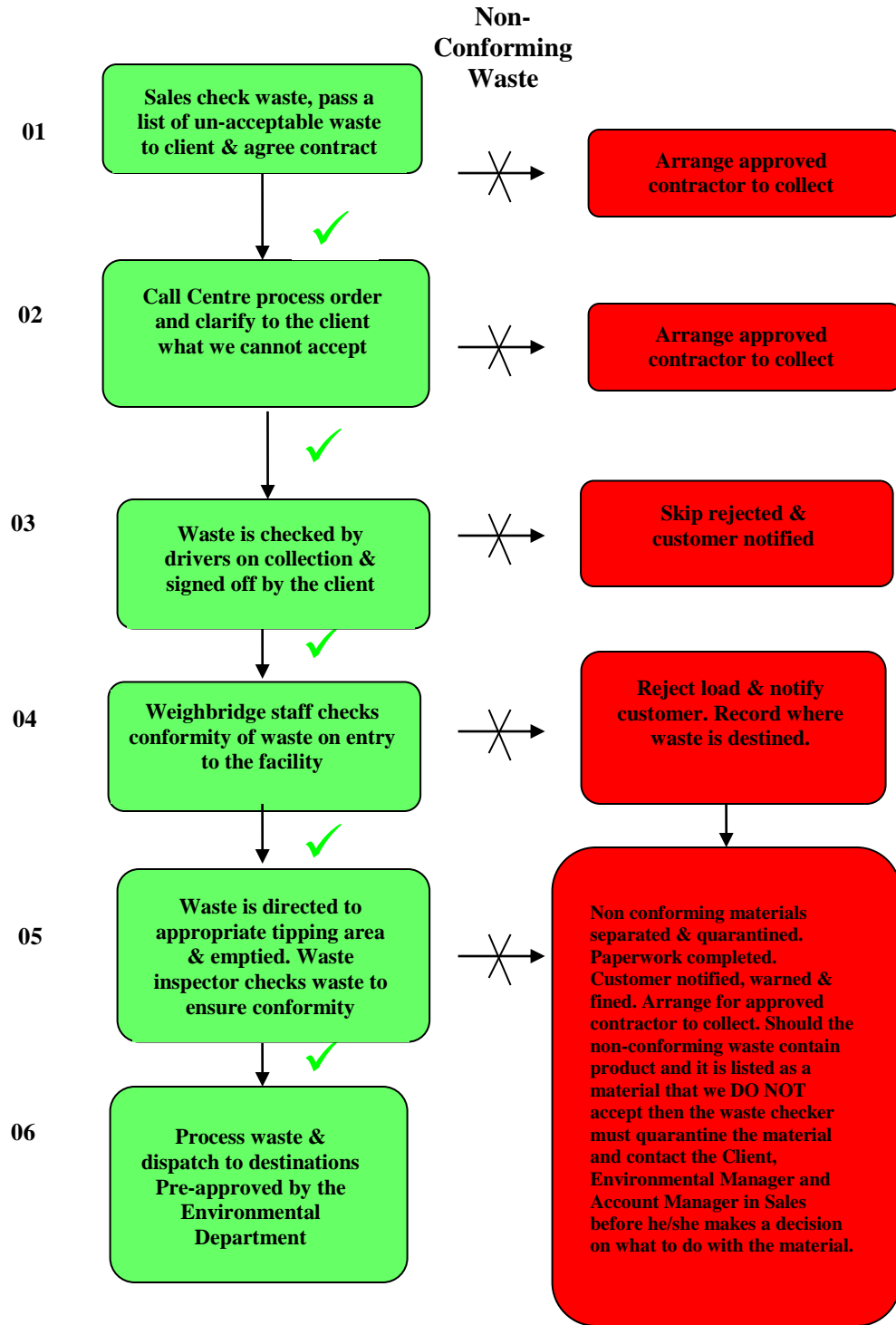


Figure 1 - Waste acceptance procedure

### 3.3 WASTE RECEIVED

A total of 249,723.78 tonnes of waste was received at the facility in the reporting period of 2017. Details of which are contained in Appendix 2 of this report. Figure 1 illustrates the trend in waste received at the facility between the periods 2001 to 2017.

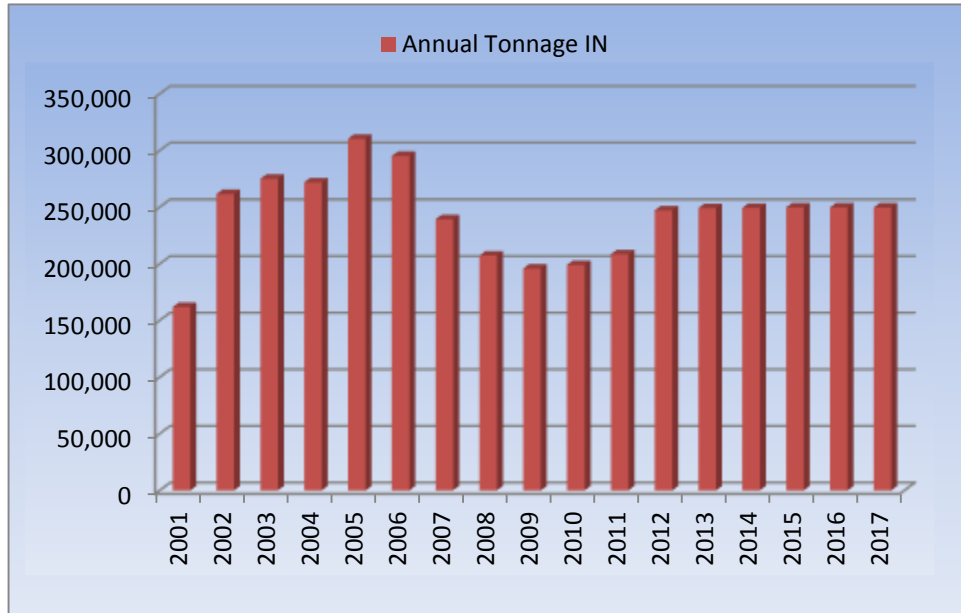


Figure 2 - Quantities of waste received at the facility (2001 – 2017)

### 3.4 WASTE CONSIGNED TO LANDFILL AND RECYCLING/RECOVERY FACILITIES

A total of 251,100.64 tonnes of waste was consigned from the facility in the reporting period of 2017. Details of which are contained in Appendix 3 of this report. Figure 2 illustrates the trend in waste consigned from the facility between the periods 2001 to 2017.

The overall recycling/recovery rate for the facility was 88.76% in 2017. The recycling rate has been largely consistent for the previous five years and this is an excellent achievement. The consistently high recycling rate is due to increased awareness, education and segregation of customer's wastes and the expansion of the SRF process to include the processing of MSW at the facility. This material is blended with the residual material from skip waste to produce a fuel that meets the specifications of cement kilns in Ireland. Thorntons Recycling supplies SRF to cement kilns that use this material as a substitute for coal which is a high carbon producer when burned. The use of SRF from a residual waste has enabled the cement kilns to lower their carbon footprint by using waste material as a fuel and reduce their reliance on imported fossil fuels as a raw material in the production of cement. The SRF was tested monthly to ensure that it met the acceptance criteria for the destinations. The production of the SRF has helped Thorntons reduce the quantity of material which would otherwise have been destined for landfill. A waste characterisation survey was carried out on the SRF by independent consultants in

2016 and it was found that 13.8% of this waste could be classified as packaging waste, which is now being recovered as part of the national packaging recovery targets and diverted from landfill.

Overall since 2003, the Killeen road facility has demonstrated a positive trend in diverting a high percentage of material away from landfill, through continuously improving and investing in Best Available Technology and sorting techniques. The recycling rate of waste has increased from 12.14% in 2003 to 88.76% in 2017, which is a massive increase and demonstrates Thorntons commitment to increasing recycling and diversion from landfill all of which contributes to the national recycling figures (Figure 3).

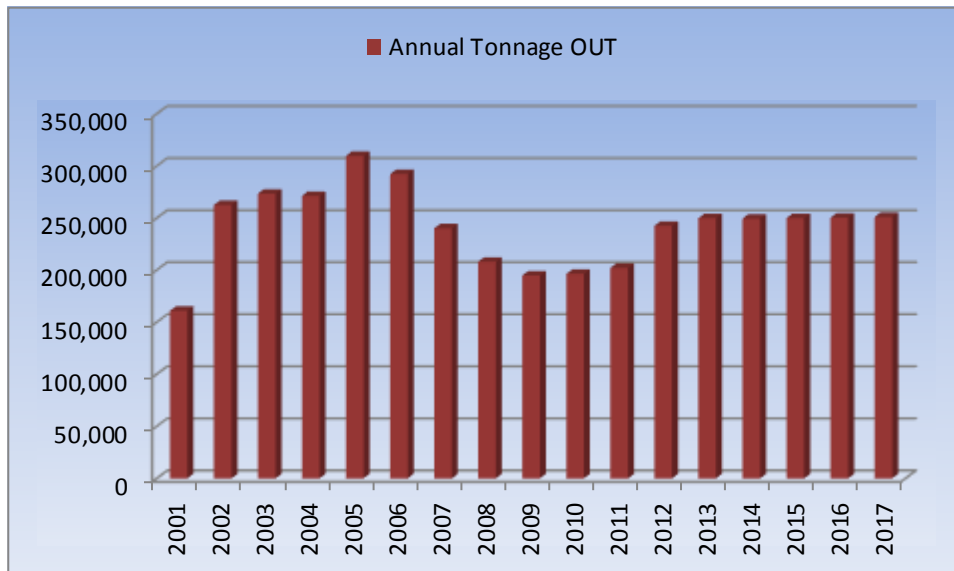


Figure 3 - Quantities of waste consigned from the facility (2001 - 2017)



Figure 4 - Recycling Rate trends (2003 - 2017)

The total quantity of waste recovered or recycled has increased steadily at the facility. Thorntons process, sort and segregate all skip waste and now MSW material at Thorntons Recycling Centre, Killeen Road, Dublin 10 and strive to improve process efficiencies on a continuous basis. The main materials which are currently being recovered from skip waste include wood, ferrous metals, non-ferrous metals, hard plastic, soils and stone, copper, wire cables and a solid recovered fuel (SRF), which is used as a substitute for coal in the cement manufacturing process in Ireland. The main materials which are currently recovered from the MSW are biodegradable organic fines, steel cans, aluminium cans and SRF, with the remaining residual waste going for disposal to a licensed landfill or for incineration.

It is hoped that Thorntons Recycling Centre will continue to increase its recycling and recovery rates in 2018 by;

- Continuing to work to International Standards ISO 14001 Environmental, ISO 9001 Quality and OHSAS 18001 Health and Safety with continuous development and improvement of new operational procedures and the implementation of new standards during 2018.
- Continuous training and education of staff at all levels on recyclable material types and the development of new outlets for new materials.
- Thorntons Recycling offers an integrated waste management service that encourages clients to opt for different types of bins for different waste types. The company also has a tanker service (TTS- Thorntons Tankering Services), confidential shredding service and composting / brown bin service which can be offered to all our customers.
- Our licensed composting facility Kilmainhamwood Compost is approved by the Department of Agriculture (Composting Approval Number COMP/6) and also approved in line with SI 612/2006 and EC 1774/2002. We will continue to reduce biodegradable material being sent to landfill by continuing to offer a three-bin service to all our customers.
- Thorntons Recycling continues to invest in the latest technology for confidential shredding with the purchase of another state of the art shredding vehicle with onboard CCTV camera system and developed a secure shredding facility which is permitted by Dublin City Council (WFP-DC-11-0023-02). The facility received certification to “Secure Destruction of Confidential Material” to international standard EN15713:2009 on the 13<sup>th</sup> August 2014.
- Continued education with new and existing clients on new regulations and their obligations in relation to the law. Thorntons Recycling offer educational workshops, site visits and staff training to existing customers.
- Continue to offer reduced rates to customers who segregate their waste, for example wood, metal, dry recyclables, glass, plasterboard and compost bins.
- Continually improve on services and our after sales service.
- Offer presentations and demonstrations on our client premises and schools.
- Awareness through the publishing of on line news, continuous development and updating of the website for Thorntons Recycling at [www.thorntons-recycling.ie](http://www.thorntons-recycling.ie)

- Thorntons Recycling won Pakman Recovery Operator of the Year Award 2008, 2011, 2012 and 2013 and was a finalist in 2009, 2010, 2014, 2015, 2016 and 2017.
- Thorntons Recycling won the Pakman Recovery Facility of the Year Award 2017.
- Thorntons Recycling was a finalist in the Pakman Kerbside Collection Scheme of the Year Award in 2012 & 2013 and won the Commercial Pakman collection award 2017.
- Thorntons Recycling won the Green Awards in 2013, 2015 and 2016 and was a finalist in 2012, 2014 and 2017.
- Thorntons Recycling entered the Dublin domestic market in 2010 and continues to increase our customer base by offering potential customers an efficient and effective three bin collection service.
- Thorntons Recycling entered the domestic market in Wicklow in 2012 and continues to expand its base and service offering there.
- Thorntons Recycling developed a Mixed Dry Recyclables (MDR) recycling facility (WFP-DC-10-0021-03) in Parkwest Business Park which produces a high quality of segregated recyclables. Thorntons Recycling invested in a third optical sorting machine in 2013 to further improve the quality of the output material and to increase the recycling rate. In 2014 Thorntons added new picking positions which enable us to segregate additional materials and achieve higher quality outputs.
- Thorntons Recycling commissioned an upgrade on the current odour abatement system. The upgrade includes abstracting air from building 1, increase the dust extraction capabilities and the installation of an additional carbon vessel. To improve efficiency the current fan is being replaced with two energy efficient fans. The aim of the project is to improve the treatment of air from the buildings to ensure no odour escapes the building. These works will be completed in early 2018.

## **4 CONTRIBUTION TO THE ACHIEVEMENT OF RECOVERY TARGETS**

### **4.1 Proposal for the contribution of the facility to the achievement of targets for the reduction of Biodegradable waste to landfill as specified in the landfill Directive**

Progressive targets have been set out in the Landfill Directive (1999/31/EC) to reduce the proportion of biodegradable municipal waste land filled. Biodegradable waste is waste that can undergo biological decomposition and is typically composed of food and garden waste, wood, paper, cardboard and textiles. By 16<sup>th</sup> July 2010 Ireland was restricted to land filling a maximum of 75% of the total weight of biodegradable municipal waste generated in 1995, the baseline year. This target is further reduced to 50% of the 1995 baseline by 16<sup>th</sup> July 2013 and 35% by 16<sup>th</sup> July 2016. According to the National Waste Report 2012, an estimated 589,260 tonnes of biodegradable municipal waste was sent to landfill in Ireland, this represents a BMW rate of 54%.

Thorntons Recycling own and operates an award-winning compost facility in Kilmainhamwood, County Meath which is approved by the Department of Agriculture (Composting Approval Number COMP/6) and approved in line with SI 612/2006 and EC 1774/2002. Thorntons Recycling Centre, Killeen Road, Dublin 10 has

been successfully contributing towards National Targets by using this facility as a destination and now offers all our commercial customers and our household customers the option of a brown bin for food waste/catering waste etc. The facility has developed its own segregated area for this material which is fully enclosed in an odour controlled building. Thorntons Recycling Killeen Road, accepted approximately 21,607.90 tonnes of Green Waste and Brown Bin Waste for composting in 2017 which after any contamination was removed the remaining material was bulked and sent for composting in Kilmainhamwood Compost, Waste Licence W0195-02. Thorntons Recycling Centre diverted approximately 8,842.66 tonnes in 2017 of biodegradable waste in the form of wood and 9,118.75 tonnes of organic fines from landfill during 2017 because of an increase in investment and technology to process MSW material. The facility has also diverted 11,302 tonnes of biodegradable paper, cardboard and wood from landfill, by producing SRF for cement kilns. In total 50,872 tonnes of biodegradable waste have been diverted from landfill by the facility in 2017. This represents a facility diversion rate of 67.1% of organic waste from landfill and demonstrates Thorntons Recycling ability to assist in meeting the national target for 2017.

#### **4.2 The separation of recyclable materials (paper, wood, plastic, inert materials) from the waste & the recovery of commercial waste, including cardboard, newspapers/magazines, aluminium and steel cans.**

Thorntons Recycling carry out many operational processes on different types of waste which allow for the separation of the above-mentioned materials. These are detailed in the following section.

Dry commercial, industrial and domestic skip waste which enters the facility are checked upon tipping and any large bulky items that can be recycled such as wooden furniture and metals are removed by a grab and are segregated into piles to be sent for further processing. The remaining material is then sent through a high specification plant, this consists of equipment such as a crusher, long object removers, ferrous metal remover, trommel, Nihot, ballistic separator, picking lines and a shredder, the working combination of which has resulted in a significant increase in recycling and recovery rates at the facility.

Dry recycling material is no longer processed on the Killeen Road site. Dry recycling is now processed in our facility in Parkwest Business Park. This facility operates under a waste facility permit from Dublin City Council.

Detailed quantities of material received and consigned from the facility are displayed in Appendix 2 and 3 of this report. Table 2 compares results submitted for Annual Environmental Reports from 2013 to 2017 for materials recycled at the site;



Total Materials Consigned	2013 Tonnes	2014 Tonnes	2015 Tonnes	2016 Tonnes	2017 Tonnes
Cardboard	0	0	57	13.4	34.74
Metals Packaging (Aluminium and Steel)	1040.62	747.86	545.06	460.50	866.52
Plastics (Bottles, Film and Hard)	123	102	199	147.64	172.66
Mixed Papers	0	0	1	0	0
Wood	12,002	11,624	11,316	8,799	8,843
Mixed Metals (Bulky)	5,501	6,999	7,834	8,677	8,535

**Table 2 - Comparison of recyclables consigned from facility (2013 - 2017)**

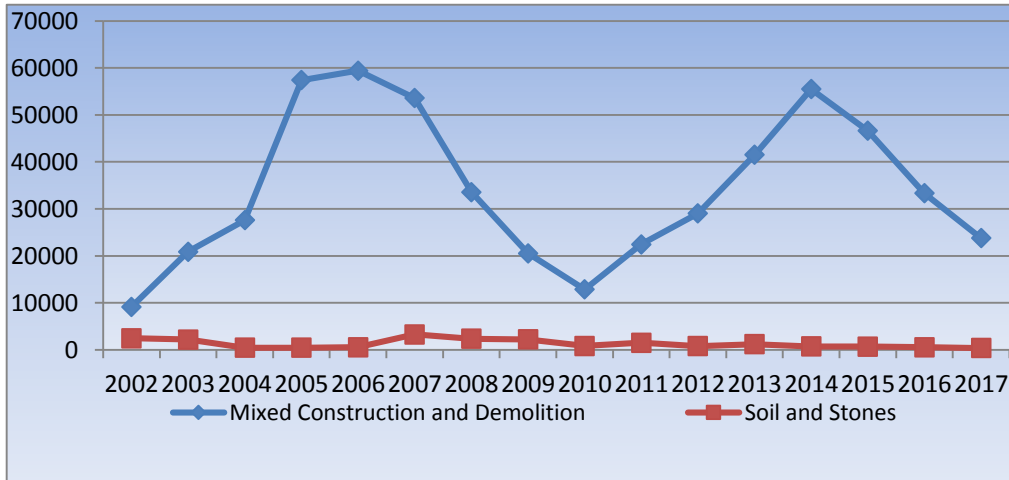
Metal Packaging (Aluminium and Steel) waste consigned from Thorntons Recycling Centre increased in 2017 on 2016's levels.

Since March 2003, producers of packaging are obliged to segregate for recovery specified packaging waste materials at source. Thorntons Recycling has a team of account managers who educate customers on the advantages and their legal obligations for segregating packaging waste.

As stated in the National Waste Report 2012 published by the Environmental Protection Agency, Ireland had a packaging recycling rate of 87% and well exceeded the directive target of 60%. Thorntons recycling has played a significant part in the packaging recovery rate. During 2016 Thorntons Recycling carried out a Pakman survey on the packaging content of the SRF which is used for energy generation in cement kilns. The survey carried out in 2016 found that 13.8% of the SRF is packaging waste or 13,330 tonnes. The production of such material on site attributes to further diversion of recyclable material from landfill

#### **4.3 THE RECOVERY OF CONSTRUCTION AND DEMOLITION WASTE**

Under National and European waste policies, Ireland was expected to recycle 85% of Construction and Demolition Waste by 2013. Mixed Construction and Demolition materials received at the facility had increased steadily between 2003 and 2006. However, 2007 to 2010 showed a decrease in the quantity of this material accepted from 60,214 tonnes in 2006 13,824 tonnes in 2010. Between the years 2011 and 2014 the volumes of C&D waste accepted on site for processing increased but decreased from 2015 to 2017 (47,337 tonnes in 2015 to 23,777 tonnes in 2017). Thorntons Recycling have utilised the Dunboyne Facility since the latter half of 2015 to divert some C&D materials and to enable us to accept more materials suitable for SRF production at the Killeen Road facility.



**Figure 5 - Recovery of C&D waste (2002 – 2017)**

Quite often construction and demolition material arrive at the facility as a mixture of soil, rubble and is somewhat contaminated with small pieces of plastic, polystyrene, metals, wood and other materials. These are removed during processing at Thorntons Recycling Centre and segregated into individual waste streams. If incoming skips are mixed with numerous different waste types, they are weighed in as mixed municipal waste. Waste which originated from construction or demolition sites is weighed in as Mixed C&D waste when the skip contains construction like material.

#### **4.4 THE RECOVERY OF METAL WASTE AND WHITE GOODS**

White goods arrive at the facility mixed in with skip waste. All white goods are picked from the waste and stored in skips before being transferred to a designated facility for Waste Electrical and Electronic Equipment (WEEE). All mixed metals are stored at the facility in designated skips and sent to approved destinations in Ireland where they are further segregated into different types i.e. Copper, Aluminium etc. Quantities of metals recycled can be noted in Table 2 above. Thornton's Recycling offers a reduced price to customers who segregate metal completely.

#### **4.5 CONVERSION OF WASTE VEGETABLE OIL INTO A BIO FUEL**

Thorntons Recycling Centre does not process waste vegetable oil into bio fuel on site and have no plans to do so in the near future.

#### **4.6 RECOVERY FACILITIES PROPOSED TO ACCEPT SHREDDED OR WHOLE TYRES**

Tyres normally arrive at the facility mixed in with other materials, for example in household skips. In 2017 these were segregated and stockpiled until a sufficient volume to warrant transport off site is achieved.

## 5 SUMMARY REPORT AND INTERPERTATIONS OF ENVIRONMENTAL MONITORING AND EMISSIONS DATA

In accordance with *Schedule D: Monitoring* of PTWDL waste licence W0044-02, monitoring of dust, noise, surface water and foul water must be carried out. Odour monitoring is also completed by an independent consultant bi annually. All monitoring has been completed as required for the reporting period of 2017. The following section details results obtained and interpretations of results for the year of 2017.

### 5.1 DUST

Annual Dust Monitoring was carried out at five locations D2, D3, D4, D5 and D7. Thorntons Recycling are required by Schedule D to monitor dust three times a year, results are displayed in Table 3 and Figure 6. The locations of each dust monitoring point are displayed in Figure 6.

Thorntons Recycling Centre is located in a predominately industrial area. Two busy roads i.e. the Killeen Road and Kylemore Park North form the western and northern site boundaries of the facility. Monitoring points D2 and D5 are located on these boundaries and as a result receive significant input from passing traffic and vehicles accessing Park West Industrial Estate and Ballyfermot.

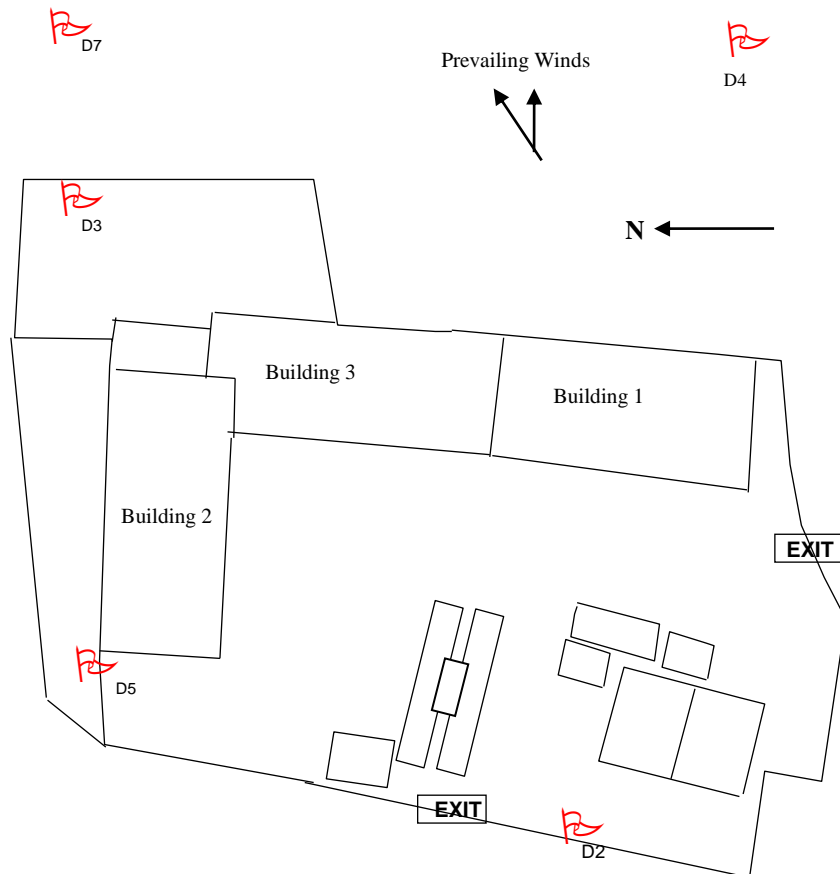


Figure 6 - Dust Monitoring Locations

Monitoring	Sample 1	Sample 2	Sample 3	ELV
Locations	Feb/March	June/July	July/August	mg/l
D2	146	140	138	350
D3	75	70	74	350
D4	82	78	75	350
D5	112	108	112	350
D7	139	130	133	350

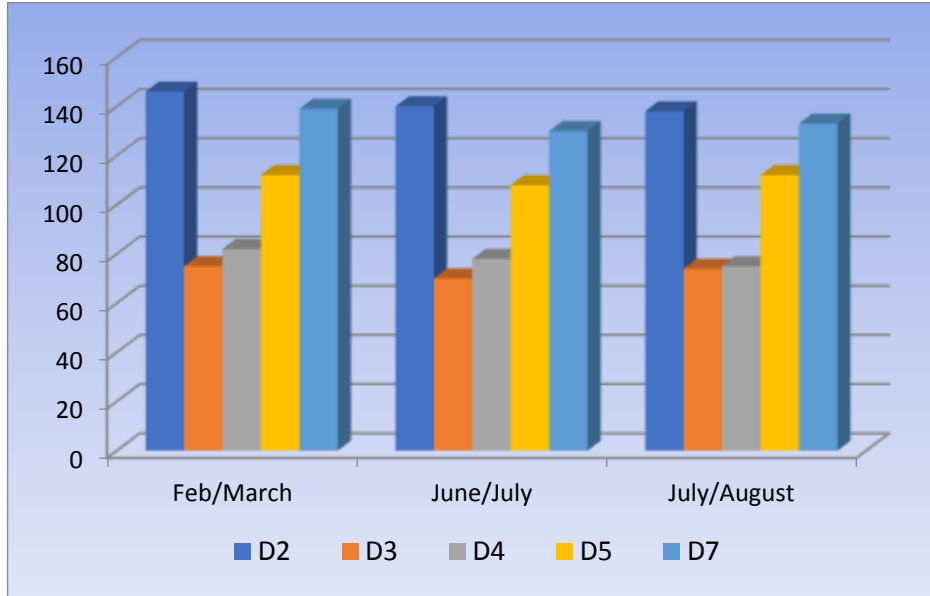
Table 3 - Dust results 2017

The emission limit value for dust deposition is 350mg/m<sup>2</sup>/day. During 2017 none of the dust emission levels exceeded the emission limits (Table 3). Figure 6 shows the trends in dust deposition during the year.

Thorntons Recycling will continue to monitor dust on a regular basis. Thorntons Recycling staff use power hoses to wet down yard surfaces at the facility during dry periods. Dust curtains have been fitted to entrances and exits of the buildings where dust is generated. During 2010 the roof cladding was extended over the corner of building 2 on the CID building. During 2011 dust curtains were fixed to the exit of building 5 to reduce the likelihood of dust escaping from the building during the drier months. During 2012 dust curtains were fixed around the exit at the SRF compactor to reduce dust emissions from building 1 and on the exit on building 3 to further reduce the likelihood of dust escaping from the buildings

A new mist air dust suppression system was erected in 2013 in Building 2. In 2013 an extended roofed area between building 3 and building 5 was erected. Upon completion, a dust curtain was erected in addition to a mist air system, to further militate against dust emissions. Dust curtains on site in 2015 were replaced where necessary. An air curtain was installed on the outer side of the automatic fast roller door on the exit from building 1 in 2016. This prevents both dust and odours escaping from this building. To further reduce dust emissions Thorntons Recycling also uses a road sweeper which is used at least twice daily in the facility. This is also used on the Killeen Road and Kylemore Park North to assist in reducing dust levels due to passing traffic and upwind contributors. An overhead misting unit was installed in 2016 to help further reduce dust on site.

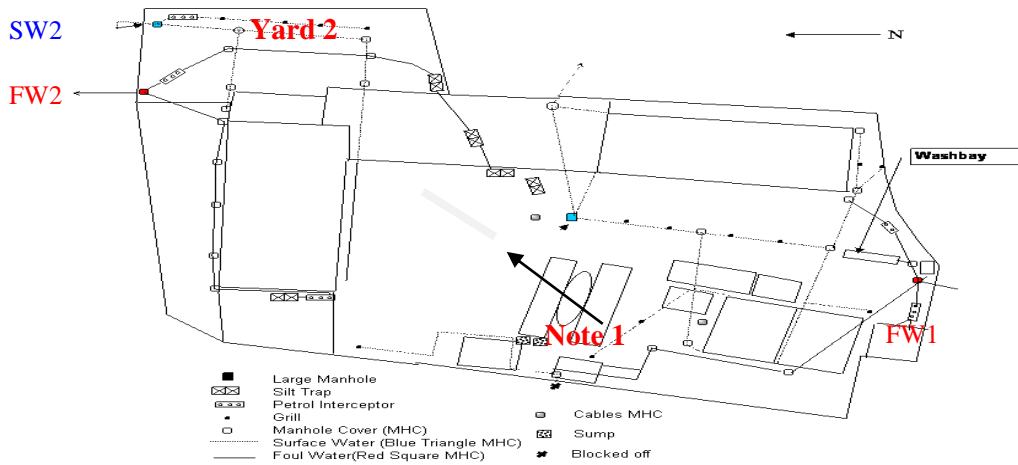
Thorntons recognises the importance of maintaining dust levels below the emission limit level of 350mg/m<sup>2</sup>/day and are fully committed to maintaining compliant emissions from the facility in 2018.



**Figure 7 - Dust Monitoring Results 2017**

## 5.2 EMISSION TO FOUL WATER AND SURFACE WATER

The monitoring points FW1 FW2 and SW1 are displayed in figure 7. Monitoring is carried out by Thorntons Recycling quarterly, as per the licence. Unannounced monitoring is also carried out by the EPA and Dublin City Council.



\*Note 1 - SW1 was made redundant in May 2007. The line now passes through the screener in Yard 2 and passes out through FW2.

**Figure 8 - Monitoring locations for sampling of Foul and Surface Water**

### 5.2.1 FOUL WATER

In accordance with Waste Licence W0044-02 Schedule D all emissions to sewer must be monitored. Emissions to sewer must be monitored on a quarterly basis. Quarterly reports have been forwarded to the EPA via EDEN during 2017. These reports detail results and interpretations of monitoring of both the surface water and foul drainage system at the facility.

#### EMISSIONS TO SEWER (Foul 1) F1

Table 4 Illustrates results received at FW1 monitoring locations for 2017. Quarterly reports have been forwarded to the EPA as detailed in section 5.2.1.

Monitoring	Quarter 1	Quarter 2	Quarter 3	Quarter 4	ELV
	Thorntons	Thorntons	Thorntons	Thorntons	
Parameters	31.01.17	07.04.17	13.07.17	23.10.17	mg/l
BOD	12	81	25	103	4000
COD	51	159	48	349	8000
Suspended Solids	13	32	14	177	1000
pH	7.30	7.80	6.90	8.00	6-10
Phosphate (as P)	0.67	4.16	0.62	2.07	50
Phosphate (as PO <sub>4</sub> -P)	2.05	4.84	1.89	14.70	50
Surfactants/Detergents	0.50	<0.2	<0.2	0.40	50
Fats, oil, grease	<1	9	4.00	28.00	100
Mineral Oil by GC (mg/l)	0.23	1.5	0.17	3.83	20
Temperature °C	11	13	18	-	

Table 4- Results of sampling from FW1 in 2017

## EMISSION TO SEWER (Foul 2) FW2

Samples were also taken from Foul Sewer 2 (FW2) and the results are detailed in Table 5. Quarter 2 reports have been forwarded to the EPA as detailed in section 5.2.1.

Monitoring	Quarter 1	Quarter 2	Quarter 3	Quarter 4	ELV
Parameters	31.01.17	07.04.17	13.07.17	23.10.17	mg/l
BOD	54.0	763	56	120	4000
COD	241.0	1233	170	277	8000
Suspended Solids	197.0	85	55	188	1000
pH	7.5	7.6	6.90	7.90	6-10
Phosphate (as P)	0.5	6.12	0.547	0.13	50
Phosphate (as PO <sub>4</sub> -P)	1.5	7.83	1.68	5.60	50
Surfactants/Detergents	0.8	<0.2	0.20	0.60	50
Fats, oil, grease	18.3	12.20	7.00	27.6	100
Mineral Oil by GC (mg/l)	1.8	1.69	0.96	5.28	20
Temperature °C	9	12	18	-	

Table 5 - Results of sampling from FW2 2017

Monitoring was carried out by the EPA on the 20.09.17 and the reported results showed that there was no exceedance of the emission limit values.

### 5.2.2 SURFACE WATER (SW2)

The monitoring point for surface water is displayed in figure 7 and the results for each sample are in Table 6. PTWDL re-designed the drainage system on site in 2007 to ensure compliance with waste license W0044-02 emission limit levels. SW2 is now the only surface water monitoring point which exists at the facility. This is located in Yard 2 (Josie's Yard) where there is little activity.

During 2017 there were no exceedances in the emission limit value. Thorntons recognises the importance of maintaining emissions limits within levels set down by the licence and will continue to do their utmost to ensure compliance with these levels. We will continue to carry out weekly inspections of the drains and ensure regular maintenance is carried out.

Monitoring	Quarter 1	Quarter 2	Quarter 3	Quarter 4	ELV
Parameters	13.02.17	07.04.17	13.07.17	24.11.17	
BOD	2	4	7	6	25mg/l
COD	15	14	33	20	mg/l
Suspended Solids	18	10	21	18	35mg/l
pH	7.8	7.8	7.6	7.3	6-10
Conductivity	2700.00	304	170	259	mS/cm
Fats, oil, grease	<1	<1	4.3	<1	mg/l
Mineral Oil by GC	<0.010	0.23	0.046	1.36	5mg/l
Temperature	13	15	21	14	

**Table 6 - Results of sampling from SW2 in 2017**

### 5.3 NOISE

In accordance with Condition 8 and Schedule D3 of waste licence W0044-02 annual environmental noise monitoring was carried out. Monitoring was carried out on the 11<sup>th</sup>, 12<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 21<sup>st</sup>, and 24<sup>th</sup> of July. Noise monitoring was undertaken by Fergal Brennan of Thorntons Recycling Environmental Department in compliance with Condition 8 of the licence (W0044-02). The results of the survey were submitted to the EPA via EDEN on the 16<sup>th</sup> August 2017.

Thorntons Recycling is not fully responsible for the elevated noise levels at the noise sensitive locations. The predominant noise source at these three locations, N7, N8 and N9, was from non-site related vehicular movements on the nearby roads. This is reiterated in the similarity between the LA<sub>eq</sub> readings and the LA<sub>10</sub> readings at these monitoring locations during the surveys and also by the near continuous traffic movements recorded.

There was audible noise from Thorntons Recycling, such as from Thorntons related traffic, and reverse alarms at these locations but one could only hear these noises when there was no traffic on the roads. Normal traffic noise was the significant noise source and was more audible than the operation of the recycling centre. Thorntons Recycling is in an industrial area and traffic is busy on these roads with heavy-duty vehicles contributing largely to the high LA<sub>eq</sub>, as well as some noises from other surrounding businesses that contributed to the noise result.

The LA<sub>90</sub> gives an accurate level of the noise for 90% of the monitoring period at the locations and largely excludes the effect of passing traffic, if traffic is not constant. Due to the near constant volume of traffic at all three locations the LA<sub>90</sub> was also above the 55dB limit. There was a very high number of traffic movements passing close by to the monitoring location.



The survey concludes that whilst the noise levels are exceeding the day time emission limit value, the daytime noise levels at the noise sensitive locations are not being negatively impacted upon by the activities of Thorntons Recycling and that the predominant noise sources originates from factors external to the operations of the recycling centre. From the results of the daytime noise monitoring we have concluded that Thorntons Recycling is in compliance with its waste licence (W0044-02).

The night time noise levels were exceeded at all three noise sensitive locations during the monitoring period. The main sources of noise at these locations were from passing traffic and external sources that are not related to Thorntons Recycling. While Thorntons' activities and the odour system do add to the noise at the noise sensitive locations N7, N8 and N9 it should be noted that traffic is still the major contributor to the noise levels recorded.

There are similarities between the  $LA_{eq}$  and the  $LA_{10}$  in all three of the noise sensitive locations, thus indicating that traffic is a large influencing factor at these locations. The  $LA_{90}$  value recorded for all three locations was reported to be above the emission limit value of 45dB.

Thorntons Recycling considers that, although the noise levels at the noise sensitive locations are exceeded, Thorntons Recycling is not the primary cause of the noise at the locations. Elevated noise readings can be attributed predominately to the high levels of un-associated traffic in the area and the presence of numerous other industrial businesses and residential units in the immediate vicinity all of which are not under the control of Thorntons Recycling. As a result, it is concluded that Thorntons Recycling is not having a negative effect on night-time noise at the three noise sensitive receptors.

Monitoring	11 <sup>th</sup> , 12 <sup>th</sup> , 13 <sup>th</sup> , 14 <sup>th</sup> , 21 <sup>st</sup> and 24 <sup>th</sup> of July			ELV (dB)
	Locations	LA, eq (dB)	LA 10 (dB)	
NP1	63.6	66	58.7	NA
NP2	65	68	59.5	NA
NP3	66.7	69.2	61.3	NA
NP4	69.4	69.4	57.9	NA
NP5	64.7	65	64	NA
NP6	70.6	65.8	62.2	NA
NP7	54.8	56.1	51	55
NP8	66.5	69.7	52.3	55
NP9	65.3	68.7	51.2	55
NP7 Night	55.6	57.5	50.9	45
NP8 Night	64.2	65.4	49.9	45
NP9 Night	67.3	71	58.3	45

Table 7 - Noise measurement results for Killeen Road annual monitoring 2017

#### 5.4 ODOUR

To assess efficiency of the odour abatement system Thorntons Recycling contracted an independent external consultant to carry out monitoring of the Odour treatment system in 2017. The annual test is scheduled when the carbon is due to be replaced during the warmer months of the year. This was to determine the most probable worst case odour treatment scenario.

The annual report was forwarded to the EPA, following the test which was carried out on the 22<sup>nd</sup> of August 2017 (44-2/17/EPA/FB/43). The report issued to the EPA shows that the system is working effectively, using olfactometry testing and dispersion modeling.

The activated carbon used in the air treatment system was also changed 3 times during 2017, on the 9<sup>th</sup> of March, on the 1<sup>st</sup> of June and the 24<sup>th</sup> of August.

## 6 RESOURCES AND ENERGY USAGE

The following section discusses resources such as electricity, fuel and water used at Thorntons Recycling Centre in 2017.

### 6.1 ELECTRICITY

Electricity consumption increased by 1.85% from 6,440,064KW in 2016 to 6,559,292KW in 2017.

An energy register of opportunities was created when the energy management system was created which details potential energy saving opportunities on site. The register allows for all the opportunities to be ranked by cost saving, carbon dioxide saving

potential, ease of implementation etc. The register will be reviewed as necessary and updated accordingly to ensure continual improvement in energy efficiency on site.

Figure 10 illustrates the monthly daily and nightly usage of electricity on site during 2017.

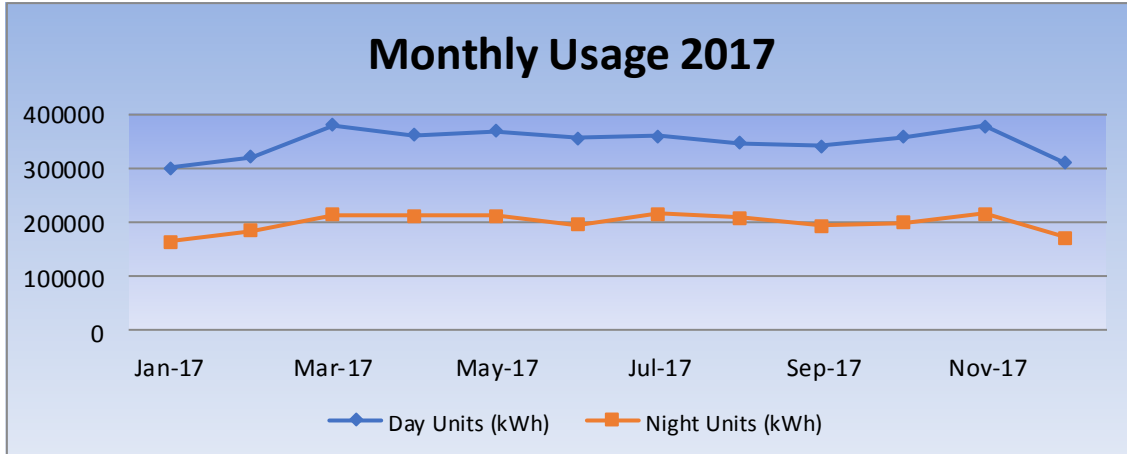


Figure 9 - Day and Night Electricity consumption 2017

## 6.2 WATER

In 2017 the facility used approximately 2,572m<sup>3</sup> of water compared to the 2,979m<sup>3</sup> in 2016. Water is used on site to dampen down dust during dry periods, wash the floor and hard standing area and to wash plant and vehicles. The use of water on site is necessary to assist with keeping the site clean and tidy.

## 6.3 DIESEL

The main types of fuel used at Thorntons Recycling Centre include road diesel and machinery diesel. The breakdown of fuel consumed is detailed in Figure 10 below. In 2017 a total of 262,025 litres of plant diesel were consumed. To reduce the volume of plant diesel, Thorntons has purchased two Liebherr grabs which has a smaller engine than the original Fuch machines and thus use less fuel per hour. These machines were purchased in late 2014. Several new bin lorries and skip lorries were purchased in 2015 and these lorries have higher fuel efficiency than older versions.

Invoices in relation to all Thorntons facilities are sent to the head office of the company at Thorntons Recycling, Unit S3B, Park West Business Park, Dublin 12. Every effort has been made to distinguish between individual facilities to ensure an accurate fuel consumption report for Thorntons Recycling Centre, waste licence W0044-02.

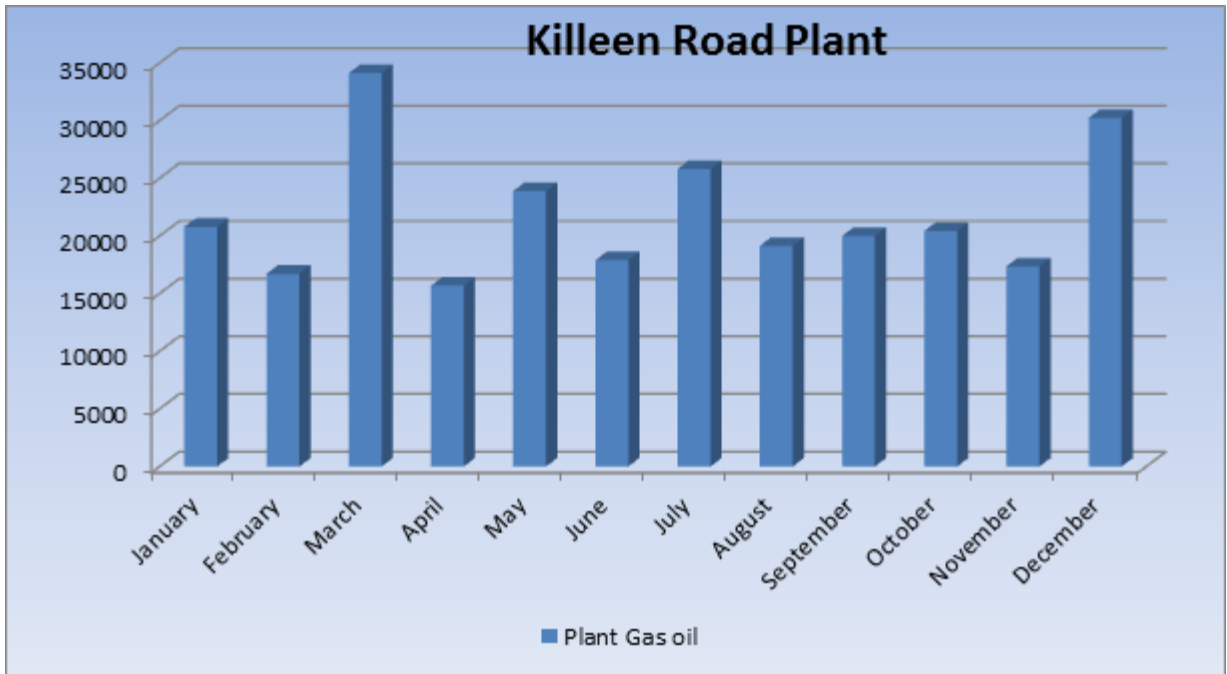


Figure 10 - Fuel Consumption 2017

## **7 DEVELOPMENT / INFRASTRUCTURAL WORKS**

### **7.1 SITE DEVELOPMENTS 2017**

The following summarises the main developments made at the facility in 2017;

#### **Buildings and Waste Processing Equipment**

- Works began to upgrade odour abatement system.
- New concrete was laid in front of bay 1 of building 2
- Drain repaired underneath building 3 shed

#### **Training**

- Staff training - ISO Training and auditing carried out
- Emergency Response Training – Fire drills and fire warden
- Tool box talks carried out
- Environmental, Health & Safety Induction training carried out for all new starters.

#### **ISO**

- Thorntons Recycling were successful in maintaining their company standards for ISO 14001 Environmental, ISO 9001 Quality and OHSAS 18001 Health and Safety. Audits were carried out by Certification Europe in June and December.

### **7.2 PROPOSED DEVELOPMENTS IN 2018**

In 2018 it is planned that two additional bays will be constructed in building 7, a bay for ‘Concrete, Bricks, Tiles and Ceramics’ (EWC 17 01 07) and another for ‘Soil & Stone’ (EWC 17 05 04). These two bays will be used for any segregated loads entering the facility. The upgrade works to the odour abatement system will be completed and commissioned in 2018.

Any developments are proposed with the intention of reducing environmental impacts of the facility, improving the appearance and increasing waste processing efficiency at Thorntons Recycling Centre. Thorntons Recycling main aim is to reduce as much waste as possible for landfill disposal in line with national policy and further increase recycling and recovery rates at the facility by:

- Continuous Development on company procedures in line with ISO certification
- Review environmental checks and procedures

Prior to any works being carried out the environmental department completes the environmental aspects for the project and identifies for operations and maintenance any environmental aspects to be considered during installation. This process is part of the

company ISO procedures but also allows us to mitigate against unforce events during the installation process.

Any planned infrastructural developments will be notified in advance to the EPA in compliance with the facility licence.

### **7.3 PLANT CAPACITY 2018**

A detailed report on plant operating capacity, provision of adequate standby capacity and provision of contingency, backup and spares in case of breakdown is contained in Appendix 4 of this report.

Without taking into consideration the spare plant and machinery available at other Thorntons sites the report concludes that it is apparent from the information supplied that Thorntons Recycling Centre has well above the sufficient capacity required to handle waste tonnages licensed to enter the facility.

Thorntons Recycling has employed a full-time maintenance manager who is responsible for ensuring there are adequate spare parts at the facility at all times. A maintenance workshop was developed off site in Park West Industrial Estate with a team of staff who can carry out repairs as needed.

An additional service bay and maintenance workshop has been maintained on site with one electrician and two maintenance men at Thorntons Recycling Centre. Plant is serviced and maintained during a night cleaning shift, which enables plant which is required during the day to operate at full capacity. Addition plant can be serviced on site during the day shift provided there is stand by capacity available.

## **8 SCHEDULE OF ENVIRONMENTAL OBJECTIVES AND TARGETS FOR 2018 AND PROGRESS REPORT FOR 2017**

Thorntons Recycling operates an Integrated Management System (IMS) which has been certified to a number of standards namely; ISO 14001 Environmental, OHSAS 18001 Health and Safety, ISO 9001 Quality.

The complete content of the IMS itself is too large to contain within the main body of this report, however the EPA can access this for inspection on a specially designated drive (X Drive or IMS Drive) at any of the companies' site offices.

A detailed report table on progress towards the achievement of the Environmental Objectives and Targets for 2017 is contained within Appendix 5 of this report. The schedule of environmental objectives and targets for 2018 has been included but may be amended and finalised after the management review in March 2018. This schedule will be available for the EPA to inspect during any of their site audits in 2018 at any of our facilities.

## **9 SUMMARY OF PROCEDURES DEVELOPED BY THE LICENSEE IN 2017**

As discussed previously with the EPA Thorntons Recycling have an IMS system to incorporate Environmental, Quality and Health and Safety and have achieved certification in ISO standards ISO 14001, ISO 9001 and OHSAS 18001. In 2017 the system was continuously developed and improved. The company was audited twice during the year by Certification Europe and all three certificates were maintained across the whole company including the Killeen road facility.

Due to the large content of the IMS system it is not possible to include it in the main body of this report, but it is available for inspection at Thorntons Recycling, Killeen Road, Dublin 10.

## **10 TANK, DRUM AND PIPELINE TEST**

### **10.1 TANK BUNDING**

Thorntons Recycling commissioned FTC consultants to complete testing on the main diesel bund. The main diesel bund passed its test on the 29<sup>th</sup> – 31<sup>st</sup> August 2017 and a certificate is maintained on site. The bund is not due for testing until August 2020. The C & I bund was decommissioned in early 2011 and the diesel tanks were removed. The bund is still in situ but is not used. The bund will remain in place as it is a concrete structure and will be tested if it is re-commissioned in the future.

### **10.3 PIPELINE TESTS**

The integrity and water tightness of all underground pipes and tanks and their resistance to penetration are carried out once every 3 years as per Condition 3.13.7 of the waste licence. Thorntons Tankers Services (TTS) completed a full CCTV drain survey at the facility during April 2016 on both the surface water drains and the foul water drains in both the main yard and in Yard 2 (Josies yard). These reports were submitted to the EPA separately in September 2016.

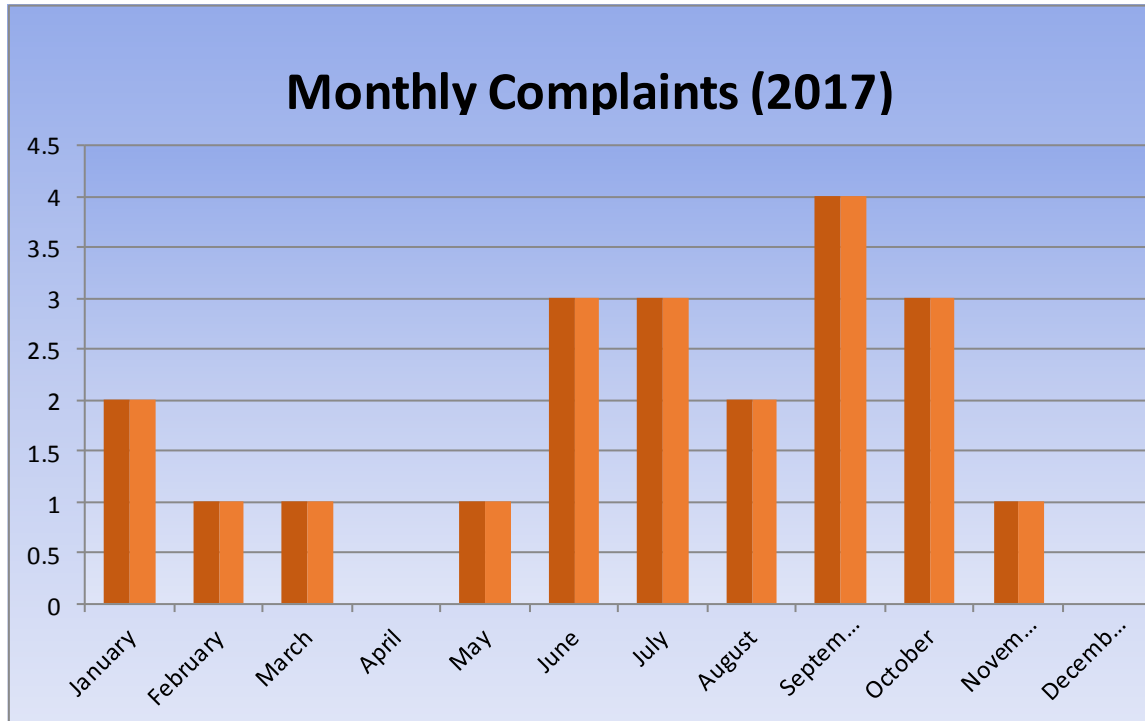
## **11 SUMMARY OF INCIDENTS AND COMPLAINTS**

### **11.1 INCIDENTS**

There were no incidents recorded during 2017 by the onsite monitoring. Thorntons will ensure that regular monitoring is carried out and will endeavour to maintain the emission levels with the licence limits.

## 11.2 COMPLAINTS

Complaints were reported either directly to the EPA or to Thorntons Recycling Centre during 2017. Figure 11 shows the breakdown of complaints by the month in 2017. There was a total of 21 complaints received during 2017 which was reduction of 45% on the previous year.



**Figure 11 - Break down of all complaints 2017**

Analysis of the complaints during 2017 shows that 21 complaints were received (19 in relation to odour and 2 in relation to noise). 19 complaints were received by the EPA and 2 were received on site. There were 4 named individual complainants in total. One individual complainant made up 43% of all the complaints.

The trend with complaints in 2017 was similar to that of 2016 and has been towards complaints being reported directly to the EPA and not to the site, which results in the site getting the information on some occasions the next day when the perceived odour has already ceased to be present. Thorntons staff has stressed the importance with complainants on informing the environmental staff when the odour is occurring so that we can investigate it in a timely manner. During 2017, 19 complaints were recorded as been unconfirmed when investigated. The complaints were typically received after the event was perceived to be occurring. There was 1 occasion in 2017 when an odour was noted off site and 1 occasion when noise was created following investigation. For these 2 complaints, the perceived sources were identified and once rectified the complainant was contacted to confirm that there was no continuous odour or noise. All complaints,



whether received on site or via the EPA are recorded and tracked as part of the complaints procedure.

The EPA carried out 19 odour assessments during 2017 and on only 1 occasion was an odour detected that was deemed to have originated from the Thornton's facility.

The activated carbon used in the air treatment system was changed 3 times throughout the year (on the 9<sup>th</sup> of March, on the 1<sup>st</sup> of June and the 24<sup>th</sup> of August) and is monitored daily so that maintenance staff can be notified in advance when the carbon is due to expire.

Thorntons Recycling is committed to not allowing odours off site. We believe that the odour abatement has been successful at the facility in 2017 despite the number of complaints. As discussed in section 5.4 an odour assessment by an independent body was carried out during 2017 on our odour treatment system which concluded that the odour generated at the facility is being managed effectively. The EPA also carried out 19 random odour inspections throughout the year and Thorntons were found not be causing nuisance odours in the surrounding areas for all but three of these reports and only in one case was the odour deemed to be a non-compliance. We are currently investing in additional odour abatement by extending our odour abatement system so that air from Building 1 will be treated.

Thorntons Recycling takes every complaint seriously and is committed to resolving all complaints to the facility. We feel that in 2017 we have done our utmost to be proactive in dealing with local complaints and we aim to continue this trend in 2018.

## **12 REVIEW OF NUISANCE CONTROL**

Potential generic nuisances at waste transfer and recycling facilities include dust, noise, odour, litter, birds, rodents, traffic. Thorntons do their utmost to control any nuisances which may occur at the facility. Checks on nuisances are carried out daily and corrective actions are carried out as required. A procedure in line with our IMS has been designed to ensure housekeeping is maintained in all areas and is carried out by supervisors (EP08 – Housekeeping Inspections).

In response to EPA suggestions the condition (size) of the stock piles in each shed is monitored and recorded each day as part of the daily environmental check list. Records are maintained on site in the environmental office.

### **12.1 DUST**

Thorntons is required to carry out dust monitoring three times per year. Results of the dust monitoring have been detailed in section 5.1 of this report. Thorntons Recycling staff use power hoses to wet down yard surfaces at the facility during dry periods, dust curtains have been fixed to entrances and exits of the buildings; a dust suppression system is in operation in Building 2 and a dust system RJP Pulse Plant has been installed since March 2006 to remove dust from the air extracted from Building 3. A road sweeper

twice daily on the Killeen road facility or more frequently if deemed necessary. The sweeper is also used on the Killeen Road and Kylemore Park North road to assist in reducing dust levels due to passing traffic and contributory factors. In 2013 a new mist air system was installed within the buildings on site to further reduce the potential of dust emissions and odour emission on site.

## **12.2 NOISE**

Noise monitoring surveys are conducted annually at the facility; see section 5.3 of this report.

## **12.3 ODOUR**

Tipping of potentially odorous waste and subsequent segregation and processing occurs within the sealed building 3 which assists in preventing odours from escaping beyond the facility boundary. Putrescible waste is removed from the facility within 48 hours. An Odour Abatement System was installed in March 2005 which uses carbon filtration to extract and treat the molecules that cause odorous air. Further works such as sealing all buildings with Polyurethane foam, the installation of an air curtain system and the installation of a pulse plant for dust extraction to improve operation efficiency of the odour treatment system were also carried out since this time. In 2011 a large previously open area of building 3 was closed off with a roller door and metal cladding. A roller door was installed on building 1 to further reduce emissions for the building escaping. In 2016 an air curtain was installed on the outside of this roller door to stop any fugitive emissions escaping when the roller door is up. In 2017, the carbon was changed three times to ensure a high odour removal rate from the odour system. In 2013 the mist air system was installed to further assist with reducing potential odour emissions.

## **12.3 LITTER**

Daily checks are carried out on litter within and around the site boundary. Any litter which may escape is cleared up as soon as is possible. All waste transportation vehicles are either enclosed or have a net which covers waste, preventing littering while waste is in transit. Thorntons Recycling contracts a road sweeper which sweeps inside and around the facility twice daily. Staff sweep and tidy picking areas throughout the day and night and daily housekeeping checks are carried out by supervisors in all areas with further checks being carried out by the environmental department daily. All housekeeping checks are maintained on file in the Environmental Department at Thorntons Recycling Centre.

## **12.4 BIRDS**

Constant moving machinery generally deters birds from causing any problems on site. The situation is being monitored and if necessary further action by the contracted pest control company will be arranged.

## **12.5 RODENTS**

Complete Pest Control conduct fortnightly checks of all bait points around the facility which effectively controls rodents at the facility, all documentation for site visits and reports are maintained on site.

## **12.6 FLIES**

Flies have not been a problem at the facility during 2017 and no preventative fly sprays were required. The presence of flies is checked as part of the daily environmental checks and if required additional action will be carried out by the contracted pest control company.

## **12.7 TRAFFIC**

Thorntons Recycling Centre is bordered to the West of the facility by the busy Killeen Road which has an access entrance into Park West Industrial Estate and is bordered to the North of the facility by Kylemore Park North, both locations receive a considerable amount of traffic.

## **13 FINANCIAL PROVISIONS, MANAGEMENT STRUCTURE, PROGRAMME FOR PUBLIC INFORMATION**

### ***FINANCIAL PROVISIONS***

Thorntons is insured by JLT (Appendix 6). PTWDL is insured for Employers Liability, Public/Products Liability and Motor Insurance. PTWDL is a financially secure company which is evident from the director's report and consolidated financial statements for the year ended 31<sup>st</sup> December 2016. Thorntons Recycling is insured under public liability for €13 million for sudden and accidental pollution incidents.

The company also have employed environmental management staff to ensure best practice guidelines and compliance with waste licence W0044-02 is being adhered to. A comprehensive emergency plan exists for all facilities operated by the company and the company has maintained certification to Environmental Standard ISO 14001 across all its sites in 2017. Environmental risk assessments are updated as part of the impact and aspects register for ISO14001. The Environmental Aspects Register (PM01-F02) for Thorntons Recycling, Killeen Road facility is available for inspection on site. All staff are trained in Health and Safety and Environmental Awareness at Thorntons Recycling Centre.

## ***PROGRAMME FOR PUBLIC INFORMATION***

Thorntons Recycling operates an open door policy at the facility and has carried out tours with students and businesses in 2017. The environmental team have been actively involved in carrying out recycling workshops and audits in schools, hospitals and industrial and commercial businesses as well as giving presentations to some of our larger commercial customers at their facilities.

All new and existing clients are brought through our waste acceptance procedures and are supplied with information by sales manager or customer care staff in relation to what waste types we can accept at the facility.

Thorntons Recycling has upgraded its website [www.thorntons-recycling.ie](http://www.thorntons-recycling.ie), so customers can access information such as waste collection permit numbers and facility waste licences under the compliance section etc. These permits and licences are updated regularly, and the web site is maintained with the most up to date information. The companies, on line skip service [www.skip.ie](http://www.skip.ie) provides our customers with services and information in relation to hiring a skip from Thorntons Recycling. All household customers now have a personal log in access to our website which enables them to view their waste activities including weights, collection dates and times etc.

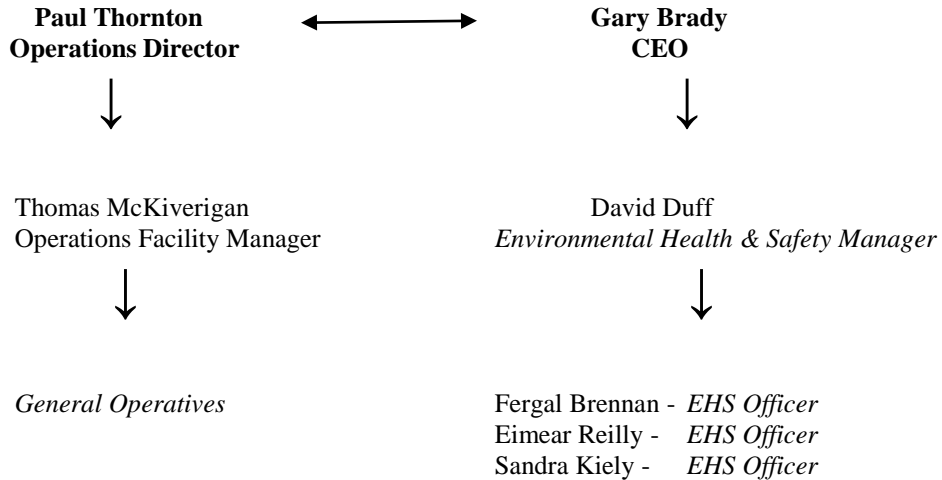
A news update section of our website is updated regularly with news about the company which enables customers and the public to keep up to date with Thorntons Recycling.

All information relating to activities carried out at Thorntons Recycling Centre is maintained on site. Public information is accessible at the site at all times or at the Office of Environmental Enforcement. Detailed Communications Procedures (PM04-Communications and EP01 – Communications Programme) has been implemented in our Integrated Management System and are used throughout the company.

The company recruited a Marketing Specialist in January 2017 to develop and implement its customer contact programme on social media and to improve its involvement in local community initiatives and supports

**MANAGEMENT STRUCTURE**

The graph below details the 2017 management structure relating to the Killeen Road site.



**14 FOUL WATER PRODUCTION AND VOLUME OF WATER TRANSPORTED OFF SITE**

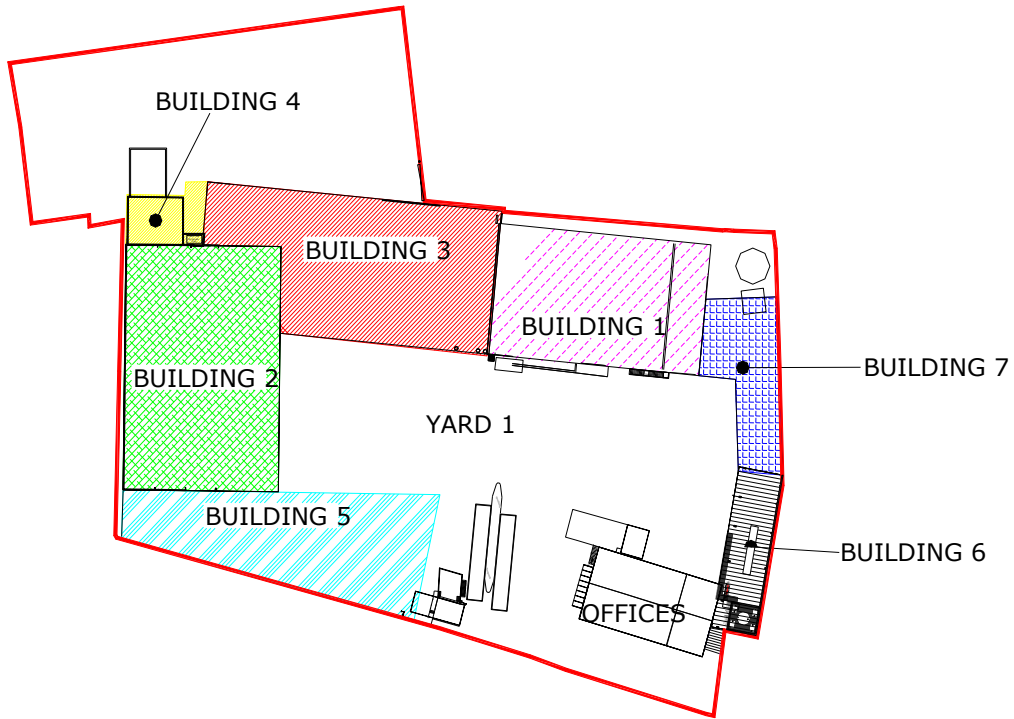
Thorntons Recycling Centre are limited under schedule C4 of waste licence to emit no more than 20m<sup>3</sup> per day to the sewer at emission point reference F2 which exits at the north of the facility at Kylemore Park North or 12m<sup>3</sup> per day to the sewer at emission point reference F1 which exits at the south of the facility to Kylemore Industrial Estate. A daily log is maintained on site.

Both foul meters located on F1 and F2 locations are checked during daily checks at the facility and zeroed at the end of the year. A total of 18,450 litres was discharged from F1 during 2017 and 512,227 litres from F2. Both are below the max permissible annual discharge for the reporting period. Thorntons Recycling Tankers Services is used for all onsite drainage maintenance and can be called in the event of an emergency if required. Approximately 43,200 litres of foul water or drain cleaning and maintenance was removed by tankers from the facility in 2017. Job tickets are kept in the drain maintenance file in the Environmental Department, Killeen Road, Dublin 10.

**15 RESTORATION AND AFTERCARE**

A closure restoration aftercare management plan (CRAMP) was prepared in 2014 which detailed and costed for the decommissioning or closure of the facility. The plan was submitted to the EPA and agreed. In compliance with condition 4.2.3 the plan is reviewed annually and costings are updated in line with costs agreed for the year ahead. There are no proposed amendments to the details of the decommissioning plan for 2018.

# Appendix 1



## Appendix 2

EWC Code	Materials Received	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total Year To Date
20 03 01	MMW In	4,114.41	4039.37	5435.37	4960.70	3901.99	3485.67	3613.60	3933.85	3522.81	3113.22	3237.49	3085.76	46444.24
20 03 07	Bulky MMW	5,769.87	6611.38	6920.99	6523.27	7378.63	7690.25	8603.98	7811.27	8010.82	7361.61	7657.92	4553.45	84893.44
19 12 10	Combustible waste suit SRF processing	1587.80	1894.64	2882.88	2619.25	4270.54	3484.49	3533.49	2448.40	2828.54	3491.18	4100.68	4096.58	37238.47
20 03 03	Street cleaning residues	1,290.68	1224.48	1546.59	1291.58	1734.72	2006.44	1744.30	1722.14	1355.90	1653.76	1771.50	1370.86	18712.95
19 12 12	Inert trommel Fines	173.86	163.96	154.58	132.66	231.78	155.40	180.58	126.30	185.20	259.74	374.52	222.44	2361.02
20 03 07	Mattresses						2.14			6.28	5.68	2.18	1.40	17.68
17 01 01	Concrete					9.72		43.34				14.06	6.56	73.68
17 09 04	Mixed C&D Waste	2250.30	1531.60	1578.64	2016.82	1711.09	1981.78	2635.42	2622.12	2263.52	2118.78	1776.10	1290.34	23776.51
17 05 04	Soil and Stones	28.88	56.78	77.74	10.62	7.50	6.42	74.32	33.66	3.44	27.62	17.36	11.38	355.72
02 01 06	Straw/ Animal Manure.				3.42				14.78	3.08	4.98		3.36	29.62
02 06 01	Bakers Waste	19.88	31.30	17.76	5.98	17.30	17.90	13.44	9.26	21.16	17.66	30.88	27.70	230.22
18 01 04	Non Infectious Healthcare Waste	693.92	670.80	762.60	686.84	708.04	665.52	679.24	673.22	669.87	698.62	655.19	677.88	8241.74
02 03 04	Tobacco	8.62	3.70	6.87	3.66	14.40	16.80	73.08	37.32	27.35	11.89	2.50	5.52	211.71
02 06 01	Unsuitable food for consumption						3.70							3.70
02 03 04	Unsuitable food waste					17.82		3.88		3.98	21.74			47.42
16 03 04	Products for Destruction inorganic		52.80	15.34	5.46	7.44	2.64	10.70	2.98	25.62		34.48	14.90	172.36
02 07 04	Unsuitable Alcohol and Liquid for Destruction	26.18	5.78		4.78			4.06		11.74			3.96	56.50
17 04 01	Metal, Copper, bronze, brass			0.14						0.20		0.16		0.50
15 01 04	Metallic Packaging Tin			2.98	2.18	4.62		2.42	4.24	2.68	3.42	5.04	2.58	30.16
15 01 06	Mixed Packaging (dry MMW)	4.58	5.52	4.76	5.88	6.28	5.98	4.62	5.04	5.64	5.76	4.86	5.04	63.96
20 01 01	Paper	0.42												0.42
19 12 02	Metal Mixed Ferrous	8.42	6.06	9.20	2.56	4.74	11.66	4.10	7.50		9.06	3.98	14.90	82.18
17 04 11	Metal Wiring Cable	0.18	1.58	1.52		1.36		0.22		0.18				5.04
17 04 07	Metal Mixed C & D		1.50	2.18	4.28		2.10	11.48		1.84	16.20	0.98	0.74	41.30
15 01 03	Wood Packaging	192.48	236.16	323.80	195.46	276.28	290.12	262.22	141.40	143.84	163.02	158.78	136.08	2519.64
19 12 07	Wood Processed Wood e.g. chipped	6.92	1.22	5.02	4.86	3.90		6.22	3.72			6.68		38.54
17 02 01	Wood C & D Waste Wood	94.38	99.54	123.68	124.10	123.52	136.56	101.00	103.76	65.04	129.98	156.04	56.34	1313.94
03 01 05	Wood Waste Manufacturing	24.48	10.00	6.28	14.06	19.56	9.04	13.12	12.02	10.62	10.58	24.64	11.90	166.30
20 01 38	Wood Municipal Waste	47.90	46.78	41.88	38.14	66.12	90.64	38.18	59.98	42.20	27.34	16.46	22.88	538.50
16 03 04	Plastic unused product			0.76							6.74			7.50
15 01 02	Mixed Plastic Film - Low Grade	8.96		10.54			8.28					9.46		37.24
15 01 02	Mixed Plastic PP packaging			0.50			2.38	0.86		2.72	4.88	5.20	7.14	23.68
15 01 02	Mixed PET Bottles						0.34							0.34
15 01 02	Mixed Plastic Polystyrene			0.78	0.42	2.62	3.06	1.28	0.10			2.12	1.34	11.72
20 01 39	Mixed Hard Plastics	20.36	24.60	25.78	20.36	11.99	9.08	14.48	4.38	9.34	43.16	14.22	5.34	203.09
20 01 40	Metallic Packaging Steel	2.70	3.38				4.14							10.22
19 12 04	Mixed Plastics Wrap - Low grade		7.48		6.22	21.31		10.60	5.28	7.82	8.44		8.82	75.97
19 12 05	Glass Packaging	0.92		2.24	2.66		2.46		1.86	2.92			3.40	16.46
20 01 02	Glass Other	3.10	1.82	6.00	1.28	2.18		3.22				1.76	2.46	21.82
20 01 08	Brown Bin/ Separately collected Food Run	1677.54	1960.37	2585.32	2515.31	2893.66	2202.36	1181.24	1239.01	1270.12	1213.94	1242.71	1122.98	21104.56
20 02 01	Green Waste	173.60	11.00	22.72	23.42	30.20	56.68	28.12	32.14	24.10	40.58	40.74	20.04	503.34
16 01 03	ELV Tyres									6.00	3.22			9.22
17 08 02	Gypsum Products/Plasterboard		1.44	1.58	0.18	1.50	7.94	0.64	3.04		0.98			17.30
19 09 01	Screenings Water Treatment	1.74		2.32	1.78		2.22		2.38		1.90			12.34
16 02 14	WEEE SDA Mixed	0.58								0.94				1.52
	<b>TOTAL</b>	<b>18233.66</b>	<b>18705.04</b>	<b>22579.34</b>	<b>21228.19</b>	<b>23480.81</b>	<b>22363.85</b>	<b>22897.79</b>	<b>21061.15</b>	<b>20535.51</b>	<b>20475.68</b>	<b>21368.69</b>	<b>16794.07</b>	<b>249723.78</b>

# Appendix 3

EWC Code	Materials Consigned	Jan	Feb	Mar	Apr	May	June	July	August	Sept	October	Nov	Dec	Total Year To Date
20 03 01	MMW (Bord na Mona Drehid Landfill)	181.52	224.24			107.38								513.14
20 03 01	MMW (Ballynagran Landfill)		83.90			24.24								108.14
20 03 01	MMW (Knockharley)		18.68	18.06										36.74
20 03 01	MMW (Covanta)				40.92				421.48	840.50	234.38	416.92	1251.40	3205.60
20 03 03	Street cleaning residues (Ballynagran Landfill)	363.28	19.20	97.88	157.80									638.16
20 03 03	Street cleaning residues (Knockharley)	96.28	107.22	239.64										443.14
20 03 03	Street cleaning residues (Bord na Mona Drehid)	3438.54	1681.46	1284.20	1729.26	1979.68	1435.30	2136.48	1856.14	2065.02	1557.04	2214.00	1788.94	23166.06
19 12 10	SRF (Lagan Cement )	611.90	1859.52	1793.60	1941.70	1688.96	2233.96	1965.86	2509.96	2186.78	1709.58	3351.96	2872.22	24726.00
19 12 10	SRF (Pacon)	897.54	508.64											1406.18
19 12 10	SRF (Quinn Cement)	111.56	719.88	1447.24			721.12	391.16	665.58	208.22	147.30	596.64	1135.08	6143.78
19 12 10	SRF (Midland/AES Navan)	23.26	279.62											302.88
19 12 10	SRF (Greyhound)						351.66							351.66
19 12 10	SRF (Irish Cement )	3367.75	3701.86	6121.08	7203.16	7307.72	5057.19	6238.06	4703.74	5065.58	6544.00	3950.40	4331.48	63592.02
19 12 10	SRF (Wilton)								46.30	27.90				74.20
19 12 12	Stone (Bord Na Mona Drehid Landfill)	487.56	1575.40	1324.90	515.90	1175.46		2704.84	2756.22	2857.48	1814.76	1360.68	1017.96	17591.16
19 12 12	Stone (Ballynagran)	178.22	213.48	190.08	280.08		1728.20							2590.06
19 12 12	Stone (Knockharley)	91.26	82.28	325.50	225.96	21.98								746.98
19 12 12	Stone (Tara Mines)	798.54												798.54
17 01 01	Concrete (Roadstone Slane)					156.66								156.66
17 05 04	Soil and Stone (Kiernan sand and gravel)		18.96											18.96
19 12 12	Organic Fines ( Bord Na Mona)	437.52	759.54	465.26	823.21	852.04		880.30	529.16	995.94	450.06	1135.30	517.38	7845.71
19 12 12	Organic Fines (Enrich Environmental )						620.00		44.50	200.66	407.88			1273.04
19 12 12	Trommel Fines (East Galway)		79.58	124.84	127.46	182.78	184.60	122.56	306.24	436.70				1564.76
19 12 12	Trommel Fines (Bord na Mona Droichead)	2777.47	3215.22	1675.46	670.42	4071.52	5064.96	5155.66	4908.16	4201.90	4231.06	4279.06	3525.11	43776.00
19 12 12	Trommel Fines (Knockharley)	567.80	47.82	89.82										705.44
19 12 12	Trommel Fines (Ballynagran)	778.94	962.94	1706.50	2902.22	251.50								6602.10
19 12 02	Ferrous Mixed Metals (Hammond Lane)	53.48	414.70		185.32	118.46	35.64	15.34	23.50	133.08	37.82	33.52	23.60	1074.46
19 12 02	Ferrous Mixed Metals (Multimetals)	506.48	160.70	745.00	441.46	615.88	705.32	709.12	675.56	542.22	561.00	682.44	529.82	6875.00
19 12 03	Non-ferrous metals (MDR)	10.10		11.44			24.08							45.62
19 12 03	Non-ferrous metals (Hammond Lane)	30.34	43.00	41.58	42.86	41.30	43.02	44.78	42.88	34.92	35.58			400.26
19 12 03	Non-ferrous metals (Multimetals)									3.94				3.94
19 12 03	Non-ferrous metals (Wilton)	11.28	13.06	24.86	13.06	9.92		6.76	15.06	11.20	10.82	11.24	8.32	135.58
17 01 01	Concrete (Walshestown Restoration Ltd)								243.42	199.18	129.70	518.22	290.38	1380.90
17 04 11	Metal cabling (Wilton Waste)	4.42	5.10	2.50	5.76	3.06	4.30	2.40	5.42	4.70	4.82	3.64	4.64	50.76
17 04 01	Copper and bronze (Multimetals)			3.24										3.24
17 04 01	Copper and bronze ( Wilton )	6.24	6.28	7.92	6.54	6.52	4.96	2.26	6.74	4.50	3.56	5.00	2.62	63.14
20 01 40	Stainless Steel Steel (Hammond Lane)					7.02								7.02
15 01 04	Metallic Packaging Tin (Wilton Waste)	40.84	26.32	39.22	27.54	65.38	41.34	44.42	41.52		27.04	79.40		433.02
15 01 04	Metallic Packaging Aluminium (MDR)	9.94		12.38		32.10		10.54	11.42	10.80	10.34	18.68	19.14	135.34
15 01 04	Metallic Packaging Aluminium (Hammond Lane)									0.38				0.38
15 01 04	Metallic Packaging Aluminium (Multimetals)										4.80	30.24	27.14	62.18
15 01 04	Metallic Packaging Aluminium (Wilton)			16.68				16.52		42.74		35.50		111.44
20 01 39	Hard Plastic (Cloughwater Plastics)								18.00	16.20	4.70	16.76	10.38	66.04
20 01 39	Hard Plastic (Leinster Environmental)	19.12	4.60				7.82							31.54
20 01 39	Hard Plastic (Envirogreen)	13.82	10.94	17.18	5.86	7.10	7.98	12.16						75.04
17 09 04	Mixed C&D (AES Lusk)							115.44						115.44
17 09 04	Mixed C&D (Midland)							67.30						67.30
20 01 08	Compostable Food Waste (Kilmainhamwood)	1120.26	1308.46	1975.66	1971.26	2212.04	1403.02	588.31	598.00	524.64	528.18	966.30	986.00	14182.13
20 01 08	Compostable Food Waste (Waddock Composting)	164.46	54.70	223.60	308.84	205.30	375.64	289.30	145.56	81.66	86.80	59.56	104.66	2100.08
20 01 08	Compostable Food Waste (Enviro Grind)		392.36	330.10	232.38	206.44	233.02	234.16	367.38	335.86	246.20	180.84	32.00	2790.74
20 01 08	Compostable Food Waste (OT Toolies)		168.02	83.68	137.88	264.98	326.26	202.20	234.90	233.84	261.10	59.06	90.34	2062.26
20 01 08	Compostable Food Waste (Acorn Recycling)	359.00	115.56							182.10	78.28	31.16		766.10
20 02 01	Green waste (Barrockstown Farms Limited )		10.90	4.14	27.72	11.78		16.32	20.78	15.92	143.92	304.14	89.90	645.52
20 02 01	Green waste (Enrich Environmental)	8.50												8.50
20 02 01	Green waste (Greenstar)	138.30												138.30
17 08 02	Plasterboard (Allied Waste Management)												3.90	3.90
19 12 01	Cardboard (IPR)			5.74				2.78	5.80	7.28	3.08	6.44	3.62	34.74
16 05 05	Gas Cylinders (Quarantine)	0.26	0.60	0.54	0.28	0.34	1.44	1.30	0.64	0.60	0.68	0.56		7.24
17 02 01	Wood (McKinstry)		252.42						14.22					266.64
15 01 03	Wood (CHEP)											1.52		1.52
19 12 07	Wood (Greenstar)	764.98	480.44	898.82	669.04	750.70	875.10	613.68	755.04	663.32	701.76	809.86	591.76	8574.50
16 01 03	Tyres (Midland Waste Disposal)									3.72				3.72
	<b>TOTAL</b>	<b>18470.76</b>	<b>19627.60</b>	<b>21348.34</b>	<b>20693.89</b>	<b>22378.24</b>	<b>21485.93</b>	<b>22590.01</b>	<b>21973.32</b>	<b>22139.48</b>	<b>19976.24</b>	<b>21123.54</b>	<b>19293.29</b>	<b>251100.64</b>



## Appendix 4

### **THORNTONS RECYCLING CENTRE PLANT CAPACITY REPORT JANUARY 2018**

#### **INTRODUCTION**

Thorntons Recycling Centre, Killeen Road, Dublin 10 is currently licensed under waste licence W0044-02 to accept 250,000 tonnes per annum of Domestic, Commercial, Industrial Non Hazardous and Construction Demolition Waste. To handle such large waste quantities efficiently and without significant environmental emissions, adequate plant machinery has to be in place to quickly handle and dispatch the materials delivered.

To quantify the processing capabilities of the facility this capacity report has been produced to estimate the quantities of waste the transfer station can currently accept before waste begins to accumulate and potentially effect the surrounding environment. This capacity report has identified spare plant that can be substituted for critical plant in the event of a breakdown. Furthermore, sufficient essential spare parts and staff who are capable of rectifying faults are also detailed and available to bring critical plant machinery back online after initial breakdown.

#### **THORNTONS RECYCLING CENTRE PLANT CAPACITY**

The following tables specify all plant on site and their individual capacity along with standby capacity of all substitute machinery (see tables 1, 2, 3)

**Table 1 capacity of waste handling machinery**

<b>THORNTONS RECYCLING CENTRE HANDLING CAPACITY 2018</b>					
<b>Area</b>	<b>Details</b>	<b>Machine</b>	<b>Capacity (tonnes per day)</b>	<b>Spare</b>	<b>Spare Capacity (tonnes per day)</b>
Waste Handling	Handling Skip Waste (B2)	Libherr 1	1500	Fuchs 6 (PDM)	1500
Waste Handling	Loading Trailers Oversize (B2)	Fuch 9	1500	Shovel 2 - JCB loading shovel 456	2000
Waste Handling	Loading MSW line (B3)	Libherr 2	1500	CAT Fuchs	1200
Waste Handling	Replacement during cleaning	Fuchs 9	1500	Shovel 3 & 4 Cat (PDM x 1)	4000
Waste Handling	Unloading trailers in the yard	Fork lift 1 (7 Tonne)	1000	Forklift 3 &5 MDR	2000
Waste Handling	Moving full and empty waste trailers	Shunter 1	1200 (* Based on 100 tonnes per hour for 12 hours)	Forklift 4 MDR	1000
Waste Handling	Moving waste in Building 3	Shovel - Volvo L120H	2000	Teleporter 1&2 in MDR	2000
Waste Handling	Moving waste in building 1	Shovel 5 - Volvo L120F	2000	Shovel 5 & 1 L90C (Dunboyne & Kilmainhamwood )	4000
Waste Handling	Moving waste in yard- Spare	Shovel - Volvo L120F	2000	Shovel 2 - JCB loading shovel 456	2000
Waste Handling	Spare in labre/yard	Cat 360B Teleporter	1000		
Waste Handling	Moving full and empty waste trailers	Shunter 2	1200 (* Based on 100 tonnes per hour for 12 hours)		

**16,400****21,700**

**Table 2: Current Capacity of Waste Processing Machinery.**

THORNTONS RECYCLING CENTRE CURRENT DAILY PROCESSING CAPACITY 2018						
Area	Details	Machine	Capacity (tonnes per day) Based on 14 hr day	Spare	Spare Capacity	Emergency Spare Parts In Store
Processing	C.I.D line- crusher, 2 x trommels, 2 x Nihots, flip flop and picking lines (14 hr day)	C.I.D line	490	Diversion of waste to another facility or work a longer shift	Yes	Yes Motors, Belts and rollers
Processing	MSW line- crusher, waste screen and Nihots (14 hour day)	MSW line	560	Bulking material and consigning to landfill	Yes	Yes Motors, Belts and rollers

**1050****Table 3 Current Capacity of Waste Transportation Machinery.**

THORNTONS RECYCLING CENTRE CURRENT TRANSPORT CAPACITY 2018					
Area	Details	Machine	Capacity (tonnes per day)	Spare Capacity	Emergency Spare Parts In Store
Transport	Moving waste to landfill - Loose Waste	8 Open Top Trailers	(2 driver, 5 lds * 25t per ld) <b>125</b>	Yes	Yes
Transport	Moving SRF to outlet	4 Closed trailers and 7 walking floor trainers	(3 driver, 15ld 24t per ld) <b>360</b>	Yes	Yes
Transport	Moving Compostable waste	7 Aluminum trailers	(2 driver, 4lds 27t per day) <b>108</b>	Yes	N/A
Transport	Moving Wood to PDM	8 Open top trailer and 9 walk floor	(1 drivers, 3 lds * 25t per ld) <b>75</b>	Yes	N/A
Transport	Moving mixed metals	2 Open top bulker, 4 40ft tippers.	(1 drivers, 2 lds * 20t per ld) <b>40</b>	Yes	N/A
Transport	Moving Organic Fines	9 walking floors and 4 tipper trucks	(2 drivers, 4 lds * 26t per ld) <b>104</b>	Yes	N/A
Transport	Moving Trommel Fines and Stones	2 rigid tipper trucks 10 artic truck	(3 drivers, 12lds*25t per ld) <b>300</b>	N/A	Yes
			<b>1,112</b>		

As can be seen from Tables 1, 2 and 3 Thorntons Recycling has sufficient plant capacity to process above the current licence quantity of 250,000 tonnes per annum. Table 2 and 3 displays the current capacity of waste processing machinery and the current transport capacity. Should the facility be required to handle more than that displayed in Table 2 and 3, hours of processing can be increased as the facility is licenced to operate under a twenty-four-hour licence and extra drivers and trailers can be hired to accommodate transport of materials. The trailers and lorries are able to transport a number of different types of waste streams, so trailer types are interchangeable to transport material off site as required.

PTWDL operates other facilities such as Thorntons Recycling Woodchipping, Thorntons Recycling Dunboyne, Kilmainhamwood Composting, Thorntons Recycling Security Shredding and Thorntons Recycling MDR. All these facilities have similar mobile plant on site which can be used at Thorntons Recycling Centre Killeen Road if required.

PTWDL employs a maintenance team who are responsible for ordering and cataloguing all essential spare parts. The team consists of qualified fitters and electricians, who have their own maintenance workshop and service bay onsite at the Killeen Road facility. A garage has been developed in Park West Industrial Estate where a team of 13 are employed. The garage is equipped with all the necessary specialized equipment and an emergency service vehicle for call out or to fix mechanical breakdowns. PTWDL have 24-hour access to Hose Doctor who can be on site within the hour to replace any damaged hydraulic fittings.

#### **CONCLUSION**

It is apparent from the information supplied that the facility and its workings have sufficient capacity to handle the current tonnages permitted to enter the facility and indeed could handle an increase in tonnage if required.

## Appendix 5

PM03- F01 Management Programme 2017								
COMPLETED		ON HOLD CARRY FORWARD TO 2018			ON HOLD			
Ref Numb	Date	Type	Objective and Target	Location	Responsibility	Method	Time Frame	Status
EP 04	Jan-17	Environmental	Killeen road mobile Bund tests	Killeen Road	FB	1. Obtain quotes. 2. Schedule work. 3. Supervise work. 4. Review report. 5. Submit report	Aug-17	Completed and passed
EP 05	Jan-17	Environmental	Waste Storage plan Condition 5.13	Killeen Road	FB	1. Review requirements with operations. 2. Draft plan. 3. Circulate for comments. 4. Create final copy. 5. Submit final plan	Jun-17	Completed
EP 11	Jan-17	Environmental	Revise waste profiling form for Killeen road and Dunboyne and circulate the Killeen road one to all third parties tipping on site	Killeen Road	FB	1. Revise waste profile forms. 2. Send to all third parties tipping on site. 3. Follow up to get completed forms returned. 4. File on x drive and update tracker.	Mar-17	Forms revised and circulated. Chasing up of non returned forms ongoing.
EP 12	Jan-17	Environmental	SOP for security camera and truck washer	Killeen Road	FB	1. Review procedures with relevant staff. 2. Draft procedures. 3. Circulate for agreement. 4. Create final copy. 5. Put up copy in locations and circulate.	Mar-17	Security Camera SOP created and circulated by end of Feb 2017

PM03- F01 Management Programme 2018								
COMPLETED		ON HOLD CARRY FORWARD TO 2019			ON HOLD			
Ref Number	Date	Type	Objective and Target	Location	Responsibility	Method	Time Frame	Status
EP 05	Jan-18	Environmental	Hard copy files of historic cleaning schedules, daily checks and weekly checks to be scanned and filed electronically. Also new process for ensuring records are scanned going forward	Killeen road	AOS/FB	1. Set up electronic filing system on the Environmental Drive. 2. Scan historic records. 3. Shred hard copies. 4. Maintain updated each year at year end.	Feb-18	
EP 07	Jan-18	Environmental	Upgrade of the odour abatement system in Killeen road to include air treatment from building 1	Killeen road	FB	1. Final stage of project to include outlet ducting to roof, new fans, new optiflow and inlet dampers to be completed	Feb-18	
EP 10	Jan-18	Environmental	SRF repak surveys	Killeen road	FB	1. Arrange date with Operations. 2. Arrange date with repak consultant. 3. Arrange date with consultant. 4. Carry out Survey 5. Submit report to Repak	Apr-18	
EP 13	Jan-18	Environmental	Installation of new bays for clean rubble and soil and stone at building 7	Killeen Road	FB	1. Discuss and agree layout with Operations and manitenance. 2. Update, ELRA, CRAMP and WSP, 3. Infrom EPA 4. Carry out works.	Feb-18	

## Appendix 6



30<sup>th</sup> June 2017

### To Whom It May Concern

#### Confirmation of Insurance Cover

**Our Client:** Padraig Thornton Waste Disposal Ltd and Subsidiary Companies

**We act as Insurance Brokers to the above client and confirm that the following insurance has been arranged on their behalf.**

Insurance Type : Combined Liability

Period : 01 July 2017 to 30 June 2018

Business Description : Domestic, Industrial and Commercial Waste Collection, Recycling and Disposal (Including:- Liquid Waste for Local Authorities) Management and Operation of Bring centre and Property Owners (including:- some building work), Composting, End of Life Vehicle Processing, Maintenance of Own Vehicles and Contractors Vehicles used on the business of the insured and Property Owners (Including some building work)

Public Liability  
Limit of Indemnity : €13,000,000 any one occurrence or series of occurrences arising from any one originating cause including costs and expenses

Products/Pollution  
Limit of Indemnity : €13,000,000 in all during the period

Employers Liability  
Limit of Indemnity : €20,000,000 any one occurrence or series of occurrences arising out of one originating cause

Insurers : QBE Casualty Syndicate 386

Policy Number : AA1565681

Risk Reference : PADR05

Yours sincerely,

A handwritten signature in black ink, appearing to read 'C. Hehir'.

Colin Hehir  
Account Executive  
JLT Ireland  
Direct Dial: 01 202 6053  
Mobile: 087 2167055  
Email: [chehir@ilt.ie](mailto:chehir@ilt.ie)

Cont...



This document does not confer upon the addressee, recipient or holder any rights in the insurance nor does it set out the full terms, clauses, conditions, limits and exclusions of the Insurance. These statements have been made in good faith and are a summary of the insurance cover in force as at the date of this letter (which insurance remains subject to the full terms and conditions of the subscribing insurers' policy), although the Limit of Indemnity may have been impaired by incurred claims and therefore may vary from the amount shown. We accept no responsibility whatsoever for any inadvertent or negligent act, error or omission on our part in preparing these statements or for any loss, damage or expenses thereby occasioned to any recipient of this letter. The information contained in this letter should be treated as confidential.

Should the insurance cover be cancelled, assigned or changed in any way during the period of insurance, neither we nor the subscribing insurer(s) accept any obligation to notify any recipient of this letter.

The subscribing insurers' obligations under contracts of insurance to which they subscribe are several and not joint and are limited solely to the extent of their individual subscriptions. The subscribing insurers are not responsible for the subscription of any co-subscribing insurer who for any reason does not satisfy all or part of its obligations.

Notwithstanding the issuance of this letter we are and remain solely the agent of our Client in this matter and owe no duties to any recipient of this letter.



# Appendix 7

IPRTR#: W00441 Facility Name: Thornton Recycling Centre (Ballyfermot) | Filename: Waste Summaries 2017 KILLEEN ROAD.xlsx | Return Year: 2017 |



## Guidance to completing the PRTR workbook

# PRTR Returns Workbook

Version 1.1.19

<b>REFERENCE YEAR</b>	2017
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### 1. FACILITY IDENTIFICATION

Parent Company Name	Padraig Thornton Waste Disposal Limited
Facility Name	Thorntons Recycling Centre (Ballyfermot)
PRTR Identification Number	W0044
Licence Number	W0044-02

#### Classes of Activity

No.	class_name
-	Refer to PRTR class activities below

Address 1	Killeen Road
Address 2	Ballyfermot
Address 3	Dublin 10
Address 4	
	Dublin
Country	Ireland
Coordinates of Location	-6.35373 53.3348
River Basin District	IEEA
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
<b>AER Returns Contact Name</b>	Fergal Brennan
<b>AER Returns Contact Email Address</b>	fergal@thorntons-recycling.ie
<b>AER Returns Contact Position</b>	EHS Officer
<b>AER Returns Contact Telephone Number</b>	016235133
<b>AER Returns Contact Mobile Phone Number</b>	0873737878
<b>AER Returns Contact Fax Number</b>	
<b>Production Volume</b>	250000.0
<b>Production Volume Units</b>	Tonnes
<b>Number of Installations</b>	3
<b>Number of Operating Hours in Year</b>	8000
<b>Number of Employees</b>	40
<b>User Feedback/Comments</b>	
<b>Web Address</b>	www.thorntons-recycling.ie

### 2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
5(c)	Installations for the disposal of non-hazardous waste
5(c)	Installations for the disposal of non-hazardous waste
50.1	General

### 3. SOLVENTS REGULATIONS (S.I. No. 543 of 2002)

Is it applicable?	No
Have you been granted an exemption?	No
If applicable which activity class applies (as per Schedule 2 of the regulations)?	
Is the reduction scheme compliance route being used?	

### 4. WASTE IMPORTED/ACCEPTED ON SITE

#### [Guidance on waste imported/accepted onto site](#)

Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities)?	No
---	----

[Link to previous years emissions data](#)

**SECTION A: SECTOR SPECIFIC-PRTR-POLLUTANTS**

RELEASES TO AIR		Please enter all quantities in this section in KGs				
POLLUTANT	METHOD Method Used	ADD EMISSION POINT				
		T (Total) KG/Year	A (Accidental)	F (Fugitive)		
No. Annex I	M/CE (Method Code)   Designation or Description	0.0	0.0	0.0	0.0	0.0
<b>ADD NEW ROW</b>   <b>DELETE ROW</b> *	*Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button					

**SECTION B: REMAINING-PRTR-POLLUTANTS**

RELEASES TO AIR		Please enter all quantities in this section in KGs				
POLLUTANT	METHOD Method Used	ADD EMISSION POINT				
		T (Total) KG/Year	A (Accidental)	F (Fugitive)		
No. Annex I	M/CE (Method Code)   Designation or Description	0.0	0.0	0.0	0.0	0.0
<b>ADD NEW ROW</b>   <b>DELETE ROW</b> *	*Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button					

**SECTION C: REMAINING-POLLUTANT EMISSIONS (As required in your Licence)**

RELEASES TO AIR		Please enter all quantities in this section in KGs						
POLLUTANT	METHOD Method Used	ADD EMISSION POINT						
		Emission Point 1	Emission Point 2	Emission Point 3	Emission Point 4	Emission Point 5	T (Total)	F (Fugitive)
Dust	M   OTH 30 Day composite sample measured in mg/m2/day using standard method VDI2119	0.051537	0.026645	0.042888	0.040393	0.073365	0.234378	0.0
<b>240</b>	<b>ADD NEW ROW</b>   <b>DELETE ROW</b> *							
	*Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button							

**Additional Data Requested from Landfill operators**

For the purposes of the National Inventory on Greenhouse Gases, landfill operators are requested to provide summary data on landfill gas (Methane) flared or utilised on their facilities to accompany the figures for total methane generated. Operators should only report their Net methane (CH<sub>4</sub>) emission to the environment under Total Kg/yr for Section A: Sector specific PRTR pollutants above. Please complete the table below:

Landfill: Please enter summary data on the quantities of methane flared and/ or utilised	Thornton's Recycling Centre (Ballyfermot)	
	M/CE	Method Code
Total estimated methane generation (as per site model)	0.0	N/A
Methane flared	0.0	0.0 (Total Flaring Capacity)
Methane utilised in engines	0.0	0.0 (Total Utilising Capacity)
Net methane emission (as reported in Section A above)	0.0	N/A

4.2 RELEASES TO WATERS

[Link to previous years emissions data](#)

PRTR#: W0044 | Facility Name : Thomkins Recycling Centre (Ballyfermot) | Filename : Waste Summaries 2017 WLEEN ROAD.xls | Return Year : 2017 | 31/01/2018 12:58

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

**RELEASERS TO WATERS**

**POLLUTANT**

No. Annex II	Name	M/C/E	Method Code	Description or Designation	Method Used	ADD EMISSION POINT	QUANTITY
						Emission Point 1	T (Total) KG/Year   A (Accidental) KG/Year   F (Fugitive) KG/Year
<b>ADD NEW ROW</b>	<b>DELETE ROW *</b>						0.0   0.0   0.0

\* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

**Data on ambient monitoring of storm surface water or groundwater, conducted as part of your licence requirements, should NOT be submitted under AER. PRTR**

**Please enter all quantities in this section in KGs**

SECTION B : REMAINING PRTR POLLUTANTS

**RELEASERS TO WATERS**

**POLLUTANT**

No. Annex II	Name	M/C/E	Method Code	Description or Designation	Method Used	ADD EMISSION POINT	QUANTITY
						Emission Point 1	T (Total) KG/Year   A (Accidental) KG/Year   F (Fugitive) KG/Year
<b>ADD NEW ROW</b>	<b>DELETE ROW *</b>						0.0   0.0   0.0

\* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

**Please enter all quantities in this section in KGs**

SECTION C : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

**RELEASERS TO WATERS**

**POLLUTANT**

Pollutant No.	Name	M/C/E	Method Code	Description or Designation	Method Used	ADD EMISSION POINT	QUANTITY
						Emission Point 1	T (Total) KG/Year   A (Accidental) KG/Year   F (Fugitive) KG/Year
							0.0   0.0   0.0

**Please enter all quantities in this section in KGs**

4.3 RELEASES TO WASTEWATER OR SEWER [Link to previous years emissions data](#) | PRTR# : W0044 | Facility Name: Thomons Recycling Centre (Ballyfermot) | Filename : 3/10/2018 12:58

**SECTION A : PRTR POLLUTANTS**

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER									
No. Annex II	Name	M/C/E	METHOD		ADD EMISSION POINT		QUANTITY		
			Method Code	Method Used	Emission Point 1	Emission Point 2	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
ADD NEW ROW	DELETE ROW *	* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button							

**SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)**

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER										
Pollutant No.	Name	M/C/E	METHOD		ADD EMISSION POINT		QUANTITY			
			Method Code	Method Used	Emission Point 1	Emission Point 2	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year	
303	BOD	M	OTH	Standard method for the examination of water and wastewater APHA20th Ed	Emission Point 1		84.77	85.79	0.0	0.0
306	COD	M	OTH	Standard method for the examination of water and wastewater APHA20th Ed	Emission Point 1		164.0	166.8	0.0	0.0
240	Suspended Solids	M	OTH	Standard method for the examination of water and wastewater APHA20th Ed	Emission Point 1		44.82	45.91	0.0	0.0
332	Ortho-phosphate (as PO4)	M	OTH	Standard method for the examination of water and wastewater APHA20th Ed	Emission Point 1		2.12	2.23	0.0	0.0
314	Fats, Oils and Greases	M	OTH	Standard method for the examination of water and wastewater APHA20th Ed	Emission Point 1		8.34	8.53	0.0	0.0
324	Mineral oils	M	OTH	Standard method for the examination of water and wastewater APHA20th Ed	Emission Point 1		1.25	1.28	0.0	0.0
308	Detergents (as MBAS)	M	OTH	Standard method for the examination of water and wastewater APHA20th Ed	Emission Point 1		0.2	0.2	0.0	0.0

<p><b>4.4 RELEASES TO LAND</b></p> <p><a href="#">Link to previous years emissions data</a></p>		<p>(PRTR#: W0044) Facility Name : Thomtons Recycling Centre (Ballyfermot)   Filename : Waste Summaries 2017 KILLEEN ROAD.xls   Return : 31/01/2018 12:58</p>	
<p><b>SECTION A : PRTR POLLUTANTS</b></p>			
<p><b>RELEASES TO LAND</b></p>			
<p>POLLUTANT</p>	<p>METHOD</p>	<p>ADD EMISSION POINT</p>	<p>QUANTITY</p>
<p>No. Annex II</p>	<p>Method Used</p>	<p>Emission Point 1</p>	<p>T (Total) KG/Year</p>
<p>Name</p>	<p>Designation or Description</p>	<p>A (Accidental) KG/Year</p>	<p>0.0</p>
<p>MCE</p>	<p>Method Code</p>	<p>0.0</p>	<p>0.0</p>
<p>* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button</p>			
<p>ADD NEW ROW</p>	<p>DELETE ROW *</p>		
<p><b>SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)</b></p>			
<p><b>RELEASES TO LAND</b></p>			
<p>POLLUTANT</p>	<p>METHOD</p>	<p>ADD EMISSION POINT</p>	<p>QUANTITY</p>
<p>Pollutant No.</p>	<p>Method Used</p>	<p>Emission Point 1</p>	<p>T (Total) KG/Year</p>
<p>Name</p>	<p>Designation or Description</p>	<p>A (Accidental) KG/Year</p>	<p>0.0</p>
<p>MCE</p>	<p>Method Code</p>	<p>0.0</p>	<p>0.0</p>

**5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE** | PRTR# : W0044 | Facility Name : Thornton's Recycling Centre (Ballyfermot) | Filename : Waste Summaries 2017 KILLEEN ROAD.xls | Return Year : 2017 | 31/01/2018 12:53

Please enter all quantities on this sheet in Tonnes

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz. Waste : Name and Licence/Permit No of Next Destination Facility Non Haz. Waste: Name and Licence/Permit No of Recoverer/Disposer	Haz. Waste : Address of Next Destination Facility Non Haz. Waste: Address of Recoverer/Disposer	Name and License / Permit No and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/ICE	Method Used					
Within the Country	15 01 04	No	544.46	metallic packaging	R13	M	Weighted	Offsite in Ireland	Wilton Waste Recycling Ltd. WFP-CN-10-0005-01	Kilfigh Crosserlough, Ballyja mesduff, Co. Cavan, Ireland		
Within the Country	15 01 04	No	62.18	metallic packaging	R13	M	Weighted	Offsite in Ireland	Multimetals, WFP-WM-09-0014-01	Blessington, Co. Wicklow, Ireland		
Within the Country	15 01 04	No	135.34	metallic packaging	R13	M	Weighted	Offsite in Ireland	PTWDL T/A Thornton's Recycling MDR, WFP-DC-10-0021-02	Unit 51 Henry Road Parkwest Business Park, Dublin, 12, Ireland		
Within the Country	16 01 03	No	3.72	end-of-life tyres	R13	M	Weighted	Offsite in Ireland	Crum Rubber, WFP-LH-10-0005-01	Mooretown, Dromiskin Dund alk, Co. Louth, Ireland		
Within the Country	16 05 05	No	7.24	those mentioned in 16 05 04	R13	M	Weighted	Offsite in Ireland	Calor Gas N/A	Long Mile Road, Dublin, 12, Ireland		
Within the Country	17 04 01	No	63.14	copper, brass cables other than those mentioned in 17 04	R4	M	Weighted	Offsite in Ireland	Wilton Waste Recycling Ltd. WFP-CN-10-0005-01	Kilfigh Crosserlough, Ballyja mesduff, Co. Cavan, Ireland		
Within the Country	17 04 11	No	50.76	10 gypsum-based construction materials other than those mentioned in 17 08 01	R13	M	Weighted	Offsite in Ireland	Allied Waste Management, WFP-XE-08-0347-01	Unit 74A, Naas Industrial Estate, Naas, Co. Kildare, Ireland		
Within the Country	17 08 02	No	3.9	those mentioned in 17 08 01	R3	M	Weighted	Offsite in Ireland	Irish Packaging Recycling, W0263-01	Ballymount Road, Walkinstown, Dublin 12, Ireland		
Within the Country	19 12 01	No	34.74	paper and cardboard premixed wastes composed only of non-hazardous wastes	R13	M	Weighted	Offsite in Ireland	Multimetals, WFP-WM-09-0014-01	Blessington, Co. Wicklow, Ireland		
Within the Country	19 12 02	No	6875.0	ferrous metal	R4	M	Weighted	Offsite in Ireland	Multimetals, WFP-WM-09-0014-01	Blessington, Co. Wicklow, Ireland		
Within the Country	19 12 02	No	1074.46	ferrous metal	R4	M	Weighted	Offsite in Ireland	Hammond Lane, WFP 98107	Road, Ringsend, Dublin, 4, Ireland		
Within the Country	19 12 03	No	400.26	non-ferrous metal	R4	M	Weighted	Offsite in Ireland	Hammond Lane, WFP 98107	Road, Ringsend, Dublin, 4, Ireland		
Within the Country	19 12 03	No	135.68	non-ferrous metal	R4	M	Weighted	Offsite in Ireland	Wilton Waste Recycling Ltd. WFP-CN-10-0005-01	Kilfigh Crosserlough, Ballyja mesduff, Co. Cavan, Ireland		
Within the Country	19 12 03	No	45.62	non-ferrous metal	R4	M	Weighted	Offsite in Ireland	PTWDL T/A Thornton's Recycling MDR, WFP-DC-10-0021-02	Unit 51 Henry Road Parkwest Business Park, Dublin, 12, Ireland		

To Other Countries	17 02 01	No	266.64 wood	R3	M	Weighed	Abroad	McKinstry Skip Hire Ltd, LN/13/45	81-83 Belfast Road, Nutts Comer, Crumlin, B T294TL, United Kingdom
Within the Country	19 12 07	No	8574.5 wood other than that mentioned in 19 12 06 R3	R3	M	Weighed	Offsite in Ireland	Greenstar Limited, W0053-03	Briay Depot Fassaroe, Briay, Wicklow, Ireland
Within the Country	19 12 10	No	302.88 combustible waste (refuse derived fuel)	R13	M	Weighed	Offsite in Ireland	Midland waste Disposal Ltd, W0131-02	Clonmagadden, Proudstown Navan, Meath, Ireland
Within the Country	19 12 10	No	24726.0 combustible waste (refuse derived fuel)	R1	M	Weighed	Offsite in Ireland	Lagan Cement, P0487-05	Meath, Ireland
Within the Country	19 12 10	No	63592.02 combustible waste (refuse derived fuel)	R1	M	Weighed	Offsite in Ireland	Irish Cement Ltd, P0030-04	Drogheda, Co. Louth, Ireland
Within the Country	19 12 10	No	1406.18 combustible waste (refuse derived fuel)	R13	M	Weighed	Offsite in Ireland	Pacon Waste WFP-FG-10-0004-01	Stephenstown Business Park, Balbriggan, Co Dublin, Ireland
Within the Country	19 12 10	No	351.66 combustible waste (refuse derived fuel)	R13	M	Weighed	Offsite in Ireland	Greyhound Recycling and Recovery, W0205-01	Craig Avenue, Clontarlin Industrial Estate, Clontarlin, Dublin, Ireland
Within the Country	19 12 10	No	6143.78 combustible waste (refuse derived fuel) other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R1	M	Weighed	Offsite in Ireland	Quinn Cement Limited, P0378-02	Scotchtown, Ballyconnell, Cavan, Ireland
Within the Country	19 12 12	No	17591.16 12 11 other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R5	M	Weighed	Offsite in Ireland	Bord na Mona Drihid landfill, W0201-03	Carbury, Co. Kildare, Ireland
Within the Country	19 12 12	No	798.54 12 11 other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R5	M	Weighed	Offsite in Ireland	Boliden Tara Mines, P0516-03	Knockumber, Navan, Co Meath, Ireland
Within the Country	19 12 12	No	43776.0 12 11 other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R11a	M	Weighed	Offsite in Ireland	Bord na Mona Drihid landfill, W0201-03	Carbury, Co. Kildare, Ireland
Within the Country	19 12 12	No	6602.1 12 11 other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R11a	M	Weighed	Offsite in Ireland	Ballynagran Landfill, W0165-02	Coolbeg and Kilcandra, Wicklow, Ireland
Within the Country	17 01 01	No	156.66 concrete other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R5	M	Weighed	Offsite in Ireland	Roadstone WFP-MH-15-0002-01	Deerpark Quarry, Carrickdexter, Slane, Co. Meath, Ireland
Within the Country	19 12 12	No	1273.04 12 11 other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R3	M	Weighed	Offsite in Ireland	Enrich Environmental Ltd, WFP-MH-08-0004-01	Newtown Rathganley, Kilkcork, Co. Meath, Ireland

Within the Country	19 12 12	No	7845.71	12 11	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19	R3	M	Weighed	Offsite in Ireland	Bord na Mona PLC- Kilberry Compost,W0198-01	Kilberry facility,....,Kildare,Ireland
Within the Country	19 12 12	No	746.98	12 11	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19	R5	M	Weighed	Offsite in Ireland	Knockharley Landfill Limited,W0146-03	Knockharley,Navan,Co. Meath,.,Ireland
Within the Country	19 12 12	No	2590.06	12 11	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19	R5	M	Weighed	Offsite in Ireland	Ballynagran Landfill,W0165-02	Coolbeg and Kilcandra,....,Wicklow,Ireland
Within the Country	19 12 12	No	705.44	12 11	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19	R11a	M	Weighed	Offsite in Ireland	Knockharley Landfill Limited,W0146-03	Knockharley,Navan,Co. Meath,.,Ireland
Within the Country	20 01 08	No	2062.26		biodegradable kitchen and canteen waste	R3	M	Weighed	Offsite in Ireland	O Toole Composting,WFP-CW-10-0003-01	Ballintraane,....,Co Carlow,Ireland
Within the Country	20 01 08	No	14182.13		biodegradable kitchen and canteen waste	R3	M	Weighed	Offsite in Ireland	PTWDL T/A Thorntons Recycling	Ballynagran, Nobber,Co. Meath,.,Ireland
Within the Country	20 01 08	No	2100.08		biodegradable kitchen and canteen waste	R3	M	Weighed	Offsite in Ireland	Kilmainhamwood,W0195-02	Meath,.,Ireland
Within the Country	20 03 01	No	513.14		mixed municipal waste	D5	M	Weighed	Offsite in Ireland	Waddock Composting Ltd,WFP-CW-11-05-01	Kilmaster,.,Co. Carlow,.,Ireland
Within the Country	20 03 01	No	108.14		mixed municipal waste	D5	M	Weighed	Offsite in Ireland	Bord na Mona Drehid landfill,W0201-03	Carbury,.,Co. Kildare,.,Ireland
Within the Country	20 03 01	No	36.74		mixed municipal waste	D5	M	Weighed	Offsite in Ireland	Ballynagran Landfill,W0165-02	Coolbeg and Kilcandra,....,Wicklow,Ireland
Within the Country	20 03 01	No	3205.6		mixed municipal waste	D10	M	Weighed	Offsite in Ireland	Knockharley Landfill Limited,W0146-03	Knockharley,Navan,Co. Meath,.,Ireland
Within the Country	20 03 03	No	638.16		street-cleaning residues	D5	M	Weighed	Offsite in Ireland	Pigeon House Road,Poolbeg,Dublin 4,.,Ireland	Knockharley,Navan,Co. Meath,.,Ireland
Within the Country	20 03 03	No	443.14		street-cleaning residues	D5	M	Weighed	Offsite in Ireland	Covanta Energy,W0232-01	4,.,Ireland



Within the Country	19 12 10	No	74.2 combustible waste (refuse derived fuel) other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R13	M	Weighed	Offsite in Ireland	Wilton Waste Recycling Ltd,WFP-CN-10-0005-01	Kiffagh,Crosserlough,Ballyjamesduff,Co Caivan,Ireland East Galway Residual Landfill,Killagh
Within the Country	19 12 12	No	1564.76 soil and stones other than those mentioned in 17 05 03	R11a	M	Weighed	Offsite in Ireland	East Galway Residual Landfill,W0178-02	More,Ballinasloe,Co. Galway,Ireland
Within the Country	17 05 04	No	18.96 soil and stones other than those mentioned in 17 05 03	R5	M	Weighed	Offsite in Ireland	Kiernan Sand & Gravel Ltd,W0262-01	Foxtown,Summerhill,Co. Meath,,Ireland Pigeon House Road,Ringsend,Dublin,4,Irel and
Within the Country	15 01 04	No	0.38 metallic packaging	R4	M	Weighed	Offsite in Ireland	Hammond Lane,WP 98107	Walshestown,Tipperkevin & Bawnoge,Naas,Co. Kildare,Ireland
Within the Country	17 01 01	No	1380.9 concrete	R5	M	Weighed	Offsite in Ireland	Walshestown Restoration Ltd,W0254-01	Blessington,..Co. Wicklow,..Ireland Pigeon House Road,Ringsend,Dublin,4,Irel and
Within the Country	17 04 01	No	3.24 copper, bronze, brass	R4	M	Weighed	Offsite in Ireland	Multimetals,WFP-WW-09-0014-01	Walshestown,Tipperkevin & Bawnoge,Naas,Co. Kildare,Ireland
Within the Country	20 01 40	No	7.02 metals	R4	M	Weighed	Offsite in Ireland	Hammond Lane,WP 98107	Blessington,..Co. Wicklow,..Ireland Pigeon House Road,Ringsend,Dublin,4,Irel and
Within the Country	20 02 01	No	138.3 biodegradable waste	R3	M	Weighed	Offsite in Ireland	Greenstar Limited,W0053-03	Bray Depot Fassaroe,Bray Newtown,Rathganley,Kilcock,Co. Meath,Ireland
Within the Country	20 02 01	No	8.5 biodegradable waste	R3	M	Weighed	Offsite in Ireland	Enrich Environmental Ltd,WFP-MH-08-0004-01	Barrockstown Farms Barrockstown Maynooth,..,Meath,Ireland
Within the Country	20 02 01	No	645.52 biodegradable waste	R3	M	Weighed	Offsite in Ireland	WFP-MH-14-0007-02	Ballybeg,Littlerton,..Co Tipperary,Ireland
Within the Country	20 01 08	No	766.1 biodegradable kitchen and canteen waste	R3	M	Weighed	Offsite in Ireland	Acorn Recycling (Ballybeg) Composting Facility,W0249-01	Donegal Road,Pettigo,..Co. Donegal,Ireland
Within the Country	20 01 08	No	2790.74 biodegradable kitchen and canteen waste	R3	M	Weighed	Offsite in Ireland	Envirogrind Ltd,WFP-DL-11-004-01	Rosemount Business Park,Ballycoolin
Within the Country	20 01 39	No	66.04 plastics	R3	M	Weighed	Offsite in Ireland	Cloughwater Plastics Ltd,WFP-FG-08-0002-04	Road,Blanchardstown,Dublin 11,Ireland
Within the Country	20 01 39	No	31.54 plastics	R3	M	Weighed	Offsite in Ireland	Leintser Environmental,WFP-LH-11-0002-01	Clermont Business Park,Haynestown
To Other Countries	20 01 39	No	75.04 plastics mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	R3	M	Weighed	Abroad	Envirogreen Polymers Ltd,WIMEX 22/113	TD,Haggardstown Dundalk,Louth,Ireland Dean Swift Building,Armagh Business Park Hamiltonsbawn Road,Armagh,..,United Kingdom
Within the Country	17 09 04	No	115.44 mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	R13	M	Weighed	Offsite in Ireland	AES Lusk,W0222-01	Coldwinters,Blakescross,Lusk,Co. Dublin,Ireland
Within the Country	17 09 04	No	67.3 mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	R13	M	Weighed	Offsite in Ireland	Midland waste Disposal Ltd,W0131-02	Clonmagadden,Proudstown Navan,Meath,..,Ireland
Within the Country	15 01 03	No	1.52 wooden packaging	R3	M	Weighed	Offsite in Ireland	CHEP N/A Bord na Mona	Jamesstown Business Park,..,Jamestown Road,Dublin 11,Ireland
Within the Country	20 03 03	No	23166.06 street-cleaning residues	D5	M	Weighed	Offsite in Ireland	landfill,W0201-03	Carbury,..Co. Kildare,..,Ireland