

INSPECTORS REPORT

WASTE LICENCE REGISTER NUMBER: 95-2

Facility: Reduce Reuse and Recycle Limited

Recommendation: That a revised waste licence be granted subject to a number of conditions.

(1) Introduction:

The application from Reduce, Reuse and Recycle Limited (3R's) is for a review of the existing waste licence issued by the Agency on 21st December 2000, for its non-hazardous waste transfer station at Knockmitten Lane, Western Industrial Estate, Dublin 12. The applicant is currently licensed to accept 17,000 tonnes of waste per annum at the facility however 21,000 tonnes were accepted in 2001 and it is projected that over 30,000 tonnes of waste will be accepted at the facility in 2002. In 2001 66% of the waste materials handled at the facility were recycled/recovered and Reduce, Reuse and Recycled Ltd. are currently one of the largest Repak recyclers in the country. The Agency has received a number of complaints in relation to the operation of the facility and the complaints primarily relate to noise and odour emissions from the facility. All of the complaints received were dealt with under the conditions of the existing waste licence. The facility has been audited twice by the Agency with 9 non-compliances noted during the 2001 Audit and 3 non-compliances noted during the 2002 Audit. The application for the review of the existing licence relates to two main issues; (i) the increase of the annual waste intake to 200,000 tonnes per annum and (ii) the extension of the boundary of the existing facility (Site 1) to include an area which borders the existing facility (namely Site 2) (**Site 1 and Site 2 are shown on Figure 4.3.1 attached**). The facility is located in an area that has been zoned by the local planning authority "to provide for industrial and related uses". A number of private residential properties are located within 500m of the facility, three of which are within 80m of the facility boundary.

The classes of activity applied for are Classes 11, 12 and 13 of the Third Schedule and Classes 2, 3, 4, 11, 12 and 13 (principal activity) of the Fourth Schedule of the Waste Management Act. The recommended Proposed Decision recommends licensing of each of these activities.

The annual waste tonnage to be accepted at the facility depends on the infrastructure provided and the maximum tonnage of 200,000 tonnes per annum shall not be accepted until the relevant infrastructure and controls as required by the recommended proposed decision are in place.

Quantity of waste (tpa)	200,000* ^{Note 1}
Application received	7 th November 2001
EIS Required and valid	EIS received and compliant with the Regulations
Planning Permission status	Planning granted for rebuilding of existing building. Planning Permission for construction of the new building is under appeal to An Bord Pleanala.
Number of valid submissions received	9

Note 1 – 200,000tpa is the maximum tonnage, however the acceptance of this quantity of waste is subject to the provision of a new building and rebuilding the existing building.

FACILITY VISITS:

DATE	PURPOSE	PERSONNEL	OBSERVATIONS
03/12/01	Site Notice	Kevin McDonnell	Site Notice Compliant
09/04/02	Site Inspection	Dave Shannon	Inspection of Facility and Surrounds
20/06/02	Site Inspection	Kealan Reynolds	Inspection of Facility and Surrounds
17/07/02	Site Inspection	Kealan Reynolds	Inspection of Facility and Surrounds
11/11/02	Site Inspection	John Gibbons	Inspection of Facility and Surrounds

(2) Facility Development

Infrastructure

The existing building at the facility contains a baler, a trommel a shredder and a compactor for the processing of waste. Incoming commingled commercial and industrial waste is passed through a trommel where the organic fines are removed and the non-organic fraction is shredded and loaded onto large ejection trailers for transport onto landfill. The organic fines are temporarily stored on-site prior to removal off-site for composting. There is also a weighbridge, vehicle wash, a bunded fuel storage area, foul water and surface water drainage systems. Condition 3 of the recommended proposed decision requires the applicant to provide a significant level of infrastructure prior to the increase in waste intake at the facility. The quantity of waste to be accepted at the facility is on a phased basis as outlined in Schedule A of the recommended proposed decision. The applicant is required to provide a new waste transfer building as proposed in the waste licence application. The proposed new building (Building 2) will provide an additional 1,365m² for the processing and storage of waste. The proposed new building shall be used for the acceptance and processing of non-putrescible wastes only. The existing building at the facility (Building 1) is a relatively old structure and the applicant has obtained planning permission for the reconstruction of this building (Condition 3.7).

Restoration and Aftercare

Condition 4 of the recommended proposed decision requires the applicant to submit a plan for the restoration and aftercare of the facility.

Nuisance Control

Nuisance control is provided for in Condition 7 of the recommended proposed decision. The licensee is required to carry out daily nuisance inspections of the facility and its immediate surrounds. Individual sources of nuisance are addressed below.

- i) *Dust:* The recommended proposed decision restricts the annual intake of construction and demolition waste to 3,000 tonnes/annum and the applicant is required to agree waste acceptance, storage and handling procedures with the Agency. The recommended proposed decision requires that all waste activities are to occur indoors and Condition 7.4 requires the applicant to install a dust control system. The applicant has recently (November 2002) installed and commissioned a Mist-Air odour/dust control system under the terms of waste licence reg. No. 95-1
- ii) *Litter:* The recommended proposed decision requires that all waste activities are carried out indoors. This will minimise the amount of litter being generated at the facility. All vehicles delivering waste to and removing waste from the facility must be appropriately covered. In addition the recommended proposed decision requires that no wastes are stored uncovered prior to removal off-site.

- iii) *Vermin & Flies*: The applicant has operated a vermin control programme at the facility under the Conditions of the existing waste licence. Condition 11.4 of the recommended proposed decision requires the applicant to maintain such a programme and within one month of the date of grant of the licence the applicant shall submit a revised pest control programme for the extended facility.
- iv) *Odours*: The recommended proposed decision allows the applicant to accept a maximum of 197,000 tonnes of commercial and industrial waste at the facility. A minimum of 147,000 tonnes (~80%) of this material shall be accepted at the facility as pre-segregated dry recyclables. The dry recyclable wastes are typically cardboard and plastic packaging and will not create malodours. The remaining 50,000 tonnes of commingled commercial and industrial waste shall only be accepted and processed in building 1. All waste for disposal shall be removed off-site within 24 hours. Condition 7.4 of the recommended proposed decision requires the applicant to agree and implement odour control measures for the temporary storage of organic wastes at the facility.

(3) Facility Operation

Facility Operation

As the recommended proposed decision provides for the phased development of the facility, Condition 5.2 requires that no wastes be accepted at Site 2 without the prior agreement of the Agency. The applicant is required to prepare and implement waste acceptance and handling procedures at the facility. Condition 5 of the recommended proposed decision requires the applicant to wash down and clean all waste handling and processing equipment on a daily basis.

Hours of Operation and Waste Acceptance

The hours of operation for the facility differ for Site 1 and Site 2 as Site 2 is located adjacent to a residential property and subsequently the operation of Site 2 will be restricted by waste types and hours of operation. The applicant had proposed to operate 24 hours per day with immediate effect, however the recommended proposed decision does not permit 24 hour operation until noise control measures have been completed at the facility.

Site 1: Wastes may be accepted at Site 1 from 6.00am to 9.00pm seven days a week up until all the noise control measures required by Conditions 3.7 and 3.8 of the recommended proposed decision have been completed to the satisfaction of the Agency. Following completion of the noise control works and the rebuilding of the existing building the licensee may accept wastes at the facility 24 hours per day, seven days a week, subject to the Agency's agreement.

Site 2: Waste may only be accepted at Site 2 and may only be operated from 8.00am to 8.00pm Monday to Saturday and no wastes may be accepted at Site 2 on Sundays and Bank Holidays. The hours of operation and waste acceptance are set out in Conditions 1.7 and 1.8 respectively.

(4) Waste Types and Quantities

No liquid or hazardous wastes may be accepted at the facility. The recommended proposed decision permits the acceptance of commercial, industrial, construction and demolition wastes. The principal waste stream to be accepted at the facility will be pre-segregated commercial and industrial waste (i.e. segregated cardboard and plastics). A certain proportion of the incoming commercial and industrial wastes will contain putrescible wastes which the applicant proposes

to removed from the incoming waste stream and remove off-site for composting. The recommended proposed decision does not permit the acceptance of pre-segregated putrescible waste. The waste types and quantities to be accepted at the facility are listed in Schedule A of the recommended proposed decision.

The maximum annual tonnage to be accepted at the facility will increase on a phased basis as the applicant provides additional waste handling capacity and infrastructure at the facility.

Table A.1 of the recommended proposed decision provides for the phased development of the facility. Table A.2 stipulates the maximum tonnage in the event that planning decision is denied for the development of the proposed waste transfer building on Site 2. The applicant stated in the waste licence application that the current intake of waste is approximately 60% pre-segregated materials and 40% commingled waste and by 2006 it will have increased to 80% pre-segregated materials and just 20% commingled waste. The waste types and quantities as set out in the recommended proposed decision reflect this change.

When assessing the capacity of the facility to process commingled waste, reference was made to the USEPA document – “Waste Transfer Stations: A Manual for decision making” (2002). It was calculated that the maximum annual tonnage of commingled waste would be 50,000 tonnes (see Appendix 2)

A maximum annual tonnage of 50,000 tonnes of commingled waste is to be accepted as outlined in Schedule A of the recommended Proposed Decision (commingled waste to be accepted at Site 1 only) . The capacity of the facility to process pre-segregated cardboard and plastics is considered to be less critical as these waste types are unlikely to create any nuisances and are relatively innocuous in terms of causing environmental pollution. The capacity of the facility to process the pre-segregated materials is based on the capacity of the balers being used and the storage capacity available at the facility.

Condition 11.5 of the recommended proposed decision requires that the applicant obtain the agreement of the Agency before increasing the annual waste intake tonnage at the facility.

(5) Noise

Noise monitoring carried out at the facility shows that the background noise levels in the vicinity of the facility are above the typical night-time noise limit values of 45dBA. Complaints from residents in the area would suggest that the origin of noise nuisance in the area is impulsive noise emissions from Site 2, which the applicant currently uses for vehicle parking and the storage of empty skips. Condition 8.1 and Schedule C of the recommended proposed decision provide for noise monitoring and noise limits respectively. The noise emission limits relate to noise levels measured at the private residences located closest to the facility. Part of the northern boundary of the facility (Site 2) borders a private residence and the recommended proposed decision requires the applicant to install/implement a number of noise reduction/mitigation measures as outlined below:

- No wastes are to be accepted at Site 2 during night-time hours and the building is to be used only for the baling and storage of cardboard and plastic during daytime hours only.

- The applicant shall provide a noise exclusion zone on Site 2 (area within 20m from northern boundary) within which the licensee may not carry out any waste activities other than the storage of baled cardboard and plastics.
- The applicant shall not operate the trommel, shredder or any other high noise emitting plant on Site 1 between the hours of 10pm and 6am.
- The applicant shall install an acoustic barrier along the northern boundary of the facility. A similar acoustic barrier shall be installed to the north of the waste handling plant inside the existing building.
- Acoustic cladding shall be used in the construction of the sidewalls and roof of the proposed building (building 2). A similar cladding material shall be used on the roofs and sidewalls when the existing building is rebuilt.
- The recommended proposed decision requires that the applicant shall only use the entrance-exit point on Site 1. The entrance-exit point on Site 2 shall not be used except for emergencies.
- The recommended proposed decision requires that Site 2 shall not be used for vehicle or skip parking/storage.

The implementation of the above measures along with ongoing monitoring of noise emissions from the facility will ensure that the activities at the facility operate within the emission limits set out in Schedule C.

(6) Emissions to Groundwater

There shall be no emissions to groundwater and the applicant is required to carry out an integrity survey to verify that the surface of the facility prevents the movement of contaminants off-site.

(7) Emissions to Surface Water

There is a piped surface water drainage network to the north of the facility that drains to the Cammock River approximately 2km north of the facility. The recommended proposed decision requires the applicant to provide a surface water drainage system at the facility that shall collect all clean surface water. The collected surface waters shall be discharged to the surface water drain located to the north of the facility via a silt trap and oil interceptor. Condition 8.1 and Schedule C of the recommended proposed decision provides for the monitoring and emission limits for discharges to surface water respectively.

Previous monitoring of surface water discharges from the facility have shown exceedances in fats, oils and greases and suspended solids and BOD. The applicant will be required to comply with emission limit values set out in the recommended Proposed Decision. In addition the applicant is required to carry out an integrity survey of the on-site drainage and any associated remediation works within nine months of the date of grant of this licence.

(8) Other Significant Environmental Impacts

A *Section 52* consent to discharge to sewer was received from South Dublin County Council and its contents are reflected in the recommended Proposed Decision.

(9) Waste Management, Air Quality and Water Quality Management Plans

1. The Waste Management Plan for the Dublin Region does not directly refer to the applicant's facility however the plan does state that "the private sector role in provision of collection, treatment and disposal services must be encouraged". In addition the plan states that the recovery and recycling of commercial and industrial wastes by privately operated facilities is a key component of the plan.
2. The Water Quality Management Plan for Dublin Bay notes that the River Cammock is supportive of fish life and while it recognises it is eutrophic it does not specify water quality objectives for the River Cammock.
3. The vision statement of the Dublin Regional Air Quality Management Plan states "...protect the environment by the provision of a co-ordinated approach to the control of air pollution and to the sustainable development of the built environment and transportation within the region." Compliance with the Conditions of the recommended proposed decision should ensure that the air emissions from the facility will not exceed emission limits set out in the recommended proposed decision.

(10) Submissions/Complaints

Nine valid submissions were received in relation to the licence application. A summary of the issues raised is provided below. The contents of the submissions have been taken into account in drafting the recommended proposed decision.

Odours

A number of the submissions received state that malodours are often noted emanating from the facility and in some cases the odours become unbearable and local residents were unable to open their windows as the odours are so overpowering. It is stated that odours from the facility can often be noticed up to 200m from the facility.

Comment

Condition 5 of the recommended proposed decision sets out a number of conditions to control the generation of odours at the facility. Condition 5.4.1 requires the applicant to clean and wash the transfer floor on a daily basis. Condition 5.4.2 requires that all waste handling plant shall be washed down on a weekly basis. Condition 7.4 requires that all putrescible wastes are suitably covered and that all such wastes are removed off-site within 24 hours of arrival at the facility. In addition the recommended proposed decision requires that the applicant implements odour control techniques at the facility (Note: The licensee is in the process of installing a mist-air odour control system under the conditions of the existing waste licence) for the temporary storage of organic wastes at the facility. Condition 8.12 of the recommended proposed decision requires the applicant to carry out nuisance inspections at and around the facility on a daily basis.

Rodent and Insect infestation

A local resident and a local business both of which are located within 150m of the facility claim that they experience rodent infestations at their houses/premises and in addition insect infestations have been noted by a local business during the summer months.

Comment

No rodents or insects were noted at the facility during inspections carried out by the Agency as part of the enforcement of waste licence Reg. No. 95-1. The applicant has implemented a pest control programme at the facility under the existing waste licence. Condition 7.5 of the recommended proposed decision provides for the implementation of a pest control programme at the facility and in addition Condition 7.1 requires that vermin and flies should not give rise to nuisance at or beside the facility.

Night-time noise levels

A number of local residents have claimed that noise emissions from the facility are excessive and are clearly audible from nearby houses. In addition the Agency has received a number of complaints regarding night-time noise emissions from the site adjoining the licensed facility which is not part of the existing licensed facility.

Comment

The hours of operation and waste acceptance of the facility are initially restricted to 6.00am to 9.00pm daily. Night-time operations will not be allowed at the facility until the existing waste building has been rebuilt incorporating acoustic cladding and all of the additional noise control measures have been implemented. In addition no night-time activities shall take place at Site 2 (site closest to local residents) i.e. no waste activities and no vehicular movements. The recommended proposed decision also prohibits the use of the waste shredder and trommel between the hours of 10.00pm and 6.00am. Condition 5.7.4 requires that the applicant shall only use the entrance-exit point located at the north-eastern corner of the facility. The entrance-exit point located on Site 2 shall not be used on a routine basis. Condition 8.1 and Schedule D set out the noise monitoring requirements for the facility and Schedule C set emission limits at the nearest noise sensitive locations to the facility.

Waste Types and Quantities

Concerns were raised in the submissions that the licensee is accepting "wet waste" and this waste is leading to (i) odours being generated and (ii) spillage of material at and adjacent to the facility. The maximum annual tonnage of 350,000 was applied for in the application received in November 2001 is considered to be excessive and that the facility would not be able to handle such quantities without causing environmental pollution.

Comment

The waste types and quantities that the licensee may accept are set out in Schedule A of the recommended proposed decision. It prohibits the acceptance of any liquid wastes and waste liable to spill at the facility. In September 2002 the applicant revised the waste tonnages down to 200,000 tonnes per annum. The recommended proposed decision requires that at least 60% of the annual waste intake is in the form of pre-segregated cardboard and plastics which has a much less potential to cause environmental pollution/nuisances (this 60% increases to 80% from Phase I – Phase III).

Planning

A number of the submissions received were in relation to planning status of the facility and relate to the planning process for the existing waste building and the subsequent appeals process. In addition the submissions refer to the lack of compliance with the planning permission granted to the applicant.

Comment

Planning applications and the enforcement of existing planning permission is not an issue for the Agency to address but the planning authorities (South Dublin Co. Co. and An Bord Pleanala).

Compliance with the existing waste licence

One of the submissions questions the level of compliance with which the facility is operated in relation to the existing waste licence Reg. No. 95-1.

Comment

Waste Licence Reg. No. 95-1 was issued by the Agency to Reduce, Reuse and Recycle Limited on December 21st 2000. The enforcement of the waste licence is an ongoing task. The Agency will continue to enforce any waste licence that may be granted and will take whatever enforcement action is necessary.

Litter

One of the submissions states that litter may be an issue in the vicinity of the facility as litter has fallen from trucks leaving the facility in the past.

Comment

Condition 7.3 of the recommended proposed decision provides for the control of litter at and around the facility. All waste vehicles entering or leaving the facility shall be appropriately covered.

(10) Recommendation

I recommend that a revised waste licence, subject to conditions, be granted in accordance with the conditions in the recommended Proposed Decision.

In making the recommendation for a revised waste licence I have taken into account all information submitted as part of the application, submissions and also information available in relation to the existing waste licence and enforcement of this licence.

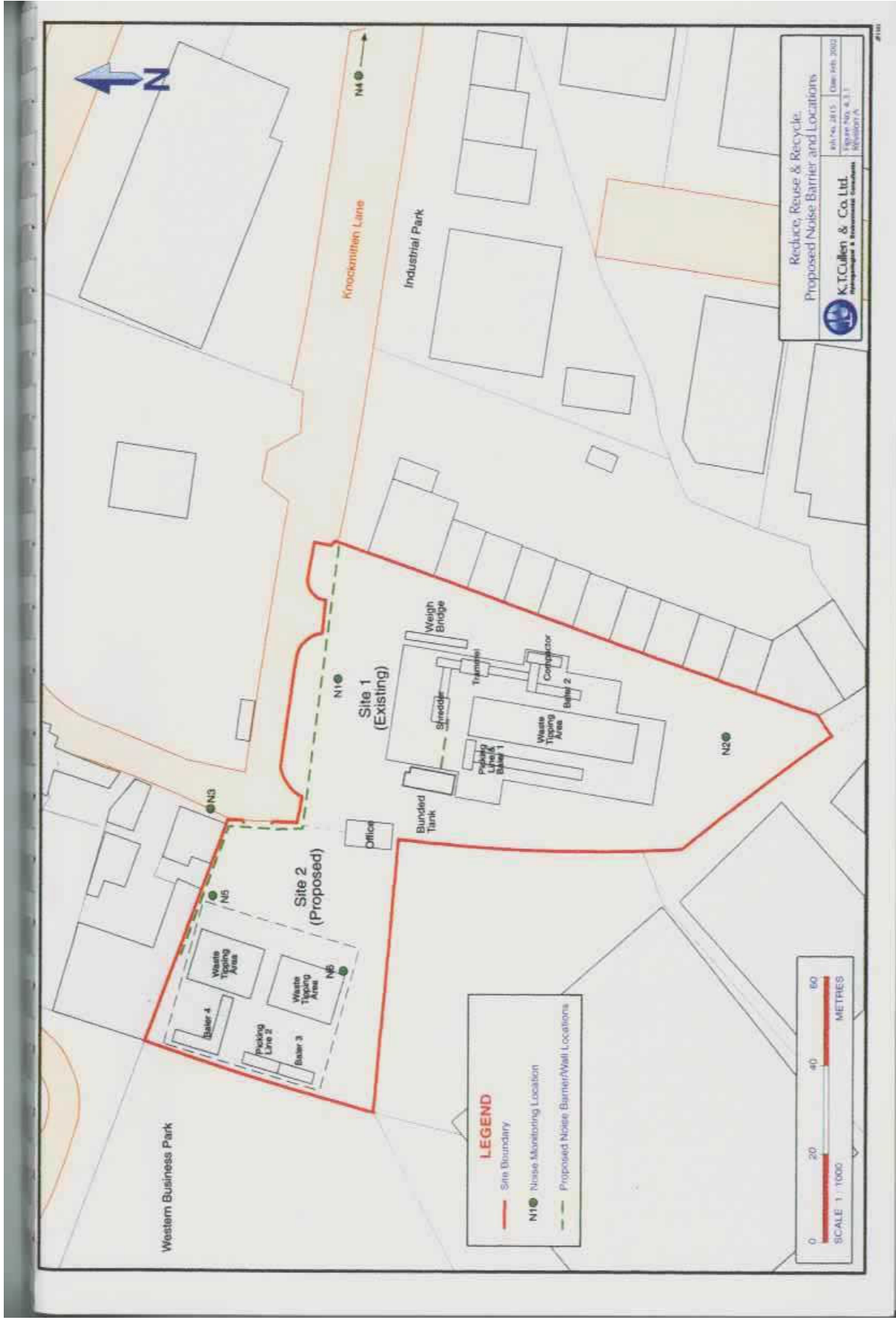
In coming to this recommendation, I consider that the continued operation of the facility would, subject to the conditions of the recommended Proposed Decision, comply with the requirements of Section 40(4) of the Waste Management Act 1996.

Signed _____
Kealan Reynolds
Inspector
Environmental Management and Planning

Dated:

APPENDIX 1

Site Plan



APPENDIX 2

When assessing the capacity of the facility to process commingled waste, reference was made to the USEPA document – “Waste Transfer Stations: A Manual for decision making” (2002). The document provides a number of formulae for determining the capacity of a given facility (see appendix 2). The option used in this case was the formula that relates to hopper/compaction stations as the 3R’s facility proposes to load all incoming commingled waste into the hopper of a waste shredder for processing. The equation is given below:

$$C \text{ (per day)} = (Nn \times Pt \times F \times 60 \times Hw) / (Pt/Pc \times Tc) + B$$

$$C \text{ (per day)} = (1 \times 25 \times 0.1875 \times 60 \times 16) / (25/12.5 \times 10) + 10 = 150 \text{ tonnes per day}$$

Annual Capacity based on a 6.5-day week (~0.5 day will be spent on maintenance)

Annual Capacity = **approx. 50,000**

Formulas for Determining Transfer Station Capacity

Stations with Surge Pits

Based on rate at which wastes can be unloaded from collection vehicles:

$$C = PC \times (L / W) \times (60 \times HW / TC) \times F$$

Based on rate at which transfer trailers are loaded:

$$C = (Pt \times N \times 60 \times Ht) / (Tt + B)$$

Direct Dump Stations

$$C = Nn \times Pt \times F \times 60 \times HW / [(Pt/Pc) \times (W/Ln) \times Tc] + B$$

Hopper Compaction Stations

$$C = (Nn \times Pt \times F \times 60 \times HW) / (Pt/Pc \times Tc) + B$$

Push Pit Compaction Stations

$$C = (Np \times Pt \times F \times 60 \times HW) / [(Pt/Pc) \times (W/Lp) \times Tc] + Bc + B$$

Where:

C = Station capacity (tons/day)

PC = Collection vehicle payloads (tons)

L = Total length of dumping space (feet)

W = Width of each dumping space (feet)

HW = Hours per day that waste is delivered

TC = Time to unload each collection vehicle (minutes)

F = Peaking factor (ratio of number of collection vehicles received during an average 30-minute period to the number received during a peak 30-minute period)

Pt = Transfer trailer payload (tons)

N = Number of transfer trailers loading simultaneously

Ht = Hours per day used to load trailers (empty trailers must be available)

B = Time to remove and replace each loaded trailer (minutes)

Tt = Time to load each transfer trailer (minutes)

Nn = Number of hoppers

Ln = Length of each hopper

Lp = Length of each push pit (feet)

Np = Number of push pits

Bc = Total cycle time for clearing each push pit and compacting waste into Trailers

