

# Kerry Central Recycling Facility Ltd

## Response to Further Information Request Folder 1

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**June 2009**

MGE0109CR0003





Planning Section,  
Kerry County Council,  
County Buildings,  
Rathass,  
Tralee,  
County Kerry.

25<sup>th</sup> June 2009

Our Ref: MGE0109LT0035GAL  
File Ref: 311

**Re: Planning Application by Kerry Central Recycling Facility Ltd. (Planning Ref. No. 2415/08) - Response to Further Information Request**

Dear Sir/Madam,

Kerry County Council issued a Further Information Request on the 17<sup>th</sup> December 2008 to RPS Consulting Engineers as agents to Kerry Central Recycling Facility Ltd. in relation to the planning application and EIS submitted on the 24<sup>th</sup> October 2008 for a Materials Recovery Facility and associated development works located in the townlands of Scart/Caherdean, Killarney, County Kerry (Planning Reg. No. 2415/08).

We now enclose 6 no. copies of our Response to the Further Information Request relating to this application on behalf of Kerry Central Recycling Facility Ltd.

As part of the preparation of this Response, consultations were held with Mr. TJ O'Mahoney (Planning Section, Kerry County Council), Mr. Padraic Teahan, (Roads, Transportation and Safety Department, Kerry County Council), Mr. Michael Connelly (County Archaeologist) and Mr. Mark Keegan (Archaeologist, National Monuments Service, Department of the Environment, Heritage and Local Government (DEHLG)).

The Response to the Further Information Request is set out as follows:

**6 no. copies of Folder 1 each containing:**

- 1 no. copy of the Response to the Further Information Request prepared under the headings Items 1- 28,
- 1 no. copy of signed site notice, erected on site on the 25<sup>th</sup> June 2009,
- 1 no. copy of the newspaper notice from the Kerryman Newspaper dated 24<sup>th</sup> June 2009, and
- 1 no. copy of submission date confirmation from Planning Section, Kerry County Council

**6 no. copies of Folder 2 each containing:**

- 1 no. copy of project drawings as set out in schedule attached to this folder, and
- 1 no. copy of the revised Drainage Calculation Report,

An original copy of the newspaper notice has also been submitted.

This Response includes the following project information which is provided to satisfy Kerry County Council with regard to the issues raised in the Further Information Request:

- (i) Road improvement, widening and revised development access road proposals which have been made possible by additional land acquisition by the Applicant following consultation with the Roads, Transportation and Safety Department,
- (ii) A revised visual impact assessment including additional photomontages and a revised landscape layout plan as requested by Kerry County Council,
- (iii) Clarifications of surface water, wastewater and drainage issues,
- (iv) Further details on proposed environmental mitigation measures,
- (v) Addressing concerns relating to Kerry Airport,
- (vi) Clarification of the number of car parking spaces provided,
- (vii) Details of correspondence between the County Archaeologist and the Department of Environment, Heritage and Local Government on the issue of pre-development archaeological testing, and

(viii) Clarification of facility details, activities and operations.

We also attach correspondence from the Planning Section of Kerry County Council confirming the submission date for the Response to the Further Information Request as being 25<sup>th</sup> June 2009.

We trust the above is satisfactory and we look forward to a positive response from your office on this planning application. In the meantime please do not hesitate to contact the undersigned at 091-400200 if you have any queries in relation to this Response.

Yours sincerely,



**William Madden**  
**Operations Director**  
**For RPS Consulting Engineers**

wm/mw

**Encl. 6 no. Folder 1 each containing:**

- 1 no. copy of Response to Further Information Request
- 1 no. copy of signed site notice
- 1 no. original copy of newspaper notice
- Submission date confirmation from Planning Section, Kerry County Council

**6 no. Folder 2 each containing:**

- 1 no. copy of Revised Drainage Calculation Report
- 1 no. copy of drawings as per schedule

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**An Roinn Pleanála**

Comhairle Contae Chiarraí,  
Áras an Chontae,  
Trá Lí, Co. Chiarraí.



**COMHAIRLE CONTAE CHIARRAÍ  
KERRY COUNTY COUNCIL**

**Planning Department**

Kerry County Council,  
County Buildings,  
Tralee, Co. Kerry.

Guthán | Tel 066 7183582 Faics | Fax 066 7120328 Rphost | Email plan@kerrycoco.ie Suíomh | Web www.kerrycoco.ie



**SO'M/PG**

**17<sup>th</sup> December, 2008**

**Siobhan Glynn,  
RPS Consulting Engineers,  
Lyrr Building,  
IDA Business Park,  
Mervue,  
Galway**

<b>RPS</b>		Project No	
Recipient		Siobhan	
Register No.	17	File Ref	
Date Rec'd	18 DEC 2008		
PM	MGF0109		
	311		
Copied to	A	I	C
Scanned			Date

**cc: Kerry Central Recycling Facility Ltd., copy for information**

**Further Information Request  
Planning and Development Acts, 2000 to 2007  
Planning Reg. No: 2415/08**

**Dear Sir,**

I refer to planning application submitted by you on behalf of **Kerry Central Recycling Facility Ltd.**, in respect of permission to construct (a) a materials recovery facility (MRF) building, (b) an office building, (c) a public recycling centre, (d) an internal access road and associated site works in the townland of **Scart, Caherdean, Killarney**.

**In order to assess this application, further information is requested as follows:**

1. Please supply details of the peak water demand for the proposed development including for wash-downs, processing and other demands (l/s or m<sup>3</sup>/hr). Further analysis will be required by Kerry Council Council to ensure that adequate supply is available.
2. The Planning Authority considers that the effect of the proposed facility on Kerry Airport has not been adequately addressed. In particular, the potential of the facility to attract birds not been considered. What mitigation measures are proposed, needs to be clarified.



3. Please supply details of the constituents of the waste (quantity and quality) to be connected to:

- The proposed treatment plant on site.
- The public treatment facility off site

The applicant is advised to consult with the Environment and Water Service Departments of the Council in this regard. Also, please clarify the location of the proposed public treatment facility to be used.

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4. It is noted that the applicant states that the processing of wastes indoors will mitigate against any impact on human health. However, the applicant does not state whether this will completely eliminate any impact or merely mitigate the impact. Please clarify the nature and significance of any impacts and residual impacts after mitigation and provide supporting data and mitigation measures if appropriate.
5. It is noted that the applicant states that operating hours shall be 24 hours per day, 6 days a week for commercial waste and 14 hours seven days for recycle centre. Please clarify the nature and significance of any impacts on the residential amenities of existing nearby properties and residual impacts after mitigation and provide supporting data and mitigation measures, if appropriate.
6. Kindly submit details of the source of all wastes which are to be processed at this facility and whether it is only proposed to deal with waste from the Kerry Region.
7. A public recycling centre is proposed for the deposition of recyclables. Please clarify proposed level of intake maximum and minimum.
8. Kindly clarify whether only wastes from the applicants own collections will be processed on site or whether that of other operators will also be processed at the site
9. Kindly submit details of the destination of all material processed on site (detailed by type)
10. Kindly submit details of the length of time all material will be stored on site (detailed by type)
11. Kindly clarify whether the administrative building relates to the use of this premises only.

12. Kindly clarify whether there is any outdoor storage of materials on the site. Please show on the site layout plan.
13. Kindly clarify whether the information provided with regard to dust/noise/odour etc., takes into account the predicted level of time that the doors of the facility will be opened.
14. Please supply details of the source and treatment of compostables and petricubles on the site and the source and destinations of the same.
15. It is noted that 95,000 tonnes of intake material is proposed per annum. Is this the maximum amount that can be processed in the development.? Please clarify whether there is additional capacity on site for the processing of additional larger amount of materials. The applicants are advised that if the site has a capacity of greater than 100,000 tonnes per annum then the planning application is subject to the Strategic Infrastructure Act 2006 and the applicant is advised to withdraw the application and enter into the statutory consultations with An Bord Pleanala.
16. Please provide a contoured site layout (preferably colour coded) showing the levels on the site after construction.
17. Please clearly show all levels of cut and fill on site.
18. Please provide details of the materials to be used in the processing of wastes and a detailed description of all processes.
19. The proposed development does not comply with the standards with regard to parking included in the Kerry County Development Plan 2003 with regard to industry, offices or parking for persons with disabilities. It is considered that the inadequate provision for parking may result in a traffic hazard. Please submit revised proposals to comply with relevant standards
20. Given the scale of the development, pre-development archaeological testing (the presence of drainage trenches and forestry plantations does not prevent testing being undertaken, as suggested in the EIS) should be carried out and report submitted for evaluation.
21. In relation to the proposed treatment unit on site, there is an element of ambiguity which requires clarification. The design figures used by EPS are for

a 30 person hydraulic load as well as a 30 person organic load – these figures differ from those quoted in Section “1.3 Foul Loadings” – Which of the two is correct.?

22. In the table 1.3 “Foul Loadings” the total hydraulic flow appears incorrect – Please clarify.

23. With regards to surface water attenuation and disposal, please submit the following information:-

- Study of application site showing the route or routes of surface water run-off from the undeveloped site.
- Calculation of the surface water flows from the undeveloped site including the basis for the calculations.
- Full design details of the proposed attenuation pond showing how adequate storage is to be provided.
- Full design details of flow control structure at the outlet attenuation pond.
- Proposal for the disposal route or routes of surface run – off from the developed sites.

24. It is noted that there is vagueness in the terminology used to describe mitigation proposed. Please provide a schedule of proposed mitigation prepared by the consultants and confirmed by the applicants. Where there is uncertainty with regard to mitigation, appropriate triggers or thresholds should be provided. The schedule should also identify the person/personnel/body responsible for implementing the measures.

25. Please provide details of any difficulties encountered in gathering data including data that it was not possible to attain.

26. Please provide confirmation from all the consultants involved in the project that the information supplied as a result of the above requests will not impact on or alter their assessments or recommendations. Where this is not the case and the information should be supplied and revised assessment/data/plans should be supplied as appropriate.

***This information is requested pursuant to Article 33 of the Planning and Development Regulations, 2001, (as substituted by Article 33 of the Planning & Development Regulations, 2006) and is considered necessary to enable the Planning***



***Authority deal with the application. On receipt of the further information, as specified, the application will receive further attention.***

Please provide an accurate and objective visual impact assessment of the proposed development. This should include new photomontages (with accurate building heights and show relevant adjacent buildings and ground levels) and show the visual impact of the proposed development both at time of completion and subsequent to mitigation from relevant strategic viewpoints from both the N22 Tralee to Killarney National Route which is to the east of the site and the proposed Killarney / Tralee route corridor which forms the western boundary of the site. This should be at 200 meter intervals within the visual envelope indicated. The applicant is advised that the Planning Authority have serious concerns with regard to the visual impact of the proposed development especially with regard to the fact that this is a Protected View and Prospect in the 2003-2009 Kerry County Development Plan.

The planting depth proposed is deemed to be inadequate to adequately mitigate impact on the visual amenities of the area and the amenities of adjoining properties. Please supply a revised planting plan to show proposed planting. This should be in the form of a dedicated landscape layout plan and accompanying specification. The applicant is advised that the depth of the buffer should be significantly increased and that mature planting should be provided. The applicant is advised that, in the interests of the amenities of the area, planting should be provided as a buffer on the old N22 in place of the ornamental planting proposed.

Set back of any development on site should be a minimum of 50 meters from the existing N22 National Primary Route.

**Unless the applicant demonstrates that the matters below can be addressed to the satisfaction of the Roads, Transportation and Safety Department, this Department will be recommending a refusal of the proposed development.**

The cross section of the existing Local Primary Road L3023 is unsuitable for this type of development as it is 'too narrow to accommodate passing traffic', as stated in section 4.2 of the document 'New access junction to proposed Materials Recovery Facility', Appendix P of the Environmental Impact Statement. The overall road width including verges on a section of this road has been measured on site as being 5.5m, with a carriageway width of 4m. The site layout drawings submitted, DG0007/01 and DG008/02 indicate that the road widening proposed on the Local Road L3023 lies outside the land ownership boundary of the applicant. The Roads, Transportation and Safety Department cannot assume that the necessary lands may be acquired to

facilitate this proposed road widening and the existing road width is considered totally inadequate to cater for the traffic associated with the proposed development.

The cross section proposed for the widened section of the L3023 as outlined in drawing number DG0014/03 is considered inadequate. A minimum carriageway width of 7m with two 2m grass verges (to accommodate roadside drainage and services) is considered the minimum required to service this development.

The Local Road L3023 has a bend of radius approximately 15m on the immediate approach to the N22/L3023 junction. This bend would not conform to TD 9/07 of the NRA Design Manual for Roads and Bridges where the minimum horizontal curvature is 255m (two steps below the desirable minimum with super elevation of 7%) for a design speed of 85 kph. As there will be a significant intensification of traffic and particularly HGV traffic on this section of road associated with the development, it is considered that the geometric alignment of the L3023, particularly at this location, is unsuitable to cater for this increase. The tight horizontal curve radius on this bend also results in inadequate forward visibility to the N22/L3023 junction when travelling eastward towards the junction.

The drawings submitted do not indicate that 160m of forward sight distance is available for vehicles turning right off the Local Road L3023 into the proposed development.

The legend on the Autotrack drawing DG0015/02 states that a 16.5m Articulated Truck was utilised in the analysis. An inspection of the drawings indicates that at the junction of the N22/L3023, a shorter Rigid Truck was used when examining the exit from the junction. An Autotrack Analysis by the Kerry County Council Road Design Office indicates that the swept path of an articulated truck would be likely to conflict with another articulated truck positioned on the right turning lane of the N22 ghost island.


The analysis has also not examined the path of an articulated truck turning left from Killarney into the junction. An Autotrack analysis by the Road Design Office has indicated that the swept path of an articulated truck would be likely to conflict with the path of an articulated truck on the L3023 approaching the junction.

***Please note that any amendment to the proposal as submitted will be deemed significant additional data within the provisions of the Planning and Development Regulations, 2001 to 2006, thereby necessitating further public site and newspaper notices. A copy of the further site and newspaper notices should be submitted with***

*the amended proposal and please note that the further site notice should remain in position until a decision issues on the application.*

*The above requested information should not be submitted in a piecemeal fashion, but should only be responded to when all queries are being answered in full.*

*Yours faithfully,*

  
\_\_\_\_\_  
*A.O. Planning*

**NOTE TO ALL APPLICANTS / AGENTS**

*Where the further information requested herein is not submitted within the period of six months from the date of issue of this notice, the planning application shall be declared to be withdrawn, pursuant to Article 33(3) of the Planning & Development Regulations, 2001, (as substituted by Article 33(3) of the Planning & Development Regulations 2006).*

**OR**

*If the Planning Authority requires clarification on the further information received, please note that a complete response on the clarification sought must also be received within the 6 month prescribed period which begins on the date of issue of the initial request for further information.*

## NEWSPAPER NOTICE TEMPLATE

### PLANNING & DEVELOPMENT REGULATIONS 2001 - 2008

#### ARTICLE 35

*Format of Public Notice of Further Information or revised plans having been submitted to the Planning Authority, pursuant to a request issued by the Planning Authority under Article 33 of the Planning & Development Regulations 2001-2008.*

The notice shall contain as a heading the name of the Planning Authority, marked “*Further Information*” or “*Revised Plans*”, as appropriate, and stating:-

- (i) the name of the applicant
- (ii) the location, townland or postal address of the land or structure to which the application relates (as may be appropriate)
- (iii) the reference number of the application on the register.
- (iv) description of the proposed development.
- (v) that significant further information or revised plans, as appropriate, in relation to the application has or have been furnished to the Planning Authority, and is or are available for inspection or purchase at a fee not exceeding the reasonable cost of making a copy, at the offices of the Authority during its public opening hours, and

A submission or observation in relation to the further information or revised plans may be made in writing to the Planning Authority within the statutory time limit, i.e. ***not later than 2 weeks*** after the receipt of the newspaper notice and site notice by the Planning Authority or in the case of a planning application accompanied by an EIS, within 5 weeks of receipt of such notices by the Planning Authority.

A submission or observation must be accompanied by the prescribed fee of €20, except in the case of a person or body who has already made a submission or observation.

***Please note that where a Planning Authority considers that the additional notice published/erected does not adequately inform the public, the Authority may require the applicant to give such further notice in such a manner and in such terms as the Authority may specify.***

# KERRY COUNTY COUNCIL<sup>1</sup>

## SITE NOTICE OF FURTHER INFORMATION/REVISED PLANS

Name of applicant \_\_\_\_\_ **Kerry Central Recycling Facility Ltd.** \_\_\_\_\_<sup>2</sup>

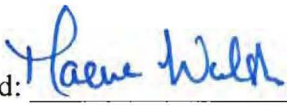
Reference number of the application \_\_\_\_\_ **2415/08** \_\_\_\_\_<sup>3</sup>

The development applied for consisted of \_\_\_\_\_ **Construction of (a) a Materials Recovery Facility (MRF) building, (b) an office building, (c) a Public Recycling Centre, (d) an internal access road (e) local road improvement works and associated site works.** This planning application is accompanied by an Environmental Impact Statement (E.I.S). A Waste Licence Application has been submitted to the EPA in respect of the proposed development \_\_\_\_\_<sup>4</sup>

Significant Further Information/Revised Plans ~~has~~/have been furnished to the planning authority in respect of this proposed development, and ~~is~~/are available for inspection or purchase at the offices of the authority during its public opening hours, 9.00 – 5.00 Monday to Friday.

A submission or observation in relation to the further information or revised plans may be made in writing to the planning authority within the statutory time limit, i.e. not later than 2 weeks after the receipt of the newspaper notice and site notice by the Planning Authority or in the case of a planning application accompanied by an EIS, within 5 weeks of receipt of such notices by the Planning Authority.

A submission or observation must be accompanied by the prescribed fee of €20, except in the case of a person or body who has already made a submission or observation.

Signed:  **Maeve Walsh, RPS Consulting Engineers, Lyrr Building, IDA Business & Technology Park, Mervue, Galway (Agent)** \_\_\_\_\_<sup>6</sup>

Date of erection of site notice: \_\_\_\_\_ **25<sup>th</sup> June 2009** \_\_\_\_\_<sup>7</sup>

**In Memoriam**



**O'SHEA,**  
Teeromoyle

2nd and 30th Anniversary.  
In loving memory of my parents Kathleen and John. Time and years slip gently by, But love and memories never die. Always remembered Mary, Patrick and family



**O'SULLIVAN**  
(13th & 10th Anniversary)  
In loving memory of our parents Patrick and Mary O'Sullivan, 7 Marian Place, Cahersiveen. Patrick who died on October 19th, 1996 and Mary who died on June 23rd, 1999. Those we love dont go away, They walk beside us everyday, Loved and remembered by your family.



**WALSH**  
(11th Anniversary)  
In loving memory of Johnny Walsh, late of Main Street, Ballylongford, who died on June 23rd, 1998. We never part from those we love, No distance can divide us, With memories dear and love sincere, You will always walk beside us. Sadly missed and always remembered by your loving family.

**Planning**

**KERRY COUNTY COUNCIL:** Further Information/Revised Plans We, Kerry Central Recycling Facility Ltd., hereby give notice that significant Further Information has been furnished to Kerry County Council in relation to a planning application (Ref 2415/08) for the construction of (a) a Materials Recovery Facility (MRF) building, (b) an office building, (c) a Public Recycling Centre, (d) an internal access road, (e) local road improvement works and associated site works in the townland of Scart/Caherdean, Killarney, County Kerry. The planning application was accompanied by an Environmental Impact Statement (E.I.S.). A Waste Licence Application has been submitted to the EPA in respect of the proposed development. The Planning Application and E.I.S. together with the Further Information may be inspected or purchased at a fee not exceeding the reasonable cost of making a copy at the offices of the Planning Authority at County Buildings, Rathass, Tralee during its public opening hours: Monday to Friday 9.00 a.m. to 5.00 p.m. A submission or observation in relation to the Further Information may be made in writing to the Planning Authority on payment of the prescribed fee of €20 within the period of 5 weeks beginning on the date of receipt by the authority of the application.

**KERRY COUNTY COUNCIL:** I, Colm Kelleher, apply for retention permission for existing garage/shed as built at the rear of existing dwelling at Strandend, Cahersiveen. The planning application may be inspected or purchased at a fee not exceeding the reasonable cost of making a copy at the offices of the Planning Authority at County Buildings, Rathass, Tralee during its public opening hours: Monday to Friday 9.00a.m. to 5.00p.m. A submission or observation may be made in writing on payment of the prescribed fee of €20.00 within the period of 5 weeks beginning on the date of receipt by the Authority of the application.

**KERRY COUNTY COUNCIL:** We Kelly Farm Modernisation Ltd, wish to apply to Kerry County Council for Permission for retention for the development of a shed for the storage of commercial machinery at Knocknaboul, Ballydesmond, Co Kerry. This planning application may be inspected or purchased at the office of Kerry County Council Planning Authority during normal office hours. A submission or observation in relation to the application may be made in writing to the Planning Authority within a period of 5 weeks from the date of receipt by the Authority of the application and on payment of the prescribed fee of €20.

# Appointments

**Castlemaine Family Resource Centre Ltd requires a**

## Volunteer Trainer/Mentor

**Part time 21 hours per week (Some evening work required)**  
**One year fixed term contract**

To work with the Family Resource Centre in implementing CONNECT, their Home Visitation Service for the elderly and isolated in the community. To recruit and train 20 volunteers and support them as they begin their visitation of the elderly in the Castlemaine Area.

**Key Requirements for the position:**

- Candidates will have 3 years experience of working in a community development setting
- Candidates will have 3 years experience in a training and development role
- Candidate will have excellent facilitation and group work skills
- Candidate will have excellent conflict resolution and networking skills
- Candidates will have excellent time management and organisational skills

For an application pack please contact the Castlemaine Family Resource Centre on 066-9767833 or [cmairfrc@eircom.net](mailto:cmairfrc@eircom.net) ref: Trainer/Mentor. The closing date for receipt of application is Friday 3rd July at 4pm. Interviews will be held on Tuesday 28th July 2009.

*Castlemaine FRC is an equal opportunity employer.*

**Planning**

**KERRY COUNTY COUNCIL:** Take notice that Carmine and Ann Nardella intend to apply to Kerry Co Council for planning permission for the provision of 4 no Velux Roof Lights to the front facade of their existing dwelling at Carrigadiv Castle-gregory Co Kerry. The planning application may be inspected or purchased at a fee not exceeding the reasonable cost of making a copy at the offices of the Planning Authority during its public opening hours and that a submission or observation in relation to the application may be made to the authority in writing on payment of the prescribed fee within the period of five weeks beginning on the date of receipt by the authority of the application.

**Planning**

**KERRY COUNTY COUNCIL:** Permission is sought by Ursula Walsh for extension to existing dwelling at No.5 Cahirdown Close in the townland of Dromin Upper, Listowel, Co. Kerry. This planning application may be inspected or purchased at a fee not exceeding the reasonable cost of making a copy at the offices of the planning authority at county buildings, Rathass, Tralee - during its public opening hours: Monday to Friday 9.00 a.m. to 5.00 p.m. A submission or observation in relation to the application may be made in writing to the planning authority on payment of the prescribed fee of €20 within the period of 5 weeks beginning on the date of receipt by the authority of the application.

**Auto Lawn Mow Ireland Offer**  
**Recession Proof Business Opportunity**

As seen on RTE.  
Full training provided  
Huge Income potential/  
full/part time  
Dealerships  
from €9,995 +vat

Contact Patrick  
086-3970917  
[www.robotlawnmowers.ie](http://www.robotlawnmowers.ie)

**Planning**

**KERRY COUNTY COUNCIL:** Rod Robinson Associates Ltd, Tel (066) 947885, on behalf Richard Murphy wish to apply to Kerry County Council for Full Planning Permission for the Erection of a New Dwelling at Garranebane, Cahersiveen, Co Kerry. The planning application may be inspected or purchased at a fee not exceeding the reasonable cost of making a copy, at the offices of the Planning Authority during its public opening hours and that a submission or observation in relation to the application may be made to the authority in writing on payment of the prescribed fee of €20.00 within the period of 5 weeks beginning on the date of receipt by the Authority of the application.

**Planning**

**KERRY COUNTY COUNCIL:** I, John Murphy, intend to apply to Kerry County Council for planning permission to demolish old house ruin and construct 3 bedroom house served by septic tank, and percolation area, and associated site works in accordance with plans at Coomfananida, Caragh Lake, Co. Kerry. The planning application may be inspected or purchased at a fee not exceeding the reasonable cost of making a copy at the offices of the Planning Authority during its public opening hours and a submission or observation may be made in writing on payment of the prescribed fee of €20.00 within the period of 5 weeks beginning on the date of receipt by the Authority of the application.

**Planning**

**KERRY COUNTY COUNCIL:** Permission is sought by Dr. Donal Daly for demolition of existing single storey extension to rear of existing surgery, for the construction of a single storey extension to the rear of existing surgery along with 2 number velux roof lights to the front elevation all at No.6 Courthouse rd, Listowel, Co. Kerry. This planning application may be inspected or purchased at a fee not exceeding the reasonable cost of making a copy at the offices of the planning authority at county buildings, Rathass, Tralee - during its public opening hours: Monday to Friday 9.00 a.m. to 5.00 p.m. A submission or observation in relation to the application may be made in writing to the planning authority on payment of the prescribed fee of €20 within the period of 5 weeks beginning on the date of receipt by the authority of the application.

**FAS**  
Fast Access South West Ireland

## Jobline

To apply for vacancies advertised with FAS, it is important that you contact your local FAS office in the first instance, as application details may vary. Please note vacancies are current at time of going to press. For NEW jobs check [www.fas.ie](http://www.fas.ie) or the touch screen computers in all FAS offices

**REF: 504874 SPA THERAPIST**  
Required in Sneem. Duties to include massage therapy and all related tasks in a hotel spa. Applicants must have relevant qualifications, experience is an advantage.

**REF: 504782 CHILDCARE CENTRE MANAGER**  
Required in Camp. Manager will have overall responsibility for the childcare centre. A professional childcare qualification is essential as well as experience in a supervisory/management role.

**REF: 504503 SALES ASSISTANT, FASHION (P/T)**  
Required in Tralee, part-time. Previous experience desirable but not essential as full training will be provided. Weekend work involved.

**JOBSEEKERS:** FAS provides expert guidance and resources, with access to job vacancies. For details on all vacancies advertised through FAS visit our website [www.fas.ie](http://www.fas.ie)

**REF: 504076 CAVITY INSULATION INSTALLER**  
Required for work in Kerry/Limerick area to install insulation in cavity walls. Applicants must be fully experienced and have Safepass. C licence is desirable.

**REF: 504678 ACCOMMODATION ASSISTANT (P/T)**  
Required in Killarney. Duties to include servicing guest bedrooms, corridors and public areas of the hotel. Experience is essential.

**REF: 504760 MINIBUS DRIVER PSV LICENCE**  
Required for Ballybunion & North Kerry. PSV licence required.

**REF: 504801 MOTOR MECHANIC**  
Required in Tralee for the service and repair of cars. Must be fully qualified with excellent experience.

**FAS COMMUNITY EMPLOYMENT**  
Applicants for all CE vacancies must meet specific eligibility criteria. To confirm eligibility you must enquire at your local FAS office

**Ref: 504725 Clerical Assistant, Tralee**  
**Ref: 504459 Childcare Assistant, Ballybunion**  
**Ref: 503911 Cleaner/Maintenance Worker, Killarney**  
**Ref: 504390 Cleaner, Scartaglen**  
**Ref: 504724 General Operative, Tralee**

To find out more on any of the above services: You can contact a FAS Employment Service Office in: **17 Lower Castle Street, Tralee (066) 7126444**  
**Kenmare Place, Killarney (064) 6632466**

**FAS also provide Clinic services at the following locations:**  
**Cahersiveen 2nd & 4th Thursday each month**  
**Listowel 2nd & 4th Tues. each month by appointment**  
**Castleisland 2nd & 4th Wed. each month by appointment**  
**Dingle/Kenmare 1st & 3rd Wednesday each month**  
**Killorglin 1st & 3rd Thursday each month**

**classified advertising**

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066 71 45570  
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**The Kerryman**

**The Kerryman**

066 71 45560

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**Special Notices**

## KWEAR

THE SQUARE, DUNMANWAY, WEST CORK

**LARGE SELECTION DRESSES AT AMAZING PRICES INCLUDING DEBS DRESSES, OCCASION WEAR, CASUAL WEAR SPECIALISING IN PLUS SIZES**

MONDAY CLOSED • TUES-SAT 10 - 5.30

**0238856701**

**Ballygarry House**

## Restaurant Manager

required

Minimum 3years experience. Full time position

Apply in writing to:  
Katie McQuinn, HR Manager  
Ballygarry House Hotel and Spa  
Killarney Road,  
Tralee, Co Kerry

Email: [hr@ballygarryhouse.com](mailto:hr@ballygarryhouse.com) before 3rd July 2009.

**The Kerryman**

**classified advertising**

**Maeve Walsh**

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**Subject:** FW: Planning Ref 2415/08

**From:** Helen Burke [mailto:HBURKE@kerrycoco.ie]  
**Sent:** 19 June 2009 13:12  
**To:** Maeve Walsh  
**Subject:** RE: Planning Ref 2415/08

**Re: 08/2415- Kerry Central Recycling Facility**

Maeve

Sincere apologies for the delay in responding to your email.

The final date for submission of a complete response to the further information requested on planning Reg No 08/2415 is 25<sup>th</sup> June 2009 (unless a request for an additional period has been requested and approved by the Planning Authority before the expiration of the initial 6 month period). All Further information received is referred in the first instance to the relevant senior planner to determine if it comprises a complete response. It is of course advisable to have the further information submitted in time to have any deficiencies identified early enough to allow you to make a further response if necessary.

Please do not hesitate to come back to me if you have any further queries in relation to the above

Regards

Helen Burke

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**Kerry Central Recycling Facility  
Planning Reg. No. 2415/08  
Response to Further Information Request**

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Item 1

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Item 1

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## ITEM 1

*Please supply details of the peak water demand for the proposed development including for wash-downs, processing and other demands (1/s or m<sup>3</sup>/hr). Further analysis will be required by Kerry County Council to ensure that adequate supply is available.*

## RESPONSE

Calculations computing the peak water demand for domestic use are shown in **Table 1.1** below. Average water demand for domestic use is predicted to be 3,450 l/d (3.45 m<sup>3</sup>/d).

**Table 1.1 Domestic Water Demand**

<b>System Users</b>	<b>Number of Persons</b>	<b>Flow (L/p/d)</b>	<b>Flow (L/d)</b>	<b>Flow (m<sup>3</sup>/d)</b>
Office & Yard Staff	50	60	3,000	3
Drivers	15	30	450	0.45
Totals	65	90	3,450	<b>3.45</b>

Water usage for process requirements is estimated at 220,000 litres/year at full production based on similar facilities. This corresponds to an average daily usage of approximately 705 l/day based on a six day working week. An average usage of 1,000 l/day for incidental use (yard cleaning, etc.) is assumed. An average water demand for wash-downs and processing is therefore estimated at 1,705l/d (1.705m<sup>3</sup>/d).

The total average daily usage is therefore estimated to be 5,155 l/day which corresponds to a peak usage of 645 l/hour (0.645 m<sup>3</sup>/hr) based on 24 hr/day operation and a peaking factor of 3.

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Item 2

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## ITEM 2

***The Planning Authority considers that the effect of the proposed facility on Kerry Airport has not been adequately addressed. In particular, the potential of the facility to attract birds has not been considered. What mitigation measures are proposed, needs to be clarified.***

## RESPONSE

The proposed facility will be situated approximately 4.5km south of Kerry Airport. The airport was considered in its context as an important local and regional amenity as part of the EIS. To this end the impact the proposed facility could have on the airport was addressed in full as part of the EIS process and no significant impacts were identified.

A copy of the planning application and EIS was issued to the management of Kerry Airport and to the Irish Aviation Authority on the 6<sup>th</sup> November 2008 as part of the consultation process by Kerry County Council (in accordance with Article 28 of the Planning and Development Regulations 2001 as amended). Neither body officially responded with a submission or objections relating to the proposal.

Mr. Peter Moore, Manager of Kerry Airport, issued a map to RPS which is reproduced in **Figure 2.1** overleaf. This map indicates a 13km zone called the "*Bird Hazard Zone*" around the airport. This zone relates to the air space where aircraft coming in to land and taking off would have the highest possibility of collision with birds. This zone has most significance along the flight paths (i.e. take off and landing approaches to the airport) also identified on **Figure 2.1**. The proposed facility will not be located on or in the vicinity of these flight paths. Therefore it is considered that the proposed facility will have no impact on the operations of Kerry Airport.

Several waste facilities operate either within or close to the 13km bird hazard zone as shown in **Table 2.1**. Killarney Waste Disposal (KWD), a parent company of Kerry Central Recycling Facility Ltd., has been in operation as a materials recovery facility within the 13km "*Bird Hazard Zone*" for the past 10 years with no recorded incidents or complaints from the airport during this time. In addition, the North Kerry Landfill Site (operated by Kerry County Council) is situated 13km from Kerry Airport. This facility would, given its nature, have a much higher potential for attracting birds and other vermin than the proposed indoor Materials Recovery Facility than the proposed Materials Recovery Facility where all processing of waste will be carried out indoors. Milltown Transfer Station, also operated by Kerry County Council, lies just outside the 13km zone but is located within the flight path of the airport. It continues to

operate with no reported complaints or incidents from Kerry Airport. Another transfer station operated by Kerry County Council at Coolcaslagh is located just outside the 13km zone to the south of Kerry Airport. The continual operation of the Killarney Waste Disposal licences facility within the 13km zone as well as a landfill to the north of the airport and a transfer station within the flight path of the airport clearly demonstrates that the day to day operations of a licenced facility will not impact on the operations of Kerry Airport.

**Table 2.1 Details of Licenced Waste Facilities Operating within or close to Kerry Airport Bird Hazard Zone**

Waste Facility	Waste Licensee	EPA Waste Licence No.	Type of Facility	Quantity (tpa*)	Issue date of Waste Licence
Coolcaslagh Transfer Station	Kerry Co.Co.	W0072-01	Waste Transfer Station & Composting Facility	23500	2000
Killarney Waste Disposal MRF	KWD	W0217-01	Non-Hazardous Materials Recovery Facility	40000	2006
North Kerry Landfill Site	Kerry Co.Co.	W0001-03	Landfill for Non-Hazardous Waste	77000	1998 (W0001-01)
Milltown Transfer Station	Kerry Co.Co.	W0069-01	Transfer station (Compaction of Non-Hazardous for landfill. Recovery/Recycling)	12500	2000

\*tpa –tonnes per annum

From a planning perspective Farranfore Local Area Plan (LAP), 2007 specifies in relation to Kerry Airport the following “*The onus shall be on developers (in consultation with Kerry Airport) to ensure that any proposed development within the development boundary of Farranfore does not punctuate the Obstacle Limitations Surface<sup>1</sup>....*” While the proposed development site is situated well beyond the development boundary as set out in Farranfore LAP, it will not contravene the objective of the LAP as the proposal will not punctuate the obstacle limitations surface of Kerry Airport.

The activities at the proposed MRF will be carried out to ensure that birds are not attracted to the facility. Compostables and mixed municipal waste will be accepted at the facility. However, these materials will be delivered in covered trucks, and processing and storage of this material will take place indoors. A housekeeping procedure which was submitted as part of the EPA Waste License Application will be implemented at the proposed facility. This procedure outlines the following steps which are to be taken in order to ensure and that all solid waste (organic) and intermediates are stored correctly prior to shipment/disposal etc. These measures include regular inspections of site areas to ensure that all materials within

<sup>1</sup> to prevent the aerodromes from becoming unusable by the growth of obstacles . . . by establishing a series of obstacle limitation surfaces that define the limits to which objects may project into the airspace”.

the area are appropriately stored and are in sound condition, weekly checks of the external plant environment, the perimeter fencing and gates, storm water and the floor of the materials recovery facility.

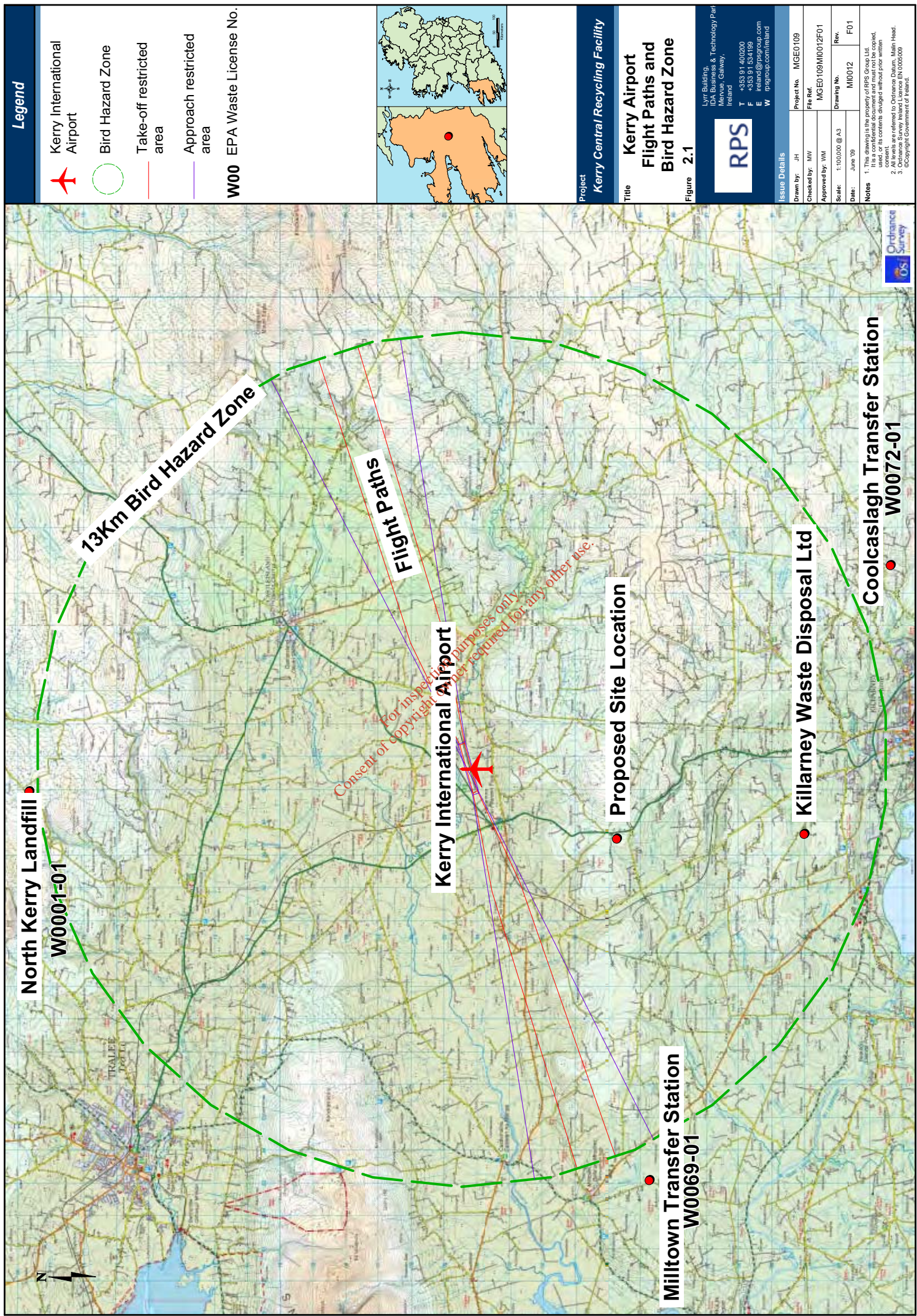
Material of an organic nature will also leave the site covered. If all measures mentioned above are implemented and the housekeeping procedure is maintained, it is not anticipated that the activities taking place at the facility will attract birds or any other vermin.

As a further precaution, regular inspections will be carried out at the site to ensure that vermin (including birds) are not an issue or a nuisance at the facility. A log of all inspections shall be maintained. In the unlikely event of bird activity in the immediate vicinity of the site is increasing due to the operation of the facility, implementation of appropriate bird control measures will be discussed with the relevant authorities. Any measures used to control vermin at the site shall not cause environmental pollution.





### **Conclusion**

The planning application and EIS took due regard of Kerry Airport in assessing potential impacts of the proposed facility on its surrounding environment. No impacts on the airport as a result of the proposed development were identified due to the fact that the proposed facility is 4.5km from the airport and is not located on any flight paths for the airport. A number of other licenced waste facilities including the existing Killarney Waste Disposal waste recycling facility and a 77,000 tonnes/annum municipal waste landfill and waste transfer stations operated by Kerry County Council are located within or close to the 13km bird hazard zone around Kerry Airport without causing any risk to the airport operations.

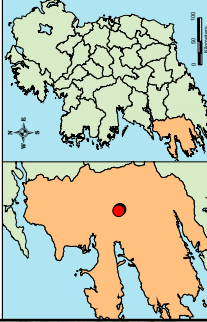
No objections or concerns were raised by the management of Kerry Airport or the Irish Aviation Authority with regard to this planning application. The proposal is in line with objectives of Farranfore LAP with regard to Kerry Airport. It is not anticipated that the proposed facility will attract vermin including birds as all processing will take place indoors and an effective housekeeping procedure will be put in place during the operational phase of the facility. In the unlikely event that bird activity in the immediate vicinity of the site increases due to the operation of the facility, appropriate control measures will be implemented.



**Legend**

-  Kerry International Airport
-  Bird Hazard Zone
-  Take-off restricted area
-  Approach restricted area


**W00** EPA Waste License No.



**Project**  
**Kerry Central Recycling Facility**

**Title**  
**Kerry Airport  
Flight Paths and  
Bird Hazard Zone**

**Figure 2.1**



Lynn Building,  
100A Business & Technology Park,  
The Grange,  
Inchicore,  
Dublin 4,  
Ireland

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<b>Issue Details</b>	
Drawn by: JH	Project No. MGE0109
Checked by: WM	File Ref. MGE0109/M0012F01
Approved by: WM	Drawing No. M0012
Scale: 1:100,000 @ A3	Rev. F01
Date: June '09	

Notes

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### ITEM 3

**Please supply details of the constituents of the wastewater (quantity and quality) to be connected to:**

- **The proposed treatment plant on site.**
- **The public treatment facility off site**

**The applicant is advised to consult with the Environment and Water Service Departments of the Council in this regard. Also, please clarify the location of the proposed public treatment facility to be used.**

### RESPONSE

A revised drainage report has been produced and accompanies this response.

The on site treatment plant will treat wastewater solely from the offices and bathrooms in the administrative building. The typical constituents of this wastewater are shown in **Table 3.1**. The quantity of waste to be connected to the proposed treatment plant is calculated to be approximately 3.45 m<sup>3</sup>/d. Please refer to Table 1 of the revised drainage report which is also set out overleaf. No process wastewater will be treated at the on-site wastewater treatment plant.

**Table 3.1 Inflow Wastewater Characteristics as per the EPA Wastewater Treatment Manual.**

Parameter	Unit	Mean
SS	mg/l	163
BOD <sub>5</sub>	mg/l	168
COD	mg/l	389
O-PO <sub>4</sub>	mg/l	7.1
Total-N	mg/l	40.6
NH <sub>3</sub> -N	mg/l	31.5
NO <sub>3</sub> -N	mg/l	0.25
NO <sub>2</sub> -N	mg/l	0.04
pH	mg/l	7.5
Total-coli	CFU per 100ml	1 x 10 <sup>8</sup>
E-coli	CFU per 100ml	4 x 10 <sup>7</sup>

**Table 1 Foul Loadings\***

Foul System Users	Number of Persons	Flow (L/p/d)	Flow (L/d)	Flow (m <sup>3</sup> /d)	BOD (g/p/d)	BOD (g/d)
Office & Yard Staff	50	60	3000	3	30	1500
Drivers	15	30	450	0.45	15	225
Totals	65	90	3450	3.45		1725

\*Extract from revised Drainage report

The wastewater generated within the facility as part of the processing activities will be stored in a holding tank on site. Typical constituents of this type of wastewater from the Killarney Waste Disposal facility at Aughacureen are shown in **Table 3.2**. The quantity of process wastewater that will be generated is estimated to be 220,000 litres per annum (based on an annual intake at the facility of 95,000 tonnes per annum). It is proposed that this wastewater will be tankered to the Tralee WWTP for treatment.

A letter issued by Mr. Seamus O'Mahoney, Executive Engineer, Water Services Section, Kerry County Council on the 19<sup>th</sup> June 2009 confirming the acceptance of leachate by Tralee Wastewater Treatment Plant from the proposed Kerry Central Recycling Facility at Scart/Caherdean is attached.

**Table 3.2 Process Effluent Quality Results**

Parameter	Process Effluent - Leachate
pH	7
Conductivity, uS/cm @ 20°C	4.12
COD, mg/l	2800
BOD, mg/l	977.9
TOC, mg/l	708
Magnesium, mg/l	37.5
Potassium, mg/l	122.88
Sodium, mg/l	177
Cadmium, mg/l	0.03
Lead, mg/l	0.41
Nickel, mg/l	0.39
Zinc, mg/l	2.89
Ammonia, mg/l NH <sub>4</sub> -N	20.73
Chloride, mg/l	206.3
Sulphate, mg/l	647.4
Total Alkalinity, mg/l	1109.2
TON, mg/l N	4.2
Iron, mg/l	28.41
Copper, mg/l	1.75
Manganese, mg/l	1.68
Chromium, mg/l	0.1
Mercury, µg/l	<0.05
Calcium, µg/l	147.6
Arsenic, µg/l	5

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#### ITEM 4

*It is noted that the applicant states the processing of wastes indoors will mitigate against any impact on human health. However, the applicant does not state whether this will completely eliminate any impact or merely mitigate the impact. Please clarify the nature and significance of any impacts and residual impacts after mitigation and provide supporting data and mitigation measures if appropriate.*

#### RESPONSE

**Chapter 3** of the EIS sets out the potential impact that the proposed development could have on the human environment at both construction and operational stages. Having identified the potential impacts, mitigation measures to lessen or where possible, eliminate these impacts, were identified. **Section 3.4** of the EIS stated that these mitigation measures were set out in subsequent chapters of the EIS including visual and landscape, surface water, traffic, soils/geology/hydrogeology and noise and air assessments.

**Section 3.5** of the EIS states the following *"it is not anticipated that there will be any residual impacts resulting from the proposed development on the human environment once mitigation measures are implemented"*.

To fully clarify the nature and extent of these impacts identified, and to identify any residual impacts, **Table 4.1** below summarises all potential impacts on the human environment and identifies appropriate mitigation measures.

**Table 4.1 Potential Impacts on the Human Environment**

Potential Impact	Quality/Significance and Duration of Impact	Mitigation Proposed	Residual Impact	Significance of Impact After Mitigation
<b>Construction Stage</b>				
Alteration of existing land use	Negative Slightly Permanent	Unavoidable impact, no mitigation	Yes	Land use changed from current use (agriculture and forestry) to proposed facility use.
Temporary generation of employment.	Positive Temporary	n/a	n/a	Significant Positive
Temporary increase in existing noise levels for local residents.	Slightly Negative Temporary	<ul style="list-style-type: none"> <li>All contractors will employ the best practicable means to minimise noise emissions.</li> <li>Where possible, noisy plant will be positioned as far as possible from noise sensitive receptors.</li> <li>Where particular 'noisy' work is expected to occur, these will be scheduled between the hours of 9.00 – 17.30.</li> <li>Enclosures to unusually noisy activities will be provided where these works cannot be scheduled for the hours 9.00 – 17.30, and permission will be sought from the local authority.</li> <li>Comply with British Standard BS 5228, Noise Control on Construction and Open Sites – 1997.</li> <li>Comply with S.I. No 632 of 2001 European Communities (Noise Emission by Equipment for Use Outdoors) Regulations 2001.</li> <li>Comply with EC (Construction Plant and Equipment) Permissible, Noise Levels Regulations, 1988 (S.I. No. 320 of 1988).</li> <li>Follow 'Environmental good practice site guide' 2005 compiled by CIRIA and the UK Environmental Agency.</li> </ul>	No	Negligible
Potential generation of dust close to site boundaries.	Negative Temporary	<ul style="list-style-type: none"> <li>A dust minimisation plan will be developed prior to undertaking the works in order to minimise the effect of fugitive dust emissions.</li> <li>A mobile bowser/dust suppression spray will be used during dry periods to dampen vehicle route ways and help mitigate dust emissions.</li> <li>Vehicles using site roads will have their speed restricted.</li> </ul>	No	Negligible

Potential Impact	Quality/Significance and Duration of Impact	Mitigation Proposed	Residual Impact	Significance of Impact After Mitigation
		<p>Heavy goods vehicles (HGVs) carrying soil or friable material will be covered or enclosed to prevent their escape along public roads.</p> <ul style="list-style-type: none"> <li>• During dry periods stockpiles of soil and hardcore will be kept moist using rotary sprinkler heads.</li> <li>• Boarding will be erected around the site to reduce dispersion of fugitive dust.</li> <li>• A "Construction Dust Minimisation Plan" will be formulated in line with the UK British Research Establishment (BRE) document "Control of Dust from Construction and Demolition Activities" (February 2003).</li> <li>• Construction vehicles must not exceed 20km per hour.</li> </ul>		
Slight increase in traffic.	Slightly Negative Temporary	<ul style="list-style-type: none"> <li>• Construction traffic will be scheduled to non-peak traffic hours.</li> <li>• Signage will be erected in the vicinity of the construction site, informing the public of construction site access point. The signage will be placed on all approaches to the site access point.</li> <li>• Construction vehicles will keep to a restrict speed limit when using public and site roads.</li> <li>• No construction traffic on public roads from 0800-0900 hours and 1700-1800 hours.</li> <li>• Construction vehicles must not exceed 20km per hour.</li> </ul>	No	Negligible
Visual amenity	Slightly Negative Temporary	<ul style="list-style-type: none"> <li>• A landscape plan will be implemented and is detailed as part of this RFI Response. This plan will include screening the proposed development from the adjacent N22. Planting will take place at the commencement of the construction stage.</li> <li>• The existing boundary hedgerows and tree lines will be maintained where possible</li> </ul>	No	Negligible
Surface water quality	Moderate to Major Negative Temporary	<ul style="list-style-type: none"> <li>• Limit the time of works with a high risk of suspended solids contamination such as earth moving or excavation close to watercourses/drains</li> <li>• Existing vegetation will be retained where possible and physically mark clearing boundaries on the construction site.</li> <li>• Temporary fills or stockpiles which are likely to erode into nearby watercourses will be covered with polyethylene sheeting.</li> <li>• Runoff on site will be diverted away from denuded areas.</li> <li>• The construction access road will be constructed or topped</li> </ul>	No	Negligible

Potential Impact	Quality/Significance and Duration of Impact	Mitigation Proposed	Residual Impact	Significance of Impact After Mitigation
		<p>with a suitable coarse granular material/non-woven geotextile, and if possible organic topsoil should be stripped prior to access road construction.</p> <ul style="list-style-type: none"> <li>All proposed river and stream crossings will use culvert and bridge design that will cause least impact on the fish life of the watercourses.</li> <li>Planning and consultation with relevant utility providers pre-construction will eliminate any potential negative impacts on such local utilities.</li> <li>Pre-planning archaeological testing will be completed on the site prior to construction under licence and in agreement with the DEHLG.</li> </ul>	No	Negligible
Potential disruption to local services/utilities	Slightly Negative Temporary			
Discovery of Unknown Archaeological Deposits	Negative Temporary			
<b>Operational Stage</b>				
Direct and indirect generation of employment	Positive Permanent	n/a	n/a	Significant Positive
Sustainable growth of local economy and tourism industry through provision of adequate waste facilities	Positive Permanent	n/a	n/a	Significant Positive
Improve existing waste facility resources	Positive Permanent	n/a	n/a	Significant Positive
Visual Amenity	Slightly Negative Temporary	<ul style="list-style-type: none"> <li>A landscape plan will be implemented and is detailed as part of this RFI Response.</li> <li>This plan will include for the provision of screening the proposed development from the adjacent N22. Planting will take place at the commencement of the construction stage.</li> <li>The existing boundary hedgerows and treelines will be maintained where possible*</li> <li>Colours that are based upon predominant landscape colours will be used in the building finishes. The use of matt colours will also reduce any glint from the building finish.</li> <li>Downlight style cut-off luminaire lighting will be used to reduce light trespass, and visual impact at night.</li> </ul>	No	Negligible

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Potential Impact	Quality/Significance and Duration of Impact	Mitigation Proposed	Residual Impact	Significance of Impact After Mitigation
Increased traffic volumes on local roads	Slightly Negative	<ul style="list-style-type: none"> <li>Detailed road improvement proposed submitted as part of this RFI Response.</li> <li>Traffic volumes associated with the proposed facility will not deliver or leave the site during peak hour traffic and will be restricted to delivery times of 0700-2000 Monday to Friday and 0800-1800 on Saturdays.</li> <li>All activities will take place indoors with the exception of delivery of waste material to and from the facility.</li> <li>Acoustic enclosures/ screens will be used around plant or equipment that is required to be used outdoors e.g operation of generator on site.</li> <li>Employ traffic management measures.</li> <li>Minimise the operation of significant noise generating equipment or plant. Implementing a regular maintenance programme for waste handling and process plant and equipment.</li> <li>Periodic noise monitoring will take place during the initial operational stage to determine levels at noise sensitive receptors.</li> </ul>	No	Slight
Noise impacts due to traffic, processing and activities on site.	Slightly Negative, Permanent	<ul style="list-style-type: none"> <li>All potentially odorous operations will be housed indoors.</li> <li>Roller shutter doors will be used to minimise exposure to outside environment.</li> <li>Regular cleaning of all work surfaces and floors will be implemented as part of the housekeeping procedure.</li> <li>Residence time for potentially odorous waste will be kept to a minimum before transfer.</li> <li>Vehicles carrying potentially odorous waste will be covered entering and exiting the facility.</li> <li>An odour management plan will be developed and implemented in accordance with the UK guidance "Code of Practice on Odour Nuisance from Sewage Treatment Works" (DEFRA 2006).</li> <li>All odour abatement equipment to be designed and operated according to best practice.</li> </ul>	No	Negligible
Odour and dust emissions from processing and activities at proposed development	Slightly Negative, Permanent	<ul style="list-style-type: none"> <li>All potentially odorous operations will be housed indoors.</li> <li>Roller shutter doors will be used to minimise exposure to outside environment.</li> <li>Regular cleaning of all work surfaces and floors will be implemented as part of the housekeeping procedure.</li> <li>Residence time for potentially odorous waste will be kept to a minimum before transfer.</li> <li>Vehicles carrying potentially odorous waste will be covered entering and exiting the facility.</li> <li>An odour management plan will be developed and implemented in accordance with the UK guidance "Code of Practice on Odour Nuisance from Sewage Treatment Works" (DEFRA 2006).</li> <li>All odour abatement equipment to be designed and operated according to best practice.</li> </ul>	No	Negligible
Generation of process effluent and foul wastewater	Slightly Negative, Permanent	<ul style="list-style-type: none"> <li><b>Process Effluent:</b> All wastewater resulting from the processing of materials will be collected and stored in a tank and will be transported to Tralee WWTP for further treatment</li> </ul>	No	Negligible



Potential Impact	Quality/Significance and Duration of Impact	Mitigation Proposed	Residual Impact	Significance of Impact After Mitigation
		<ul style="list-style-type: none"> <li>• <b>Surface Water Run-Off:</b> All non-process paved and roofed areas will be drained according to sustainable drainage system (SUDS) principles. Petrol/oil interceptors will be located at any outfalls to watercourses.</li> <li>• <b>Foul Water:</b> Effluent from on-site facilities (toilets, canteens etc) will be discharged to ground via a raised polishing filter.</li> <li>• A Detailed Drainage report accompanies this response</li> </ul>		

\*If maintaining existing tree-lines poses safety issues to construction and operational phases of the proposed facility, the felling of this vegetation must be made a priority.

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Item 5

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**ITEM 5**

*It is noted that the applicant states that operating hours shall be 24 hours per day, 6 days a week for commercial waste and 14 hours seven days for recycle centre. Please clarify the nature and significance of any impacts on the residential amenities of existing nearby properties and residual impacts after mitigation and provide supporting data and mitigation measures, if appropriate.*

**RESPONSE**

Table 5.1 sets out the proposed operation hours of the facility highlighting, where relevant, any potential impacts on the human environment and mitigation measures proposed to mitigate any impacts identified.

**Table 5.1 Operating Hours and Associated Impacts and Mitigation Measures for the Human Environment.**

Activity	Proposed Opening Hours	Duration of Activity (Hours per Day)	Potential Impact on the Human Environment	Proposed Mitigation Measures
Waste Acceptance	0700 - 2000 Monday - Friday  0800 - 1800 Saturday (10 hours)  Closed on Sunday	13 hours  10 hours	Increased traffic volumes on local roads           Potential odour emissions from waste entering site	<ul style="list-style-type: none"> <li>• Implement Traffic Management Plan</li> <li>• Traffic volumes associated with the proposed facility will not deliver or leave the site during peak hour traffic and will be restricted to the specified waste acceptance times only.</li> <li>• Detailed road improvement proposed to accommodate for additional traffic.</li> <li>• Vehicles carrying potentially odourous waste will be covered entering and exiting the facility.</li> <li>• Provision of new dedicated access road from the local road into the facility</li> </ul>
Public Recycling Centre	0800 - 2000 Monday - Sunday	12 hours	Increased traffic volumes on local roads	<ul style="list-style-type: none"> <li>• Implement Traffic Management Plan</li> <li>• Traffic volumes associated with the proposed facility will not deliver or leave the site during peak hour traffic and will be restricted to the specified waste acceptance times only.</li> <li>• Detailed road improvement proposed to accommodate for additional traffic.</li> </ul>

Activity	Proposed Opening Hours	Duration of Activity (Hours per Day)	Potential Impact on the Human Environment	Proposed Mitigation Measures
			Slight increase in noise levels sporadically when deposition of waste occurs.	<ul style="list-style-type: none"> <li>• Provision of new dedicated access road from the local road into the facility</li> <li>• Periodic noise monitoring will take place during the initial operational stage to determine levels at noise sensitive receptors. This will determine the actual increase in noise levels if any.</li> </ul>
Hours of Operation of Processing	24 hours Monday - Saturday Closed on Sunday	24 hours	<p>Slight increase in noise levels due to delivery and transport of waste</p> <p>Odour and dust emissions from processing and activities at proposed development</p>	<ul style="list-style-type: none"> <li>• All activities will take place indoors with the exception of delivery of waste material to and from the facility.</li> <li>• Acoustic enclosures/ screens will be used around plant or equipment that is required to be used outdoors e.g operation of generator on site.</li> <li>• Minimise the operation of significant noise generating equipment or plant. Implementing a regular maintenance programme for waste handling and process plant and equipment</li> <li>• Periodic noise monitoring will take place during the initial operational stage to determine levels at noise sensitive receptors.</li> <li>• All potentially odourous operations will be housed indoors.</li> <li>• Roller shutter doors will be used to minimise exposure to outside environment.</li> <li>• Regular cleaning of all work surfaces and floors will be implemented as part of the housekeeping procedure.</li> <li>• Residence time for potentially odourous waste will be kept to a minimum before transfer.</li> <li>• An odour management plan will be implemented in line with the UK guidance "Code of Practice on Odour Nuisance from Sewage Treatment Works" (DEFRA 2006).</li> <li>• All odour abatement equipment to be designed and operated according to best practice.</li> </ul>

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## ITEM 6

***Kindly submit details of the source of all wastes which are to be processed at this facility and whether it is only proposed to deal with waste from the Kerry Region.***

### RESPONSE

It is proposed that the wastes which will be processed at the facility will be sourced at both a regional and national level.

All municipal solid waste and segregated organic waste (brown bin) will be collected from the Munster region only. This reflects the time constraints typically placed on the movement of biodegradable waste. Municipal solid waste will be sourced from the private and local authority bin collections in each county in Munster. It is anticipated that the segregated brown bin waste will also be sourced from future waste collections as they are introduced throughout the Munster Region.

Dry recyclables and Construction and Demolition (C&D) waste will be collected at both a regional and national level. Typically dry recyclables will be collected from private and local authority bin collections within the Munster Region and from private and specialised waste collectors at a national level. C&D waste will be collected at a national level from private waste collectors.

In addition, the recycling centre proposed as part of the facility will allow the general public to deliver household waste including construction and demolition waste, timber, metals, cardboard, paper, glass, plastic bottles/film, green waste, WEEE, fluorescent tubes, batteries, bulky waste, waste oils, textiles and household hazardous waste. It is anticipated that these households will be located in the Kerry Region.

**Table 6.1 Proposed Source of Waste**

Incoming	Source
50,000 tonnes mixed municipal waste	Counties Kerry, Clare, Limerick and Tipperary and Waterford
30,000 tonnes segregated dry recyclables	Nationally
12,000 tonnes C&D waste	Nationally
3,000 tonnes segregated organic waste (brown bin)	Counties Kerry, Clare, Limerick and Tipperary and Waterford

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Item 7

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## **ITEM 7**

***A public recycling centre is proposed for the deposition of recyclables. Please clarify proposed level of intake maximum and minimum.***

## **RESPONSE**

It is estimated that between 500 and 800 tonnes of household recyclables will be accepted at the public recycling centre per year. This will include for the following waste types: construction and demolition waste, timber, metals, cardboard, paper, glass, plastic bottles/film, green waste, WEEE, fluorescent tubes, batteries, bulky waste, waste oils, textiles and household hazardous waste. This figure is based on typical acceptance levels at similar facilities in the region.

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Item 8

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Item 8

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## ITEM 8

***Kindly clarify whether only wastes from the applicants own collections will be processed on site or whether that of other operators will also be processed at the site.***

## RESPONSE

Waste will be collected by Killarney Waste Disposal Ltd. (under the ownership of the Applicant) and by third party waste collectors. All third party waste collectors will be required to hold a waste collection permit in accordance with the Waste Management Collection Permit Regulations (S.I.820) 2007 and details of all third party waste operators will be kept on record at the facility.

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Item 9

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Item 9

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## ITEM 9

**Kindly submit details of the destination of all material processed on site (detailed by type).**

## RESPONSE

Please refer to **Table 9.1** for details on destination of waste processed at the proposed facility. This information provided is accurate as of June 2009.

**Table 9.1 Destination of Materials to be Processed at the Proposed Kerry Central Recycling Facility.**

<b>Processed Material</b>	<b>Proposed Destination</b>
Aluminium Cans	CF Booth, Liverpool, UK
Batteries	Returnbatt, Co Kildare
Cardboard	Peute, Netherlands
Compost	O'Toole Composting, Co. Carlow
Fines	North Kerry Landfill, Co. Kerry
Fridges	KMK Metals, Co. Offaly
Glass	Kenmare Glass, Co. Kerry
Hard Plastic	Choice Waste Management, UK
Mixed Film	Choice Waste Management, UK
LDPE 90/10	Choice Waste Management, UK
Refuse Derived Fuels	To be decided
Paper Multigrade	Peute, Netherlands
Plastic Bottles	Choice Waste Management, UK
Plaster Board Slabs	Gypsum Recycling, Co. Kildare
Rubble	Farmers
Steel Cans	CF Booth, Liverpool, UK
Scrap Metal	Molloy Metal, Co. Wexford
Soft Mixed Paper	Peute, Netherlands
Leachate (from processing)	Tralee Wastewater Treatment Plant
Wood Chip	Eirbloc, Macroom Co. Cork

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Item 10

Item 10

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**ITEM 10**

**Kindly submit details of the length of time all material will be stored on site (detailed by type).**

**RESPONSE**

Please refer to **Table 10.1** for details on storage times of waste on site.

Incoming Waste Quantities	Average Storage Time on Site	Outgoing Waste Quantities
50,000 tonnes mixed municipal waste	1-3 Months 1-3 Months 1-3 Months	<ul style="list-style-type: none"> <li>• 10,000 tonnes RDF sent for energy recovery.</li> <li>• 10,000 dry recyclables sent for recovery.</li> <li>• 30,000 tonnes (residual and organic fines (dried)) sent for disposal.</li> </ul>
30,000 tonnes segregated dry recyclables	2 Weeks 2 Weeks	<ul style="list-style-type: none"> <li>• 27,000 tonnes sent for recovery (20,250 of this is paper and cardboard).</li> <li>• 3,000 tonnes sent for disposal.</li> </ul>
12,000 tonnes C&D waste	1-3 Months 2 Weeks	<ul style="list-style-type: none"> <li>• 10,000 tonnes sent for recovery (3,000 tonnes of this is metals)</li> <li>• 2,000 tonnes sent for disposal.</li> </ul>
3,000 tonnes segregated organic waste (brown bin)	1 week	<ul style="list-style-type: none"> <li>• 3,000 tonnes sent for recovery.</li> </ul>
<b>95,000 tonnes</b>		<b>95,000 tonnes</b>

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Item 11

Item 11

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**ITEM 11**

***Kindly clarify whether the administrative building relates to the use of this premises only.***

**RESPONSE**

The administrative building will provide a reception area, office area, a canteen and toilet facilities for the sole use of Kerry Central Recycling Facility Ltd. and will relate to activities associated with the operation of the proposed facility only.

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Item 12

Item 12

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## ITEM 12

*Kindly clarify whether there is any outdoor storage of materials on the site. Please show on the site layout plan.*

## RESPONSE

There will be some outdoor storage of waste onsite. The following wastes will be stored outdoors: scrap metal, timber and rubble. Please refer to drawing **DGE0008-01** which accompanies this response which indicates the location on site proposed for the storage of materials.

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Item 13

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### ITEM 13

***Kindly clarify whether the information provided with regard to dust/noise/odour etc., takes into account the predicted level of time that the doors of the facility will be opened.***

### RESPONSE

We confirm that the information provided with regard to dust, noise and odour issues has taken into account the predicted level of time that the doors of the facility will be opened. The doors to the processing area will be kept closed for the majority of time, opening only for delivery or export of waste. This activity will be restricted to the hours of 0700 - 2000 Monday to Friday and 0800 - 1800 on Saturday. This ensures that any noise emitted from within the processing buildings will be contained within the building when the doors are closed (majority of the time).

It is also proposed to install a Mist-Air system within the waste reception area in Building No. 2. This system will be installed above all dust emitting and odour emitting equipment and above all doors. This system will reduce the amount of dust and odours emitted from the process even when doors are opened for delivery and export of waste materials. Details of the proposed system are attached overleaf. A biofilter system will also be installed in order to abate any potential odours resulting from the drying of organic material in the proposed drying tunnels.

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**Mist-Air Environmental**  
Hillcrest  
Penybont  
Nr. Oswestry  
Shropshire  
SY10 9JF  
United Kingdom



**RPS Group**

West Pier Bus. Campus.  
Dun Laoghaire.Co. Dublin

Attn. Mr Martin Doherty

Dear Mr Doherty

**Reference Dust & Odour Suppression at Killarney MRF**

Thank you for the drawing, please find below a quotation to supply and install a dust and odour suppression system for this site as requested.

This application is similar to many thousand we have installed and the system will reduce airborne dust and odours by approx.95% We have installed many sites in Ireland.

Airborne dust is effectively suppressed without wetting floors, stock, machinery or personnel; every thing stays dry, unlike sprinkler systems and rotary atomisers.

Mist-Air Fog is so fine, that it floats in the air without dropping to the floor, and actually attracts airborne dust particles increasing their weight. Mist is directed towards the dust forming areas, bombarding the dust as it is released, causing the particles to collide, and rapidly settling the dust close to the area it was formed in. Water sprays used for this application push past most of the fine dust due to the high surface tension of the water droplets.

Mist-Air has the capacity to produce huge volumes of mist, so can be used to treat several areas or buildings simultaneously from one base unit, and alteration or extensions can easily be done if required.

**The Misting System**

A Base Unit housed in a free standing lockable steel cabinet provides all the power for the system.

Reinforced circulation hose is then fed from the base unit to the various circuits around the site, allowing each area to be treated individually or simultaneously as required.

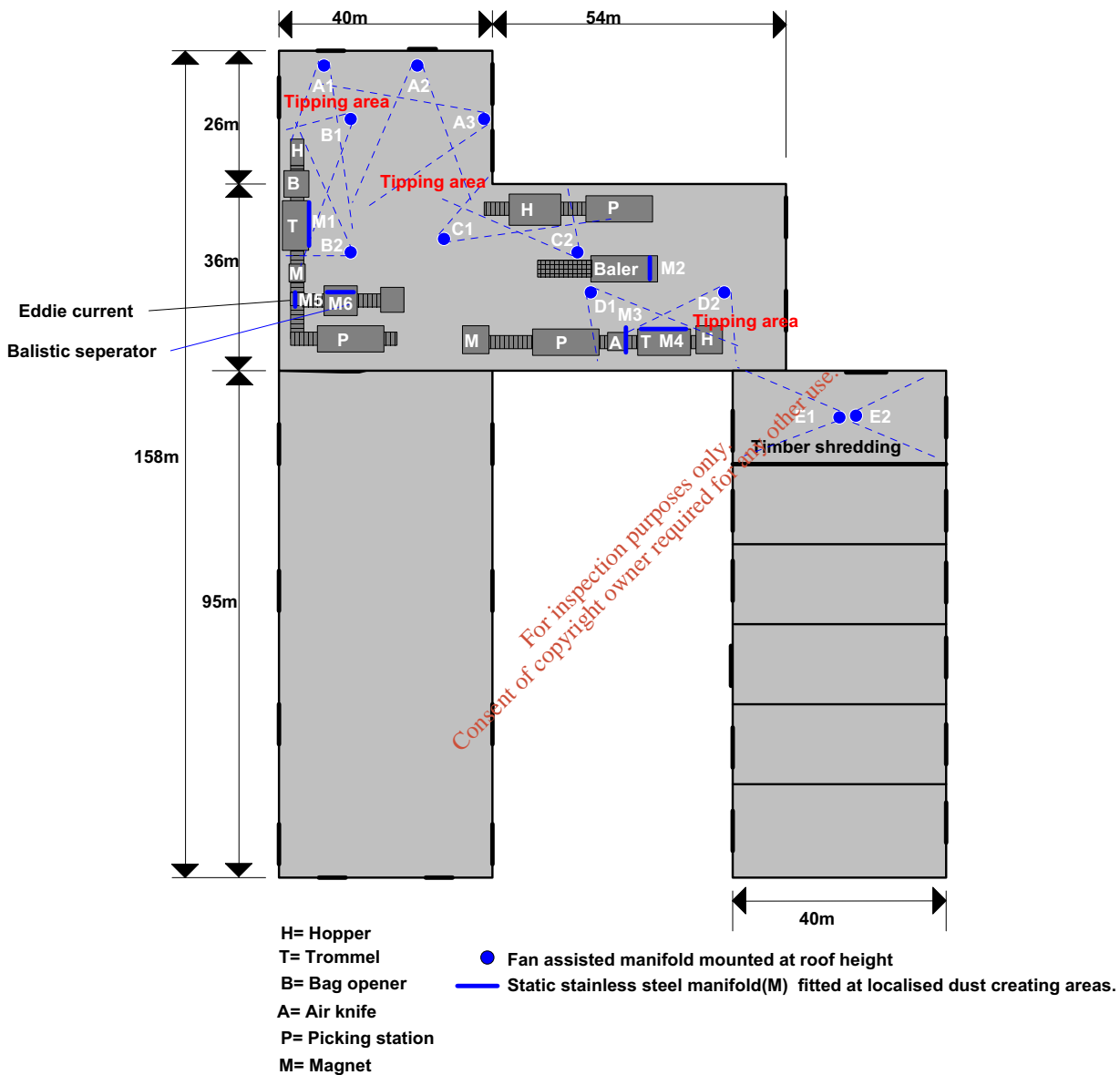
Stainless steel fan assisted misting manifolds are fitted to the roof trusses to direct mist to precisely the right areas when required, but positioned well out of the way of loading equipment and tipping vehicles.

Stainless steel static manifolds are used to good effect for quelling dust within contained areas preventing dust escaping from breathers, baler feeds, shredders, trommel fines bays, feed hoppers, or conveyor transfer points.

Each of the 5 circuits shown A B C D E can all be operated individually or simultaneously. Each circuit can be switched to constant or intermittent operation completely independent from any other circuit.

Your recycling installation will be dustier than you probably imagine. We have done many identical installations, and regardless of the extraction systems fitted have proven to be very dusty. This system has the additional capacity to retrofit additional dust or odour suppression manifolds as and when required to other areas

Please excuse the rough sketch below, but it serves to illustrate the approximate way that mist will be used to suppress the dust.



The machinery layout will doubtless change, but this sketch shows where the dust will be and how by using two fans opposing each other, the dust will be prevented from spreading to the rest of the building. The static manifolds kill dust locally, and are extremely effective in conjunction with the overhead fan assisted manifolds

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Item 14

Item 14

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#### **ITEM 14**

***Please supply details of the source and treatment of compostables and petricubles (incorrect spelling) on the site and the source and destinations of the same.***

#### **RESPONSE**

An estimated 3,000 tonnes per year of segregated organic waste will be stored at the facility. This waste will be sourced from the “brown bin” waste collection (household and commercial) within the Munster Region. It is anticipated that the ‘roll out’ of the brown bin waste collection will continue in the Limerick/Clare/Kerry region as recommended in the Waste Management Plan for Limerick/Clare/Kerry Region 2006-2011.

The organic waste will only be stored at the proposed facility. It is not anticipated that it will be processed or treated in any way. This waste will be transported on average every once a week to O’Toole Composting based in Co Carlow, or to a similar appropriate licensed facility, for treatment.

All other compostable and peutrescibles will be collected and brought to the facility as part of the mixed municipal solid waste mix and will be mechanically separated and stabilised on site using a controlled drying system. This waste stream will then be either reused as refuse derived fuel (RDF) or sent to landfill for disposal.

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Item 15

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## ITEM 15

***It is noted that 95,000 tonnes of intake material is proposed per annum. Is this the maximum amount that can be processed in the development? Please clarify whether there is additional capacity on site for the processing of additional larger amounts of materials. The applicants are advised that if the site has a capacity of greater than 100,000 tonnes per annum then the planning application is subject to the Strategic Infrastructure Act 2006 and the applicant is advised to withdraw the application and enter into the statutory consultations with An Bord Pleanála.***

## RESPONSE

It is confirmed that planning permission is being sought within this planning application (Ref 2415/08) for the acceptance and processing of a maximum quantity of 95,000 tonnes of waste at the proposed facility.

Any proposal to process additional larger quantities of waste material at this facility would be subject to planning and waste licensing requirements.

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Item 16

Item 16

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## ITEM 16

***Please provide a contoured site layout (preferably colour coded) showing the levels on the site after construction.***

## RESPONSE

Attached are drawings numbers EN0001-01, EN0001-02, EN0002-01 and EN0002-02 showing contoured site layouts (colour coded) as requested. EN0001-01 (scale 1:500) & EN0001-02 (scale 1:750) show the existing levels as surveyed and EN0002-01 (scale 1:500) & EN0002-02 (scale 1:750) show the proposed levels on site on completion of all construction.

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Item 17

Item 17

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## ITEM 17

***Please clearly show all levels of cut and fill on site.***

## RESPONSE

Drawing Number EN0003-01 shows the cut and fill profile based on a neutral datum point following a detailed survey of the site.

Paudie O'Mahoney Consulting Engineers then analysed the surrounding terrain and buildings in vicinity especially the adjoining Independent Irish Health Foods Ltd. – which at one stage was a shopping complex. Based on this information, the new proposed structures were designed aesthetically with a roof height of 900mm lower than the ridge height of Independent Irish Health Foods Ltd.

Drawing Number EN0003-02 shows the cut and fill on the site following site design layout using the proposed finished levels.

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Item 18

Item 18

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## ITEM 18

***Please provide details of the materials to be used in the processing of wastes and a detailed description of all processes.***

### RESPONSE

A detailed description of all processes that will take place at the proposed facility are set out in **Chapter 2 - Proposed Development** - of the EIS. **Section 2.1.1** details the processes specifically and is set out again below. Electricity, air and water will be used in the processing operations at the facility. These materials are required for the operation of conveyor belts, trommels, shredders, for the running of the drying tunnels and in wash down of internal surfaces.

#### **2.1.1 Internal Layout of MRF and Processing Details**

**Figure 2.2** shows the internal layout of the MRF building. Drying of the organic fines from the mixed municipal process will take place in Building No. 1. Processing of mixed municipal waste and C&D waste will take place in Building No. 2. In Building No.3 wood shredding will be carried out and segregated organic waste will be stored in a sealed container. A waste quarantine area has been designated in Building No. 2 along with a container for storing maintenance equipment. Inspection areas for each waste stream are shown on **Figure 2.2**.

The processing of each waste stream to be accepted is described as follows:

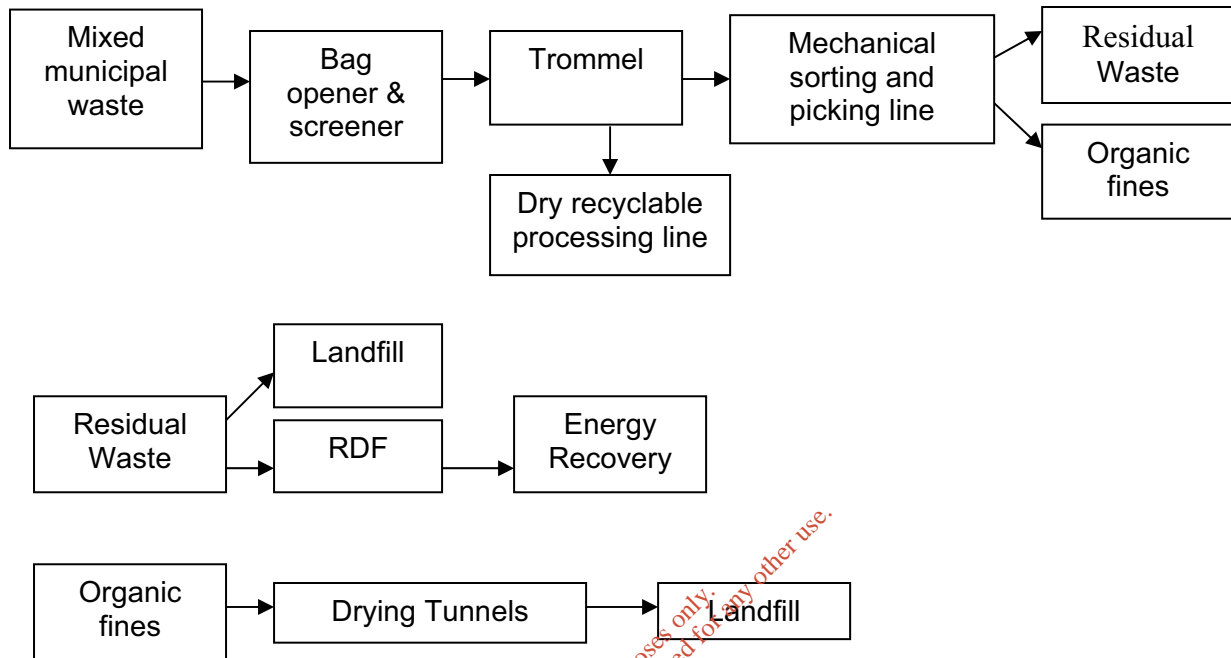
- (i) Mixed municipal waste,
- (ii) Source segregated waste, which includes organic waste and dry recyclables (plastic (bottles and film), paper, cardboard and packaging waste), and
- (iii) Construction & Demolition (C&D) waste

##### **(i) Mixed Municipal Waste**

The mixed municipal waste will be tipped on the floor of the MRF building where it will be inspected. The remainder of the material will then be transferred to a bag opener and screener (trommel) where it will be mechanically and manually sorted. The three waste outputs will be organic fines, dry recyclables and residual waste. The organic fines will be bio-dried using a tunnel drying system similar to the Herhoff or the Gicom system and then sent to a licensed landfill for landfill cover/disposal. The dry recyclables will be sent for



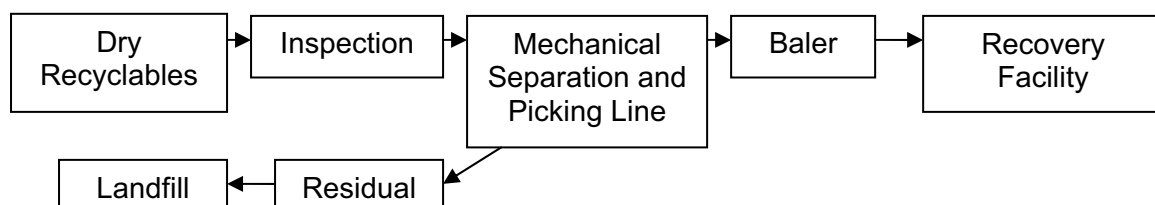
further processing within the MRF building (refer to item (ii)). The residual waste will either be sent for energy recovery as Refuse Derived Fuel (RDF) or to landfill. The mixed municipal waste stream treatment process is described in **Image 2.2**.



**Image 2.2 : Mixed Municipal Waste Stream Processes**

**(ii) Source Segregated Waste**

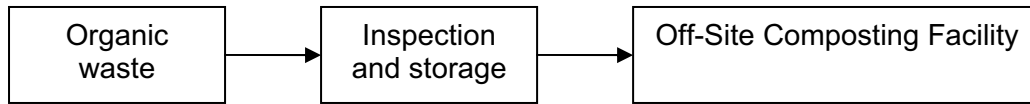
**(a)** Mixed dry recyclables will be tipped onto the floor of the MRF building (Building No. 2) for inspection. The dry recyclables will then sorted mechanical and manually and the different fractions of dry recyclables will be sent to a baler which produces bales of dry recyclables. The bales will be then transported off-site to authorised recovery facilities. The process for treatment of dry recyclables is described in **Image 2.3**.



**Image 2.3 : Dry Recyclables Stream Process**

**(b)** Source segregated organic waste (food and garden waste) that is collected will be inspected and stored at the facility (Building No. 2) in covered containers until a sufficient

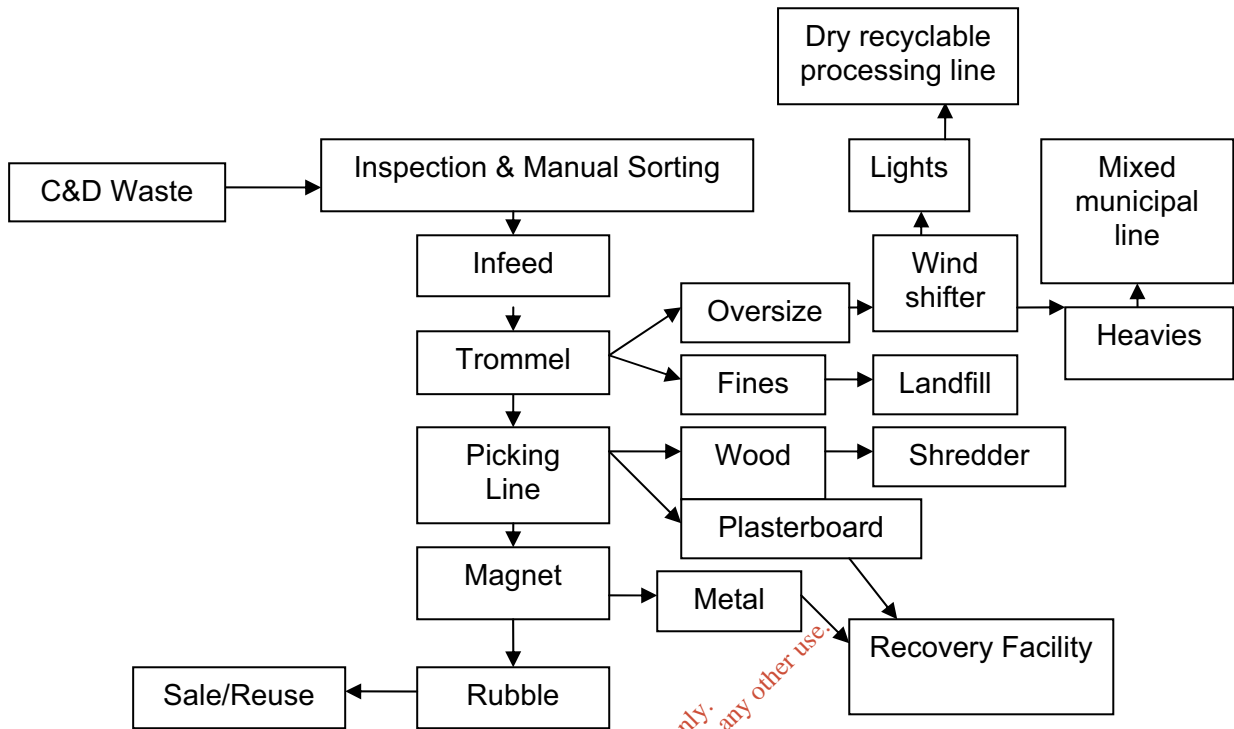
quantity is available for transport to a composting facility for recovery. The process for the treatment of organic waste is described in **Image 2.4**.



**Image 2.4 : Organic Waste Stream Process**

### **(iii) Construction & Demolition (C&D) Waste**

C&D waste will be tipped on the floor of the MRF building where it will be inspected and manually sorted to remove large items. The material will then pass through a trommel where fines and oversize will be extracted. The fines will be sent to a licensed landfill facility for landfill cover/disposal. A wind shifter will then remove the light oversize from the heavier oversize. The oversize heavies will be transferred to the municipal processing line and the oversize lights will be transferred to the dry recyclable processing line. The wood fraction and the plaster board will be removed on the pickling line and will be sent to the shredder at the facility before being sent to an authorised recovery facility. The magnet will remove the metal fraction and this will be sent onto an authorised recovery facility. Clean rubble will remain at the end of the process and this will be sold for reuse. The process for treating C&D and wood wastes are described in **Images 2.5 and 2.6**.



**Image 2.5 : Construction & Demolition (C&D) Waste Stream Process**



**Image 2.6 : Wood Waste Stream Process**

*Kerry Central Recycling Ltd. has submitted a number of procedures for waste acceptance at the proposed facility to the EPA as part of their application for a waste licence.*

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Item 19

Item 19

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## ITEM 19

***The proposed development does not comply with the standards with regard to parking included in the Kerry County Development Plan 2003 with regard to industry, offices or parking for persons with disabilities. It is considered that the inadequate provision for parking may result in a traffic hazard. Please submit revised proposals to comply with relevant standards.***

## RESPONSE

Table 12.2 of the Kerry County Development Plan 2003 includes a range of land uses for which parking space guidance is provided, including 'offices', however it does not include guidance for 'industry' or 'parking for people with disabilities'. The County Development Plan 2009-2015, which was officially adopted on the 4<sup>th</sup> May 2009 does not make specification for these categories either (Table 13.2).

It is considered inappropriate to use the parking quanta established in the County Development Plan for 'Manufacturing Industry' as the proposed development is not a manufacturing industry. Additionally it should be recognised by Kerry County Council that the total footprint of the proposed buildings is 12,100m<sup>2</sup> in size to accommodate the significant volume of recyclable material to be processed at the facility rather than large numbers of vehicles visiting the site (Refer to Section 11 of the EIS report which details the Traffic Impact Assessment undertaken for the proposed development). Application of the 'Manufacturing Industry' quanta would represent an unnecessary, significant over provision of parking spaces on the site and would not be conducive to the high quality, efficient utilisation of the site.

Having regard to the provision of designated car parking spaces for people with disabilities, whilst Section 12.9.3 of the Plan states that "designated car parking spaces should be reserved" it does not specify a number or proportion of spaces as a requirement. However the original provision of 2 designated disabled car parking spaces has now been revised upwards to 4. Therefore the proposed provision of 4 designated disabled car parking spaces (2.5% of total provision) is considered to be appropriate having regard to the proposed use of the development and is in accordance with the County Development Plan. The Access for All Implementation Plan 2008-2015 does not contain any specific requirements for the provision of designated disabled parking.

As the proposed recycling facility is not specifically included in the County Development Plan section 12.8.6 of the Plan is relevant - "in relation to land use not specifically included in Table 12.2, the car parking provision will be determined by the Planning Authority having regard to particular circumstances".

In the absence of a determination by Kerry County Council, car parking quanta have been revised which take account of the specific nature of the proposed development, the number of staff employed and the estimated traffic movements. This approach to determining parking quota was discussed at a meeting with Mr. TJ O'Mahoney (Planning Section, Kerry County Council) on the 6<sup>th</sup> May 2009.

**Table 19.1** illustrates the proposed parking quanta for the site which constitutes an overall provision of 1.46 parking spaces for every 100m<sup>2</sup>.

**Table 19.1 Proposed Parking Provision**

Proposed Use	Area m <sup>2</sup>	Ratio Proposed m <sup>2</sup>	Kerry County Development Plan Provision	No of Parking Spaces Proposed
Office Building	71	3 per 100m <sup>2</sup>	3 per 100m <sup>2</sup>	3
Recycling Buildings	12,100	1 per 71m <sup>2</sup>	-	171
Disability Provision	-	-	-	4
<b>Total No of Parking Spaces Proposed:</b>				<b>178</b>

The onsite provision of 178 parking spaces is considered to be appropriate for demand based on AM and PM peak arrivals and departures and will ensure that vehicles will not result in a traffic hazard. The proposed AM and PM peak traffic movements estimated for the facility are outlined in **Table 11.9** of the EIS and are set out below.

**Table 11.9: AM and PM Peak Arrivals and Departures**

	AM PEAK		PM PEAK	
	Arrivals	Departures	Arrivals	Departures
Employees	65	14	14	65
Public Recycling Centre	4	3	2	3
HGVs	6	15	15	6
<b>TOTAL</b>	<b>75</b>	<b>32</b>	<b>31</b>	<b>74</b>

These figures are based on proposed employment levels of 65 people (50 staff members and 15 HGV drivers). As a result the maximum required parking spaces at any given time in the proposed facility will be 65 spaces for employees and up to 4 spaces at the public recycling facility. Four disabled car parking spaces are provided, comprising 2 spaces at the public recycling centre and 2 spaces adjacent to the processing buildings. An estimated upper limit of 73 parking spaces will therefore be required for the facility assuming all employees are present on site. It is considered unlikely that all of the 15 HGV drivers will be parked at the facility at the same time.

With the provision for 178 spaces it is considered that there is more than adequate provision for parking for the proposed facility and all of its associated uses, having regard to the nature of activities at the facility, the proposed traffic movements and employee numbers.

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Item 20

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## ITEM 20

***Given the scale of the development, pre-development archaeological testing (the presence of drainage trenches and forestry plantations does not prevent testing being undertaken, as suggested in the EIS) should be carried out and report submitted for evaluation.***

## RESPONSE

An Archaeological Impact Assessment (AIA) was completed by Eachtra Archaeological Projects as part of the EIS for this planning application. There were no known archaeological sites identified on the application site. **Section 8.3.2** of the EIS set out the following:

*“Fieldwalking by two qualified archaeologists of the proposed site revealed no potential features of archaeological interest. The existing conifer plantation and the drainage gullies dug to service the plantation (**Images 8.3-8.5**) have ensured that it is not feasible to undertake pre-development testing to establish the nature and extent of potential sub-surface archaeological remains, features and artefacts at the site in order to mitigate for potential impacts by the proposed development on the potential archaeology in advance.”*

It was further concluded in **Section 8.9** of the EIS:

*“While the proposed development will not directly impact upon any known recorded monuments, it may impact upon previously unknown archaeological deposits, stratigraphy or artefacts and as such archaeological monitoring of all groundworks should be undertaken.”*

Subsequent to receiving this Request for Further Information (RFI) from Kerry County Council on the 17<sup>th</sup> December 2008, Mr. Tony Barlett (Eachtra Archaeological Projects) contacted Mr. Mark Keegan, Archaeologist, National Monuments Service, Department of the Environment, Heritage and Local Government (DEHLG) on the 19<sup>th</sup> December 2008 by e-mail to reiterate the difficulties in carrying out pre-development testing on the site. Mr. Barlett issued additional aerial photographs to Mr. Keegan to further demonstrate the extent of tree planting currently on the site. Mr. Keegan replied by e-mail on this same date in agreement stating *“the pre-development excavation would be difficult given the nature of the subject site”* and that *“recommendation for archaeological monitoring would appear to be appropriate”*. He also stated that the DEHLG would make recommendations to that effect when the RFI documentation was referred to them for comment. This e-mail correspondence

of the 19<sup>th</sup> December 2008 was copied to the County Archaeologist, Mr. Michael Connolly. A copy of this correspondence and relevant photographs are attached for reference.

In follow up to this initial correspondence Ms. Karen Buckley of Eachtra Archaeological Projects issued a letter to RPS on the 9<sup>th</sup> February 2009 making reference to the e-mail correspondence with Mr. Mark Keegan of DEHLG and to conclude that *“the original mitigation for archaeological monitoring of all ground disturbance works of the PDS as recommended in the AIA (EIS Chapter 8) by Eachtra Archaeological Projects has been approved and is regarded as valid By the Kerry County Archaeologist and the DEHLG.”* A copy of this letter is attached.

Further to this, on the 12<sup>th</sup> May 2009, RPS Consulting Engineers contacted Mr. Mark Keegan by telephone to discuss this issue further. Mr. Keegan confirmed that the original recommendations issued by the DEHLG on the 19<sup>th</sup> November 2008 had stated that pre-development archaeological testing should be carried out at the site. However after Mr. Keegan's e-mail correspondence with Mr. Tony Barlett of Eachtra Archaeological Projects on the 19<sup>th</sup> December 2008 and having reviewed additional aerial photography of the site, he concurred that the EIS recommendation of archaeological monitoring was more appropriate for this site.

Following on from this correspondence Mr. Keegan agreed to submit a supplementary letter to the Kerry County Council for the planning file to state that archaeological monitoring of the site would be appropriate and should be implemented as a condition of planning. He also stated that this letter would set out the DEHLG'S standard requirement that if the archaeological monitoring should indicate the presence of archaeological finds then the site design and layout will have to be revised. Mr. Keegan also stated that he would contact the County Archaeologist, Mr. Michael Connolly, to discuss the correspondence as set out above.

RPS e-mailed Mr. Michael Connolly, County Archaeologist, on the 13<sup>th</sup> May 2009 (see attached) setting out all correspondence and discussions held with Mr. Connolly, Kerry County Council, Eachtra Archaeological Projects, and Mr. Mark Keegan, DEHLG regarding this issue to date.

We also refer to a letter dated 13<sup>th</sup> May 2009 (attached) issued by the DEHLG to the Planning Section of Kerry County Council which states that *“we now accept that pre-*

*development archaeological testing required by Item 20 of the request for further information is difficult given the current vegetation coverage across the subject site”.*

Furthermore the DEHLG state that *“we would have no objection should the local authority decide to defer pre-development archaeological testing to condition stage”.*

On this basis we request that the requirement to carry out pre-development archaeological testing be considered as a condition of the planning permission.

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**Maeve Walsh**

---

**From:** Mark Keegan [mark\_keegan@environ.ie]  
**Sent:** 19 December 2008 12:27  
**To:** tonyb@eachtra.ie  
**Cc:** mconnoly@kerrycoco.ie  
**Subject:** Re: Scart/Caherdean  
**Attachments:** ATT9952569.txt

Dear Tony,

Having assessed the documentation submitted to date, I agree that pre-development test excavation would be difficult given the nature of the subject site.

Your original recommendation for archaeological monitoring would appear to be appropriate. When the RFI documentation is referred to us for comment, we will make recommendations to that effect.

Regards,

Mark Keegan,  
Archaeologist,  
National Monuments Service,  
Department of the Environment, Heritage & Local Government, Government Buildings, The  
Glen, Waterford.

tel: 051-852 774

fax: 051-852 690

email: [mark\\_keegan@environ.ie](mailto:mark_keegan@environ.ie)

>>> Tony Bartlett|Eachtra Archaeological Projects <[tonyb@eachtra.ie](mailto:tonyb@eachtra.ie)>

>>> 12/19/08 11:38 AM >>>

Dear Mark,

Following on from our phone conversation yesterday please find attached aerial photograph of the proposed development at Scart/Caherdean showing the extent of tree plantations. The photo was taken in June 2006.

Also attached is a photo of the state of the interior of the site in the odd patch that does not have trees.

I feel that the only meaningful areas of the site that have not been impacted by the plantation are in the extreme NE (adjacent to the road) and the green field in the south that the proposed access road will traverse. This probably only represents c.5% of the overall area of the site.

Regards,

Tony Bartlett  
Eachtra Archaeological Projects

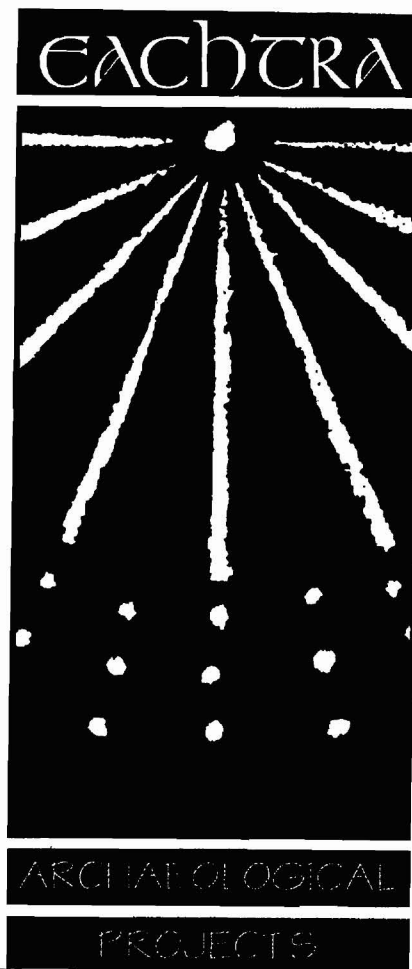
\_\_\_\_\_ NOD32 3698 (20081217) Information \_\_\_\_\_

This message was checked by NOD32 antivirus system.  
<http://www.eset.com>

Siobhán Glynn,  
 RPS Group,  
 Lyrr Building,  
 IDA Business & Technology Park,  
 Mervue,  
 Co. Galway

<b>RPS</b>		Project No	
Recipient		Siobhan Glynn	
Register No.	3	File Ref	
Date Rec'd	11 FEB 2009		
PM	MGFO109		
	311		
Copied to	A	I	C
Scanned		Date	

9-02-09



**Re: Further Information Request from Kerry County Council for Planning Application  
 Kerry Central Recycling Facility**

A Chara,

An Archaeological Impact Assessment (AIA) as a component part of an Environmental Impact Statement (EIS Chapter 8) was undertaken by Eachtra Archaeological Projects in 2008, at a proposed development site (PDS) in the townlands of Scart-Caherdean, Killarney, Co. Kerry (Planning Register No. 2415/08). The AIA found that the *“existing conifer plantation and the drainage gullies dug to service the plantation have ensured that it is not feasible to undertake pre-development testing to establish the nature and extent of potential sub-surface archaeological remains, features and artefacts at the site in order to mitigate for potential impacts by the proposed development on the potential archaeology in advance”*. Instead it was mitigated that *“All ground disturbance works should be archaeologically monitored to help prevent impacting upon previously unknown archaeological deposits, features or stratigraphy”*. The Kerry County Archaeologist, Mr. Michael Connolly, agreed with this mitigation.

Following the submission of the EIS, Kerry County Council issued a request for further information (RFI) regarding the archaeology stating that *“Given the scale of the development, pre-development archaeological testing (the presence of drainage trenches and forestry plantations does not prevent testing being undertaken, as suggested in the EIS) should be carried out and report submitted for evaluation”*. It is clear that the submitted AIA (EIS Chapter 8) was not fully understood.

Subsequent to the receipt of the RFI, Tony Bartlett of Eachtra Archaeological Projects contacted both Michael Connolly and Mark Keegan of the DEHLG. Following a reassessment of the submitted AIA, Mark Keegan, in an email dated 19<sup>th</sup> December 2008 to Tony Bartlett (c.c. Michael Connolly), stated that *“Having assessed the documentation submitted to date, I agree that pre-development test excavation would be difficult given the nature of the subject site. Your original recommendation for archaeological monitoring would appear to be appropriate”*.

In conclusion, the original mitigation for archaeological monitoring of all ground disturbance works of the PDS as recommended in the AIA (EIS Chapter 8) by Eachtra Archaeological Projects has been approved and is regarded as valid by the Kerry County Archaeologist and the DEHLG.

Kind regards,

Karen Buckley.

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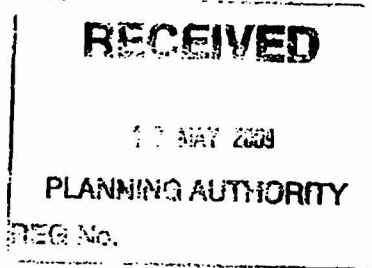
Cornhshaoil, Oldhreachl agus Rialtas Áitiúil  
Environment, Heritage and Local Government



13 May 2009

Your Ref: 08/2415  
Our Ref: DAU-2008-KE-KE-08/2415

The Planning Section,  
Kerry County Council,  
Council Buildings,  
Rathass,  
Tralee,  
Co. Kerry.



**Re: Planning Application Reg. Ref. No. 08/2415 by Kerry Central Recycling Facility Ltd. for permission to construct a materials recovery facility Scart/Caherdeau, Killarney, Co Kerry.**

A Chara,

We refer to the above-proposed development and discussions between this office with RPS Consulting Engineers and also with Eachtra Archaeological Projects, both acting on behalf of the applicant.

Discussions to date have centered our submission of 19th November 2008 and on Item No. 20 of the request for further information as issued by your office on 17th December 2008.

Having considered the information submitted by RPS Consulting Engineers and Eachtra Archaeological Projects, we now accept that pre-development archaeological testing, as required by Item No. 20 of the request for further information, is difficult given the current vegetation coverage across the subject site.

Notwithstanding any decision that may be made on this application by your office, we wish to state that we would have no objection should the local authority decide to defer pre-development archaeological testing to condition stage.

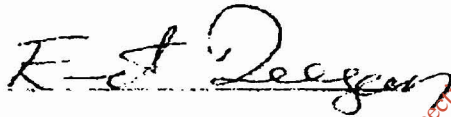
We would recommend, however, that any condition pertaining to pre-development testing and/or archaeological monitoring be clear in regard to the mitigation measures that may be necessary should archaeological material be detected. The full extent of any further mitigatory measures should be included; these may include, redesign to allow for preservation in situ, archaeological excavation and/or archaeological monitoring of groundworks.

Kindly forward to the following address a copy of any further information received, or in the event of a final decision being made, please forward to this office a copy of same, as soon as it issues

The Manager,  
Development Applications Unit,  
The Department of the Environment, Heritage and Local Government,  
Dún Scéine,  
Harcourt Lane,  
Dublin 2.

In addition, please acknowledge receipt of this letter (as required under the Planning Development Regulations 2001) and forward this relevant receipt to the address above.

Is mise le meas,



Emmet Deegan  
Development Applications Unit  
01 8883116  
Emmet.Deegan@environ.ie

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## Maeve Walsh

---

**From:** Willie Madden  
**Sent:** 13 May 2009 17:42  
**To:** 'mconnoly@kerrycoco.ie'  
**Subject:** Kerry Central Recycling Facility - Further Information Request for Planning Application for Proposed Development at Scart/Caherdean

### Kerry Central Recycling Facility Ltd. - Further Information Request for Planning Application for Proposed Development at Scart/Caherdean

Michael,

I refer to the above project and to our recent telephone conversations regarding the request from Kerry County Council for Kerry Central Recycling Facility Ltd. to provide pre-development archaeological testing as part of the Further Information Response.

As discussed yesterday, we are aware that our archaeological consultants, Eachtra Archaeological Projects (Tony Bartlett), contacted Mr. Mark Keegan, Department of Environment, Heritage & Local Government on 19<sup>th</sup> December 2008 by e-mail to discuss the difficulties in carrying out this pre-development testing and provided both aerial and ground photographs to confirm the extent of tree plantations across the site. Mr. Keegan replied on the same date and agreed that *"the pre-development excavation would be difficult given the nature of the subject site"* and that *"your recommendation for archaeological monitoring would appear to be appropriate"*. He also stated that the DELGH would make recommendations to that effect when the RFI documentation was referred to them for comment. This e-mail correspondence was copied to yourself by Mr. Keegan.

On 9<sup>th</sup> February 2009 Eachtra Archaeological Projects (Karen Buckley) issued correspondence to Kerry County Council referring to the correspondence between Eachtra Archaeological Projects and Mr. Mark Keegan on 19<sup>th</sup> December 2008 referred to the above and confirming that the original mitigation for archaeological monitoring of all disturbance works of the proposed development site as recommended in the EIS (Chapter 8) by Eachtra Archaeological Projects has been approved and is regarded as valid by the Kerry County Archaeologist and the DELGH.

On 12<sup>th</sup> May 2009 I contacted Mr. Mark Keegan directly to discuss this issue. Mr. Keegan confirmed that originally the DELGH had requested pre-development archaeological testing be carried out but that when he became aware of the condition of the site and the tree planting through the photographs provided by Tony Bartlett of Eachtra Archaeological Projects on 19<sup>th</sup> December 2009 he then concurred with the view of Eachtra Archaeological Projects that archaeological monitoring was more appropriate.

Following our discussion yesterday Mr. Keegan agreed to submit a supplementary letter to Kerry County Council for the planning file to state that he will accept archaeological monitoring as a planning condition but will make reference to the standard requirement that if the archaeological monitoring indicates the presence of archaeological finds etc then the site design and layout will have to be revisited pre-development which is accepted. Mr. Keegan also indicated that he will contact yourself to discuss the issues outlined above.

On this basis, our response to the Further Information Request will refer to the above discussions and e-mail correspondence with Mr. Keegan as outlined above which indicates that archaeological monitoring of the proposed development site is appropriate in this circumstance. We trust this is satisfactory and meets with your approval.

Please contact the undersigned if you have any queries in this regard.

Regards,  
Willie Madden

Willie Madden  
Operations Director

RPS  
Lyrr Building,  
IDA Business & Technology Park,  
Mervue,  
Galway, Ireland

T +353 (0)91 400200  
F +353 (0)91 400299  
[willie.madden@rpsgroup.com](mailto:willie.madden@rpsgroup.com)  
[www.rpsgroup.com/Ireland](http://www.rpsgroup.com/Ireland)

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Item 21

Item 21

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## ITEM 21

*In relation to the proposed treatment unit on site, there is an element of ambiguity which requires clarification. The design figures used by EPS are for a 30 person hydraulic load as well as a 30 person organic load - these figures differ from those quoted in Section "1.3 Foul Loadings" - Which of the two is correct?*

## RESPONSE

A revised drainage report has been produced and accompanies this response.

The correct design figures to be used are a PE of 19.2 (Hydraulic) and a PE of 28.8. Please refer to Table 1 of the revised drainage report for details.

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Item 22

Item 22

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**ITEM 22**

***In the table 1.3 "Foul Loadings" the total hydraulic flow appears incorrect - Please clarify.***

**RESPONSE**

A revised drainage report has been produced and accompanies this response.

The correct total hydraulic flow is 3,450 litres/day. Please refer to Table 1 of the revised drainage report.

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Item 23

Item 23

RPS

## ITEM 23

*With regards to surface water attenuation and disposal, please submit the following information:-*

- Study of application site showing the route or routes of surface water run-off from the undeveloped site.*
- Calculation of the surface water flows from the undeveloped site including the basis for the calculations.*
- Full design details of the proposed attenuation pond showing how adequate storage is to be provided.*
- Full design details of flow control structure at the outlet attenuation pond.*
- Proposed for the disposal route or routes of surface run-off from the developed sites.*

## RESPONSE

A revised drainage report has been produced and accompanies this response.

- Study of application site showing the route or routes of surface water run-off from the undeveloped site.*

The existing site is drained by a number of drains adjacent to and within the site. These drains eventually discharge to either the western or eastern tributaries of the Gweestin River. The existing drainage of the site is shown on **Drawing No. DR0005-01**.

Approximately 60% of the site drains to the western tributary with the remaining 40% draining to the eastern tributary. This corresponds to flow rates of 71 l/s and 41 l/s respectively under a 100 year storm condition.

- Calculation of the surface water flows from the undeveloped site including the basis for the calculations.*

The rate of surface water flow from the undeveloped site (Greenfield run rate) was calculated using the following equation (Institute of Hydrology Report No. 124 "Flood Estimation for Small Catchments", 1994.)

$$QBAR_{\text{rural}} = 0.00108 \text{ AREA}^{0.89} \text{ SAAR}^{1.178} \text{ SOIL}^{2.17}$$

QBAR <sub>rural</sub>	Mean Annual Flood flow from a rural catchment in m3/s
AREA	Area of catchment in km2
SAAR	Standard average rainfall (available from Met Eireann)
SOIL	Soil index

Calculations for the Greenfield runoff rate are included overleaf. A soil index of 0.45 was used which corresponds to Soil Type 4. The Greenfield run off rate for a 30 year storm was calculated to be 23.51 l/s/ha.

- *Full design details of the proposed attenuation pond showing how adequate storage is to be provided.*

A revised drawing of the attenuation pond is shown on **Drawing No. DR0004/01** in the revised drainage report. Adequate storage will be provided by the use of a flow control unit in the discharge manhole.

- *Full design details of flow control structure at the outlet attenuation pond.*

A flow control unit will be installed in the outlet manhole from the attenuation pond. Details of a typical flow control unit are provided in the revised drainage report.

- *Proposed for the disposal route or routes of surface run-off from the developed sites.*

The surface water drainage system to be installed consists of a number of elements including;

- Filter drains along road verges where possible,
- Closed piping system to carry roof run off and drainage from other areas,
- Grit trap and hydrocarbon interceptor, and
- Attenuation pond to limit discharge from site to Greenfield run-off rates.

The revised drainage report includes a preliminary design of the surface water system. The attenuation pond was sized for a 30 year storm giving a required storage volume of 584 m<sup>3</sup>.

The discharge from the attenuation pond as shown is to a drainage ditch on the western edge of the site which drains to the eastern tributary of the Gweestin River.



The total (attenuated) flow rate to the discharge point is approximately 88 l/s for a 30 year storm. In a 100 year storm it is possible that the attenuation pond will overflow and that a flow rate of up to 189 l/s will discharge to the drainage ditch at the outfall point.

Based on the cross-sectional area and slope of the drainage ditch it is estimated that it has a conveyance capacity of 1.53m<sup>3</sup>/s, suggesting that during the predicted 100 year event no flooding in the adjacent lands will occur.

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Item 24

Item 24

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## ITEM 24

*It is noted that there is vagueness in the terminology used to describe mitigation proposed. Please provide a schedule of proposed mitigation prepared by the consultants and confirmed by the applicants. Where there is uncertainty with regard to mitigation, appropriate triggers or thresholds should be provided. The schedule should also identify the person/personnel/body responsible for implementing the measures.*

## RESPONSE

**Table 24.1** below sets out a detailed schedule of mitigation measures proposed, the relevant triggers/thresholds/standards and identifies the body responsible for implementing the mitigation measures.

A letter from Mr. Sean Murphy, Managing Director of Kerry Central Recycling Facility Ltd. is attached confirming his commitment to implementing the schedule of proposed mitigation measures as set out in **Table 24.1**.

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RESPONSE

Table 24.1 Schedule of Proposed Environmental Mitigation Measures

Environmental Issues	Mitigation Measures and Recommendations	Triggers /Thresholds/Standards	Body Responsible for Implementation
<p><b>Human Beings and Material Assets</b></p>	<ul style="list-style-type: none"> <li>Development controls will be implemented during construction and operational stages through the setting of environmental standards and implementation of management plans for noise, air, odour and water quality. A landscape plan, proposed road improvements and archaeological pre-development testing will also be implemented. Details for each of these proposals are found in the corresponding section in this table.</li> </ul>	<ul style="list-style-type: none"> <li>See relevant section</li> </ul>	<p>Kerry Central Recycling Facility Ltd.</p>
<p><b>Traffic</b></p>	<p><b>Construction Stage</b></p> <ul style="list-style-type: none"> <li>Construction traffic will be scheduled to non-peak traffic hours.</li> <li>Signage will be erected in the vicinity of the construction site, informing the public of construction site access point. The signage will be placed on all approaches to the site access point.</li> <li>Construction vehicles will keep to a restrict speed limit when using public and site roads.</li> </ul> <p><b>Operational Stage</b></p> <ul style="list-style-type: none"> <li>All vehicles entering and exiting the proposed development must use the existing junction between the N22 and the L-3023.</li> <li>Revised road improvements which form part of this RFI response, must be fully implemented before operation of the facility can commence.</li> </ul>	<ul style="list-style-type: none"> <li>No construction traffic on public roads from 0800-0900 hours and 1700-1800 hours.</li> <li>Construction vehicles must not exceed 20km per hour.</li> <li>Refer to detailed road improvement details submitted as part of this RFI Response.</li> </ul>	<p>Kerry Central Recycling Facility Ltd.</p>
<p><b>Surface Water</b></p>	<p><b>Construction Stage</b></p> <ul style="list-style-type: none"> <li>Works with a high risk of suspended solids contamination such as earth moving or excavation close to watercourses/drains will not be carried out between the end of September and the beginning of May.</li> <li>Existing vegetation will be retained where possible and physically mark clearing boundaries on the construction site.</li> <li>Temporary fills or stockpiles which are likely to erode into nearby watercourses will be covered with polyethylene sheeting.</li> <li>Runoff on site will be diverted away from denuded areas.</li> <li>The construction access road will be constructed or topped with a suitable coarse granular material/non-woven geotextile, and if possible organic topsoil should be stripped prior to access road construction.</li> <li>All proposed river and stream crossings will use culvert and bridge design that will cause least impact on the fish life of the watercourses.</li> </ul> <p><b>Operational Stage</b></p> <ul style="list-style-type: none"> <li><b>Process Effluent:</b> All wastewater resulting from the processing of materials will be collected and stored in a tank and will be transported to Tralee WWTP for further treatment.</li> <li><b>Surface Water Run-Off:</b> All non-process paved and roofed areas will be drained according to sustainable drainage system (SUDS) principles. Petrol/oil interceptors will be located at any outfalls to watercourses.</li> <li><b>Foul Water:</b> Effluent from on-site facilities (toilets, canteens etc) will be discharged to ground via a raised polishing filter.</li> </ul>	<ul style="list-style-type: none"> <li>220,000 litres of processes effluent per year with an average BOD level of 977.9 mg/l.</li> <li>Effluent ortho-phosphate concentrations will not exceed 0.5mg/l.</li> </ul>	<p>Kerry Central Recycling Facility Ltd.</p>
<p><b>Landscape and Visual</b></p>	<p><b>Construction &amp; Operational Stages</b></p> <ul style="list-style-type: none"> <li>A landscape plan will be implemented and is detailed as part of this RFI Response.</li> <li>This plan will include for the provision of screening the proposed development from the adjacent N22. Planting will take place at the commencement of the construction stage.</li> <li>The existing boundary hedgerows and treelines will be maintained where possible*</li> <li>Colours that are based upon predominant landscape colours will be used in the building finishes. The use of matt colours will also reduce any glint from the building finish.</li> <li>Downlight style cut-off luminaire lighting will be used to reduce light trespass, and visual impact at night.</li> </ul>		<p>Kerry Central Recycling Facility Ltd.</p>

Environmental Issues	Mitigation Measures and Recommendations	Triggers /Thresholds/Standards	Body Responsible for Implementation
<p><b>Ecology</b></p>	<p><b>Construction and Operational Stages</b></p> <ul style="list-style-type: none"> <li>Existing habitat will be preserved on site where it can.</li> <li>The existing boundary hedgerows and treelines will be maintained where possible*</li> <li>Maintain alder and birch tree lines where possible, where felling is required due to overriding safety issues, replace with comparable species post construction.</li> <li>Any required felling of trees will only take place between the months of September and November inclusive or during the spring months of March to mid-April inclusive. The bird breeding season will also be considered during the latter period.</li> <li>Mitigation measures for surface water will be implemented in full.</li> </ul>		Kerry Central Recycling Facility Ltd.
<p><b>Archaeology, Architectural and Cultural Heritage</b></p>	<ul style="list-style-type: none"> <li>Pre-development archaeological testing will be carried out if requested by the Planning Authority</li> <li>If unknown archaeological objects are found during construction contact with the DEHLG will be made and work will cease until further instruction.</li> <li>If unknown archaeology is found, the site design and layout may need to be revised. This will take place with the guidance and approval of a suitably qualified archaeologist and the DEHLG.</li> </ul>		Kerry Central Recycling Facility Ltd.
<p><b>Soils, Geology and Hydrogeology</b></p>	<p><b>Construction and Operational Stages</b></p> <ul style="list-style-type: none"> <li>Construction activities will be scheduled such as to minimise the area and period of time that soil will be exposed.</li> <li>Adequate surface water runoff and stormwater treatment for both the construction and operational stages will be provided (see surface water section).</li> <li>Temporary fills or stockpiles will be covered with polyethylene sheeting.</li> <li>Runoff on site will be diverted away from denuded areas.</li> <li>Adequate surface drainage, interceptor and SUDS will be installed onsite.</li> <li>Bundling of all oil and diesel storage tanks on site will comply with the EPA requirement of 110% volume of the storage container.</li> </ul>		Kerry Central Recycling Facility Ltd.
<p><b>Air Quality, Climate and Odour</b></p>	<p><b>Construction Stage</b></p> <ul style="list-style-type: none"> <li>A dust minimisation plan will be developed prior to undertaking the works in order to minimise the effect of fugitive dust emissions.</li> <li>A mobile bowser/dust suppression spray will be used during dry periods to dampen vehicle route ways and help mitigate dust emissions.</li> <li>Vehicles using site roads will have their speed restricted. Heavy goods vehicles (HGVs) carrying soil or friable material will be covered or enclosed to prevent their escape along public roads.</li> <li>During dry periods stockpiles of soil and hardcore will be kept moist using rotary sprinkler heads.</li> <li>Boarding will be erected around the site to reduce dispersion of fugitive dust.</li> </ul> <p><b>Operational Stage</b></p> <ul style="list-style-type: none"> <li>All potentially odorous operations will be housed indoors.</li> <li>Roller shutter doors will be used to minimise exposure to outside environment.</li> <li>Regular cleaning of all work surfaces and floors will be implemented as part of the housekeeping procedure.</li> <li>Residence time for potentially odorous waste will be kept to a minimum before transfer.</li> <li>Vehicles carrying potentially odorous waste will be covered entering and exiting the facility.</li> <li>An odour management plan will be developed and implemented.</li> <li>All odour abatement equipment to be designed and operated according to best practice.</li> </ul>	<p>A "Construction Dust Minimisation Plan" will be formulated in line with the UK British Research Establishment (BRE) document "Control of Dust from Construction and Demolition Activities" (February 2003).</p> <ul style="list-style-type: none"> <li>Construction vehicles must not exceed 20km per hour.</li> <li>Implement an odour management plan in line with the UK guidance "Code of Practice on Odour Nuisance from Sewage Treatment Works" (DEFRA 2006).</li> </ul>	Kerry Central Recycling Facility Ltd.

Environmental Issues	Mitigation Measures and Recommendations	Triggers /Thresholds/Standards	Body Responsible for Implementation
<p><b>Noise</b></p>	<p><b>Construction Stage</b></p> <ul style="list-style-type: none"> <li>• Work outside normal working hours shall only take place with the written permission of the local authority.</li> <li>• All contractors will employ the best practicable means to minimise noise emissions.</li> <li>• Where possible, noisy plant will be positioned as far as possible from noise sensitive receptors.</li> <li>• Where particular 'noisy' work is expected to occur, these will be scheduled between the hours of 9.00 – 17.30. Enclosures to unusually noisy activities will be provided where these works cannot be scheduled for the hours 9.00 – 17.30.</li> </ul> <p><b>Operational Stage</b></p> <ul style="list-style-type: none"> <li>• All activities will take place indoors with the exception of delivery of waste material to and from the facility.</li> <li>• Acoustic enclosures/ screens will be used around plant or equipment that is required to be used outdoors e.g operation of generator on site.</li> <li>• Employ traffic management measures.</li> <li>• Minimise the operation of significant noise generating equipment or plant. Implementing a regular maintenance programme for waste handling and process plant and equipment.</li> <li>• Periodic noise monitoring will take place during the initial operational stage to determine levels at noise sensitive receptors.</li> </ul>	<ul style="list-style-type: none"> <li>• Comply with British Standard BS 5228, Noise Control on Construction and Open Sites – 1997.</li> <li>• Comply with S.I. No 632 of 2001 European Communities (Noise Emission by Equipment for Use Outdoors) Regulations 2001.</li> <li>• Comply with EC (Construction Plant and Equipment) Permissible, Noise Levels Regulations, 1988 (S.I. No. 320 of 1988).</li> <li>• Follow 'Environmental good practice site guide' 2005 compiled by CIRIA and the UK Environmental Agency.</li> </ul>	<p>Kerry Central Recycling Facility Ltd.</p>

\*If maintaining existing tree-lines poses safety issues to construction and operational phases of the proposed facility, the felling of this vegetation must be made a priority.

Consent of competent authority required for any other use.

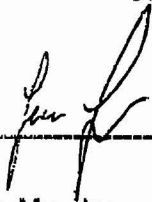
22<sup>nd</sup> June 2009

**Re: Planning Ref: 2415/08 – Schedule of Mitigation Measures- Commitment**

To Whom it Concerns,

I, Sean Murphy, Managing Director of Kerry Central Recycling Facility Ltd. can confirm that I am fully committed to implementation of the schedule of mitigation measure as set out in Table 24.1 of this Further Information Response (planning ref 2415/08).

Yours sincerely,



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Sean Murphy  
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Item 25

Item 25

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## ITEM 25

*Please provide details of any difficulties encountered in gathering data including data that it was not possible to attain.*

## RESPONSE

There were no difficulties encountered in gathering data during the assessment of the proposed development. This was confirmed in **Section 1.8** of the EIS. All relevant data was available during the preparation of the EIS for the proposed development.

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Item 26

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MGE0109CR0001

## ITEM 26

**Please provide confirmation from all the consultants involved in the project that the information supplied as a result of the above requests will not impact on or alter their assessments or recommendations. Where this is not the case and the information should be supplied and revised assessment/data/plans should be supplied as appropriate.**

## RESPONSE

**Table 26.1** shows the list of environmental aspects that were assessed as part of the EIS and the environmental specialists who completed each assessment. All relevant environmental specialists were consulted with regard to the additional information being provided in response to this Further Information Request. Their comments in relation to any alteration or change required for their assessments as a result of this further information are outlined in **Table 26.1**. Confirmation in this regard by the environmental assessors is attached.

**Table 26.1 Alteration to Individual Assessments - Comments**

Environmental Aspect	Specialist Assessor	Does the Response to Further Information Request alter the EIS Conclusions?
Human Beings	RPS Consulting Engineers	No
Ecology	RPS Consulting Engineers	No
Surface Water	Conservation Services	Yes - see revised Surface Water Assessment attached overleaf.
Soils, Geology & Hydrogeology	RPS Consulting Engineers	No
Landscape & Visuals	RPS Consulting Engineers	No
Archaeology, Architectural and Cultural Heritage	Eachtra Archaeological Projects	No
Air Quality	RPS Consulting Engineers	No
Noise and Vibration	RPS Consulting Engineers	No
Traffic Impact	RPS Consulting Engineers	Yes – Satisfies the concerns of Kerry County Council Roads Department

23<sup>rd</sup> June 2009

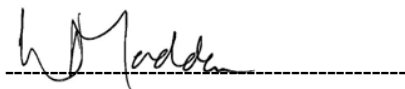
**Re: Item 26- Further Information Response Planning Ref 2415/08**

I the undersigned confirm on behalf of RPS Consulting Engineers that having reviewed the further information submitted as part of Planning Reference 2415/08 (Kerry Recycling Centre Facility Ltd.) that any proposed changes resulting from the provision of this information will not alter the outcome of the following assessments originally completed as part of the Environmental Impact Assessment process:

- Human Environment & Material Assets,
- Ecology,
- Soils, Geology & Hydrogeology,
- Landscape & Visual,
- Archaeology, Architectural and Cultural Heritage,
- Air Quality,
- Noise and Vibration, and
- Traffic.

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Yours sincerely,



**Willie Madden**  
**Operations Director**  
**RPS Consulting Engineers**

**AN ASSESSMENT OF POTENTIAL IMPACTS OF THE  
PROPOSED MATERIALS RECOVERY FACILITY AT  
SCART/CAHERDEAN, KILLARNEY, COUNTY KERRY**

**AQUATIC ECOLOGY REPORT**

**June 2009**

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APPENDIX 3	NATIONAL PARKS AND WILDLIFE SERVICES cSAC SITE SYNOPSIS
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# 1. INTRODUCTION

RPS Group Ltd has commissioned Conservation Services, Ecological & Environmental Consultants to carry out a study of the potential impacts on the aquatic environment of a proposed recycling facility at Caherdean, Killarney, Co. Kerry. The location of the proposed development and potentially affected freshwaters is shown on Map 1. The study does not include assessment of impacts on receiving waters of trade effluent which is to be transported to existing effluent treatment facilities for treatment and discharge.

The main legal constraints on the proposed development in relation to aquatic flora, fauna, habitats and fisheries are:

The Local Government (Water Pollution) Act, 1977 (and associated regulations)	Prohibits the entry of unlicensed polluting matter into waters
The Local Government (Water Pollution) Act, 1977 (Water quality standards for phosphorus regulations 1998)	Requires the local authority to maintain the water quality where satisfactory water quality exists, and in cases of unsatisfactory water quality to improve the quality to a status specified in the regulations. In the case of the present project, the regulations require that the water quality in the Gweestin and its tributaries should attain at least a Q4 unpolluted biological quality rating.
The Fisheries (Consolidation) Act, 1959 as amended by the Fisheries (Amendment) Act, 1962	<p>Prohibits:</p> <ol style="list-style-type: none"> <li>1. The entry of deleterious matter into waters. (Deleterious matter is defined as any substance that is liable to injure fish, their spawning grounds or their food, or to injure fish in their value as human food.)</li> <li>2. Obstructing the passage of salmon, trout or eels or their smolts and fry</li> <li>3. Injury or disturbance of the spawn or fry of salmon or trout or to their spawning or nursery areas</li> </ol>



<p>Fisheries (Amendment) Act 1999</p>	<p>Requires the regional fisheries board to have regard for the need for the conservation of fish and other species of fauna &amp; flora, habitat and biodiversity of inland fisheries and ecosystems. It is the stated policy of the Regional Fisheries Boards that <i>“every river, stream, canal, lake, pond and reservoir must be regarded as constituting and/or supporting a Fishery under the meaning of the Fisheries Acts unless otherwise regarded by the Boards.”</i></p>
<p>The Wildlife Act 1976</p>	<p>Prohibits damage to protected species which includes certain freshwater aquatic species.</p>
<p>The Habitats Directive (92/43/EEC) as transposed into Irish law under the E.C. (Natural Habitats Regulations 1997 (S.I. No. 94 of 1997)</p>	<p>Lists certain species (Annex II) and habitats (Annex I) which require to be protected within Special Areas of Conservation (SACs). Annex II species include crayfish, salmon, and all three Irish species of Lamprey.</p>
<p>Water Framework Directive (2000/60/EC)</p>	<p>The Water Framework Directive requires the maintenance of good ecological quality in all surface waters, which in the Irish context is generally taken to mean achieving salmonid water quality standards regardless of whether the watercourse is designated under the Salmonid Regulations.</p>

## **2. METHODOLOGY**

### **2.1. CONSULTATION & LITERATURE REVIEW**

The following were contacted by letter of 28/2/08 and invited to submit information or comments for this report:

Central Fisheries Board

Marine Institute

Department of the Environment (National Parks & Wildlife Service)

South Western Regional Fisheries Board

Responses have been received from the South Western Regional Fisheries Board and NPWS (see Appendix 1).

A literature review was carried out using publications in the Conservation Services collection of references on Irish aquatic ecology and international information on impacts and mitigation.

### **2.2. HABITAT ASSESSMENT**

Habitat assessment was carried out on 7<sup>th</sup>, 9<sup>th</sup> & 14<sup>th</sup> April 2008.

#### **2.2.1. Field Procedure**

Biological sampling sites were assessed in terms of:

1. Stream width and depth

2. Substrate type, listing substrate fractions in order of dominance, i.e. large rocks, cobble, gravel, sand, mud etc.
3. Flow type, listing percentage of riffle, glide and pool in the sampling area
4. Dominant bankside vegetation, listing the main species overhanging the stream
5. Estimated degree of shade of the sampling site by bankside vegetation.
6. Rating of the site as habitat for salmonid adult, nursery and spawning on a scale of None/ Poor/ Fair/ Good/ Very Good/ Excellent broadly based on a qualitative procedure described by Kennedy (1984). This rating assesses the physical suitability of the habitat; the presence/absence/density of salmonids at the site will also depend on present and historical water quality and accessibility of the site to fish. A rating of "none" indicates that the ecologist carrying out the assessment regards it as impossible that the stream could support salmonid fish in the relevant life stage. A rating of "None - Poor" indicates that it is regarded as possible but extremely unlikely that the stream could support salmonid fish in the relevant life stage.

A general assessment of salmonid and lamprey habitat quality was carried out for c.2km downstream of the proposed development on watercourses shown on the 1:50,000 O.S. Map. This assessment consisted of walking/wading the stream channel. Salmonid and Lamprey habitat quality was assessed, taking into account the environmental features 1-5 listed above. Based on these observations and more detailed criteria outlined in Section 2.2.2 below, the value of each river section for salmonid and lamprey spawning, as a nursery area for juvenile salmonids and lamprey larvae, and as an area for adult salmonids, was estimated. Locations for identification of habitat sections were recorded as Irish Grid References using a GPS. To illustrate the habitat quality photographs were taken using a digital camera.

## 2.2.2. Criteria Used for Assessment of Salmonid and Lamprey Habitat Quality

Habitat quality for in-stream invertebrate and plant communities, and for fish, and riparian birds and mammals, is primarily a function of 'naturalness' and diversity. The more diverse the stream habitat in terms of substrate, flow rate, depth, riparian vegetation, light conditions etc., the richer the biological community is likely to be, and the more suitable it is likely to be for salmonid fish (trout and salmon).

Assessment of the quality of salmonid spawning habitat, nursery habitat and adult habitat is based on personal expertise developed over a period of 13 years of electrofishing and on published information such as the following:

- i. Favourable locations for salmon spawning are likely to occur where the gradient of a river is 3% or less (Mills 1989).
- ii. Preferred current velocity for spawning is within the range 25–90 cm s<sup>-1</sup>, with a water depth in the range 17–76 cm (Hendry & Cragg-Hine 1997).
- iii. Typical spawning sites are the transitional areas between pool and riffle where flow is accelerating and depth decreasing, where gravel of suitable coarseness is present and interstices are kept clean by upwelling flow (Peterson 1978, Bjorn & Reiser 1991).
- iv. Salmon fry and parr occupy shallow, fast-flowing water with a moderately coarse substrate with cover (Symons & Heland 1978, Baglinière & Champigneulle 1986).
- v. Deep or slow-moving water, particularly when associated with a sand or silt substrate, does not support resident juvenile salmonids (Wankowski & Thorpe 1979, Baglinière & Champigneulle 1986).

- vi. Suitable cover for juveniles includes areas of deep water, surface turbulence, loose substrate, large rocks and other submerged obstructions, undercut banks, overhanging vegetation, woody debris lodged in the channel, and aquatic vegetation (Heggenes 1990; Bjorn & Reiser 1991; Haury et al. 1995).
- vii. The juxtaposition of habitat types is also important. The proximity of juvenile habitat to spawning gravels may be significant to their utilisation. In addition, adults require holding pools immediately downstream of spawning gravels in which they can congregate prior to spawning. Cover for adult salmon waiting to migrate or spawn can be provided by overhanging vegetation, undercut banks, submerged vegetation, submerged objects such as logs and rocks, floating debris, deep water and surface turbulence (Bjorn & Reiser 1991).
- viii. Bjorn & Reiser (1991) suggest that proximity of cover to spawning areas may be a factor in the selection of spawning sites by some salmonid species.

Lamprey habitat preferences change with the stages of their life cycle. They show a preference for gravel-dominated substratum for spawning. After hatching the larvae swim or are washed downstream by the current to areas of sandy silt in still or slow flowing water where they burrow and spend the next few years in tunnels. Lampreys therefore require mainly silt and sand dominated substratum for nursery habitat. Other important environmental characteristics for optimal ammocoete habitat are shallow waters with low water velocity, and the presence of organic detritus and/or plant material. Sub-optimal habitat supporting only a few individuals may consist of a few square centimetres of suitable silt in an open, comparatively high-velocity, boulder-strewn streambed. Spate rivers, with high flow velocities, tend to support fewer ammocoetes because they contain smaller areas of stable sediment (Maitland 2003).

## 2.3. BIOLOGICAL WATER QUALITY ASSESSMENT

### 2.3.1. Biological Sampling Sites

Macroinvertebrates were sampled at 4 locations (see Map 2):

Site Code	Grid Reference
TA2	V9361 9939
TB2	V9340 9980
G2	V9343 9862
G4	V9238 9821

### 2.3.2. Biological Sampling & Analysis

Sampling was carried out on 14<sup>th</sup> April 2008.

Invertebrates were sampled using the standard kick sampling method. After field sampling the sample was thoroughly sieved and live sorted for 30 minutes under laboratory conditions. Invertebrates were preserved in 70% alcohol, examined microscopically and identified to the taxonomic level required to calculate Q-ratings by the EPA methodology (McGarrigle *et al* 2002). The preserved samples were archived for future examination or verification. Based on the relative abundance of indicator species, a biotic index (Q-rating) was determined in accordance with the biological assessment procedure used by the Environmental Protection Agency (McGarrigle *et al* 2002 & S.I. No. 258 of 1998) and more detailed unpublished methodology (McGarrigle, Clabby and Lucey pers. comm.)

<b>Biotic Index</b>	<b>Water Quality</b>	<b>Quality Status</b>
<b>Q5</b>	Good	Unpolluted Waters
<b>Q4-5</b>	Fair - Good	
<b>Q4</b>	Fair	
<b>Q3-4</b>	Doubtful - Fair	Slightly Polluted Waters
<b>Q3</b>	Doubtful	Moderately Polluted Waters
<b>Q2-3</b>	Poor - Doubtful	
<b>Q2</b>	Poor	Seriously Polluted Waters
<b>Q1-2</b>	Bad - Poor	
<b>Q1</b>	Bad	

Submerged and emergent aquatic plants were assessed at each site by means of direct observation and recorded as % cover of the substratum.

## **2.4. ASSESSMENT OF FISH STOCK**

Fish stock assessment was carried out on 3<sup>rd</sup> & 11<sup>th</sup> June 2008.

### **2.4.1. Salmonid Assessment**

Electrofishing was carried out at eight sites on the tributaries downstream of the proposed development to determine the fish species present and a minimum density and Catch Per Unit Effort (CPUE) index of the salmonid population density. Assessment was carried out at the following locations (see Map 3).

	<b>Site Code</b>	<b>Grid Reference</b>
Western Tributary	W-A	V9293 9967
	W-B	V9271 9921
	W-C	V9250 9881
	W-D	V9237 9829
Eastern Tributary	E-A	V9362 9939
	E-B	V9335 9914
	E-C	V9336 9882
	E-D	V9342 9863

Fish were captured using a Safari Research Surveyor pulsed direct current backpack electrofisher. Prior to handling, fish were anaesthetised in a benzocaine solution to reduce handling stress. Fish were then identified, and fork length of salmonids was measured to the nearest mm. Trout age was determined by length frequency distribution combined with scale reading using a high power binocular microscope. Trout were classified according to age as less than 1 year old (0+), 1 year old (1+) etc.

#### **2.4.2. Lamprey (Ammocoete) Assessment**

Electrofishing for lamprey ammocoetes was carried out at the following sites on the Eastern Tributary which are within the cSAC (see Map 3).

	<b>Site Code</b>	<b>Grid Reference</b>
Eastern Tributary	E-C	V9336 9882
	E-D	V9342 9863

The assessment method used was the qualitative method described by O'Connor (2004). Sampling areas at each site were electrofished in a zigzag manner using a Safari Research Surveyor pulsed direct current electrofisher.



The area fished varies depending on the extent of fine-grained bed material and suitable water depth available at the site. At each one m<sup>2</sup> section of the surveyed area the anode is energised for 20 seconds, then turned off for approximately five second. The anode is switched on and off in this way for approximately two minutes (Harvey & Cowx 2003). While the gear is operated, the anode is slowly pulled backwards in the water to cause lampreys to emerge from burrows as a result of electro-taxis. When lampreys emerge the electrode is held in the 'on' position to stun the larvae for capture. By keeping the anode 10 – 15 cm above the sediment and pulling the anode backwards, the number of lampreys stunned within the substrate is thought to be reduced (O'Connor 2004). Fish are anaesthetized using a benzocaine solution before being measured and identified using the key and descriptive notes in Maitland (2003 & 2004). The area sampled is measured accurately so that the number of ammocoetes per unit area can be determined as a minimum estimate of density.

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## 2.5. GUIDELINES USED FOR CLASSIFICATION OF IMPORTANCE OF FRESHWATERS

### Rating

#### **A Internationally Important**

Habitats designated as SACs for Annex II species under the EU Habitats Directive. Major Salmon river fisheries. Major salmonid lake fisheries.

#### **B Nationally or Regionally Important**

Other major salmonid waters and waters with major amenity fishery value. Commercially important coarse fisheries. Waters with important populations of species protected under the Wildlife Act and/or important populations of Annex II species under the EU Habitats Directive. Waters designated or proposed as Natural Heritage Areas by Dúchas.

#### **C High Local Value**

Small water bodies with known salmonid populations or with good potential salmonid habitat, or any population of species protected under the Wildlife Act and/or listed Annex II species under the EU Habitats Directive. Large water bodies with some fisheries value.

#### **D Moderate Local Value**

Small water bodies with some coarse fisheries value or some potential salmonid habitat. Any stream with an unpolluted Q-value rating.

#### **E Low value**

Water bodies with no current fisheries value and no significant potential fisheries value. Habitat diversity low and degraded.

NRA (2004)

## 2.6. ASSESSMENT OF SIGNIFICANCE OF POTENTIAL IMPACTS

Impacts are defined on the basis of severity of impact on salmonid fish or any rare, protected, or commercially significant species and/or habitats. Assessment of the importance of a potential impact takes into account not only the ecological considerations in the immediate vicinity of the potential impact, but also geographical and wider catchment considerations. If spawning and nursery habitat are limiting factors in short supply in a particular river system, then impacts on them will have an importance out of proportion with their apparent 'face value'.

Because of their amenity, commercial and legal status, salmonid fish (trout and salmon) are given special consideration. If an aspect of a proposed development is judged likely to have a measurable negative effect on salmonid fish populations, it would be classified as a significant potential impact. The criteria for assessing the significance of impacts on flora, fauna and fisheries are as follows. (For details of water-body categories see section 2.5.)

### A Sites

	Temporary	Short-term	Medium-term	Long-term
Extensive	MAJOR	SEVERE	SEVERE	SEVERE
Localised	MAJOR	MAJOR	SEVERE	SEVERE

### B Sites

	Temporary	Short-term	Medium-term	Long-term
Extensive	MAJOR	MAJOR	SEVERE	SEVERE
Localised	MODERATE	MODERATE	MAJOR	MAJOR

### C Sites

	Temporary	Short-term	Medium-term	Long-term
Extensive	MODERATE	MODERATE	MAJOR	MAJOR
Localised	MINOR	MODERATE	MODERATE	MODERATE

### D Sites

	Temporary	Short-term	Medium-term	Long-term
Extensive	MINOR	MINOR	MODERATE	MODERATE
Localised	NOT SIGNIFICANT	MINOR	MINOR	MINOR

### E Sites

	Temporary	Short-term	Medium-term	Long-term
Extensive	NOT SIGNIFICANT	NOT SIGNIFICANT	MINOR	MINOR
Localised	NOT SIGNIFICANT	NOT SIGNIFICANT	NOT SIGNIFICANT	NOT SIGNIFICANT

NRA (2004)

In line with the EPA guidelines (EPA 2002) the following terms are defined when quantifying duration:

Temporary: Up to 1 year

Short-term: From 1 to 7 years

Medium-term: 7 to 15 years

Long-term: 15 – 60 years

Permanent: over 60 years.

For the purposes of this report 'localised' impacts on rivers are loosely defined as impacts measurable no more than 250 metres from the impact source. 'Extensive' impacts on rivers are defined as impacts measurable more than 250m from the impact source. Any impact on salmonid spawning habitat or nursery habitat where it is in short supply, would be regarded as an extensive

impact as it is likely to have an impact on the salmonid population beyond the immediate vicinity of the impact source.

## **2.7. LIMITATIONS ENCOUNTERED**

No significant limitations were encountered.

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### 3. EXISTING ENVIRONMENT

#### 3.1. GWEESTIN RIVER CATCHMENT GENERAL INFORMATION

The Gweestin River rises in the vicinity of Knockacullig north west of Killarney and flows for c.23km in a roughly westerly direction to join the River Laune c.9km upstream of Killorglin.

##### 3.1.1. Fishery Importance

The Gweestin is designated under the Quality of Salmonid Waters Regulations 1998 (S.I. No. 293, 1988). Fish surveys carried out by the Central Fisheries Board of the main channel of the Gweestin River recorded salmon at all sites assessed (McGinnity *et al* 2003). The Laune River to which the Gweestin flows drains a catchment of c320 square miles and is described by O'Reilly (2002) as "a great salmon and trout river – both sea trout and brown trout." Documentation provided by NPWS states "The May 2000 Fishery Report (Irish Fisheries 2001) noted that all draft nets had been removed from the Laune as part of the catchment management programme and that the effect had been positive with over 120 salmon caught in the Killarney Flesk River (tributary of the Laune) during one week in May."

##### 3.1.2. Water Quality

EPA biological monitoring data for the Gweestin are tabulated in Appendix 2. After the 2004 round of biological monitoring EPA described the Gweestin as "Mostly satisfactory. Improvement recorded at upper Gweestin Bridge (0600) in 2001 has been maintained. Remaining unsatisfactory at final location, lower Gweestin Bridge (1200), due to moderately polluted conditions."

### **3.1.3. Ecological Importance**

Most of the Gweestin River is within the Castlemaine Harbour cSAC (Site code 80000343 see Site Synopsis in Appendix 3). The site is designated for a range of Annex I habitats and Annex II species including Sea Lamprey, River Lamprey, Atlantic Salmon. As a cSAC the Gweestin River is classified as of international importance.

### **3.2. POTENTIALLY AFFECTED WATERS**

The proposed development site drains in a northerly and southerly direction. To the north the site drains to a small stream which flows for c.2.5km to join the Gweestin River just upstream of Gweestin Bridge. To the south the site drains to a stream which flows for c.1.5km to the Gweestin River c.2km upstream of Gweestin Bridge (see Map 1).

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### 3.2.1. WESTERN TRIBUTARY

#### 3.2.1.1. Biological Water Quality

The results of habitat assessment at each site is tabulated in Appendix 4. Site locations are shown on Map 2.

#### SITE TB2

The macroinvertebrate fauna recorded at the site merits a Q-rating of Q3 indicating moderately polluted conditions.

INDICATOR GROUP	TAXON	Number
Group A - Very Pollution Sensitive	None Recorded	
Group B - Moderately Pollution Sensitive	Nemouridae	1
Group C - Moderately Pollution Tolerant	<i>Potamopyrgus antipodarum</i>	57
	<i>Gammarus duebeni</i>	25
	<i>Baetis rhodani</i>	1
	Hydropsychidae	31
	Limnephilidae	2
	Chironomidae (ex. <i>Chironomus</i> )	1
Group D - Very Pollution Tolerant	Erpobdellidae	3
Group E - Most Pollution Tolerant	Tubificidae	1
Not assigned to any indicator group	Enchytraeidae	1
	Lumbriculidae	1

There is visual and olfactory evidence of more serious pollution of this stream at and for at least 500m downstream of an inflowing drain at V9317 9981. Upstream of the road bridge at Caherdean the stream had 90% cover by slime growths and a strong odour of slurry in May 2008.



### 3.2.1.2. Habitat Assessment

Habitat sections are shown on Map 4. Photographs are presented in Appendix 5.

#### Habitat Section W1

<b>Location</b>	V9362 9976 to V9353 9978
<b>Description</b>	This small watercourse emerges from underground at grid ref. V9362 9976. This section consists of a 1.5 wide drain with substrate of soft mud. The lower half of the section has been recently excavated. Good cover of willow on south side of the drain.
<b>Length</b>	c.200m
<b>Photograph Number</b>	1 - 3
<b>Salmonid Adult Habitat</b>	None
<b>Salmonid Nursery Habitat</b>	None
<b>Salmonid Spawning Habitat</b>	None
<b>Lamprey Spawning</b>	None
<b>Lamprey Nursery</b>	Poor - Fair

#### Habitat Section W2

<b>Location</b>	V9342 9980 to V9353 9978
<b>Description</b>	Muddy trickle heavily shaded by gorse.
<b>Length</b>	c.200m
<b>Photograph Number</b>	4 - 5
<b>Salmonid Adult Habitat</b>	None

<b>Salmonid Nursery Habitat</b>	None
<b>Salmonid Spawning Habitat</b>	None
<b>Lamprey Spawning</b>	None
<b>Lamprey Nursery</b>	None

**Habitat Section W3**

<b>Location</b>	V9353 9978 to V9317 9981
<b>Description</b>	Very small stream mostly muddy glide but with some muddy riffle on cobble and gravel. Heavily shaded by gorse.
<b>Length</b>	c.230m
<b>Photograph Number</b>	6
<b>Salmonid Adult Habitat</b>	None - Poor
<b>Salmonid Nursery Habitat</b>	Fair
<b>Salmonid Spawning Habitat</b>	Poor - Fair
<b>Lamprey Spawning</b>	Poor- Fair
<b>Lamprey Nursery</b>	Fair

**Habitat Section W4**

<b>Location</b>	V9317 9981 to V9270 9917
<b>Description</b>	Stream 1-2m wide, mostly riffle on muddy cobble, gravel, sand and some bedrock. Heavily shaded by furze, willow, bramble and alder.
<b>Length</b>	c.850m
<b>Photograph Number</b>	7 - 9

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<b>Salmonid Adult Habitat</b>	Fair
<b>Salmonid Nursery Habitat</b>	Good
<b>Salmonid Spawning Habitat</b>	Fair - Good
<b>Lamprey Spawning</b>	Fair - Good
<b>Lamprey Nursery</b>	Poor - Fair

#### **Habitat Section W5**

**Location** V9270 9917 to V9251 9871

**Description** Good riffle over cobble, bedrock and gravel with some muddy glide. The stream flows through a c.10m pipe culvert at V9250 9874 which is likely to constitute a significant obstacle to upstream fish movement (photo. 14).

**Length** c.520m

**Photograph Number** 10 - 14

**Salmonid Adult Habitat** Fair

**Salmonid Nursery Habitat** Good

**Salmonid Spawning Habitat** Good

**Lamprey Spawning** Good

**Lamprey Nursery** Fair

## Habitat Section W6

<b>Location</b>	V9251 9871 to V9224 9848
<b>Description</b>	Mostly straight uniform shallow channel with riffle and glide over muddy gravel, sand and gravel. A c.8m pipe culvert at V9234 9857 and a c. 50m pipe culvert from V9229 9840 to V9232 9835 are likely to constitute a significant obstacle to upstream fish movement.
<b>Length</b>	c.500m
<b>Photograph Number</b>	15 - 18
<b>Salmonid Adult Habitat</b>	Poor - Fair
<b>Salmonid Nursery Habitat</b>	Fair - Good
<b>Salmonid Spawning Habitat</b>	Fair - Good
<b>Lamprey Spawning</b>	Fair - Good
<b>Lamprey Nursery</b>	Fair

### 3.2.1.3. Salmonid Fish Assessment

Details of electrofishing sites and full survey data are presented in Appendix 6.

Site Code	Area Fished m <sup>2</sup>	Fishing Time (mins)	Species Recorded	Number of Brown Trout Captured	Minimum Brown Trout Density (per m <sup>2</sup> )	C.P.U.E. (trout per hour equivalent)
W-A	30	5	None	0	0	0
W-B	67	7	None	0	0	0
W-C	35	8	None	0	0	0

Site Code	Area Fished m <sup>2</sup>	Fishing Time (mins)	Species Recorded	Number of Brown Trout Captured	Minimum Brown Trout Density (per m <sup>2</sup> )	C.P.U.E. (trout per hour equivalent)
W-D	90	10	Brown Trout, Three-Spined Stickleback	1	0.011	6

#### 3.2.1.4. Fishery Value

The habitat of the Western Tributary is adequate to support a significant population of juvenile brown trout. The apparently complete absence of trout from the stream except for a very low density just upstream of its confluence with the Gweestin River is likely to be due to serious pollution and the installation of several culverts along the length of the stream which would form an obstruction to upstream fish movement.

#### 3.2.1.5. Ecological Value

As a small water course with some brown trout and good potential salmonid habitat, the Western Tributary is classified as of high local value.

### 3.2.2. EASTERN TRIBUTARY

#### 3.2.2.1. Biological Water Quality

The results of habitat assessment at each site is tabulated in Appendix 4. Site locations are shown on Map 2.

#### SITE TA2

The macroinvertebrate fauna recorded at the site merits a Q-rating of Q3 indicating moderately polluted conditions.

INDICATOR GROUP	TAXON	Number
<b>Group A</b> - Very Pollution Sensitive	None Recorded	
<b>Group B</b> - Moderately Pollution Sensitive	Nemouridae	1
	Sericostomatidae	1
<b>Group C</b> - Moderately Pollution Tolerant	<i>Gammarus duebeni</i>	2
	Hydracarina	2
	<i>Baetis rhodani</i>	21
	Hydropsychidae	17
	<i>Hydraena sp.</i>	1
	Tipulidae	1
	Chironomidae (ex. <i>Chironomus</i> )	5
<b>Group D</b> - Very Pollution Tolerant	Erpobdellidae	4
<b>Group E</b> - Most Pollution Tolerant	None recorded	

#### 3.2.2.2. Habitat Assessment

Habitat sections are shown on Map 4. Photographs are presented in Appendix 5.

### Habitat Section E1

<b>Location</b>	V9365 9969 to V9363 9940
<b>Description</b>	Very small stream/drain which emerges from ground at V9365 9969. Mostly muddy substrate with limited muddy gravel at the lower end of the section. The watercourse flows through a c.5m long pipe culvert to join the stream at V9363 9940.
<b>Length</b>	c.300m
<b>Photograph Number</b>	19 & 20
<b>Salmonid Adult Habitat</b>	None
<b>Salmonid Nursery Habitat</b>	Poor
<b>Salmonid Spawning Habitat</b>	Poor
<b>Lamprey Spawning</b>	Poor
<b>Lamprey Nursery</b>	Poor

### Habitat Section E2

<b>Location</b>	V9370 9943 to V9356 9935
<b>Description</b>	Very small stream, mostly riffle on muddy cobble and bed rock. Heavily shaded by hawthorn and gorse.
<b>Length</b>	c.200m
<b>Photograph Number</b>	21 - 23
<b>Salmonid Adult Habitat</b>	Poor
<b>Salmonid Nursery Habitat</b>	Fair
<b>Salmonid Spawning Habitat</b>	Poor - Fair
<b>Lamprey Spawning</b>	Poor - Fair

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Lamprey Nursery            Poor

### Habitat Section E3

Location                      V9356 9935 to V9342 9863

Description                 Small stream. Mostly muddy riffle over cobble and bed rock. Pools scarce. Good shade of oak, ash and willow.

Length                        c.800m

Photograph Number      24 - 33

Salmonid Adult Habitat    Fair

Salmonid Nursery Habitat    Good

Salmonid Spawning Habitat    Fair

Lamprey Spawning            Fair

Lamprey Nursery              Poor

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### 3.2.2.3. Salmonid Fish Assessment

Details of electrofishing sites and full survey data are presented in Appendix 6.

Site Code	Area Fished m <sup>2</sup>	Fishing Time (mins)	Species Recorded	Number of Juvenile Brown Trout Captured	Minimum Brown Trout Density (per m <sup>2</sup> )	C.P.U.E. (trout per hour equivalent)
E-A	27	10	Brown Trout	11	0.407	66
E-B	37	10	Brown Trout	11	0.297	66
E-C	22	7	Brown Trout	15	0.682	128



Site Code	Area Fished m <sup>2</sup>	Fishing Time (mins)	Species Recorded	Number of Juvenile Brown Trout Captured	Minimum Brown Trout Density (per m <sup>2</sup> )	C.P.U.E. (trout per hour equivalent)
E-D	22	5	Brown Trout	16	0.727	264

#### 3.2.2.4. Juvenile Lamprey Assessment

The best area of potential lamprey nursery silt within c.100m of sites E3 & E4 were selected for juvenile lamprey assessment. At both sites the substrate was sub optimal lamprey nursery habitat consisting of a mixture of silt, gravel and sand.

Site Code	Area Fished m <sup>2</sup>	Number of Lamprey Captured	Minimum lamprey density (per m <sup>2</sup> )
E-C	2	0	0
E-D	2	0	0

#### 3.2.2.5. Fishery Value

Good densities of juvenile brown trout were recorded at all sites assessed. The stream is therefore a significant brown trout spawning and nursery stream of the Gweestin River system. All trout recorded were early juvenile trout of less than 1 year old, except for a single one year old juvenile trout at site E-B.

### 3.2.2.6. Ecological Value

As a small water course with good juvenile brown trout population and habitat, the Western Tributary is classified as of high local value. No salmon or lamprey were recorded in the stream, this indicates that these species are either absent or present at very low densities. The lowest c.150m of the stream is part of the Castlemaine Harbour cSAC (see site synopsis in Appendix 3); the cSAC as a whole is classified as of international importance.

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### 3.2.3. GWEESTIN RIVER

#### 3.2.3.1. Biological Water Quality

Biological water quality assessment was carried out immediately downstream of the confluence with both the eastern and western tributaries. The results of habitat assessment at each site is tabulated in Appendix 4. Site locations are shown on Map 2.

#### SITE G2

The macroinvertebrate fauna recorded at the site merit a Q-rating of Q4-5 indicating unpolluted conditions.

INDICATOR GROUP	TAXON	Number
<b>Group A</b> - Very Pollution Sensitive	<i>Ecdyonurus</i> sp.	2
	Heptageniidae	4
	<i>Rhithrogena</i> sp.	27
	Chloroperlidae	3
	<i>Isoperla grammica</i>	5
	<i>Perla bipunctata</i>	4
<b>Group B</b> - Moderately Pollution Sensitive	<i>Baetis muticus</i>	2
	<i>Amphinemura</i> sp.	1
	<i>Brachyptera risi</i>	1
	Goeridae	38
	Sericostomatidae	10
<b>Group C</b> - Moderately Pollution Tolerant	<i>Potamopyrgus antipodarum</i>	6
	<i>Gammarus duebeni</i>	12
	Hydracarina	1
	<i>Baetis rhodani</i>	26
	Hydropsychidae	11
	Limnephilidae	12
	Rhyacophilidae	1
	Chironomidae (ex. <i>Chironomus</i> )	3
	Tipulidae	7
	Elmidae	20
	Gyrinidae	3
<b>Group D</b> - Very Pollution Tolerant	None recorded	
<b>Group E</b> - Most Pollution Tolerant	None recorded	

## SITE G4

The macroinvertebrate fauna recorded at the site merits a Q-rating of Q4-5 indicating unpolluted conditions.

INDICATOR GROUP	TAXON	Number
<b>Group A</b> - Very Pollution Sensitive	Heptageniidae	7
	<i>Rhithrogena sp.</i>	46
	Chloroperlidae	8
	<i>Isoperla grammatica</i>	4
	<i>Perla bipunctata</i>	3
<b>Group B</b> - Moderately Pollution Sensitive	<i>Baetis muticus</i>	5
	<i>Leuctra sp.</i>	3
	Sericostomatidae	4
<b>Group C</b> - Moderately Pollution Tolerant	<i>Gammarus duebeni</i>	13
	Hydracarina	7
	<i>Baetis rhodani</i>	c.130
	Caenidae	1
	Glossosomatidae	4
	Hydropsychidae	6
	Limnephilidae	1
	Rhyacophilidae	1
	Chironomidae (ex. <i>Chironomus</i> )	15
	Tipulidae	7
	Elmidae	6
Gyrinidae	2	
<b>Group D</b> - Very Pollution Tolerant	None recorded	
<b>Group E</b> - Most Pollution Tolerant	Tubificidae	2

### 3.2.3.2. Habitat Assessment

Habitat sections are shown on Map 4. Photographs are presented in Appendix 5.

## Habitat Section G1

<b>Location</b>	V9342 9863 to V9239 9824
<b>Description</b>	Sinuuous river with excellent flow and substrate diversity. Good mix of cobble and sandy gravel, riffle and glide and pools. Good marginal lamprey silts.
<b>Length</b>	c.1.5km
<b>Photograph Number</b>	34 - 38
<b>Salmonid Adult Habitat</b>	Very Good
<b>Salmonid Nursery Habitat</b>	Very Good
<b>Salmonid Spawning Habitat</b>	Very Good
<b>Lamprey Spawning</b>	Very Good
<b>Lamprey Nursery</b>	Very Good

### 3.2.3.3. Fishery Value

The section of the Gweestin River assessed has very good habitat for all salmonid life stages. The river is known to have a population of brown trout and salmon.

### 3.2.3.4. Ecological Value

In the present survey adult brook lamprey (*Lampetra planeri*) were observed in the Gweestin just downstream of the confluence with the eastern tributary. Salmon (*Salmo salar*) have also been recorded by CFB throughout the main channel of the Gweestin river. Both salmon and brook lamprey are listed in Annex II of the habitats directive. The Gweestin river is designated a cSAC specifically for the conservation of Salmon. As a designated cSAC the Gweestin River is classified as of international importance.

The surveyed section of the Gweestin River has habitat of moderate suitability for Freshwater Pearl (*Margaritifera margaritifera*) an endangered species listed in Annex II of the Habitats Directive. There are no records of *Margaritifera* from the Gweestin River. EPA water quality data (Gweestin Bridge EPA Site 0600 see Appendix 2) indicate moderately or slightly polluted conditions in three of the six monitoring rounds since 1990. Moorkens (2006) states “*The species requires very clean unsilted rivers, cleaner than the current requirements for human drinking water or salmonid waters, and of higher quality than the median levels associated with EPA Q5 waters, currently the highest quality described in Ireland.*” It is therefore concluded that the likelihood of *Margaritifera* in the potentially affected section of the Gweestin River is insignificant.

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#### **4. POTENTIAL SIGNIFICANT IMPACTS OF THE DEVELOPMENT ON FRESHWATER AQUATIC FLORA, FAUNA AND HABITATS IN THE ABSENCE OF MITIGATION**

The potential significant impacts of the proposed development will be:

1. Pollution of streams with suspended solids due to runoff of soil from construction areas
2. Pollution of streams, during construction phase, with other substances such as fuels, lubricants, waste concrete, waste water from site toilet and wash facilities, etc.
3. Pollution by effluent from the waste processing and storage area and ancillary structures and facilities
4. Pollution by surface water draining from non process area of the site e.g. car parking, roofs, access roads, paths etc.
5. Pollution by effluent from toilet, wash facilities, canteen etc.
6. Hydrological impacts due to changes in the flow regime of streams draining the proposed development site.
7. **Loss of stream habitat due to construction of the proposed development access road**
8. **Obstruction to upstream movement of fish and other aquatic fauna due to construction of proposed new development access road and upgrading of existing L3023 road adjacent to the proposed development**

Potential impacts are described under two headings:

- i. An assessment of the potential environmental impact of the proposed development during the period of construction.
- ii. An assessment of potential significant long-term effects of the existence of the proposed development on freshwater invertebrate fauna, flora, fish and habitats.

#### **4.1. AN ASSESSMENT OF THE POTENTIAL AQUATIC ENVIRONMENTAL IMPACT OF THE PROPOSED DEVELOPMENT DURING THE PERIOD OF CONSTRUCTION**

##### **4.1.1. Pollution of streams/rivers with suspended solids**

Research in North America indicates that the equivalent of many decades of natural or even agricultural erosion may take place during a single year from areas cleared for construction (Wolman and Schick 1967). Suspended sediment due to runoff of soil from construction areas, or due to disturbance of fine sub-surface sediments in the course of instream construction and excavation, can have severe negative impacts on invertebrate and plant life and on all life stages of salmonid fish.

- Suspended sediment can settle on spawning areas, infill the intragravel voids and smother the eggs and alevins (newly hatched fish) in the gravel.
- Bed Load (coarse material transported along the bottom of the stream) and settled sediments can infill pools and riffles, reducing the availability and quality of rearing habitat for fish.
- Suspended sediment can reduce water clarity and visibility in the stream, impairing the ability of fish to find food items.



- Settled sediments can smother and displace aquatic organisms such as macroinvertebrates, reducing biodiversity and reducing the amount of food items available to fish.
- Increased levels of sediment can displace fish out of prime habitat into less suitable areas. (Chilibeck *et al* 1992)
- Suspended solids can abrade or clog the gills of salmonid fish. It takes a high concentration of solid wastes to clog a fish gill and cause asphyxiation, but only a little to cause abrasions and thus permit the possibility of infections. (Solbe 1988)

#### **4.1.2. Pollution of streams/rivers with other substances associated with the construction process**

The potential exists for a range of serious pollutants to enter watercourses during construction. For example any of the following will have deleterious effects on fish, plants and invertebrates if allowed to enter watercourses.

- Raw or uncured concrete and grouts
- Wash down water from exposed aggregate surfaces, cast-in-place concrete and from concrete trucks
- Fuels, lubricants and hydraulic fluids for equipment used on the development site
- Waste from on site toilet and wash facilities

## **4.2. AN ASSESSMENT OF POTENTIAL SIGNIFICANT LONG-TERM EFFECTS OF THE EXISTENCE AND OPERATION OF THE PROPOSED DEVELOPMENT ON AQUATIC INVERTEBRATE FAUNA, FLORA, FISH AND HABITATS.**

### **4.2.1. Potential pollution by surface water draining from non-process area of the site e.g. car parking, roofs, access roads, paths etc.**

The main pollutants of concern in the runoff from paved areas not accessed by vehicles transporting waste material would be petrol, fuel oils, lubricating oils and hydraulic fluids. In unmodified form these are liquid, virtually insoluble and lighter than water. EIFAC - The European Inland Fisheries Advisory Commission (Svobodova *et al* 1993) states that *"a sensory assessment is preferred to toxicological analysis in determining the highest admissible amounts of oil and oil products that can be present in water; on this basis the highest admissible concentrations are in the range of 0.002 to 0.025 mg per litre"*.

Harmful effects include:

- The prevention of gaseous exchange at the water surface, leading to reduced dissolved oxygen in the underlying water (Solbe 1988)
- In the case of turbulent waters the oil becomes dispersed as droplets into the water. In such cases, the gills of fish can become mechanically contaminated and their respiratory capacity reduced (Svobodova *et al* 1993).
- Oil products may contain various highly toxic substances, such as benzene, toluene, naphthenic acids and xylene which are to some extent soluble in water; these penetrate into the fish and can have a direct toxic effect. It is generally agreed that the lighter oil fractions (including kerosene, petrol,

benzene, toluene and xylene) are much more toxic to fish than the heavy fractions (heavy paraffins and tars) (Svobodova *et al* 1993).

#### **4.2.2. Potential pollution by effluent from toilet, wash facilities, canteen etc. in the absence of adequate mitigation**

##### **4.2.2.1. Organic Pollution**

Following the introduction of untreated or poorly treated sewage effluent to a stream, conditions of existence for many organisms becomes substantially degraded. Increased turbidity in the water will reduce light penetration, which in turn will reduce the volume of water capable of supporting photosynthesizing plants. Particulate matter in settling will flocculate small floating plants and animals from the water. As the material settles, sludge beds may be formed on the stream bed, and many of the areas that formerly could have been inhabited by bottom dwelling organisms become covered and uninhabitable. Within the zone of active decomposition the breakdown of organic products by bacteria may consume all available dissolved oxygen, resulting in the river becoming uninhabitable by fish and many other aquatic species.

##### **4.2.2.2. Eutrophication: Phosphorus**

The most serious threat to water quality of lakes and rivers in Ireland is eutrophication, defined as the enrichment of waters, beyond natural levels, principally by the nutrient phosphorus (P). This enrichment commonly results in excessive production of cyanobacteria (formerly referred to as blue-green algae), planktonic algae and rooted plants in such waters. Eutrophication of aquatic ecosystems also results in loss of biodiversity and degradation of aquatic habitats of high ecological quality (EPA 1997).

The adjacent streams are very small therefore the dilution available for any effluent directly discharged to surface waters or reaching surface waters via discharge to the ground will be extremely small. It is now EPA policy that except in exceptional circumstances the appropriate Environmental Quality Standard to

be applied to all Irish freshwaters would be for salmonid water quality (EPA 1997). This means that the target is to attain a Q4 rating or higher (unpolluted status/Class A) under EPA biological quality classification system or a median Molybdate Reactive Phosphorus concentration of 0.03 mg/l. The stream immediately adjoining the proposed development site has a population of brown trout and is designated as a cSAC from c.500m downstream of the proposed development. The present Q-rating of the stream is Q3 i.e. moderately polluted. Any significant further reduction in water quality is likely to result in the loss of the trout population in this nursery stream of the Gweestin River and would be in breach of the fisheries regulations and the water pollution regulations.

#### **4.2.3. Potential pollution from process area and ancillary structures and facilities in the absence of adequate mitigation**

The proposed development involves the construction of a Materials Recovery Facility (MRF). An annual intake of 95,000 tonnes per annum is proposed (50,000 tonnes of mixed municipal waste, 3,000 tonnes of organic waste, 30,000 tonnes of dry recyclables, 12,000 tonnes of non-hazardous Construction & Demolition waste (C&D waste).

A public recycling area will also be constructed for deposition of recyclables construction and demolition wastes, timber, metals, cardboard and paper, glass, plastic bottles/film, green waste, WEEE, fluorescent tubes, batteries, bulky waste, waste oils, textiles, household hazardous and residual waste.

Classification of waste as non-hazardous under the Waste Management Act 1996 is based largely on hazards to human health. Many substances classified as non-hazardous are potentially damaging to the aquatic environment, for instance:

- Any food stuffs or decomposable organic material
- All fats, greases & oils, whether of mineral or food origin

- Most household, garden and commercial chemicals
- Inert rubbles containing fine mineral particles
- A wide range of chemicals contained in small and large domestic and office appliances, batteries etc.

All biodegradable organic wastes such as food waste, garden waste, paper and cardboard products, animal products, treated or painted wood waste, and a range of commercial and industrial wastes, if exposed to rain will produce runoff detrimental to the aquatic environment.

Given the wide range of potential pollutants contained in the wastes to be processed at the proposed plant, the potential exists for significant contamination of surface waters from waste material exposed to rain, accidental spillages, etc. The most serious risk posed would be from accidental spillages of materials with high B.O.D. or other polluting potential.

Pollution could potentially arise from a range of sources e.g.:

- The processing area
- Storage areas for recovered waste etc. (skips and hardstanding)
- Fuel storage tanks
- Weighbridge
- Waste delivery area

#### **4.2.4. Permanent loss of habitat**

**Permanent loss of aquatic and/or riparian habitat will potentially take place where the proposed development access road and the upgraded L3023 road adjacent to the proposed development are constructed through, over, or in close proximity to streams. Fishery Guidelines for Local Authority Works published by the Department of the Marine and Natural Resources (Anon 1998) state that "*culverts are highly inimical to stream plant and fish life and become effectively sterile*". By eliminating the natural aquatic vegetation and its associated invertebrate fauna,**

culverts can result in a significant reduction in invertebrate drift downstream which constitutes a significant food source for salmonid fish. By changing the hydrology of a section of stream or river, culverts may also result in changes in upstream and downstream habitat, due to changes in flow conditions and substrates.

The proposed development access road includes a c.12m long culvert of Stream Section E1 which constitutes poor salmonid habitat, and a c. 22m wide crossing of Stream Section E2, which has a small population of juvenile trout. It is also proposed to extend the existing stream culvert under the L2023 by c.7m on its north side with a potential loss of trout habitat.

#### **4.2.5. Obstruction to upstream movement of fish and other aquatic fauna due to road crossings**

Habitat fragmentation, the splitting of natural habitats and ecosystems into smaller and more isolated patches, is recognised as one of the most important global threats to the conservation of biological diversity. Effective watercourse protection requires consideration of the needs of all species, including invertebrates and insects, fish, amphibians such as frogs and newts, and mammals such as otters. Streams and the interconnectedness of different parts of a stream or watershed are essential to these animals. For reasons as simple as escaping random disaster or as complex as maintaining genetic diversity, animals living in or along streams, ephemeral watercourses and linear wetlands need to be able to move unimpeded through the watershed.

Culverts and other artificial channels, if not appropriately designed and constructed with the aquatic ecosystem in mind, can totally prevent any upstream movement, of many aquatic organisms including fish. Even in the case of watercourses unsuitable for fish, movement of other aquatic

organisms in field drains or ephemeral watercourses can be disrupted by unsuitable culverts.

In the case of the present proposed development, the young trout recorded in the small stream adjacent to the proposed development are likely to be the offspring of adult trout which have run up into this stream from the Gwestin River to spawn beside the site upstream of the N22. Unsuitable culverting will prevent these adult fish from reaching their spawning areas.

#### **4.3. SIGNIFICANCE OF POTENTIAL IMPACTS IN THE ABSENCE OF MITIGATION**

In the absence of mitigation, the potential impact of the proposed facility on streams & rivers would be major during both the construction phase and operational phase.

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#### 4.4. SUMMARY OF SIGNIFICANCE OF POTENTIAL IMPACTS

Potential Impact location	IMPACTS DURING CONSTRUCTION				LONG-TERM IMPACTS				
	Suspended Solids Pollution	Other Pollutants	Pollution from non process area runoff	Pollution from process area effluent	Pollution from non process waste water	Hydro-logical Impacts	Habitat Loss	Obstruction to upstream movement of fish	
East Tributary	Major	Major	Major	Major	Major	Moderate	Moderate	Moderate	
West Tributary	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Not Significant	Not Significant	
Gweestin River	Major	Major	Major	Major	Major	Minor or not significant	None	None	

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## MITIGATION MEASURES

### 5.1. REDUCTION AND PREVENTION OF POLLUTION DURING THE CONSTRUCTION PROCESS

#### 5.1.1. Reduction and prevention of suspended solids pollution

Release of suspended solids to all watercourses should be kept to a minimum and total suspended solids in discharges should not exceed 25mg/l. The key factors in erosion and sediment control are to intercept and manage off- and on-site runoff. This limits the potential for soils to be eroded and enter streams in runoff. Runoff and surface erosion control is more effective and less expensive than sediment control with sediment control ponds only.

The following general guidelines for erosion and sediment control are largely based on Goldman *et al* (1986):

- i. Works with a high risk of suspended solids contamination such as earth moving or excavation close to watercourses/drains should not be carried out between the end of September and the beginning of May.
- ii. Retain existing vegetation where possible and physically mark clearing boundaries on the construction site.
- iii. Revegetate denuded areas, particularly cut and fill slopes and disturbed slopes as soon as possible. Use mulches or other organic stabilisers to minimise erosion until vegetation is established on sensitive soils.
- iv. Cover temporary fills or stockpiles which are likely to erode into nearby watercourses with polyethylene sheeting.
- v. Divert runoff away from denuded areas.

- vi. Minimise the length and steepness of slopes where possible.
- vii. Minimise runoff velocities and erosive energy by maximising the lengths of flow paths for precipitation runoff, constructing interceptor ditches and channels with low gradients to minimise secondary erosion and transport, and lining unavoidably steep interceptors or conveyance ditches with filter fabric, rock or polyethylene lining to prevent channel erosion.
- viii. Retain eroded sediments on site with erosion and sediment control structures such as sediment traps, silt fences and sediment control ponds. Sediment control ponds should be designed for a minimum retention time of 15 hours.
- ix. Access roads should be constructed or topped with a suitable coarse granular material/non-woven geotextile, and if possible organic topsoil should be stripped prior to access road construction.
- x. It is important that at the planning stage provision is made for a sufficient land area to accommodate the necessary sediment control measures.

#### **5.1.2. Prevention of pollution with other substances associated with the construction process**

The following guidelines based on Chillibeck *et al* (1992), and NRA (2005) should be followed:

- i. Raw or uncured waste concrete should be disposed of by removal from the site or by burial on the site in a location and in a manner that will not impact on the watercourse.
- ii. Wash down water from exposed aggregate surfaces, cast-in-place concrete and from concrete trucks should be trapped on-site to allow sediment to settle out and reach neutral pH before clarified water is

released to the stream or drain system or allowed to percolate into the ground.

- iii. Fuels, lubricants and hydraulic fluids for equipment used on the construction site should be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment according to current best practice (Enterprise Ireland BPGCS005).
- iv. Fuelling and lubrication of equipment should not be carried out on sites close to water courses.
- v. Any spillage of fuels, lubricants or hydraulic oils should be immediately contained and the contaminated soil removed from the site and properly disposed of.
- vi. Oil booms and oil soakage pads should be kept on site to deal with any accidental spillage.
- vii. Waste oils and hydraulic fluids should be collected in leak-proof containers and removed from the site for disposal or re-cycling.
- viii. All pumps using fuel or containing oil should be locally and securely bunded when situated within 25m of waters or when sited such that taking account of gradient and ground conditions there is the possibility of discharge to waters.
- ix. Foul drainage from site offices etc. should be removed to a suitable treatment facility or discharged to a suitable treatment system constructed in accordance with EPA guidelines.

### 5.1.3. Requirements for Contractors

Contractors should establish contact with the South Western Regional Fisheries Board and the National Parks & Wildlife Service before works commence, and there should be ongoing liaison with these bodies throughout the construction process. Contractors should be in possession of, and familiar with the contents of "*Control of water pollution from construction sites - Guidance for consultants and contractors*" published by the Construction Industry Research and Information Association (CIRIA 2001) (e-mail enquiries@ciria.org.uk).

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## **5.2. REDUCTION AND PREVENTION OF IMPACTS FROM THE COMPLETED DEVELOPMENT**

### **5.2.1. Mitigation of potential pollution of surface waters with effluent from the material recovery facility**

All waste delivery, storage and processing areas should be fully roofed against rain, bunded to contain any accidental spillages, and drained on an impervious surface to a holding tank for tankering to a waste treatment facility. The holding tank should have the capacity to contain any potential accidental spillages. As leachate may arise from deliveries particularly of municipal wastes, delivery trucks should drive across the weighbridge and unload the waste into a housed delivery area which drains to the effluent storage tank.

The EPA are in the process of drawing up a groundwater protection response which will include guidelines for above ground and underground storage tanks (M.F. Rochford, EPA, pers comm.) Pending the completion of EPA guidelines, any underground effluent storage tanks should be double-skinned (that is, have an inner and outer skin) and have an interstitial monitoring device with automatic alarms. All USTs should be provided with overfill prevention. Any above ground fuel or effluent storage tanks should comply with current regulations and be adequately bunded.

Fuel storage tanks should adequately bunded and provided with a leakage detection system.

### **5.2.2. Mitigation of potential pollution by surface water draining from non-process area of the site e.g. car parking, roofs, access roads, paths etc.**

A sustainable drainage system should be installed for all surface waters draining from the non-process area of the proposed development (including roofs). The system installed should have a proven capability of achieving and sustaining at least the following percentage pollution reduction in runoff:

Total Suspended Solids	85%
Heavy Metals	50 – 80%
Chemical Oxygen Demand	50%
Hydrocarbons	90%

Best management practices for treatment of runoff would include:

- Constructed Wetlands
- Vegetated lagoons
- Swales
- Filter strips
- Filter drains
- Infiltration devices
- Oil/grit separators

In a major EPA funded study of the impact of road runoff on water quality in Ireland (Brien *et al* 2006) it is concluded that *“Each of the Best Management Practices outlined have individual advantages in the removal of pollutants from highway runoff. Therefore, a combination of these systems should be used for enhanced and more uniform overall pollutant removal performance. In fact a combination of runoff management and control measures is recommended whenever it is feasible.”* This is also the conclusion of the CIRIA Report C608 on SUDS (Wilson *et al* 2004) which concludes that the more techniques used in a runoff treatment and attenuation system, the better the performance is likely to be.

Petrol/oil and grit interceptors should be located at outfalls to watercourses. Design of those interceptors should conform to the recommendations of CIRIA Report No. 142 (Luker & Montague 1994). The drainage system should have a shut off valve system and the capacity to contain a major accidental spillage.

As virtually all treatment options require proper maintenance in order to function properly, and as some such as oil interceptors can become a source of pollution if not properly maintained, a program of regular cleaning, maintenance and inspection of the runoff treatment system should be put in place to ensure it functions correctly.

### **5.2.3. Mitigation of potential pollution by effluent from toilet, wash facilities, canteen etc.**

Effluent ortho-phosphate concentrations will not exceed 0.5mg/l (RPS pers. comm.) It is proposed to discharge the effluent to ground via a raised polishing filter. Based on maximum effluent discharge rates and the estimated 95 percentile and median flows of the eastern stream to which the discharged effluent would drain, the maximum elevation of ortho-phosphate in the receiving waters over the operational lifetime of the proposed development would be 0.00365 mg/l at 95 percentile low flows and a maximum elevation of 0.00071 at median stream flows. (RPS pers. comm.)

The annual median ortho-phosphate levels of Q3 streams calculated from a large number of streams and sites is 0.070 mg/l (McGarrigle et al 2002); a maximum elevation of 0.00365 mg/l ortho-phosphate at low stream flows would therefore typically represent a maximum increase in ortho-phosphate of c. 5%. A maximum elevation of 0.00071mg/l at median stream flows would typically represent a maximum increase of c. 1%. The existing status of the eastern stream does not meet the requirements of the phosphorus regulations or salmonid standards. In the absence of a reduction of phosphorus inputs from other unidentified sources upstream, any additional phosphorus inputs can only exacerbate the situation. However, the estimated maximum increases in phosphorus resulting from the proposed development would constitute a very minor input relative to other phosphorus inputs upstream. Whereas a “*straw that broke the camels back*” ecological impact on trout in the vicinity of the proposed development cannot be ruled out, such percentage increases of phosphorus would not under normal circumstance be described as significant.

It is the opinion of the author of this report that if the maximum elevation of phosphorus in the stream in the vicinity of the proposed development does not exceed the level estimated, there will be no detectable ecological effect on the cSAC to which this tributary flows.

#### **5.2.4. Mitigation of hydrological impacts**

The surface water drainage system for the proposed development should include sufficient flow attenuation to ensure no significant changes in maximum and minimum flow rates of the streams to which the site drains.

#### **5.2.5. Mitigating permanent loss of habitat**

**To avoid loss of stream and bankside habitat:**

- i. The proposed crossing of Stream Section E2 by the proposed development access road should be by way of a span bridge with support structures set back from the stream edge. Disturbance of the stream and its banks should be avoided during the construction process.**
- ii. The proposed culverting of c.12m of Stream Section E1 should be by way of open bottom culvert at least 1.2 times the bankfull width of the stream**
- iii. The proposed extension of the existing culvert under the L3023 by c.7m on its north side in Stream Section E2 should be by way of open bottom culvert at least 1.2 times the bankfull width of the stream or by span bridging.**



One of the most effective methods of minimising loss of stream and riparian habitat during developments such as new road construction is the establishment of Leave Strips. Leave strips are the areas of land and vegetation adjacent to watercourses that are to remain in an undisturbed state, throughout and after the development process (Chilibeck *et al* 1992). Leave strips are valuable not only because riparian vegetation is a vital component of a healthy stream ecosystem, but because this vegetation acts as an effective screen/barrier between the stream and the development area, intercepting runoff and acting as an effective filter for sediment and pollutants from the development area. Except at proposed bridge and culvert locations, a 5m wide riparian leave strip should be clearly marked along both sides of Stream Section E2 and its significance explained to machinery operators.

#### **5.2.6. Mitigation of obstruction to upstream movement of fish and other aquatic fauna due to construction of culverts**

In order to prevent significant obstruction to upstream movement of fish and other aquatic fauna, stream crossings should be constructed as specified in Section 5.2.5 above.

### **5.3. RESIDUAL IMPACTS**

If all recommended mitigation measures are implemented in full, the impact of the proposed development on aquatic ecology will be as follows:

**LONG-TERM IMPACTS**

**IMPACTS DURING CONSTRUCTION**

Potential Impact location	Suspended Solids Pollution	Other Pollutants	Pollution from non process area runoff	Pollution from process area effluent	Pollution from non process waste water	Hydro-logical Impacts	Habitat Loss	Obstruction to upstream movement of fish
East Tributary	Minor	Minor	Minor	None	Minor*	Moderate	Not Significant	Not Significant
West Tributary	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Moderate	Not Significant	Not Significant
Gweestin River	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Minor or not significant	None	None

\*However the very small stream to which the treated effluent would drain is already in a 'borderline' condition for trout survival. A very small additional phosphorus load from the proposed development could 'tip the balance' particularly immediately downstream.

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## 6. NON TECHNICAL SUMMARY

### 6.1. EXISTING ENVIRONMENT

The proposed development site is drained by two tributaries of the Gweestin River. The Gweestin River rises in the vicinity of Knockacullig north west of Killarney and flows for c.23km in a roughly westerly direction to join the River Laune c.9km upstream of Killorglin.

The Gweestin is designated under the Quality of Salmonid Waters Regulations 1998 (S.I. No. 293, 1988). Fish surveys carried out by the Central Fisheries Board of the main channel of the Gweestin River recorded salmon at all sites assessed. Most of the Gweestin River is within the Castlemaine Harbour cSAC. The site is designated for a range of Annex I habitats and Annex II species including Sea Lamprey, River Lamprey, Atlantic Salmon. As a cSAC the Gweestin River is classified as of international importance.

The Laune River to which the Gweestin flows drains a catchment of c.320 square miles and is within the Castlemaine Harbour cSAC and is an important salmonid fishery (salmon, sea-trout and brown trout).

The northern part of the proposed development site drains to a small stream (the western tributary) which flows for c.2.5km to join the Gweestin River just upstream of Gweestin Bridge. The southern part of the proposed development site drains to a stream (the eastern tributary) which flows for c.1.5km to the Gweestin River c.2km upstream of Gweestin Bridge. The western tributary was found to be moderately polluted close to the proposed development, but more seriously polluted conditions were observed further downstream. The first 400m of this stream downstream of the proposed development were found to have low habitat value. Some good trout habitat was recorded further downstream. The fish survey carried out for this report recorded no trout at three sites and very low density just upstream of the confluence with the Gweestin River; this is likely to be due to serious pollution and the installation of several culverts along

the length of the stream which would form an obstruction to upstream fish movement. Nevertheless as a small water course with some brown trout and sections of good potential salmonid habitat, the western tributary is classified as of high local value.

The eastern tributary was found to be moderately polluted immediately downstream of the proposed development. The habitat assessment recorded significant salmonid nursery (juvenile) and spawning habitat in this stream and good densities of juvenile brown trout were recorded at all four sites assessed. As a small water course with good juvenile brown trout population and habitat, the western tributary is classified as of high local value. No salmon or lamprey were recorded in the stream; this indicates that these species are either absent or present at very low densities. The lowest c.150m of the stream is part of the Castlemaine Harbour cSAC; the cSAC as a whole is classified as of international importance.

Biological water quality assessment indicated unpolluted conditions and fair – good water quality in the Gweestin River immediately downstream of the confluences of the two tributaries which flow from the proposed development site. The section of the Gweestin River assessed has very good habitat for all salmonid life stages. The river is known to have a population of brown trout and salmon. In the present survey adult brook lamprey (*Lampetra planeri*) were observed in the Gweestin just downstream of the confluence with the eastern tributary. Salmon (*Salmo salar*) have also been recorded by CFB throughout the main channel of the Gweestin river. Both salmon and brook lamprey are listed in Annex II of the habitats directive. The Gweestin river is designated a cSAC specifically for the conservation of Salmon. As a designated cSAC the Gweestin River is classified as of international importance.

## 6.2. POTENTIAL IMPACTS

The potential significant impacts of the proposed development will be:

1. Pollution of streams with suspended solids due to runoff of soil from construction areas
2. Pollution of streams, during construction phase, with other substances such as fuels, lubricants, waste concrete, waste water from site toilet and wash facilities, etc.
3. Pollution by effluent from the waste processing and storage area and ancillary structures and facilities.
4. Pollution by surface water draining from non process area of the site e.g. car parking, roofs, access roads, paths etc.
5. Pollution by effluent from toilet, wash facilities, canteen etc.
6. Hydrological impacts due to changes in the flow regime of streams draining the proposed development site.
7. **Loss of stream habitat due to construction of the proposed development access road**
8. **Obstruction to upstream movement of fish and other aquatic fauna due to construction of proposed new development access road and upgrading of existing L3023 road adjacent to the proposed development**

In the absence of mitigation, the potential impact of the proposed facility on streams & rivers would be major during both the construction phase and operational phase.

### 6.3. MITIGATION MEASURES

Detailed measures are presented to minimise pollution generated during the construction process.

All drainage from the material recovery facility including delivery areas will be on an impervious surface to a holding tank for tankering to a waste treatment facility.

All non process paved and roofed areas will be drained according to sustainable drainage system (SUDS) principles . The surface water drainage system for the proposed development will include sufficient flow attenuation to ensure no significant changes in maximum and minimum flow rates of the streams to which the site drains.

Effluent from toilet, wash facilities, canteen etc. will be treated using best available techniques before discharge to ground. Specifically the discharged effluent will result in a maximum elevation in ortho-phosphorus in adjacent streams of 0.00365 mg/l at low flows and 0.00071 mg/l at median stream flows (RPS pers. comm.)

Any underground effluent storage tanks should be double-skinned (that is, have an inner and outer skin) and have an interstitial monitoring device with automatic alarms. All underground effluent storage tanks should be provided with overflow prevention. Any above ground fuel or effluent storage tanks should comply with current regulations and be adequately bunded and provided with a leakage detection system.

**In order to protect stream habitat during the construction phase, a leave strip should be marked out and left undisturbed along both sides of the East Tributary where it flows between the N22 and the L3023.**

**In order to protect stream habitat and in order to avoid obstruction to upstream movement of fish and other aquatic fauna, the crossing of the**

East Tributary by the proposed development access road should be by means of a span bridge with support structures set back from the stream banks; the 7m extension to the culvert under the L3023 should be by means of an open bottom culvert or span bridge, and the culverting of c.12m of Stream Section E1 should be by way of an open bottom culvert.

#### 6.4. RESIDUAL IMPACTS

If all recommended mitigation measures are implemented in full, the impact of the proposed development on aquatic ecology will be minor. It is however noted that the very small stream to which the treated effluent would drain is already in a 'borderline' condition for trout survival. A very small additional phosphorus load from the proposed development could 'tip the balance', particularly immediately downstream of the proposed development. However, it is the opinion of the author of this report that if the maximum elevation of phosphorus in the stream in the vicinity of the proposed development does not exceed the level estimated, there will be no detectable ecological effect on the cSAC to which this tributary flows.

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## **APPENDIX 1**

## **SUBMISSIONS**

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## APPENDIX 2

### EPA MONITORING DATA

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River and Code: **GWEESTIN**  
Tributary of : Laune  
OS Grid Ref : V 833 948

**22/G/06**  
OS Catchment No: 207

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Sampling Stations No.	Location	Biological Quality Ratings (Q Values)					
		1990	1994	1996	1998	2001	2004
0300	Dooneen Br	-	4	4	4-5	4	4
0400	Br E of Ballydeenlea	4	-	-	-	-	-
0600	Gweestin Bridge	3	4	3-4	3-4	4	4
0800	Rockfield Bridge	4	-	-	-	-	-
0900	Br u/s Listry Br	-	4	4	4	4	4
1000	Listry Bridge	4	-	-	-	-	-
1200	Gweestin Bridge	2-3	3	2-3	3	3	3

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## APPENDIX 3

### NPWS cSAC SITE SYNOPSIS

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## SITE SYNOPSIS

### SITE NAME: CASTLEMAINE HARBOUR

#### SITE CODE: 000343

This is a large site located on the south-east corner of the Dingle Peninsula, County Kerry. It consists of the whole inner section of Dingle Bay, i.e. Castlemaine Harbour, the spits of Inch and White Strand/Rosbehy and a little of the coastline to the west. The River Maine, almost to Castlemaine and much of the River Laune catchment, including the Gaddagh, Gweestion, Glanooragh, Cottoner's River and the River Loe, are also included within the site. The site is a candidate SAC selected for fixed grey dunes and alluvial wet woodlands, both priority habitats on Annex I of the E.U. Habitats Directive. The site is also selected as a candidate SAC for estuaries, tidal mudflats, Atlantic salt meadows, Salicornia mudflats, Mediterranean salt meadows, drift line vegetation, perennial vegetation of stony banks, dunes with creeping willow, dune slacks, embryonic shifting dunes and Marram dunes, all habitats listed on Annex I of the E.U. Habitats Directive. The site is also selected for the following species listed on Annex II of the same directive – Sea Lamprey, River Lamprey, Atlantic Salmon, Otter and the liverwort, Petalwort. Inch Spit holds a fine sand dune system. It is the largest and arguably one of the best remaining 'intact' dune systems in the country. In the younger, more mobile dunes, Marram (*Ammophila arenaria*) is common, with Groundsel (*Senecio vulgaris*), Sea Rocket (*Cakile maritima*) and Dandelion (*Taraxacum* sp.) also present. The fixed, more stable dunes support Lady's Bedstraw (*Galium verum*), Common Bird's-foot-trefoil (*Lotus corniculatus*), Wild Thyme (*Thymus praecox*), Kidney Vetch (*Anthyllis vulneraria*), Wild Pansy (*Viola tricolor*) and Biting Stonecrop (*Sedum acre*), among others. The slightly damper conditions which prevail in dune slacks support Creeping Bent (*Agrostis stolonifera*), Crested Dog's-Tail (*Cynosurus cristatus*), Glaucous Sedge (*Carex flacca*), Creeping Willow (*Salix repens*) and Jointed Rush (*Juncus articulatus*). The rare bryophyte Petalwort (*Petalophyllum ralfsii*), which is listed on Annex II of the E.U. Habitats Directive, has been recorded in this system. A smaller spit, with a similar diversity of dune types, occurs at Rosbehy on the southern shore, from where Yellow Centaury (*Cicendia filiformis*) and Knotted Pearlwort (*Sagina nodosa*) have been recorded from a dune slack along with other, more common species. The sand spits, and also the Coomore peninsula, are underlain by shingle and in places the shingle is exposed and supports a characteristic flora. Species present include Lyme-grass (*Leymus arenarius*), Sandwort (*Honkenya peploides*) and two Red Data Book plants, Sea Pea (*Lathyrus japonicus*) and Sea-kale (*Crambe maritima*). The coastline is fringed in many places by saltmarsh. The vegetation here includes Thrift (*Armeria maritima*), Common Saltmarsh-grass (*Puccinellia maritima*), Sea Aster (*Aster tripolium*), Sea Rush (*Juncus maritimus*) and Sea Plantain (*Plantago maritima*). Upper saltmarsh communities extend inland, along estuarine channels, where they are mixed with freshwater communities. Sea Club-rush (*Scirpus maritimus*) and Common Reed (*Phragmites australis*) occur at these locations. Cordgrass (*Spartina anglica*) has colonised the lower part of the saltmarsh at Inch and extends out onto the open mudflat. West of Inch, cliffs of glacial drift occur, which support such plants as Ivy (*Hedera helix*), Red Fescue (*Festuca rubra*), Ling Heather (*Calluna*



vulgaris) and Honeysuckle (*Lonicera periclymenum*). Along the cliff-tops there is coastal grassland with species such as Sweet Vernal-grass (*Anthoxanthum odoratum*), Cock's-foot (*Dactylis glomerata*) and Wood Sage (*Teucrium scorodonia*). Much of the site consists of intertidal sand and mudflats, supporting beds of Eelgrass (*Zostera marina*) in some places. The rivers and their associated habitats also make up a considerable portion of the site. These associated habitats include wet grassland, woodland, scrub and bog/heath. In the valley up-river of Killorglin, is an interesting area of alluvial wet woodland, dominated by Alder (*Alnus glutinosa*) and Willow (*Salix* spp.). Five plants listed in the Irish Red Data Book have been recorded at this site: Sea-kale, Sea Pea, Corn Cackle (*Agrostemma githago*), Pennyroyal (*Mentha pulegium*) and Irish Lady's-tresses (*Spiranthes romanzoffiana*). The two last-named are legally protected under the Flora (Protection) Order, 1999 as is the rare bryophyte, Petalwort. Other scarce species which occur here are Yellow Bartsia (*Parentucellia viscosa*), Lax-flowered Sea-lavender (*Limonium humile*) and Blue-eyed-grass (*Sisyrinchium bermudiana*). Castlemaine Harbour is a very important site for passage and wintering waterfowl. The following figures are derived from counts between 1994/5 and 1996/7. One species occurs here in internationally important numbers - Brent Goose (734) – with 16 species having populations of national importance: Cormorant (215), Shelduck (129), Pintail (167), Scaup (138), Wigeon (3,513), Red-breasted Merganser (51), Oystercatcher (1,539), Ringed Plover (330), Golden Plover (1940), Grey Plover (122), Knot (347), Sanderling (207), Dunlin (1,360), Redshank (299), Greenshank (26) and Turnstone (296). The vicinity of Castlemaine Harbour is also important as one of few areas in Ireland - all in Kerry - where the Natterjack Toad naturally occurs. This amphibian is listed in the Irish Red Data Book and on Annex IV of the E.U. Habitats Directive. The site also supports a small colony of Common Seal, while two Lamprey species have been recorded in the Laune river catchment. The Laune catchment is used by Otter and is an important salmon system with nurseries, riffles pools and glides. Castlemaine Harbour is of major ecological importance. It contains a range of coastal habitats of excellent quality, including many that are listed on Annex I of the EU Habitats Directive. It also includes long stretches of river and stream which are excellent habitats for Salmon, Lamprey and Otter. Inch dunes are recognised as among the finest in the country, with particularly well-developed dune slacks. The site supports internationally important waterfowl populations, rare plant species, the rare Natterjack Toad and populations of several animal species that are listed on Annex II of the E.U. Habitats Directive. Part of the site is designated a Special Protection Area and is listed as a site under the Ramsar Convention. Part of Castlemaine Harbour is a Statutory Nature Reserve, while Inch and Rosbehy are Wildfowl Sanctuaries.

## APPENDIX 4

### HABITAT ASSESSMENT AT INVERTEBRATE SAMPLING SITES

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Site Code	TA2	TB2	G2	G4
Grid Reference	V9361 9939	V9340 9980	V9343 9862	V9238 9821
Photograph Number	21	6	34	38
Width (m)	1-2	0.74	6	15
Depth (cm)	8	5	25	10 – 20
Substrate	Gravel, Cobble, Mud	Mud, Gravel, Cobble	Cobble, Gravel, Sand	Cobble, Gravel, Sand
Flow Type	Riffle 50% Glide 50%	Riffle 40% Glide 60%	Riffle 20% Glide 80%	Riffle 25% Glide 75%
Instream Vegetation	None	None	Filamentous algae <1%	None
Dominant Bankside Vegetation	Hawthorn	Gorse	Willow	Ash
Summer Shade of Stream by Bankside Vegetation	30%	40%	35%	35%
Salmonid Adult Habitat	Poor	None	Good	Fair
Salmonid Nursery Habitat	Fair	Fair	Very Good	Good – Very Good
Salmonid Spawning Habitat	Poor - Fair	Poor - Fair	Good	Good

## **APPENDIX 5**

### **PHOTOGRAPHS**

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## **APPENDIX 6**

### **FISH SURVEY DATA**

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## SITE E-A

Site Code	E-A
Grid Reference	V9362 9939
Photograph Number	21 - 23
Width (m)	0.3 – 0.75
Depth (cm)	3 - 10
Substrate	Bedrock, Mud, Cobble, Gravel
Flow Type	Riffle 35% Glide 65%
Instream Vegetation	None
Dominant Bankside Vegetation	Willow Hawthorn
Summer Shade of Stream by Bankside Vegetation	60%
Salmonid Adult Habitat	Poor
Salmonid Nursery Habitat	Fair - Good
Salmonid Spawning Habitat	Poor - Fair

Area Fished (m <sup>2</sup> )	c.27
Duration of electrofishing (mins)	10
Fish Species Recorded	Brown Trout
Number of Brown Trout Recorded	11
Minimum brown trout density	0.407 m <sup>2</sup>
C.P.U.E (trout per hour fishing equivalent)	66

## Details of salmonids captured

Brown Trout Fork Length (cm)	Age
4.0	0+
4.1	
4.2	
4.2	
4.4	
4.5	
4.5	
4.6	
4.8	
4.8	
4.9	

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**SITE E-B**

Site Code	E-B
Grid Reference	V9335 9914
Photograph Number	24 & 25
Width (m)	0.5 - 2
Depth (cm)	5 - 10
Substrate	Cobble, Gravel, Mud
Flow Type	Riffle 40% Glide 60%
Instream Vegetation	None
Dominant Bankside Vegetation	Willow, Hawthorn, Ash
Summer Shade of Stream by Bankside Vegetation	70%
Salmonid Adult Habitat	Poor
Salmonid Nursery Habitat	Fair - Good
Salmonid Spawning Habitat	Fair

Area Fished (m <sup>2</sup> )	c.37
Duration of electrofishing (mins)	10
Fish Species Recorded	Brown Trout
Number of Brown Trout Recorded	11
Minimum brown trout density	0.297 m <sup>2</sup>
C.P.U.E (trout per hour fishing equivalent)	66



**Details of salmonids captured**

<b>Brown Trout Fork Length (cm)</b>	<b>Age</b>
4.0	0+
4.3	
4.3	
4.4	
4.5	
4.5	
4.6	
5.1	
5.3	
5.6	
<hr/> 13.0	<hr/> 1+

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## SITE E-C

Site Code	E-C
Grid Reference	V9336 9882
Photograph Number	26 & 27
Width (m)	0.5 - 1
Depth (cm)	5 - 12
Substrate	Cobble, Gravel, Mud
Flow Type	Riffle 50% Glide 50%
Instream Vegetation	None
Dominant Bankside Vegetation	Sycamore, Oak, Hawthorn
Summer Shade of Stream by Bankside Vegetation	75%
Salmonid Adult Habitat	Poor
Salmonid Nursery Habitat	Fair - Good
Salmonid Spawning Habitat	Fair

Area Fished (m <sup>2</sup> )	c.22
Duration of electrofishing (mins)	7
Fish Species Recorded	Brown Trout
Number of Brown Trout Recorded	15
Minimum brown trout density	0.682m <sup>2</sup>
C.P.U.E (trout per hour fishing equivalent)	128

### Details of salmonids captured

Brown Trout Fork Length (cm)	Age
3.8	0+
4.0	
4.1	
4.1	
4.2	
4.2	
4.3	
4.3	
4.3	
4.3	
4.4	
4.4	
4.8	
4.9	
5.0	

### Lamprey Assessment

Location	V9336 9878
Photograph	28
Area Fished	2m <sup>2</sup>
Lamprey Recorded	0

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## SITE E-D

Site Code	E-D
Grid Reference	V9342 9863
Photograph Number	29
Width (m)	0.5 - 1
Depth (cm)	4 - 8
Substrate	Gravel, Cobble, Mud
Flow Type	Riffle 50% Glide 50%
Instream Vegetation	None
Dominant Bankside Vegetation	Willow, Gorse, Ash, Hawthorn
Summer Shade of Stream by Bankside Vegetation	85%
Salmonid Adult Habitat	None - Poor
Salmonid Nursery Habitat	Fair - Good
Salmonid Spawning Habitat	Fair

Area Fished (m <sup>2</sup> )	c.22
Duration of electrofishing (mins)	5
Fish Species Recorded	Brown Trout
Number of Brown Trout Recorded	16
Minimum brown trout density	0.727m <sup>2</sup>
C.P.U.E (trout per hour fishing equivalent)	264

### Details of salmonids captured

Brown Trout Fork Length (cm)	Age
2.9	0+
3.2	
3.3	
3.4	
3.4	
3.7	
3.9	
3.9	
3.9	
4.2	
4.3	
4.3	
4.4	
4.5	
4.7	

### Lamprey Assessment

Location	V9339 9868
Photograph	30
Area Fished	2m <sup>2</sup>
Lamprey Recorded	0

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**SITE W-A**

Site Code	W-A
Grid Reference	V9293 9967
Photograph Number	23
Width (m)	1
Depth (cm)	7
Substrate	Gravel, Cobble, Mud
Flow Type	Riffle 75% Glide 25%
Instream Vegetation	None
Dominant Bankside Vegetation	Willow, Hawthorn
Summer Shade of Stream by Bankside Vegetation	65%
Salmonid Adult Habitat	Poor
Salmonid Nursery Habitat	Fair - Good
Salmonid Spawning Habitat	Poor

Area Fished (m <sup>2</sup> )	c.30
Duration of electrofishing (mins)	5
Fish Species Recorded	None

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**SITE W-B**

Site Code	W-B
Grid Reference	V9271 9921
Photograph Number	7 & 8
Width (m)	1.5
Depth (cm)	8
Substrate	Gravel, Cobble, Mud
Flow Type	Riffle 25% Glide 75%
Instream Vegetation	Slime growth 90%
Dominant Bankside Vegetation	Willow, Alder
Summer Shade of Stream by Bankside Vegetation	65%
Salmonid Adult Habitat	Poor
Salmonid Nursery Habitat	Fair
Salmonid Spawning Habitat	Poor

Area Fished (m <sup>2</sup> )	c.67
Duration of electrofishing (mins)	7
Fish Species Recorded	None

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**SITE W-C**

Site Code	W-C
Grid Reference	V9250 9881
Photograph Number	11
Width (m)	1
Depth (cm)	5 - 10
Substrate	Cobble, Mud, Gravel, Sand
Flow Type	Riffle 10% Glide 90%
Instream Vegetation	None
Dominant Bankside Vegetation	Willow, Gorse, Hawthorn, Alder
Summer Shade of Stream by Bankside Vegetation	80%
Salmonid Adult Habitat	Poor
Salmonid Nursery Habitat	Fair
Salmonid Spawning Habitat	Poor - Fair

Area Fished (m <sup>2</sup> )	c.35
Duration of electrofishing (mins)	8
Fish Species Recorded	None

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**SITE W-D**

Site Code	W-D
Grid Reference	V9237 9829
Photograph Number	18
Width (m)	1.5
Depth (cm)	5 - 20
Substrate	Cobble, Mud, Gravel, Sand
Flow Type	Riffle 5% Glide 95%
Instream Vegetation	None
Dominant Bankside Vegetation	Ash, Bramble
Summer Shade of Stream by Bankside Vegetation	50%
Salmonid Adult Habitat	Poor
Salmonid Nursery Habitat	Fair
Salmonid Spawning Habitat	Fair

Area Fished (m <sup>2</sup> )	c.90
Duration of electrofishing (mins)	10
Fish Species Recorded	Brown Trout, Three-spined Stickleback
Number of Brown Trout Recorded	1
Minimum brown trout density	0.011m <sup>2</sup>
C.P.U.E (trout per hour fishing equivalent)	6

**Details of salmonids captured**

<b>Brown Trout</b>	<b>Age</b>
<b>Fork Length (cm)</b> 4.8	0+

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