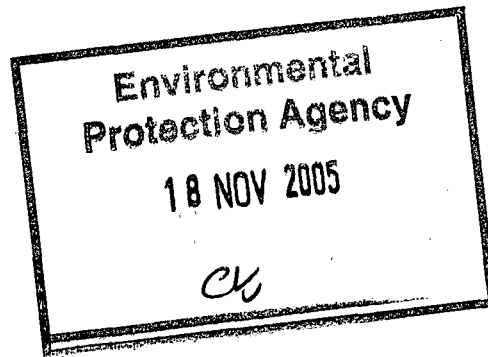


Ref: 45078485

16<sup>th</sup> November 2005

EPA Headquarters  
Waste Licensing Unit  
PO Box 3000  
Johnstown Castle Estate  
Co. Wexford



Re: **Submission regarding Waste License Application for Waste Transfer Station (Register Number 221-1)**

Dear Sir or Madam,

On behalf of our client C&C Group plc, URS has prepared this submission document for your consideration with regard to the application by Dublin City Council (DCC) for a Waste Licence to Operate a Waste Transfer Station at Labre Park, Ballyfermot, Dublin 10 (Register Number 221-1).

Our client has a legitimate concern both with regard to the current state of the Labre Park site and the current proposals to redevelop the site as a Civic Amenity centre. This concern arises as a result of the importance of groundwater abstraction to our client who operates a major soft drinks manufacturing and bottling facility approximately 200 m north of the subject site. Approximately 50% of the water used in manufacturing soft drinks is abstracted from an on-site well which taps the bed-rock aquifer which underlies both the C&C Group plc site and the site intended for redevelopment by DCC.

The Labre Park site is clearly contaminated from a long history of illegal waste disposal and no credible attempt has been made to identify the risks this site poses to the local groundwater environment.

The Environmental Impact Statement and Waste Application Licence were reviewed as part of this submission and we have included a short report detailing the findings of this review.

It is evident from both reports that the site investigation and report produced as part of the Waste Application licence in July 2005 did not follow the recommendations of the earlier site **EIS**.

The main conclusions of our report can be summarised as:

- A Risk Assessment using the Dutch RISC HUMAN 3.1 Model or the UK CLEA model has not been carried out as recommended in the EIS
- The number of groundwater wells installed is inadequate to understand ground water flow direction, the level of contamination in shallow ground water in the contaminated fill or its hydraulic connectivity with the deeper bedrock aquifer as recommended in the EIS

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Registered in Ireland No. 107912



- No assessment has been completed for landfill gas as recommended in the EIS
- The nature and extent of the contamination in the infilled material has not been defined as recommended in the EIS.
- Depending on the size of the drawdown cone and the hydraulic head, potential contaminated material located up gradient from this production well can be a potential risk to the underlying aquifer and hence the pumping well located on site at C&C Group plc.

Furthermore, it is the view of URS that the other aspects of the proposed development could have significant potential impacts on operations of our clients facility. When considered in conjunction with the established waste processing facility in the area, there is significant risk that without the proper management procedures and appropriate licensing and permission conditions, the proposed development could significantly impact on the quality of the groundwater in the area and also result in increased noise, dust and vermin.

Therefore we submit that should the Agency decide to permit the proposed facility, it is respectfully requested to include strict conditions within the waste license which would address our clients concerns. It is submitted to the agency that any proposed license should as a minimum address the following concerns:

### 1. Prevention of Groundwater/Surface water Contamination

As stated above, approximately 50% of the water used in manufacturing soft drinks at our clients facility is abstracted from an on-site well which taps the bed-rock aquifer which underlies both C&Cs site and the site intended for redevelopment by DCC. It is the opinion of URS that the redevelopment of the site and operation of a waste transfer facility has potential to impact on the quality of groundwater in the area and therefore strict condition in relation to the storage, handling and transfer of wastes need to be included in any proposed waste license. Specifically,

- A bunded waste quarantine area shall be provided within the facility where unacceptable wastes can be stored until removal from site can be arranged
- All tanks and drum stores shall be adequate for the materials contained therein and all tank and drum storage areas shall be bunded to a volume of not less than 110% of the capacity of the largest tank or drum.
- Proper inspection, testing and maintenance of drainage systems, bunds, liquid waste storage areas and oil separators should be carried out at the facility.
- No discharges to groundwater should be permitted.
- A programme of Groundwater monitoring should be carried out at appropriate locations on an annual basis.

### 2. Prevention of Dust/Odour

At present significant levels of dust are blown onto our clients site resulting in health and safety concerns amongst employees and an increase in the level of dust and 'dirt' in the warehouse. Any increase in dust could result in increases in protection costs such as filtration, to our Clients facility to provide good quality air for maintaining 'food grade' bottles and pallet cleanliness. Odour has also been significant problem at our clients facility due to existing waste management activities carried out in the area. This has resulted at times in unpleasant working and in the past necessitated office windows to be kept closed and the installation of an air conditioning units in the offices. The waste

licence should include specific conditions which ensure that the proposed waste transfer station does not result in increased levels of dust or odour in the area.

**3. Pest/Nuisance Control**

As part of the Food processing sector, our client is gravely concerned that the proposed development could have significant impact on the level of pests and nuisances in the area. An increase in the level of disease carrying pests could have significant implications on the sanitary manufacture of our clients products as well as increased costs associated with the continual elimination of these pests from the site. Any potential waste license for the proposed development must include strict conditions relating to the controls and nuisance and pests which may arise as a result of the proposed development. Specifically in relation to:

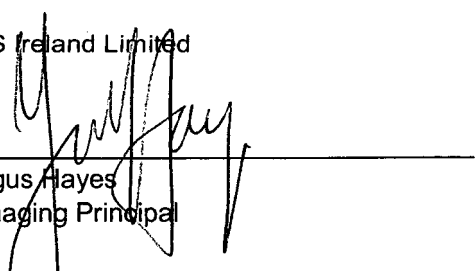
- Inspected of waste before entering the proposed waste transfer station.
- **Methods/procedures** to be used to segregate, sort and remove waste from the site.
- Inspection of the proposed facility and its immediate surrounds for nuisances caused by vermin and odours and any actions to be taken as a result of these inspections.
- The road network / public highway at the facility should be kept free from any debris caused by vehicles entering or leaving the facility. Any such debris or deposited materials shall be removed without delay.
- The licensee shall ensure that all vehicles delivering waste to and removing waste from the facility are fully covered, clean and adequately secured to prevent spillage and shall not give rise to offensive odours, cause soiling of approach roads or other nuisance

In summary, it is the opinion of URS that the existing waste license application does not sufficiently address the concerns of our client with regard to the protection of groundwater resources in the area and it is the opinion of URS that the recommendation outlined in the attached report should be carried out prior to granting a waste license for the facility.

Should the Agency decide to permit the proposed facility, it is respectfully requested to include strict conditions which would address the concerns of our client as outlined above.

Sincerely,

URS Ireland Limited

  
 \_\_\_\_\_  
 Fergus Hayes  
 Managing Principal

FHDW  
 Enclosure

cc: Noreen O’Kelly (C&C Group plc)



**Review of Waste License  
Application - Register  
Number 221-1**

**Submission to the EPA**

16 November 2005  
Final

Issue No 2  
45078486

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**1. INTRODUCTION AND OBJECTIVES**

URS Ireland Ltd (URS) was requested by C&C Group plc (C&C) to carry out a review of the Soil & Groundwater Investigations undertaken on the proposed Civic Amenity site at Labre Park, Ballyfermot, Dublin 12.(the site).

An Environmental Impact Statement (EIS) was completed in January 2005 which included a Site Investigation Report undertaken December 2004. A subsequent Site Investigation was undertaken in April 2005 and was included in the Waste Licence Application for Labre Park Civic Amenity Site, Ballyfermot, Dublin 10.

The primary objectives of this report include the review of previously undertaken site investigations, assess the data collected and identify potential environmental risks to the groundwater well located on site at C&C.

**2. EXISTING GROUNDWATER WELL AT CANTRELL AND COCHRANE LTD, KYLEMORE PARK**

The C&C well, which is used to supply water for the production of drinks for human consumption, is situated 200 m to the north of the proposed development site. This well has an abstraction rate of up to 56 cubic metres per hour. This well is considered sensitive having regard to its proximity to the proposed development.

**3. PREVIOUS SITE INVESTIGATIONS**

**3.1. Site Investigation 2004**

AWN Consulting Engineers were commissioned by Dublin City Council to undertake a programme of soil sampling and analysis across the proposed site.

During this site investigation, six trial pits were excavated to a maximum depth of 2.10mbgl and four water samples were collected from the Galback Stream (2 No. samples) and Grand Canal (2 No. samples), bounding the site to the north and south respectively.

**3.1.1. Soil**

Topsoil was reportedly encountered at depths ranging between 0.3m to 0.8mbgl

Madeground was encountered in all six trial pits to depths ranging between 1.8m bgl and 2.10mbgl. Trial Pits TP1, TP3 and TP4 terminated within this madeground material. The madeground material encountered comprised C&D waste and domestic waste including boulder clay with plastic fragments, metal fragments, cardboard, Styrofoam, blocks of tarmacadam, sack cloth, netting, glass, decomposing organic material, shredded paper, rubber fragments, textiles, and other waste.



No reference was made in this report to any laboratory analysis undertaken on this material.

### 3.1.2. Groundwater

The report identifies the stream running along the northern boundary of the site as the Galback Stream. This is a tributary of the River Camac. The River Camac water quality has been monitored continuously over the last 30 years by the EPA and has been classified by the EPA as being polluted to seriously polluted along its lower course. The report identifies four water samples analytical results. It details analytical results for grab samples collected upstream and downstream of the site in the Grand Canal and Galback Stream.

The upstream and downstream analytical results of note in this report include;

- The dissolved Oxygen in the upstream and downstream samples (4.1mg/l to 4.3mg/l respectively) taken from the Galback stream, are below the EPA's Draft Environmental Quality Standards (EQS) recommending 50% of samples should exceed 7 mg/l O<sub>2</sub> Cyprinid waters.
- The BOD concentration in the downstream sample (10mg/l) taken from the Galback stream is considerably higher than the upstream sample (<2mg/l) and exceeds the EQS guideline value (<5mg/l).
- Orthophosphate concentration in the downstream sample (4.24mg/l) taken from this stream is considerably higher than the upstream sample (0.11mg/l). There is no EQS guideline value for Orthophosphate.

The water samples were not analysed for heavy metal concentrations

### 3.2. Geology

According to the Bedrock Geological map of Dublin, the site is located over Lower Carboniferous Calp Limestones comprising dark grey to black fissured limestone & shale (GSI 1: 100 000, Sheet 16). This solid geology is overlain by quaternary till derived from Lower Carboniferous Limestone (Quaternary Section, GSI).

### 3.3. EIS recommendations

The Site Investigation was included in the EIS which inturn made a number of recommendations including;

- A full risk assessment should be carried out on the site to determine the full extent of the waste deposits and the effect they have on the soil and water environments.
- 5 no boreholes should be installed at the site for monitoring for the presence of landfill gases, and for monitoring groundwater quality and groundwater levels.
- Contaminated groundwater be removed off site for appropriate disposal by a suitable licenced contractor.

#### 4. SITE INVESTIGATION 2005

GES Consulting Engineers were commissioned by Dublin City Council to undertake a programme of soil sampling and analysis across the proposed site.

During this site investigation three boreholes (GW1, GW2 & GW3) were drilled to depths ranging 18mbgl, 12mbgl and 15mbgl respectively. Monitoring well GW1 was reportedly vandalised shortly after its installation and as a result, no groundwater sample could be recovered from this well.

Details of 30 Trial pits excavated across the site were outlined in this report to depths ranging between 3.0m bgl and 4.0m bgl.

##### 4.1. Soil

Rock was reportedly encountered in the boreholes at depths ranging between 7m bgl and 9m bgl. No details are given in this report regarding the presence of fractures or voids in the rock encountered.

Madeground was encountered in all 30 trial pits with depths ranging between 1.5m bgl and 4.0mbgl. The madeground material encountered comprised of boulder clay with plastic fragments, metal scrap, cardboard, Styrofoam, blocks of tarmacadam, sack cloth, netting, glass, decomposing organic material, shredded paper, rubber fragments, textiles, and other domestic waste. Trial pits TP27 and TP29 terminate within this madeground.

GES reports the madeground to be underlain by firm Clay with some cobbles. All trial pits bar TP27 and TP29 terminate within this material.

One soil sample was collected per trial pit and submitted to Alcontrol laboratory for analysis. All soil samples were taken in the natural Clay at depths ranging between 2.0mbgl to 3.5m bgl. No samples analysed represent the madeground material encountered across the site.

##### 4.2. Groundwater

No water ingress or formation collapse was recorded in any of the 30 No. Trial pits excavated during the period of this site investigation.

Two water samples were collected from GW2 and GW3. This report compares the analytical results to the European Communities Drinking Water standards (S.I No. 439) (DWS). The data presented in the report shows the following exceedances;

- Total alkalinity (as CaCo<sub>3</sub>) concentrations exceeded the DWS of 30mg/l in both GW2 (470mg/l) and GW3 (400mg/l).
- Ammonia (as NH<sub>4</sub>-N) concentrations exceeded the DWS of 0.3mg/l in both groundwater monitoring wells GW2 ( 9.9mg/l) and GW3 (4.9mg/l).

- Manganese concentrations detected in the water sample exceed the DWS of 0.05mg/l in monitoring wells GW2 (1.043mg/l) and GW3 (1.127mg/l).
- Nickel concentrations detected in Monitoring well GW2 (28ug/l) exceed the DWS of 20ug/l.

**5. HYDROLOGY, HYDROGEOLOGY AND GROUNDWATER VULNERABILITY**

This report infers groundwater flow is in an easterly direction, however groundwater flow direction has not been determined.

The Galback stream flows in an easterly direction. A visual inspection of the stream along the length of the site, carried out by URS on the 19<sup>th</sup> October 2005, showed no visual evidence of contamination. There were however metal fragments, plastic, tin and other municipal waste present along the bank and in the water.

Surface water on the site is expected to flow in a northerly direction towards the Galback stream. Due to the proximity of the Galback stream and the Grand Canal, surface water vulnerability is considered high.

According to the GSI draft National Bedrock Aquifer Map, the underlying formation is classified as locally important aquifer, which is moderately productive only in local zones.

The report indicates that there are 10 groundwater wells in the vicinity of the site. A large groundwater abstraction well is located within 1km of the site at C&C production plant.

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## 6. CONCLUSIONS & RECOMMENDATIONS

It is evident from the report that there are data gaps in the two previous Site Investigations carried out on this site. These include the following;

- The nature and level of contamination in the made ground has not been quantified,
- It is unclear in 2005 Site Investigation report from which groundwater monitoring well the water samples, GW2 and GW3, were collected (Section 4.4 paragraph 1 indicates a borehole depth of 12mbgl in GW3 while BH3 reached a depth of 15mbgl.)
- The well design details do not accurately outline the groundwater monitoring well installation details e.g BH1 terminates at 18m bgl but details 21metres of well installation.
- No reference was made to the presence of a large abstraction well present at the C& C site adjacent to the site and its possible influence on the groundwater flow direction.
- Both Site Investigation reports suggest the infilled material is contaminated however no laboratory analysis has been carried out on the madeground encountered across the site to quantify the extent of the suspected contamination.
- 12.1.4 of the EIS suggests the Calp formation underlying the site is unfaulted. However, the Calp formation is known for having faults in its formation. It is also interbedded with black poorly fossilised shale, which may also provide conduits for the migration of water.

Based on the data available in the aforementioned reports the following is recommended;

- Further investigation should be undertaken to identify and quantify the contamination present in the madeground;
- To undertake a Quantitative Risk Assessment to identify the risk of migration of contamination from the madeground to the underlying aquifer and also from surface runoff to the nearby Galback stream as recommended in the EIS completed in January 2005;
- To accurately identify the groundwater flow direction.