

Mr. Colin Ryder,
Executive Scientist,
Environment Department,
Galway County Council,
Áras an Chontae,
Prospect Hill,
Galway.

H91 H6KX

16th February 2022

Reg. No. H0192-01

Re: Tuam Historic Landfill – Notice in accordance with Regulation 7(4) of the Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations, 2008

Dear Mr. Ryder,

I am to refer to the above referenced application for a certificate of authorisation in relation to the above referenced historic landfill.

Having examined the foregoing, I am to advise that the Agency is of the view that the application does not comply with Regulation 7(2) of the Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations, 2008.

You are therefore requested in accordance with Regulation 7(4) of the Regulations, to take steps to supply the information detailed below:

REGULATION 7(2) COMPLIANCE REQUIREMENTS

1. The grid reference numbers for the site stated in Section C.2 of the Application show a different location than the landfill. Provide grid coordinates for the site.
2. Provide a letter from the Qualified Body to the Qualified Person, as required under Section 2.3 of the EPA Code of Practice – Environmental Risk Assessment for Unregulated Waste Disposal Sites.
3. The site boundary shown in Figure No. 1.1 ‘*Site Location*’ dated 18/10/2021 of the application and in Figure (no figure number given) titled ‘*Site Location Plan*’ dated 21/09/2020 of the Geotechnical Report differ. State the reason for the differences in the extent of the site boundary in said figures and submit, or refer to, a figure that shows the actual site boundary.
4. State what waste is accepted at the on-site civic amenity and provide a copy of the waste authorisation for this activity. Additionally, provide the red line boundary map for this facility.

5. State whether or not waste was deposited under the civic amenity and explain how this was determined, considering that no site investigation or geophysical survey was carried out within the extent of the civic amenity area, as indicated in Figure 3.1 '*Site Investigation Location Plan*' of the Tier 2 Assessment and Map 1 '*Geophysical Survey Location Map*' of the Geophysical Survey Report.
6. The conceptual site model indicates that waste was deposited onto undisturbed natural ground. Section 2.3 of the Closure & Remediation Plan dated October 1999 states that the landfill rises to a height of approximately 6-7m above the surrounding land. However, the borehole log for borehole BH3, in Appendix 1 of the same document, recorded a waste 'depth (thickness)' of 9m. Provide the following information:
 - (i) State whether waste was deposited below the natural ground level. If yes, please state the maximum depth of waste below ground level and height of waste measured from the natural ground level. Re-submit a drawing showing the conceptual site model in the event that waste was deposited below the natural ground level.
 - (ii) State the maximum depth of the deposited waste.
7. Section 2.5.3 of the Tier 3 Assessment states that no leachate breakouts were observed at the site walkover however, Section 2.7.2 of the same document states that no significant leachate breakout was observed. State whether or not leachate breakouts were observed at the site. Include dates of the observations.
8. Section 1.3 of the Tier 3 Assessment estimates that 274,784 tonnes to 354,560 tonnes of waste was deposited on site, a difference of 79,776 tonnes. Provide a more precise estimation of the amount of waste deposited. Please also include the volume for the total amount of deposited waste in m³.
9. The Geophysical Survey Report and Figure 5.1 '*Tuam Historic Landfill Conceptual Site Model*' of the Tier 2 Assessment indicate that industrial waste was deposited at the site. State the nature of this waste.
10. It is noted that no soil samples were analysed against Waste Acceptance Criteria (WAC) in *Council Decision of 19 December 2002 establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC*. Accordingly, please provide such an analysis.
11. Demonstrate that the existing landfill cover material achieves a hydraulic conductivity of less than or equal to 1×10^{-9} m/s.
12. The Site Walkover Checklist in Appendix 2 of the Tier 2 Assessment refers to Tuam Historic Landfill in Co. Kilkenny. Confirm that the checklist is for the Co. Galway site or alternatively, submit the correct site walkover checklist for the Tuam landfill.
13. Table 4.6 of the Closure & Remediation Plan refers to the monitoring at 'leachate contaminated pool' (monitoring location L1). State the purpose of this pool, how it was operating and whether it is still in operation. Provide a drawing showing the location of this pool.
14. Section 3.5 of the Closure & Remediation Plan refers to fields adjacent to the landfill and states that the field to the west of the landfill appears to be contaminated mainly due to the '*large quantity of water pumped into the landfill over the years in an attempt to extinguish fires within the site which subsequently breached the sides of the landfill and partly flooded the adjacent field.*' State the cause of these fires and describe the measures that have been implemented to prevent the reoccurrence of fires within the landfill and subsequent flooding of the adjacent fields.
15. Referring to Figure 4.2 '*Surface Water Sampling Locations*' of the Tier 2 Assessment, provide the following information:
 - (i) It is noted that no land drains or other waterbodies are marked on any figures for surface water monitoring locations SW1, SW2, SW3 and SW4. Please submit a new figure showing the surface water monitoring locations and the associated land drains and other waterbodies.

Each land drain or waterbody should be shown in blue and be annotated. Please also include arrows showing water flow directions;

- (ii) It is noted that upstream surface monitoring location SW1 is located approximately 350m north-east of the landfill. Provide a reason for not carrying out upstream surface water monitoring at a closer location to the landfill.
 - (iii) Considering that groundwater beneath the site flows, amongst other directions, towards the north and north-west, as shown in Figure 4.1 '*Groundwater Flow Direction*' of the Tier 2 Assessment, provide a reason for not carrying out monitoring of surface water in the Killeelaun river which has its source approximately 115m north of the landfill and flows in a north-westerly direction in close proximity to the site.
16. It is noted that leachate monitoring was carried out in monitoring borehole BH3 and the leachate contaminated pool L1 in 1999. Accordingly, please install leachate monitoring boreholes within the waste body and carry out up-to-date leachate monitoring from these boreholes. The monitoring boreholes should be located taking into account the likely flow-paths of leachate within the waste body in accordance with the EPA Landfill Manuals – Landfill Monitoring.
17. It is noted that gas monitoring was carried out at ten locations in July 2020 and August 2020. It is noted however that only one location within the waste body (monitoring borehole BH3, which was used for leachate monitoring in 1999) was monitored. It is also noted that no gas monitoring was carried out to determine whether or not gas is migrating into the civic amenity site. Accordingly, please carry out additional gas monitoring within the waste body and the civic amenity site in accordance with the EPA Landfill Manuals – Landfill Monitoring. Please note, as per Section 7.5.2 of this manual, that for gas monitoring purposes within the waste body, leachate monitoring boreholes are inappropriate.
18. Please provide one drawing showing all of the following elements interpolated:
- (i) the site boundary in red;
 - (ii) the boundary showing the extent of the waste body, in a different colour than red; and
 - (iii) all leachate, groundwater, gas and surface water monitoring locations.
19. State the proposed future use of the site by the applicant.

Your reply to this notice should include a revised non-technical summary, which reflects the information you supply in compliance with the notice, insofar as that information impinges on the non-technical summary.

In the case where any drawings already submitted are subject to revision consequent on this request, a revised drawing should be prepared in each case. It is not sufficient to annotate the original drawing with a textual correction. The revision status, such as revised drawing number and/or revision date should be clearly stated. Also, where such revised drawings are submitted, provide a list of drawing titles, drawing numbers and revision status, which correlates the revised drawings with the superseded versions.

Please supply the requested information within *six weeks* of the date of this notice. Please note that during COVID-19 there are new arrangements in place for the receipt of all correspondence in relation to applications for Certificates of Authorisation. Accordingly, any correspondence in respect of the above referenced application should be sent to the Agency via file transfer by emailing historiclandfillapplications@epa.ie, quoting the Register Number H0192-01. The EPA doesn't accept files to be transferred using any file share application other than MS One Drive. Each file should be in a searchable .pdf format and a size not exceeding 10MB.

Please also note, post COVID-19, you may be contacted to submit the hard copies and CD-ROMs for the submitted electronic correspondence.

Yours sincerely,



Ewa Babiarczyk

Inspector

Circular Economy Programme

Office of Environmental Sustainability