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For the attention of Paul Williams
Permitting Officer – Regulated Industry
Permitting Service,
Natural Resources Wales,
Cambria House,
29 Newport Road,
Cardiff.
CF24 0TP

Our ref: 3428-CAU-XX-XX-CO-V-9100.A0 C1
Your ref: BU7766IC/V009

Date: 7th June 2018

Dear Paul,

Bryn Posteg Landfill Permit Variation – Not Duly Made Response

I write further to your emailed letter dated 11th May 2018 requesting further details to enable the application to be duly made.

Our responses have been prepared to deal with the queries in the order as raised in the letter

Volumes of Waste Overtipped
We can confirm that the calculated volume of waste overtipped is 333,302m^3, the Hydrogeological Risk Assessment Review has be updated with the correct figure, a copy is attached (version 3400-CAU-XX-XX-RP-O-3001.A0.C3)

Volume of waste for disposal

We can confirm the total volume of waste that is proposed to be imported into the site for disposal is 116,657 m^3, the breakdown within each phase/cell is detailed within the table below. Application documents have been updated where applicable and are enclosed with this letter.

Phase / Cell Number	Volume of waste remaining (m^3)
7	21,589
8	4,433
9B	6,491
9C	75,992
9D	8,152
Total	**116,657**

Volume of waste for restoration

The total volume of waste required at the site for restoration has been calculated as 118,558m^3. This equates to 33,061m^3 over existing capped areas, 37,300m^3 over currently uncapped areas and up to a further 48,197m3 in capped areas currently below the new profile; if they are required to be filled and/ or to the thickening of soils to facilitate planting.

Please refer to table below detailing soil requirements within each phase/cell. This has been replicated within the revised ESID Report.

Phase	Area remaining for restoration m^2	Depth of soils required	Volume m^3
1	13,677 m^2 (half of the area requires additional soils)	0.5m	3419
2	Complete	N/A	N/A
3A, 3B, 3C	Complete	N/A	N/A
4A, 4B	4B - 6936 m^2 : Overtipped by 9B and 9C	1.0m	6936
5	Complete	N/A	N/A
6	Complete	N/A	N/A
7	8626 m^2 : Overtipped by 9B and 9C	1.0m	8615
8	8346 m^2	0.7 m remaining	5842
9A	Complete	N/A	N/A
9B	8895 m^2	1.0m remaining on uncapped areas	7460
9C	14432 m^2	1m required	14432
9D	22415 m^2	1m required	22415
		SUBTOTAL	**70361**
Capped areas currently below the new profile; if they are required to be filled and/ or to the thickening of soils to facilitate planting. This equates to approximately an additional 0.5m over the existing capped areas			48,197
		TOTAL	**118,558**

The total volume of soils required to complete the restoration of the site is up to 118,588m^3 which equates to a total of 213,458 tonnes at an average of 1.8 tonnes per m^3

We can confirm that this variation application includes an application to add an additional activity to the permit to allow the deposit of restoration material.

Capping Schedule

Please find detailed within the table below capping details for the site. The relevant application documents have been reviewed and updated to give the correct details.

Phase	Filling Period	Base of Cell (mAOD)	Lining Details	Capping Details	Area m^2
1	1982-	310	1m insitu clay (demonstrated by trial pits)	1m compacted boulder clay	3863
2		310	1m clay "target permeability 1×10^{-9}m/s"[1] Permeability range 5.9×10^{-10}m/s to 1.7×10^{-8}m/s with moisture content 11-14%	1m compacted boulder clay	13677
3A, 3B, 3C	1991-1994	311	1m clay "target permeability 1×10^{-9}m/s"[1] Permeability range 5.9×10^{-10}m/s to 1.7×10^{-8}m/s with moisture content 11-14%	LLDPE cap – lap and lay 0.75m soils	22960
4A, 4B	1994-1995	311	1m clay "target permeability 1×10^{-9}m/s"[1] Permeability range 5.9×10^{-10}m/s to 1.7×10^{-8}m/s with moisture content 11-14%	4A = LLDPE cap-lap and lay 0.75m soils. 4B = re-capped with welded membrane	15175
5	1995-1996	311	1m clay "target permeability 1×10^{-9}m/s"[1] Permeability range 5.9×10^{-10}m/s to 1.7×10^{-8}m/s with moisture content 11-14%	LLDPE cap – lap and lay 0.75m soils	10567
6	1996-1998	310	GCL & HDPE liner with CQA by Aspinwall. Underlying clay permeability 5.9×10^{-10}m/s to 1.7×10^{-8} m/s	Welded geomembrane with 0.75m soils	6762
7	1998-2002	310	GCL & HDPE liner with CQA by Evans Logistics and CL Associates Geocomposite underdrainage layer connected to vertical riser	GCL with 0.4m soils	8626
8	2002-2003	310	GCL & HDPE liner with CQA by Enviroarm	GCL with 0.4m soils	8346
9A		307	0.5m mineral liner with CQA, GCL and Geomembrane 27 perm tests on clay. 4.6×10^{-10} m/s max perm, average 1.36×10^{-10} m/s for base[(2)]	Geomembrane with 1m soils	8938
9B		307	0.5m mineral liner with CQA, GCL and Geomembrane. 30 permeability tests 1.8×10^{-11}m/s to 2.5×10^{-10}m/s [(2)]	Welded geomembrane with 1m soils	8895
9C	Ongoing	307	0.5m mineral liner with CQA, GCL and Geomembrane	Operational	14432
9D	Ongoing	307	0.5m mineral liner with CQA, GCL and Geomembrane	Operational	22415

"Please clarify which phases and part phases of the site have been capped and with what. This should include re-drafting and re-submitting any documents where this has been incorrectly described. For example: Non-technical summary section 3.1.2 which says cells 1 to 9B are all capped; Environmental Setting and Installation Design Table 2 which says phase 8 has temporary restoration and phases 9A and 9B have intermediate cover (while table 4 gives different details); and Hydrogeological Risk assessment review table 6 which says all cells up to and including 9C have permanent capping (although Table 1 in this report gives different capping)."

"Please update the Stability Risk assessment, the Hydrogeological Risk Assessment Review and the Amenity and Accident risk assessment to reflect the full proposal including additional wastes proposed to be deposited for disposal and additional waste proposed to be deposited for restoration. At present these documents appear to address the existing site structure but not what is proposed. We would expect these documents to relate directly to the whole proposal such as shown on drawing 3495-CAU-XX-XX-DR-S-1813 and not to previously proposed plans such as DWG9 or existing site survey plans such as 3428-CAU-XX-XX-DR-S-1801 (these other plans are clearly of interest but not for the principal focus of the reports which should be to support this whole proposed permit variation)."

Please find attached, updated versions of the Hydrogeological Risk Assessment Review, Amenity & Accidents Risk Assessment, Non-Technical Summary and Environmental Setting and Installation Design clarifying where relevant

- which phases, and part phases of the site have been capped and with what and
- additional wastes proposed to be deposited for disposal and additional waste proposed to be deposited for relate directly to drawing 3495-CAU-XX-XX-DR-S-1813.

In accordance with the requirements of the recently drafted Stability Risk Assessment interface friction testing has been carried out using drainage geocomposite and soil materials used in previous capping activities at the site as well as new drainage geocomposite materials which may be specified for future capping activities. The results of these interface friction tests is anticipated by the 13th June 2018. It is therefore proposed to submit an updated version of the Stability Risk Assessment to include the results of the interface friction testing by the close of business on the 21st June 2018.

Please find attached a revised copy of the Revised Expenditure Plan which contains a financial provision spreadsheet and accompanying text.

Please find attached Drawings 3428-CAU-XX-XX-DR-S-1801.P3 showing the proposed (as well as existing) landfill gas management infrastructure.

I trust that the above addresses your queries raised, if you have any further questions or queries, please don't hesitate to contact us.

Yours Sincerely

Andy Stocks
Associate Director

On behalf of Caulmert Ltd

cc. Potters Waste Management
Encl. Reports 3400-CAU-xx-XX-RP-O-0301.A0.C3 HRA
3428-CAU-XX-XX-RP-V-0310-A0-C2 ESID
3428-CAU-XX-XX-RP-V-0313 A0 C2 Non technical summary
3428-CAU-XX-XX-RP-V-3012 A0 C2 Supp Doc
3428-CAU-XX-XX-RP-V-3014 A0 C1 Exp Plan (and spreadsheet)
3428-CAU-XX-XX-RP -V-0301- A0 C2 Amenity Accidents
Drawings: 3428-CAU-XX-XX-DR-V-1801/P3

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