

Port Talbot EAF: Technical Note on Peat

Peat has been identified at the Port Talbot EAF site. As a result, Neath Port Talbot Council has requested a Technical Note to address concerns over peat disturbance required to facilitate construction.

Policy Background

Under Planning Policy Wales Edition 12 (2024), peat is accorded a high value as a result of its functions as a carbon sink and long-term carbon store. Under the Step-Wise Approach, the strong preference is to avoid disturbance of peat. This applies particularly to peat with active surface vegetation as a result of its combined carbon sink/carbon store status.

The situation relating to peat layers that are buried some metres below ground and no longer have a vegetation layer is less common. Peat in this situation can no longer act as a carbon sink, but remains as a carbon store. Buried peat therefore has a lower sensitivity than surface peat. A key management strategy would therefore be to minimise any excavation of buried peat and to ensure that any peat that requires excavation is reburied in a suitable location within the site in order to maximise the stored carbon within the peat deposit.

Peat at the Site

The peat at the Port Talbot EAF site is all buried at a depth of 4.5 m below ground level or deeper, with the deepest records at approximately 18 m below ground level. Figure 1 of this appendix shows the shallowest recorded depths of peat during recent site investigations. This situation means that none of the peat deposits present are 'active' and are not sequestering carbon. Buried peat such as this remains a carbon store while kept undisturbed and not in contact with oxygen in the atmosphere.

Foundations of buildings and facilities proposed as part of the EAF project will need to be piled using driven or augered piles. Driven piling does not require any excavation of substrate material. Augered piling would require boring of the pile locations, resulting in limited excavation of the substrate. Both options involve substantially lower ground disturbance than conventional excavated foundations.

During pile driving, peat would be pushed away from its existing locations but would remain underground and waterlogged. For auger piling, some peat material is likely to be brought to the surface during the boring process, and would need to be stored and reburied at a later stage in the construction. The total volume of peat disturbed would be similar for both processes and is expected to be minor within the context of peat present at the site.

Some parts of the infrastructure will require excavation, notably for substructures, tunnels, laying of pipelines and electrical cables. The excavation depth for foundations is noted to be generally shallow, up to 3 m in depth although the hoppers required for the material handling facilities will require excavation depths up to 9 m below ground level. Most excavations would not intersect peat deposits. It is possible that parts of the hopper foundations may require excavation of parts of the shallower peat deposits, although the boreholes in this area (BH303A, BH309, BH314) indicate that peat occurs below this depth and therefore are expected to remain undisturbed.

Pipeline and cable excavations included in the EAF application are anticipated to be less than 3 m in total depth and are therefore unlikely to require any excavation of peat deposits.

Peat management

Where possible, peat will be left undisturbed and in situ to retain its long-term carbon storage capacity. Ongoing phase 2 site investigation results cross-referenced with the proposed site layout indicate that this should be achievable for the significant majority of the site where shallow foundations are expected.

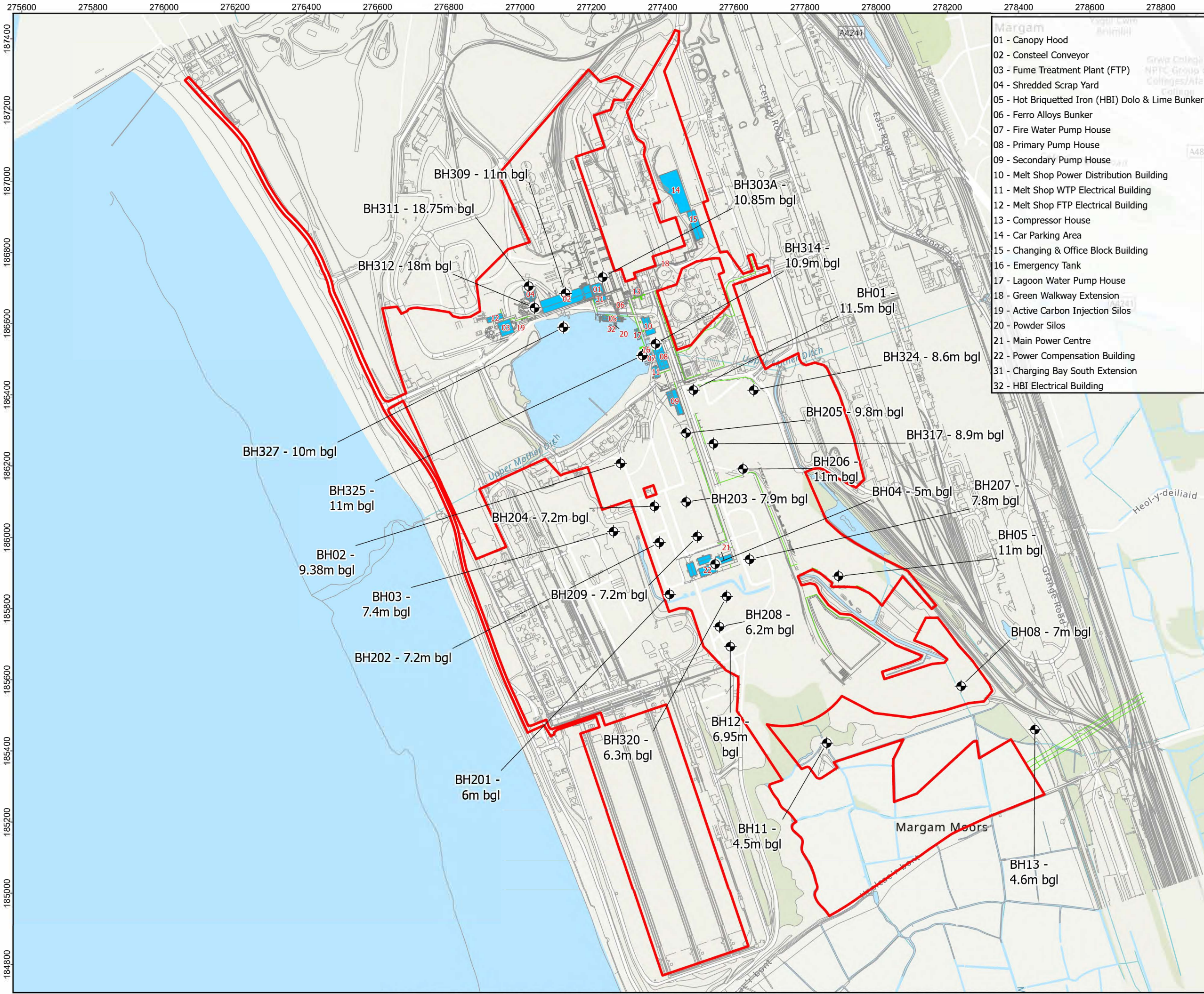
Although driven pile foundations would interact with peat, there would be no requirement for peat excavation. Peat material would be displaced by the piles but would remain buried. Should augered piling be required, any peat in arisings from boring would be treated in the same way as excavated peat. The site investigation results indicate that peat arisings from both augering and excavation are anticipated to be minimal.

Should localised excavation be required, the following peat management protocols will help to minimise the effects on the peat and its carbon store capacity:

- Where possible peat will be left in situ.
- Any peat that requires to be excavated will be stored carefully such that it does not dry out and lose its carbon.
- Peat will be stored for as short a time as possible, in stockpiles of no more than 1 m in height. Stockpiles should be covered to minimise drying. Water sprays may be required in hot weather to prevent the peat from drying out.
- All excavated peat would be reburied in suitable locations within the site as part of the site reinstatement process. Where possible, the peat should be placed below the normal water table level to ensure it remains waterlogged and as a carbon store in the long term.

- A designated area for peat re-burial will be identified during development of construction layout and will be designated on plans and in the Peat Management Plan (see below).

A Peat Management Plan (PMP) will be prepared for the Proposed Development once detailed design and all planned ground investigation works are complete. This will set out details of areas where construction works are expected to interact with buried peat deposits and will provide an estimate of total peat volumes that would require excavation. It is proposed that production of the PMP is secured by condition.



- 01 - Canopy Hood
- 02 - Consteel Conveyor
- 03 - Fume Treatment Plant (FTP)
- 04 - Shredded Scrap Yard
- 05 - Hot Briquetted Iron (HBI) Dolo & Lime Bunker
- 06 - Ferro Alloys Bunker
- 07 - Fire Water Pump House
- 08 - Primary Pump House
- 09 - Secondary Pump House
- 10 - Melt Shop Power Distribution Building
- 11 - Melt Shop WTP Electrical Building
- 12 - Melt Shop FTP Electrical Building
- 13 - Compressor House
- 14 - Car Parking Area
- 15 - Changing & Office Block Building
- 16 - Emergency Tank
- 17 - Lagoon Water Pump House
- 18 - Green Walkway Extension
- 19 - Active Carbon Injection Silos
- 20 - Powder Silos
- 21 - Main Power Centre
- 22 - Power Compensation Building
- 31 - Charging Bay South Extension
- 32 - HBI Electrical Building

- Legend:**
- Site Boundary
 - Approximate Peat Depth Sample Location (m bgl)
 - New Buildings
 - Existing Site Layout

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter



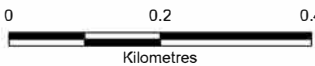
Rev	Date	Description	Drn	Chk	App
01	06/09/2024	Updated Legend	CJ	MM	RE
00	05/09/2024	First Issue	CJ	MM	RE

664195 - Electric Arc Furnace



TITLE: Appendix 10.3, Figure 1:
Approximate Peat Depths

ID:P664195_Appendix 10.4, Figure 1 - Approximate Peat Depths



Scale: 1:10,000 @ A3



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