

P1 Hotels – Holiday Inn & Ibis

Ground Remediation Report Rev – 001

February 2022



	Position	Name	Sign	Date
Prepared by	Construction Manager	Thomas Berriman		Feb 2022

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1. Introduction

The development of Plot P1 is one of the initial phases of the Airport City North development at Manchester International Airport, the development comprising of 542no. guestrooms over 2no. hotels, a Holiday Inn and an Ibis Budget. Plot P1 sits at the junction of Palma Avenue and World Way and is approx. 0.6ha in area. The previous use of the land was a petrol filling station.

Prior to BCEGI being appointed as Main Contractor for construction of the two hotels, demolition works to the Petrol Station were carried out under a separate contract by R&M Developments Ltd. These works were undertaken in line with the previously agreed remediation strategy, and a full validation report completed by ROC Consulting as included in Appendix A. This report concluded the site had been fully remediated and that the risk to future health and the local environment had not been impacted by the petrol station operations.

This report focuses on works following demolition and remediation of the main petrol station. Significant earthworks movement has been carried out as part of the hotel construction, including bulk embankment excavation, drainage excavation, construction of pile matts and stone import below ground bearing slabs. This report demonstrates that suitable testing was carried out as part of these works and that no contamination issues were identified that would present and risk to human health of the local environment.

2. Description of the Works

Phase 1 – Bulk Earthworks & Pile Matts

The site of the P Hotels is located on a small pocket of land between the roads of Palma Avenue and World Way at Manchester Airport. The road immediately to the east, World Way, was supported by an earth embankment up to 6m above the level of the P Hotels site. Prior to construction of the hotels, a retaining wall had to be constructed to retain this road and a bulk dig carried out to remove this embankment.

PP O'Connor Ltd were commissioned by BCEGI to carry out this early phase of work in February 2020. This work comprised the following earthworks activities:

- High level pile matt construction for contiguous pile retaining wall
- Piling attendance and removal of excavated material
- Bulk Embankment excavation and disposal from site
- Pile matt construction for both hotels
- Drainage installation

Phase 2 – Pile Caps and Ground Bearing Slab

Once piles had been installed for both hotels, works commenced on construction of the pile caps and ground bearing slab.

JRL Group were commissioned by BCEGI to commence these works in June 2020, which consisted of the following earthworks activities:

- Localised excavation for pile caps and backfill with 6F2
- Import of recycled 6F2 to build up levels for ground bearing slab
- Import of quarried Type 1 MOT for build up below ground bearing slab
- Import of quarried Type 1 MOT for

Phase 3 – Hotel Construction

The main phase of construction was the above ground concrete frame, internal finishing and cladding of the two hotels. These works did not involve any import or export of earthworks materials so has not been covered within this report.

Phase 4 – External Finishing Works and Landscaping

The final phase of construction involves hard and soft landscaping to the external areas of the site. At the time of writing, these works are ongoing and this report will be updated to include results

Roswick Ltd have been commissioned by BCEGI to carry out these works which are due to complete in April 2022. These works involve:

- Excavation for minor drainage works
- Import of Type 1 MOT for build up below external paving areas

3. Testing Carried out

Phase 1 – Bulk Earthworks and Pile Matt

Topsoil Strip

Given the site had been remediated prior to works starting, any remaining areas of topsoil were minor. Testing and disposal of this material was therefore included within the bulk embankment removal as below.

High Level & Holiday Inn Pile Matt

Prior to bulk excavation, a contiguous piled wall was constructed to support the adjacent road of World Way. To facilitate this, a multi-level pile matt was constructed using imported 6F5 gritstone material. Given the material was quarried and certified by Fletcher Bank Quarry, Ramsbottom, no specific contamination testing was carried out. However stone grading certificates are provided in Appendix B and location plan provided below.

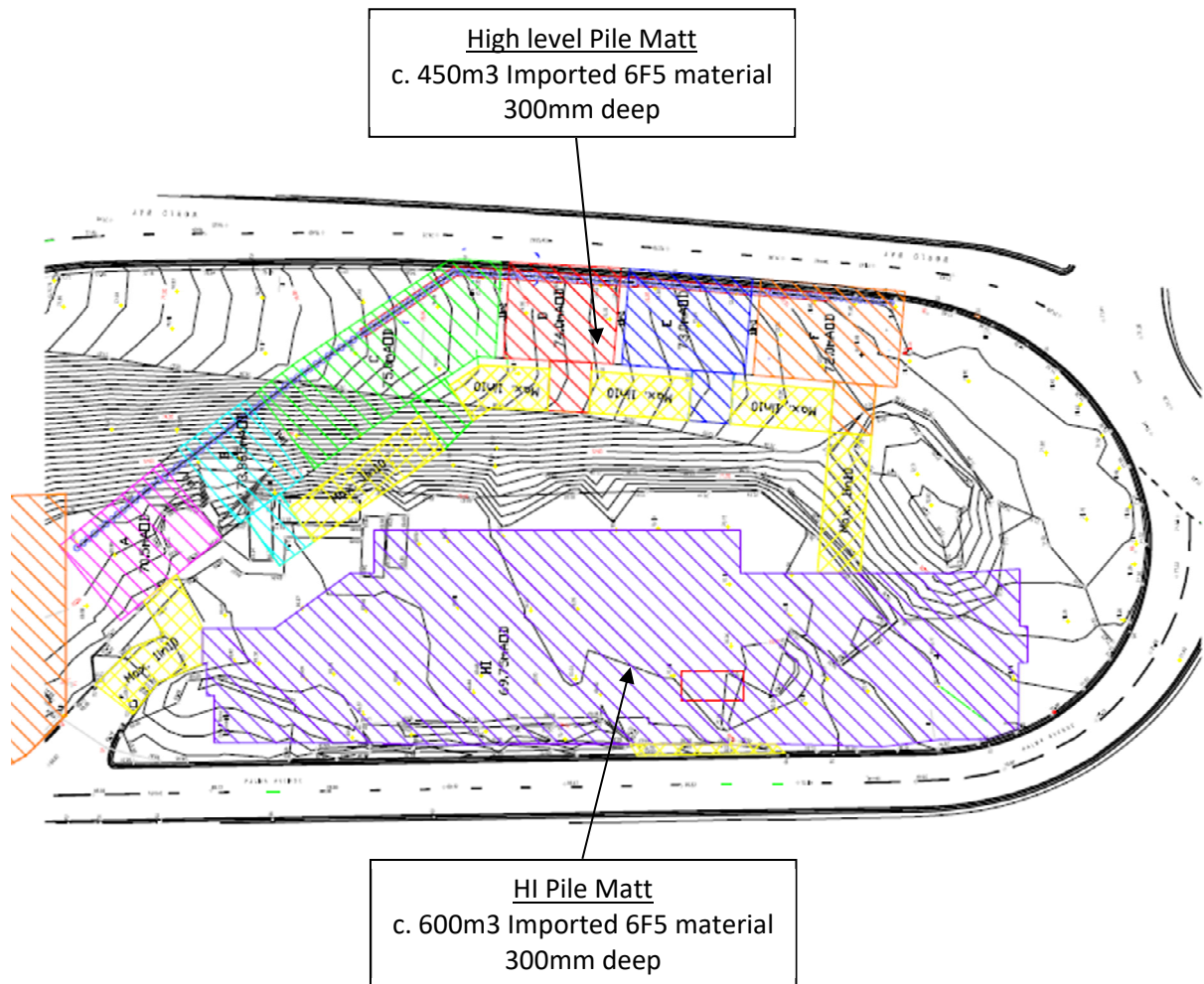


Figure 1 - Layout Plan for High Level and HI Pile Matt

Bulk Embankment Removal

Prior to the bulk excavation of the embankment, the high level pile matt was removed and stored for re-use on

site. The majority of earthworks movement was then carried out through bulk excavation of material in front of the contiguous retaining wall. Approximately 6000m³ of sandy clay material was excavated and disposed from site, as highlighted in Figure 2 below.

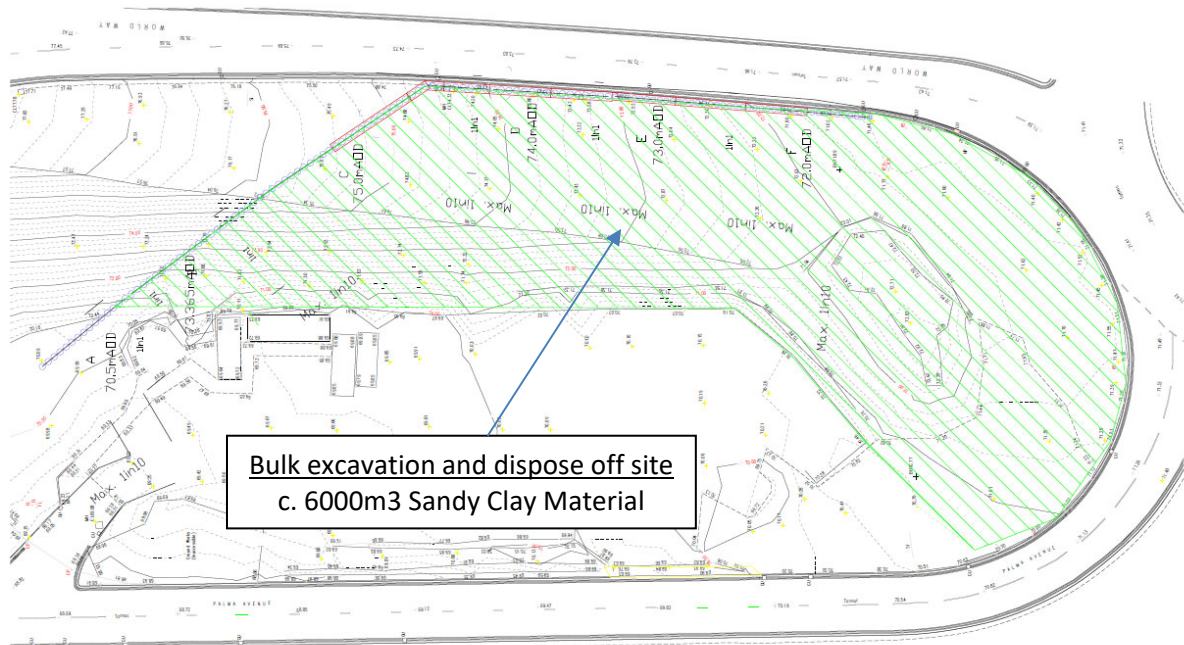


Figure 2 - Bulk Excavation Plan and Quantity

Material was taken off site to Arden Quarry in Rochdale by PP O'Connor. The extensive site investigation reports carried out prior to works starting were provided to the quarry to confirm that no contamination was identified, and this was acceptable for the quarry to classify this material as Non-Hazardous. The waste carriers license and waste transfer note for this material is included in Appendix C.

Irrespective of the extensive site investigation and ground remediation carried out previously, for due diligence BCEGI carried out independent contamination testing of this material to validate previous SI reports. Testing of this material was carried out at various locations and depths as highlighted in figure 2 above and Table 1 below, and in accordance with the criteria outlined in Buro Happold's earthworks specification (extract included in Appendix D). Full contamination results are included in Appendix E.

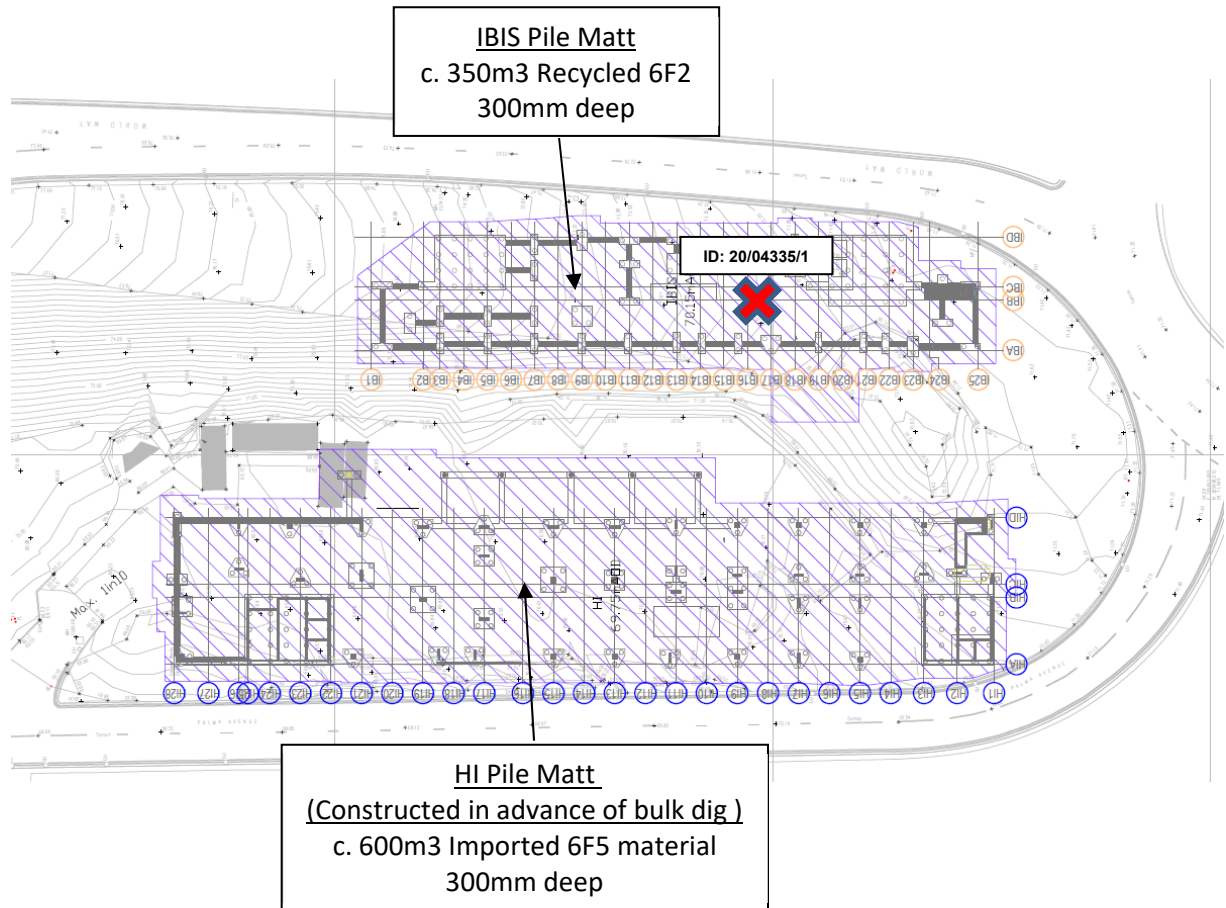
Sample ID	Approx. Depth	Acceptable contamination limits exceeded?
Sample 1	<1m	No
Sample 1A	1-3m	No
Sample 2	4m	No
Sample 2A	1m	No

Table 1 - Contamination Testing of Bulk Excavation Material

Pile Matt Construction (IBIS)

Following the bulk excavation works, the remaining pile matt for the IBIS hotel was constructed using the recycled / site won material from the high level contiguous pile matt (refer to section above). Whilst this material was imported originally as quarried 6F5, for due diligence BCEGI carried out additional contamination testing as

well as a suite of acceptability criteria test to re-classify this material as recycled 6F2. Pile matt layout and testing reference details as provide in Figure 3 and Table 2 below. Full contamination results and acceptability testing can be found in Appendix F.



Phase 2 - Pile Caps and Ground Bearing Slab

Once pile mats were complete, JRL commenced works on the pile caps and ground bearing slab. Works were also undertaken to build up the capping and subbase layers for the main Haul road into site. Figure 4 below shows key areas and quantities of imported material utilised for these construction activities, which in summary consisted of:

- Imported Recycled 6F2 For Ground Bearing Slab
- Imported MOT Type 1 for Ground Bearing Slab
- Imported MOT Type 1 for Haul Road Subbase

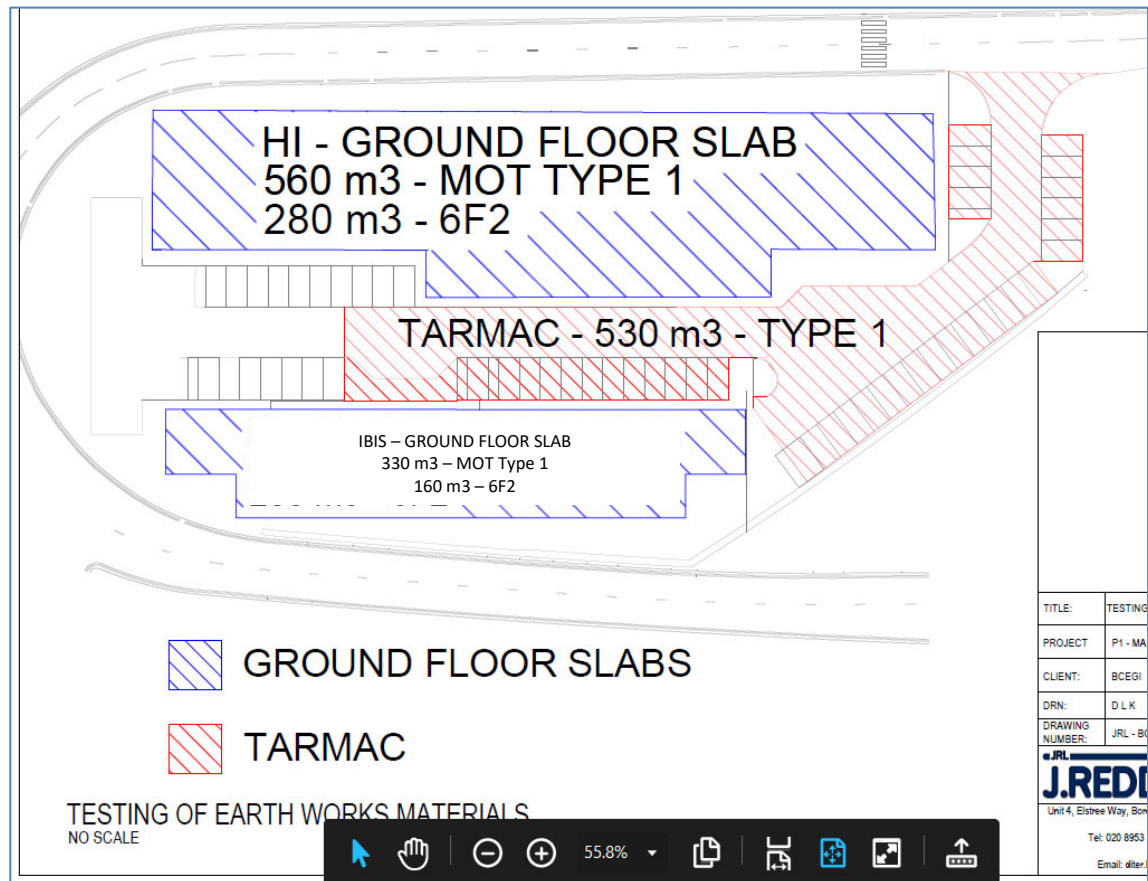


Figure 4 - Ground Bearing Slab and Haul Road Materials

Although imported, BCEGI carried out some on site contamination testing of the 6F2 material. This confirmed that no contaminants were present above the allowable limits set out in the earthworks specification. Full contamination results can be found in Appendix G.

All imported Type 1 MOT was quarried therefore a full suite of on site contamination tests was not carried out. Full acceptability criteria and sulphate analysis was provided by the quarry as supplied in Appendix H.

A limited amount of exported material was taken off site as a result of the bulk dig for the haul road construction. Site investigation reports and previous chemical analysis of the site was sufficient to demonstrate that this material was free of contaminants, therefore no further testing was carried out.

Phase 3 – Hotel Construction

During this phase of works all construction was above ground and not import or export of earthwork materials was carried out, and subsequently no contamination testing was carried out.

Phase 4 – External Finishing Works and Landscaping

At the time of writing, these works have only recently commenced therefore no test data is available for these areas. Following completion of these works, this report will be updated to include additional test data for any site won material and imported topsoil.

4. Conclusion

The extensive site investigation and ground remediation carried out by others is sufficient to demonstrate that the site has been fully remediated prior to BCEGI commencing the main construction of the Hotels.

The additional testing and visual inspections undertaken throughout the project, and as outlined within this report, further validate the conclusions of previous reports that no contaminants that pose a risk to future health and the local environment are present across the P Hotels site.

Appendix A – ROC Ground Remediation Report

Appendix B – 6F5 Stone Certification

Appendix C – Bulk Dig Waste Transfer Note & Waste Carriers License

Appendix D – Buro Happold Contamination Testing Criteria

Appendix E – Bulk Dig Contamination Test Results

Appendix F – IBIS Pile Matt 6F2 Test Certs

Appendix G – 6F2 Contamination Test Certs (GF Slab)

Appendix H – Imported Type 1 MOT Test Certification