

20001

Nine Mile Point Waste Processing Facility

Validation Report for Pre-Operational

Condition No. 9

V00

Waste & Engineering

We have been involved in waste management and waste facility developments for more than 50 years.



Report

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| TITLE | Nine Mile Point Waste Processing Facility- Validation Report for Permit Pre-Operational Condition No. 9 |
| PROJECT | 20001 |
| CLIENT | HYWEL NMP |
| DATE | JANUARY 2022 |
| STATUS | FINAL |
| VERSION | 00 |
| AUTHOR | RYAN YATES |

DOCUMENT CONTROL

| REVISION | DESCRIPTION | STATUS | DATE | BY | CHECKED | APPROVED |
|----------|--|--------|----------|----|---------|----------|
| 00 | Nine Mile Point Waste Processing Facility. | FINAL | JAN 2022 | RY | AT | AT |
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Appendix A: Site Supervision Reports

1 Introduction & Background

- 1.1 Taggarts have been commissioned by Hywel NMP Ltd to undertake site supervision at Unit 23, Greenmeadow Road, Nine Mile Point Industrial Estate, Cwmfelinfach, Newport, NP11 7HZ during the construction of the waste processing plant under planning permission 15/0601/FULL granted 10 December 2015.
- 1.2 Taggarts have been undertaking regular site supervision since the start of construction. Taggarts undertook site supervision prior to and during the works associated with the internal and external impermeable reinforced concrete slabs.
- 1.3 The principal contractor during construction is Woodvale Construction Company Ltd. Woodvale undertook the works associated with the reinforced concrete slabs.
- 1.4 This Report has been prepared to satisfy the requirement to discharge permit pre-operational condition 9 as part of permit number EPR/AB3695CH.
- 1.5 Permit pre-operation condition 9 states the following:

“the operator shall submit to Natural Resources Wales information in order to evidence compliance with BAT Conclusion 19 of the Waste Treatment BREF Document (EU 2018) requiring the use of one or a combination of techniques: (c) Impermeable surface (information on how the site complies with CIRIA 736 or an equivalent engineering standard to which the surface complies together with sign off from construction by a Certified Quality Auditor) in accordance with the requirements specified within BAT Conclusion 19 of the Waste Treatment BAT Conclusion (EU 2018)”

- 1.6 BAT Conclusion 19 of the Waste Treatment BAT Conclusion (EU 2018) (Section 1.5 – Emissions to water) states the following:

| Technique | | Description | Applicability |
|-----------|---------------------|--|-----------------------|
| c. | Impermeable surface | Depending on the risks posed by the waste in terms of soil and/or water contamination, the surface of the whole waste treatment area (e.g. waste reception, handling, storage, treatment and dispatch areas) is made impermeable to the liquids concerned. | Generally applicable. |

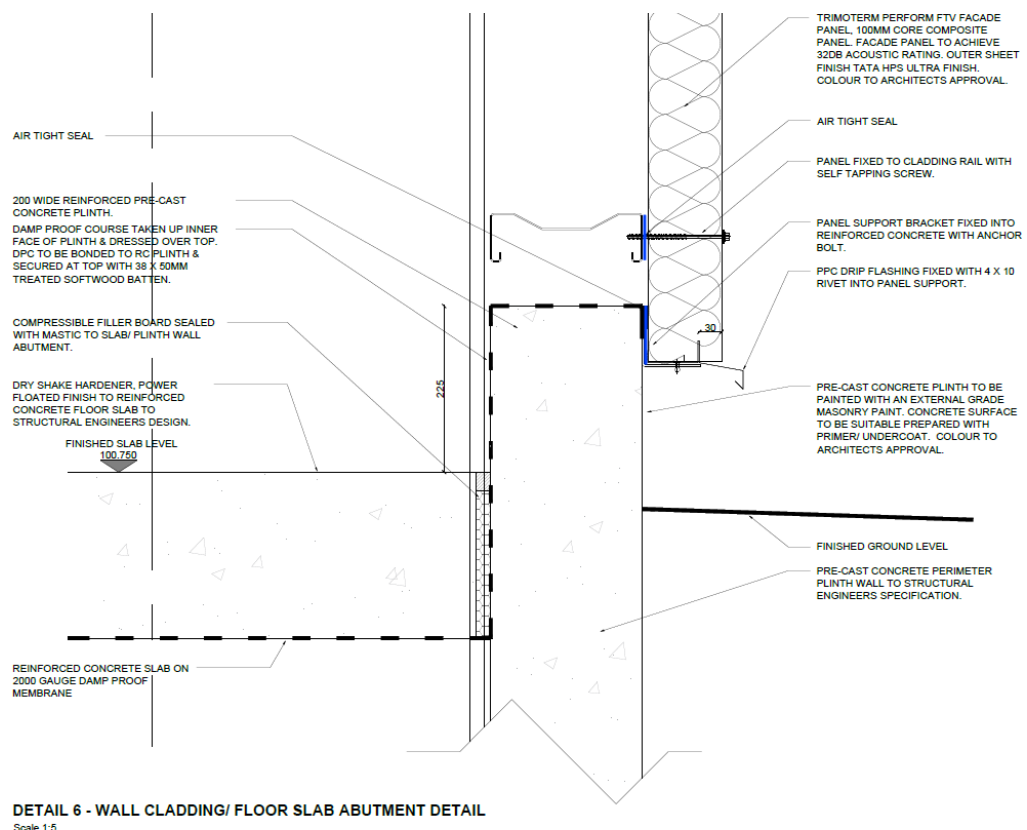
2 Site Supervision

- 2.1 Site Supervision was undertaken by Ryan Yates from Taggarts. Ryan is a Chartered Civil Engineer with the Institution of Civil Engineers and has 7+ years' experience as a Civil Engineer. Ryan's experience includes civil engineering design, construction management and site supervision on a numerous industrial civil engineering projects. Ryan is therefore suitably qualified to undertake site inspections to confirm works that were undertaken at the Nine Mile Point site.
- 2.2 Ryan undertook site supervision during the reinforced concrete slab preparation works, during the installation and following completion. Site Reports during these visits are within Appendix A of this report.

3 Internal Reinforced Concrete Slab

- 3.1 The cast in situ reinforced concrete slab for waste reception, handling, processing and storage areas included a 265mm thick C32/40 steel fibre slab with a dry shake harder. The concrete slab was installed directly onto a 2,000 gauge damp proof membrane as indicated in Section 3 of this report. The as-built drawing “21012 - GAs & Details-WD303 - Details S2” is within in Appendix C. Figure 3.1 below shows an extract from this drawing:

Figure 3.1 – Internal Reinforced Concrete Slab



- 3.2 Figure 3.1 above shows that the joint between the slab and building perimeter included compressible filler board sealed with mastic to provide an impermeable joint.
- 3.3 The 2000g membrane acts to prevent ground gas rising, but also acts to stop a liquids entering the underlying soil, therefore creating an impermeable surface.
- 3.4 The combination of a cast in situ reinforced slab and impermeable joints provide an impermeable surface for the waste reception, handling, processing and storage areas as

per the BAT Conclusion 19 of the Waste Treatment BAT Conclusion (EU 2018). The impermeable 2000 gauge membrane provide further protection.

- 3.5 During site inspections, it was witnessed that all works were undertaken to high standard with no workmanship or quality issues identified that would impact the impermeability of the slab.
- 3.6 Frequent inspections of the internal slab and joints will need to be undertaken to ensure the integrity has not been compromised. Any necessary repairs should be undertaken immediately.

4 External Reinforced Concrete Slab

- 4.1 The external cast in situ reinforced concrete slab for waste storage and dispatch areas included a 225mm thick PAV 2 air entrained with 1 layer of A252 mesh top and bottom with 50mm minimum cover, with 20mm aggregate.
- 4.2 The slab build up below included a 50mm stone dust blinding, 300mm type 1 granular sub-base to highway specification clause 803, layer of thermally bonded nonwoven geotextile and a 75mm stone dust blinding layer.
- 4.3 All joints in the slab were sealed using a flexible sealant to provide an impermeable joint. Figures 4.1 to 4.3 below show the as-constructed joints:

Figure 4.1 – External Reinforced Concrete Slab – Perimeter Joint

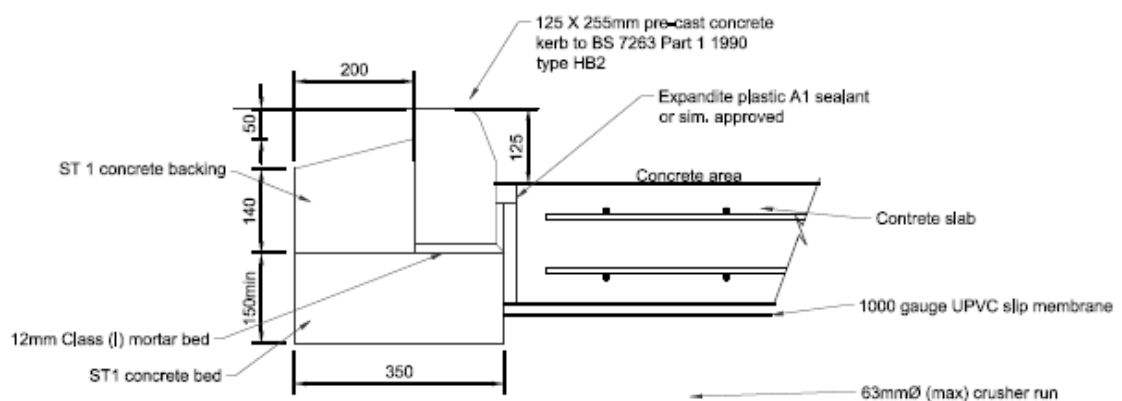


Figure 4.2 – External Reinforced Concrete Slab – Induced Joint

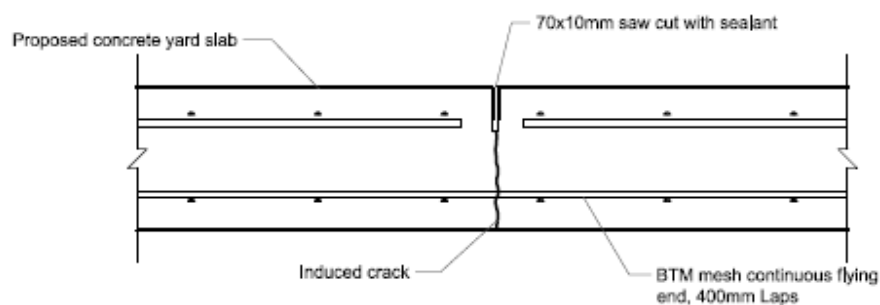
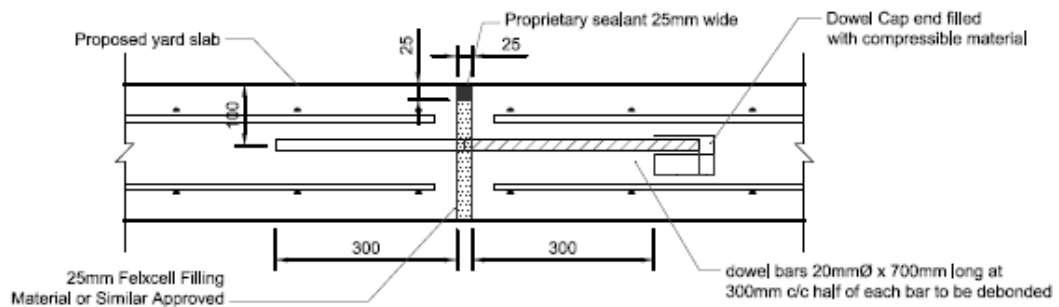


Figure 4.3 – External Reinforced Concrete Slab – Expansion Joint



- 4.4 The combination of a cast in situ reinforced slab and impermeable joints provide an impermeable surface for the waste reception, handling, processing and storage areas as per the BAT Conclusion 19 of the Waste Treatment BAT Conclusion (EU 2018).
- 4.5 During site inspections, it was witnessed that all works were undertaken to high standard with no workmanship or quality issues identified that would impact the impermeability of the slab.
- 4.6 Frequent inspections of the external slab and joints will need to be undertaken to ensure the integrity has not been compromised. Any necessary repairs should be undertaken immediately.

5 Summary

- 5.1 Site supervision was undertaken by a Chartered Civil Engineer from Taggarts.
- 5.2 The internal cast in situ reinforced concrete slab for waste reception, handling, processing and storage areas included a 265mm thick C32/40 steel fibre slab with impermeable joints. The combination of the concrete slab and impermeable joints provide an impermeable surface and are therefore in accordance with the BAT Conclusion 19 of the Waste Treatment BAT Conclusion (EU 2018). The impermeable 2000 gauge membrane installed below the concrete slab provide further protection as an impermeable surface.
- 5.3 The external cast in situ reinforced concrete slab for waste storage and dispatch areas included a 225mm thick PAV 2 concrete slab with impermeable joints. The combination of the concrete slab and impermeable joints provide an impermeable surface and are therefore in accordance with the BAT Conclusion 19 of the Waste Treatment BAT Conclusion (EU 2018).
- 5.4 During site inspections, it was witnessed that all works were undertaken to high standard with no workmanship or quality issues identified that would impact the impermeability of the internal and external slabs.
- 5.5 Frequent inspections of the internal and external slabs and joints will need to be undertaken to ensure the integrity has not been compromised. Any necessary repairs should be undertaken immediately.

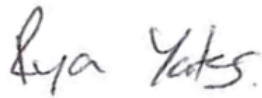
6 Validation Certificate

- 6.1 On the basis of supervising and monitoring the works carried out at Unit 23, Greenmeadow Road, Nine Mile Point Industrial Estate, Cwmfelinfach, Newport, NP11 7HZ, we hereby certify that:

The works included:

- The internal and external slabs provide an impermeable surface and therefore comply with BAT Conclusion 19 of the Waste Treatment BAT Conclusion (EU 2018).

Signed:





Date: 18/01/2022



Chartered Civil Engineer (for and on behalf of
Taggarts)

Appendix A – Site Supervision Reports

SITE INSPECTION REPORT

| | |
|---|---|
| PROJECT: NINE MILE POINT WASTE PROCESSING FACILITY | |
| DATE OF INSPECTION: 09/11/2021 | |
| TIME PERIOD ON SITE: 10:00 – 16:30 | |
| WEATHER (Inc guide on temperature): dry, approx. 12 degrees | |
| PLANT ON SITE: 2 x Excavators 1 x Dumper 1 x MEWP 1 x Concrete Pump 1 x Telehandler | LABOUR ON SITE: 5x Skilled Labourers 1x Site Engineer Additional sub-contractor works also being undertaken during time on site |
| CONTRACTOR'S ACTIVITIES & APPROX. LOCATION <ul style="list-style-type: none"> External concrete slab works being undertaken in rear yard – rebar installed and concrete being placed via concrete pump – no issues with works being undertaken. Internal reinforced concrete floor slab preparation works being undertaken, including placement of stone to form levels / subbase – no sharp objects or defects identified. Cladding works near completion – final cladding panels being installed on south east corner of main building – query raised with contractor over torque settings of cladding panels – Contractor to review with cladding sub-contractor and confirm via email. Surface water drainage works ongoing on eastern boundary of site. | |
| HEALTH AND SAFETY: <ul style="list-style-type: none"> No H&S issues identified or reported during time of site visit | |
| PROGRAMME: <ul style="list-style-type: none"> Works progressing generally to Programme – no issues to report | |
| ADDITIONAL INFORMATION : <ul style="list-style-type: none"> No additional information | |
| Photos : <div style="display: flex; justify-content: space-around;">   </div> | |
| SIGNED: <i>Lya Yates</i> | DATE: 09/11/2021 |

SITE INSPECTION REPORT

| | | | |
|--|-------------------|--|------------|
| PROJECT: NINE MILE POINT WASTE PROCESSING FACILITY | | | |
| DATE OF INSPECTION: 15/11/2021 | | | |
| TIME PERIOD ON SITE: 10:15 – 16:00 | | | |
| WEATHER (Inc guide on temperature): dry, approx. 9 degrees | | | |
| PLANT ON SITE: 2 x Excavators 1 x Dumper 1 x MEWP 1 x Telehandler | | LABOUR ON SITE: 4x Skilled Labourers 1x Site Engineer Additional sub-contractor labour on site during site visit | |
| CONTRACTOR'S ACTIVITIES & APPROX. LOCATION | | | |
| <ul style="list-style-type: none"> External concrete slab works being undertaken in on eastern boundary – 2 layers (top & bottom) rebar being installed Internal reinforced concrete floor slab preparation – 2000g DPM being installed below slab and concrete shuttering progressing. Joints in membrane being sealed with tape. No sharp objects or issues identified with membrane. Western Power cable works ongoing Heol Tir Ton Road Additional delivery of cladding required to finish cladding works. Interim solution on south east corner. Temporary roller shutter door protection covers installed to protect reinforced concrete slab pour from precipitation and wind. Cable duct works progressing on western elevation – no issues identified | | | |
| HEALTH AND SAFETY: | | | |
| <ul style="list-style-type: none"> No H&S issues identified or reported during time of site visit | | | |
| PROGRAMME: | | | |
| <ul style="list-style-type: none"> Works progressing generally to Programme – no issues to report | | | |
| ADDITIONAL INFORMATION : | | | |
| <ul style="list-style-type: none"> No additional information | | | |
| Photos : | | | |
|  | |  | |
| SIGNED: | <i>Ryan Yates</i> | DATE: | 15/11/2021 |

SITE INSPECTION REPORT

| | | | |
|---|---|---|-------------------|
| PROJECT: NINE MILE POINT WASTE PROCESSING FACILITY | | | |
| DATE OF INSPECTION: 17/11/2021 | | | |
| TIME PERIOD ON SITE: 10:15 – 16:30 | | | |
| WEATHER (Inc guide on temperature): dry, approx. 8 degrees | | | |
| PLANT ON SITE: 2 x Excavators 1 x Dumper 1 x MEWP 2 x Telehandlers Multiple concrete deliveries | | LABOUR ON SITE: 8x Skilled Labourers 1x Site Engineer Additional sub-contractor works also being undertaken during time on site | |
| CONTRACTOR'S ACTIVITIES & APPROX. LOCATION <ul style="list-style-type: none"> External concrete slab works being undertaken in on eastern boundary – rebar installed, ready for concrete – no issues with works being undertaken. Internal reinforced concrete floor slab complete in the waste reception area and progressing well in the processing side of the building – slab depth and details as per design drawings – no issues to report Western Power cable works on Heol Tir Ton Road completed – road reinstatement, sand bedding and warning tape all completed Additional delivery of cladding required to finish cladding works. Interim solution on south east corner. Temporary roller shutter door protection covers installed to protect reinforced concrete slab pour from precipitation and wind. | | | |
| HEALTH AND SAFETY: <ul style="list-style-type: none"> No H&S issues identified or reported during time of site visit | | | |
| PROGRAMME: <ul style="list-style-type: none"> Works progressing generally to Programme – no issues to report | | | |
| ADDITIONAL INFORMATION : <ul style="list-style-type: none"> No additional information | | | |
| Photos : | | | |
|  | |  | |
| SIGNED: |  | DATE: | 17/11/2021 |

Taggarts