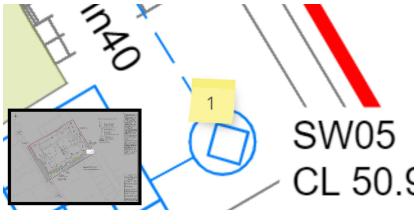
QC-EW-06-1

# QC-EW-06 Drainage - Attenuation (Wrapped Crate System)

External Drainage

SW05

QED Construction Ltd · Alex Welsh · 4 September 2023 15:01




QC-EW-06 Drainage - Attenuation (Wrapped Crate System)

| Form: | QC EW 06 | QUALITY CONTROL INSPECTION RECORD | BOWMER + KIRKLAND |
|---|---|---|---|
| Issue: | A | Drainage- Attenuation (Wrapped Crate System) | |

| Project: | Ancoats Mobility Hub | Inspected By (name) | |
|---|---|---|---|
| Project No.: | 63070 | B+K | Aaron Howarth (B+K) |
| Sub-contractor: | QED Construction Ltd | SC | Alex Welsh |

| Drawings Ref: | Current Revision | Revision SC Using on Site |
|---|---|---|
| 45306-KRD-XX-EX-DR-C-5201 | C02 | C02 |
| | | |

| Area | External Drainage | Location | SW05 | Ref. | 45306-krd-xx-ex-dr-c-520 |
|---|---|---|---|---|---|

| Item | Description | Comments / Specification | Inspected by: SC | Inspected by: B+K | Issues |
|---|---|---|---|---|---|
| **EXCAVATION & SUB-BASE** | | | | | |
| 1 | **Depth of dig** | **Attenuation Invert Level:** 48.880<br>**Over-dig required:** 600mm | ✓ | ✓ | |
| 2 | **Excavation area;** tank + working room around | 160m2 total | ✓ | ✓ | |
| 3 | **Substrate at formation**<br>• Level and flatness. Firm and clear of soft spots? Unsuitable material excavated and replaced with specified fill. | Firm virgin clay | ✓ | ✓ | |
| 4 | CBR testing required to formation? Yes / No | **Minimum CBR required?** No<br>**CBR result achieved:** | N/A | N/A | |
| 5 | **Base layer stone**<br>• Grade,<br>• Level,<br>• Flatness sufficient for crates to sit true and level | MOT, 100mm 48.880, put in with laser | ✓ | ✓ | |
| 6 | CBR testing required to atop sub-base stone? Yes / No | **Minimum CBR required?** no<br>**CBR result achieved:** | N/A | N/A | |
| **Additional Documents attached** | | | | | |

| Inspection Sign Off<br>All Items 1 to 6 complete | Signature (SC) | | Date: | September 9, 2023 |
|---|---|---|---|---|
| | Signature (B+K) | | Date: | September 11, 2023 |

**DO NOT PROCEED UNLESS ABOVE SECTION IS SIGNED**

| Inspected By SC (name): | Alex Welsh | Inspected By B+K (name): | Aaron Howarth (B+K) |
|---|---|---|---|

| Item | Description | Comments / Specification | Inspected by: SC | Inspected by: B+K | Issues |
|---|---|---|---|---|---|
| **ATTENUATION BUILD-UP** | | | | | |
| 7 | **Geotextile (bottom)** | Material used Geotec 1000<br>Minimum Overlap 800 | ✓ | ✓ | |
| 8 | **Impermeable Membrane (bottom)** | Material used Black Geomembrane 1200g<br>Thickness & Density 20mm<br>Welding of Joints all complete<br>Checked for tears, stretches, and punctures all good<br>Photos required | ✓ | ✓ | |
| 9 | **Baseplates** | Checked for level and flatness (Survey)<br>None required | N/A | N/A | |
| 10 | **Crates installation**<br>Stacked tightly abutted, plumb, no divergence of line and level<br>Correct joined (interlock or couplers used)<br>Inspectable crates to correct positions and orientations<br>End plates where required<br>Pipe adaptor plates at correct sizes and positions | all crates stacked correctly and clipped together | ✓ | ✓ | |
| 11 | **Inlet and Outflow Pipes** | Correct sizes 300mm main line, 150mm for 2no inlets<br>Correct Positions correct<br>Levels checked levels correct | ✓ | ✓ | |
| 12 | **Impermeable Membrane (sides)** | Material used Black Geomembrane 1200g<br>Thickness & Density 20mm<br>Welding of Joints all correct<br>Welding and Sealing around inlet and outflow pipes all correct<br>Checked for tears, stretches, and punctures all good<br>Photos required | ✓ | ✓ | |
| 13 | **Geotextile (sides)** | Material used Geotec 1000<br>Minimum Overlap 800 | ✓ | ✓ | |
| 14 | **Inspection shaft**<br>Correct position<br>Correctly mounted and jointed to crates below | no inspection shaft required | N/A | N/A | |
| 15 | **Backfill of working room surround tank**<br>Stone grading<br>Compaction used | Fill sand compacted in 100mm layers | ✓ | ✓ | |
| 16 | **Vent pipe** | Correct size and position?<br>Has the position been checked relative to final external works hard/soft landscaping setout?<br>Termination position and appearance?<br>Vent pipe correct position and type 110mm | ✓ | ✓ | |
| 17 | **Impermeable Membrane (top)** | Material used Black Geomembrane 1200g<br>Thickness & Density 20mm<br>Welding of Joints all correct<br>Welding and Sealing around Inspection Shaft and Vent Pipe correct<br>Checked for tears, stretches, and punctures all good<br>Photos required | ✓ | ✓ | |
| 18 | **Geotextile (top)** | Material used Geotec 1000<br>Minimum Overlap 800 | ✓ | ✓ | |
| 19 | **Permeability test** | Witnessed by<br>Building Control | ✓ | ✓ | |

| | | | | | |
|---|---|---|---|---|---|
| 20 | **Stone cover**<br>• Grading<br>• Compaction method<br>• Specified depth placed<br>• Surcharge required, agreed, recorded?<br>• Tank position marked to avoid overloading (site traffic, materials) during later construction activities? | 1m cover on tank, 6f2 being rolled in layers to good compaction. tank position recorded and inlets staked out | ✓ | ✓ | |
| **Additional Documents attached** | | 24 | | | |

| **Inspection Sign Off**<br>**All Items 7 to 20 complete** | **Date:** | **Signature (SC)** | |
|---|---|---|---|
| | September 14, 2023 | | |

| Non-conformance issued (MPF 5.30)<br>Raise in RDrive and link here | Raised | Closed |
|---|---|---|
| | | |

**Final quality check & sign-off not to be completed until NCRs have been closed**

| **Accepted by B+K:** | **B+K Manager Name** | **Signature** | **Date** |
|---|---|---|---|
| | Aaron Howarth (B+K) | | September 15, 2023 |






LC




HITACHI
HURST








HITACHI



# QC-EW-06 Drainage - Attenuation (Wrapped Crate System)

Documents Attached Part B

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