



Photograph 93: Southern boundary of the site. Looking towards the west.



Photograph 14: Backfilled area in southern part of the site.



Photograph 15: Standing water in southeastern part of the site.



Photograph 16: Standing water in western boundary of the site.



Photograph 17: Western boundary of the site. Looking towards the north.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1035		SHEET NO.: 1 of 20	
Project: Stopes Road, Bolton		Date: 09/11/22	
Client: Harworth		Weather: Cloudy	
Contract No.: C-15220-C		Engineer: D Mahdavian	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1035		Status & Revision: S2 – P1	

Personnel Present:			
Organisation	Role		Name
VHE	Project Manager		Richard Hargreaves
AWP	Geo-Environmental Engineer		Ben Kennerly
A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5			
Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		✓	Testing schedule not reviewed at time of visit
Sequential Test Number		na	
Date of Test		na	
Coordinated Position		na	
Test Grid Reference		na	
Layer No		na	
Source material Type		na	
Results checked for compliance		na	
C: Additional activities to be observed by Hydrock during Audit Visit			
Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes	✓		Excavation sides generally battered to safe angle where open for any significant period
Excavation and site surveying	✓		Excavation in eastern part of the site and surveying is being done.
De-watering of excavations	✓		Standing water in the north and south of site. Dewatering of excavations using pump.
Control & management of water		✓	No surface water observed
Compaction Trials completed	✓		TN005
Layer thickness - check	✓		
Compaction method – check		✓	Proof rolling.
Benching in of fill - check		✓	VHE reminded fill to be benched into existing ground.
Stockpiling of material	✓		Stockpiling material from hotspot separately. Stockpiling oversize materials in the northwest of the site. Stockpiling processed materials from northeastern part of the site in northeast of the site.
Inspection of subgrade	✓		Overdig commenced in the northeast and east. Dark brown silty

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1035			SHEET NO.: 2 of 20
			sand with occasional bricks, peat, organic Made Ground, and landfill Made Ground.
Quality management of fill	✓		VHE screener is off hire. Hand picking of unsuitable material is being done by VHE. Oversize material is being stockpiled in northwest of the site to be processed later.
Works Undertaken by the Contractor:			
VHE - Existence of deleterious material including concrete, metal, wood, and plastic in material in southeastern part of the site. - Removing deleterious materials from the southeast. - Lime treated fill materials had been placed in eastern part of the site. - Grouting of shaft no.6 in southeastern part of the site was completed on Monday. - Dewatering of excavations using tractor mounted water pump and discharging in the western part excavation.			
Discussions/Recommendations & Instructions:			

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1035

SHEET NO.: 3 of 20

To/From VHE

Hydrock and VHE (RH) discussed details of earthworks, lime modification and mine shaft treatment.

Lime modification was discussed. VHE added 2% lime to soil in southwestern part of the site but due to high water content lime modification was not successful.

VHE is going to add 4% lime to dry the soil. Trial was undertaken and samples were sent to lab for testing. VHE is waiting for results.

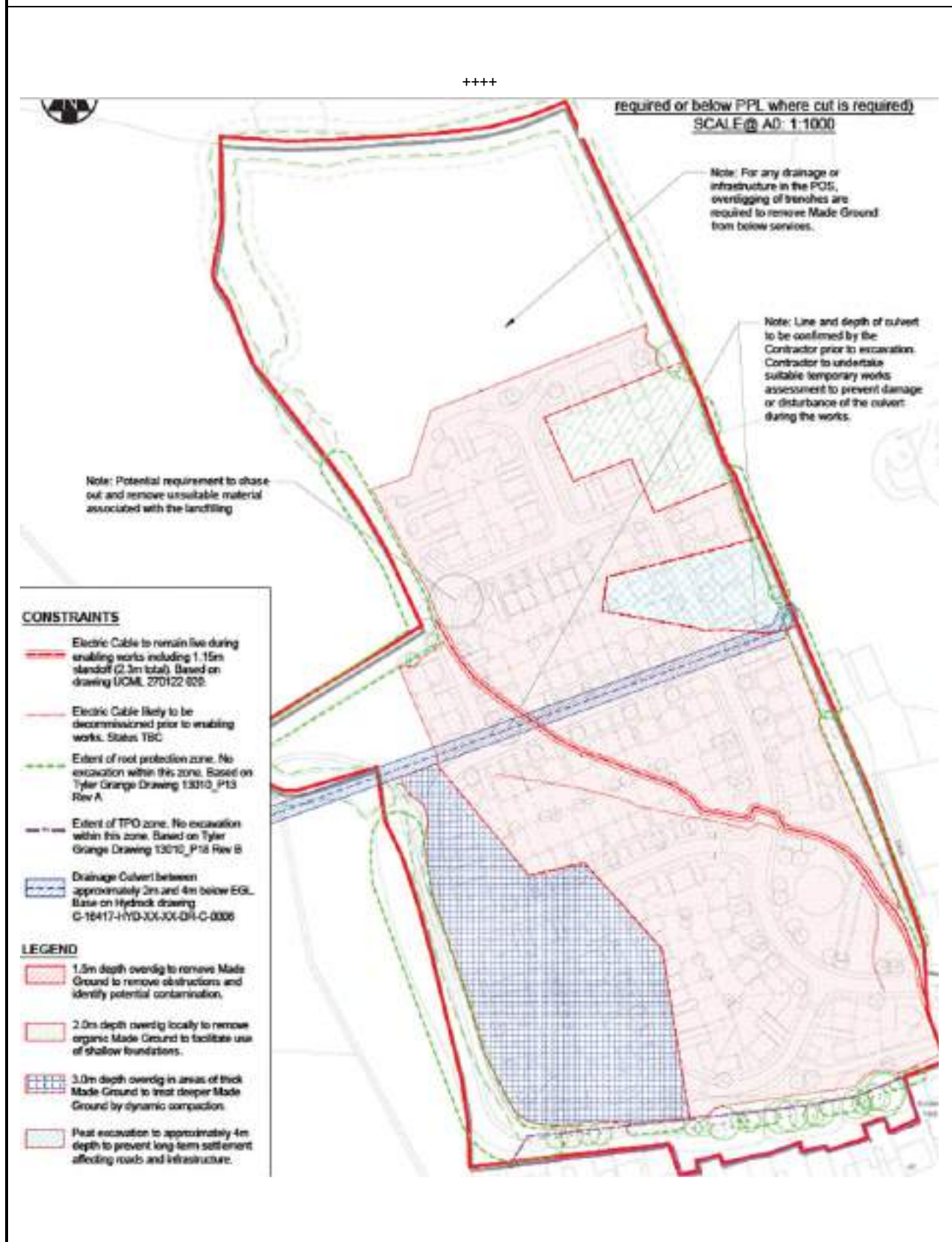
Currently VHE rotovator tractor tyre is flat and VHE is waiting to get it fixed.

Excavation of peat in the northeast is ongoing.

Mine shaft treatment of shaft no.6 in southeastern part of the site was completed on Monday.

Earthworks had been halted due to wet weather at the time of visit.

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1035

SHEET NO.: 5 of 20

Action Plan

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. Works progressing.
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Source testing for 6F2 required.
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN009 received 21/10 and reviewed by Hydrock. Comments to be addressed by AWP.
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile survey 29/09 and fill survey 10/08.
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Excavation DWG provided 23/09.
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Latest soft spot records issued for 1,2,3. Further updates soft spots 12, 13, 14 and 15 provided.
Hotspot Reports	Validation reports to be provided for each hotspot	Records provided for 1-4 but need updating. Other reports outstanding
Geotechnical Monitoring	Monitoring results to be included in regular update reports	Settlement monitoring data was sent 28/09/2022. VWP to be sent later.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1035

SHEET NO.: 6 of 20

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft treatment was achieved and grouting completed 07/11/2022.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1035

SHEET NO.: 7 of 20



Photograph 1: Overview of eastern part of the site. Looking towards the north.



Photograph 2: Grouting platform after completion of grouting shaft no.6 in eastern part of the site.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1035

SHEET NO.: 8 of 20



Photograph 3: Standing water in the southeastern part site.



Photograph 4: Eastern part of site backfilled with lime treated soil.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1035

SHEET NO.: 9 of 20



Photograph 5: Dewatering excavation in the northeast.



Photograph 6: Excavation in the northeast where organic made Ground was removed.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1035

SHEET NO.: 10 of 20



Photograph 7: Northeastern boundary of site. Looking towards the south.



Photograph 8: Standing water in the northeast.



Photograph 9: Stockpile of peat materials in the northwest excavated from the northeastern part of the site.



Photograph 10: Stockpile of oversized materials and concrete in the northwest.



Photograph 11: Overview of stockpiles in the north. Looking towards the north.



Photograph 12: Overview of the southern part of site.



Photograph 93: Stockpile of TPH contaminated materials in the western boundary.



Photograph 14: Discharging water in excavation in the western boundary of site. Water pumped from excavation in the northeast.



Photograph 15: Western boundary of the site. Looking towards the south.



Photograph 16: Western boundary of the site. Looking towards the north.



Photograph 17: Western boundary of the site. Looking towards the north.



Photograph 18: Southern boundary of site. Looking towards the east.



Photograph 19: Overview of the southern part of site. Looking towards the northeast.



Photograph 20: Standing water in the west.



Photograph 21: Mine shaft treatment platform after completion of grouting shaft no.006.



Photograph 22: Standing water in the southwest of shaft treatment platform.



Photograph 23: Southern boundary of site. Looking towards the west.



Photograph 24: Backfill in the northwest of VHE compound.



Photograph 25: Loading deleterious material into truck in the southeast.



Photograph 26: Deleterious material on truck's bed.



Photograph 27: Rotavator tractor with flat tyre in the southeast.



Photograph 28: Southeastern boundary of site. Looking towards the north.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1036		SHEET NO.: 1 of 16	
Project: Stopes Road, Bolton		Date: 15/11/22	
Client: Harworth		Weather: Rainy	
Contract No.: C-15220-C		Engineer: D Mahdavian	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1036		Status & Revision: S2 – P1	

Personnel Present:			
Organisation	Role		Name
VHE	Project Manager		Richard Hargreaves
A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5			
Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		✓	Testing schedule not reviewed at time of visit
Sequential Test Number		na	
Date of Test		na	
Coordinated Position		na	
Test Grid Reference		na	
Layer No		na	
Source material Type		na	
Results checked for compliance		na	
C: Additional activities to be observed by Hydrock during Audit Visit			
Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes	✓		Excavation sides generally battered to safe angle where open for any significant period
Excavation and site surveying	✓		Excavation in northeastern part of the site and surveying is being done.
De-watering of excavations	✓		Standing water in the north and south of site. Dewatering of excavations using pump.
Control & management of water		✓	No surface water observed
Compaction Trials completed	✓		TN005
Layer thickness - check	✓		
Compaction method – check		✓	Proof rolling.
Benching in of fill - check		✓	VHE reminded fill to be benched into existing ground.
Stockpiling of material	✓		Stockpiling material from hotspot separately. Stockpiling oversize materials in the northwest of the site. Stockpiling processed materials from northeastern part of the site in northeast of the site.
Inspection of subgrade	✓		Overdig commenced in the northeast. Dark brown silty sand with occasional bricks, peat, organic

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1036			SHEET NO.: 2 of 16
			Made Ground, and landfill Made Ground.
Quality management of fill	✓		VHE screener is off hire. Hand picking of unsuitable material is being done by VHE. Oversize material is being stockpiled in northwest of the site to be processed later.
Works Undertaken by the Contractor:			
VHE - Existence of deleterious material including concrete, metal, wood, and plastic in material in southeastern part of the site. - Removing and breaking concrete in the southeast. - Lime treated fill materials had been placed in eastern part of the site.			
Discussions/Recommendations & Instructions:			

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1036

SHEET NO.: 3 of 16

To/From VHE

Hydrock and VHE (RH) discussed details of earthworks, lime modification and mine shaft treatment.

Lime modification was discussed. VHE added 2% lime to fill material and placed fill in the east.

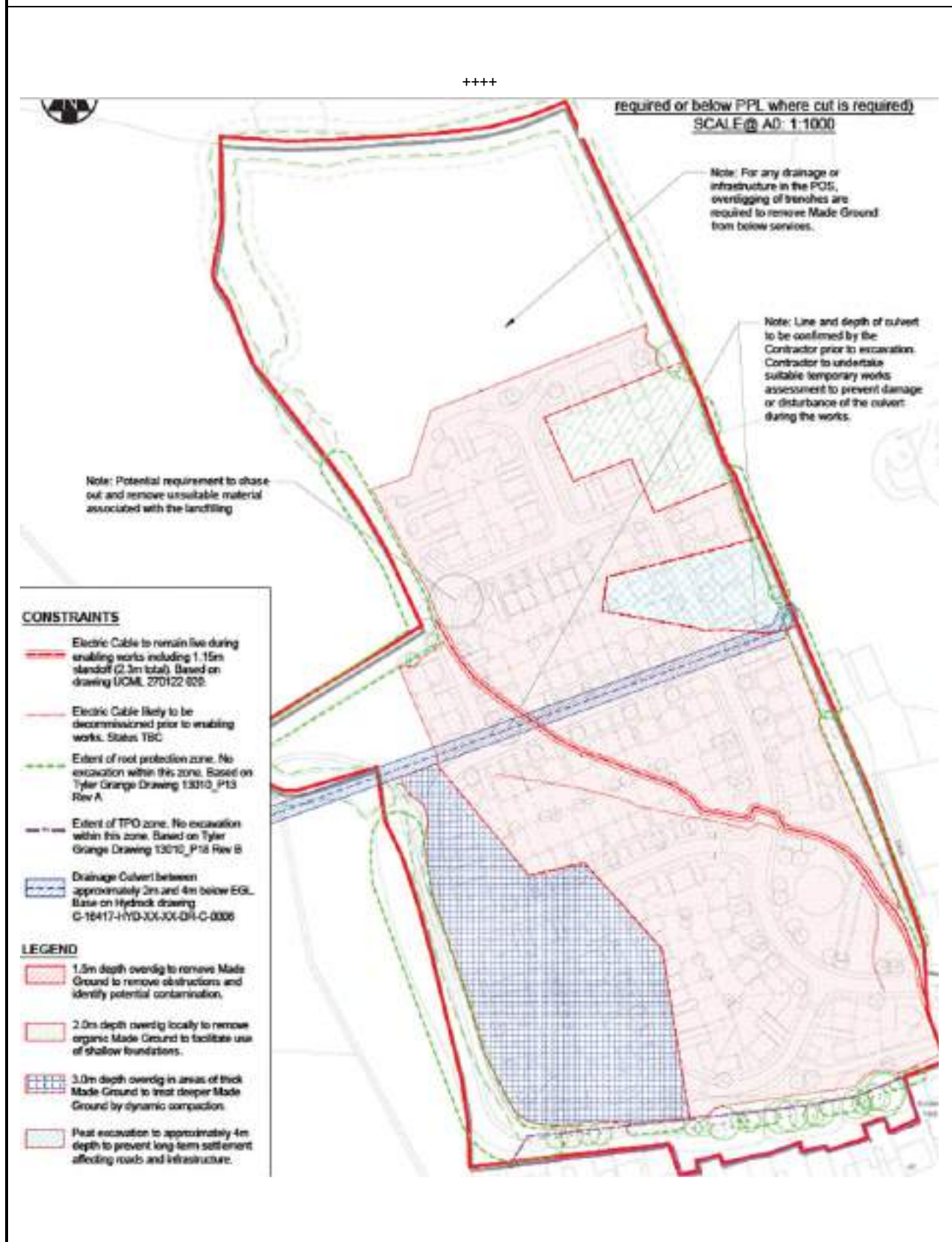
VHE is going to add 4% lime to dry the soil. Trial was undertaken and samples were sent to lab for testing. VHE is waiting for results.

VHE has found more peat in the northeast and excavation of peat is ongoing.

Dewatering of excavations using tractor mounted water pump and discharging in the western part excavation is ongoing.

Earthworks had been halted due to wet weather at the time of visit.

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1036

SHEET NO.: 5 of 16

Action Plan

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. Works progressing.
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Source testing for 6F2 required.
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN009 received 21/10 and reviewed by Hydrock. Comments to be addressed by AWP.
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile survey 29/09 and fill survey 10/08.
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Excavation DWG provided 23/09.
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Latest soft spot records issued for 1,2,3. Further updates soft spots 12, 13, 14 and 15 provided.
Hotspot Reports	Validation reports to be provided for each hotspot	Records provided for 1-4 but need updating. Other reports outstanding
Geotechnical Monitoring	Monitoring results to be included in regular update reports	Settlement monitoring data was sent 28/09/2022. VWP to be sent later.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1036

SHEET NO.: 6 of 16

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft treatment was achieved and grouting completed 07/11/2022.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1036

SHEET NO.: 7 of 16



Photograph 1: Overview of eastern part of the site. Looking towards the north.



Photograph 2: Grouting platform after completion of grouting shaft no.6 in eastern part of the site.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1036

SHEET NO.: 8 of 16



Photograph 3: Eastern boundary of the site. Looking towards the north.



Photograph 4: Standing water in the east.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1036

SHEET NO.: 9 of 16



Photograph 5: Excavation in the northeast.



Photograph 6: Standing water in the northeast.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1036

SHEET NO.: 10 of 16



Photograph 7: Eastern boundary of the site. Looking towards the south.



Photograph 8: Stockpile of peat in the northwest.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1036

SHEET NO.: 11 of 16



Photograph 9: Overview of stockpiles in the north.



Photograph 10: Overview of the southern part of the site.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1036

SHEET NO.: 12 of 16



Photograph 11: Stockpile of TPH contaminated materials in the west.



Photograph 12: Northwestern boundary of the site.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1036

SHEET NO.: 13 of 16



Photograph 93: Stockpile of oversize and concrete materials in the west.



Photograph 14: Backfilled area in the east. Looking towards the east.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1036

SHEET NO.: 14 of 16



Photograph 15: Standing water and dewatering tools in the west.



Photograph 16: Western boundary of the site. Looking towards the north.



Photograph 17: Southern boundary of the site. Looking towards the west.



Photograph 18: Standing water in the southeast.



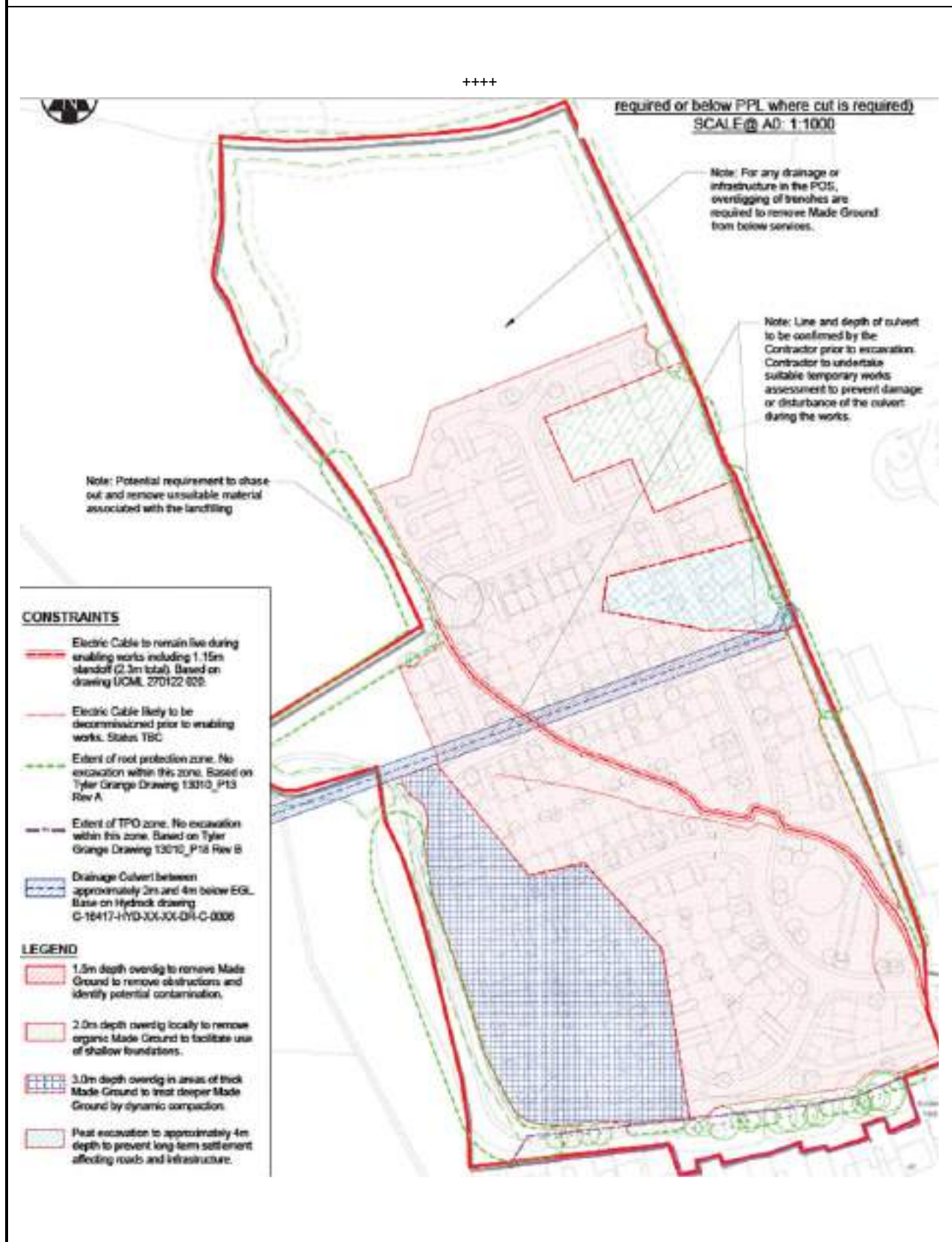
Photograph 19: Removing and breaking concrete in the southeast.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1037		SHEET NO.: 1 of 11	
Project: Stopes Road, Bolton		Date: 24/11/22	
Client: Harworth		Weather: Overcast / periodic rain	
Contract No.: C-15220-C		Engineer: D Fry	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1037		Status & Revision: S2 – P1	

Personnel Present:			
Organisation	Role	Name	
VHE	Site Manager	Richard Hargreaves	
VHE	Project / Contracts Manager	Iain Power	
Cumming	Clients Agent	Gregg Mason	
Harworth	Client	Fiona Lewis	
AWP	Contractors Engineer	Sarah Roberts	
AWP	Contractors Engineer	Ben Kennerly	
A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5			
Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		✓	Testing schedule not reviewed at time of visit Test summaries to be provided by AWP
Sequential Test Number		na	
Date of Test		na	
Coordinated Position		na	
Test Grid Reference		na	
Layer No		na	
Source material Type		na	
Results checked for compliance		na	
C: Additional activities to be observed by Hydrock during Audit Visit			
Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes	✓		Excavation sides generally battered to safe angle where open for any significant period. Recommend vertical excavations be reduced over winter shutdown
Excavation and site surveying		✓	Interim surveys required prior to winter shutdown
De-watering of excavations		✓	No dewatering
Control & management of water		✓	Significant standing water in the north and east of site. Appeared temporary holding ponds had been set up. Temp drainage ditches cut
Compaction Trials completed	✓		TN005
Layer thickness - check		✓	No filling
Compaction method – check		✓	No filling
Benching in of fill - check		✓	No filling

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1037			SHEET NO.: 2 of 11
Stockpiling of material	✓		Stockpiling material from hotspot 7 separately in the west. Stockpiling oversize materials in the northwest of the site to be processed. Stockpiling processed materials from northeastern part of the site in northeast of the site.
Inspection of subgrade	✓		Subgrades proof rolled as much as possible to encourage runoff. Subgrade saturated and low strength in some locations. Remediation will be required when VHE return
Quality management of fill	✓		VHE screener is off hired. Oversize material is being stockpiled in northwest of the site to be processed later. Peat and organic materials stockpiled separately.
Works Undertaken by the Contractor:			
VHE - No significant earthworks being undertaken due to weather. VHE proposing winter shutdown from end of next week to recommence early April. - Minor excavation outside cabins - Progress meeting			
Discussions/Recommendations & Instructions:			
To/From VHE Progress Meeting: - Suspension of contract until return at the beginning of April 2023. Fiona to confirm following discussion with BTR team. Proposed Demob 01/12/22 - AWP to provide update to testing report by 02/12/22 summarising frequency and results of all testing to date - Hotspot 7 awaiting further results. RH to issue hotspot reports for 5,6 and 8 by 25/11/22 - DF to issue soft spot reports once final RDC data provided. - RH to check with UU regarding shared easement for drainage design - VHE design results in inverts 200mm lower, opportunity to leave levels 200mm low saving approx.. 10k m³ of fill - VHE to provide strategy for decommissioning abstraction well. - Second abstraction well required further investigation.			

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1037

SHEET NO.: 4 of 11

Action Plan

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. RDC works complete
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Source testing for 6F2 required. Update required now works have progressed
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN010 reviewed by Hydrock. AWP to update based on comments
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile survey 14/10 and site survey 10/10.
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Drawing requested demonstrating sufficient over-excavation
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Latest soft spot records issued for 1,2,3. Further updates soft spots 12, 13, 14 and 15 provided. All records up to 16 provided 22/11
Hotspot Reports	Validation reports to be provided for each hotspot	Records provided for 1-4 but need updating. Other reports outstanding
Geotechnical Monitoring	Monitoring results to be included in regular update reports	Settlement monitoring data was sent 28/09/2022. VWP sent 23/11. Require interop from AWP

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1037

SHEET NO.: 5 of 11

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft treatment was achieved and grouting completed 07/11/2022.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary. Meeting of 18/11 – VHE to check boundary and re-excavate where necessary
Mine shaft 006 validation report	Van Elle to provide report	Currently outstanding

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SHEET NO.: 6 of 11



Photograph 1: Location of shaft 006 – treatment complete



Photograph 2: Raised area behind retaining wall – VHE propose to leave some of the area in place

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1037

SHEET NO.: 7 of 11



Photograph 3: Eastern boundary of the site. Looking towards the north. Boundary checks required by VHE



Photograph 4: Fill proof rolled to shed water. Significant standing water

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1037

SHEET NO.: 8 of 11



Photograph 5: Some steep excavations noted. Recommend reducing and battering back prior to winter shutdown



Photograph 6: Natural soils exposed at surface during over-dig.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1037

SHEET NO.: 9 of 11



Photograph 7: Organic material stockpiled separately for placement in borrow pit



Photograph 8: Site won 6F2. Certification remains outstanding.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1037

SHEET NO.: 10 of 11



Photograph 9: Oversize material to be crushed and processed



Photograph 10: Arisings from Hotspot 7 – testing on-going



Photograph 11: Temporary drainage ditches to control surface water



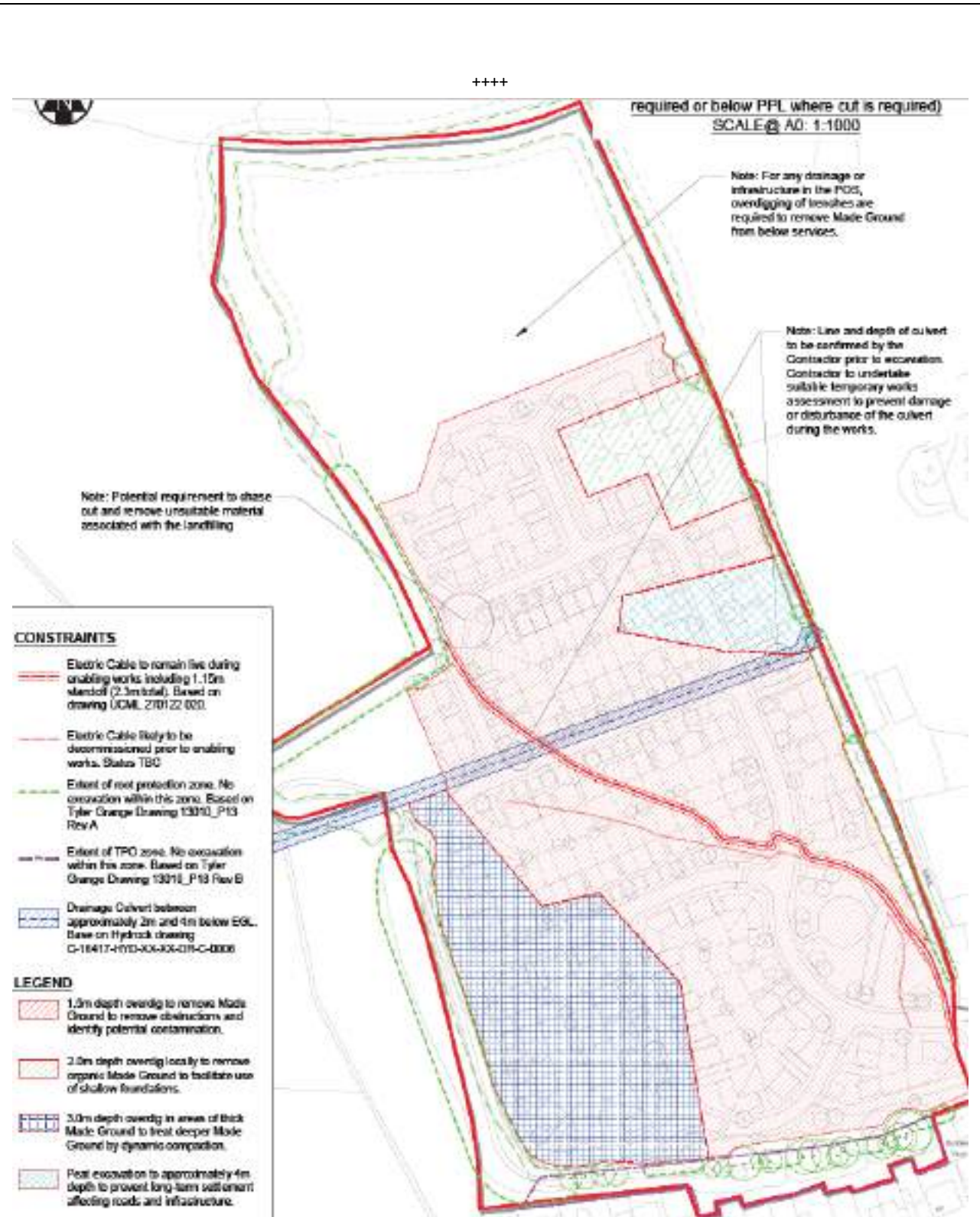
Photograph 12: Orange brown glacial clay – source testing outstanding

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1038		SHEET NO.: 1 of 13	
Project: Stopes Road, Bolton		Date: 12/04/23	
Client: Harworth		Weather: Overcast / periodic rain	
Contract No.: C-15220-C		Engineer: Davood Mahdavian	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1038		Status & Revision: S2 – P1	

Personnel Present:			
Organisation	Role		Name
VHE	Site Manager		Phil Dews
VHE	Graduate Site Engineer		Tom Craddock
A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5			
Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		✓	Testing schedule not reviewed at time of visit Test summaries to be provided by AWP
Sequential Test Number		na	
Date of Test		na	
Coordinated Position		na	
Test Grid Reference		na	
Layer No		na	
Source material Type		na	
Results checked for compliance		na	
C: Additional activities to be observed by Hydrock during Audit Visit			
Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes	✓		Excavation sides generally battered to safe angle where open for any significant period. Recommend vertical excavations be reduced over winter shutdown
Excavation and site surveying		✓	Interim surveys required prior to winter shutdown
De-watering of excavations		✓	No dewatering
Control & management of water		✓	Significant standing water in the north and east of site. Appeared temporary holding ponds had been set up. Temp drainage ditches cut
Compaction Trials completed	✓		TN005
Layer thickness - check		✓	No filling
Compaction method – check		✓	No filling
Benching in of fill - check		✓	No filling
Stockpiling of material	✓		Stockpiling material from hotspot 7 separately in the west. Stockpiling oversize materials in the northwest of the site to be processed.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1038			SHEET NO.: 2 of 13
			Stockpiling processed materials from northeastern part of the site in northeast of the site.
Inspection of subgrade	✓		Subgrades proof rolled as much as possible to encourage runoff. Subgrade saturated and low strength in some locations. Remediation will be required when VHE return
Quality management of fill	✓		VHE screener is off hired. Oversize material is being stockpiled in northwest of the site to be processed later. Peat and organic materials stockpiled separately.
Works Undertaken by the Contractor:			
VHE - No earthworks being undertaken as there was no earthworks machinery on site at the time of visit. - Pumping standing water in the western boundary near the abstraction well area. - Construction of drainage in the southeast close to entrance gate.			
Discussions/Recommendations & Instructions:			
To/From VHE VHE site manager stated that earthworks machinery and equipment will be on site on Monday next week. Earthworks will commence as soon as machinery is on site. New compound had been set up and will be expanded in couple of days in the northwest.			

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1038**SHEET NO.: 4 of 13****Action Plan**

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. RDC works complete
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Source testing for 6F2 required. Interim Validation report to be updated
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN010 reviewed by Hydrock. AWP to update based on comments. Interim Validation report to be updated
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile survey 14/10 and site survey 10/10.
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Drawing requested demonstrating sufficient over-excavation Drawing provided 1201 Rev B – annotation required
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Latest soft spot records issued for 1,2,3. Further updates soft spots 12, 13, 14 and 15 provided. All records up to 16 provided 22/11
Hotspot Reports	Validation reports to be provided for each hotspot	Updated pack provided 06/03/2023 – Hyd to review
Geotechnical Monitoring	Monitoring results to be included in regular update reports	Settlement monitoring data was sent 28/09/2022. VWP sent 23/11. Latest data sent end March. Require interop from AWP

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1038

SHEET NO.: 5 of 13

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft treatment was achieved and grouting completed 07/11/2022.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary. Meeting of 18/11 – VHE to check boundary and re-excavate where necessary. Fence to be re-located and additional soils remediated
Mine shaft 006 validation report	Van Elle to provide report	Van Elle completion report was sent 14/12/2022. Report to be updated based on Hydrock comments.
Borehole / abstraction well decommissioning	Abstraction well to be located as far as possible. Borehole to be grouted.	Records to be provided to Hydrock. Details to be presented in final validation report.



Photograph 1: Excavation and installation of sheet piles for drainage in the southeast.



Photograph 2: Location of treated shaft no. 006 in the west.



Photograph 3: Eastern boundary of the site. Looking towards the north. Boundary checks required by VHE.



Photograph 4: Standing water in the east.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1038

SHEET NO.: 8 of 13



Photograph 5: Standing water in the north.



Photograph 6: Stockpiles of excavated peat, organic and unsuitable material in the north.



Photograph 7: Stockpile of TPH contaminated material arising from Hotspot 7.



Photograph 8: Stockpile of oversize material in the west. Material to be crushed and processed.



Photograph 9: Pumping standing water near abstraction well in the west.



Photograph 10: Southern boundary of the site. Looking towards the east.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1038

SHEET NO.: 11 of 13



Photograph 11: Standing water in the south.



Photograph 12: Standing water in the centre of the site.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1038

SHEET NO.: 12 of 13



Photograph 13: Stockpile of brown glacial clay in the east. Source testing outstanding.



Photograph 14: Standing water behind stockpile of brown glacial clay in the east.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1038

SHEET NO.: 13 of 13



Photograph 15: Standing water in the southeast.



Photograph 16: VHE compound area in the southeast.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1039		SHEET NO.: 1 of 11	
Project: Stopes Road, Bolton		Date: 18/04/23	
Client: Harworth		Weather: Partial cloud / warm	
Contract No.: C-15220-C		Engineer: Dan Fry	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1039		Status & Revision: S2 – P1	

Personnel Present:		
Organisation	Role	Name
VHE	Contracts Manager	Iain Power
VHE	Site Manager	Phil Dews
Harworth	Project Manager	Michelle Murray
Hydrock	Technical Associate (Geo)	Dan Fry
Hydrock	Senior Engineer (Civils)	Chloe Fell
Cumming	Gregg Mason	Project Surveyor
Cumming	Ethan Matthews	Project Surveyor
JPW Consulting	Director	John Wynn
AWP	Associate	Sarah Roberts
AWP	Engineer	Ben Kennerly

A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5

Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		n/a	No test records reviewed on site. Testing on-going and records to be provided in updated version of Engineers report
Sequential Test Number		n/a	
Date of Test		n/a	
Coordinated Position		n/a	Local grid used
Test Grid Reference		n/a	
Layer No		n/a	
Source material Type		n/a	Comment on Engineers report to include specific reference to each source material
Results checked for compliance		n/a	

C: Additional activities to be observed by Hydrock during Audit Visit

Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes	✓		Excavation sides generally battered to safe angle. Undercut excavation noticed around abstraction well. VHE to rectify
Excavation and site surveying		✓	Interim surveys required to include excavation and stockpiling
De-watering of excavations	✓		Removal of water and sediment from central east pond. Evidence of pumping around abstraction well.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1039			SHEET NO.: 2 of 11
Control & management of water	✓		Temp drainage ditches cut. Water held in ponds to be removed prior to filling. Some standing water observed on the formation. Generally proof rolled and shedding water.
Compaction Trials completed	✓		TN005
Layer thickness - check		✓	No filling at time of visit
Compaction method – check		✓	No filling at time of visit
Benching in of fill - check		✓	No filling at time of visit
Stockpiling of material	✓		Stockpiling material from hotspot 7 separately in the west – awaiting testing. Stockpiling oversize materials and concrete in the northwest of the site to be processed and crushed. Stockpiling of processed 6F2 in northwest side Stockpiling of material with organic content north of 6F2 stockpile
Inspection of subgrade	✓		Subgrades proof rolled as much as possible to encourage runoff. Some localized softening will require remediation prior to placement of running layer
Quality management of fill	✓		Oversize material, peat and organic materials stockpiled separately. Generally appears to be good segregation despite high number of stockpiles
Works Undertaken by the Contractor:			
VHE - Removal of silt and sediment from centre east of site. Material may require modification with hydraulic binder prior to re-use. - Pumping standing water in the western boundary near the abstraction well area. - M&J on site to grout abstraction well/borehole in the northwest. Borehole recorded at 19.5m below original ground level. Bedrock confirmed. Unlikely to be EA abstraction well. - Construction of drainage in the southeast close to entrance gate. Excavations near completion and ready for boring next week. - Limited earthworks being undertaken at time of visit.			

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1039

SHEET NO.: 3 of 11

Discussions/Recommendations & Instructions:

Progress Meeting

- Interim validation report from AWP to be provided 24/04/2023
- DF issue P2 of the comments tracker
- Programme behind 1 week due partly to weather and procurement problems. IP stated that completion date is still achievable
- Sectional completion 19/05/2023
- Final Validation report to be provided 28/06/2023. Abstraction well details to be included. Van Elle report separate.
- IP to re-send updated Hotspot validation reports
- Van Elle completion report for shaft 006 to be updated and provided.
- VHE to clarify that all services on drawings are as-built and not taken from pre-construction information
- VHE still intend to be 168mm low on completion
- VHE to provide stockpile drawing on re-commencement of the works
- VHE to organize UU inspection of drainage works. Slight adjustment of inspection covers etc required but VHE confident are to the required standard.
- IP to add annotations to base of excavation isopachyte drawing
- Harworth to provide Sharepoint access for uploads to NHBC
- All documents to feed into one H&S file as related information

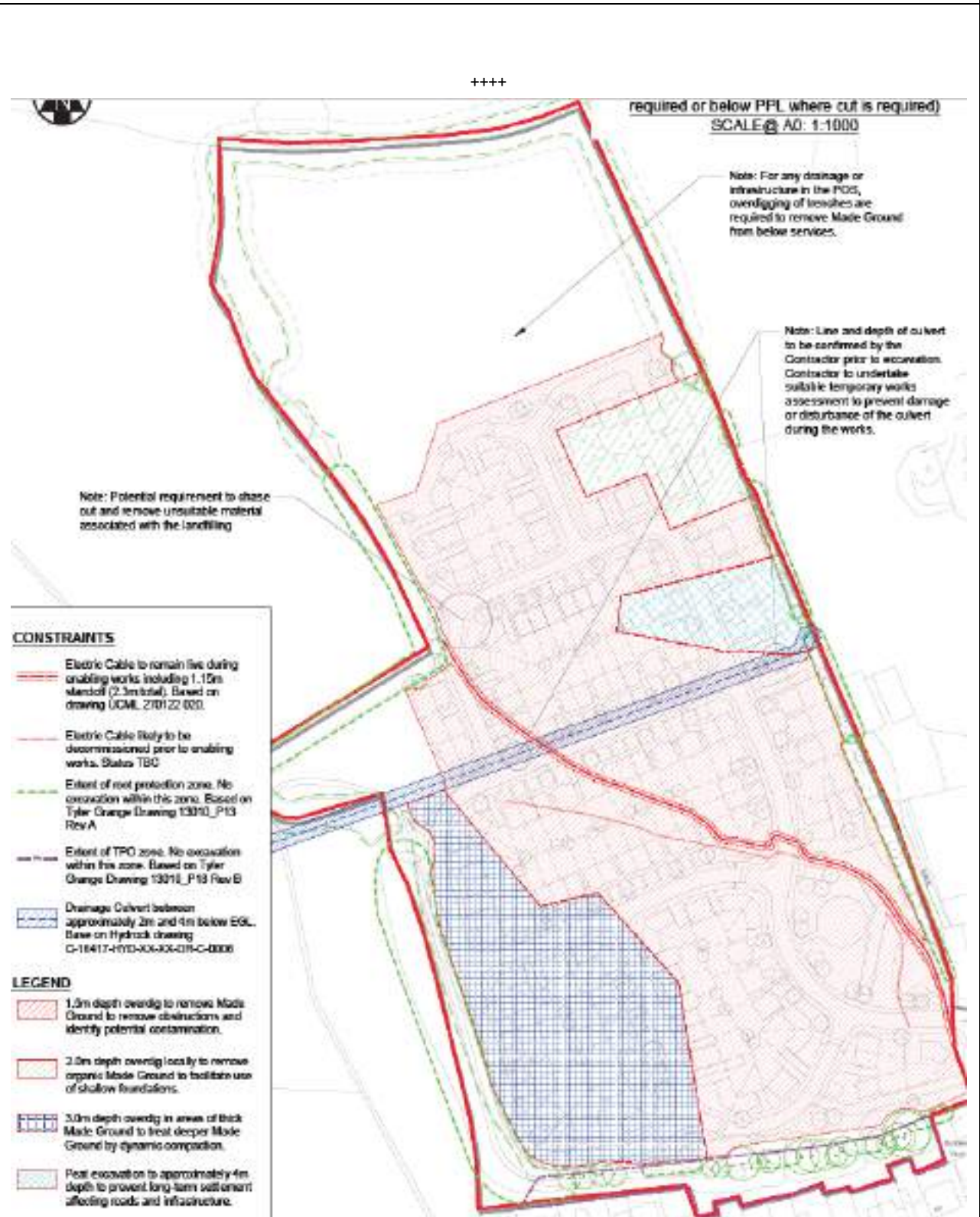
VHE Progress Report

- Works commenced 27/03/23
- Excavations completed to prove invert. Concreting base and shuttering to commence today. Previously unidentified cast iron pipe encountered. To be surveyed and left in place. Concrete encased electric cables encountered but in different place to survey plans.
- Dewatering on-going
- Some modification of stockpiled material anticipated (note suitable method required to prevent dust nuisance)
- Next interim progress meeting 11/05/2023
- Final walkover on completion scheduled 19/05/2023

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1039

SHEET NO.: 4 of 11

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1039**SHEET NO.: 5 of 11****Action Plan**

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. RDC works complete
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Source testing for 6F2 required. Interim Validation report to be updated
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN010 reviewed by Hydrock. AWP to update based on comments. Interim Validation report to be updated
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile survey 14/10 and site survey 10/10. Updated survey on re-commencement to be provided
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Drawing requested demonstrating sufficient over-excavation Drawing provided 1201 Rev B – annotation required
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Latest soft spot records issued for 1,2,3. Further updates soft spots 12, 13, 14 and 15 provided. All records up to 16 provided 22/11
Hotspot Reports	Validation reports to be provided for each hotspot	Updated pack provided 06/03/2023 – Hydrock to review
Geotechnical Monitoring	Monitoring results to be included in regular update reports	Settlement monitoring data was sent 28/09/2022. VWP sent 23/11. Latest data sent end March. Require interp from AWP

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1039

SHEET NO.: 6 of 11

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft treatment was achieved and grouting completed 07/11/2022.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary. Meeting of 18/11 – VHE to check boundary and re-excavate where necessary. Fence to be re-located and additional soils excavated remediated
Mine shaft 006 validation report	Van Elle to provide report	Van Elle completion report was sent 14/12/2022. Report to be updated based on Hydrock comments.
Borehole / abstraction well decommissioning	Abstraction well to be located as far as possible. Borehole to be grouted.	Records to be provided to Hydrock. Details to be presented in final validation report.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1039

SHEET NO.: 7 of 11



Photograph 1: Location of Shaft 006. Surplus pfa and sand still present at the site



Photograph 2: Southeastern boundary where additional excavation required between electric cable and site boundary

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1039

SHEET NO.: 8 of 11



Photograph 3: Removal of sediment and silt from area of ponded water in the northeast. Natural Glacial Till exposed at the base.



Photograph 4: Stockpile of 6F2 in centre north of the site



Photograph 5: Cut area in the northeast corner of the site. Some standing water observed



Photograph 6: Hotspot 7 stockpile in eastern corner of site. Awaiting the results of testing to confirm suitability

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1039

SHEET NO.: 10 of 11



Photograph 7: Grouting complete for the observed borehole in the northwest of the site.



Photograph 8: Standing water in the centre east of the site. Water to be pumped out prior to filling

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1039

SHEET NO.: 11 of 11



Photograph 9: Over-steepened slopes around abstraction borehole to be re-profiled



Photograph 10: Southern end of thrust bore excavation on Stopes Road for drainage connection

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1040		SHEET NO.: 1 of 13	
Project: Stopes Road, Bolton		Date: 20/04/23	
Client: Harworth		Weather: Sunny and cold	
Contract No.: C-15220-C		Engineer: Davood Mahdavian	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1040		Status & Revision: S2 – P1	

Personnel Present:			
Organisation	Role		Name
VHE	Site Manager		Phil Dews
VHE	Site Agent		Seb Gledhill
A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5			
Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		n/a	No test records reviewed on site. Testing on-going and records to be provided in updated version of Engineers report
Sequential Test Number		n/a	
Date of Test		n/a	
Coordinated Position		n/a	Local grid used
Test Grid Reference		n/a	
Layer No		n/a	
Source material Type		n/a	Comment on Engineers report to include specific reference to each source material
Results checked for compliance		n/a	
C: Additional activities to be observed by Hydrock during Audit Visit			
Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes	✓		Excavation sides generally battered to safe angle. Undercut excavation noticed around abstraction well. VHE to rectify
Excavation and site surveying	✓		Surveying of stockpiles is being done.
De-watering of excavations		✓	Removal of water and sediment from central east pond. Evidence of pumping around abstraction well.
Control & management of water	✓		Temp drainage ditches cut. Water held in ponds to be removed prior to filling. Some standing water observed on the formation. Generally, proof rolled and shedding water.
Compaction Trials completed	✓		TN005
Layer thickness - check	✓		Filling western part of the site.
Compaction method – check	✓		Proof rolling.
Benching in of fill - check		✓	VHE reminded fill to be benched into existing ground.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1040			SHEET NO.: 2 of 13
Stockpiling of material	✓		Stockpiling material from hotspot 7 separately in the west – awaiting testing. Stockpiling oversize materials and concrete in the northwest of the site to be processed and crushed. Stockpiling of processed 6F2 in northwest side Stockpiling of material with organic content north of 6F2 stockpile. Transferring stockpile of unsuitable material from the northeast to the northwest to commence excavation of borrow pit. Stockpiling dark landfill Made Ground in the northwest.
Inspection of subgrade	✓		Subgrades proof rolled as much as possible to encourage runoff. Some localized softening will require remediation prior to placement of running layer
Quality management of fill	✓		Oversize material, peat and organic materials stockpiled separately. Generally appears to be good segregation despite high number of stockpiles
Works Undertaken by the Contractor:			
VHE • Excavation of dark landfill Made Ground in the north. • Placing fill and proof rolling in the eastern part of the site. • Stockpiling dark landfill Made Ground in the northwest. • Removing unsuitable material stockpile in the northeast to the northwest. • Murry Rix undertaking plate load testing and NDG is center east of the site. • Construction of drainage in the southeast close to entrance gate. Excavations near completion and ready for boring next week. • Surveying of stockpiles is being done.			

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1040

SHEET NO.: 3 of 13

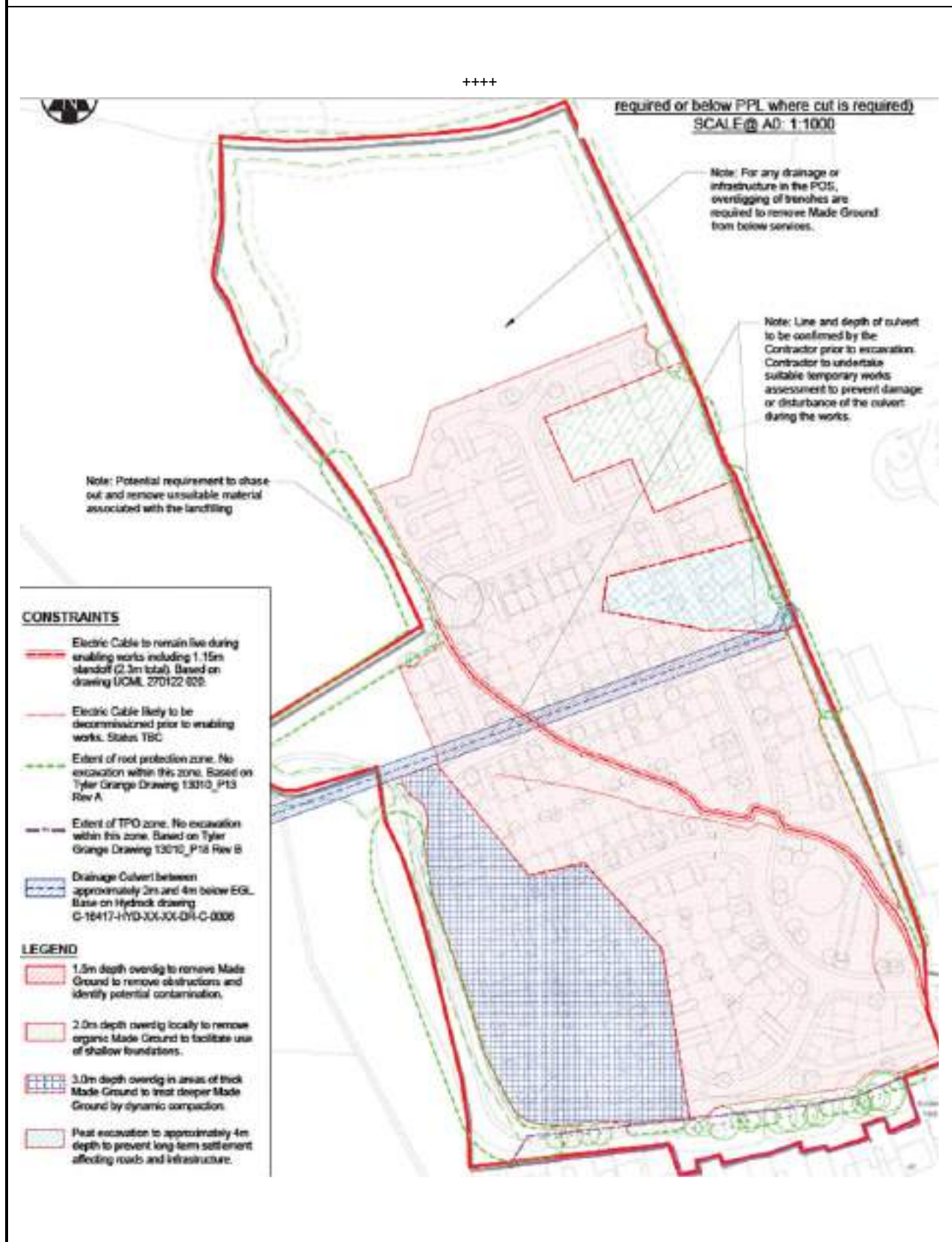
Discussions/Recommendations & Instructions:

To/From VHE

Hydrock and VHE discussed details of earthworks. Details of discussion are as follows:

- PD stated that test results of hotspot 7 indicate no contamination. Hotspot validation reports will be updated as soon as possible.
- Stockpiled hotspot 7 material will be used to fill western excavation near grouted abstraction well area.
- DM requested hotspot reports to be updated and sent to Hydrock for review.
- DM requested stockpile drawing as soon as completion.
- PD stated that stockpiles in the northeast are being removed to commence excavation of borrow pit.
- Construction of drainage in the southeast close to entrance gate. Excavations completed and ready for boring.

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1040**SHEET NO.: 5 of 13****Action Plan**

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. RDC works complete
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Source testing for 6F2 required. Interim Validation report to be updated
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN010 reviewed by Hydrock. AWP to update based on comments. Interim Validation report to be updated
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile survey 14/10 and site survey 10/10. Updated survey on re-commencement to be provided
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Drawing requested demonstrating sufficient over-excavation Drawing provided 1201 Rev B – annotation required
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Latest soft spot records issued for 1,2,3. Further updates soft spots 12, 13, 14 and 15 provided. All records up to 16 provided 22/11
Hotspot Reports	Validation reports to be provided for each hotspot	Updated pack provided 06/03/2023 – Hydrock to review- Hotspot 7 results to be provided in updated report.
Geotechnical Monitoring	Monitoring results to be included in regular update reports	Settlement monitoring data was sent 28/09/2022. VWP sent 23/11. Latest data sent end March. Require interop from AWP

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1040

SHEET NO.: 6 of 13

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft treatment was achieved and grouting completed 07/11/2022.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary. Meeting of 18/11 – VHE to check boundary and re-excavate where necessary. Fence to be re-located and additional soils excavated remediated
Mine shaft 006 validation report	Van Elle to provide report	Van Elle completion report was sent 14/12/2022. Report to be updated based on Hydrock comments.
Borehole / abstraction well decommissioning	Abstraction well to be located as far as possible. Borehole to be grouted.	Records to be provided to Hydrock. Details to be presented in final validation report.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1040

SHEET NO.: 7 of 13



Photograph 1: Overview of the site. Looking towards the north.



Photograph 2: Surveying of stockpiles in the north.



Photograph 3: Plate load testing on fill material in the center east.



Photograph 4: Excavation of dark landfill Made Ground in the north.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1040

SHEET NO.: 9 of 13



Photograph 5: Stockpiling excavated dark landfill Made Ground and unsuitable material in the northwest. Material from excavation in the north and stockpile of unsuitable material in the northeast.



Photograph 6: Hotspot 7 stockpile in eastern corner of site. Testing results confirm suitability.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1040

SHEET NO.: 10 of 13



Photograph 7: Placing fill and proof rolling of fill material in the northeast.



Photograph 8: Standing water in excavation in the northeast. Glacial till is visible at the base of excavation.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1040

SHEET NO.: 11 of 13



Photograph 9: Transferring stockpile of unsuitable material in the northeast to the northwest.



Photograph 10: Standing water in excavation in the west. Water to be removed before placing fill.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1040

SHEET NO.: 12 of 13



Photograph 11: NDG testing on fill material in the center east.



Photograph 12: Thrust bore excavation for drainage in the southeast close to entrance gate completed. Waiting for boring.



Photograph 13: Grouting of abstraction well in the northwest completed. Over-steepened slopes around abstraction borehole to be re-profiled



Photograph 14: Stockpile of oversize and deleterious material in the center west.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1041		SHEET NO.: 1 of 15	
Project: Stopes Road, Bolton		Date: 26/04/23	
Client: Harworth		Weather: Mostly Cloudy	
Contract No.: C-15220-C		Engineer: Davood Mahdavian	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1041		Status & Revision: S2 – P1	

Personnel Present:			
Organisation	Role		Name
VHE	Site Manager		Phil Dews
VHE	Site Agent		Seb Gledhill
AWP	Geo-Environmental Engineer		Ben Kennerley
A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5			
Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		n/a	No test records reviewed on site. Testing on-going and records to be provided in updated version of Engineers report
Sequential Test Number		n/a	
Date of Test		n/a	
Coordinated Position		n/a	
Test Grid Reference		n/a	Local grid used
Layer No		n/a	
Source material Type		n/a	Comment on Engineers report to include specific reference to each source material
Results checked for compliance		n/a	
C: Additional activities to be observed by Hydrock during Audit Visit			
Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes	✓		Excavation sides generally battered to safe angle. Undercut excavation noticed around abstraction well. VHE to rectify
Excavation and site surveying	✓		Excavation of Glacial Till in the north. Surveying of stockpiles is being done.
De-watering of excavations		✓	Removal of water and sediment from central east pond. Evidence of pumping around abstraction well.
Control & management of water	✓		Temp drainage ditches cut. Water held in ponds to be removed prior to filling. Some standing water observed on the formation. Generally, proof rolled and shedding water.
Compaction Trials completed	✓		TN005
Layer thickness - check	✓		Filling the northeastern part of the site.
Compaction method – check	✓		Proof rolling.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1041			SHEET NO.: 2 of 15
Benching in of fill - check		✓	VHE reminded fill to be benched into existing ground.
Stockpiling of material	✓		Stockpiling oversize materials and concrete in the northwest of the site to be processed and crushed. Stockpiling of processed 6F2 in northwest side Stockpiling of material with organic content and peat north of 6F2 stockpile. Transferring stockpile of unsuitable clay material from the south to the borrow pit. Stockpiling excavated material from borrow pit in the northeast next to the borrow pit.
Inspection of subgrade	✓		Subgrades proof rolled as much as possible to encourage runoff. Some localized softening will require remediation prior to placement of running layer
Quality management of fill	✓		Oversize material, peat and organic materials stockpiled separately. Generally, appears to be good segregation despite high number of stockpiles
Works Undertaken by the Contractor:			
VHE - Excavation of Glacial Till from the borrow pit in the north. - Stockpiling unsuitable low strength Glacial Till in the south of the borrow pit. - Transferring peat from peat stockpile in the northeast to the north of borrow pit. - Placing fill in the northeast using excavated Glacial Till from the north. - Proof rolling of placed fill in the northeast using sheepsfoot roller. 3 no trial pit had been excavated in the southeast for water monitoring of placed fill. - Fill had been placed in the southeast near VHE compound and proof rolled with sheepsfoot roller. - Fill had been placed in the east using excavated dark landfill Made Ground from the centre north. - Stockpiled hotspot 7 material was used to fill western excavation near grouted abstraction well area. - Murry Rix was not on site at the time of visits. - Stockpile of yellow unsuitable Glacial Till had been moved to the borrow pit.			

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1041

SHEET NO.: 3 of 15

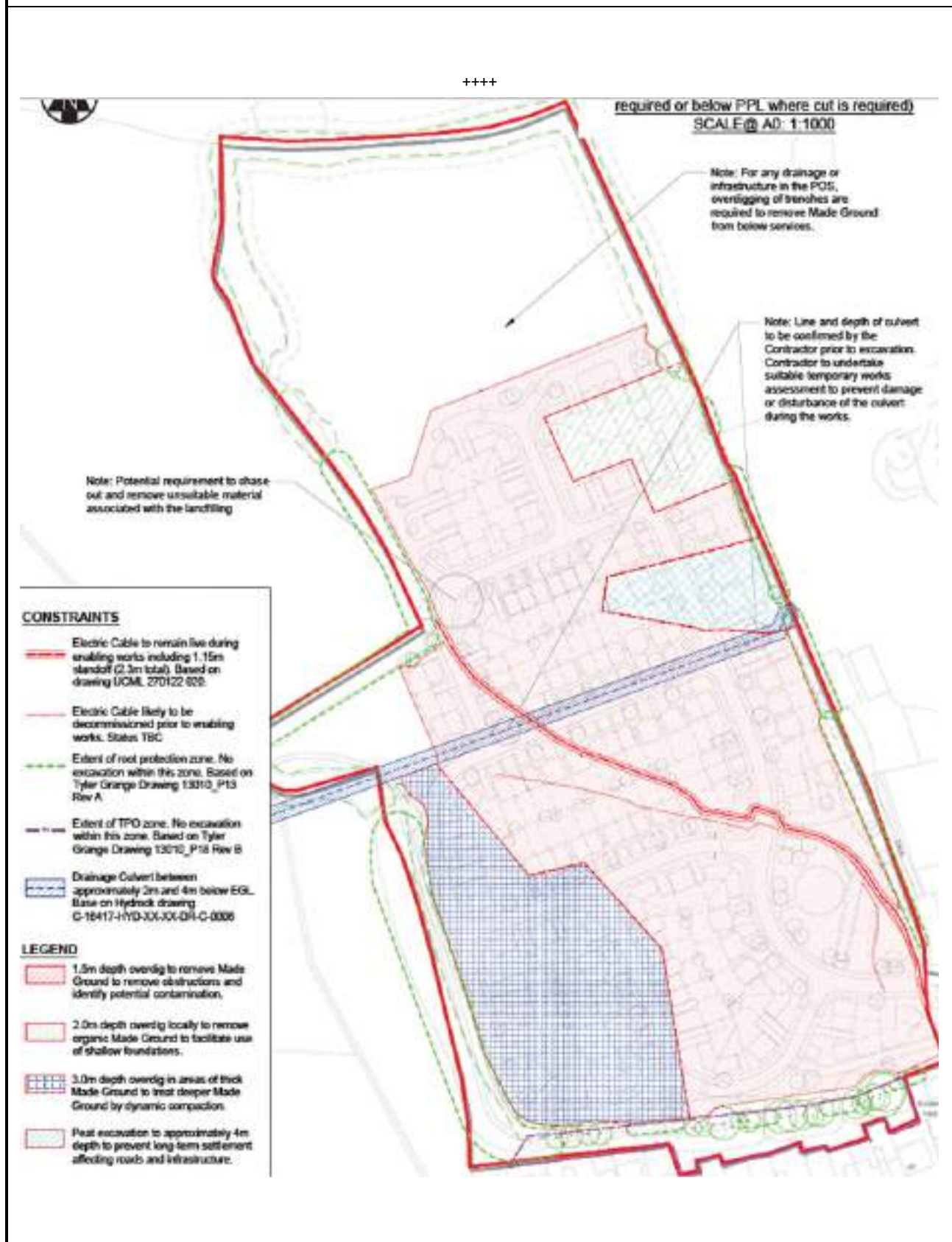
Discussions/Recommendations & Instructions:

To/From VHE

Hydrock and VHE discussed details of earthworks. Details of discussion are as follows:

- SG stated that peat was found and excavated in the center east of the site and stockpiled in the peat stockpile in the north of 6F2 stockpile.
- PD stated that 3 no trial pit has been excavated for water monitoring and potential existence of water within the placed fill in the southwest.
- Stockpiled hotspot 7 material was used to fill western excavation near grouted abstraction well area. SG stated that the fill has not been tested yet.
- DM requested latest stockpile and site surveying data.
- Fill had been placed in the southeast near VHE compound and proof rolled with sheepsfoot roller. SG confirmed that some NDG and plate load testing were undertaken.

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1041

SHEET NO.: 5 of 15

Action Plan

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. RDC works complete
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Source testing for 6F2 required. Interim Validation report to be updated
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN010 reviewed by Hydrock. AWP to update based on comments. Interim Validation report to be updated
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile survey 14/10 and site survey 10/10. Updated survey on re-commencement to be provided
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Drawing requested demonstrating sufficient over-excavation Drawing provided 1201 Rev B – annotation required
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Latest soft spot records issued for 1,2,3. Further updates soft spots 12, 13, 14 and 15 provided. All records up to 16 provided 22/11
Hotspot Reports	Validation reports to be provided for each hotspot	Updated pack provided 06/03/2023 – Hydrock to review - Hotspot 7 results were provided in updated report in 21.04.2023.
Geotechnical Monitoring	Monitoring results to be included in regular update reports	Settlement monitoring data was sent 28/09/2022. VWP sent 23/11. Latest data sent end March. Require interp from

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1041

SHEET NO.: 6 of 15

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft treatment was achieved and grouting completed 07/11/2022.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary. Meeting of 18/11 – VHE to check boundary and re-excavate where necessary. Fence to be re-located and additional soils excavated remediated
Mine shaft 006 validation report	Van Elle to provide report	Van Elle completion report was sent 14/12/2022. Report to be updated based on Hydrock comments.
Borehole / abstraction well decommissioning	Abstraction well to be located as far as possible. Borehole to be grouted.	Records to be provided to Hydrock. Details to be presented in final validation report.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1041

SHEET NO.: 7 of 15



Photograph 1: Overview of the site. Looking towards the north.



Photograph 2: Temporary new road constructed in the southeast near grouted shaft no. 006.



Photograph 3: Peat excavation in the centre east.



Photograph 4: Placed fill in the northeast and proof rolled with sheepfoot roller. Material from Glacial Till excavation of borrow pit.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1041

SHEET NO.: 9 of 15



Photograph 5: Transferring peat from peat stockpile to borrow pit



Photograph 6: Unloading peat inside the borrow pit in the north.



Photograph 7: Excavation of Glacial Till from the borrow pit in the north.



Photograph 8: Unloading excavated unsuitable Glacial Till in the south of the borrow pit.



Photograph 9: Placed fill in the east using excavated dark landfill Made Ground from the centre north.



Photograph 10: Stockpile of excavated material from borrow pit in the northeast.



Photograph 11: Stockpiles of topsoil and unsuitable materials in the northwest.



Photograph 12: Standing water and placed fill in the western boundary. Fill material is from hotspot 7 stockpile in the west.



Photograph 13: Stockpile of yellow unsuitable Glacial Till moved to the borrow pit.



Photograph 14: Standing water in the southeast.



Photograph 15: Second standing water in the southeast.



Photograph 16: Placed fill in the southeast. Fill proof rolled with sheepfoot roller.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1041

SHEET NO.: 15 of 15



Photograph 17: 3 no. trial pits for groundwater monitoring in the southeast.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1042		SHEET NO.: 1 of 13	
Project: Stopes Road, Bolton		Date: 28/04/23	
Client: Harworth		Weather: Mostly Cloudy	
Contract No.: C-15220-C		Engineer: Davood Mahdavian	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1042		Status & Revision: S2 – P1	

Personnel Present:			
Organisation	Role		Name
VHE	Site Agent		Seb Gledhill
VHE	Graduate Site Engineer		Tom Craddock
A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5			
Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		n/a	No test records reviewed on site. Testing on-going and records to be provided in updated version of Engineers report
Sequential Test Number		n/a	
Date of Test		n/a	
Coordinated Position		n/a	Local grid used
Test Grid Reference		n/a	
Layer No		n/a	
Source material Type		n/a	Comment on Engineers report to include specific reference to each source material
Results checked for compliance		n/a	
C: Additional activities to be observed by Hydrock during Audit Visit			
Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes	✓		Excavation sides generally battered to safe angle. Undercut excavation noticed around abstraction well. VHE to rectify
Excavation and site surveying	✓		Excavation of Glacial Till in the north. Site surveying is being done.
De-watering of excavations		✓	Removal of water and sediment from central east pond. Evidence of pumping around abstraction well.
Control & management of water	✓		Temp drainage ditches cut. Water held in ponds to be removed prior to filling. Some standing water observed on the formation. Generally, proof rolled and shedding water.
Compaction Trials completed	✓		TN005
Layer thickness - check	✓		Filling eastern part of the site.
Compaction method – check	✓		Proof rolling.
Benching in of fill - check		✓	VHE reminded fill to be benched into existing ground.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1042			SHEET NO.: 2 of 13
Stockpiling of material	✓		Stockpiling oversize materials and concrete in the northwest of the site to be processed and crushed. Transferring stockpile of processed 6F2 to fill the eastern part of the site. Stockpiling of material with organic content and peat north of 6F2 stockpile. Transferring stockpile of peat to the borrow pit. Stockpiling excavated material from borrow pit in the northeast next to the borrow pit.
Inspection of subgrade	✓		Subgrades proof rolled as much as possible to encourage runoff. Some localized softening will require remediation prior to placement of running layer
Quality management of fill	✓		Oversize material, peat and organic materials stockpiled separately. Generally, appears to be good segregation despite high number of stockpiles
Works Undertaken by the Contractor:			
VHE - Excavation of Glacial Till from the borrow pit in the center north. - The northeast of borrow pit had been backfilled with peat and low strength Glacial Till. - Placing fill in the northeast using excavated Glacial Till from the borrow pit. - Murry Rix was undertaking SRD tests on the placed fill in the southeast. Murry Rix technician stated that plate load testing will be done on placed fill in the east. - Placing 6F2 material in the eastern part of the site using material from the 6F2 stockpile in the northwest. - Site surveying in the eastern boundary.			
Discussions/Recommendations & Instructions:			

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1042

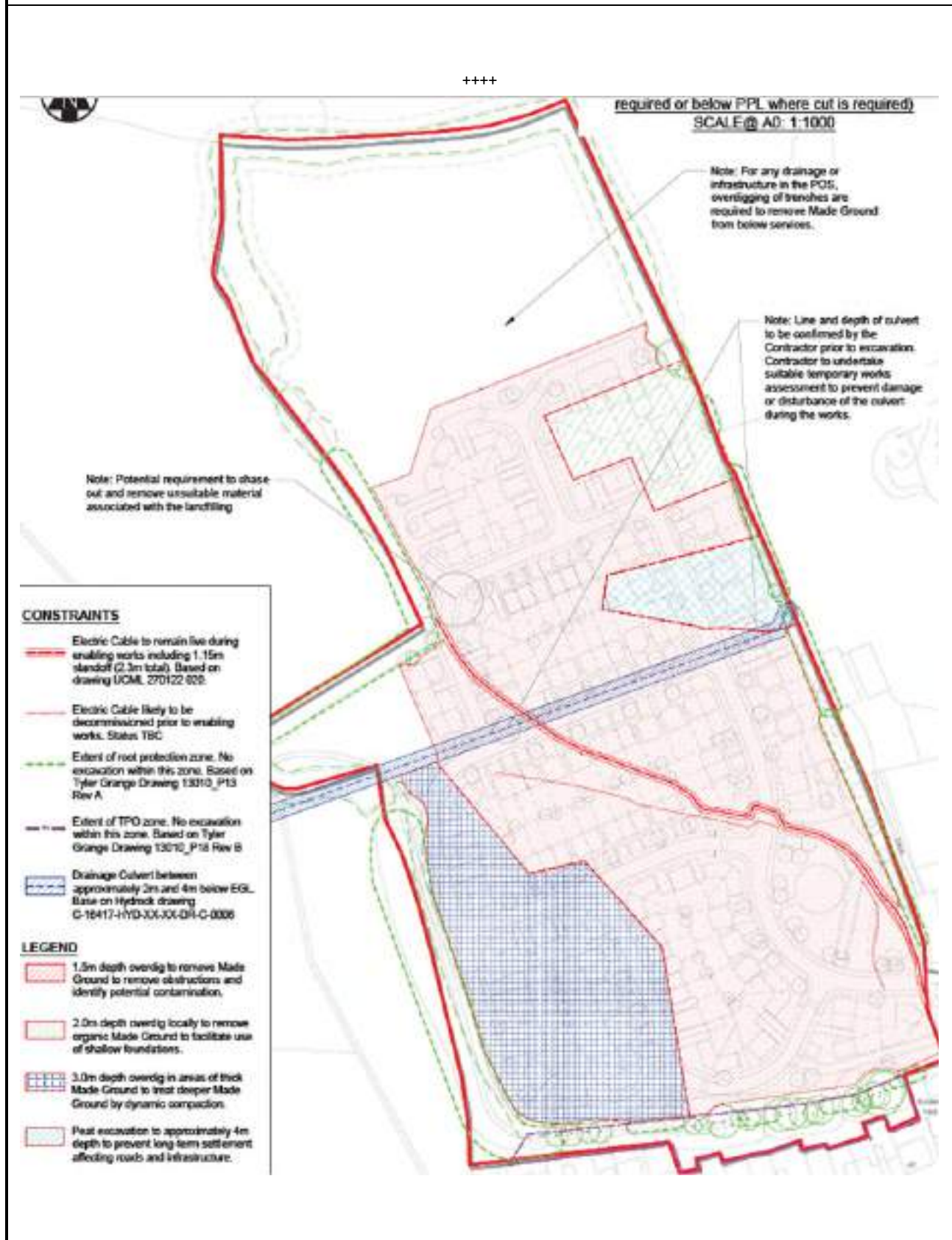
SHEET NO.: 3 of 13

To/From VHE

Hydrock and VHE discussed details of earthworks. Details of discussion are as follows:

- SG stated that 6F2 stockpile is being removed to reduce 160mm level in the northwest.
- Drainage pipe in the centre will be repaired next week.
- DM chased latest stockpile and site surveying data. VHE is going to issue the surveying data as soon as possible.
- Geotechnical testing results were chased by DM. SG received some test results and they are satisfactory.

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1042**SHEET NO.: 5 of 13****Action Plan**

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. RDC works complete
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Source testing for 6F2 required. Interim Validation report to be updated
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN010 reviewed by Hydrock. AWP to update based on comments. Interim Validation report to be updated
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile survey 14/10 and site survey 10/10. Updated survey on re-commencement to be provided
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Drawing requested demonstrating sufficient over-excavation Drawing provided 1201 Rev B – annotation required
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Latest soft spot records issued for 1,2,3. Further updates soft spots 12, 13, 14 and 15 provided. All records up to 16 provided 22/11
Hotspot Reports	Validation reports to be provided for each hotspot	Updated pack provided 06/03/2023 – Hydrock to review - Hotspot 7 results were provided in updated report in 21.04.2023.
Geotechnical Monitoring	Monitoring results to be included in regular update reports	Settlement monitoring data was sent 28/09/2022. VWP sent 23/11. Latest data sent end March. Require interp from

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1042

SHEET NO.: 6 of 13

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft treatment was achieved and grouting completed 07/11/2022.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary. Meeting of 18/11 – VHE to check boundary and re-excavate where necessary. Fence to be re-located and additional soils excavated remediated
Mine shaft 006 validation report	Van Elle to provide report	Van Elle completion report was sent 14/12/2022. Report to be updated based on Hydrock comments.
Borehole / abstraction well decommissioning	Abstraction well to be located as far as possible. Borehole to be grouted.	Records to be provided to Hydrock. Details to be presented in final validation report.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1042

SHEET NO.: 7 of 13



Photograph 1: Standing water in the southeast.



Photograph 2: Sand Replacement Density test on placed fill in the south.



Photograph 3: Overview of the site. Looking towards the north.



Photograph 4: Placing 6F2 material in the east. Material from 6F2 stockpile.



Photograph 5: Damaged drainage pipe in excavation in the centre east.



Photograph 6: Standing water in excavation in the centre east.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1042

SHEET NO.: 10 of 13



Photograph 7: Excavation of Glacial Till from the borrow pit in the centre north.



Photograph 8: Placing fill in the northeast. Glacial till material from the borrow pit.



Photograph 9: Removing 6F2 material for capping the eastern part of the site.



Photograph 10: Stockpile of peat and organic material in the northwest.



Photograph 11: The eastern part of the borrow pit backfilled with peat (from peat stockpile) and low strength Glacial Till (from borrow pit excavation).



Photograph 12: Stockpile of concrete and oversized material in the northwest.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1042

SHEET NO.: 13 of 13



Photograph 13: Site surveying in the east.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1043		SHEET NO.: 1 of 15	
Project: Stopes Road, Bolton		Date: 03/05/23	
Client: Harworth		Weather: Sunny	
Contract No.: C-15220-C		Engineer: Davood Mahdavian	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1043		Status & Revision: S2 – P1	

Personnel Present:			
Organisation	Role		Name
VHE	Site Agent		Seb Gledhill
VHE	Graduate Site Engineer		Tom Craddock
A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5			
Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		n/a	No test records reviewed on site. Testing on-going and records to be provided in updated version of Engineers report
Sequential Test Number		n/a	
Date of Test		n/a	
Coordinated Position		n/a	Local grid used
Test Grid Reference		n/a	
Layer No		n/a	
Source material Type		n/a	Comment on Engineers report to include specific reference to each source material
Results checked for compliance		n/a	
C: Additional activities to be observed by Hydrock during Audit Visit			
Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes	✓		Excavation sides generally battered to safe angle. Undercut excavation noticed around abstraction well. VHE to rectify
Excavation and site surveying	✓		Excavation of Glacial Till in the north. Site surveying is being done.
De-watering of excavations		✓	Removal of water and sediment from central east pond. Evidence of pumping around abstraction well.
Control & management of water	✓		Temp drainage ditches cut. Water held in ponds to be removed prior to filling. Some standing water observed on the formation. Generally, proof rolled and shedding water.
Compaction Trials completed	✓		TN005
Layer thickness - check	✓		Filling eastern part of the site.
Compaction method – check	✓		Proof rolling.
Benching in of fill - check		✓	VHE reminded fill to be benched into existing ground.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1043			SHEET NO.: 2 of 15
Stockpiling of material	✓		Stockpiling oversize materials and concrete in the northwest of the site to be processed and crushed. Transferring stockpile of processed 6F2 to fill the eastern part of the site. Transferring stockpile of peat to the borrow pit. Stockpiling excavated material from borrow pit in the northeast next to the borrow pit.
Inspection of subgrade	✓		Subgrades proof rolled as much as possible to encourage runoff. Some localized softening will require remediation prior to placement of running layer
Quality management of fill	✓		Oversize material, peat and organic materials stockpiled separately. Generally, appears to be good segregation despite high number of stockpiles
Works Undertaken by the Contractor:			
VHE - Excavation of Glacial Till from the borrow pit in the center north. - Backfilling the northeast of borrow pit with peat and low strength Glacial Till. - Placing fill in the northeast using excavated Glacial Till from the borrow pit. - Professional Soil Laboratory (PSL) was going to perform SRD tests on the placed fill in the northeast. PSL technician stated that plate load testing was undertaken on placed fill in the northeast. 6F2 material had been placed in the eastern part of the site using material from the 6F2 stockpile in the northwest. - Preparation of thrust bore drainage for boring in the southeast. - Site surveying is ongoing.			
Discussions/Recommendations & Instructions:			

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1043

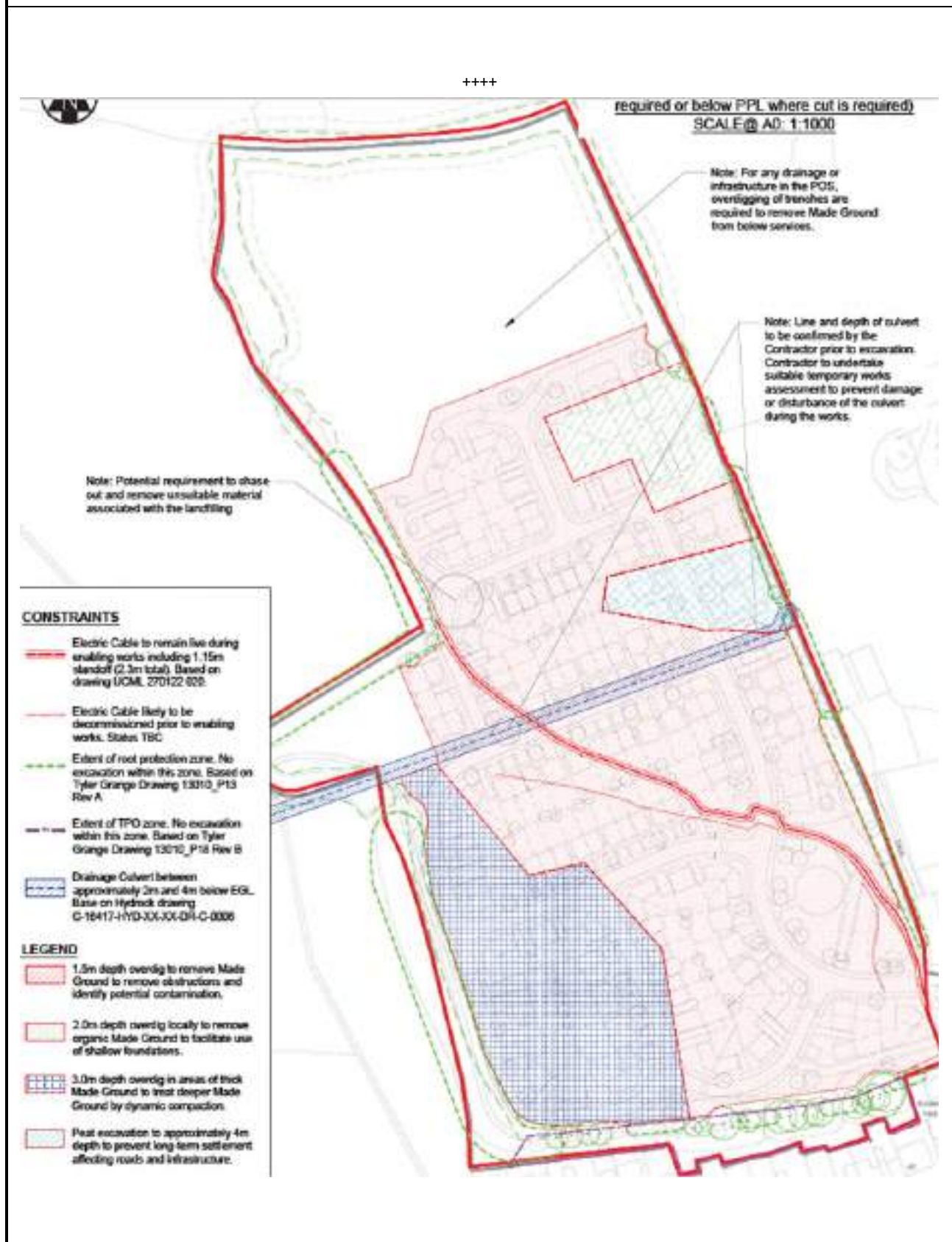
SHEET NO.: 3 of 15

To/From VHE

Hydrock and VHE discussed details of earthworks. Details of discussion are as follows:

- DM requested DWG format of latest stockpile and site surveying data.
- Geotechnical testing results were chased by DM. SG hasn't received new test results but testing company confirmed that test results are satisfactory.
- Temporary Road constructed with oversize material during the wet season was discussed. DM requested removal of oversize material and processing. SG stated that material will be removed as soon as crushed is on site.
- Dewatering of ponds discussed. SG stated that dewatering will be undertaken before placing any fill of capping.

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1043**SHEET NO.: 5 of 15****Action Plan**

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. RDC works complete
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Source testing for 6F2 required. Interim Validation report to be updated
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN010 reviewed by Hydrock. AWP to update based on comments. Interim Validation report to be updated
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile survey and site survey 03/05.
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Drawing requested demonstrating sufficient over-excavation Drawing provided 1201 Rev B – annotation required
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Latest soft spot records issued for 1,2,3. Further updates soft spots 12, 13, 14 and 15 provided. All records up to 16 provided 22/11
Hotspot Reports	Validation reports to be provided for each hotspot	Updated pack provided 06/03/2023 – Hydrock to review - Hotspot 7 results were provided in updated report in 21.04.2023.
Geotechnical Monitoring	Monitoring results to be included in regular update reports	Settlement monitoring data was sent 28/09/2022. VWP sent 23/11. Latest data sent end March. Require interop from AWP

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1043

SHEET NO.: 6 of 15

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft treatment was achieved and grouting completed 07/11/2022.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary. Meeting of 18/11 – VHE to check boundary and re-excavate where necessary. Fence to be re-located and additional soils excavated remediated
Mine shaft 006 validation report	Van Elle to provide report	Van Elle completion report was sent 14/12/2022. Report to be updated based on Hydrock comments.
Borehole / abstraction well decommissioning	Abstraction well to be located as far as possible. Borehole to be grouted.	Records to be provided to Hydrock. Details to be presented in final validation report.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1043

SHEET NO.: 7 of 15



Photograph 1: Overview of the site. Looking towards the north.



Photograph 2: 6F2 material placed in the east.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1043

SHEET NO.: 8 of 15



Photograph 3: placed fill in the northeast.



Photograph 4: Placing fill and proof rolling with sheepfoot roller in the center northeast. Material from Glacial Till excavation in the borrow pit.



Photograph 5: Removal of peat stockpile to backfill the borrow pit.



Photograph 6: Backfilling borrow pit using peat material from peat stockpile in the northwest.



Photograph 7: Excavation of Glacial Till from the borrow pit in the centre north.



Photograph 8: Stockpiles of topsoil and unsuitable material in the northwest.



Photograph 9: Stockpile of 6F2 material in the northwestern part of the site.



Photograph 10: Stockpile of oversized and concrete material in the western part of the site.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1043

SHEET NO.: 12 of 15



Photograph 11: Temporary Road constructed with oversize material during the wet season in the southwest to be removed.



Photograph 12: Standing water and oversize material of temporary road in the southwest.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1043

SHEET NO.: 13 of 15



Photograph 13: Standing water in the western boundary.



Photograph 14: Stockpile of low strength Glacial Till in the southeast.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1043

SHEET NO.: 14 of 15



Photograph 15: Standing water next to the unsuitable Glacial Till material stockpile in the southeast.



Photograph 16: Trial pits for groundwater monitoring in the southeast. Three trial pits in the centre south are filled with water.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1043

SHEET NO.: 15 of 15



Photograph 16: Preparation of thrust bore drainage for boring in the southeast.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1044		SHEET NO.: 1 of 13	
Project: Stopes Road, Bolton		Date: 05/05/23	
Client: Harworth		Weather: Overcast	
Contract No.: C-15220-C		Engineer: Davood Mahdavian	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1044		Status & Revision: S2 – P1	

Personnel Present:			
Organisation	Role		Name
VHE	Site Agent		Seb Gledhill
VHE	Graduate Site Engineer		Tom Craddock
A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5			
Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		n/a	No test records reviewed on site. Testing on-going and records to be provided in updated version of Engineers report
Sequential Test Number		n/a	
Date of Test		n/a	
Coordinated Position		n/a	Local grid used
Test Grid Reference		n/a	
Layer No		n/a	
Source material Type		n/a	Comment on Engineers report to include specific reference to each source material
Results checked for compliance		n/a	
C: Additional activities to be observed by Hydrock during Audit Visit			
Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes	✓		Excavation sides generally battered to safe angle. Undercut excavation noticed around abstraction well. VHE to rectify
Excavation and site surveying	✓		Excavation of Glacial Till and bedrock (mudstone) in the north. Site surveying is being done.
De-watering of excavations		✓	Removal of water and sediment from central east pond.
Control & management of water	✓		Temp drainage ditches cut. Water held in ponds to be removed prior to filling. Some standing water observed on the formation. Generally, proof rolled and shedding water.
Compaction Trials completed	✓		TN005
Layer thickness - check	✓		Filling eastern and western part of the site.
Compaction method – check	✓		Proof rolling.
Benching in of fill - check		✓	VHE reminded fill to be benched into existing ground.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1044			SHEET NO.: 2 of 13
Stockpiling of material	✓		Stockpiling oversize materials and concrete in the northwest of the site to be processed and crushed. Transferring stockpile of processed 6F2 to fill the eastern part of the site. Stockpiling excavated unsuitable Glacial Till material from borrow pit in the northeast next to the borrow pit.
Inspection of subgrade	✓		Subgrades proof rolled as much as possible to encourage runoff. Some localized softening will require remediation prior to placement of running layer
Quality management of fill	✓		Oversize material, peat and organic materials stockpiled separately. Generally, appears to be good segregation despite high number of stockpiles
Works Undertaken by the Contractor:			
VHE - Excavation of Glacial Till and mudstone from the borrow pit in the center north. - Backfilling the northeast of borrow pit with peat and low strength Glacial Till. - Excavation of landfill Made Ground in the eastern boundary of the site. - Excavation mudstone from the borrow pit in the north. - Placing fill in the centre north using excavated mudstone from the borrow pit. - Placing fill in the centre east using excavated landfill Made Ground from the eastern boundary - Placing fill in the western boundary near abstraction well. Material from excavated landfill Made Ground in the eastern boundary. - Professional Soil Laboratory (PSL) or Murry Rix was not on site to perform testing. - Preparation of thrust bore drainage for boring in the southeast. - Site surveying is ongoing.			
Discussions/Recommendations & Instructions:			

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1044

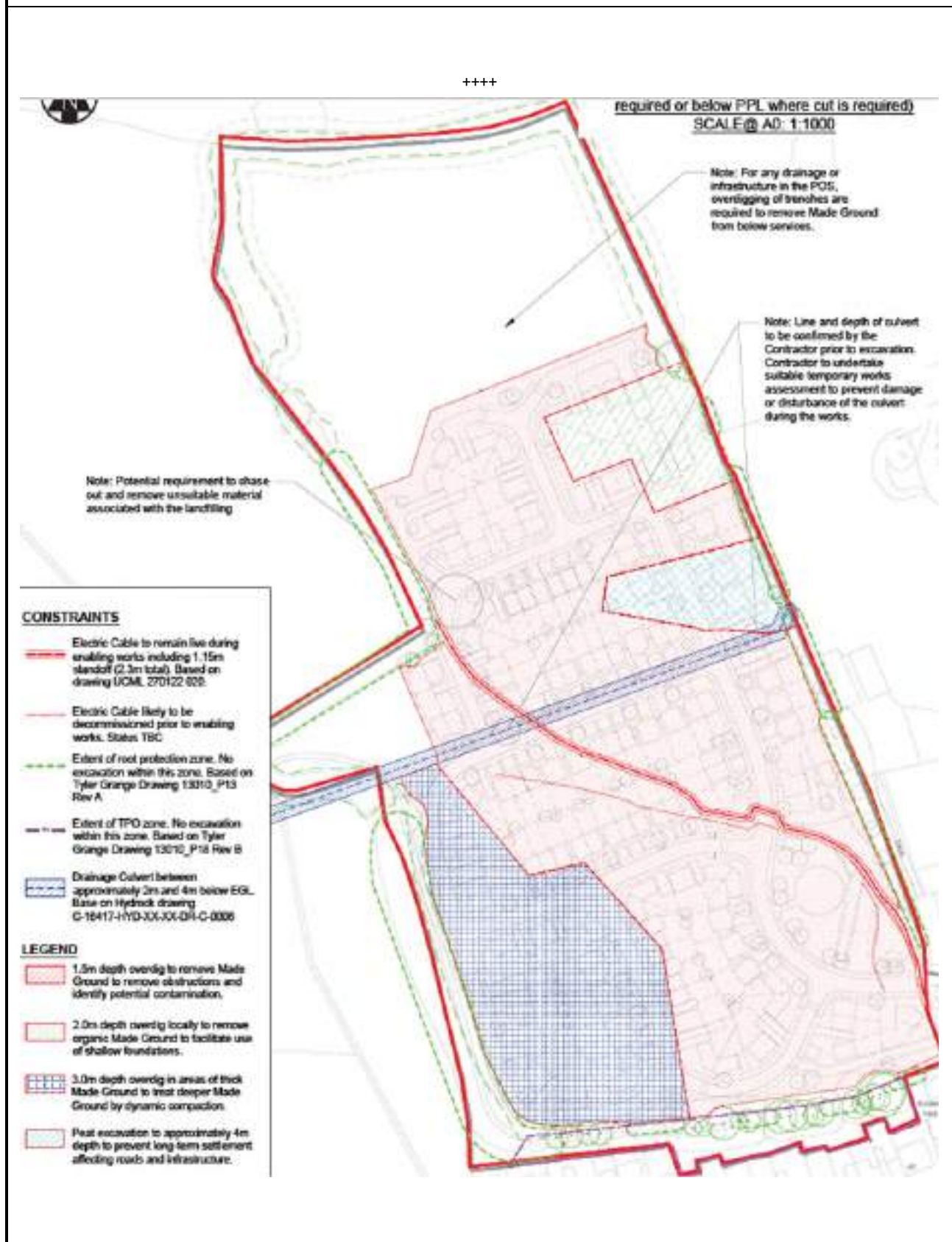
SHEET NO.: 3 of 13

To/From VHE

Hydrock and VHE discussed details of earthworks. Details of discussion are as follows:

- DM requested latest stockpile and site surveying data.
- Geotechnical testing results were chased by DM. SG hasn't received new test.
- SG stated that Professional Soil Laboratory (PSL) covering Murry Rix when it's necessary.

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1044**SHEET NO.: 5 of 13****Action Plan**

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. RDC works complete
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Source testing for 6F2 required. Interim Validation report to be updated
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN010 reviewed by Hydrock. AWP to update based on comments. Interim Validation report to be updated
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile survey 14/10 and site survey 10/10. Updated survey on re-commencement to be provided
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Drawing requested demonstrating sufficient over-excavation Drawing provided 1201 Rev B – annotation required
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Latest soft spot records issued for 1,2,3. Further updates soft spots 12, 13, 14 and 15 provided. All records up to 16 provided 22/11
Hotspot Reports	Validation reports to be provided for each hotspot	Updated pack provided 06/03/2023 – Hydrock to review - Hotspot 7 results were provided in updated report in 21.04.2023.
Geotechnical Monitoring	Monitoring results to be included in regular update reports	Settlement monitoring data was sent 28/09/2022. VWP sent 23/11. Latest data sent end March. Require interp from

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1044

SHEET NO.: 6 of 13

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft treatment was achieved and grouting completed 07/11/2022.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary. Meeting of 18/11 – VHE to check boundary and re-excavate where necessary. Fence to be re-located and additional soils excavated remediated
Mine shaft 006 validation report	Van Elle to provide report	Van Elle completion report was sent 14/12/2022. Report to be updated based on Hydrock comments.
Borehole / abstraction well decommissioning	Abstraction well to be located as far as possible. Borehole to be grouted.	Records to be provided to Hydrock. Details to be presented in final validation report.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1044

SHEET NO.: 7 of 13



Photograph 1: PAF and sand left over from mine shaft no. 006 treatment in the southeast.



Photograph 2: Excavation of landfill Made Ground in the eastern boundary.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1044

SHEET NO.: 8 of 13



Photograph 3: Stockpiles of 6F2 and oversize materials in the northwest.



Photograph 4: Placing fill in the centre east of the site. Material from excavation of landfill Made Ground in the east.



Photograph 5: Placing excavated mudstone from borrow pit in the centre northeast. Fill is proof rolled using sheepfoot roller.



Photograph 6: Stockpile of low strength Glacial till excavated from the borrow pit.



Photograph 7: Excavation of mudstone from the borrow pit in the north.



Photograph 8: Stockpiles of topsoil and unsuitable material in the western side of the borrow pit.



Photograph 9: Western boundary of the site. Looking towards the south.



Photograph 10: Placing fill in the western boundary near grouted abstraction well. Material from excavated landfill Made Ground in the eastern boundary.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1044

SHEET NO.: 12 of 13



Photograph 11: Standing water adjacent to temporary road constructed with oversize material during the wet season.



Photograph 12: Trial pit for groundwater monitoring in the centre south. Water observed in three trial pits in the centre south.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1044

SHEET NO.: 13 of 13



Photograph 13: Surveying the site in the centre north.



Photograph 14: Preparation of thrust bore drainage for boring in the southeast.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1045		SHEET NO.: 1 of 12	
Project: Stopes Road, Bolton		Date: 09/05/23	
Client: Harworth		Weather: Overcast	
Contract No.: C-15220-C		Engineer: Davood Mahdavian	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1045		Status & Revision: S2 – P1	

Personnel Present:			
Organisation	Role		Name
VHE	Site Foreman		Simon Smith
VHE	Graduate Site Engineer		Tom Craddock
A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5			
Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		n/a	No test records reviewed on site. Testing on-going and records to be provided in updated version of Engineers report
Sequential Test Number		n/a	
Date of Test		n/a	
Coordinated Position		n/a	Local grid used
Test Grid Reference		n/a	
Layer No		n/a	
Source material Type		n/a	Comment on Engineers report to include specific reference to each source material
Results checked for compliance		n/a	
C: Additional activities to be observed by Hydrock during Audit Visit			
Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes	✓		Excavation sides generally battered to safe angle.
Excavation and site surveying	✓		Excavation of landfill Made Ground and Glacial Till in the east. Site surveying is being done.
De-watering of excavations		✓	Removal of water and sediment from central east pond.
Control & management of water	✓		Temp drainage ditches cut. Water held in ponds to be removed prior to filling. Some standing water observed on the formation. Generally, proof rolled and shedding water. Six trial pits for groundwater monitoring in the south.
Compaction Trials completed	✓		TN005
Layer thickness - check	✓		Filling western part of the site.
Compaction method – check	✓		Proof rolling.
Benching in of fill - check		✓	VHE reminded fill to be benched into existing ground.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1045			SHEET NO.: 2 of 12
Stockpiling of material	✓		Stockpiling oversize materials and concrete in the northwest of the site to be processed and crushed. Transferring stockpile of processed 6F2 to fill the eastern part of the site. Stockpiling excavated unsuitable Glacial Till material from borrow pit in the northeast next to the borrow pit.
Inspection of subgrade	✓		Subgrades proof rolled as much as possible to encourage runoff. Some localized softening will require remediation prior to placement of running layer
Quality management of fill	✓		Oversize material, peat and organic materials stockpiled separately. Generally, appears to be good segregation despite high number of stockpiles
Works Undertaken by the Contractor:			
VHE - Excavation of landfill Made Ground in the east. Base of excavation is glacial till. - Placing fill in the western boundary near abstraction well. Material from excavated landfill Made Ground in the eastern boundary. - Removing stockpile of unsuitable material in the northwest to the borrow pit. - Professional Soil Laboratory (PSL) or Murry Rix was not on site to perform testing. - Boring of thrust bore drainage in the southeast is ongoing. - Site surveying is ongoing.			
Discussions/Recommendations & Instructions:			

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1045

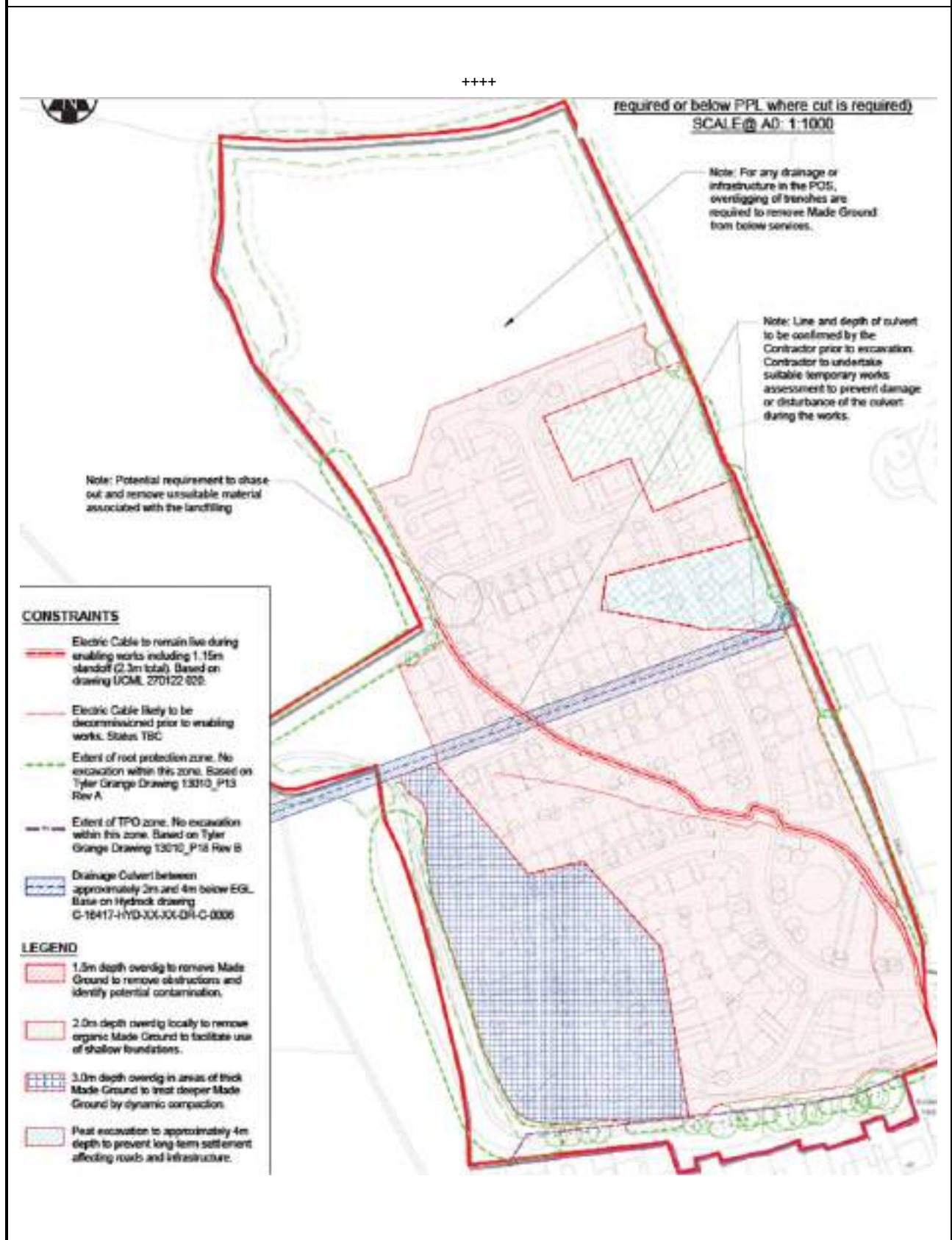
SHEET NO.: 3 of 12

To/From VHE

Hydrock and VHE discussed details of earthworks. Details of discussion are as follows:

- VHE is waiting for dozer equipped with GPS to trim areas that need trimming.
- Crusher will be on site as soon as the structure is removed from the eastern part of the site to begin processing of oversize material stockpiled in the northwest.
- Water observed in three monitoring pits in the centre south.

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1045

SHEET NO.: 5 of 12

Action Plan

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. RDC works complete
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Final report to include full data set
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN010 reviewed by Hydrock. AWP to update based on comments. Final report to include full data set
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile and site survey 05/05/23.
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Drawing requested demonstrating sufficient over-excavation Drawing provided 1201 Rev B – annotation required
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Latest soft spot records issued for 1,2,3. Further updates soft spots 12, 13, 14 and 15 provided. All records up to 16 provided 22/11
Hotspot Reports	Validation reports to be provided for each hotspot	Updated pack provided 06/03/2023 – Hydrock to review- Hotspot 7 results were provided in updated report in 21.04.2023. Hotspot 2 requires attention
Geotechnical Monitoring	Monitoring results to be included in regular update reports	Settlement monitoring data was sent 28/09/2022. VWP sent 23/11. Latest data sent end March. Requires further interop from AWP

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1045

SHEET NO.: 6 of 12

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft treatment was achieved and grouting completed 07/11/2022.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary. Meeting of 18/11 – VHE to check boundary and re-excavate where necessary. Fence to be re-located and additional soils excavated and remediated
Mine shaft 006 validation report	Van Elle to provide report	Van Elle completion report was sent 14/12/2022. Report to be updated based on Hydrock comments.
Borehole / abstraction well decommissioning	Abstraction well to be located as far as possible. Borehole to be grouted.	Records to be provided to Hydrock. Details to be presented in final validation report.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1045

SHEET NO.: 7 of 12



Photograph 1: Excavation of landfill Made Ground in the eastern boundary. Base of excavation is glacial till.



Photograph 2: Stockpile of 6F2 material in the east.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1045

SHEET NO.: 8 of 12



Photograph 3: Standing water in the southeast.



Photograph 4: Placing fill in the western boundary. Material from excavation of landfill Made Ground in the east.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1045

SHEET NO.: 9 of 12



Photograph 5: Stockpile of oversize material in the northwest.



Photograph 6: Removing stockpile of unsuitable material to the borrow pit.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1045

SHEET NO.: 10 of 12



Photograph 7: Placed fill in the northeast.



Photograph 8: Stockpiles of low strength glacial till excavated from the borrow pit area in the northeast.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1045

SHEET NO.: 11 of 12



Photograph 9: Backfilling the borrow pit in the north.



Photograph 10: Water collected in the monitoring pit in the centre south.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1045

SHEET NO.: 12 of 12



Photograph 11: Boring of thrust bore drainage in the southeast.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1046		SHEET NO.: 1 of 14	
Project: Stopes Road, Bolton		Date: 11/05/23	
Client: Harworth		Weather: Overcast	
Contract No.: C-15220-C		Engineer: Davood Mahdavian	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1046		Status & Revision: S2 – P1	

Personnel Present:		
Organisation	Role	Name
VHE	Contracts Manager	Iain Power
VHE	Site Manager	Seb Gledhill
Harworth	Project Manager	Michelle Murray
Hydrock	Technical Associate (Geo)	Dan Fry
Hydrock	Earthworks Engineer	Davood Mahdavian
Hydrock	Senior Engineer (Civils)	Chloe Fell
Cumming	Gregg Mason	Project Surveyor
JPW Consulting	Director	John Wynn
AWP	Associate	Sarah Roberts
AWP	Engineer	Ben Kennerly

A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5

Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		n/a	No test records reviewed on site. Testing on-going and records to be provided in updated version of Engineers report
Sequential Test Number		n/a	
Date of Test		n/a	
Coordinated Position		n/a	Local grid used
Test Grid Reference		n/a	
Layer No		n/a	
Source material Type		n/a	Comment on Engineers report to include specific reference to each source material
Results checked for compliance		n/a	

C: Additional activities to be observed by Hydrock during Audit Visit

Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes	✓		Excavation sides generally battered to safe angle.
Excavation and site surveying	✓		Excavation of furnace Made Ground in the southeast. Excavation of concrete and Glacial Till in the east. Site surveying is being done.
De-watering of excavations		✓	Removal of water and sediment from central east pond.
Control & management of water	✓		Temp drainage ditches cut. Water held in ponds to be removed prior to

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1046			SHEET NO.: 2 of 14
			filling. Some standing water observed on the formation. Generally, proof rolled and shedding water. Four trial pits for groundwater monitoring in the south.
Compaction Trials completed	✓		TN005
Layer thickness - check	✓		Filling the northeastern part of the site.
Compaction method – check	✓		Proof rolling.
Benching in of fill - check		✓	VHE reminded fill to be benched into existing ground.
Stockpiling of material	✓		Stockpiling oversize materials and concrete in the northwest of the site to be processed and crushed. Transferring stockpile of processed 6F2 to fill the eastern part of the site. Stockpiling excavated unsuitable Glacial Till material from borrow pit in the northeast next to the borrow pit.
Inspection of subgrade	✓		Subgrades proof rolled as much as possible to encourage runoff. Some localized softening will require remediation prior to placement of running layer
Quality management of fill	✓		Oversize material, peat and organic materials stockpiled separately. Generally, appears to be good segregation despite high number of stockpiles. Deleterious material from concrete and oversize material to be removed before crushing.
Works Undertaken by the Contractor:			

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1046

SHEET NO.: 3 of 14

VHE

- Furnace Made Ground had been excavated and used as fill in the southeast. Base of excavation is glacial till.
- Fill had been placed and proof rolled in the western boundary of the site.
- Placing fill and proof rolling in the north. Material from excavated Glacial Till in the borrow pit.
- Excavation of Glacial Till and Concrete in the east.
- Stockpiling concrete in the concrete stockpile in the northwest.
- Stockpiling low strength Glacial Till in the southwest of the borrow pit.
- Professional Soil Laboratory (PSL) or Murry Rix was not on site to perform testing.
- Boring of thrust bore drainage in the southeast is ongoing.
- Site surveying is ongoing.

Discussions/Recommendations & Instructions:

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1046

SHEET NO.: 4 of 14

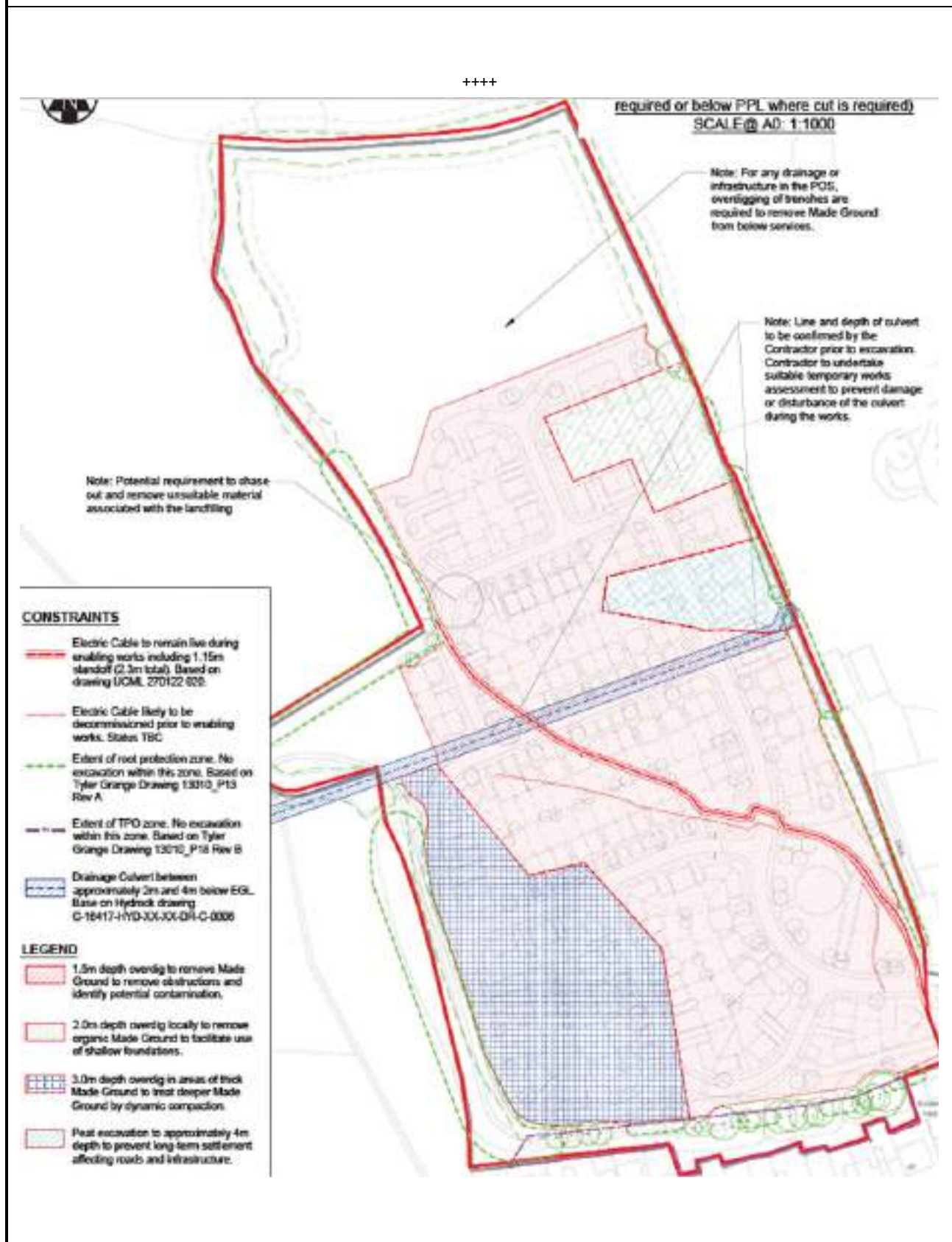
To/From VHE

Hydrock, Harworth, VHE, AWP, Cummings Group and JPW Consulting discussed details of earthworks and mine shaft treatment during progress meeting. A site walkover was undertaken after the meeting. Details of discussion are as follows:

- Programme behind 1 week due partly to weather and procurement problems but completion date is achievable.
- AWP to provide the final validation report to Hydrock on 13.06.2023. Abstraction well details to be included. Van Elle report separate.
- Hydrock to provide final Validation report on 28/06/2023.
- Final Validation report submitted to the NHBC on 04.07.2023.
- VHE is waiting for dozer equipped with GPS to trim areas that need trimming.
- Crusher will be on site as soon as the structure is removed from the eastern part of the site to begin processing of oversize material stockpiled in the northwest.
- Hotspot 2 and associated constraints to be explained in details in the validation report.
- Settlement monitoring data to be elaborated in details in the validation report. Updated graphs to be provided. RSG 11 is missing in the interim validation report.
- Van Elle completion report for shaft 006 to be updated and provided.
- Abstraction well grouting report to be appended to the final validation report.
- Base of excavations survey to be updated by VHE
- Boundary survey to be updated by VHE particularly for southern boundary.

Final walkover on completion scheduled 19/05/2023

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1046**SHEET NO.: 6 of 14****Action Plan**

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. RDC works complete
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Source testing for 6F2 required. Interim Validation report to be updated
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN010 reviewed by Hydrock. AWP to update based on comments. Interim Validation report to be updated
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile survey and site survey 05/05.
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Drawing requested demonstrating sufficient over-excavation Drawing provided 1201 Rev B – annotation required
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Latest soft spot records issued for 1,2,3. Further updates soft spots 12, 13, 14 and 15 provided. All records up to 16 provided 22/11
Hotspot Reports	Validation reports to be provided for each hotspot	Updated pack provided 06/03/2023 – Hydrock to review - Hotspot 7 results were provided in updated report in 21.04.2023.
Geotechnical Monitoring	Monitoring results to be included in regular update reports	Settlement monitoring data was sent 28/09/2022. VWP sent 23/11. Latest data sent end March. Require interop from AWP

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1046

SHEET NO.: 7 of 14

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft treatment was achieved and grouting completed 07/11/2022.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary. Meeting of 18/11 – VHE to check boundary and re-excavate where necessary. Fence to be re-located and additional soils excavated remediated
Mine shaft 006 validation report	Van Elle to provide report	Van Elle completion report was sent 14/12/2022. Report to be updated based on Hydrock comments.
Borehole / abstraction well decommissioning	Abstraction well to be located as far as possible. Borehole to be grouted.	Records to be provided to Hydrock. Details to be presented in final validation report.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1046

SHEET NO.: 8 of 14



Photograph 1: Excavation of Glacial Till in the east.



Photograph 2: Stockpiling excavated Glacial Till from the east in the northwest.



Photograph 3: Standing water next to Glacial Till excavation in the east.



Photograph 4: Placed fill in the west. One more layer to be placed before capping.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1046

SHEET NO.: 10 of 14



Photograph 5: Standing water in the northwest.



Photograph 6: Proof rolling of placed fill in the north. Material from Glacial Till excavation of the borrow pit.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1046

SHEET NO.: 11 of 14



Photograph 7: Excavation of Glacial Till from the borrow pit in the north.



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1046

SHEET NO.: 12 of 14

Photograph 8: Dozer is pushing unsuitable material into the borrow pit in the north.



Photograph 9: Surveying of the stockpiles and the borrow pit



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1046

SHEET NO.: 13 of 14

Photograph 10: Placing and proof rolling of fill material in the east. Material from Glacial Till excavation in the borrow pit.



Photograph 11: Stockpiling and breaking of concrete in the northwest. Concrete from excavation in the east.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1046

SHEET NO.: 14 of 14



Photograph 12: Boring of thrust bore drainage in the southeast.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1047		SHEET NO.: 1 of 12	
Project: Stopes Road, Bolton		Date: 16/05/23	
Client: Harworth		Weather: Overcast	
Contract No.: C-15220-C		Engineer: Davood Mahdavian	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1047		Status & Revision: S2 – P1	

Personnel Present:			
Organisation	Role		Name
VHE	Site Manager		Phil Dews
VHE	Site agent		Seb Gledhill
AWP	Geo-Environmental Engineer		Ben Kennerly
A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5			
Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		n/a	No test records reviewed on site. Testing on-going and records to be provided in updated version of Engineers report
Sequential Test Number		n/a	
Date of Test		n/a	
Coordinated Position		n/a	
Test Grid Reference		n/a	Local grid used
Layer No		n/a	
Source material Type		n/a	Comment on Engineers report to include specific reference to each source material
Results checked for compliance		n/a	
C: Additional activities to be observed by Hydrock during Audit Visit			
Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes	✓		Excavation sides generally battered to safe angle.
Excavation and site surveying	✓		Excavation of furnace Made Ground and concrete in the southeast. Site surveying is being done.
De-watering of excavations		✓	Removal of water and sediment from central east pond.
Control & management of water	✓		Temp drainage ditches cut. Water held in ponds to be removed prior to filling. Some standing water observed on the formation. Generally, proof rolled and shedding water. Four trial pits for groundwater monitoring in the south.
Compaction Trials completed	✓		TN005
Layer thickness - check	✓		Filling the borrow pit, southeastern and western part of the site. Capping of eastern part of the site.
Compaction method – check	✓		Proof rolling.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1047			SHEET NO.: 2 of 12
Benching in of fill - check		✓	VHE reminded fill to be benched into existing ground.
Stockpiling of material	✓		Stockpiling oversize materials and concrete in the northwest of the site to be processed and crushed. Transferring stockpile of processed 6F2 to fill the eastern part of the site.
Inspection of subgrade	✓		Subgrades is being trimmed. Subgrades proof rolled as much as possible to encourage runoff. Some localized softening will require remediation prior to placement of running layer
Quality management of fill	✓		Oversize material, peat and organic materials stockpiled separately. Generally, appears to be good segregation despite high number of stockpiles. Deleterious material from concrete and oversize material to be removed before crushing.
Works Undertaken by the Contractor:			
VHE - Excavation of furnace Made Ground and concrete in haul road in the southeast. - Fill had been placed and proof rolled in the western boundary of the site. - Backfilling of the borrow pit in the north. Material from low strength stockpile of Glacial Till in the northeast and topsoil stockpile in the northwest. - Plate load testing was undertaken by Professional Soil Laboratory (PSL) in the east on 6F2 capping material. - Trimming placed fill in the northeast and northwest. - Site surveying is ongoing.			
Discussions/Recommendations & Instructions:			

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1047

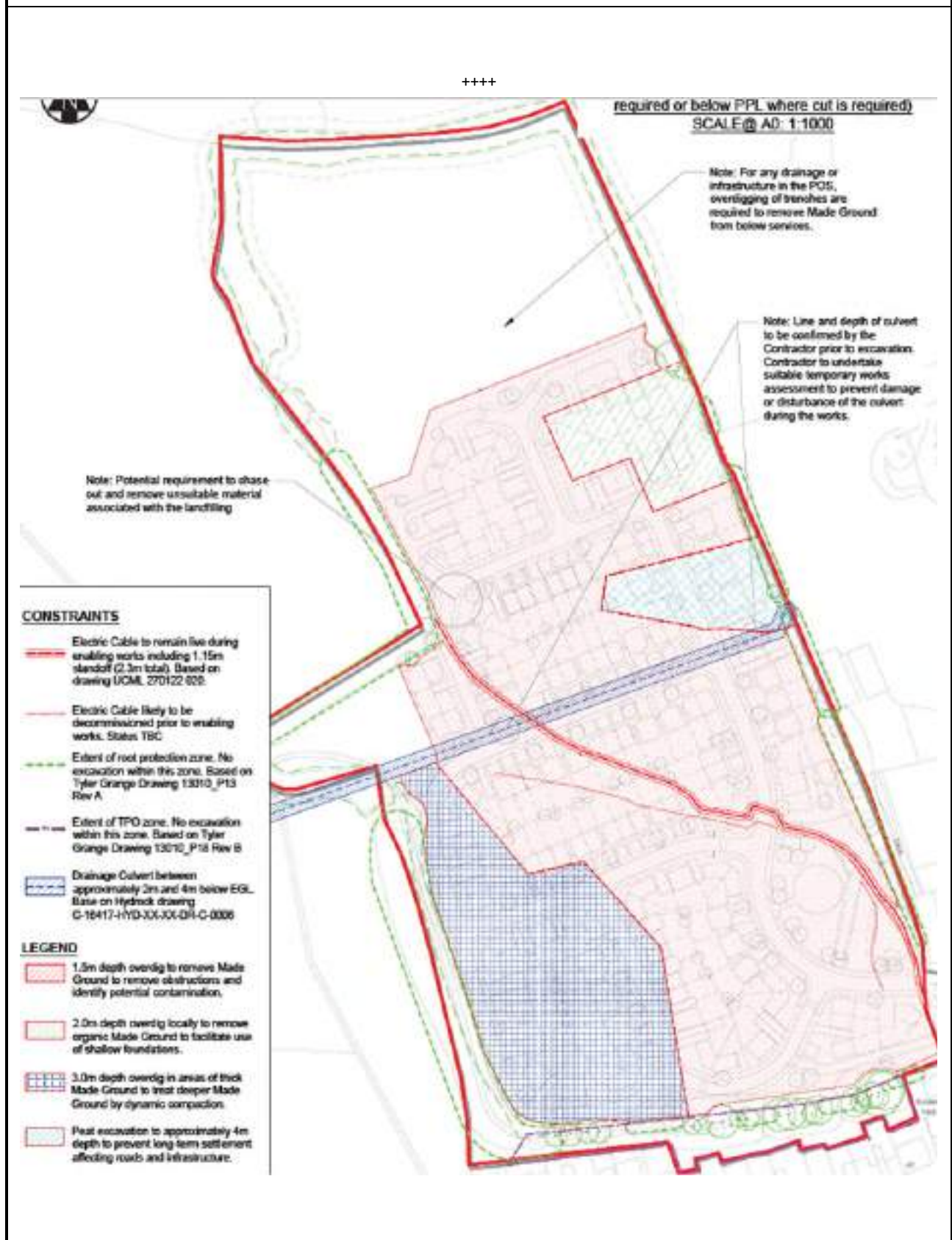
SHEET NO.: 3 of 12

To/From VHE

Hydrock and VHE discussed details of earthworks during a site walk over. Details of discussion are as follows:

- Three dozers equipped with GPS trimming areas that need trimming.
- AWP engineer received new geotechnical testing results. The results are being analysed.
- Boring of thrust bore drainage in the southeast has been completed. SG stated that VHE is going to begin placing drainage manholes.

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1047**SHEET NO.: 5 of 12****Action Plan**

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. RDC works complete
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Source testing for 6F2 required. Interim Validation report to be updated
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN010 reviewed by Hydrock. AWP to update based on comments. Interim Validation report to be updated
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile survey and site survey 05/05.
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Drawing requested demonstrating sufficient over-excavation Drawing provided 1201 Rev B – annotation required
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Latest soft spot records issued for 1,2,3. Further updates soft spots 12, 13, 14 and 15 provided. All records up to 16 provided 22/11
Hotspot Reports	Validation reports to be provided for each hotspot	Updated pack provided 06/03/2023 – Hydrock to review - Hotspot 7 results were provided in updated report in 21.04.2023.
Geotechnical Monitoring	Monitoring results to be included in regular update reports	Settlement monitoring data was sent 28/09/2022. VWP sent 23/11. Latest data sent end March. Require interop from AWP

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1047

SHEET NO.: 6 of 12

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft treatment was achieved and grouting completed 07/11/2022.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary. Meeting of 18/11 – VHE to check boundary and re-excavate where necessary. Fence to be re-located and additional soils excavated remediated
Mine shaft 006 validation report	Van Elle to provide report	Van Elle completion report was sent 14/12/2022. Report to be updated based on Hydrock comments.
Borehole / abstraction well decommissioning	Abstraction well to be located as far as possible. Borehole to be grouted.	Records to be provided to Hydrock. Details to be presented in final validation report.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1047

SHEET NO.: 7 of 12



Photograph 1: Excavation of concrete and furnace Made Ground in the southeast.



Photograph 2: Standing water in the southeast.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1047

SHEET NO.: 8 of 12



Photograph 3: Placing 6F2 material on top of placed general fill in the east and northeast.



Photograph 4: Trimming of placed fill in the northeast by dozer equipped with GPS.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1047

SHEET NO.: 9 of 12



Photograph 5: Removing stockpiled low strength Glacial till to backfill the borrow pit.



Photograph 6: Backfilling the borrow pit using material from low strength Glacial Till stockpile in the northeast.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1047

SHEET NO.: 10 of 12



Photograph 7: Trimming of placed fill in the northwest.



Photograph 8: Stockpile of concrete and oversize material in the northwest.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1047

SHEET NO.: 11 of 12



Photograph 9: Removing of stockpile of topsoil in the northwest to backfill the borrow pit.



Photograph 10: Plate load testing by PSL on capping layer in the centre east.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1047

SHEET NO.: 12 of 12



Photograph 11: Final layer of fill placed and proof rolled in the west.



Photograph 12: Ceramic pipe placed in thrust bore drainage in the southeast.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1048		SHEET NO.: 1 of 14	
Project: Stopes Road, Bolton		Date: 19/05/23	
Client: Harworth		Weather: Mostly cloudy, Rain on and off	
Contract No.: C-15220-C		Engineer: Davood Mahdavian	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1048		Status & Revision: S2 – P1	

Personnel Present:			
Organisation	Role		Name
VHE	Site agent		Seb Gledhill
Hydrock	Technical Associate (Geo)		Dan Fry
Hydrock	Senior Engineer (Civils)		Chloe Fell
AWP	Associate		Sarah Roberts
AWP	Engineer		Ben Kennerly
Cumming	Gregg Mason		Project Surveyor
A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5			
Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		n/a	No test records reviewed on site. Testing on-going and records to be provided in updated version of Engineers report
Sequential Test Number		n/a	
Date of Test		n/a	
Coordinated Position		n/a	Local grid used
Test Grid Reference		n/a	
Layer No		n/a	
Source material Type		n/a	Comment on Engineers report to include specific reference to each source material
Results checked for compliance		n/a	
C: Additional activities to be observed by Hydrock during Audit Visit			
Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes	✓		Excavation sides generally battered to safe angle.
Excavation and site surveying	✓		No excavation. Site surveying is being done.
De-watering of excavations		✓	Removal of water and sediment from central east pond.
Control & management of water	✓		Temp drainage ditches cut. Water held in ponds to be removed prior to filling. Some standing water observed on the formation. Generally, proof rolled and shedding water. Four trial pits for groundwater monitoring in the south.
Compaction Trials completed	✓		TN005

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1048			SHEET NO.: 2 of 14
Layer thickness - check	✓		Placing 6F2 capping in the southwestern part of the site. Trimming the northwest.
Compaction method – check	✓		Proof rolling.
Benching in of fill - check		✓	VHE reminded fill to be benched into existing ground.
Stockpiling of material	✓		Stockpiling deleterious material from stockpile of concrete and oversize material in the northwest. to be processed and crushed. Transferring stockpile of processed 6F2 to fill the southwestern part of the site.
Inspection of subgrade	✓		Subgrades is being trimmed. Subgrades proof rolled as much as possible to encourage runoff. Some localized softening will require remediation prior to placement of running layer
Quality management of fill	✓		Oversize and deleterious material stockpiled separately. Deleterious material from concrete and oversize material to be removed before crushing. Crusher is on site but its not ready for operation.
Works Undertaken by the Contractor:			

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1048

SHEET NO.: 3 of 14

VHE

- Placing and proof rolling 6F2 capping in the southwest.
- Deleterious material had been stockpiled in the northwest.
- Trimming placed general fill by dozer equipped with GPS after removal of 6F2 stockpile in the northwest.
- Fill battered to safe angle in the northwest. However, Slope of adjacent land increase chance of instability.
- Removal of stockpile of 6F2 material in the centre northwest.
- Topsoil placed in the east of POS area.
- Topsoil from northwest of POS stockpiled in the northeast of POS.
- Site surveying is ongoing.

Discussions/Recommendations & Instructions:

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1048

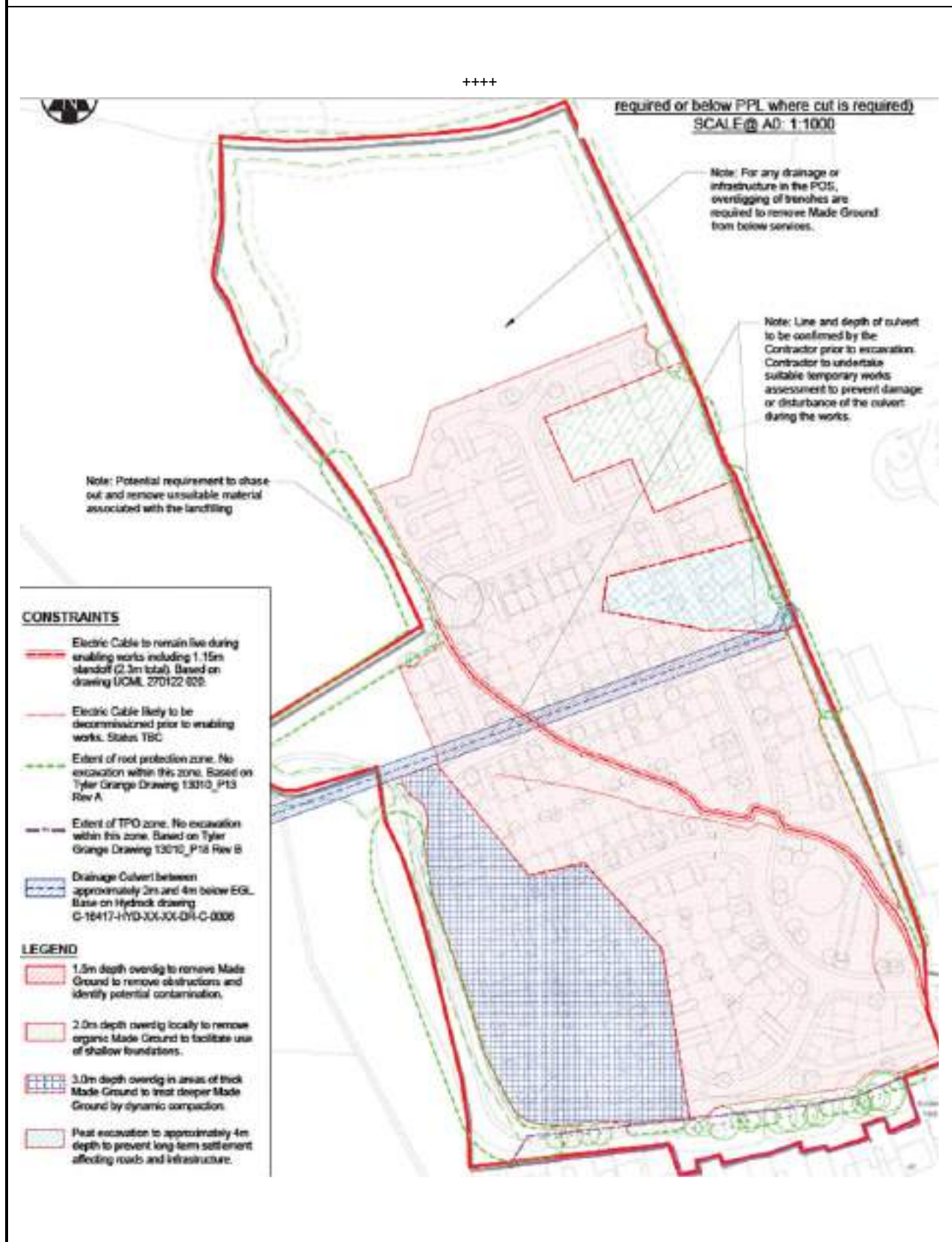
SHEET NO.: 4 of 14

To/From VHE

Hydrock, AWP, Cumming and VHE undertook pre-substantial walkover and discussed details of earthworks during the site walk over. Details of discussion are as follows:

- DM chased monitoring data and latest laboratory results. VHE and AWP stated that monitoring data and testing results will be issued as soon as possible.
- Boundary check in the southern and northwestern part of the site.
- Due to 150mm capping FGL will be 10mm lower than designed level.
- Boring of thrust bore drainage in the southeast had been completed. SG stated that VHE is going to begin placing drainage manholes.
- Crusher is on site but not ready for operation. Oversize and concrete material will be crushed as soon as the
- Substantial walk over was postponed to 1st of June due to completion delay by VHE.

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1048**SHEET NO.: 6 of 14****Action Plan**

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. RDC works complete
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Source testing for 6F2 required. Interim Validation report to be updated
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN010 reviewed by Hydrock. AWP to update based on comments. Interim Validation report to be updated
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile survey and site survey 05/05.
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Drawing requested demonstrating sufficient over-excavation Drawing provided 1201 Rev B – annotation required
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Latest soft spot records issued for 1,2,3. Further updates soft spots 12, 13, 14 and 15 provided. All records up to 16 provided 22/11
Hotspot Reports	Validation reports to be provided for each hotspot	Updated pack provided 06/03/2023 – Hydrock to review - Hotspot 7 results were provided in updated report in 21.04.2023.
Geotechnical Monitoring	Monitoring results to be included in regular update reports	Settlement monitoring data was sent 28/09/2022. VWP sent 23/11. Latest data sent end March. Require interop from AWP

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1048

SHEET NO.: 7 of 14

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft treatment was achieved and grouting completed 07/11/2022.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary. Meeting of 18/11 – VHE to check boundary and re-excavate where necessary. Fence to be re-located and additional soils excavated remediated
Mine shaft 006 validation report	Van Elle to provide report	Van Elle completion report was sent 14/12/2022. Report to be updated based on Hydrock comments.
Borehole / abstraction well decommissioning	Abstraction well to be located as far as possible. Borehole to be grouted.	Records to be provided to Hydrock. Details to be presented in final validation report.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1048

SHEET NO.: 8 of 14



Photograph 1: Placing and proof rolling 6F2 capping in the southwest.



Photograph 2: Crusher is being prepared in the southeast.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1048

SHEET NO.: 9 of 14



Photograph 3: Southern boundary of the site. Looking towards the east. A layer of fill to be placed to reach to the FGL.



Photograph 4: Capping in the southwestern part of the site.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1048

SHEET NO.: 10 of 14



Photograph 5: Stockpile of deleterious materials in the northwest.



Photograph 6: Trimming place fill in the northwest. Surveyor is checking levels.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1048

SHEET NO.: 11 of 14



Photograph 7: Removing stockpile of 6F2 material for capping of the southwest.



Photograph 8: Place fill sides battered in the northwest.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1048

SHEET NO.: 12 of 14



Photograph 9: Slope of battered fill next to slope of the adjacent land in the northwest seems quit deep and unsafe.



Photograph 10: Excavator trimming backfilled borrow pit.



Photograph 11: Placed topsoil and stockpile of topsoil in the POS in the northeast.



Photograph 12: Battered slope behind transformer house.



Photograph 113: Furnace Made Ground used to construct haul road in the southeast.



Photograph 14: Standing water in the southeast.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1049		SHEET NO.: 1 of 13	
Project: Stopes Road, Bolton		Date: 23/05/23	
Client: Harworth		Weather: Mostly Cloudy	
Contract No.: C-15220-C		Engineer: Davood Mahdavian	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1049		Status & Revision: S2 – P1	

Personnel Present:			
Organisation	Role		Name
VHE	Site agent		Seb Gledhill
A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5			
Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		n/a	No test records reviewed on site.
Sequential Test Number		n/a	Testing on-going and records to be provided in updated version of Engineers report
Date of Test		n/a	
Coordinated Position		n/a	
Test Grid Reference		n/a	Local grid used
Layer No		n/a	
Source material Type		n/a	Comment on Engineers report to include specific reference to each source material
Results checked for compliance		n/a	
C: Additional activities to be observed by Hydrock during Audit Visit			
Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes	✓		Excavation sides generally battered to safe angle.
Excavation and site surveying	✓		No excavation. Site surveying is being done.
De-watering of excavations		✓	Removal of water and sediment from central east pond.
Control & management of water	✓		Temp drainage ditches cut. Water held in ponds to be removed prior to filling. Some standing water observed on the formation. Generally, proof rolled and shedding water.
Compaction Trials completed	✓		TN005
Layer thickness - check	✓		Placing 6F2 capping in the southwestern and centre northwest of the site.
Compaction method – check	✓		Proof rolling.
Benching in of fill - check		✓	
Stockpiling of material	✓		Stockpiling deleterious material from stockpile of concrete and oversize material in the northwest. Oversize material to be processed and crushed.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1049			SHEET NO.: 2 of 13
			Transferring stockpile of processed 6F2 to fill the southern part of the site.
Inspection of subgrade	✓		Subgrades proof rolled as much as possible to encourage runoff. Some localized softening will require remediation prior to placement of running layer
Quality management of fill	✓		Oversize and deleterious material stockpiled separately. Deleterious material from concrete and oversize material to be removed before crushing. Crusher is crushing stockpile of oversize and concrete material in the northwest.
Works Undertaken by the Contractor:			
VHE - Placing fill in the southeast near VHE compound. Fill material from stockpiles of fine material from crusher in the northwest. - Proof rolling of placed 6F2 in the east. - Placing and levelling 6F2 material in the centre northwest and west. - Undertaking plate load testing on final layer of subgrade in the south by PSL. - Excavation for construction of drainage manholes by Mollington Contracts in the western boundary of the site. - Crushing stockpile of oversize and concrete materials in the northwest. - Dust suppression unit is working on site. - Site surveying is ongoing.			
Discussions/Recommendations & Instructions:			

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1049

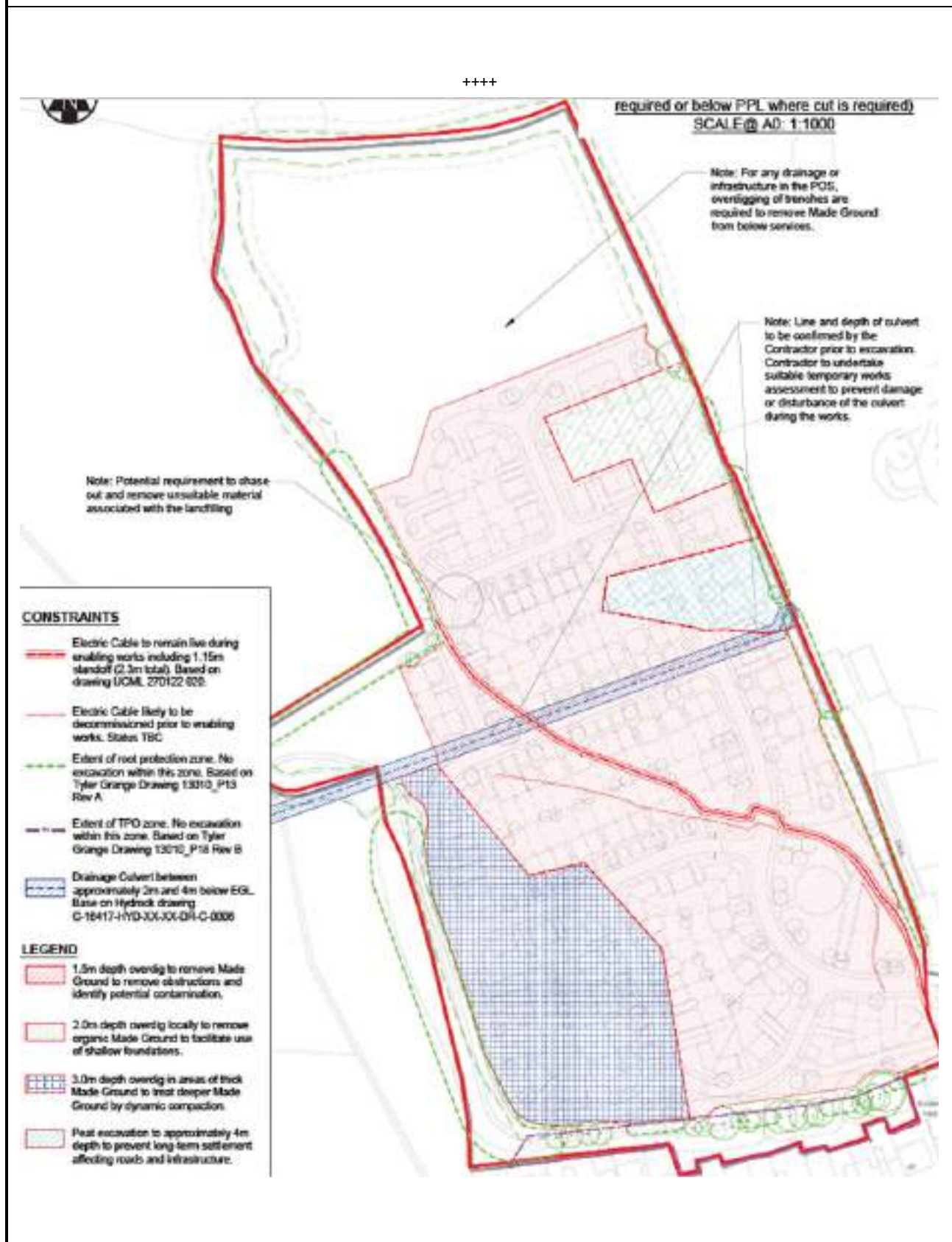
SHEET NO.: 3 of 13

To/From VHE

Hydrock and VHE undertook a site walkover and discussed details of earthworks during the site walk over. Details of discussion are as follows:

- DM chased monitoring data and latest laboratory results. SG stated that VWP problem was identified and rectified. RSG monitoring is ongoing.
- Boring of thrust bore drainage in the southeast had been completed. SG stated that VHE is going to begin placing drainage manholes.
- SG stated that crushing process is slow due to crusher's operational issues.
- VHE is going to remove compound soon.

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1049**SHEET NO.: 5 of 13****Action Plan**

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. RDC works complete
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Source testing for 6F2 required. Interim Validation report to be updated
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN010 reviewed by Hydrock. AWP to update based on comments. Interim Validation report to be updated
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile survey and site survey 19/05/2023.
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Drawing requested demonstrating sufficient over-excavation Drawing provided 1201 Rev B – annotation required
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Latest soft spot records issued for 1,2,3. Further updates soft spots 12, 13, 14 and 15 provided. All records up to 16 provided 22/11
Hotspot Reports	Validation reports to be provided for each hotspot	Updated pack provided 06/03/2023 – Hydrock to review - Hotspot 7 results were provided in updated report in 21.04.2023.
Geotechnical Monitoring	Monitoring results to be included in regular update reports	Settlement monitoring data was sent 28/09/2022. VWP sent 23/11. Latest data sent end March. Require interop from AWP

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1049

SHEET NO.: 6 of 13

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft treatment was achieved and grouting completed 07/11/2022.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary. Pre-substantial walk over of 19/5 – VHE to check boundary and re-excavate where necessary. Fence to be re-located and additional soils excavated remediated
Mine shaft 006 validation report	Van Elle to provide report	Van Elle completion report was sent 14/12/2022. Report to be updated based on Hydrock comments.
Borehole / abstraction well decommissioning	Abstraction well to be located as far as possible. Borehole to be grouted.	Records to be provided to Hydrock. Details to be presented in final validation report.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1049

SHEET NO.: 7 of 13



Photograph 1: Placing fill in the southeast near VHE compound. Fill material from stockpiles of fine material from crusher in the northwest.



Photograph 2: Stockpile of fine material from crusher and stockpile of deleterious materials in the northwest.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1049

SHEET NO.: 8 of 13



Photograph 3: Placing and levelling 6f2 material in the west.



Photograph 4: Placing and levelling 6f2 material in the northwest.



Photograph 5: Plate load testing on final layer of general fill in the south.



Photograph 6: The northwestern part of POS area still needs filling to reach final level.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1049

SHEET NO.: 10 of 13



Photograph 7: Placed topsoil and stockpile of topsoil in the POS in the northeast.



Photograph 8: Standing water in the southeast.



Photograph 9: Excavation for construction of manhole drainage in the southwest.



Photograph 10: Crusher and stockpile of oversize and concrete material in the northwest.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1049

SHEET NO.: 12 of 13



Photograph 11: Capping layer in the western boundary of the site. Looking towards the south.



Photograph 12: Proof rolling of capping and in the east.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1049

SHEET NO.: 13 of 13



Photograph 113: Dust suppression unit controlling dust on site.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1050		SHEET NO.: 1 of 13	
Project: Stopes Road, Bolton		Date: 25/05/23	
Client: Harworth		Weather: Sunny	
Contract No.: C-15220-C		Engineer: Davood Mahdavian	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1050		Status & Revision: S2 – P1	

Personnel Present:			
Organisation	Role		Name
VHE	Site agent		Seb Gledhill
A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5			
Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		n/a	No test records reviewed on site.
Sequential Test Number		n/a	Testing on-going and records to be provided in updated version of Engineers report
Date of Test		n/a	
Coordinated Position		n/a	
Test Grid Reference		n/a	
Layer No		n/a	
Source material Type		n/a	Comment on Engineers report to include specific reference to each source material
Results checked for compliance		n/a	
C: Additional activities to be observed by Hydrock during Audit Visit			
Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes	✓		Excavation sides generally battered to safe angle.
Excavation and site surveying	✓		Re-excavation of the northwest boundary to rectify boundary dispute due to missing cut in the northwest. Site surveying is being done.
De-watering of excavations		✓	No pond or surface water was observed.
Control & management of water		✓	No water was observed.
Compaction Trials completed	✓		TN005
Layer thickness - check	✓		Placing general fill in the southeast.
Compaction method – check	✓		Proof rolling.
Benching in of fill - check		✓	
Stockpiling of material	✓		Stockpiling deleterious material from stockpile of concrete and oversize material in the northwest. Oversize material to be processed and crushed.
Inspection of subgrade	✓		Subgrades proof rolled as much as possible to encourage runoff. Some localized softening will require

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1050			SHEET NO.: 2 of 13
			remediation prior to placement of running layer
Quality management of fill	✓		Oversize and deleterious material stockpiled separately. Deleterious material from concrete and oversize material to be removed before crushing. Crusher is crushing stockpile of oversize and concrete material in the northwest.
Works Undertaken by the Contractor:			
VHE - Placing fill in the southeast near VHE compound. Fill material from stockpile of fine material from crushing process in the northwest. - Placing and levelling topsoil in the POS area in the north. Topsoil from stockpile of topsoil in the north. - Re-excavation and re-filling of northwestern boundary to rectify boundary dispute due to missing cut in the northwest. - Demobing VHE compound in the southeast. - No testing was undertaken at the time of visit. - Construction of drainage manholes by Mollington Contracts in the western boundary of the site. - Crushing stockpile of oversize and concrete materials in the northwest. - Site surveying is ongoing.			
Discussions/Recommendations & Instructions:			

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1050

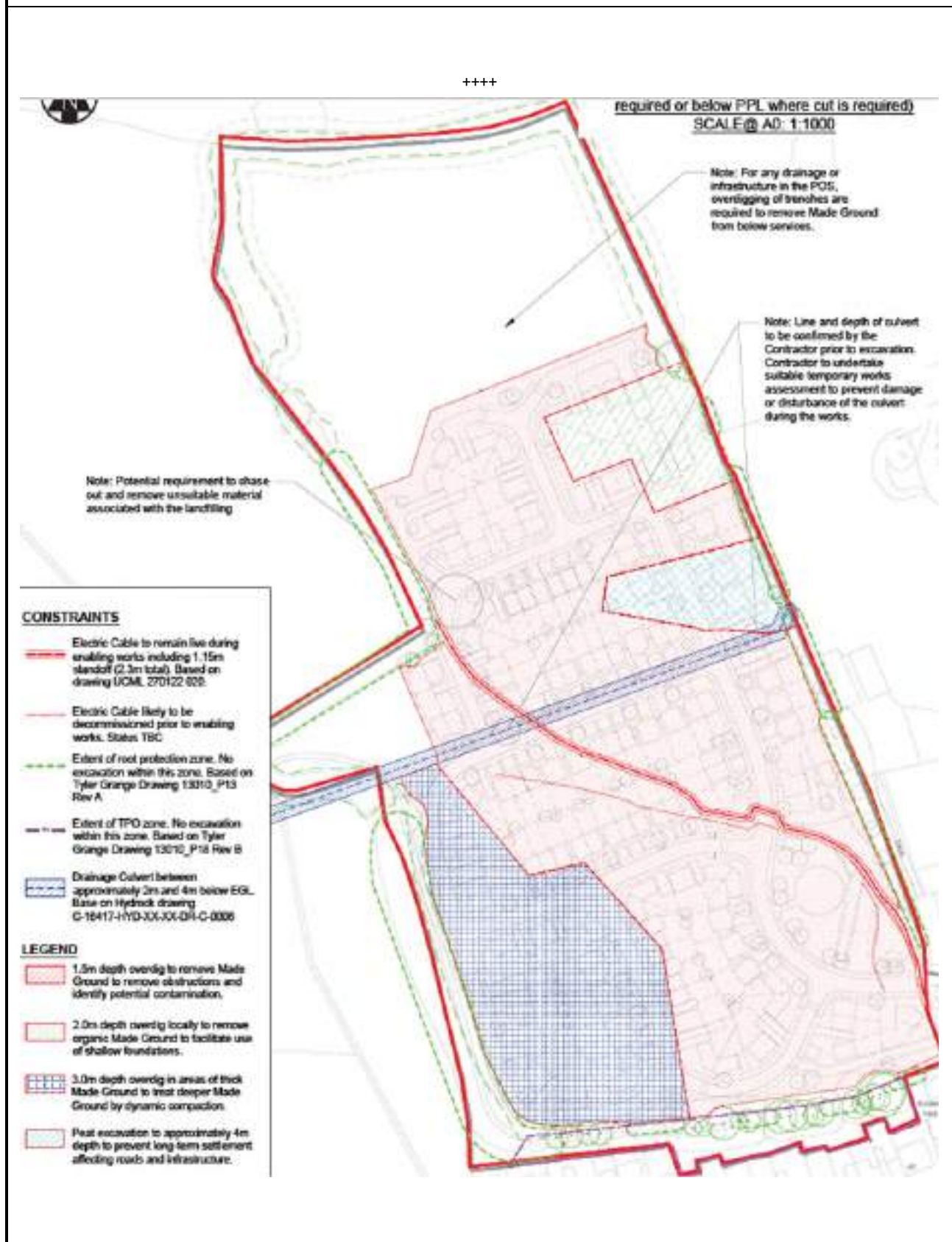
SHEET NO.: 3 of 13

To/From VHE

Hydrock and VHE discussed details of earthworks. Details of discussion are as follows:

- DM chased monitoring data and latest laboratory results. No new data has been received yet.
- Construction of drainage in the western boundary was discussed. SG stated that drainage work in the western boundary is ongoing and level raise is necessary for construction of drainage manhole in the southwest.
- DM chased boundary dispute in the northwest. SG stated that boundary in the northwest is been re-excavated and re-filled due to missing cut in the northwest. Fence was relocated in the western boundary to rectify the boundary dispute.
- SG stated that crushing process is still slow due to crusher's breakdown.
- VHE has begun demobing compound.

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1050**SHEET NO.: 5 of 13****Action Plan**

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. RDC works complete
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Source testing for 6F2 required. Interim Validation report to be updated
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN010 reviewed by Hydrock. AWP to update based on comments. Interim Validation report to be updated
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile survey and site survey 19/05/2023.
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Drawing requested demonstrating sufficient over-excavation Drawing provided 1201 Rev B – annotation required
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Latest soft spot records issued for 1,2,3. Further updates soft spots 12, 13, 14 and 15 provided. All records up to 16 provided 22/11
Hotspot Reports	Validation reports to be provided for each hotspot	Updated pack provided 06/03/2023 – Hydrock to review - Hotspot 7 results were provided in updated report in 21.04.2023.
Geotechnical Monitoring	Monitoring results to be included in regular update reports	Settlement monitoring data was sent 28/09/2022. VWP sent 23/11. Latest data sent end March. Require interop from AWP

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1050

SHEET NO.: 6 of 13

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft treatment was achieved and grouting completed 07/11/2022.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary. Pre-substantial walk over of 19/5 – VHE to check boundary and re-excavate where necessary. Fence relocated in the western boundary and additional excavation was undertaken to rectify boundary dispute in the northwest.
Mine shaft 006 validation report	Van Elle to provide report	Van Elle completion report was sent 14/12/2022. Report to be updated based on Hydrock comments.
Borehole / abstraction well decommissioning	Abstraction well to be located as far as possible. Borehole to be grouted.	Records to be provided to Hydrock. Details to be presented in final validation report.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1050

SHEET NO.: 7 of 13



Photograph 1: Placing fill in the southeast near VHE compound. Fill material from crusher's fine materials in the northwest.



Photograph 2: Backfilling constructed drainage manhole in the southwest. Level raise is necessary for placing drainage manhole.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1050

SHEET NO.: 8 of 13



Photograph 3: Location of second drainage manhole placed in the western boundary.



Photograph 4: Stockpile of deleterious material in the northwest.



Photograph 5: Crushing stockpile of oversize and concrete materials in the northwest.



Photograph 6: Rectifying boundary dispute in the northwestern boundary. Re-excavation and refilling are undertaken.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1050

SHEET NO.: 10 of 13



Photograph 7: Site surveying in the northern part of the site.



Photograph 8: Placing topsoil in the POS area in the north.



Photograph 9: 6F2 material placed in the southeast.



Photograph 10: The eastern boundary of the site. Looking towards the south.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1050

SHEET NO.: 12 of 13



Photograph 11: POS area in the northwest still needs fill to reach final level.



Photograph 12: Capping layer placed in the east and haul road in the southeast.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1050

SHEET NO.: 13 of 13



Photograph 113: Demobing VHE's compound in the southern boundary.



Photograph 124: Stockpile of deleterious material in the northwest.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1051		SHEET NO.: 1 of 11	
Project: Stopes Road, Bolton		Date: 30/05/23	
Client: Harworth		Weather: Cloudy	
Contract No.: C-15220-C		Engineer: Davood Mahdavian	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1051		Status & Revision: S2 – P1	

Personnel Present:			
Organisation	Role		Name
VHE	Site agent		Seb Gledhill
A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5			
Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		n/a	No test records reviewed on site.
Sequential Test Number		n/a	Testing on-going and records to be provided in updated version of Engineers report
Date of Test		n/a	
Coordinated Position		n/a	
Test Grid Reference		n/a	
Layer No		n/a	
Source material Type		n/a	Comment on Engineers report to include specific reference to each source material
Results checked for compliance		n/a	
C: Additional activities to be observed by Hydrock during Audit Visit			
Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes	✓		Excavation sides generally battered to safe angle.
Excavation and site surveying	✓		Re-excavation of the southeast boundary to extract placed 6F2 material for capping the northwest. Site surveying is being done.
De-watering of excavations		✓	No pond or surface water was observed.
Control & management of water		✓	No water was observed.
Compaction Trials completed	✓		TN005
Layer thickness - check	✓		Placing topsoil in the POS area in the north.
Compaction method – check		✓	no fill is being placed.
Benching in of fill - check		✓	no fill is being placed.
Stockpiling of material		✓	na
Inspection of subgrade		✓	na
Quality management of fill		✓	no fill is being placed.
Works Undertaken by the Contractor:			

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1051

SHEET NO.: 2 of 11

VHE

- Re-excavation of 6F2 material in the southeast. Material was used as capping in the northwest.
- Removing sheet piles around drainage excavation in the southeast near the main gate.
- Placing drainage manholes had been completed in the western boundary.
- Demobing VHE compound in the southeast is ongoing.
- Placing and leveling topsoil in the POS in the north.
- No testing was undertaken at the time of visit.
- Site surveying is ongoing.

Discussions/Recommendations & Instructions:

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1051

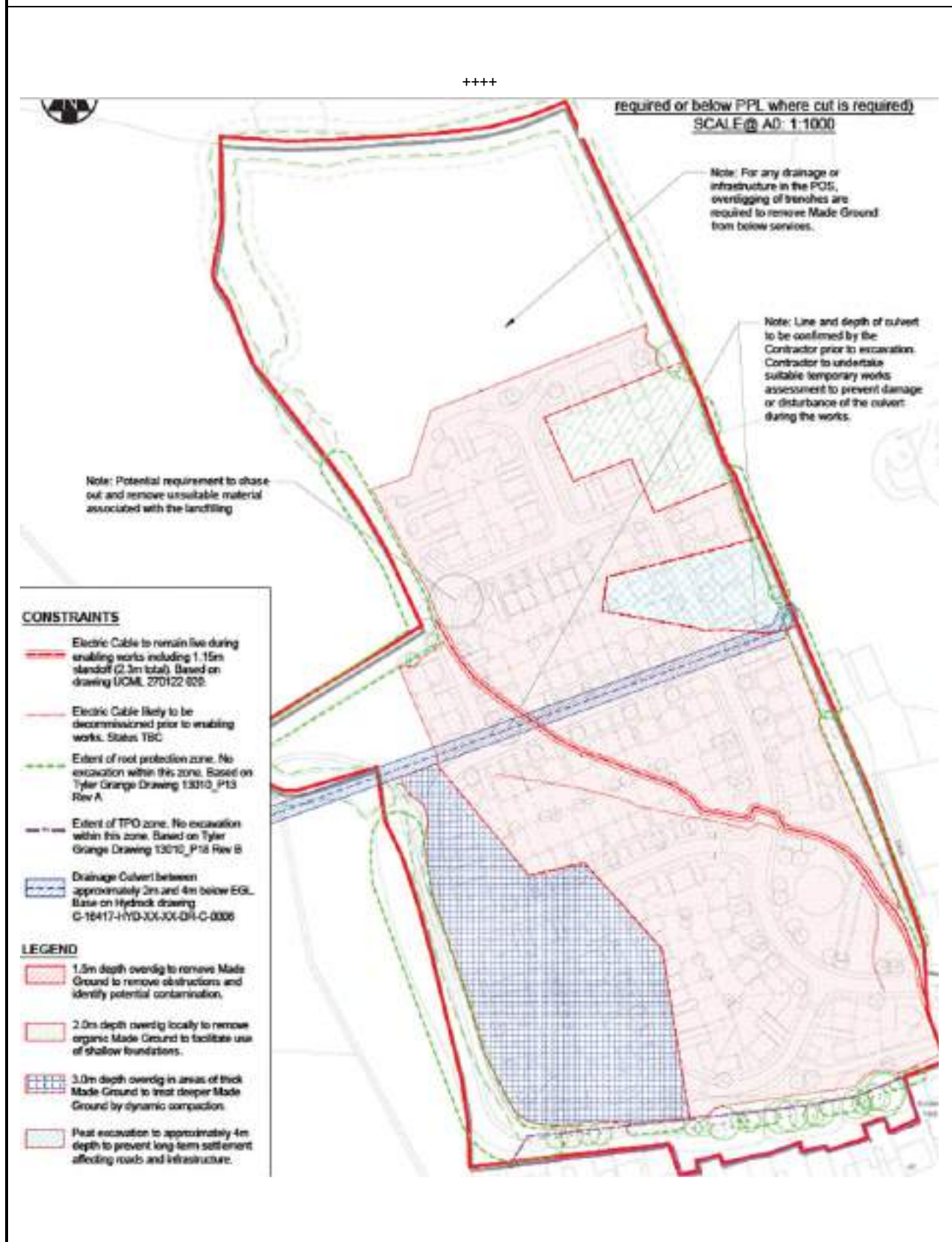
SHEET NO.: 3 of 11

To/From VHE

Hydrock and VHE discussed details of earthworks. Details of discussion are as follows:

- SG stated that some excavator parts including hydraulic muncher were stolen during weekend and bank holiday.
- DM chased monitoring data and latest laboratory results. No new data has been received yet. AWP is analyzing the latest data lab data from VHE.
- Construction of drainage in the western boundary was discussed. SG stated that drainage work in the western boundary is ongoing and level raise is necessary for construction of drainage manhole in the southwest.
- DM chased boundary dispute in the northwest. SG stated that re-excavation and backfilling due to missing cut in the northwest were completed.
- SG stated that topsoil level will be 50-60mm less than original design level.
- Crusher is off hire.

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1051**SHEET NO.: 5 of 11****Action Plan**

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. RDC works complete
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Source testing for 6F2 required. Interim Validation report to be updated
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN010 reviewed by Hydrock. AWP to update based on comments. Interim Validation report to be updated
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile survey and site survey 19/05/2023.
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Drawing requested demonstrating sufficient over-excavation Drawing provided 1201 Rev B – annotation required
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Latest soft spot records issued for 1,2,3. Further updates soft spots 12, 13, 14 and 15 provided. All records up to 16 provided 22/11
Hotspot Reports	Validation reports to be provided for each hotspot	Updated pack provided 06/03/2023 – Hydrock to review - Hotspot 7 results were provided in updated report in 21.04.2023.
Geotechnical Monitoring	Monitoring results to be included in regular update reports	Settlement monitoring data was sent 28/09/2022. VWP sent 23/11. Latest data sent end March. Require interop from AWP

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1051

SHEET NO.: 6 of 11

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft treatment was achieved and grouting completed 07/11/2022.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary. Pre-substantial walk over of 19/5 – VHE to check boundary and re-excavate where necessary. Fence relocated in the western boundary and additional excavation was undertaken to rectify boundary dispute in the northwest.
Mine shaft 006 validation report	Van Elle to provide report	Van Elle completion report was sent 14/12/2022. Report to be updated based on Hydrock comments.
Borehole / abstraction well decommissioning	Abstraction well to be located as far as possible. Borehole to be grouted.	Records to be provided to Hydrock. Details to be presented in final validation report.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1051

SHEET NO.: 7 of 11



Photograph 1: Re-excavation of 6F2 material in the southeast.



Photograph 2: The southern boundary of the site. Looking towards the west.



Photograph 3: Construction of two drainage manhole in the western boundary completed.



Photograph 4: Placing and levelling topsoil in the POS in the north. Surveyors are controlling levels.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1051

SHEET NO.: 9 of 11



Photograph 5: Rectified boundary in the northwest.



Photograph 6: Area in the northwest still needs filling material.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1051

SHEET NO.: 10 of 11



Photograph 7: The northeastern boundary of the site. Looking towards the north.



Photograph 8: Capping layer placed in the northwest.



Photograph 9: Removing sheet piles around thrust boring drainage excavation in the southeast.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1052		SHEET NO.: 1 of 11	
Project: Stopes Road, Bolton		Date: 09/06/23	
Client: Harworth		Weather: Sunny	
Contract No.: C-15220-C		Engineer: Davood Mahdavian	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1052		Status & Revision: S2 – P1	

Personnel Present:			
Organisation	Role	Name	
VHE	Site agent	Seb Gledhill	
Hydrock	Technical Associate (Geo)	Dan Fry	
Hydrock	Senior Engineer (Civils)	Chloe Fell	
AWP	Associate	Sarah Roberts	
AWP	Engineer	Ben Kennerly	
Cumming	Gregg Mason	Project Surveyor	
A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5			
Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		n/a	No test records reviewed on site. Testing on-going and records to be provided in updated version of Engineers report
Sequential Test Number		n/a	
Date of Test		n/a	
Coordinated Position		n/a	Local grid used
Test Grid Reference		n/a	
Layer No		n/a	
Source material Type		n/a	Comment on Engineers report to include specific reference to each source material
Results checked for compliance		n/a	
C: Additional activities to be observed by Hydrock during Audit Visit			
Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes		✓	na
Excavation and site surveying		✓	na
De-watering of excavations		✓	No pond or surface water was observed.
Control & management of water		✓	No water was observed.
Compaction Trials completed	✓		TN005
Layer thickness - check	✓		Placing topsoil in the POS area in the north.
Compaction method – check		✓	no fill is being placed.
Benching in of fill - check		✓	no fill is being placed.
Stockpiling of material		✓	na
Inspection of subgrade		✓	na
Quality management of fill		✓	no fill is being placed.
Works Undertaken by the Contractor:			

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1052		SHEET NO.: 2 of 11	
VHE			
Placing topsoil in the northwest of POS area.			
Discussions/Recommendations & Instructions:			

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1052

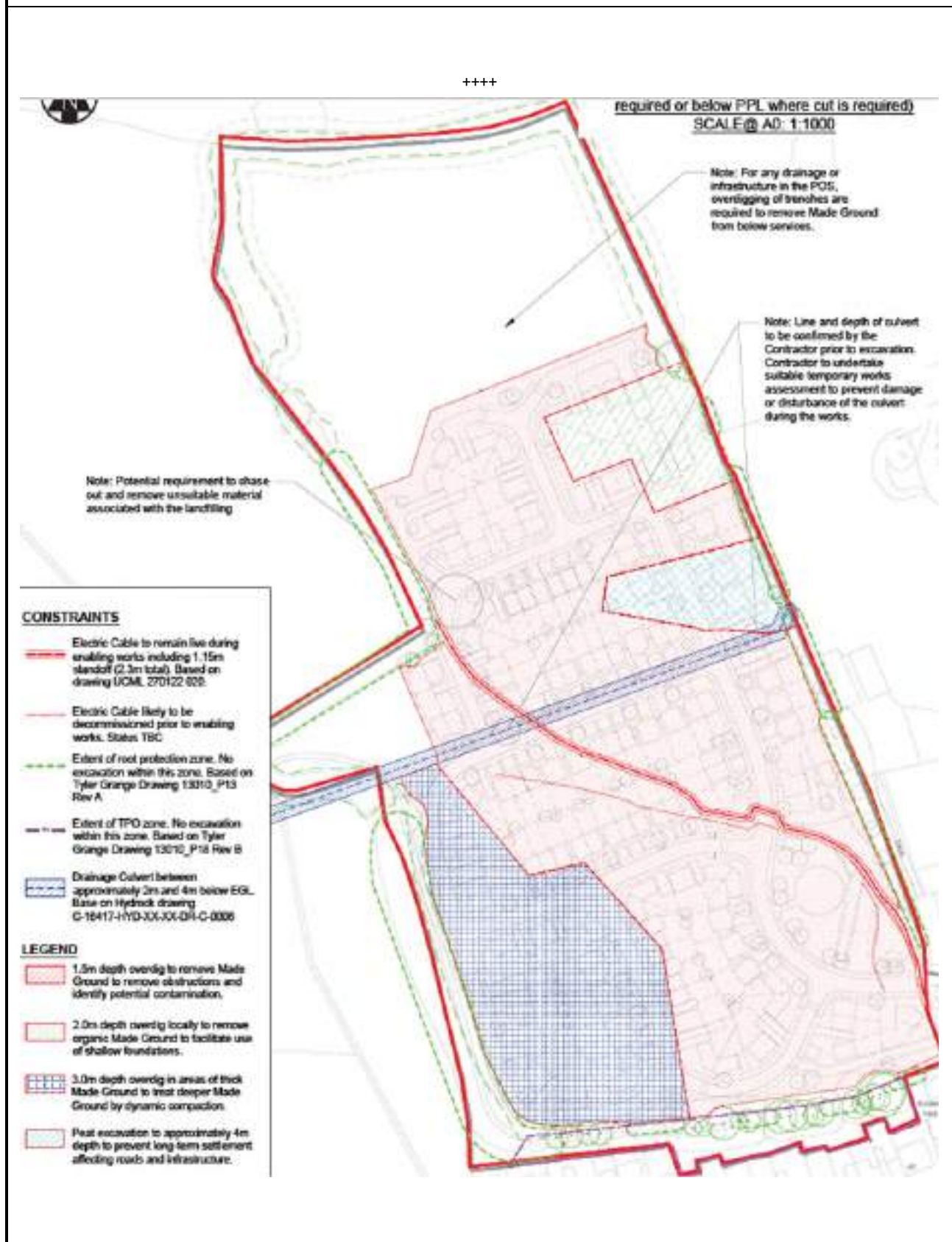
SHEET NO.: 3 of 11

To/From VHE

Hydrock, AWP, Cumming and VHE undertook completion walkover and discussed details. Details of discussion are as follows:

- SG stated that testing completed and waiting for some test results to be sent to AWP.
- Placing topsoil will be completed by the end of today.
- Drainage levels in the western boundary to be checked by VHE.

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1052**SHEET NO.: 5 of 11****Action Plan**

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. RDC works complete
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Source testing for 6F2 required. Interim Validation report to be updated
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN010 reviewed by Hydrock. AWP to update based on comments. Interim Validation report to be updated
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile survey and site survey 19/05/2023.
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Drawing requested demonstrating sufficient over-excavation Drawing provided 1201 Rev B – annotation required
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Latest soft spot records issued for 1,2,3. Further updates soft spots 12, 13, 14 and 15 provided. All records up to 16 provided 22/11
Hotspot Reports	Validation reports to be provided for each hotspot	Updated pack provided 06/03/2023 – Hydrock to review - Hotspot 7 results were provided in updated report in 21.04.2023.
Geotechnical Monitoring	Monitoring results to be included in regular update reports	Settlement monitoring data was sent 28/09/2022. VWP sent 23/11. Latest data sent end March. Require interop from AWP

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1052

SHEET NO.: 6 of 11

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft treatment was achieved and grouting completed 07/11/2022.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary. Pre-substantial walk over of 19/5 – VHE to check boundary and re-excavate where necessary. Fence relocated in the western boundary and additional excavation was undertaken to rectify boundary dispute in the northwest.
Mine shaft 006 validation report	Van Elle to provide report	Van Elle completion report was sent 14/12/2022. Report to be updated based on Hydrock comments.
Borehole / abstraction well decommissioning	Abstraction well to be located as far as possible. Borehole to be grouted.	Records to be provided to Hydrock. Details to be presented in final validation report.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1052

SHEET NO.: 7 of 11



Photograph 1: Running layer placed in the southeast, near location of shaft no.8 and the main gate area.



Photograph 2: Completed earthworks in the main gate area.



Photograph 3: Shaft no.7 area, not included in earthworks area.



Photograph 4: The southern boundary of the site.



Photograph 5: Drainage manhole in the southeast.



Photograph 6: Drainage manhole in the western boundary.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1052

SHEET NO.: 10 of 11



Photograph 7: The northwestern boundary of the site. Looking towards the north.



Photograph 8: Placing topsoil in the northwest of POS area.



Photograph 9: The eastern boundary of the site. Looking towards the south.



Photograph 10: Grouted shaft no.6 next to electricity transformer in the centre east.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1053		SHEET NO.: 1 of 7	
Project: Stopes Road, Bolton		Date: 10/10/23	
Client: Harworth		Weather: Partly cloudy and dry	
Contract No.: C-15220-C		Engineer: Davood Mahdavian	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1053		Status & Revision: S2 – P1	

Personnel Present:			
Organisation	Role	Name	
VHE	Site agent	Seb Gledhill	
M&J Drilling Services LTD	Site Supervisor	Calvin	
A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5			
Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		n/a	No test records reviewed on site. Testing on-going and records to be provided in updated version of Engineers report
Sequential Test Number		n/a	
Date of Test		n/a	
Coordinated Position		n/a	Local grid used
Test Grid Reference		n/a	
Layer No		n/a	
Source material Type		n/a	Comment on Engineers report to include specific reference to each source material
Results checked for compliance		n/a	
C: Additional activities to be observed by Hydrock during Audit Visit			
Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes		✓	na
Excavation and site surveying		✓	na
De-watering of excavations		✓	No pond or surface water was observed.
Control & management of water		✓	No water was observed.
Compaction Trials completed	✓		TN005
Layer thickness - check		✓	na
Compaction method – check		✓	no fill is being placed.
Benching in of fill - check		✓	no fill is being placed.
Stockpiling of material		✓	na
Inspection of subgrade		✓	na
Quality management of fill		✓	no fill is being placed.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1053

SHEET NO.: 2 of 7

Works Undertaken by the Contractor:

VHE

- Pumping water from the culvert.

M&J

- Drilling and grouting commenced on Friday 06.10.2023

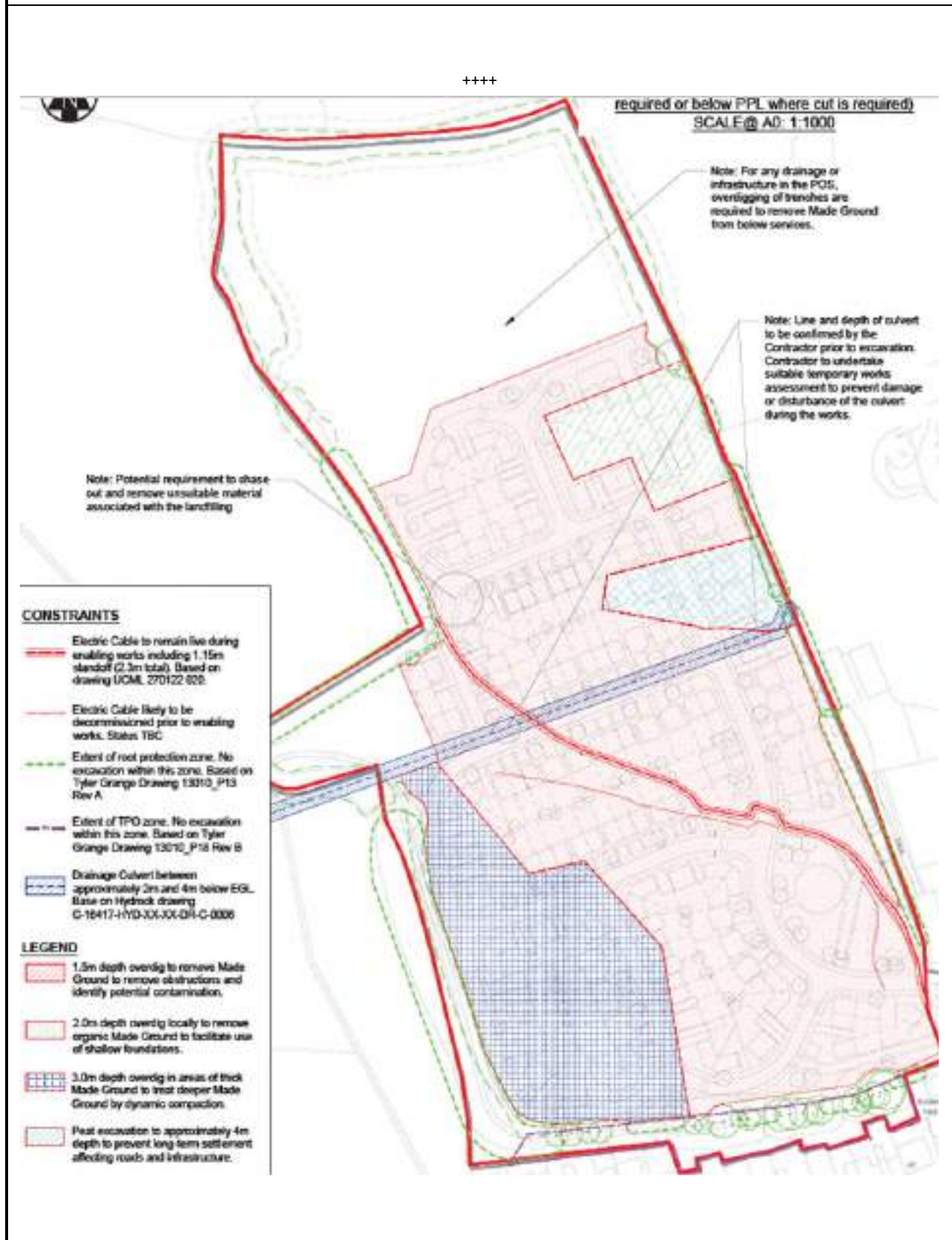
Discussions/Recommendations & Instructions:

To/From VHE

Hydrock undertook site walkover and discussed details of drilling and grouting of shafts no.007 and no.008 with VHE and M&J. Details of discussion are as follows:

- 2.no boreholes drilled for each shaft.
- Shaft no.007 boreholes drilled up to 76m and soft strata was encountered. Drilling continued up to 100m and hard strata was found at the bottom.
- Shaft no.008 boreholes drilled up to 84.5m and both weak and firm strata was encountered. Drilling continued up to 100m and hard strata was found at the bottom.
- Casing diameter is 88.9mm for both shafts boreholes.
- No groundwater strike was reported.
- Gas monitoring is being undertaken. No gas emission was discovered.
- M&J supervisor confirmed that grout testing including cube, flow, bleed and water content tests will be undertaken.

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1053**SHEET NO.: 4 of 7****Action Plan**

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. RDC works complete
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Source testing for 6F2 required. Final Validation updated
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN010 reviewed by Hydrock. AWP to update based on comments. Final Validation updated
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile survey and site survey 19/05/2023.
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Drawing requested demonstrating sufficient over-excavation Drawing provided.
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Latest soft spot records issued for 1,2,3. Further updates soft spots 12, 13, 14 and 15 provided. All records up to 16 provided 22/11
Hotspot Reports	Validation reports to be provided for each hotspot	Updated pack provided 06/03/2023 – Hydrock to review - Hotspot 7 results were provided in updated report in 21.04.2023.
Geotechnical Monitoring	Monitoring results to be included in regular update reports	Settlement monitoring data was sent 28/09/2022. VWP sent 23/11. RSG 11 data to be sent by VHE.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1053

SHEET NO.: 5 of 7

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft 006 treatment was achieved and grouting completed 07/11/2022. Coal authority permit for shaft 007 and 008 received 05.10.2023. Drilling and grouting commenced on 10.10.2023.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary. Pre-substantial walk over of 19/5 – VHE to check boundary and re-excavate where necessary. Fence relocated in the western boundary and additional excavation was undertaken to rectify boundary dispute in the northwest.
Mine shaft 006 validation report	Van Elle to provide report	Van Elle completion report was sent 14/12/2022. Report to be updated based on Hydrock comments.
Mine shafts 007 and 008 validation report	M&J to provide report	Drilling commenced 10.10.2023.
Borehole / abstraction well decommissioning	Abstraction well to be located as far as possible. Borehole to be grouted.	Records to be provided to Hydrock. Details presented in final validation report.
Culvert replacement program	Drainage, excavation and backfill	VHE is pumping water from the culvert.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1053

SHEET NO.: 6 of 7



Photograph 1: Drilling rig and platform on top of shaft no.007.



Photograph 2: PFA and OPC stockpiles, water tank and grout mixer adjacent to the shaft no.007.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1053

SHEET NO.: 7 of 7



Photograph 3: Drilling rig and platform on top of shaft no.008.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1054		SHEET NO.: 1 of 8	
Project: Stopes Road, Bolton		Date: 12/10/23	
Client: Harworth		Weather: Mostly Sunny	
Contract No.: C-15220-C		Engineer: Davood Mahdavian	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1054		Status & Revision: S2 – P1	

Personnel Present:			
Organisation	Role	Name	
VHE	Site agent	Seb Gledhill	
M&J Drilling Services LTD	Site Supervisor	Calvin	
Harworth	Project Manager	Fiona Lewis	
JPW Consulting	CDM Advisor	John Wynn	
Cumming Management Group	Project Surveyor	Ethan Matthew	
Hydrock	Civil Engineer	Chloe Fell	
AWP	Geo-Environmental Engineer	Sarah Roberts	
A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5			
Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		n/a	No test records reviewed on site. Testing on-going and records to be provided in updated version of Engineers report
Sequential Test Number		n/a	
Date of Test		n/a	
Coordinated Position		n/a	Local grid used
Test Grid Reference		n/a	
Layer No		n/a	
Source material Type		n/a	Comment on Engineers report to include specific reference to each source material
Results checked for compliance		n/a	
C: Additional activities to be observed by Hydrock during Audit Visit			
Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes		✓	na
Excavation and site surveying		✓	na
De-watering of excavations		✓	No pond or surface water was observed.
Control & management of water		✓	No water was observed.
Compaction Trials completed	✓		TN005
Layer thickness - check		✓	na
Compaction method – check		✓	no fill is being placed.
Benching in of fill - check		✓	no fill is being placed.
Stockpiling of material		✓	na
Inspection of subgrade		✓	na
Quality management of fill		✓	no fill is being placed.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1054

SHEET NO.: 2 of 8

Works Undertaken by the Contractor:

VHE

- Site surveying for RSGs.

M&J

- Grouting of shafts no.7 and 8

Discussions/Recommendations & Instructions:

Overhead cable was noticed and warned to M&J site supervisor.

To/From VHE

Hydrock undertook site walkover and discussed details of drilling and grouting of shafts no.007 and no.008 with VHE and M&J. Details of discussion are as follows:

- A crack was observed on top of shaft no.7 yesterday and the shaft's surface was settled up to 1m today.
- M&J removed the rig and the frame and backfilled the shaft surface.
- No groundwater strike was reported.
- Gas monitoring is being undertaken. No gas emission was discovered.
- M&J supervisor confirmed that grout testing including cube, flow, bleed and water content tests are undertaken.
- Total grout take for shaft no.7 was 33.5T so far.
- Total grout take for shaft no.8 was 42.4T so far.
- Bleed test value was reported 980/1000 and flow test was reported 480mm on Tuesday 10.10.2023.
- Bleed test value was reported 970/1000 and flow test was reported 490mm on Wednesday 11.10.2023.

Progress Meeting 12

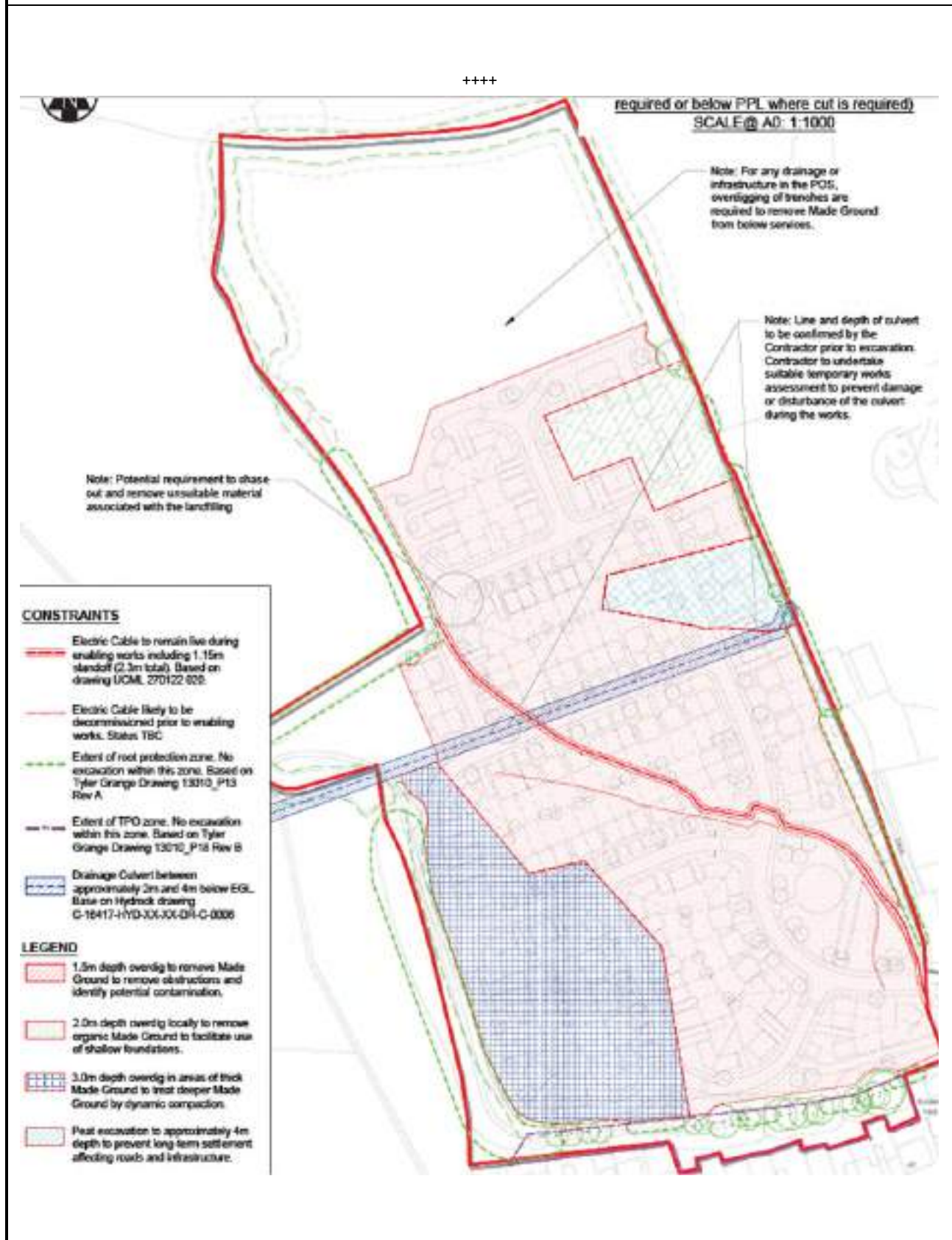
Hydrock, VHE, Harworth, Cumming Group and AWP discussed details of culvert replacement and mine shaft treatment. Formal minutes to be provided by Cumming Group.

Hydrock, VHE, AWP and Harworth undertook a walkover of the site after the meeting.

Items discussed during the meeting include:

- DM discussed importing 6F2 material for covering the culvert and Made ground turn over in the shaft treatment areas.
- Discussed location, depth and upstream of the culvert. SG stated that depth of the culvert is 4m in the east and 2m in the west.
- Hydrock requested monitoring data from VHE.
- Verification report was discussed.
- JW recommended dynamic risk assessment for shaft no.7 surface cracking and settlement.

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1054**SHEET NO.: 4 of 8****Action Plan**

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. RDC works complete
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Source testing for 6F2 required. Final Validation updated
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN010 reviewed by Hydrock. AWP to update based on comments. Final Validation updated
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile survey and site survey 19/05/2023.
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Drawing requested demonstrating sufficient over-excavation Drawing provided.
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Latest soft spot records issued for 1,2,3. Further updates soft spots 12, 13, 14 and 15 provided. All records up to 16 provided 22/11
Hotspot Reports	Validation reports to be provided for each hotspot	Updated pack provided 06/03/2023 – Hydrock to review - Hotspot 7 results were provided in updated report in 21.04.2023.
Geotechnical Monitoring	Monitoring results to be included in regular update reports	Settlement monitoring data was sent 28/09/2022. VWP sent 23/11. RSG 11 data to be sent by VHE.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1054

SHEET NO.: 5 of 8

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft 006 treatment was achieved and grouting completed 07/11/2022. Coal authority permit for shaft 007 and 008 received 05.10.2023. Drilling and grouting commenced on 10.10.2023.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary. Pre-substantial walk over of 19/5 – VHE to check boundary and re-excavate where necessary. Fence relocated in the western boundary and additional excavation was undertaken to rectify boundary dispute in the northwest.
Mine shaft 006 validation report	Van Elle to provide report	Van Elle completion report was sent 14/12/2022. Report to be updated based on Hydrock comments.
Mine shafts 007 and 008 validation report	M&J to provide report	Drilling commenced 06.10.2023.
Borehole / abstraction well decommissioning	Abstraction well to be located as far as possible. Borehole to be grouted.	Records to be provided to Hydrock. Details presented in final validation report.
Culvert replacement program	Drainage, excavation and backfill	VHE is pumping water from the culvert.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1054

SHEET NO.: 6 of 8



Photograph 1: Settlement of shaft no.7 original backfill.



Photograph 2: Backfilling the shaft no.7 surface settlement.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1054

SHEET NO.: 7 of 8



Photograph 3: Grouting started after backfilling of the shaft no.7.



Photograph 4: Grouting of shaft no.8.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1054

SHEET NO.: 8 of 8



Photograph 5: Surveyor monitoring the RSGs.



Photograph 6: Manhole of the culvert and pumping equipment in the west outside boundary of the site.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1055		SHEET NO.: 1 of 8	
Project: Stopes Road, Bolton		Date: 20/10/23	
Client: Harworth		Weather: Heavy rain	
Contract No.: C-15220-C		Engineer: Davood Mahdavian	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1055		Status & Revision: S2 – P1	

Personnel Present:			
Organisation	Role	Name	
VHE	Site agent	Seb Gledhill	
Harworth	Project Manager	Matt Whiteley	
Hydrock	Civil Engineer	Chloe Fell	
A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5			
Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		n/a	No test records reviewed on site. Testing on-going and records to be provided in updated version of Engineers report
Sequential Test Number		n/a	
Date of Test		n/a	
Coordinated Position		n/a	
Test Grid Reference		n/a	Local grid used
Layer No		n/a	
Source material Type		n/a	Comment on Engineers report to include specific reference to each source material
Results checked for compliance		n/a	
C: Additional activities to be observed by Hydrock during Audit Visit			
Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes		✓	na
Excavation and site surveying		✓	na
De-watering of excavations		✓	Water in excavations for culvert surveying.
Control & management of water		✓	Standing water in the center of the site.
Compaction Trials completed	✓		TN005
Layer thickness - check		✓	na
Compaction method – check		✓	no fill is being placed.
Benching in of fill - check		✓	no fill is being placed.
Stockpiling of material		✓	na
Inspection of subgrade		✓	na
Quality management of fill		✓	no fill is being placed.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1055

SHEET NO.: 2 of 8

Works Undertaken by the Contractor:

VHE

- Grouting work for shaft no.7 and 8 had been completed on 19.10.2023 and M& demobilised.
- Culvert location surveying had been undertaken.
- 6F5 material had been imported for culver replacement.
- Earthworks is not started yet due to rain.

Discussions/Recommendations & Instructions:

To/From VHE

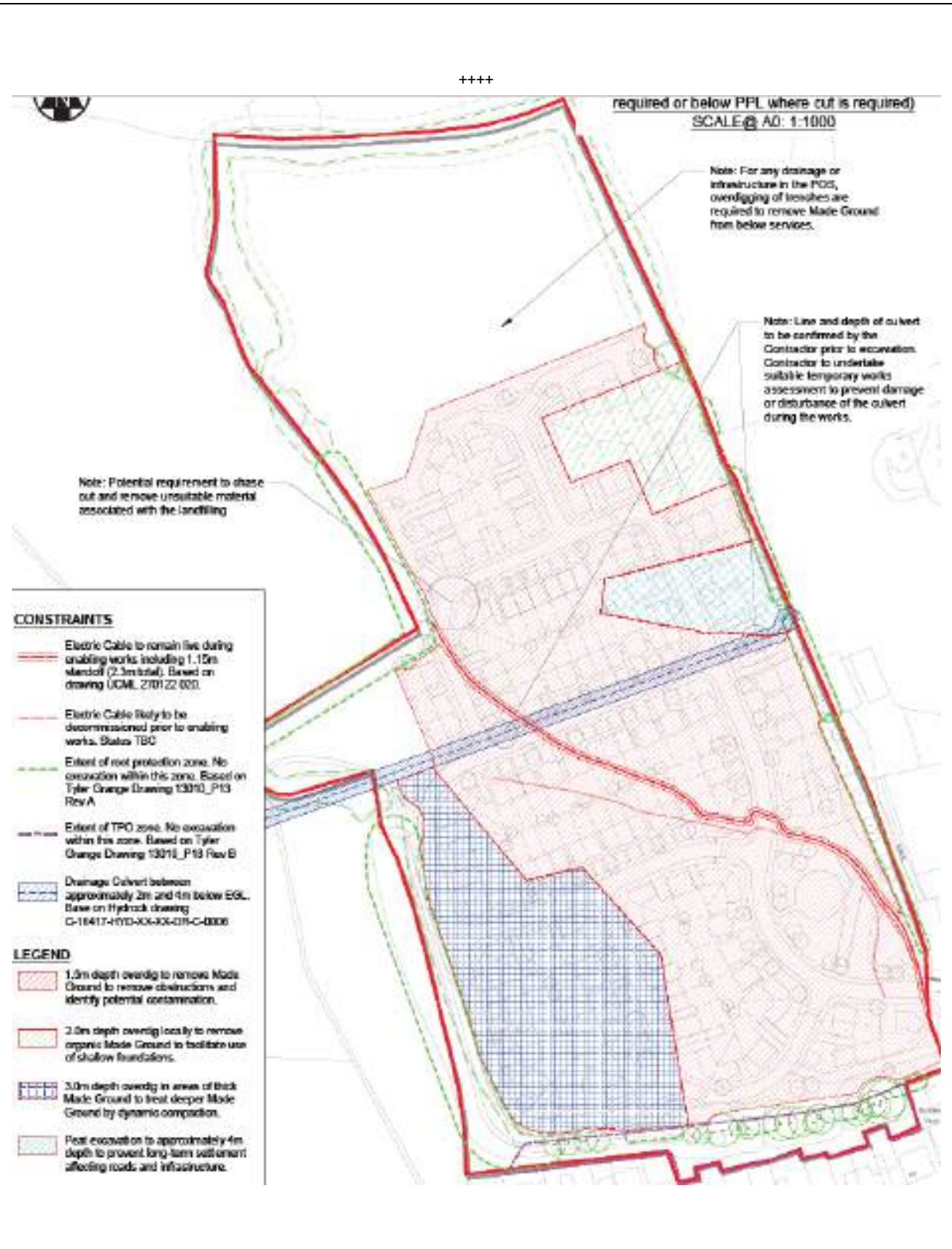
VHE, Hydrock, Harworth and Bolton council undertook site walkover and discussed details of earthworks, grouting and culvert surveying. Items discussed during the site walkover include:

- Deep pits (6m) were excavated to find the culvert location. The culvert was found in the two of excavations in the central and the western part of the site, however the culver was not found in the excavations in the eastern part of the site.
- Hydrock requested imported 6F5 material test certificate.
- Made Ground turnover and associated Geochemical testing in the location of shafts no. 7 and 8. SG stated that testing company will be on site today to collect samples.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1055

SHEET NO.: 3 of 8

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1055**SHEET NO.: 4 of 8****Action Plan**

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. RDC works complete
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Source testing for 6F2 required. Final Validation updated
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN010 reviewed by Hydrock. AWP to update based on comments. Final Validation updated
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile survey and site survey 19/05/2023.
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Drawing requested demonstrating sufficient over-excavation Drawing provided.
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Latest soft spot records issued for 1,2,3. Further updates soft spots 12, 13, 14 and 15 provided. All records up to 16 provided 22/11
Hotspot Reports	Validation reports to be provided for each hotspot	Updated pack provided 06/03/2023 – Hydrock to review - Hotspot 7 results were provided in updated report in 21.04.2023.
Geotechnical Monitoring	Monitoring results to be included in regular update reports	Settlement monitoring data was sent 28/09/2022. VWP sent 23/11. RSG 11 data to be sent by VHE.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1055

SHEET NO.: 5 of 8

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft 006 treatment was achieved and grouting completed 07/11/2022. Coal authority permit for shaft 007 and 008 received 05.10.2023. Drilling and grouting commenced on 10.10.2023.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary. Pre-substantial walk over of 19/5 – VHE to check boundary and re-excavate where necessary. Fence relocated in the western boundary and additional excavation was undertaken to rectify boundary dispute in the northwest.
Mine shaft 006 validation report	Van Elle to provide report	Van Elle completion report was sent 14/12/2022. Report to be updated based on Hydrock comments.
Mine shafts 007 and 008 validation report	M&J to provide report	Drilling and grouting completed 19.10.2023. Verification report to be completed.
Borehole / abstraction well decommissioning	Abstraction well to be located as far as possible. Borehole to be grouted.	Records to be provided to Hydrock. Details presented in final validation report.
Culvert replacement program	Drainage, excavation and backfill	VHE surveying to find the culvert is ongoing.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1055

SHEET NO.: 6 of 8



Photograph 1: Grouted boreholes for shaft no.8.



Photograph 2: Grouted boreholes for shaft no.7. Surface settlement of the shaft was backfilled by imported 6F5 material.



Photograph 3: Excavator removing surplus PFA material on access road in the southeast.



Photograph 4: Excavations in the centre and east of the site to find culvert location. Both excavations covered with water.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-1055

SHEET NO.: 8 of 8



Photograph 5: Stockpile of imported 6F5 material and VHE earthwork machinery in the southeast.



Photograph 6: Standing water in the centre of the site.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-10556		SHEET NO.: 1 of 9	
Project: Stopes Road, Bolton		Date: 24/10/23	
Client: Harworth		Weather: Heavy rain	
Contract No.: C-15220-C		Engineer: Davood Mahdavian	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1056		Status & Revision: S2 – P1	

Personnel Present:			
Organisation	Role	Name	
VHE	Site agent	Seb Gledhill	
VHE	Site agent	Casey	
A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5			
Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		n/a	No test records reviewed on site. Testing on-going and records to be provided in updated version of Engineers report
Sequential Test Number		n/a	
Date of Test		n/a	
Coordinated Position		n/a	Local grid used
Test Grid Reference		n/a	
Layer No		n/a	
Source material Type		n/a	Comment on Engineers report to include specific reference to each source material
Results checked for compliance		n/a	
C: Additional activities to be observed by Hydrock during Audit Visit			
Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes		✓	na
Excavation and site surveying		✓	na
De-watering of excavations		✓	Water in excavations for culvert surveying.
Control & management of water		✓	Standing water in the center of the site.
Compaction Trials completed	✓		TN005
Layer thickness - check		✓	na
Compaction method – check		✓	no fill is being placed.
Benching in of fill - check		✓	no fill is being placed.
Stockpiling of material		✓	na
Inspection of subgrade		✓	na
Quality management of fill		✓	no fill is being placed.
Works Undertaken by the Contractor:			

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-10556

SHEET NO.: 2 of 9

VHE

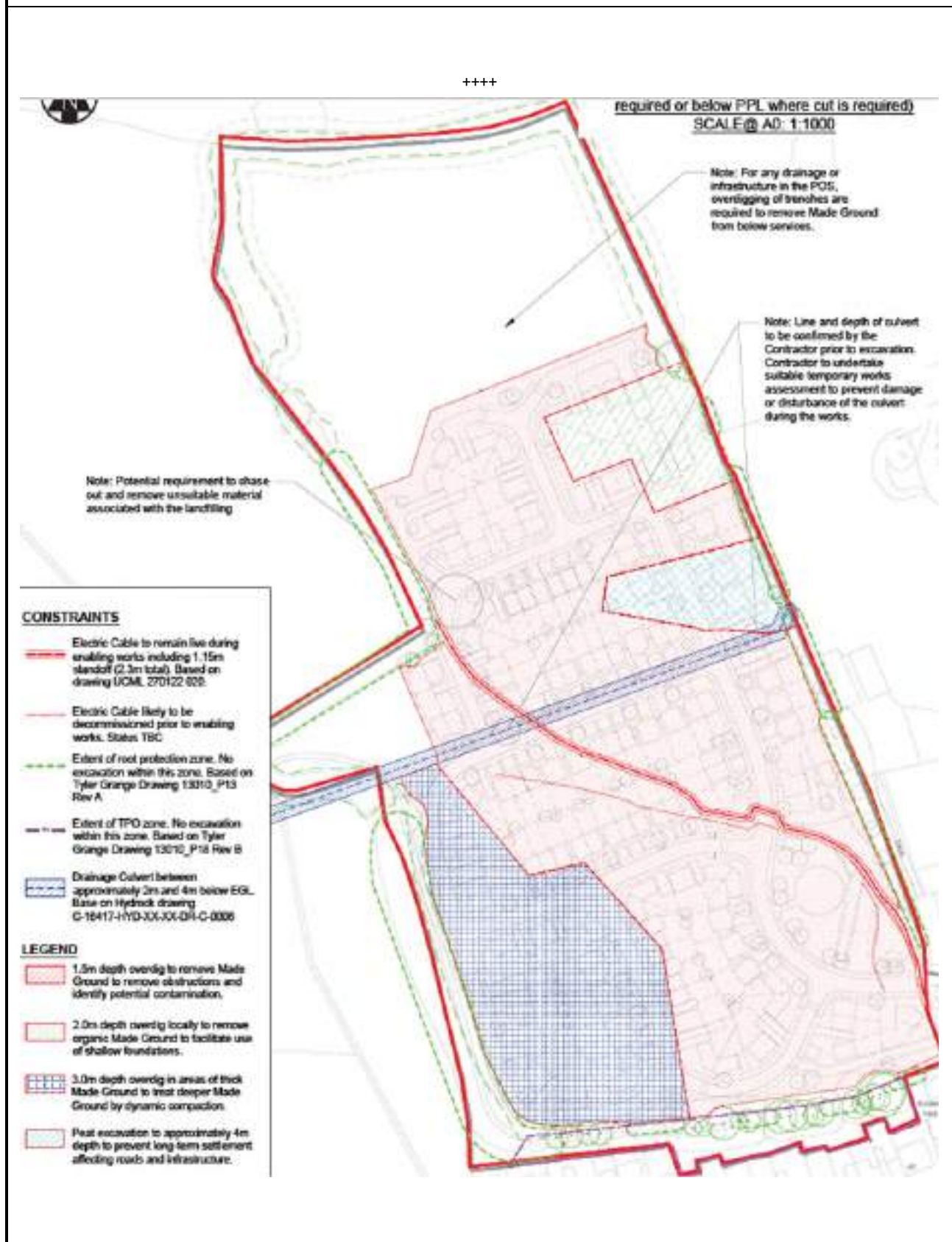
- Excavation of Potentially TPH contaminated Made Ground in the location of shaft no.7. Glacial till at the base of the excavation was observed. 6F5 material placed to provide running layer in the southern part of exaction.
- Stockpile of potentially TPH contaminated material on a black visqueen barrier adjacent to electrical substation.
- Made Ground excavated in the location of shaft no.8. Material has high moisture content.
- Standing water in the centre of the site was observed.
- 6F5 imported and stockpiled in the southeast adjacent to electrical substation.

Discussions/Recommendations & Instructions:

To/From VHE

- VHE stated that Sampling will be undertaken from potentially TPH contaminated material today afternoon.
- Latest settlement monitoring data was sent by AWP today.
- VHE stated that due to high moisture content of excavated Made Ground VHE is going to use lime modification technique to reduce moisture content and achieve required compaction.

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-10556

SHEET NO.: 4 of 9

Action Plan

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. RDC works complete
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Source testing for 6F2 required. Final Validation updated
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN010 reviewed by Hydrock. AWP to update based on comments. Final Validation updated
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile survey and site survey 19/05/2023.
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Drawing requested demonstrating sufficient over-excavation Drawing provided.
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Latest soft spot records issued for 1,2,3. Further updates soft spots 12, 13, 14 and 15 provided. All records up to 16 provided 22/11
Hotspot Reports	Validation reports to be provided for each hotspot	Updated pack provided 06/03/2023 – Hydrock to review - Hotspot 7 results were provided in updated report in 21.04.2023.
Geotechnical Monitoring	Monitoring results to be included in regular update reports	New round of settlement monitoring data was sent 24/10/2023. VWP sent 23/11.2022.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-10556

SHEET NO.: 5 of 9

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft 006 treatment was achieved and grouting completed 07/11/2022. Coal authority permit for shaft 007 and 008 received 05.10.2023. Drilling and grouting commenced on 10.10.2023.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary. Pre-substantial walk over of 19/5 – VHE to check boundary and re-excavate where necessary. Fence relocated in the western boundary and additional excavation was undertaken to rectify boundary dispute in the northwest.
Mine shaft 006 validation report	Van Elle to provide report	Van Elle completion report was sent 14/12/2022. Report to be updated based on Hydrock comments.
Mine shafts 007 and 008 validation report	M&J to provide report	Drilling and grouting completed 19.10.2023. Verification report to be completed.
Borehole / abstraction well decommissioning	Abstraction well to be located as far as possible. Borehole to be grouted.	Records to be provided to Hydrock. Details presented in final validation report.
Culvert replacement program	Drainage, excavation and backfill	VHE surveying to find the culvert is ongoing.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-10556

SHEET NO.: 6 of 9



Photograph 1: Excavation of Potentially TPH contaminated Made Ground in the location of shaft no.7. Glacial till at the base of the excavation observed. 6F5 material placed in the southern part to provide running layer.



Photograph 2: Stockpile of potentially TPH contaminated material excavated from location of shaft no.7.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-10556

SHEET NO.: 7 of 9



Photograph 3: Stockpile of potentially TPH contaminated material on a black visqueen barrier adjacent to electrical substation. Material excavated from location of shaft no.7.



Photograph 4: Excavation of Made Ground in the location of shaft no.8. Material has high moisture content.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-10556

SHEET NO.: 8 of 9



Photograph 5: Excavations in the centre and east to find location of culvert.



Photograph 6: Standing water in the centre of the site.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-10556	SHEET NO.: 9 of 9
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Photograph 7: Stockpile of 6F5 imported material in the southeast adjacent to electrical substation.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-10557		SHEET NO.: 1 of 8	
Project: Stopes Road, Bolton		Date: 01/11/23	
Client: Harworth		Weather: Cloudy	
Contract No.: C-15220-C		Engineer: Davood Mahdavian	
Doc Ref: 15220-HYD-XX-XX-SVR-GE-1057		Status & Revision: S2 – P1	

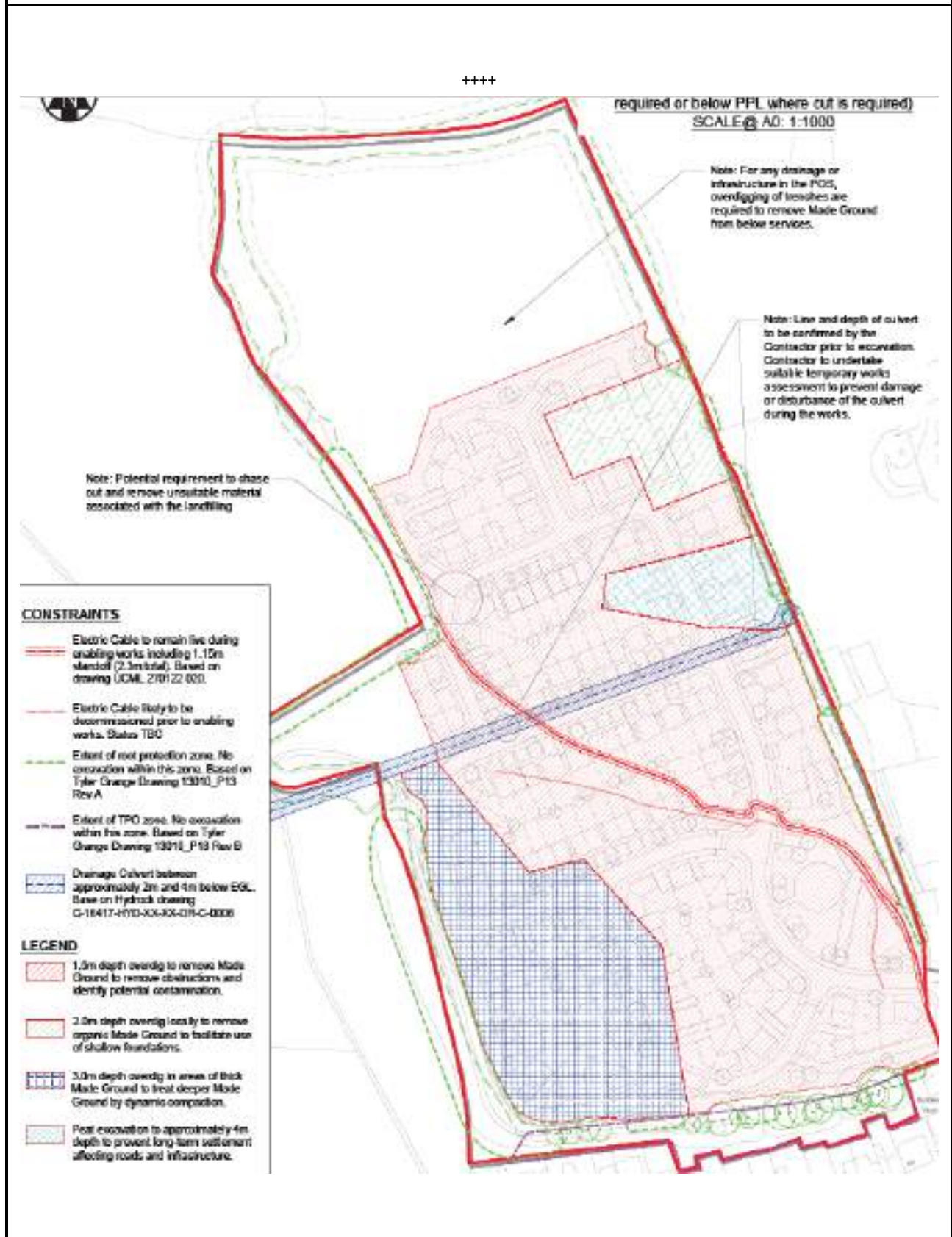
Personnel Present:			
Organisation	Role		Name
VHE	Site agent		Seb Gledhill
VHE	Site agent		Casey
VHE	Quantity Surveyor		James Varley
Cumming Management Group	Project Surveyor		Ethan Matthew
Hydrock	Civil Engineer		Chloe Fell
AWP	Geo-Environmental Engineer		Sarah Roberts
A: Review of Earthworks Testing Records to Appendix 1/24 Clause 6.5			
Item	Evidence of Record		Comment
	Yes	No	
Records reviewed on site		n/a	No test records reviewed on site. Testing on-going and records to be provided in updated version of Engineers report
Sequential Test Number		n/a	
Date of Test		n/a	
Coordinated Position		n/a	Local grid used
Test Grid Reference		n/a	
Layer No		n/a	
Source material Type		n/a	Comment on Engineers report to include specific reference to each source material
Results checked for compliance		n/a	
C: Additional activities to be observed by Hydrock during Audit Visit			
Item	Observed on Site		Comment
	Yes	No	
Temporary Slopes		✓	na
Excavation and site surveying		✓	na
De-watering of excavations		✓	Water in excavations for culvert surveying.
Control & management of water		✓	Standing water in the center of the site.
Compaction Trials completed	✓		TN005
Layer thickness - check		✓	na
Compaction method – check		✓	no fill is being placed.
Benching in of fill - check		✓	no fill is being placed.
Stockpiling of material	✓		Potentially TPH contaminated material and wet material stockpiled separately in the southeast.
Inspection of subgrade		✓	na

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-10557			SHEET NO.: 2 of 8
Quality management of fill	✓		Imported 6F5 material placed as fill in the location of treated shafts no.7 and 8.
Works Undertaken by the Contractor: VHE • Stockpile of potentially TPH contaminated material on a black visqueen barrier adjacent to electrical substation. • Material with high moisture content stockpiled in the southeast. • Standing water in the centre of the site was observed. • 6F5 imported and used to backfill location of treated shafts no.7 and 8. •			
Discussions/Recommendations & Instructions:			
To/From VHE • SG stated that samples taken from location of excavation and stockpile of potentially TPH contaminated material. VHE is waiting for test results. • Density and plate load testing undertaken in the location of backfilled shafts. VHE is waiting for results. <u>Progress Meeting 13</u> Hydrock, VHE, Harworth, Cumming Group and AWP discussed details of culvert replacement and earthworks. Formal minutes to be provided by Cumming Group. Items discussed during the meeting include: • DF asked about identification of any soft spot in the excavation of shaft no.7. SG stated that over-excavation was undertaken in the location of shaft no.7 due to presence of soft Glacial Till. Hand shear vane test was undertaken. VHE confirmed that soft sport report will be completed and appended to the verification report. • Some of site won material was used as fill due to high moisture content of material. • Contaminated and unsuitable material will be taken off site. • 1300 tonnes of 6F5 material imported so far for backfilling of shafts location. • Excavations of culvert location should be backfilled with 6F5 material. • Culvert investigation was undertaken and a '1m pipe' was found outside boundary of the site. VHE could not find location of old culvert. Culvert design was discussed and a new design to be completed by Hydrock civil engineer. • Monitoring of RSG 11 should be ongoing until final settlement. • Shaft treatment verification report will be completed as soon as cube test results are received. • Updating health and safety file. • VHE is expecting to complete the earthwork by the end of this week.			

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-10557

SHEET NO.: 3 of 8

Site Plan



SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-10557

SHEET NO.: 4 of 8

Action Plan

Hydrock Comment	Contractor Proposal/Solution	Action Status
Designs		
RDC/HEIC design required	Design developed by Contractor and AWP	Final design completed following site trials. RDC works complete
Mine Treatment Design	Design to be developed as far as possible based on current information.	Updated specification provided by Van Elle 03/10.
Test Reports and Records		
Time lag of geotechnical and geochemical testing.	Contractor confirmed 15 days turnaround time.	Client team to be notified if any test data will be delayed. No lab test delay reported.
Source approval note	Contractor (AWP) agreed to provide a note on the different sources, volumes and testing ahead of the compaction trials	Report provided by VHE (TN005) 02/09. Hydrock reviewed the reports and submitted comments to VHE. Source testing for 6F2 required. Final Validation updated
Fortnightly Testing Report (latest report to be sent monthly to NHBC)	Contractor / AWP agreed to provide a report every fortnight demonstrating compliance with the material testing specification and suitability of formations	Frequency increased to weekly. Testing assessment outstanding. TN010 reviewed by Hydrock. AWP to update based on comments. Final Validation updated
Evidence of material tracking and stockpile surveys required.	VHE agreed provision of weekly records	Latest stockpile survey and site survey 19/05/2023.
Base of excavation records	Tracker to be provided demonstrating inspection and testing prior to backfilling.	No tracker provided. Drawing requested demonstrating sufficient over-excavation Drawing provided.
Compaction Trial Assessment	Analysis of compaction trial required to demonstrate method is suitable to meet end product criteria	Report provided by VHE (TN005) 02/09. Hydrock reviewed and commented.
Soft Spot records	Soft spot record sheets provided by RH on 12/08 are a good record of the works undertaken and will be issued to Hydrock periodically	Soft spot was found in the location of shaft no.7 excavation. Soft spot reports to be provided in validation report.
Hotspot Reports	Validation reports to be provided for each hotspot	Results of possibly TPH contaminated material in excavation of shaft no.7 will be appended to the final verification report.
Geotechnical Monitoring	Monitoring results to be included in regular update reports	New round of settlement monitoring data was sent 24/10/2023. RSG monitoring should be ongoing until final settlement. VWP sent 23/11.2022.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-10557

SHEET NO.: 5 of 8

Hydrock Comment	Contractor Proposal/Solution	Action Status
Other		
Coal Authority Permit	VHE to obtain permit for mine entry treatment	Coal Authority permission for mine shaft 006 treatment was achieved and grouting completed 07/11/2022. Coal authority permit for shaft 007 and 008 received 05.10.2023. Drilling and grouting commenced on 10.10.2023.
Boundary Survey	VHE to provide boundary survey to demonstrate compliance with contract	Discrepancy noted in southwestern boundary with regards to standoff (09/09/22) Additional survey provided 28/09 but no charge to boundary. Pre-substantial walk over of 19/5 – VHE to check boundary and re-excavate where necessary. Fence relocated in the western boundary and additional excavation was undertaken to rectify boundary dispute in the northwest.
Mine shaft 006 validation report	Van Elle to provide report	Van Elle completion report was sent 14/12/2022. Updated report provided
Mine shafts 007 and 008 validation report	M&J to provide report	Drilling and grouting completed 19.10.2023. Verification will be provided.
Borehole / abstraction well decommissioning	Abstraction well to be located as far as possible. Borehole to be grouted.	Records to be provided to Hydrock. Details presented in final validation report.
Culvert replacement program	Drainage, excavation and backfill	VHE surveying to find the culvert is ongoing. Installation works on-going

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-10557

SHEET NO.: 6 of 8



Photograph 1: Shaft no.8 backfilled with 6F5 material.



Photograph 2: Ongoing backfilling of excavation in location of shaft no.7 with 6F5 material

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-10557

SHEET NO.: 7 of 8



Photograph 3: Stockpile of potentially TPH contaminated material on a black visqueen barrier adjacent to electrical substation and wet material stockpile. Material excavated from location of shaft no.7.



Photograph 4: Stockpile of wet unsuitable material in the southeast.

SITE VISIT REPORT 15220-HYD-XX-XX-SVR-GE-10557

SHEET NO.: 8 of 8



Photograph 5: Importing 6F5 material for backfilling of excavation in the location of shaft no.7.



Photograph 6: Pumping water from culvert to the northern and western sewer system.

Appendix E Updated Geotechnical Risk Register

The Geotechnical Risk Register has been compiled in accordance with the general requirements CD 622 to assist in the management of the risks and hazards. The following pages set out the identified geotechnical risks and hazards associated with the development and establish the approach which is to be taken to manage the risks post construction.

The purpose of the Geotechnical Risk Register is to provide and outline a description of the hazards, identify the likely cause, describe the potential impact of the hazard and identify the design construction controls to be implemented in order to minimise the geotechnical risk.

This Geotechnical Risk Register has been revised and updated following the completion of the demolition and enablement activities (Construction Team) and forms part of the Geotechnical Feedback Report as defined by CD622 (updates in **bold** text). This Geotechnical Risk register should be read in conjunction with the Geotechnical Design Report, Hydrock reference 15220-HYD-XX-XX-GE-RP-1001.

Whilst the probability and impact of the hazard occurring can be reduced to a minimum by geotechnical design, the impact cannot be reduced below very low. The probability and impact of a hazard have been judged on a qualitative scale as set out in Table.1. The degree of risk (R) is determined by combining an assessment of the probability (P) of the hazard occurring with an assessment on the impact (I) of the hazard and associated mitigation it will cause if it occurs ($R = P \times I$).

Table.2 presents the geotechnical risk assessment.

Table.1: Qualitative Assessment of Hazards and Risks

P = Probability		I = Impact		R = Risk Rating (P x I)	
1	Very unlikely	1	Very Low	1 – 4	None / negligible
2	Unlikely	2	Low	5 – 9	Minor
3	Plausible	3	Medium	10 – 14	Moderate
4	Likely	4	High	15 – 19	Substantial
5	Very Likely	5	Very High	20 – 25	Severe

Table.2: Geotechnical Risk Assessment

Hazard	Location	Risk	Consequence	Risk Before Mitigation			Mitigation Measures			Residual Risk		
				P	I	R				P	I	R
							Preliminary Design	Detailed Design	Construction Team			
Uncontrolled Made Ground (variable strength and compressibility). Variability laterally and vertically.	There is Made Ground due to historical construction activity at the site as well as the backfilled quarry in the west of the site and historic landfilling. Made Ground recorded to 7.5m. A large area of organic Made Ground is present in the centre of the site	Foundations and floor slabs.	ULS and SLS failure.	4	4	16	Over-excavation of all Made Ground. Made Ground to be reengineered as selected fill (in areas of shallow foundations) and general fill (in areas of piled foundations) in accordance with the Hydrock Geotechnical Design Report 15220-HYD-XX-XX-RP-GE-0005-S2-P03. Shallow foundation assessment in selected fill to determine ultimate and serviceability limit states. Definition of ground conditions where shallow foundations are permitted. Recommendation of suspended floor slabs in Hydrock GIR	Adopt foundation and ground improvement solutions as per Section 2 & 6 of this GDR. Future designers (structural, geotechnical including pile/VSC specialist designers) to review ground model and earthworks completion report to inform design. Foundations to be extended below the base of Made Ground or foundation specific ground improvement undertaken	Construction in accordance with design specification and construction drawings. Provision of as built records and testing where required. Made Ground removed and replaced by engineered fill, surveys provided by VHE. Source approval testing of engineered fill materials completed. In situ testing demonstrates suitability of fill materials.	2	4	8

Hazard	Location	Risk	Consequence	Risk Before Mitigation			Mitigation Measures			Residual Risk		
				P	I	R				P	I	R
							Preliminary Design	Detailed Design	Construction Team			
	extending from the landfill area in the west to the peat area in the east.	Roads and infrastructure.	Settlement (total and differential) of roads and pavements.	3	4	12	Over-excavation of all Made Ground. Made Ground to be reengineered as selected fill (in areas of shallow foundations) and general fill (in areas of piled foundations) in accordance with the Hydrock Geotechnical Design Report 15220-HYD-XX-XX-RP-GE-0005-S2-P03.	Minimum design subgrade stiffness set at 2.5% CBR for Made Ground. Over-excavation and dynamic compaction (RDC) of Made Ground as per Section 6 of this GDR. Settlement assessment of residual organic Made Ground undertaken as part of this GDR. Earthworks Specification to ensure minimum performance based on pavement and infrastructure design.	Complete testing in accordance with specification. Provide as built records including detailed surveys. Engineering watching brief. Undertake settlement monitoring in accordance with this GDR. Settlement monitoring demonstrates residual settlement within tolerable limits	1	4	4

Hazard	Location	Risk	Consequence	Risk Before Mitigation			Mitigation Measures			Residual Risk		
				P	I	R				P	I	R
							Preliminary Design	Detailed Design	Construction Team			
		Construction on staff, vehicles and plant operators.	Trafficking of the site in temporary conditions. Overturning of plant during construction. Instability of temporary excavations.	2	5	10	None.	None. Earthworks specification not based on temporary works.	Temporary works design to be undertaken by Contractor. Excavations to be battered to a suitable angle. Monitoring of ground conditions.	1	5	5
Low strength and high compressibility of natural soils (Peat & Glacial Till)	The ground investigation identified low strength Glacial Till, particularly within the upper 3.0m. Peat deposits present	Foundations and floor slabs.	ULS and SLS failure.	3	5	15	Foundation and floor slab recommendation based on Hydrock GIR reference 15220-HYD-XX-XX-RP-GE-0003.	Future designers to review ground model and earthworks completion report to inform design. Peat to be removed as part of enabling works. Foundations to be deepened below	Construction in accordance with design specification and construction drawings. Peat and organic material were removed. Hydrock watching brief and Surveys provided	1	5	5

Hazard	Location	Risk	Consequence	Risk Before Mitigation			Mitigation Measures			Residual Risk		
				P	I	R				P	I	R
				Preliminary Design	Detailed Design	Construction Team						
	along the eastern site boundary and extending into the centre of the site, encountered at up to 3.9m depth.							the soft Glacial Till and into the firm to stiff strata.				
		Roads and infrastructure	Pavement foundation failure.	3	4	12	Road and pavement recommendation based on Hydrock GIR reference 15220-HYD-XX-XX-RP-GE-0003.	Minimum design subgrade stiffness set at 2.5% CBR. Peat removal as per Section 6 of this GDR. Earthworks specification to ensure minimum performance based on pavement and infrastructure design.	Over-excavation and removal of soft spots. Subgrade inspection and testing. Settlement monitoring. Peat, organic material and soft spot were removed.	1	4	4

Hazard	Location	Risk	Consequence	Risk Before Mitigation			Mitigation Measures			Residual Risk		
				P	I	R				P	I	R
							Preliminary Design	Detailed Design	Construction Team			
		Construction staff, vehicles and plant operators.	Trafficking of the site in temporary conditions. Overturning of plant during construction.	2	5	10	None.	None. Earthworks specification not based on temporary works.	Temporary works design to be undertaken by Contractor. Temporary haul roads may be required in heavily trafficked zones.	1	5	5
Slope stability issues – General Slopes.	The site is on sloping ground and the proposed development requires slopes to be formed as part of the cut to fill.	Structures	Ground instability in close proximity to slope faces.	3	4	12	Final slope profiles to be designed at safe angles. Where slopes cannot be accommodated, design of retaining structures. Slope stability analysis undertaken for current proposals shown to be stable. Further detailed design required if cut/fill proposals change. Design in accordance with BS EN 1997-1.		Construct slopes in accordance with design. Report unexpected ground conditions. Provide test results and as-built records. Contractor to design temporary works.	1	4	4
		Roads and Pavements		3	3	9				1	3	3
		Areas of open space.		3	2	6				1	2	2

Hazard	Location	Risk	Consequence	Risk Before Mitigation			Mitigation Measures			Residual Risk		
				P	I	R				P	I	R
				Preliminary Design		Detailed Design	Construction Team					
	Slope in the Northwestern boundary adjacent to neighbour land.	Attenuation pond.	Potentially high groundwater level. Seepage onto slope face causing failure.	4	4	16	Pond design to incorporate drainage below liner or alternatively to bury liner deeper below a suitable fill material for added resistance to uplift and instability. Additional groundwater monitoring bores to be undertaken to inform design and any drainage requirements.		Construction in accordance with design.	2	4	8
Shrinkage / swelling of the clay fraction of soils under the influence of vegetation	The clays of the Glacial Till have Low volume change potential. Mature trees are located on site and on the site boundary. Proposed planting as part of final development.	Foundations and floor slabs.	Shrinkage or heave of soils and associated damage to concrete foundations and slabs	4	4	16	None	Future design to take into consideration existing trees, removed trees and new planting. Deepen foundations due to trees in accordance with NHBC Standards. Suspended floor slabs	Construction in accordance with design specification and construction drawings. Engineering watching brief for inspection of bearing stratum for foundations within 25m of site boundary perimeter	1	4	4

Hazard	Location	Risk	Consequence	Risk Before Mitigation			Mitigation Measures			Residual Risk		
				P	I	R				P	I	R
							Preliminary Design	Detailed Design	Construction Team			
Earthworks – Settlement (due to placement of fill on soft ground).	Levels are increasing across parts of the site by up to 2.2m to allow development across the site.	Development platforms including future structures.	Long-term total and differential settlement.	3	4	12	Determination of minimum stiffness of engineered fill to provide sufficient support to foundations and floor slab. Details provided in GDR, Hydrock reference 15220-HYD-XX-XX-RP-GE-0005-S2-P03.	Settlement analysis undertaken as part of earthworks design indicates less than 25mm total post construction settlement. Future design team to assess impact on final development.	Time delay between earthworks and construction. Settlement reduced to less than 25mm after 6 months. Settlement monitoring to confirm assessment. Ground improvement was undertaken in areas more than 1m Made Ground.	1	4	4
		Roads and Pavements		3	3	9				2	3	6
	Borrow pit in the north.	Service limit state failure in terms of unacceptable total and differential settlement.	POS and external areas.	3	3	9	Determination of minimum stiffness of engineered fill. Details provided in GDR, Hydrock reference 15220-HYD-XX-XX-RP-GE-0005-S2-P03.	Determination of compliance values to be met by engineered fill to meet the long-term stiffness. Values added to Appendix 6/1. Site supervision by Hydrock.	Site inspection, careful selection of fill and testing at the frequency defined in Appendix 1/5, to demonstrate compliance with Appendix 6/1 and 6/3. Watching brief undertaken during	2	3	6

Hazard	Location	Risk	Consequence	Risk Before Mitigation			Mitigation Measures			Residual Risk		
				P	I	R				P	I	R
				Preliminary Design		Detailed Design	Construction Team					
								Inspection of the undisturbed subgrade prior to commencement of fill placement. This shall include the removal of any subsoils where the engineering performance is unacceptable, which in turn will require an element of over-excavation below the base of the topsoil.	works. Placement of compressible soils into borrow pit			
Sulfates present in the soils.	The ground investigation has proven that there is the potential	Attack of buried concrete	Damage to concrete and reduction in strength.	3	4	12	Classify concrete in accordance with BRE SD1.	Future designers to design foundations and other at-risk structures considering the Design Sulphate (DS) classification in accordance with BRE (Special Digest 1).		3	4	12

Hazard	Location	Risk	Consequence	Risk Before Mitigation			Mitigation Measures			Residual Risk		
				P	I	R				P	I	R
							Preliminary Design	Detailed Design	Construction Team			
	for expansive sulfate bearing soils to be present. This appears to be particularly related to the Made Ground and possibly pyrite within the coal measures.	Earthworks / pavements .	Sulfate heave following the use of hydraulic binders.	3	4	12	Where material is proposed to be modified with hydraulic binder, a full set of design laboratory trials shall be completed to demonstrate that the material is suitable to be treated. Sulfate and swell testing were undertaken where hydraulic binder was used.			2	4	8
Obstructions	Obstructions have been proven by the investigation and during the earthworks. There is a potential for additional	Construction programme and work sequence.	Extended cost and programme . Delays at construction stage during foundation construction, drainage	4	3	12	Over-excavation and replacement to be undertaken during remediation works to remove all obstructions.	Site-wide overdig of Made Ground to clear any near surface obstructions, as per Section 6 of this GDR.	Provision of appropriate plant, crushing and processing equipment. Provide as built surveys of excavations. Chase out obstructions. Near surface Made Ground removed and obstructions	2	3	6

Hazard	Location	Risk	Consequence	Risk Before Mitigation			Mitigation Measures			Residual Risk		
				P	I	R				P	I	R
							Preliminary Design	Detailed Design	Construction Team			
	obstructions to be present due to historical construction activity, or unknown fill in Made Ground.		and ground improvement (VSC).						chased out and removed. Residual Made Ground still present on site with potential for obstructions at depth.			
		Roads and Pavements	Hard spots in externals and roads / pavements.	3	2	6			Site wide overdig of the Made Ground will remove the near surface obstructions. Near surface Made Ground removed and obstructions chased out and removed. Residual Made Ground still present on site.	1	2	2
		Construction staff, vehicles and plant operators.	Risk of collapse of excavation as obstructions are pulled out.	4	3	12			Consider likelihood of excavation collapse in temporary works risk assessment.	2	3	6

Hazard	Location	Risk	Consequence	Risk Before Mitigation			Mitigation Measures			Residual Risk		
				P	I	R				P	I	R
							Preliminary Design	Detailed Design	Construction Team			
Historic Mining.	The site has been proven to be within the zone of influence of underground coal mining. Surface mining also impacts the western side of the site. 4 mine entries are	Structures	Subsidence and localised ground collapse. Reduction of lateral support potentially affecting stability of the structure. Excessive settlement.	4	5	20	Stabilisation of underground mine workings by drilling and grouting to be completed prior to development. Notwithstanding stabilisation works, foundations to be designed in accordance with CIRIA publication C758D, 'Abandoned Mine Workings Manual' and 'Structural Foundations Manual for Low Rise Buildings' (Atkinson) or the NCB publication, 'Subsidence Engineers Handbook'. No soakaway drainage within influencing distance of structures and roads. Infiltration if used is to be installed in POS. Use rocker boxes and flexible couplings. Working platform design and treatment methodology to consider collapse during treatment particularly during mine entry stabilisation. Shaft no.006, 007 and 008 were grouted as part of the enabling works. No development should be undertaken within the influencing distance of the treated shafts. Shaft no.003 was not found and shaft			1	5	5

Hazard	Location	Risk	Consequence	Risk Before Mitigation			Mitigation Measures			Residual Risk		
				P	I	R				P	I	R
							Preliminary Design	Detailed Design	Construction Team			
	known to be present on site.	Roads and infrastructure.	Serviceability affected. Voids opening at surface. Damage to services. Leaking drainage causing inundation and further collapse.	4	4	16	no. 002 outside boundary of the site in the northwest is considered as residual risk and it's recommended that the risk zone to be fenced or segregated.			1	4	4
		Construction staff, vehicles and plant operators.	Trafficking of the site in temporary conditions. Overturning of plant during construction/treatment.	4	4	16				2	4	8

Hazard	Location	Risk	Consequence	Risk Before Mitigation			Mitigation Measures			Residual Risk		
				P	I	R				P	I	R
							Preliminary Design	Detailed Design	Construction Team			
Shallow groundwater and changing groundwater	Monitoring during the ground investigations and earthworks has proven perched groundwater within the Made Ground and superficial soils.	Formation and subgrade.	Flooding, standing water, deterioration of subgrade.	4	3	12	The Hydrock GIRs and GDR highlight the presence of shallow water.	Temporary / permanent drainage in areas of cut to control groundwater and drain surface.	Allowance for temporary groundwater control. Construct land drainage in accordance with design. Provide as-built drawings.	3	3	9
		Slopes, attenuation pond.	Slope/embankment failure due to rising groundwater. Uplift failure due to rising groundwater.	4	4	16	The Hydrock GIRs and GDR highlight the presence of shallow water.	Conservative groundwater level adopted for design based on proposed additional monitoring. Pond design to incorporate drainage below liner or alternatively to bury liner deeper below a suitable fill material for added resistance to uplift and instability.	Construct drainage in accordance with design. Report unexpected seepages. Engineering watching brief. Drainage constructed in the western boundary.	2	4	8

Hazard	Location	Risk	Consequence	Risk Before Mitigation			Mitigation Measures			Residual Risk								
				P	I	R				P	I	R						
				Preliminary Design			Detailed Design			Construction Team								
		Temporary Works. Site wide strip of Made Ground. Peat dig-out.	Excavation collapse/flooding, poor trafficking conditions.	3	4	12	None.			Temporary works design by Contractor. Pumping from excavations and control of groundwater likely to be required. Temporary haul roads and drainage to facilitate works on site. Groundwater pumping formed part of the enabling and remediation works. Water removed prior to the placement of fill.			2	4	8			
		Pavements and external areas	Inundation settlement in areas of deep Made Ground.	3	4	12	The Hydrock GIRs and GDR highlight the presence of shallow water.			Over-excavation and replacement of surface soils. Dynamic Compaction ground improvement of residual Made			Detailed design of dynamic compaction. Testing to demonstrate compliance with design. Provision of surveys and records to Engineer. Over-			1	4	4

Hazard	Location	Risk	Consequence	Risk Before Mitigation			Mitigation Measures			Residual Risk		
				P	I	R				P	I	R
							Preliminary Design	Detailed Design	Construction Team			
								Ground to reduce voids. Placement of all fill to less than 5% air voids.	excavation was completed and the Rolling Dynamic Compaction of residual Made Ground was carried out to reduce voids.			
Earthworks – poor bearing capacity and/ or settlement of new fill.	There is a requirement for cut to fill to create the development platform and filling of remediation excavations across the site. This will require reuse of soils excavated	Structures	Foundation bearing capacity failure, settlement (total and differential).	4	4	16	Foundations recommendations in Hydrock GIR and GDR.	It is anticipated that foundations will be taken through any engineered fill or further ground improvement undertaken at foundation locations. Future design team to assess suitability of earthworks design based on proposed layout and loads.	Construct foundations / ground improvement as required by future design team. Provision of as built records as part of construction phase.	1	4	4

Hazard	Location	Risk	Consequence	Risk Before Mitigation			Mitigation Measures			Residual Risk		
				P	I	R				P	I	R
							Preliminary Design	Detailed Design	Construction Team			
	from the site.	Roads and Pavements .	Settlement (total and differential). Pavement failure.	4	3	12	The design subgrade CBR according to Hydrock GIR and GDR.	Earthworks specification to ensure minimum performance based on pavement and infrastructure design in order to limit self-weight settlement.	Complete testing in accordance with specification. Provide as built records. Engineering watching brief.	2	3	6
		Services.	Settlement (differential) , causing damage to services.	4	3	12	None					
		Areas of open space.	Settlement	3	1	3	None	Reduced specification to ensure general stability.			2	1
		Constructi on staff, vehicles and plant operators.	Trafficking of the site in temporary conditions.	2	5	10	None.	None. Earthworks specification not based on temporary works. However, should	Temporary works design to be undertaken by Contractor haul	2	5	10

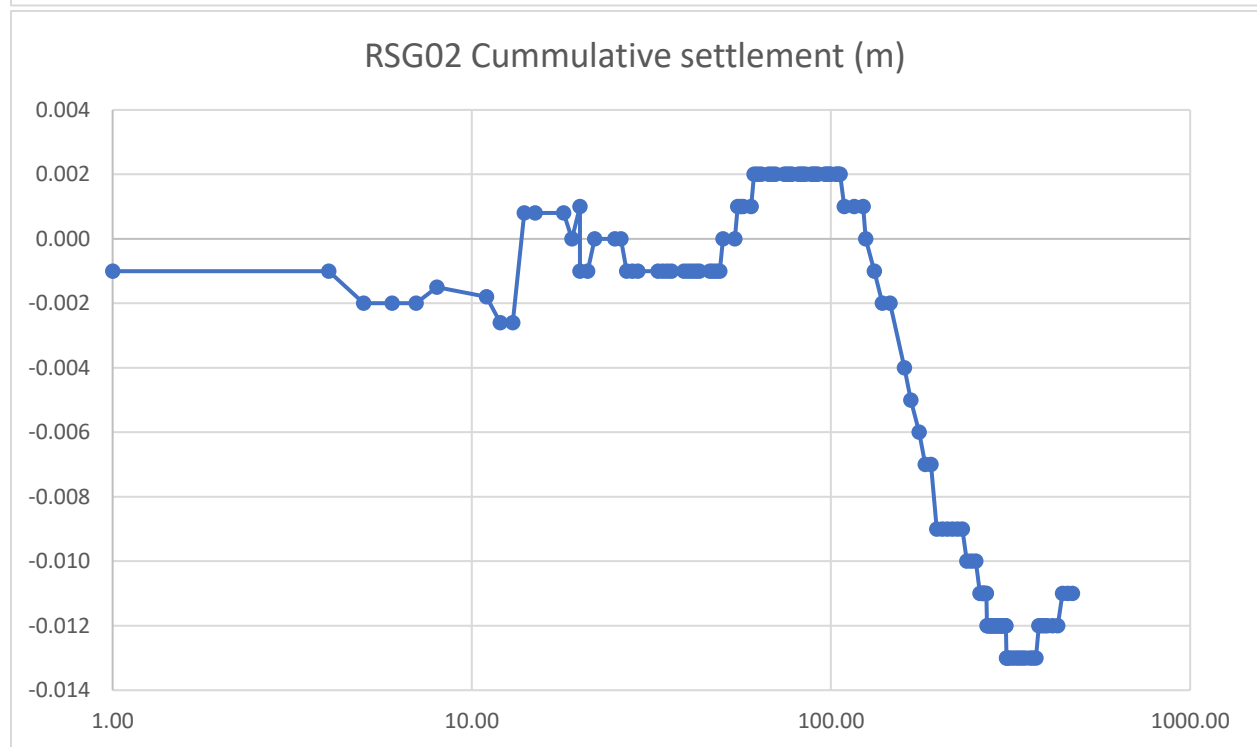
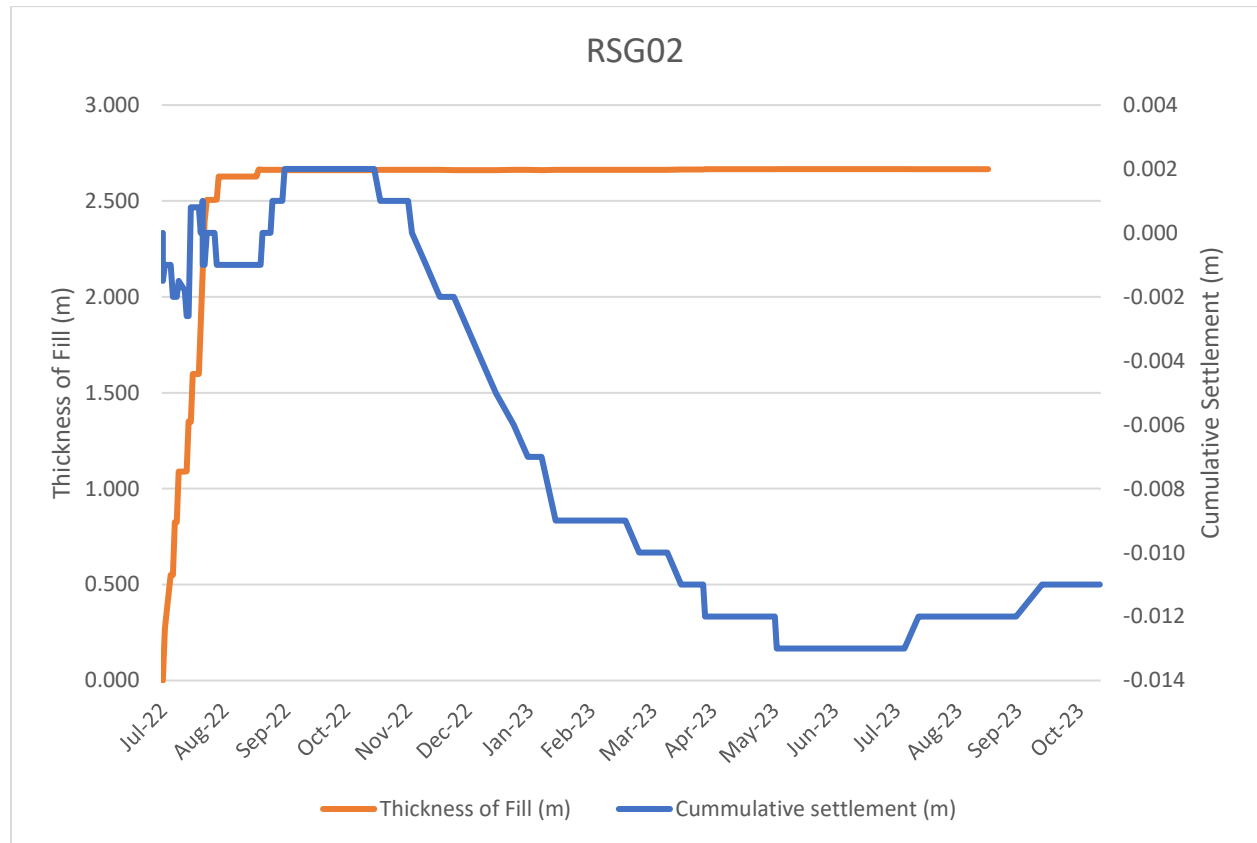
Hazard	Location	Risk	Consequence	Risk Before Mitigation			Mitigation Measures			Residual Risk		
				P	I	R				P	I	R
							Preliminary Design	Detailed Design	Construction Team			
			Overturning of plant during construction.					be suitable for general trafficking	roads in heavily trafficked areas.			
Unforeseen ground conditions - risk associated with limited data.	Ground investigation has been undertaken. However, additional information will be obtained during construction. Ground conditions are only defined at exploratory hole locations.	All aspects of the development.		2	4	8	Additional sources of information relating to the location of the shallow mine workings required. Blanket over-excavation designed to identify further unsuitable material, obstructions and contamination not identified in the ground investigation.		Designers to be contacted if conditions encountered are different to those identified during investigation. Regular inspections required for excavations and earthworks for evidence of stability. Additional ground investigation was undertaken to identify mine shafts 007 and 008 locations. Unrecorded shafts may be	1	4	4

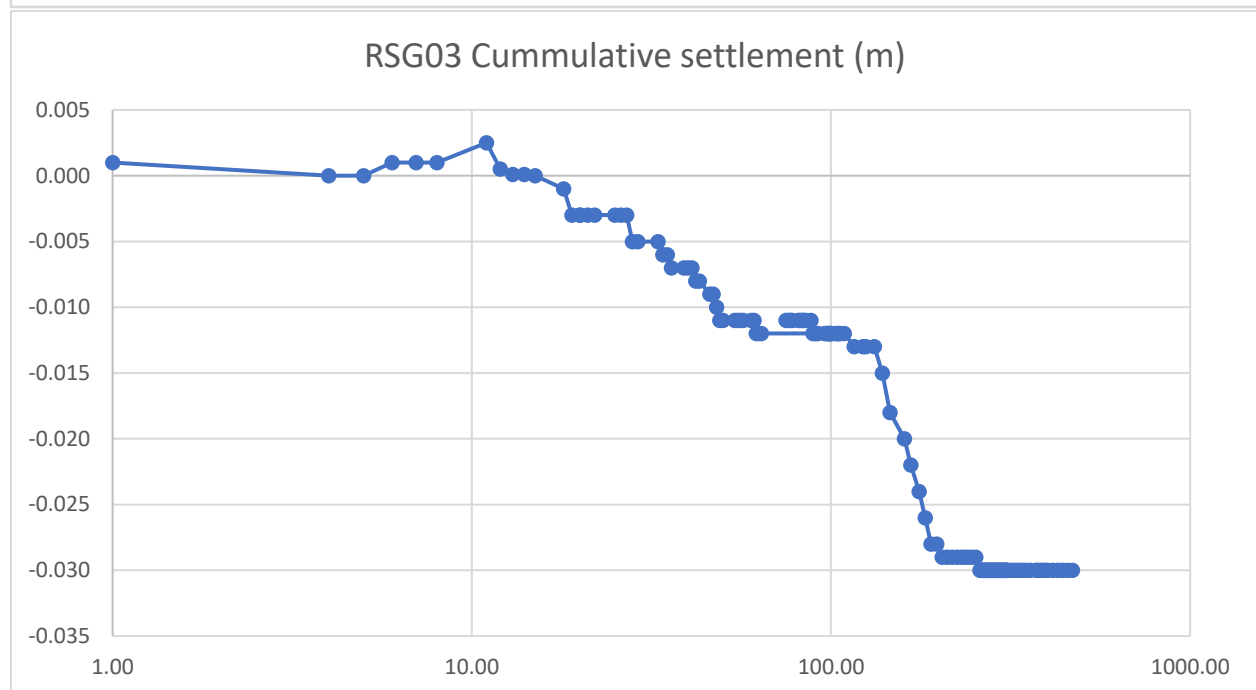
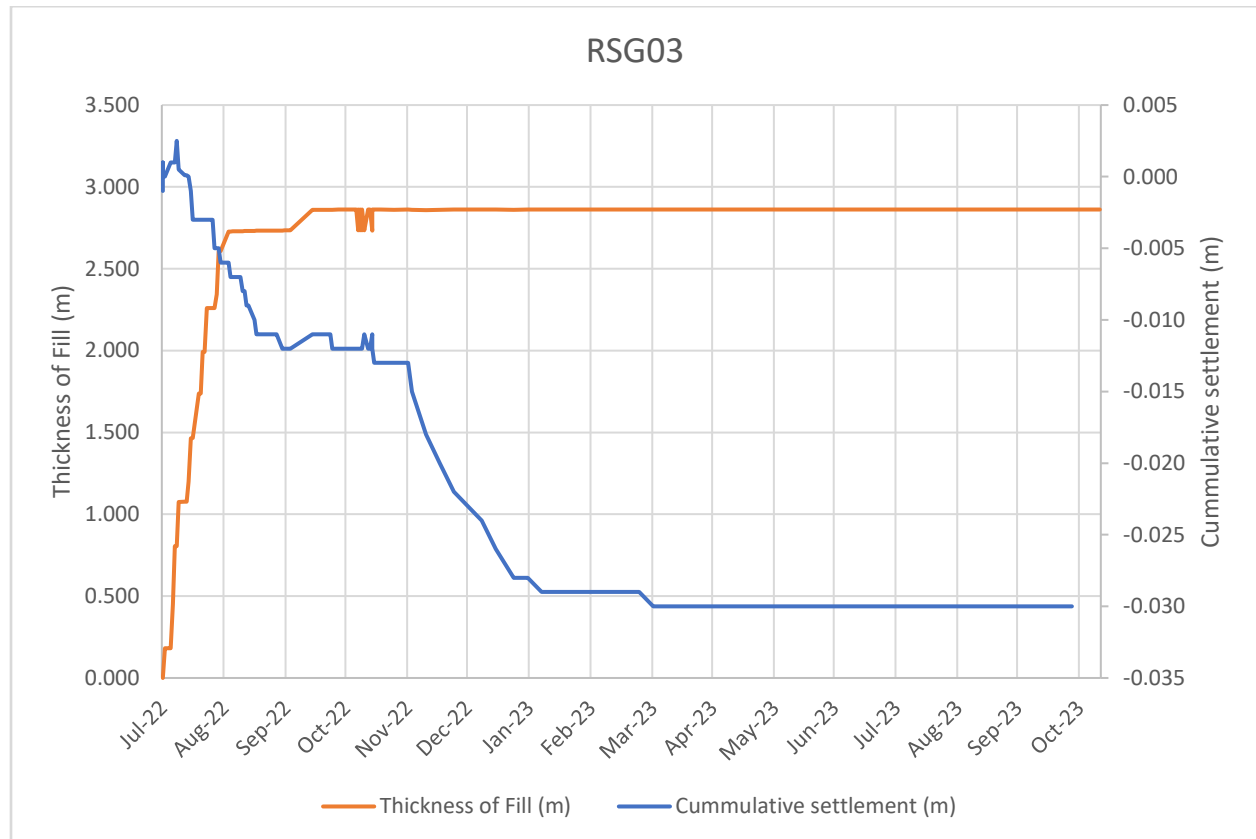
Hazard	Location	Risk	Consequence	Risk Before Mitigation			Mitigation Measures			Residual Risk		
				P	I	R				P	I	R
							Preliminary Design	Detailed Design	Construction Team			
									encountered during future works			
Adverse chemical ground conditions, (e.g., expansive slag).	Potential for red shale and expansive slag across the site.	Foundations and ground bearing floor slabs.	3	4	12	Suspended floor slabs in areas of Made Ground in accordance with NHBC Standards. Concrete structures to be designed with appropriate concrete class. Soil aggressivity testing requirement included in earthworks specification for structural fill. Removal of adverse and deleterious materials as part of the enabling works. Deleterious materials were removed from excavated landfill Made Ground.			2	4	8	

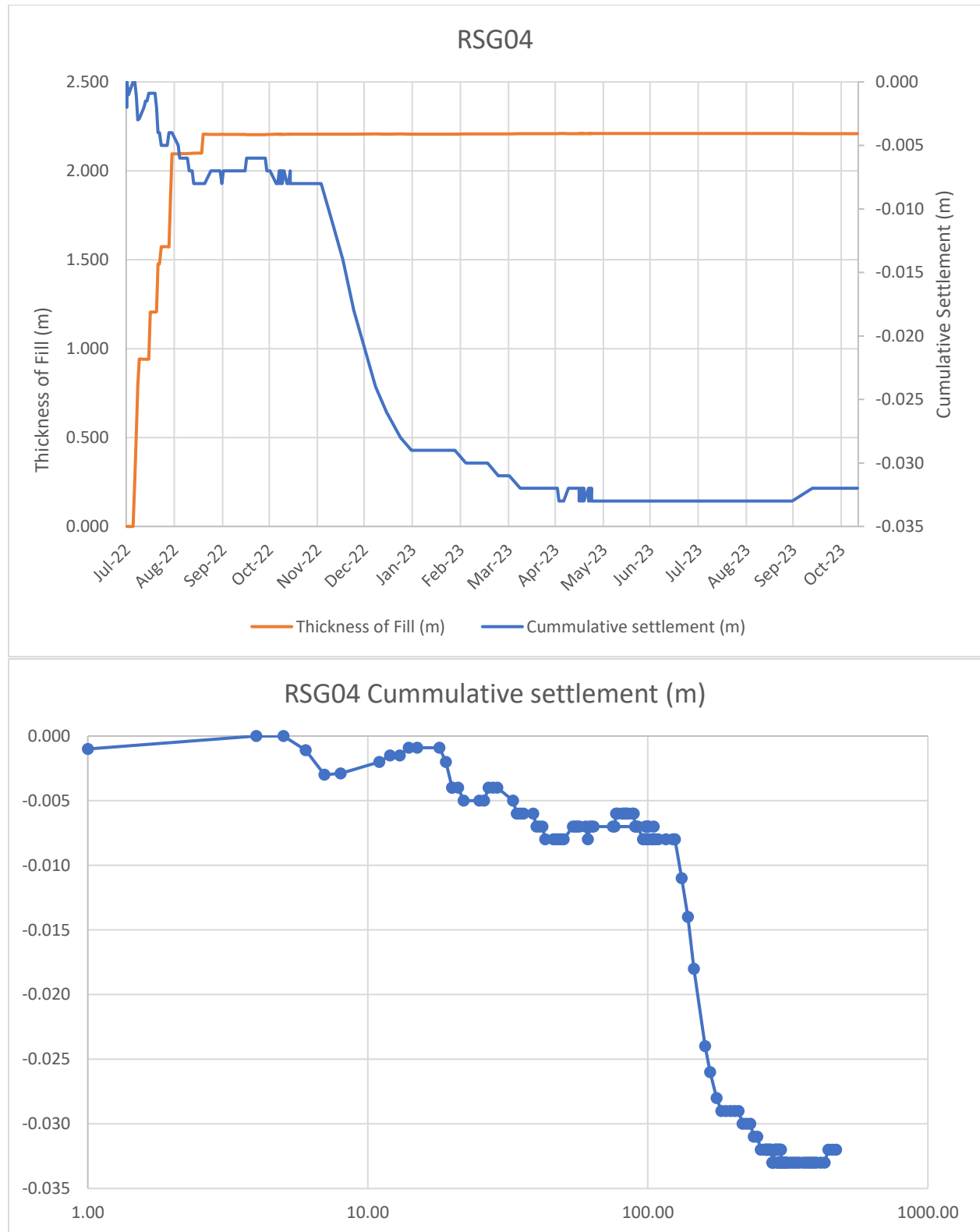
Hazard	Location	Risk	Consequence	Risk Before Mitigation			Mitigation Measures			Residual Risk		
				P	I	R				P	I	R
							Preliminary Design	Detailed Design	Construction Team			
Unsuitable material for reuse	Site wide. If reused, could cause stability and settlement issues during and after construction.	Construction programme and work sequence.	Costs and delays associated with importing material and disposal of unsuitable material.	4	4	16	Earthworks specification designed in accordance with the preliminary design. Earthworks Specification includes methodology and process for treating unsuitable materials.	Assumed design soil parameters set to permit the use of a wide range of materials. Investigation will not have identified all potentially unsuitable soils. Earthworks during winter months not recommended. Allowance to be made in enabling works contract for dealing with/ treating unsuitable material to render them acceptable for use in the works. Minimum performance determined as part of the design. Earthworks	Additional targeted testing of source materials is required prior to incorporation into site works. Test results to be provided to the engineer for validation. Engineer supervision during works. Allowance for removal of unsuitable material. Source approval testing was undertaken prior to use. In situ testing demonstrates minimum performance criteria has been met.	2	4	8

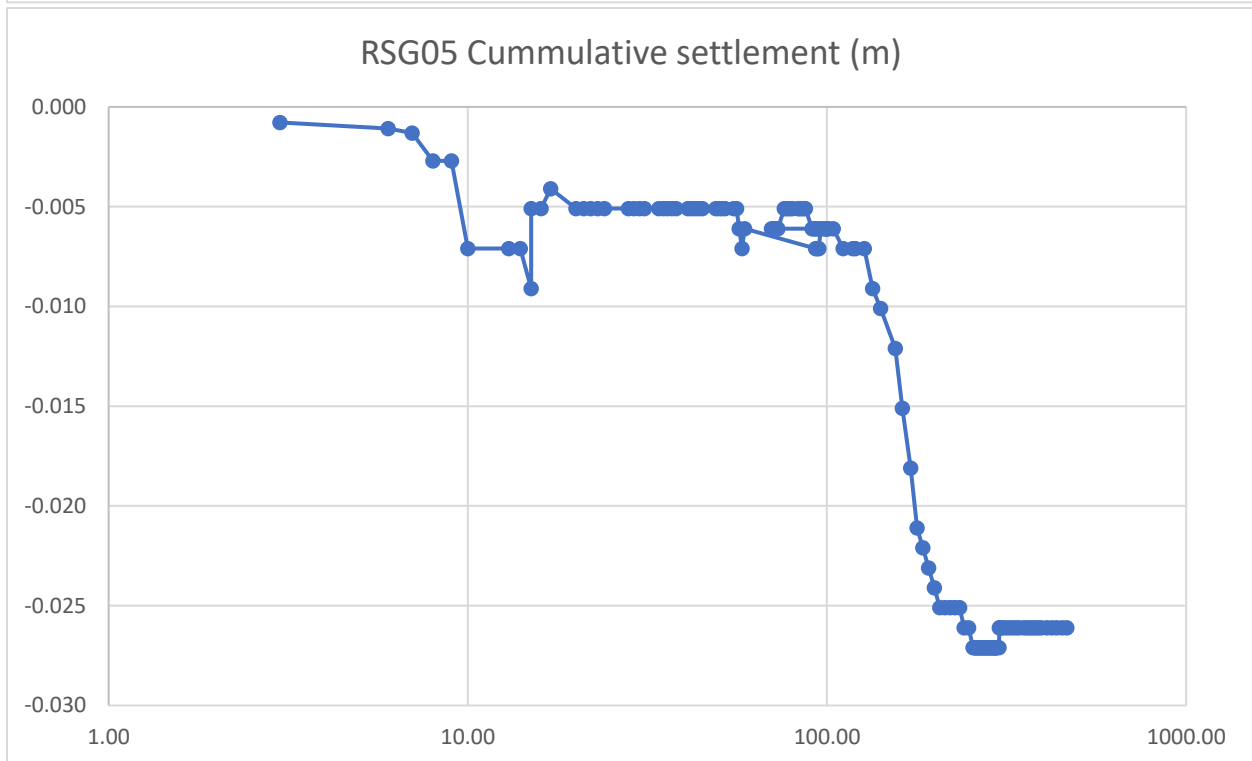
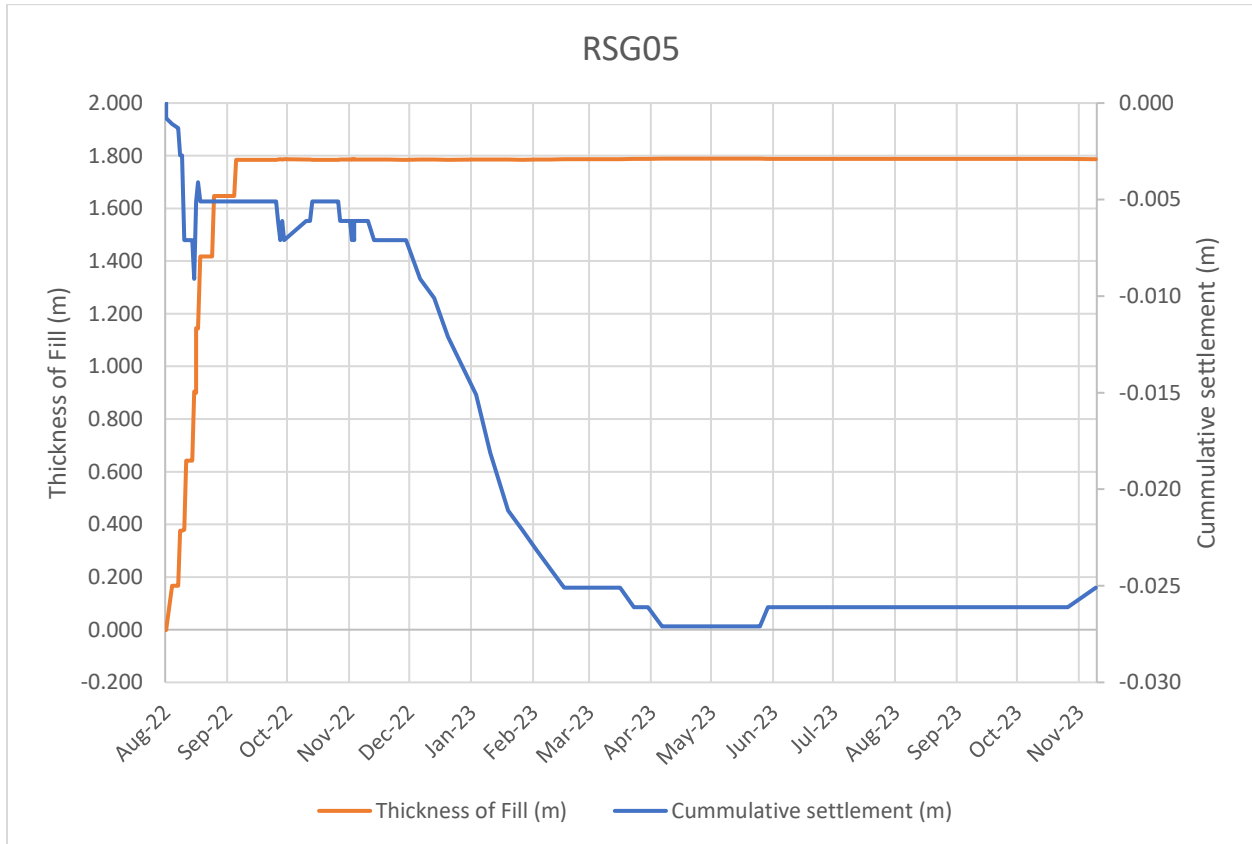
Hazard	Location	Risk	Consequence	Risk Before Mitigation			Mitigation Measures			Residual Risk		
				P	I	R				P	I	R
							Preliminary Design	Detailed Design	Construction Team			
Combustible materials	Residual Made Ground and fill sourced from the Made Ground	Spontaneous combustion and smouldering below ground	Release of noxious gas, underground fires	3	5	15	Site not known to contain colliery spoil with high risk of combustion Testing completed at the ground investigation stage indicated low risk of materials being combustible.	Dynamic surface compaction used to treat residual Made Ground. All fill subject to compaction to ensure minimum air void and maximum density. This reduces oxygen ingress	Validation testing of the ground improvement and fill demonstrates sufficient level of compaction. Follow on construction includes buildings, hardstanding and min 0.60m inert cover to gardens.	1	5	5

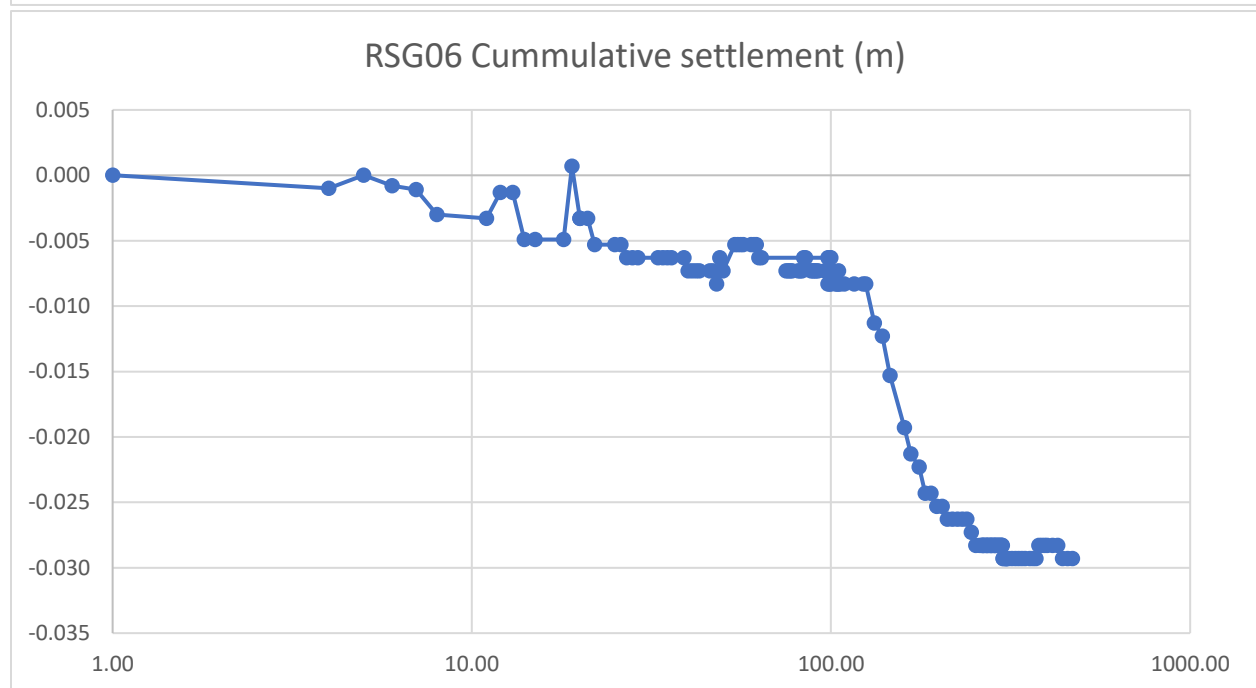
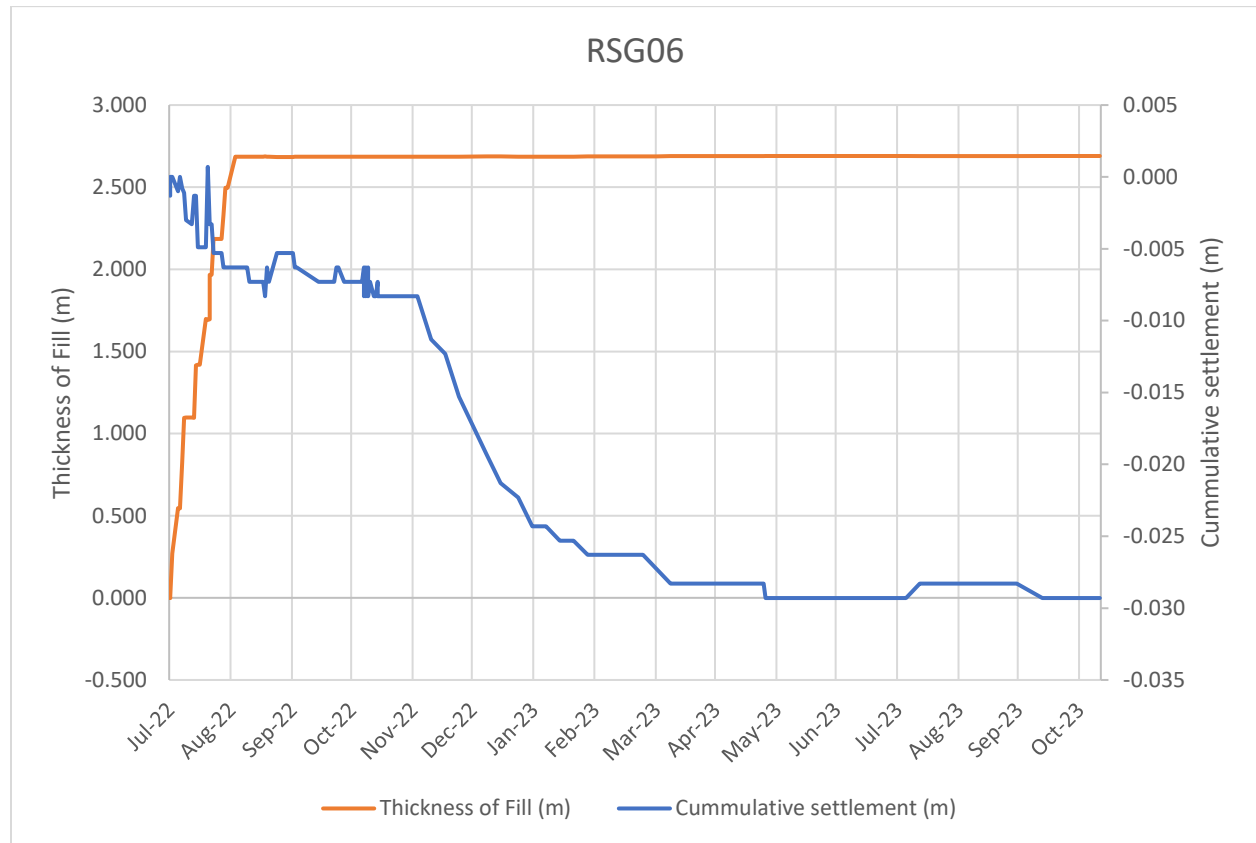
Appendix F Settlement Monitoring Assessment

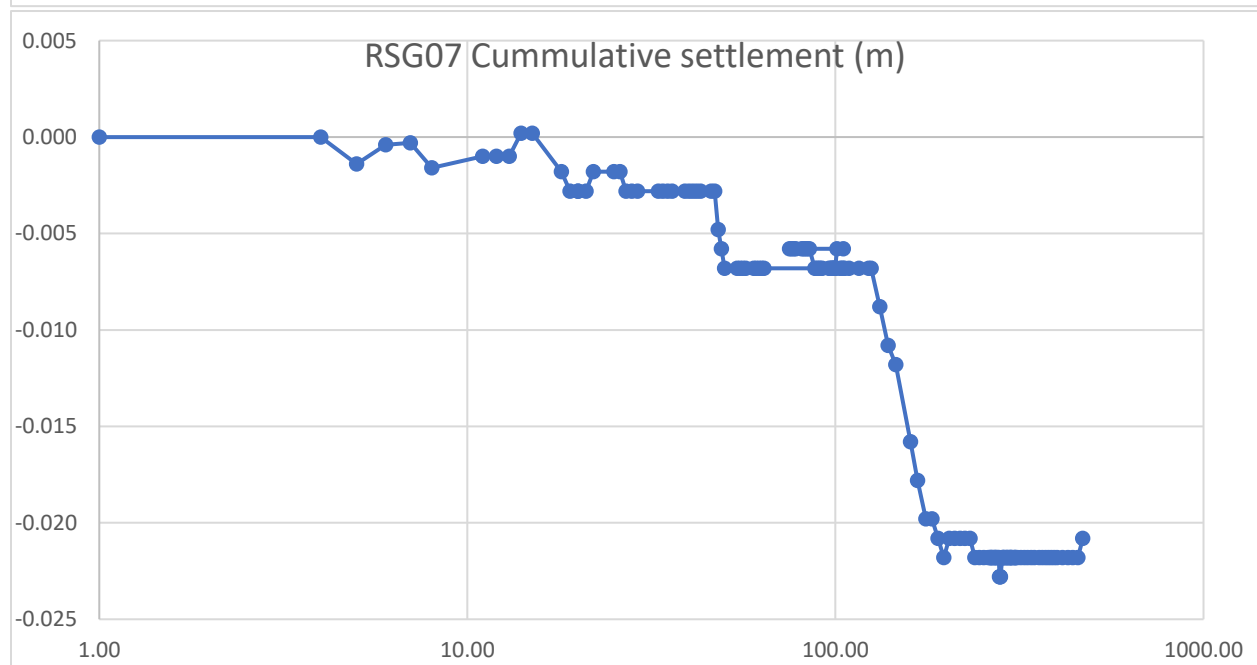
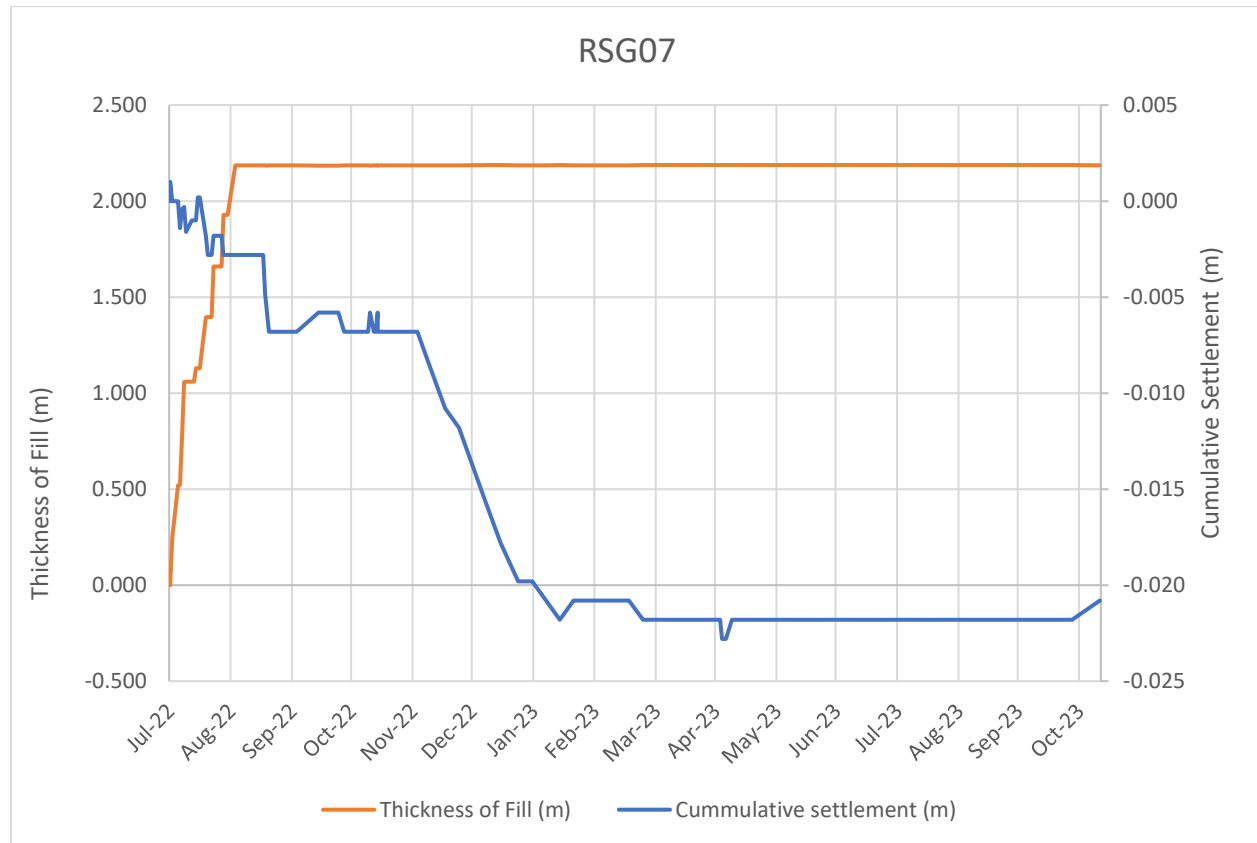


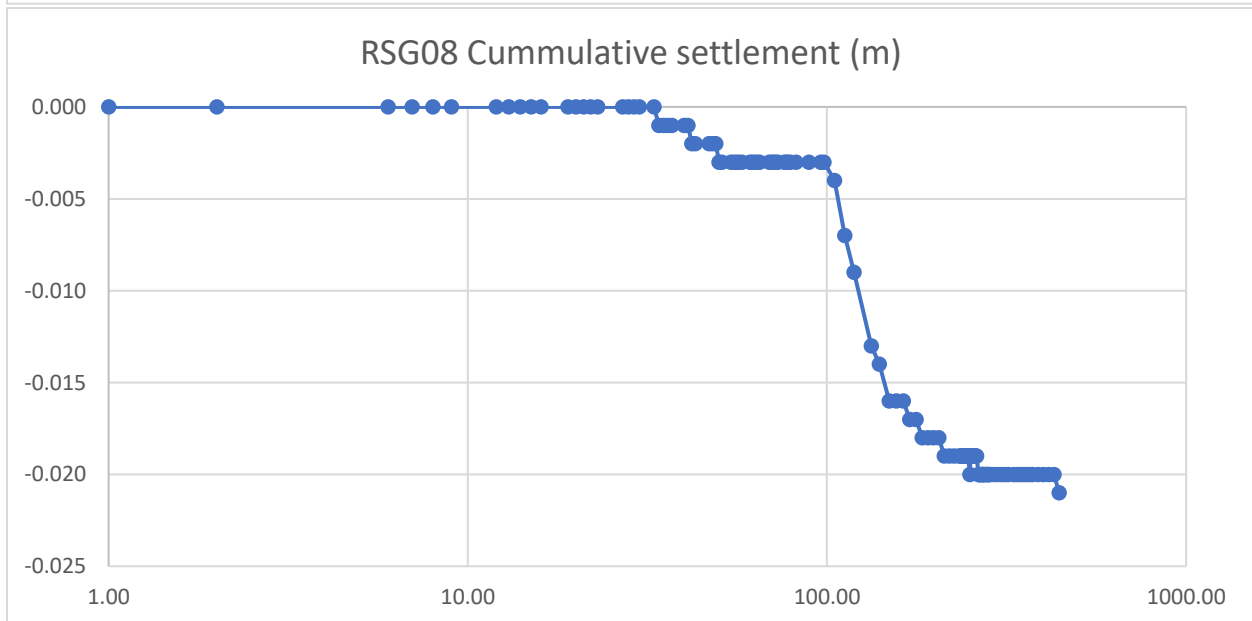
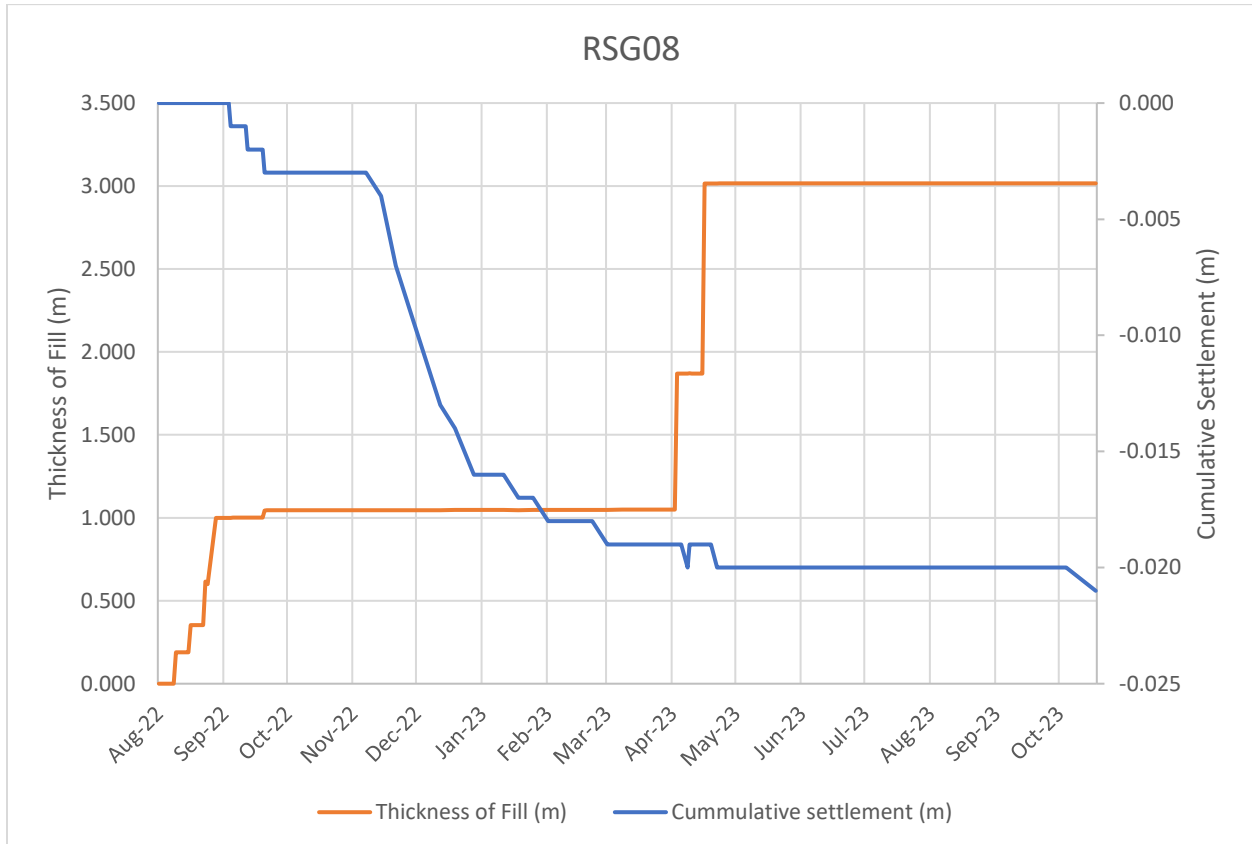


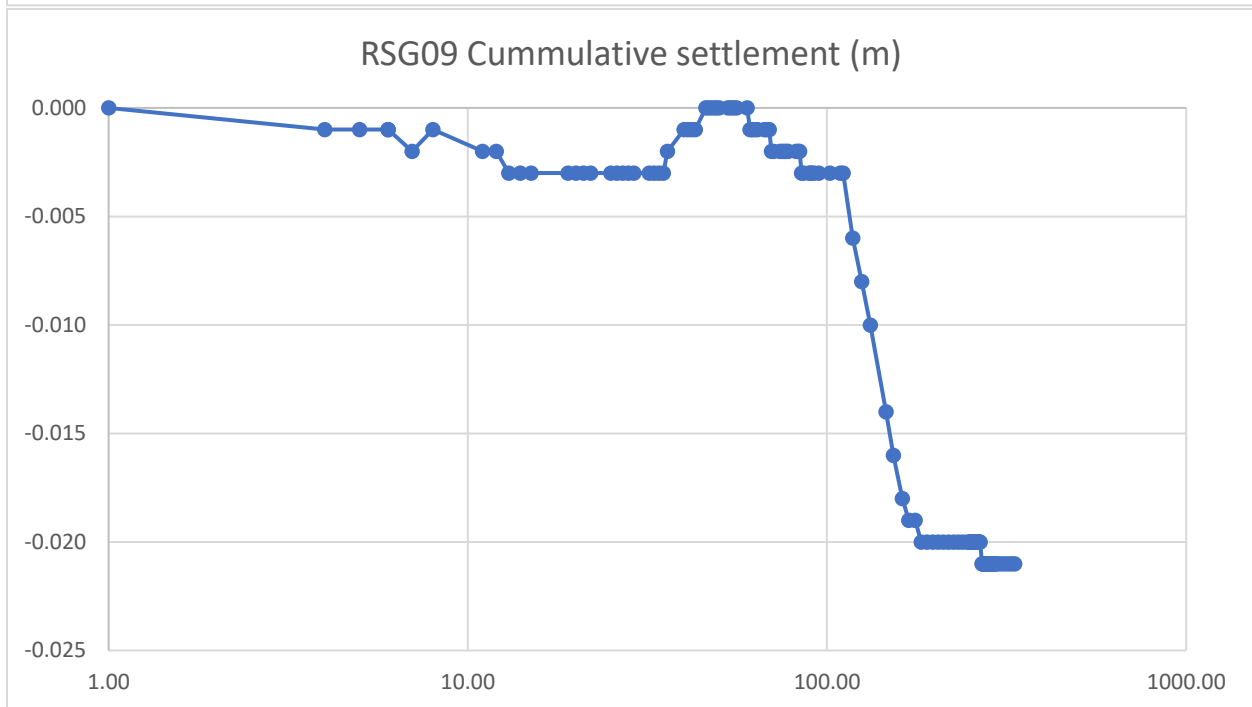
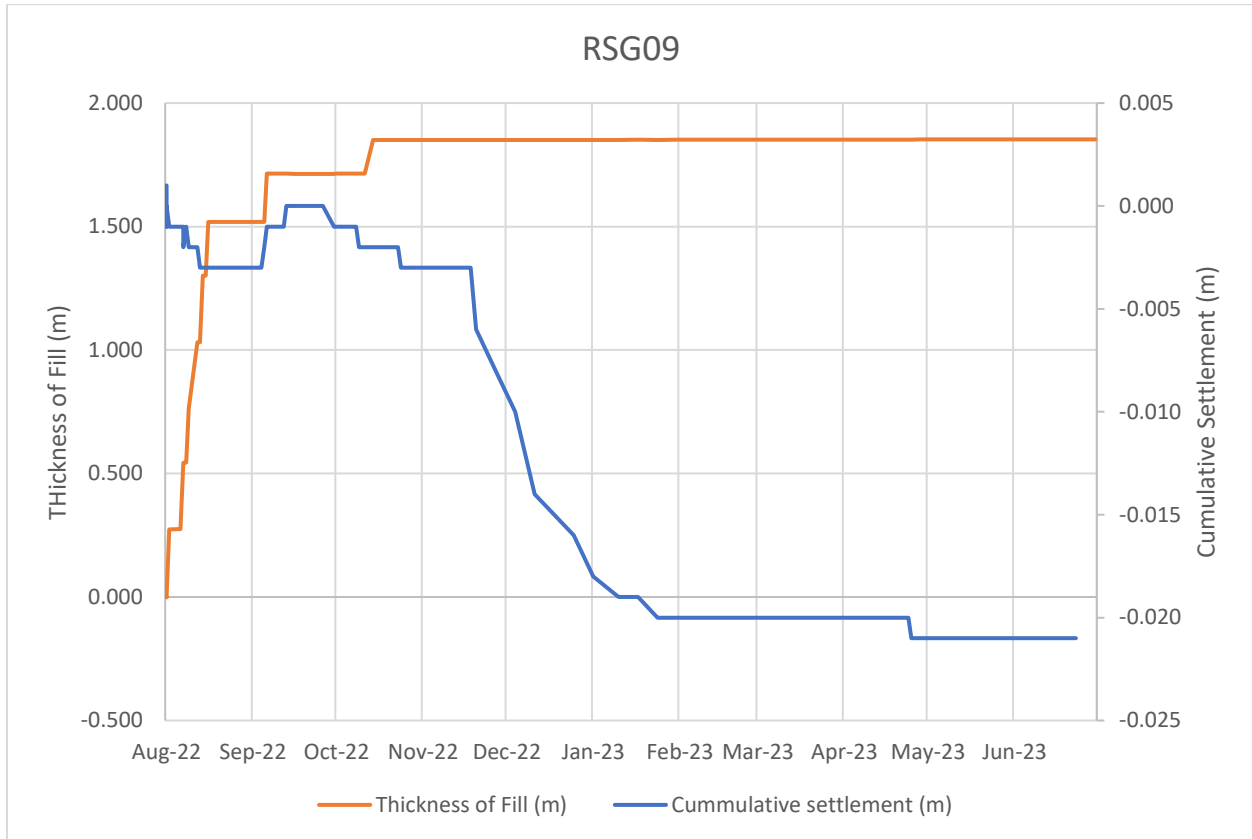


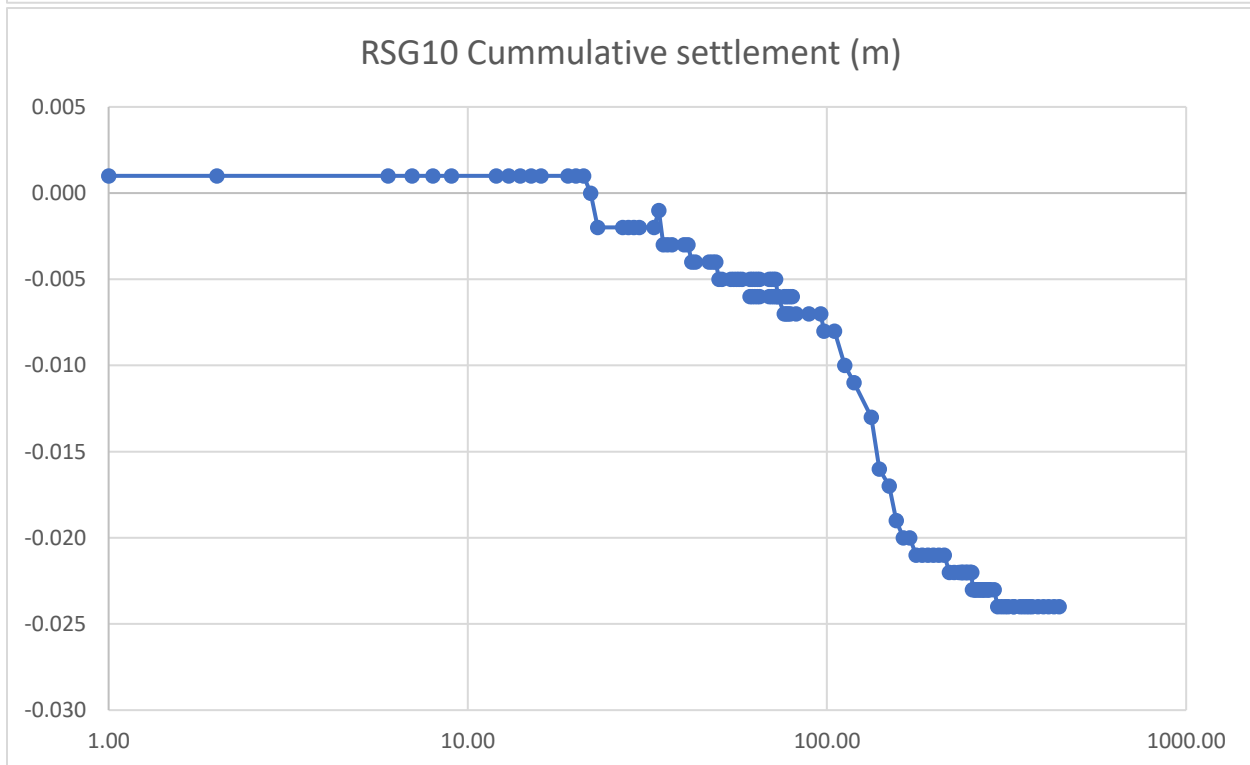
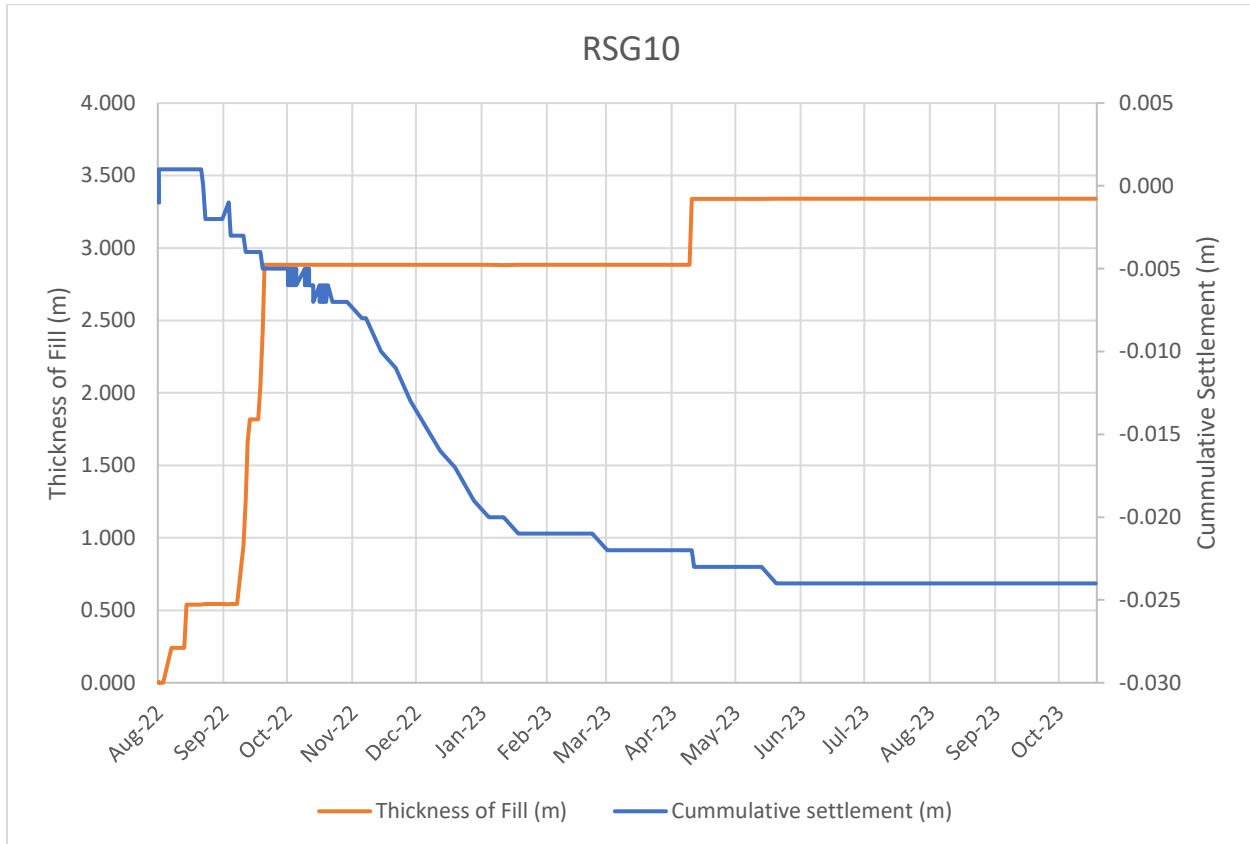


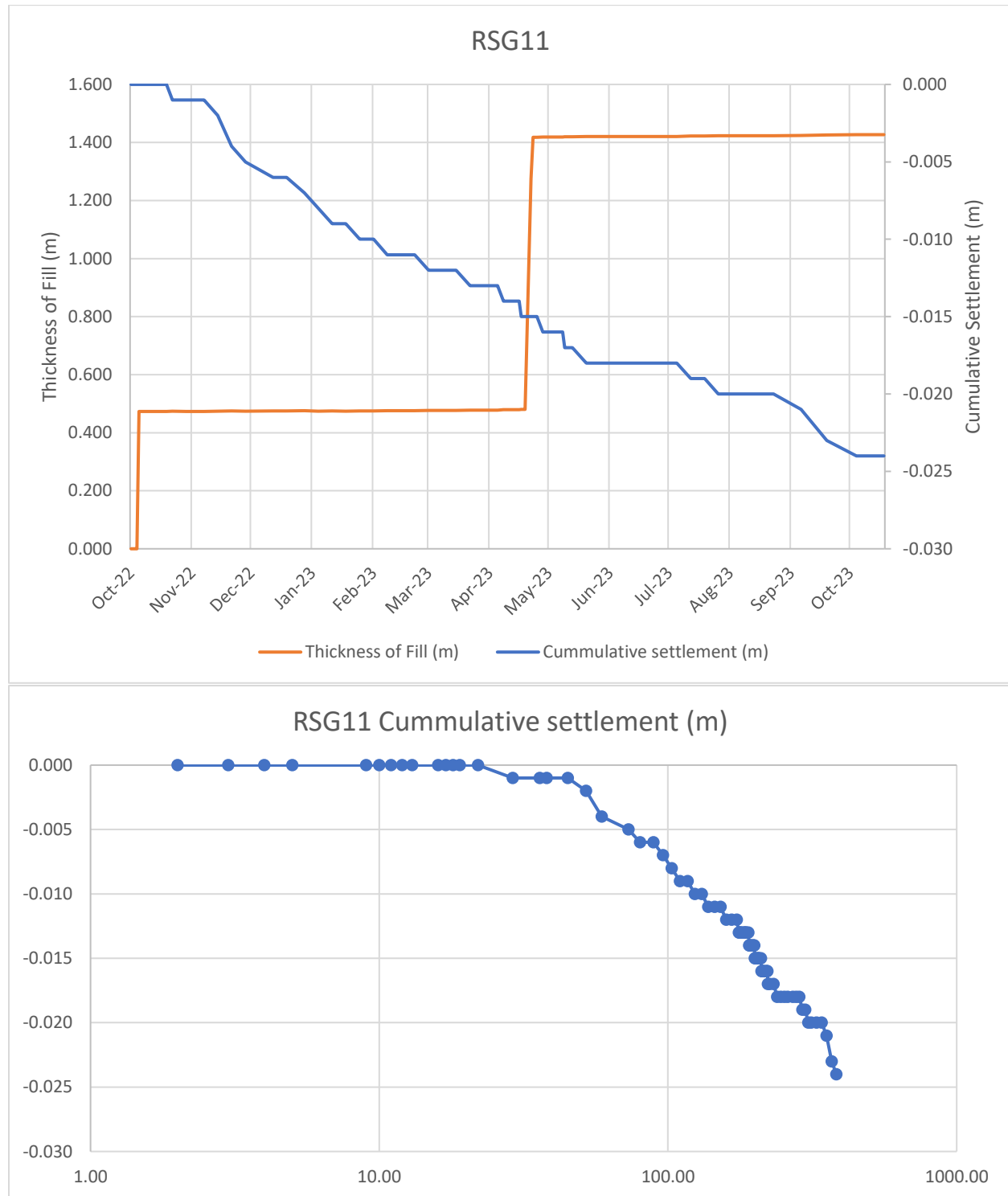




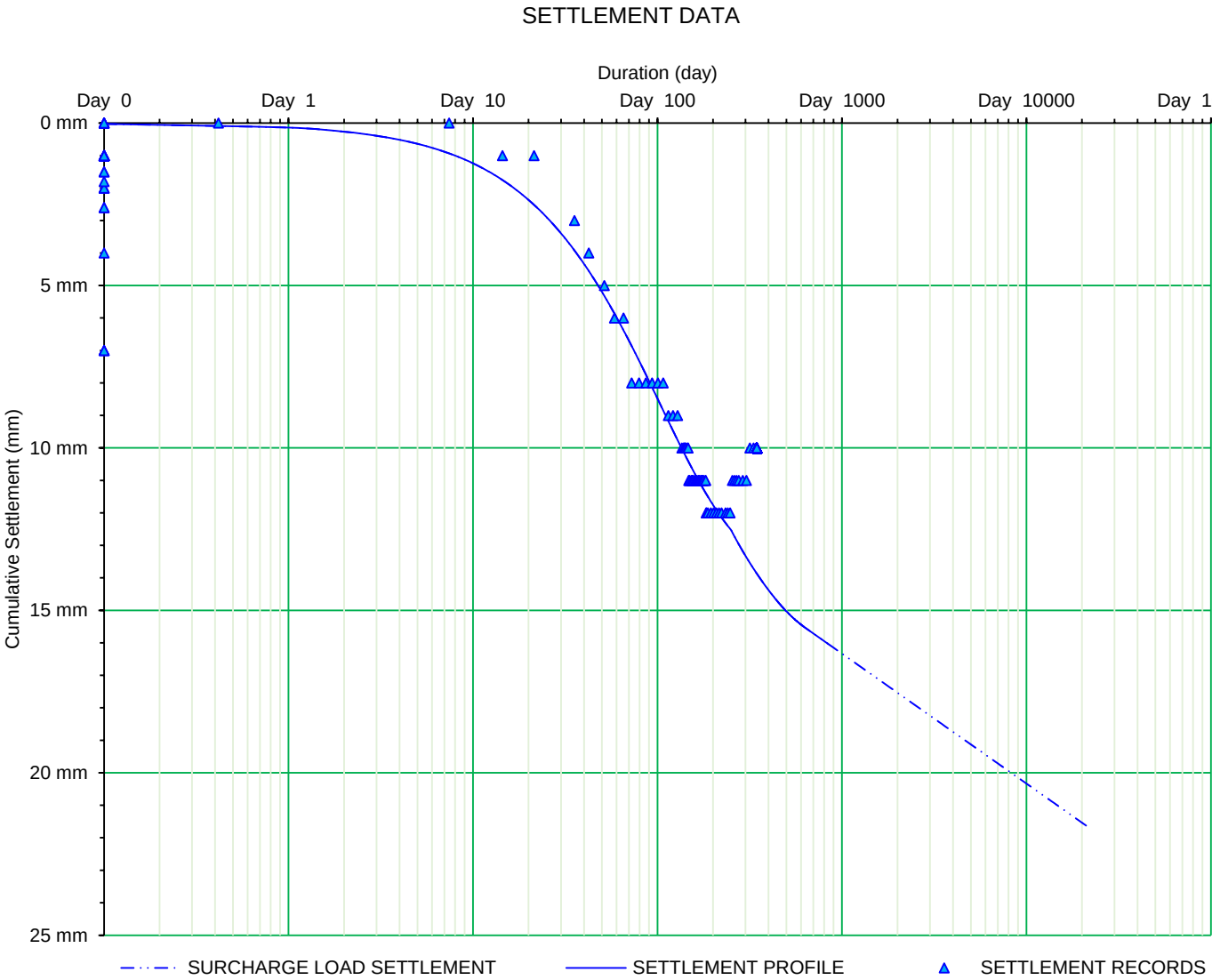




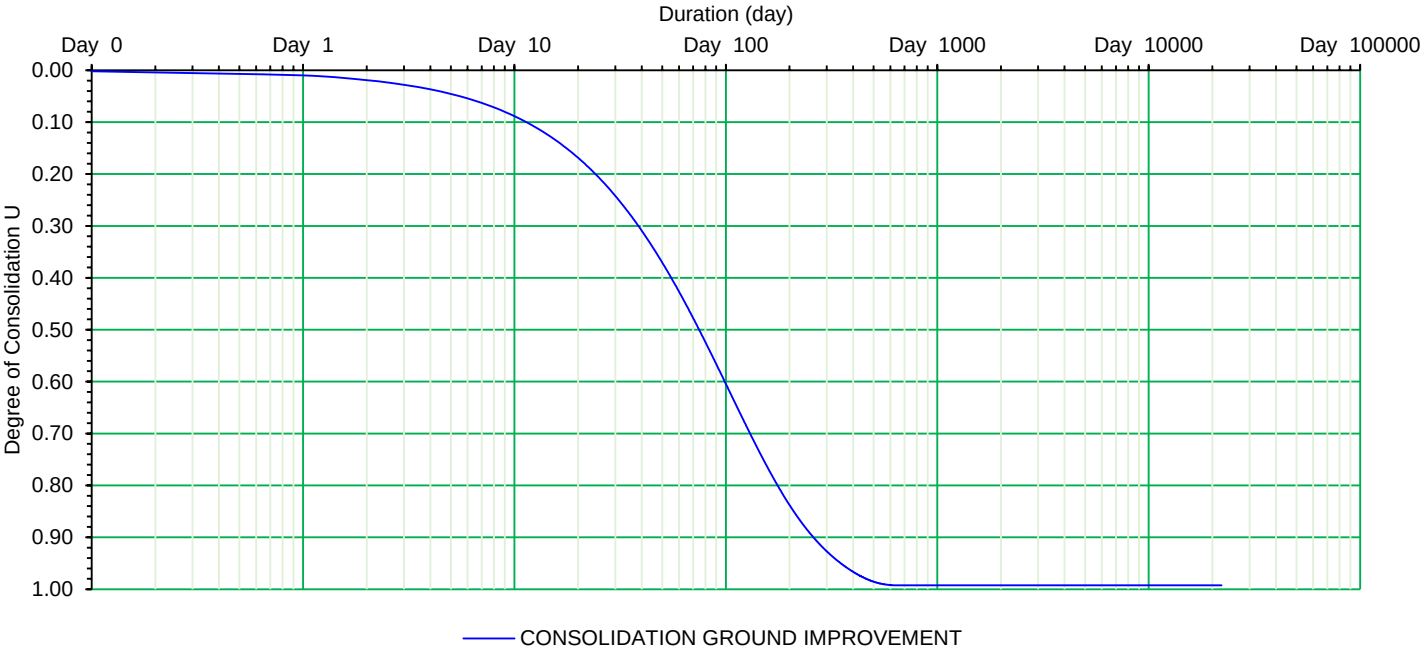




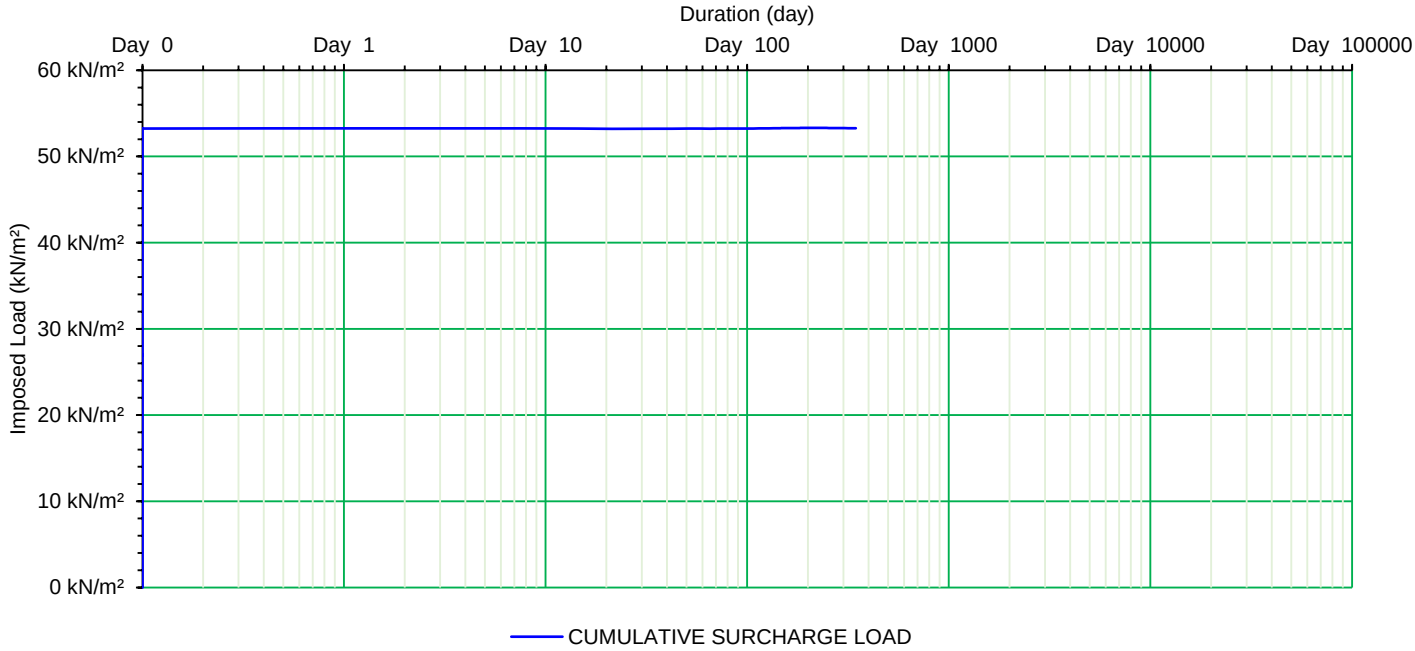
STOPES ROAD - 15220 - ENABLING WORKS - RSG02	
Date of Monitoring Installation	28/07/22
Date Surcharge Placement started	30/11/22
Date Surcharge Placement completed	00/01/00
Design Life	60 years
Surcharge Placement in Single or Multiple Phases	SINGLE
Time Factor - Original - Duration in years to U = 90%	7.250 Years
Time Factor - Corrected duration to U = 90%	1.260 Years
Thickness of Compressible Layer	4.00m
Duration when Surcharge Removed (Actual)	1000 days
Estimated Settlement under application of Surcharge Load (Immediate) (ρ_i)	0.00 mm
Subgrade Settlement Modulus (Primary) (ρ_c)	3.80 MN/m ³
Creep Settlement Coefficient (Secondary) (ρ_s)	$Ca/(1+e_0) = 0.00100$
Ratio Surcharge / Design Settlement	100% Preload & Surcharge
Apply Creep Factor after Day	Day 250
Predicted reduction in rate of secondary settlement following surcharge removal	70% reduction
Predicted Rebound	0.00 mm
Maximum Surcharge Load	53 kN/m ³
Maximum Design Load	53 kN/m ³
Predicted start of Secondary Compression (U = 0.90)	258 days
Maximum Settlement recorded under Surcharge	12 mm
Calculated Settlement under the Surcharge Load (ρ_{su}) over Design Life	22 mm
Predicted Consolidation Settlement Complete	15/08/2023

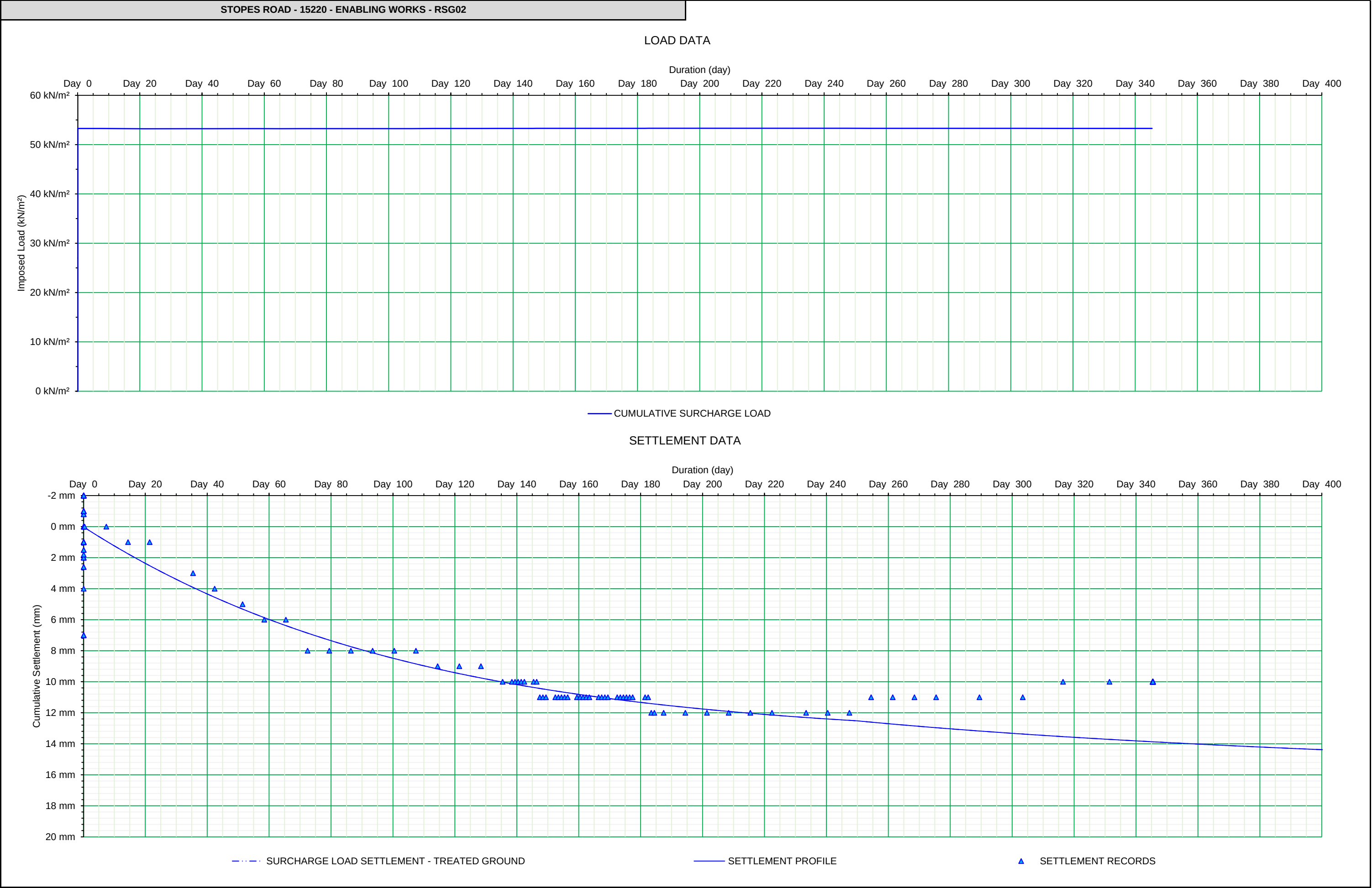


CONSOLIDATION DATA

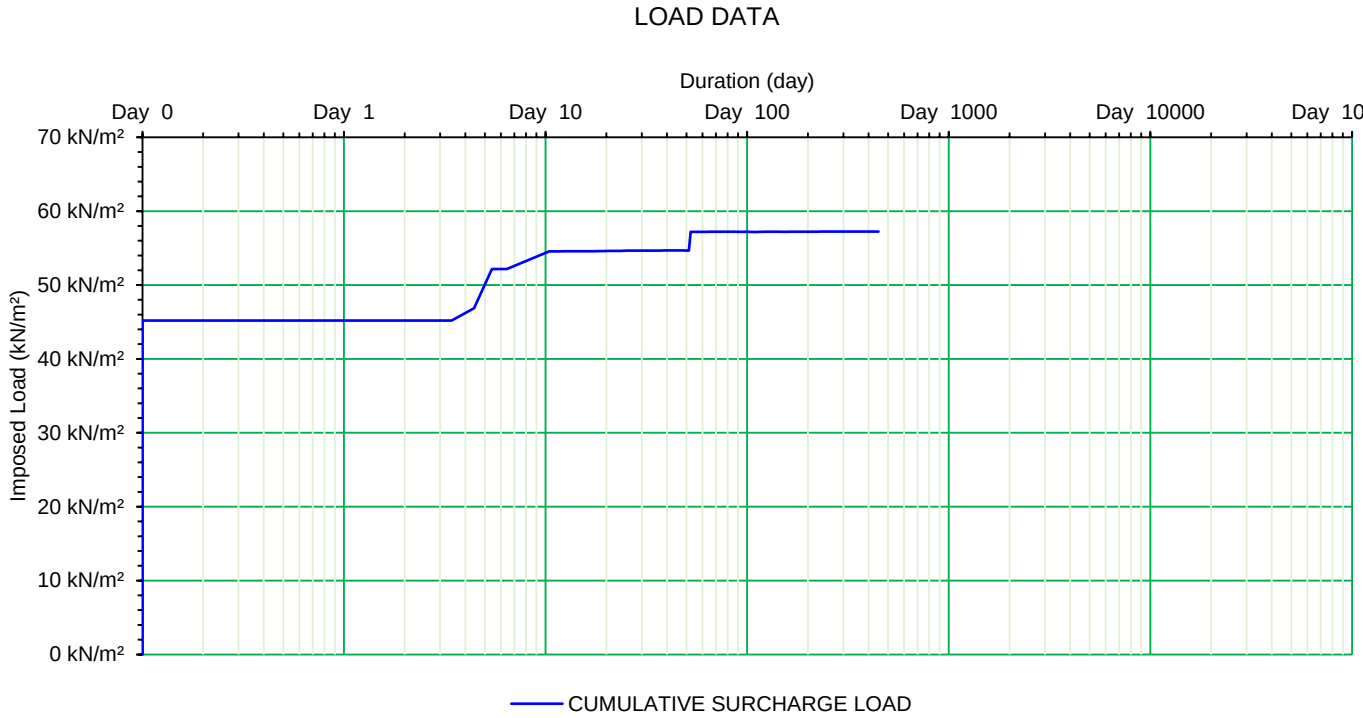
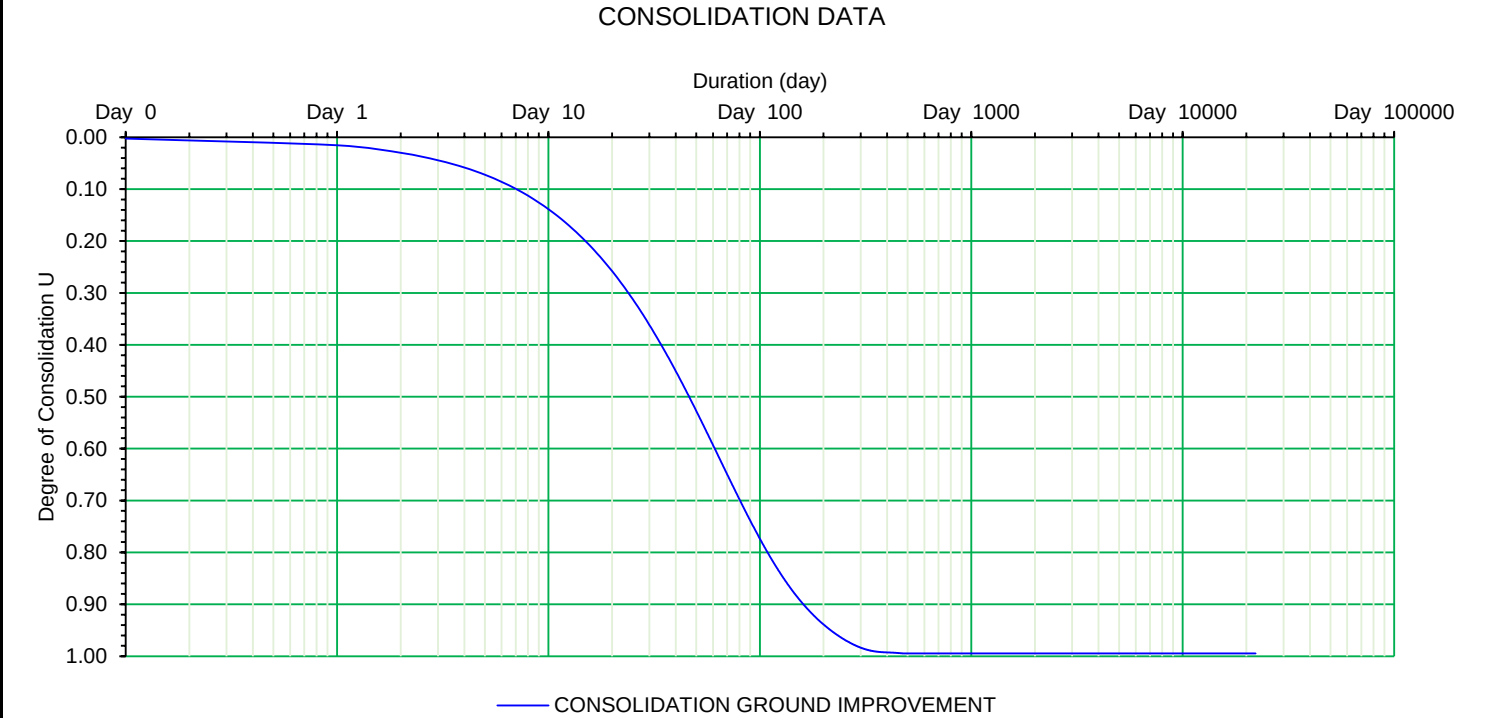
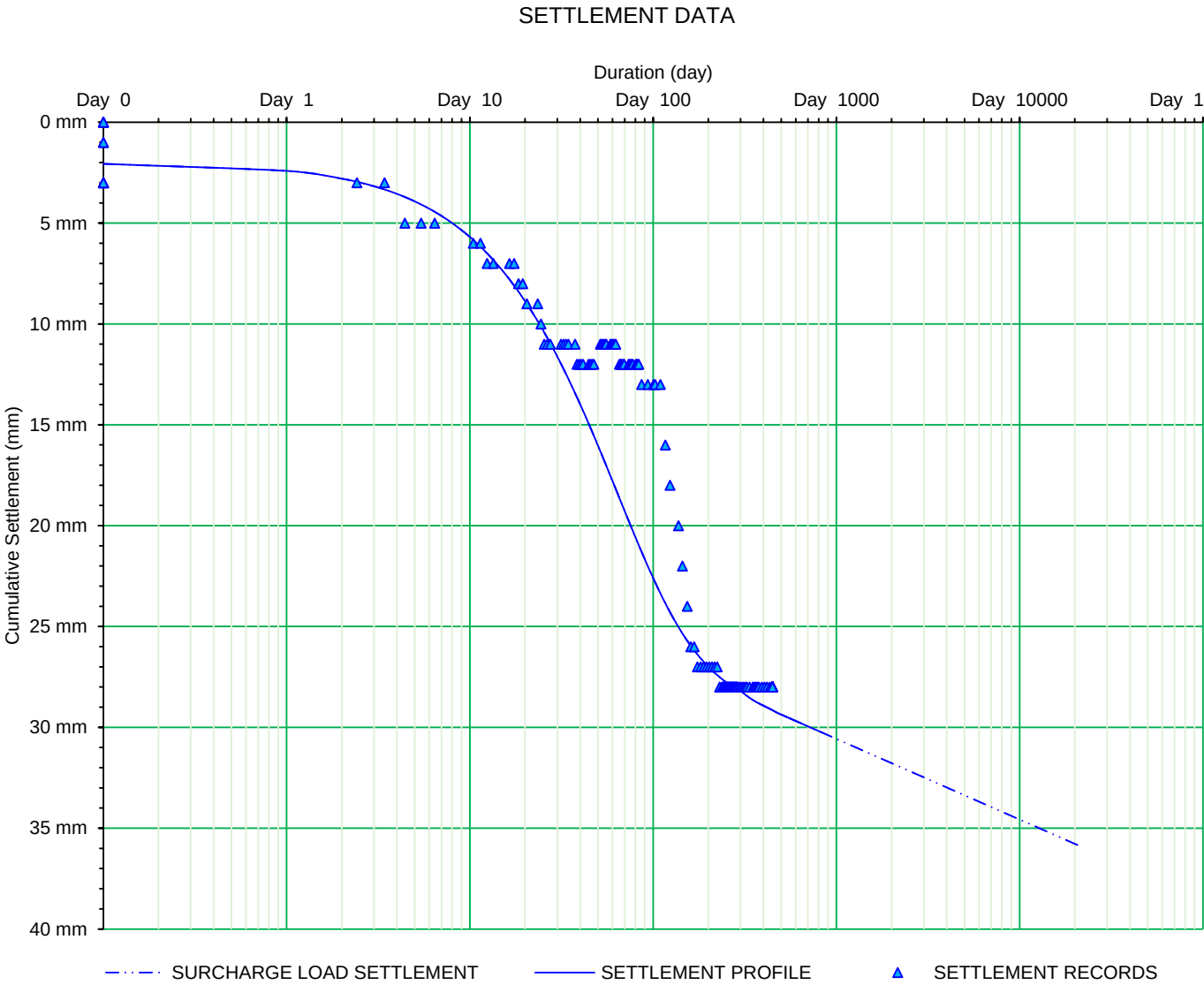


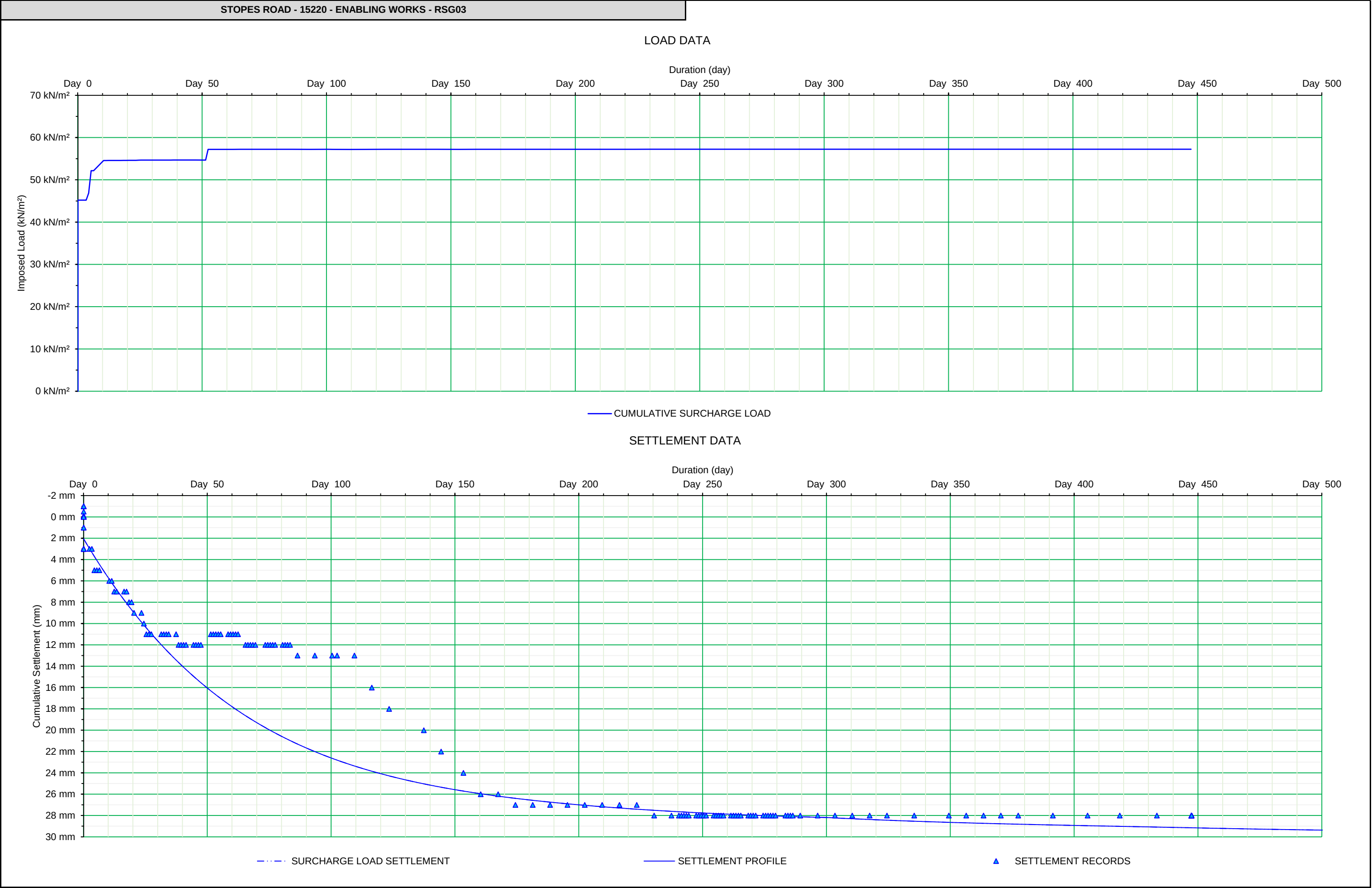
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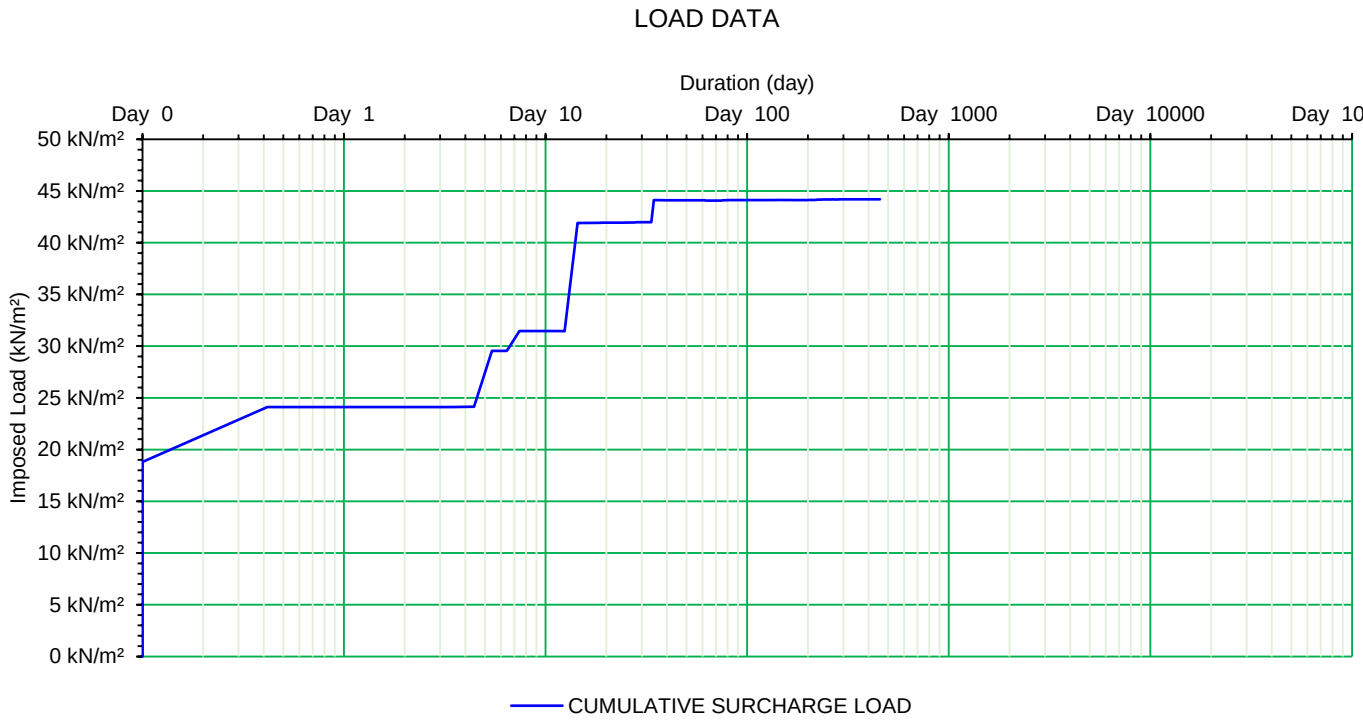
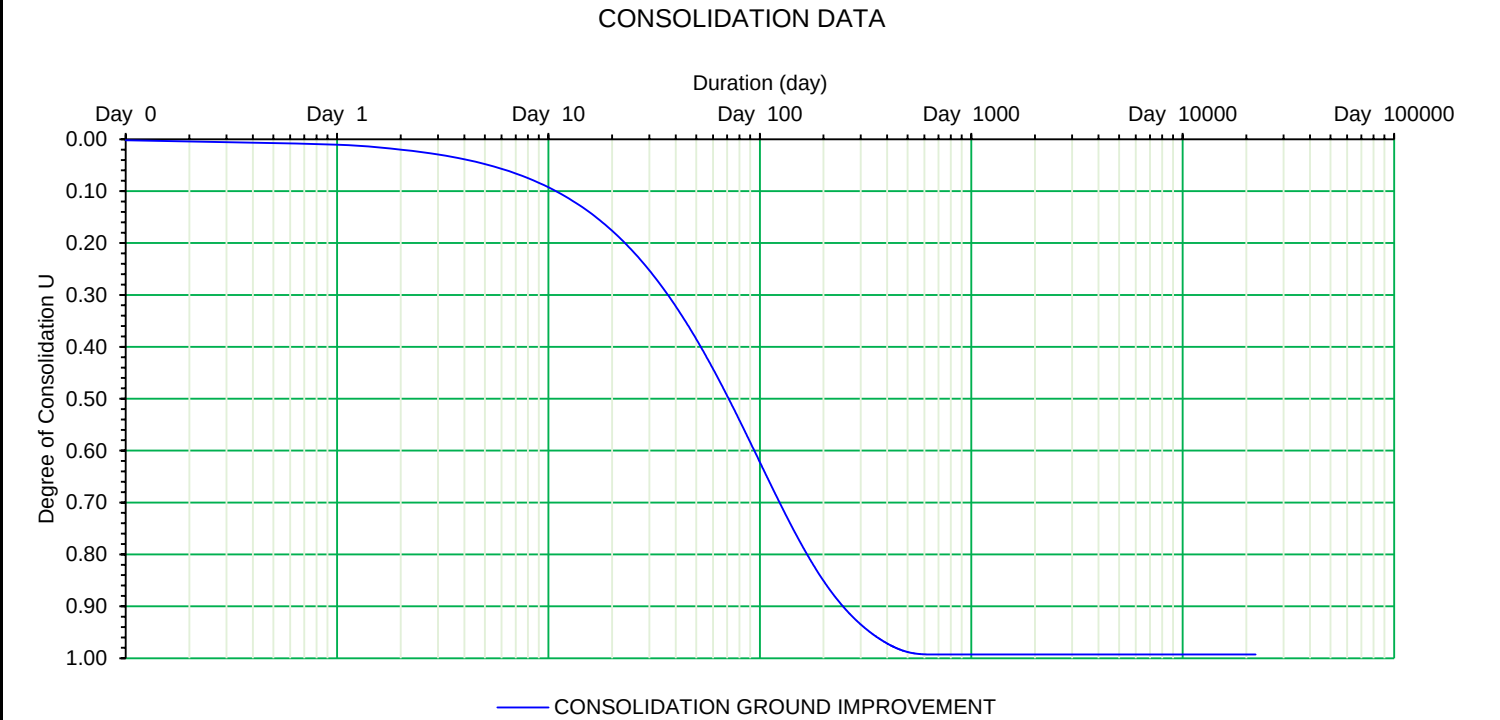
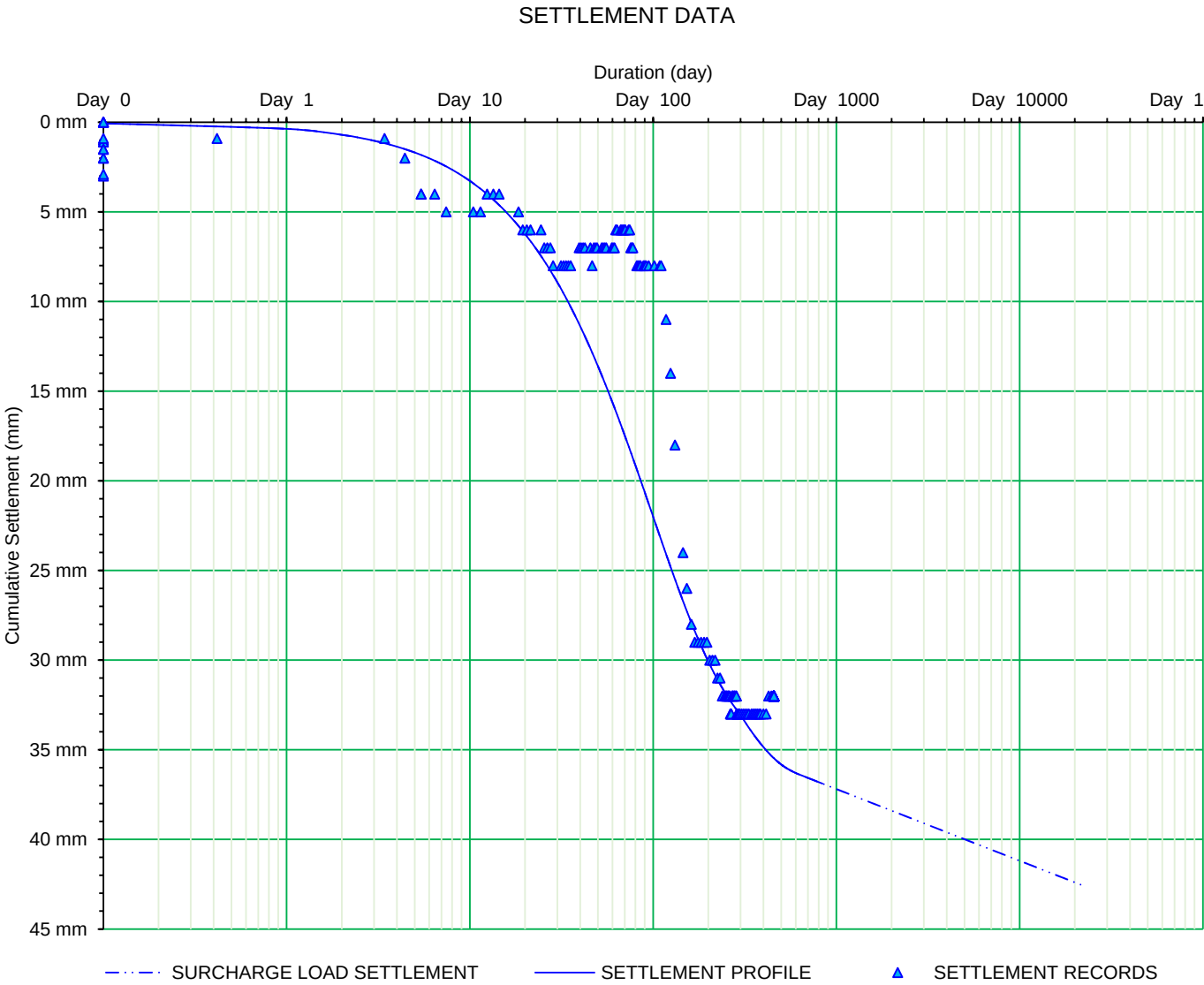


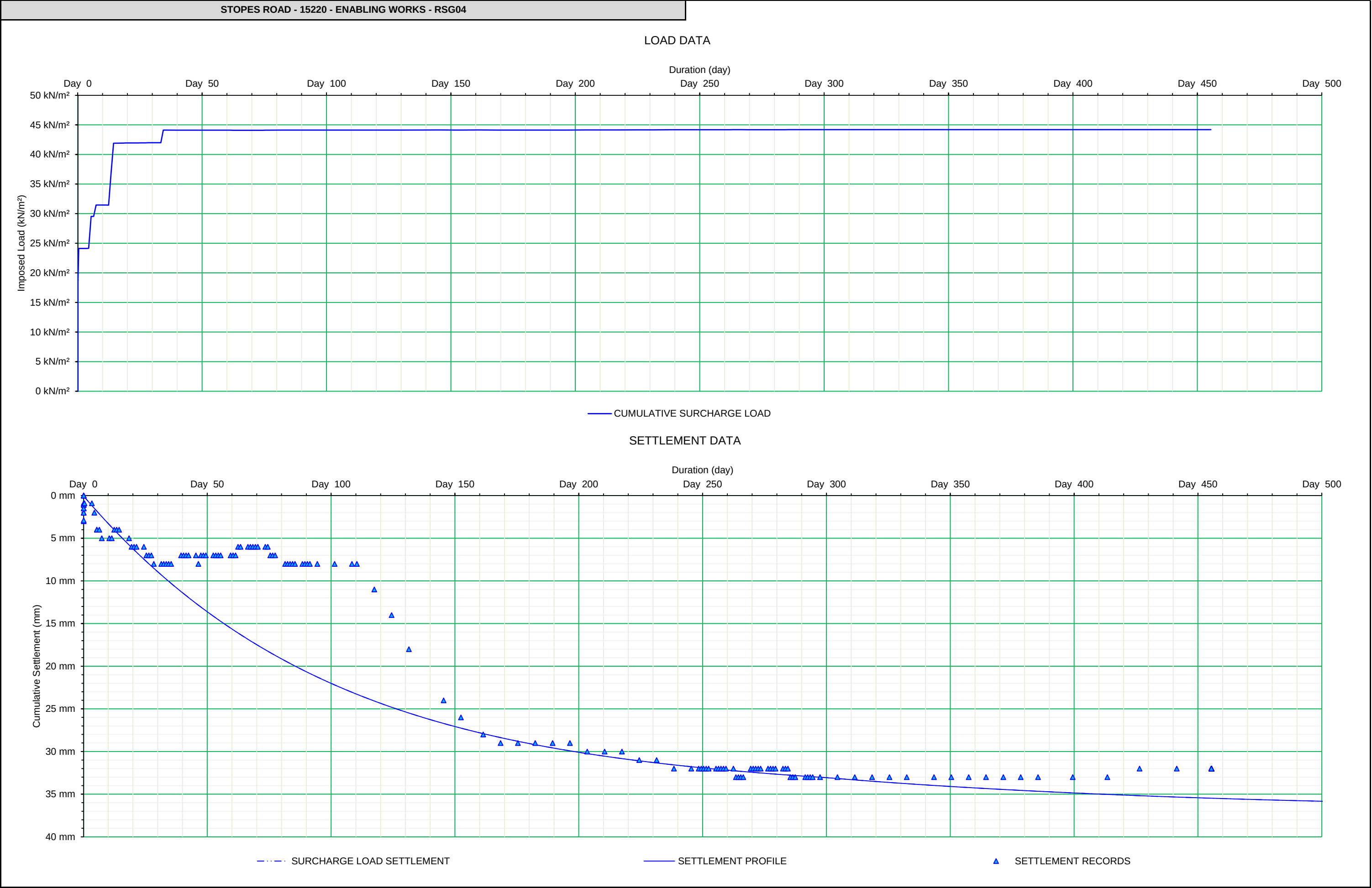
STOPES ROAD - 15220 - ENABLING WORKS - RSG03	
Date of Monitoring Installation	28/07/22
Date Surcharge Placement started	20/08/22
Date Surcharge Placement completed	00/01/00
Design Life	60 years
Surcharge Placement in Single or Multiple Phases	Single
Time Factor - Original - Duration in years to U = 90%	0.000 Years
Time Factor - Corrected duration to U = 90%	0.780 Years
Thickness of Compressible Layer	4.00m
Duration when Surcharge Removed (Actual)	1000 days
Estimated Settlement under application of Surcharge Load (Immediate) (ρ_i)	2.00 mm
Subgrade Settlement Modulus (Primary) (ρ_c)	2.15 MN/m ³
Creep Settlement Coefficient (Secondary) (ρ_s)	$Ca/(1+e0) = 0.00100$
Ratio Surcharge / Design Settlement	100% Preload & Surcharge
Apply Creep Factor after Day	Day 300
Predicted reduction in rate of secondary settlement following surcharge removal	0% reduction
Predicted Rebound	0.00 mm
Maximum Surcharge Load	57 kN/m ³
Maximum Design Load	57 kN/m ³
Predicted start of Secondary Compression (U = 0.90)	160 days
Maximum Settlement recorded under Surcharge	28 mm
Calculated Settlement under the Surcharge Load (ρ_{su}) over Design Life	36 mm
Predicted Consolidation Settlement Complete	26/01/2023



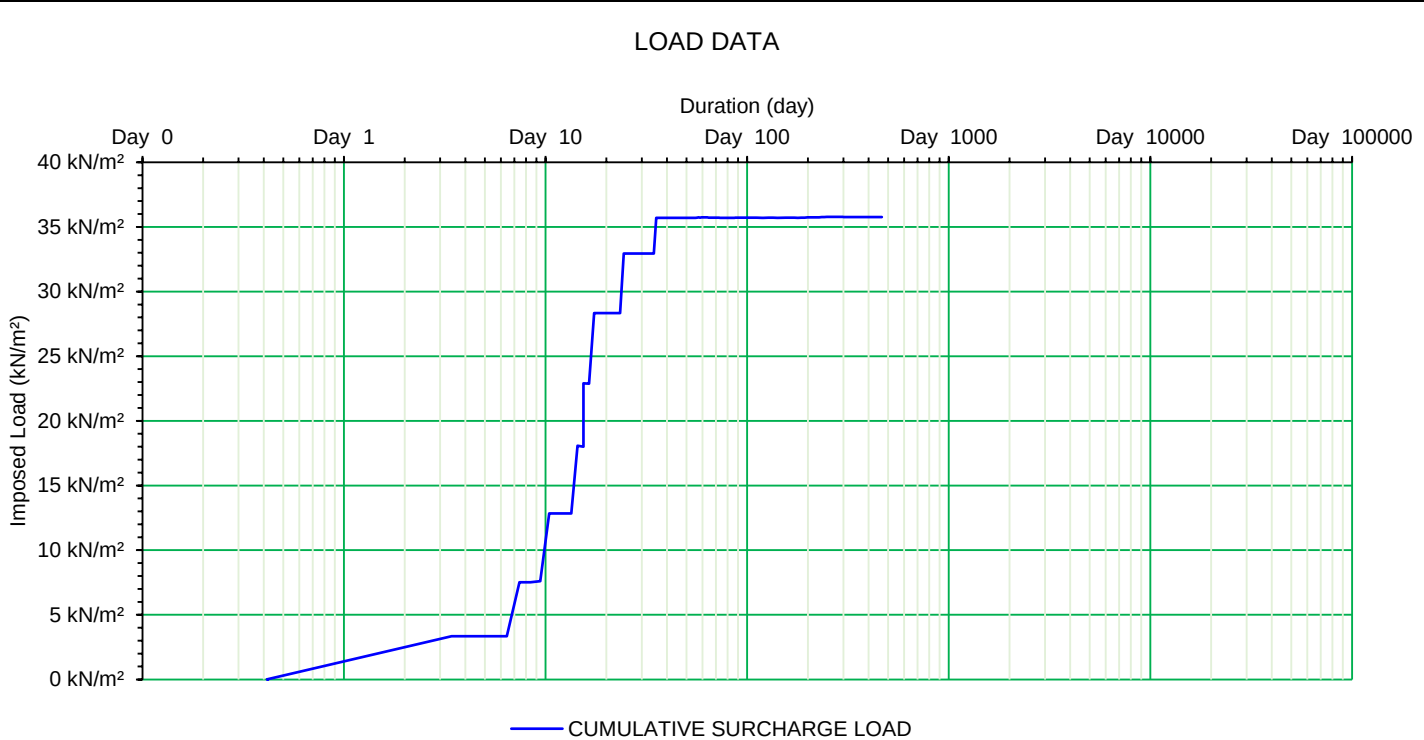
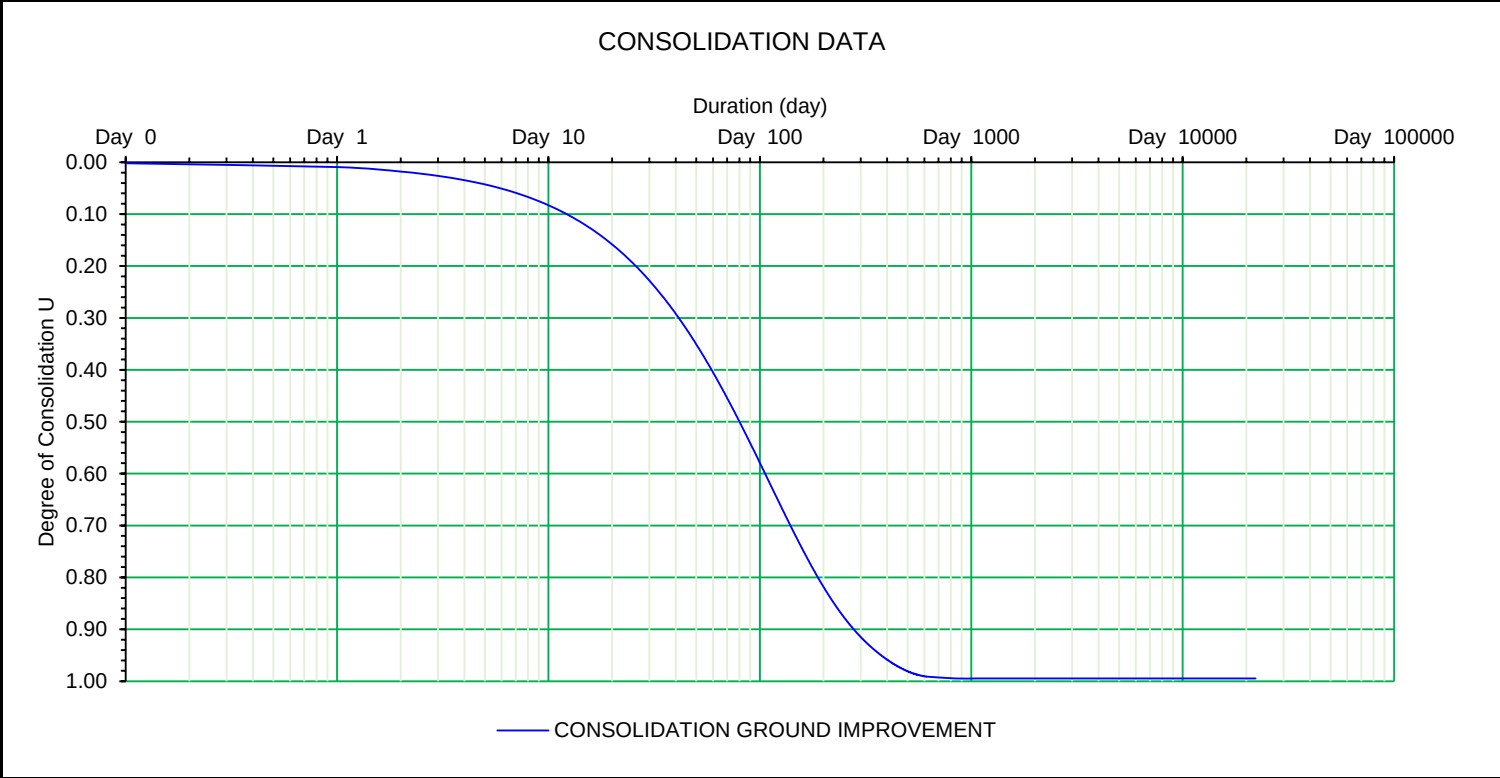
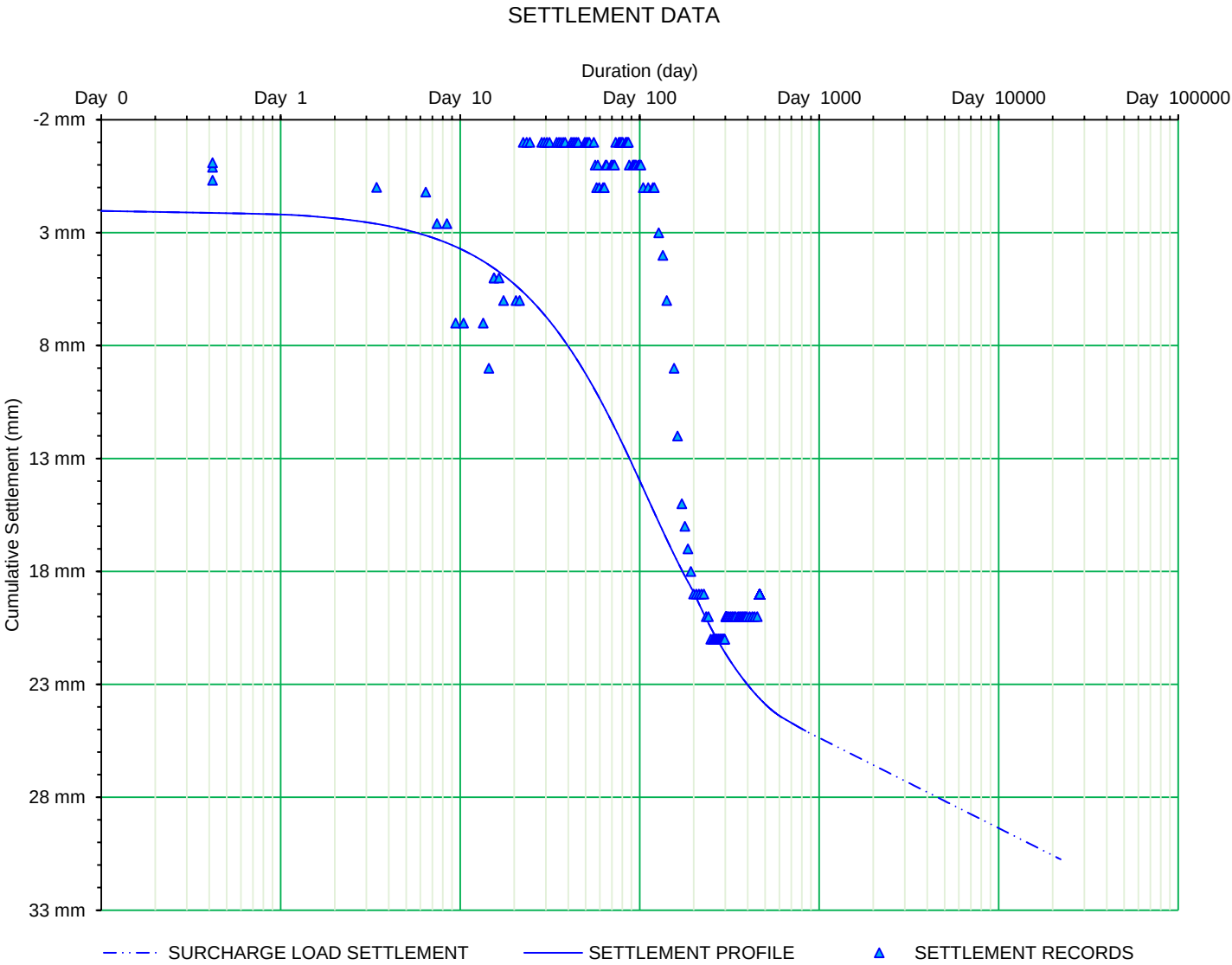


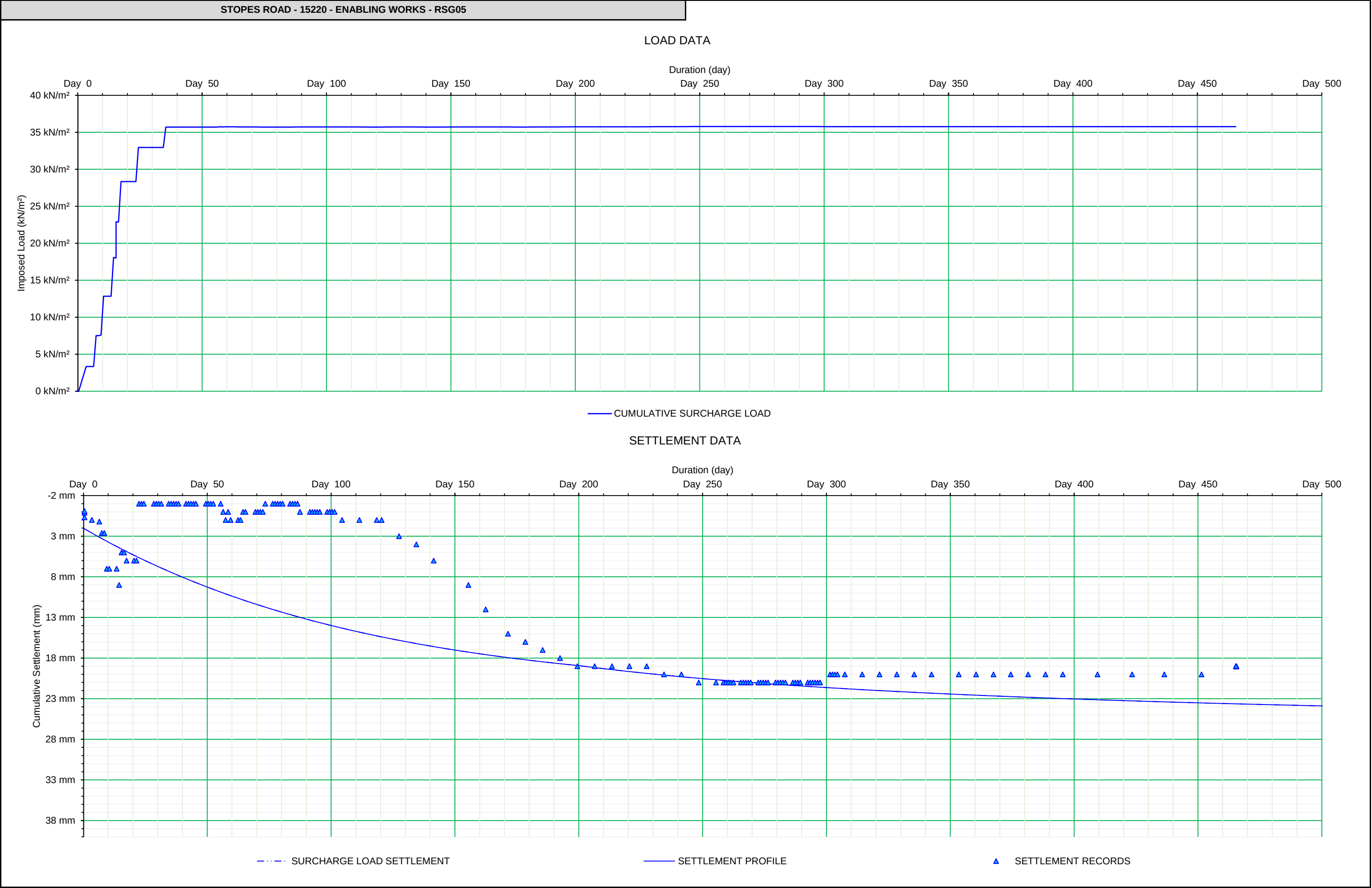
STOPES ROAD - 15220 - ENABLING WORKS - RSG04	
Date of Monitoring Installation	28/07/22
Date Surcharge Placement started	12/08/22
Date Surcharge Placement completed	00/01/00
Design Life	60 years
Surcharge Placement in Single or Multiple Phases	Single
Time Factor - Original - Duration in years to U = 90%	0.000 Years
Time Factor - Corrected duration to U = 90%	1.200 Years
Thickness of Compressible Layer	4.00m
Duration when Surcharge Removed (Actual)	1000 days
Estimated Settlement under application of Surcharge Load (Immediate) (ρ_i)	0.00 mm
Subgrade Settlement Modulus (Primary) (ρ_c)	1.25 MN/m ³
Creep Settlement Coefficient (Secondary) (ρ_s)	$Ca/(1+e_0) = 0.00100$
Ratio Surcharge / Design Settlement	100% Preload & Surcharge
Apply Creep Factor after Day	Day 300
Predicted reduction in rate of secondary settlement following surcharge removal	0% reduction
Predicted Rebound	0.00 mm
Maximum Surcharge Load	44 kN/m ³
Maximum Design Load	44 kN/m ³
Predicted start of Secondary Compression (U = 0.90)	246 days
Maximum Settlement recorded under Surcharge	33 mm
Calculated Settlement under the Surcharge Load (ρ_{su}) over Design Life	43 mm
Predicted Consolidation Settlement Complete	15/04/2023



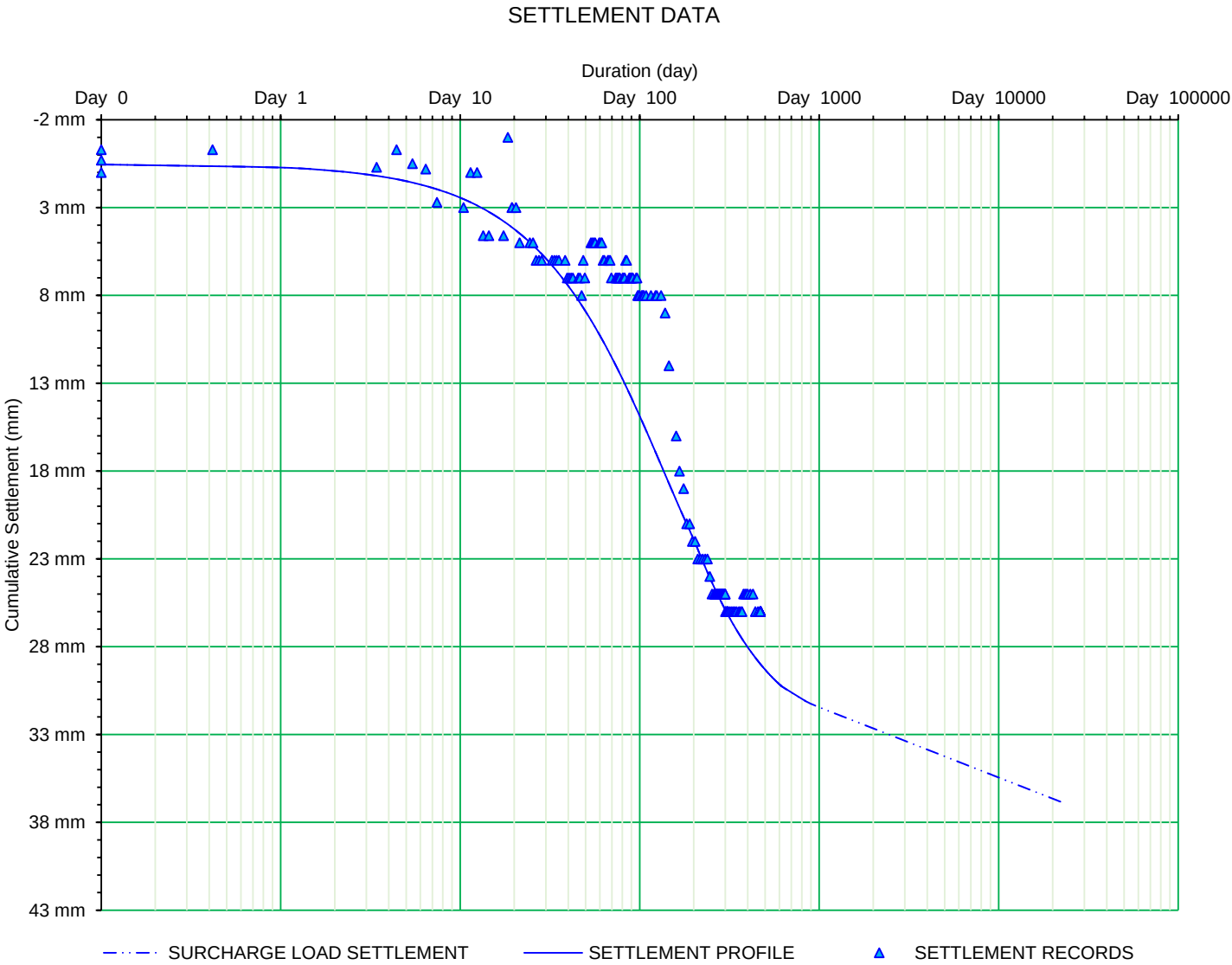


STOPES ROAD - 15220 - ENABLING WORKS - RSG05	
Date of Monitoring Installation	02/08/22
Date Surcharge Placement started	02/08/22
Date Surcharge Placement completed	00/01/00
Design Life	60 years
Surcharge Placement in Single or Multiple Phases	Single
Time Factor - Original - Duration in years to U = 90%	0.000 Years
Time Factor - Corrected duration to U = 90%	1.350 Years
Thickness of Compressible Layer	4.00m
Duration when Surcharge Removed (Actual)	1000 days
Estimated Settlement under application of Surcharge Load (Immediate) (ρ_i)	2.00 mm
Subgrade Settlement Modulus (Primary) (ρ_c)	1.73 MN/m ³
Creep Settlement Coefficient (Secondary) (ρ_s)	$Ca/(1+e0) = 0.00100$
Ratio Surcharge / Design Settlement	100% Preload & Surcharge
Apply Creep Factor after Day	Day 200
Predicted reduction in rate of secondary settlement following surcharge removal	0% reduction
Predicted Rebound	0.00 mm
Maximum Surcharge Load	36 kN/m ³
Maximum Design Load	36 kN/m ³
Predicted start of Secondary Compression (U = 0.90)	277 days
Maximum Settlement recorded under Surcharge	21 mm
Calculated Settlement under the Surcharge Load (ρ_{su}) over Design Life	31 mm
Predicted Consolidation Settlement Complete	05/05/2023

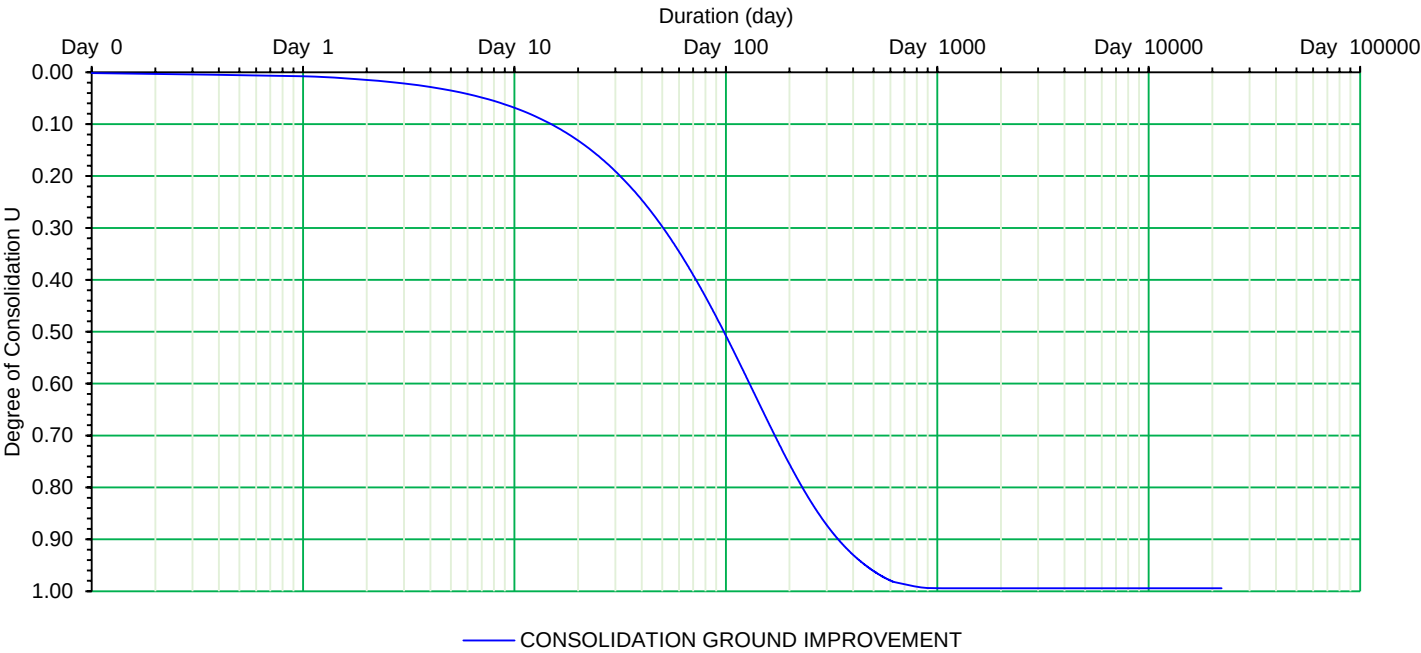




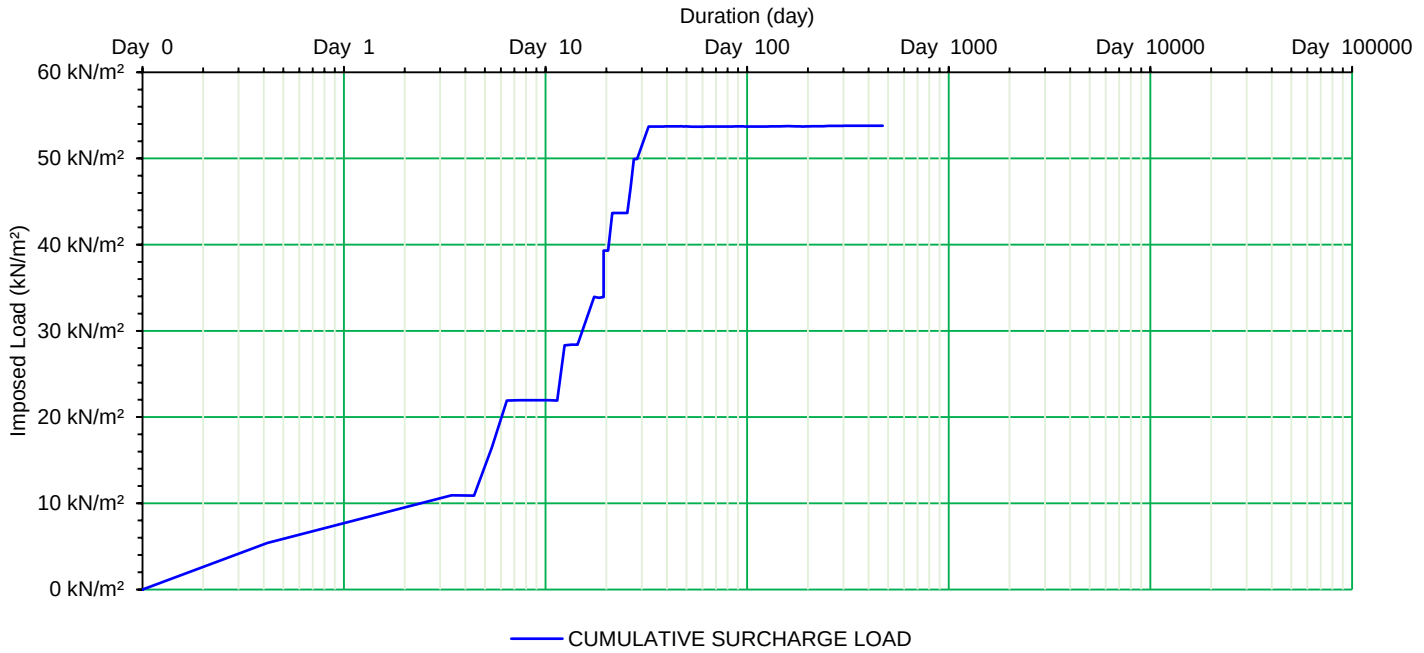
STOPES ROAD - 15220 - ENABLING WORKS - RSG06	
Date of Monitoring Installation	28/07/22
Date Surcharge Placement started	29/07/22
Date Surcharge Placement completed	00/01/00
Design Life	60 years
Surcharge Placement in Single or Multiple Phases	Single
Time Factor - Original - Duration in years to U = 90%	0.000 Years
Time Factor - Corrected duration to U = 90%	1.650 Years
Thickness of Compressible Layer	4.00m
Duration when Surcharge Removed (Actual)	1000 days
Estimated Settlement under application of Surcharge Load (Immediate) (ρ_i)	0.50 mm
Subgrade Settlement Modulus (Primary) (ρ_c)	1.90 MN/m ³
Creep Settlement Coefficient (Secondary) (ρ_s)	$Ca/(1+e_0) = 0.00100$
Ratio Surcharge / Design Settlement	100% Preload & Surcharge
Apply Creep Factor after Day	Day 200
Predicted reduction in rate of secondary settlement following surcharge removal	0% reduction
Predicted Rebound	0.00 mm
Maximum Surcharge Load	54 kN/m ³
Maximum Design Load	54 kN/m ³
Predicted start of Secondary Compression (U = 0.90)	338 days
Maximum Settlement recorded under Surcharge	26 mm
Calculated Settlement under the Surcharge Load (ρ_{su}) over Design Life	37 mm
Predicted Consolidation Settlement Complete	02/07/2023

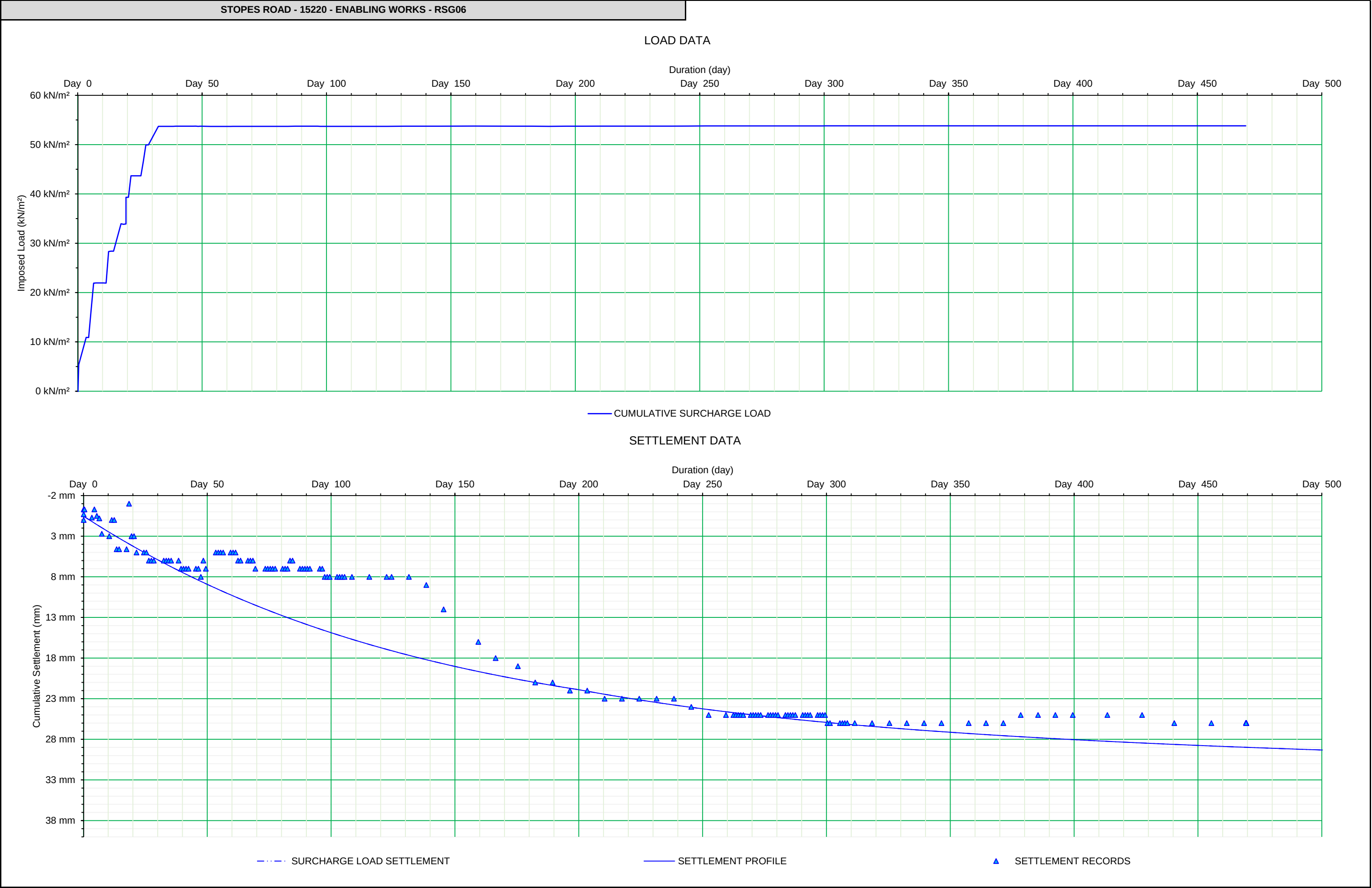


CONSOLIDATION DATA

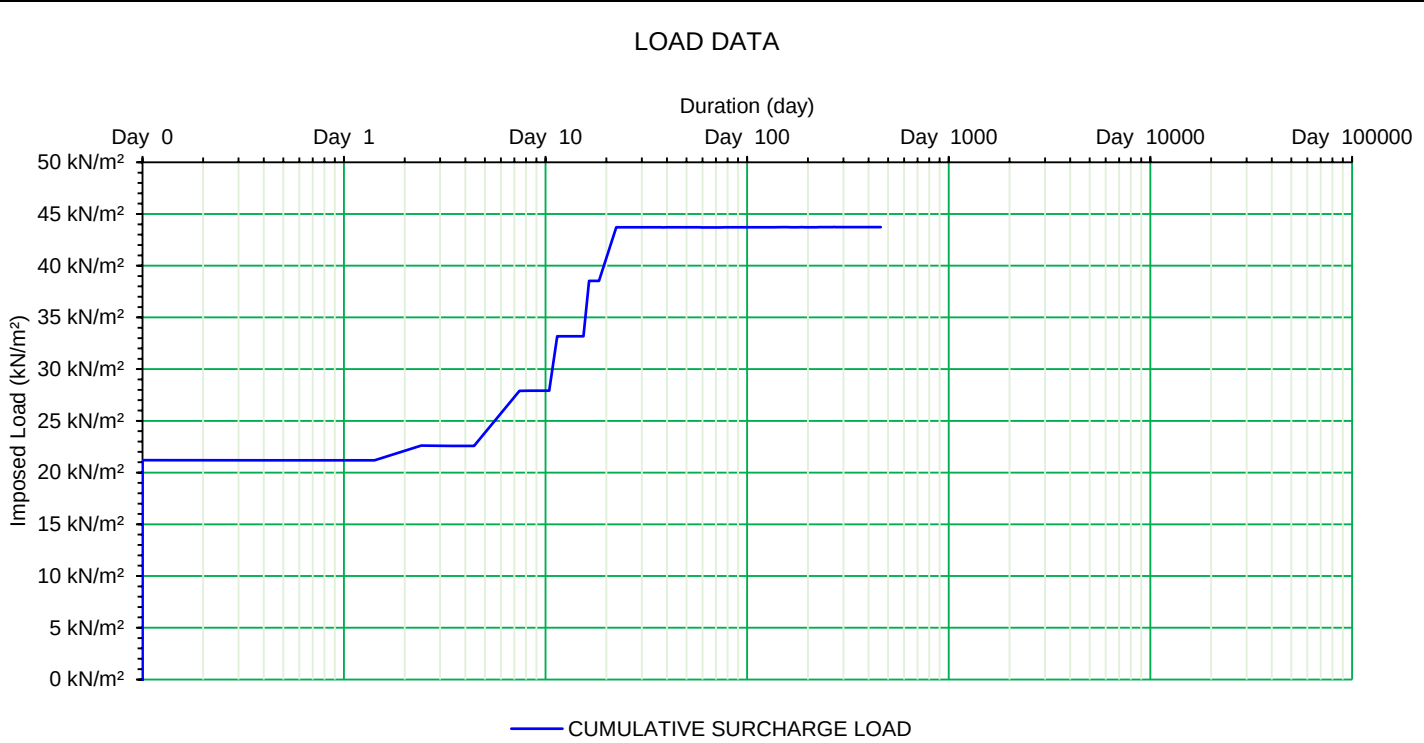
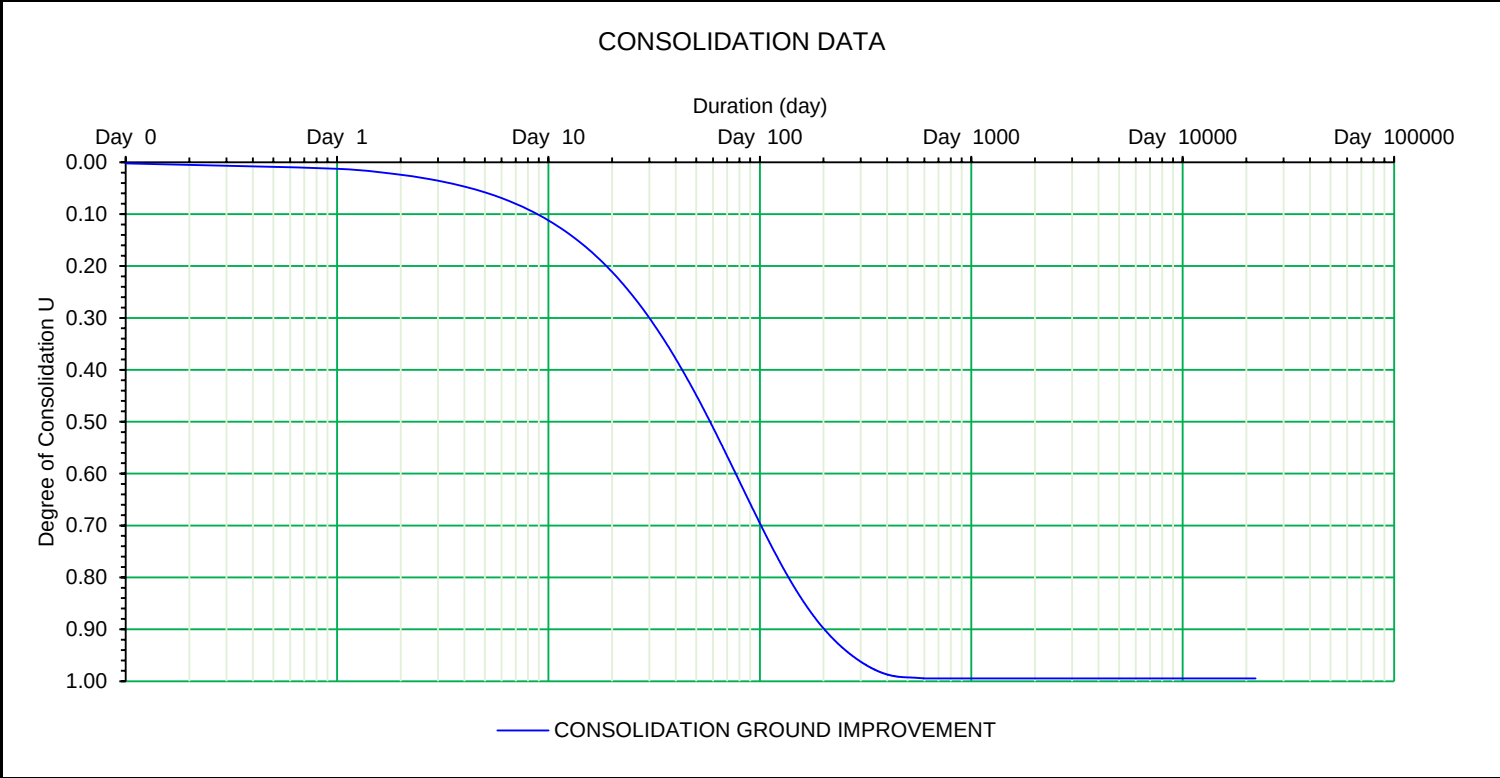
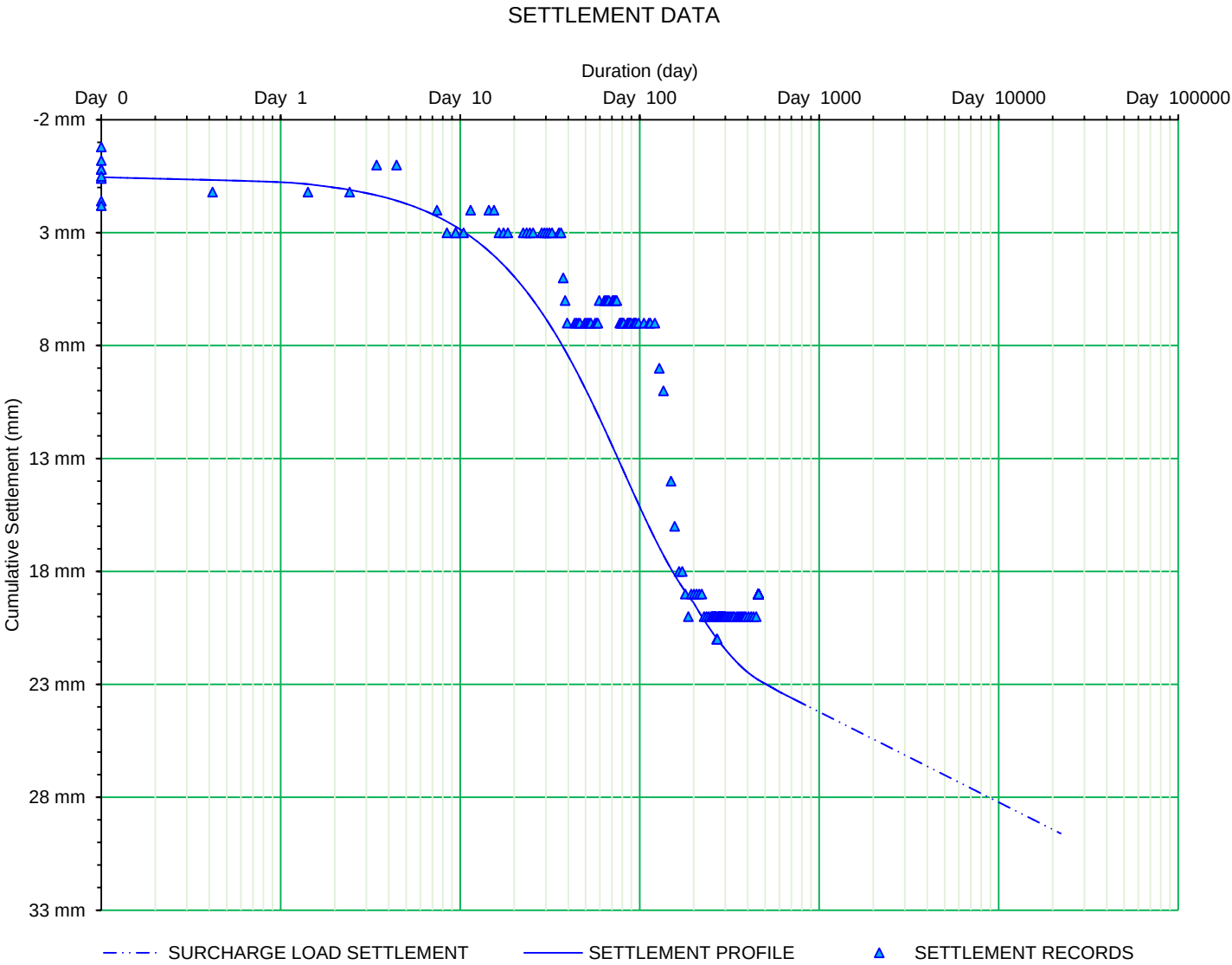


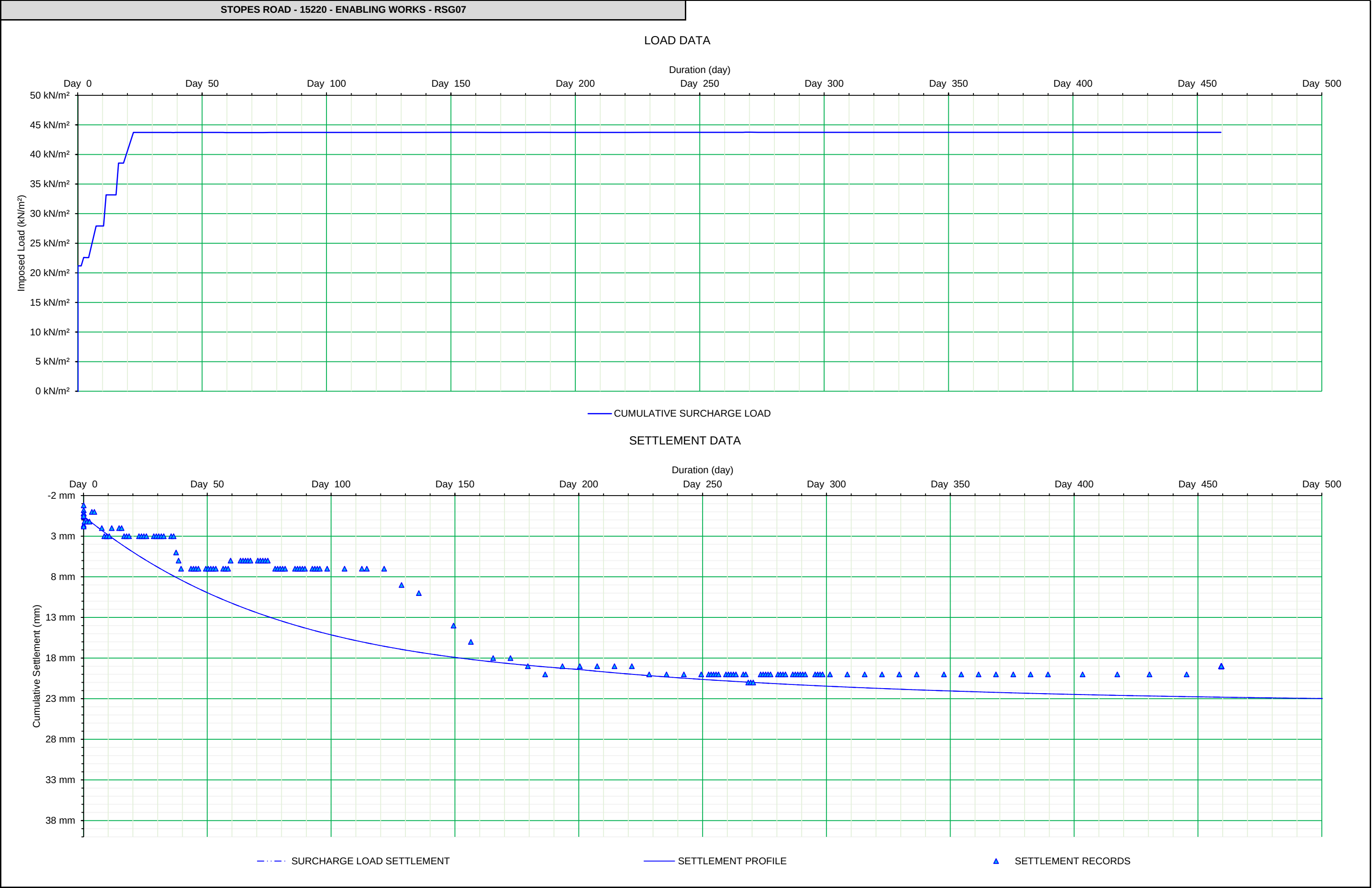
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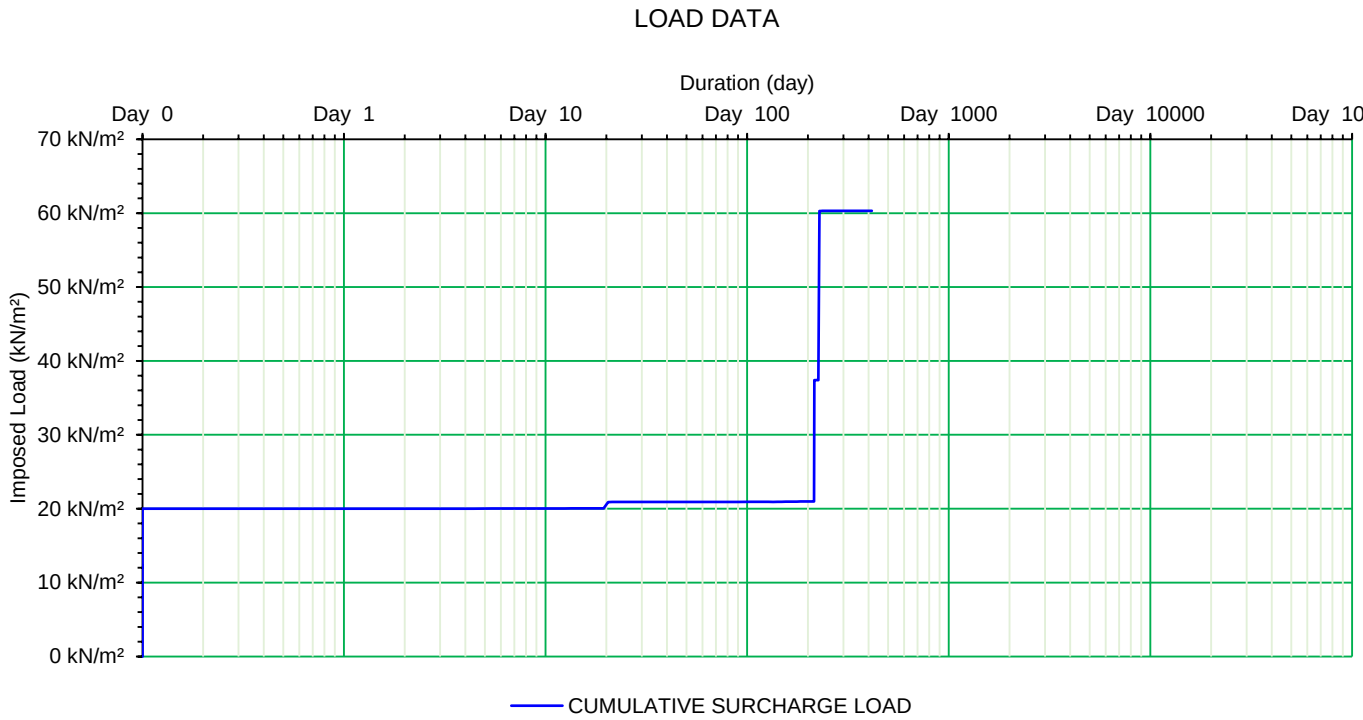
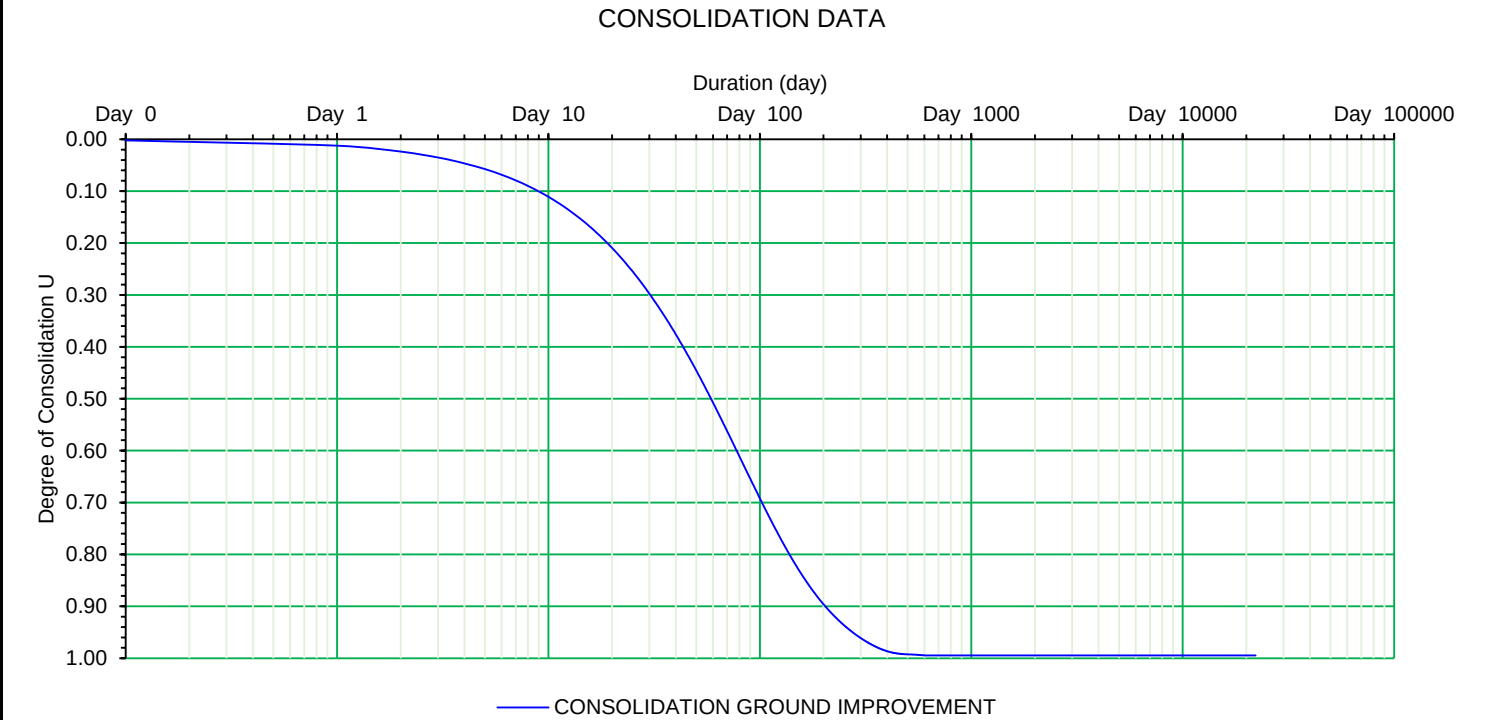
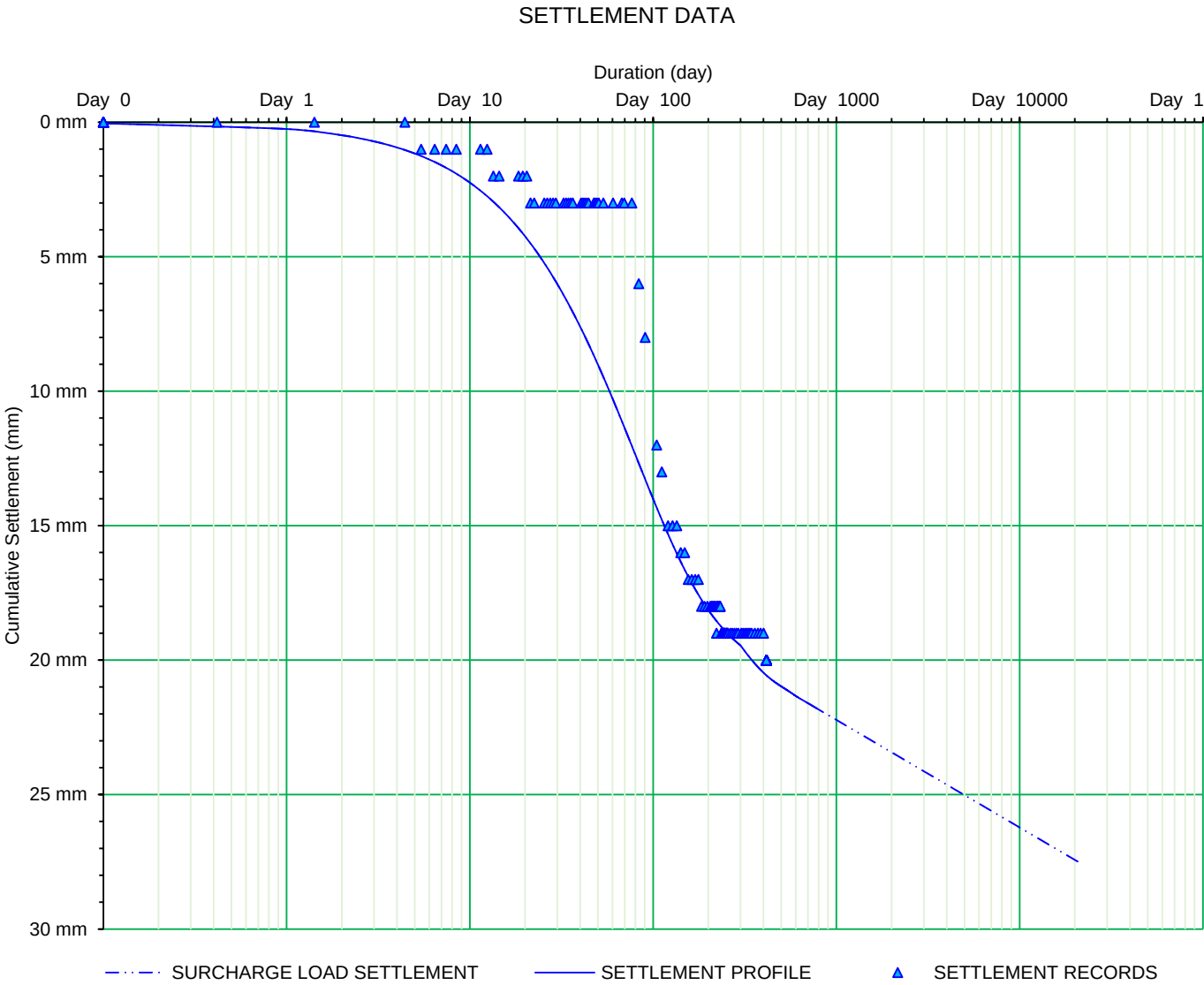


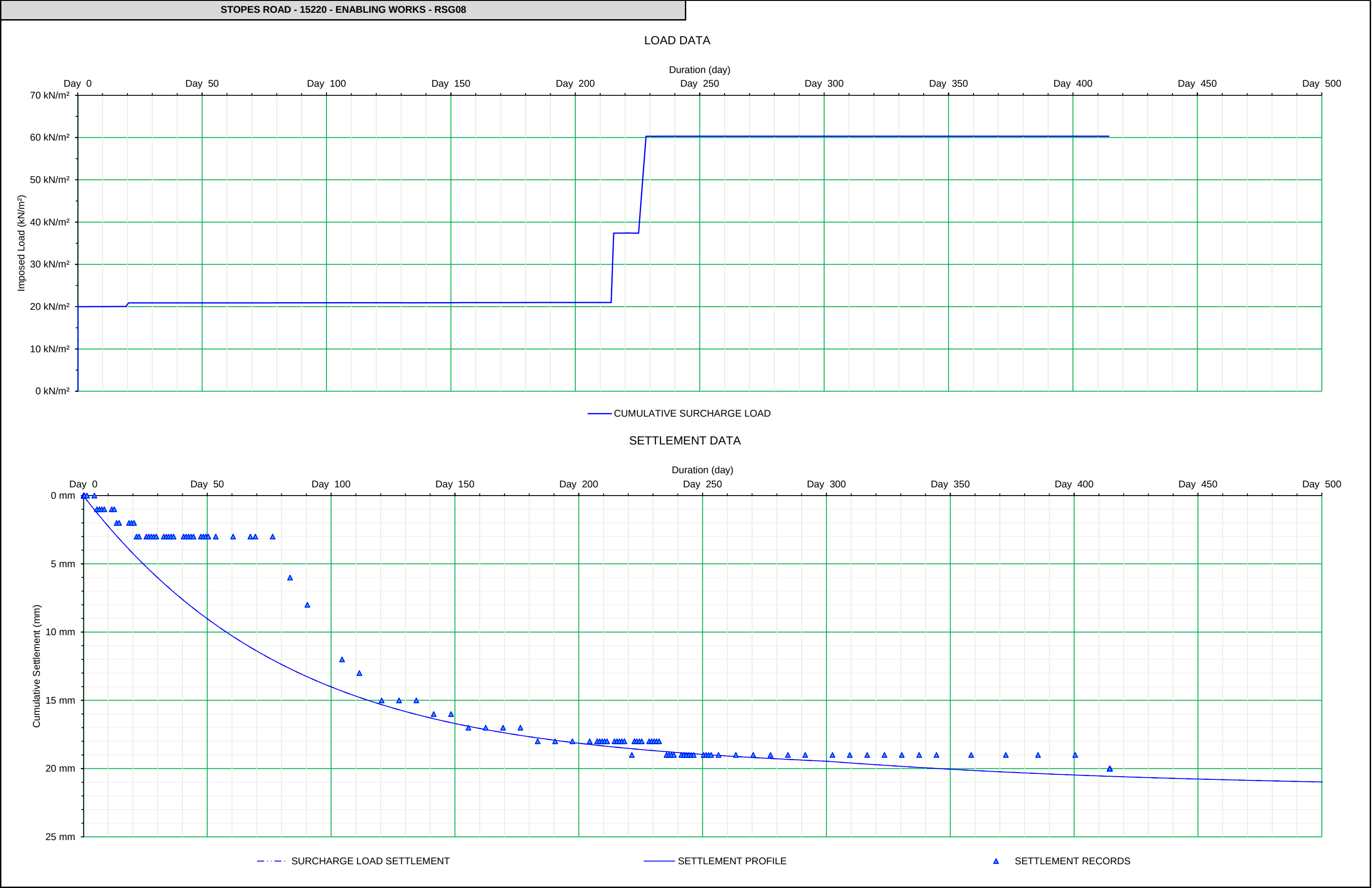
STOPES ROAD - 15220 - ENABLING WORKS - RSG07	
Date of Monitoring Installation	28/07/22
Date Surcharge Placement started	08/08/22
Date Surcharge Placement completed	00/01/00
Design Life	60 years
Surcharge Placement in Single or Multiple Phases	Single
Time Factor - Original - Duration in years to U = 90%	0.000 Years
Time Factor - Corrected duration to U = 90%	0.980 Years
Thickness of Compressible Layer	4.00m
Duration when Surcharge Removed (Actual)	1000 days
Estimated Settlement under application of Surcharge Load (Immediate) (ρ_i)	0.50 mm
Subgrade Settlement Modulus (Primary) (ρ_c)	2.08 MN/m ³
Creep Settlement Coefficient (Secondary) (ρ_s)	$Ca/(1+e_0) = 0.00100$
Ratio Surcharge / Design Settlement	100% Preload & Surcharge
Apply Creep Factor after Day	Day 200
Predicted reduction in rate of secondary settlement following surcharge removal	0% reduction
Predicted Rebound	0.00 mm
Maximum Surcharge Load	44 kN/m ³
Maximum Design Load	44 kN/m ³
Predicted start of Secondary Compression (U = 0.90)	201 days
Maximum Settlement recorded under Surcharge	21 mm
Calculated Settlement under the Surcharge Load (ρ_{su}) over Design Life	30 mm
Predicted Consolidation Settlement Complete	24/02/2023



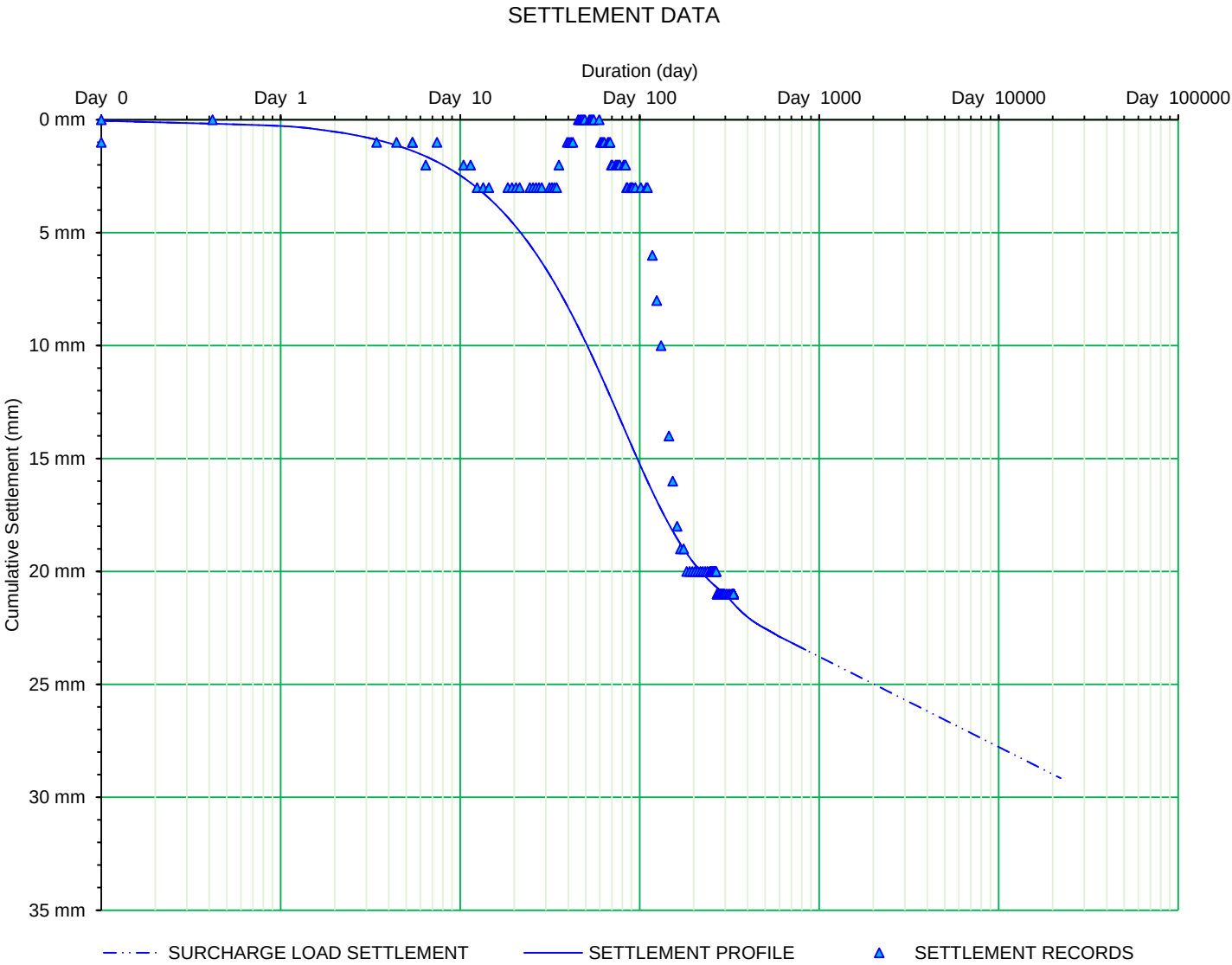


STOPES ROAD - 15220 - ENABLING WORKS - RSG08	
Date of Monitoring Installation	24/08/22
Date Surcharge Placement started	22/09/22
Date Surcharge Placement completed	00/01/00
Design Life	60 years
Surcharge Placement in Single or Multiple Phases	Single
Time Factor - Original - Duration in years to U = 90%	0.000 Years
Time Factor - Corrected duration to U = 90%	0.990 Years
Thickness of Compressible Layer	4.00m
Duration when Surcharge Removed (Actual)	1000 days
Estimated Settlement under application of Surcharge Load (Immediate) (ρ_i)	0.00 mm
Subgrade Settlement Modulus (Primary) (ρ_c)	2.98 MN/m ³
Creep Settlement Coefficient (Secondary) (ρ_s)	$Ca/(1+e0) = 0.00100$
Ratio Surcharge / Design Settlement	100% Preload & Surcharge
Apply Creep Factor after Day	Day 300
Predicted reduction in rate of secondary settlement following surcharge removal	0% reduction
Predicted Rebound	0.00 mm
Maximum Surcharge Load	60 kN/m ³
Maximum Design Load	60 kN/m ³
Predicted start of Secondary Compression (Ur = 0.90)	203 days
Maximum Settlement recorded under Surcharge	20 mm
Calculated Settlement under the Surcharge Load (ρ_{su}) over Design Life	28 mm
Predicted Consolidation Settlement Complete	12/04/2023

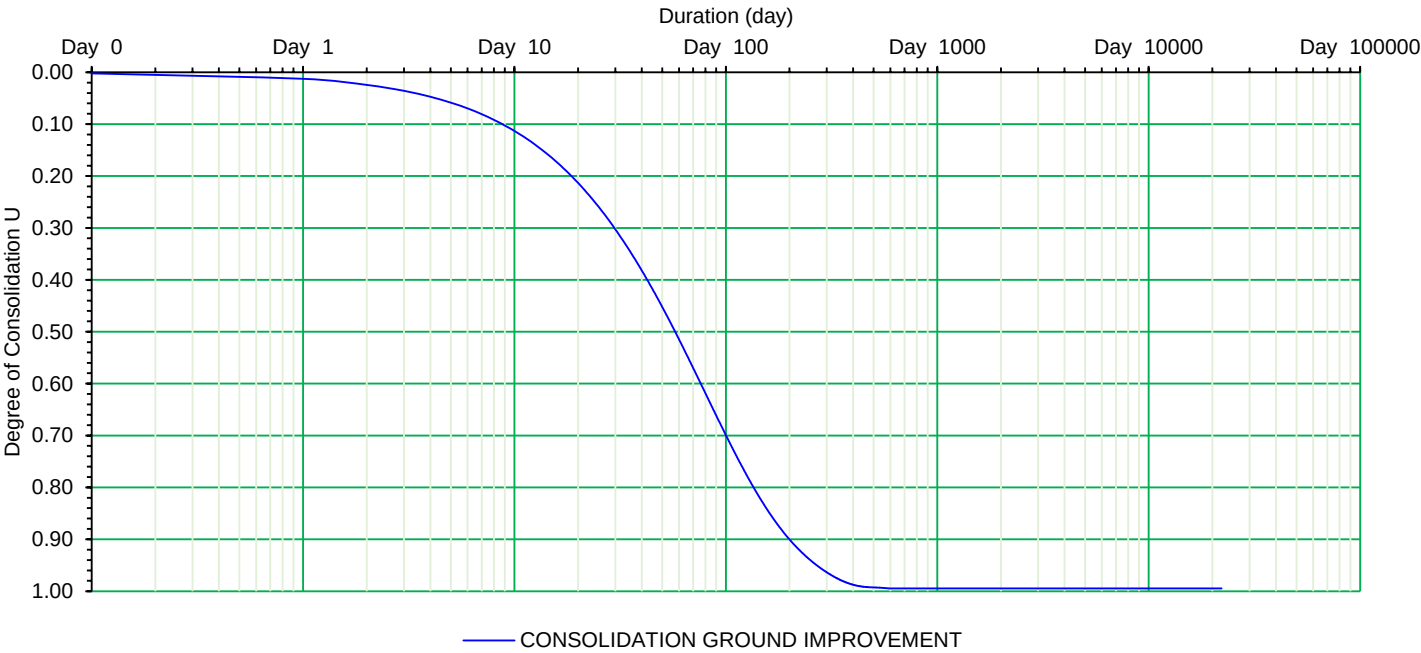




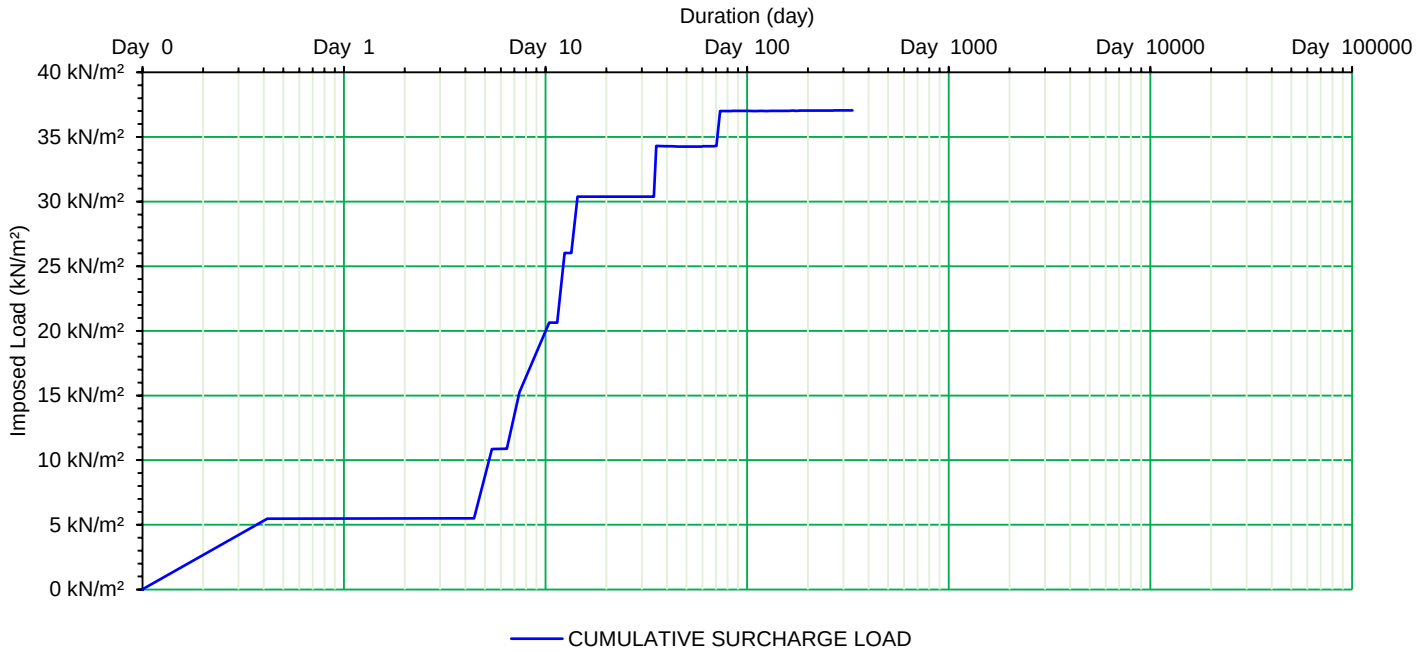
STOPES ROAD - 15220 - ENABLING WORKS - RSG09	
Date of Monitoring Installation	11/08/22
Date Surcharge Placement started	12/08/22
Date Surcharge Placement completed	00/01/00
Design Life	60 years
Surcharge Placement in Single or Multiple Phases	Single
Time Factor - Original - Duration in years to U = 90%	0.000 Years
Time Factor - Corrected duration to U = 90%	0.970 Years
Thickness of Compressible Layer	4.00m
Duration when Surcharge Removed (Actual)	1000 days
Estimated Settlement under application of Surcharge Load (Immediate) (ρ_i)	0.00 mm
Subgrade Settlement Modulus (Primary) (ρ_c)	1.70 MN/m ³
Creep Settlement Coefficient (Secondary) (ρ_s)	$Ca/(1+e_0) = 0.00100$
Ratio Surcharge / Design Settlement	100% Preload & Surcharge
Apply Creep Factor after Day	Day 300
Predicted reduction in rate of secondary settlement following surcharge removal	0% reduction
Predicted Rebound	0.00 mm
Maximum Surcharge Load	37 kN/m ³
Maximum Design Load	37 kN/m ³
Predicted start of Secondary Compression (U = 0.90)	199 days
Maximum Settlement recorded under Surcharge	21 mm
Calculated Settlement under the Surcharge Load (ρ_{su}) over Design Life	29 mm
Predicted Consolidation Settlement Complete	26/02/2023

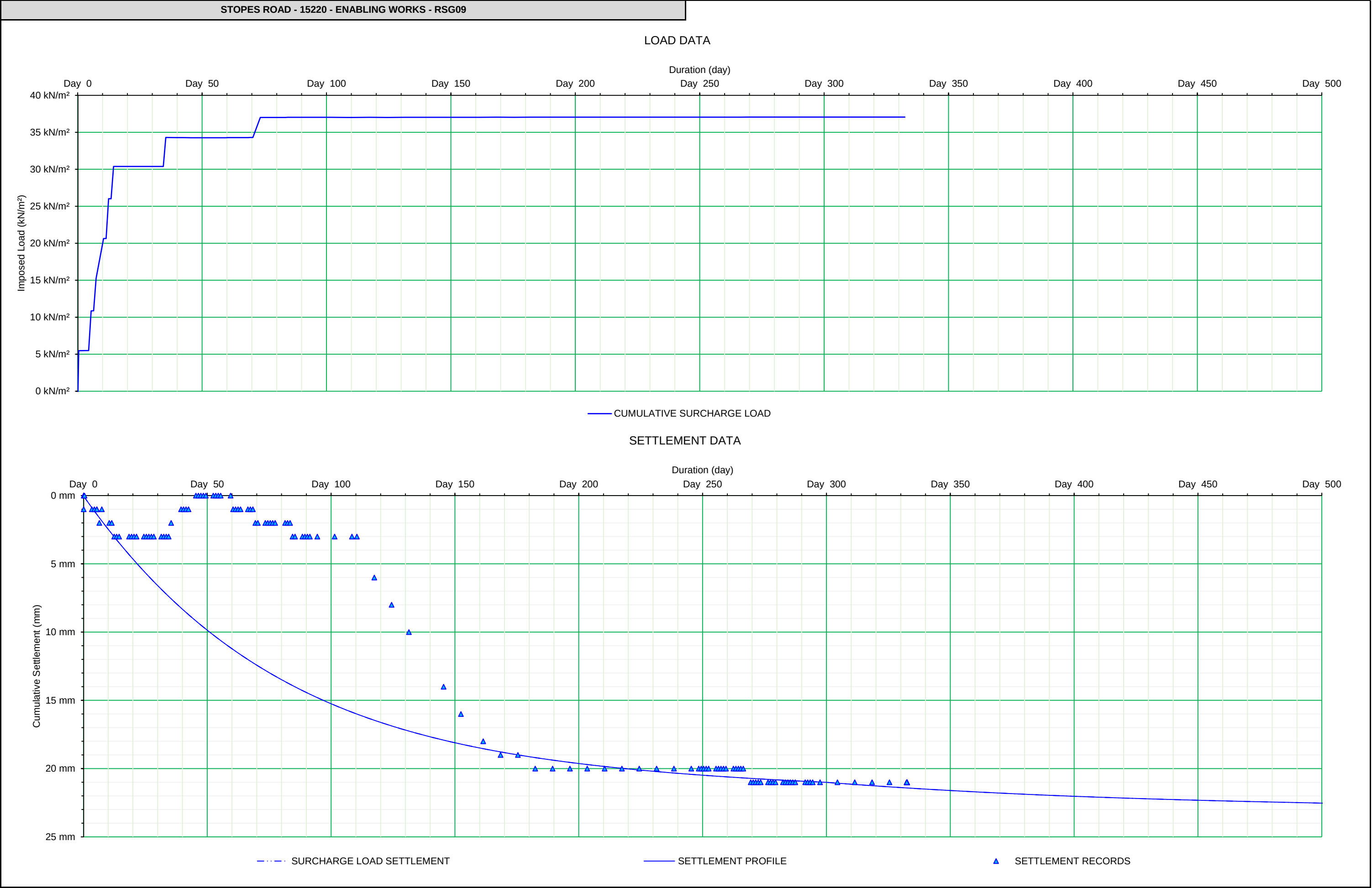


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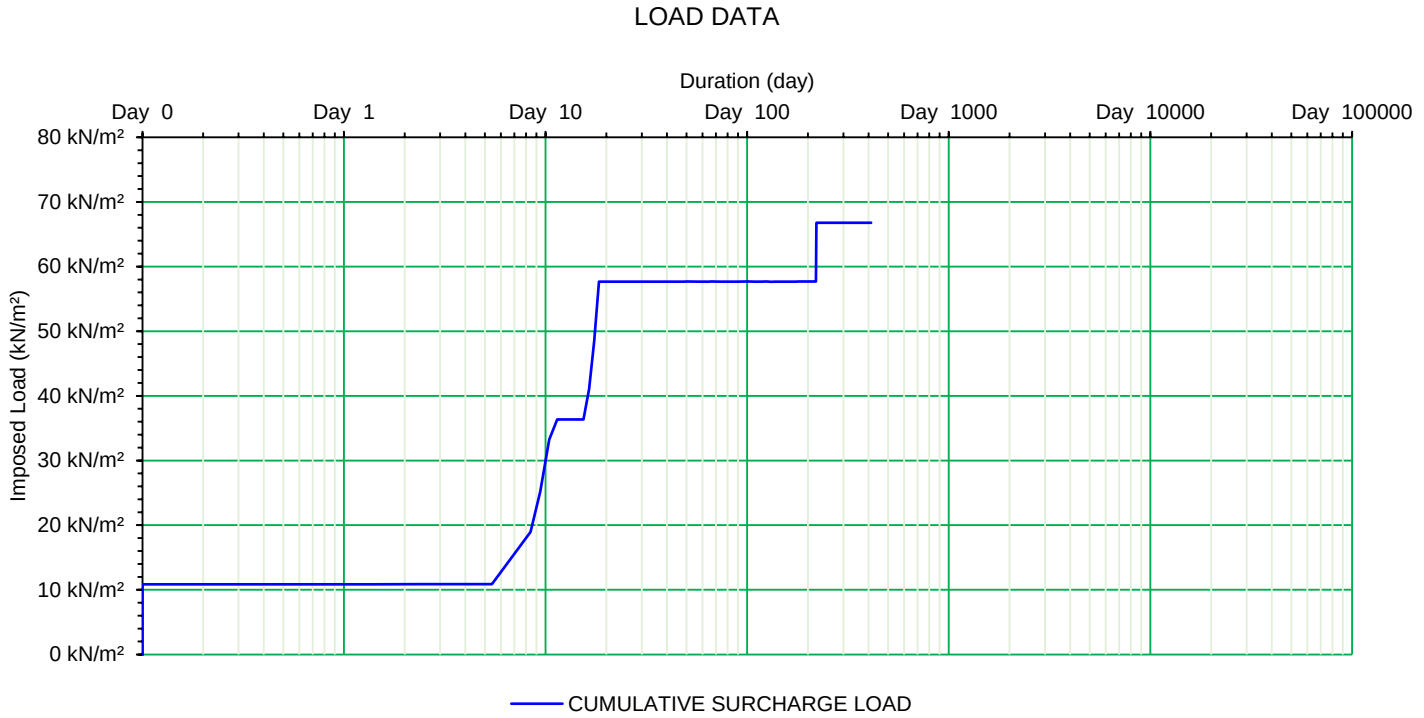
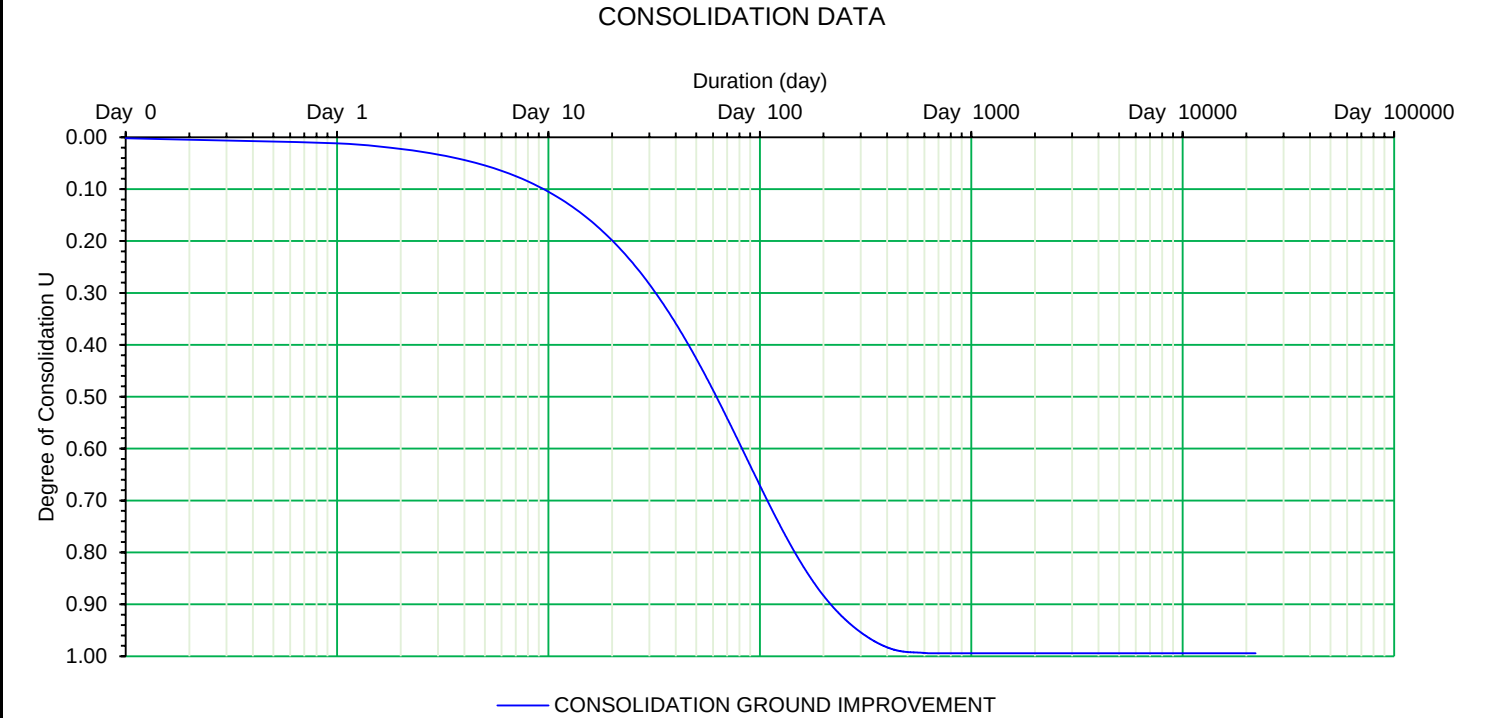
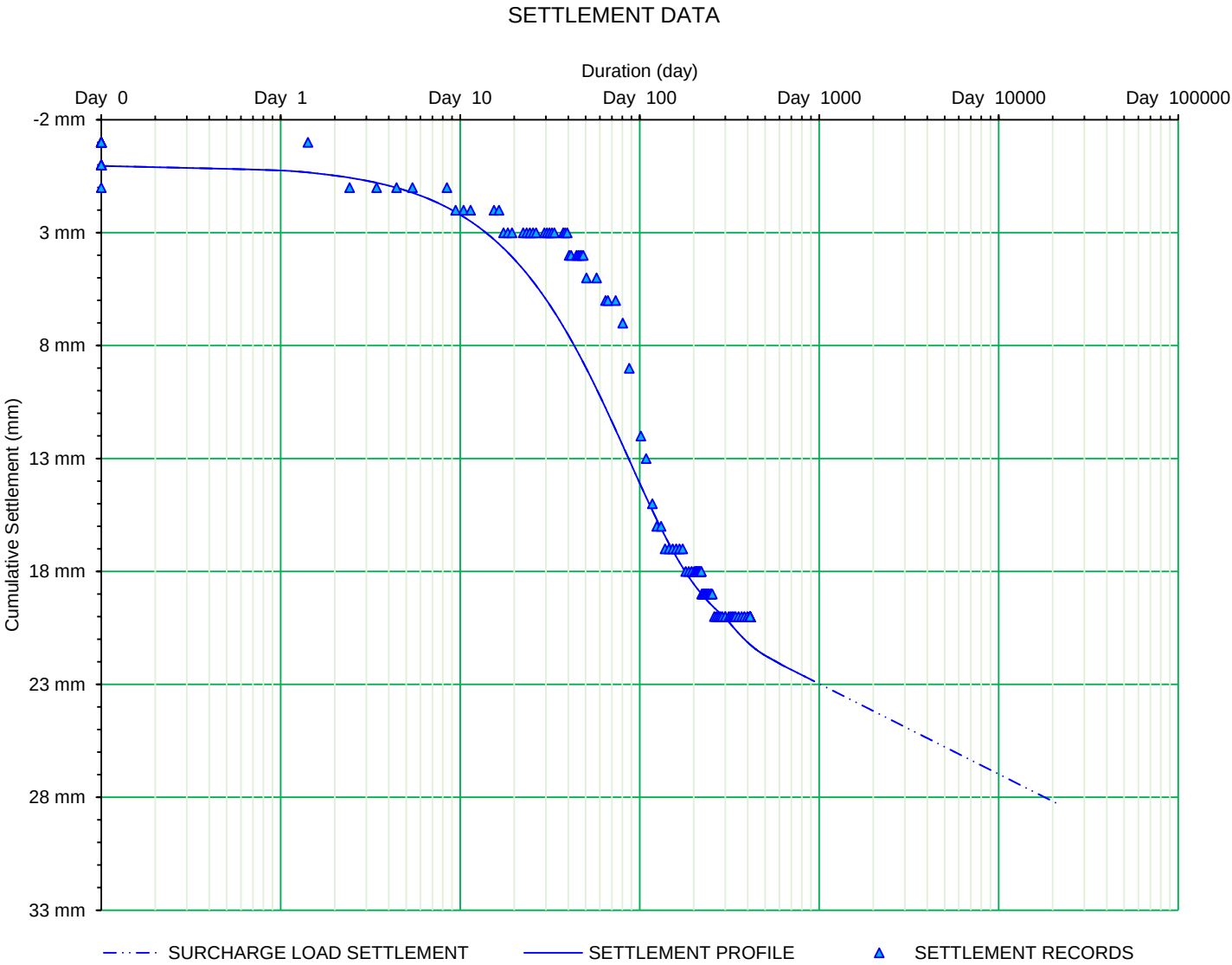


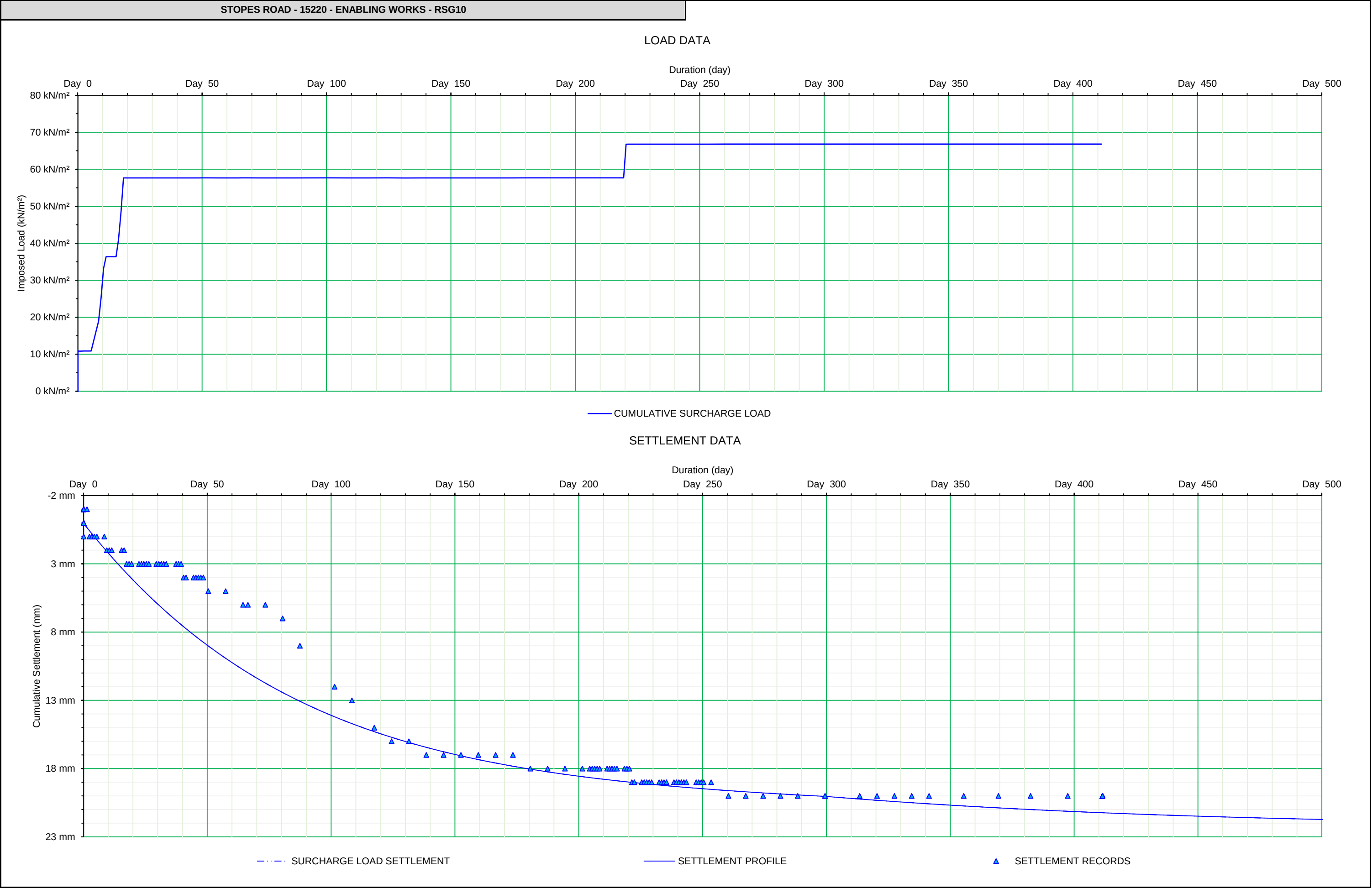
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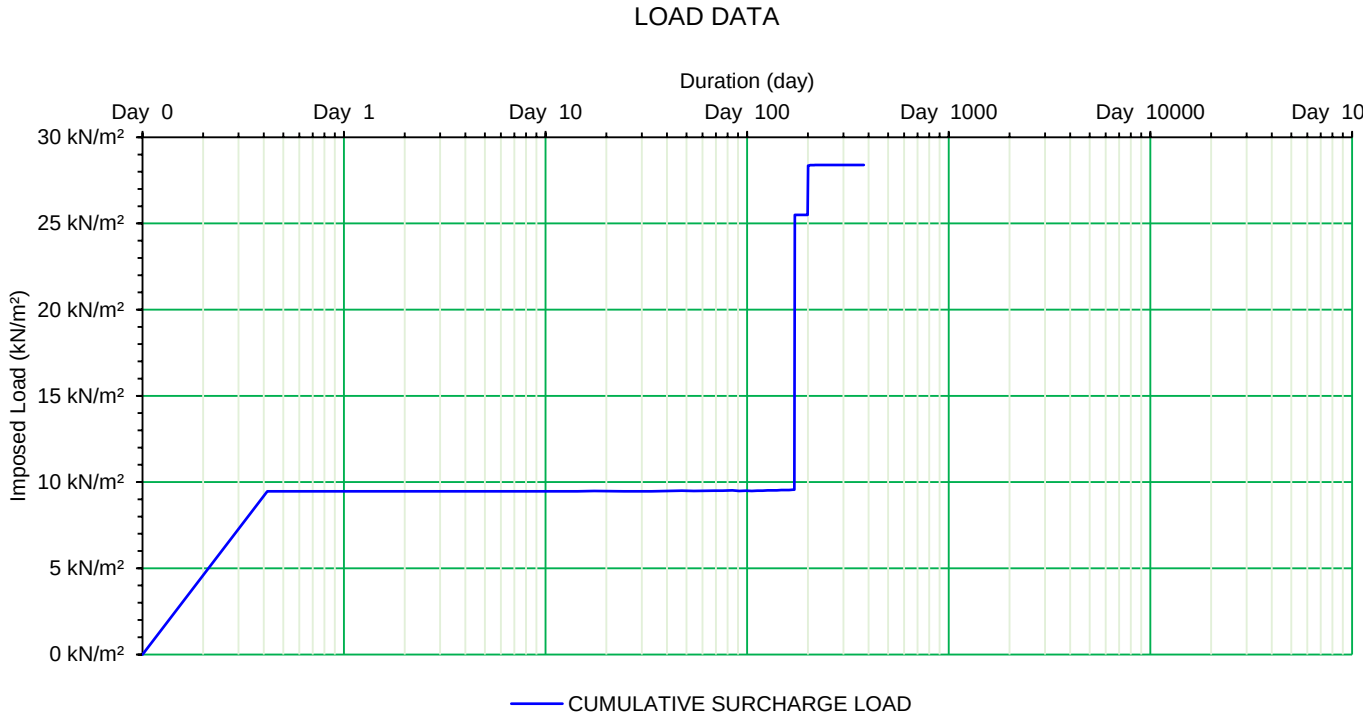
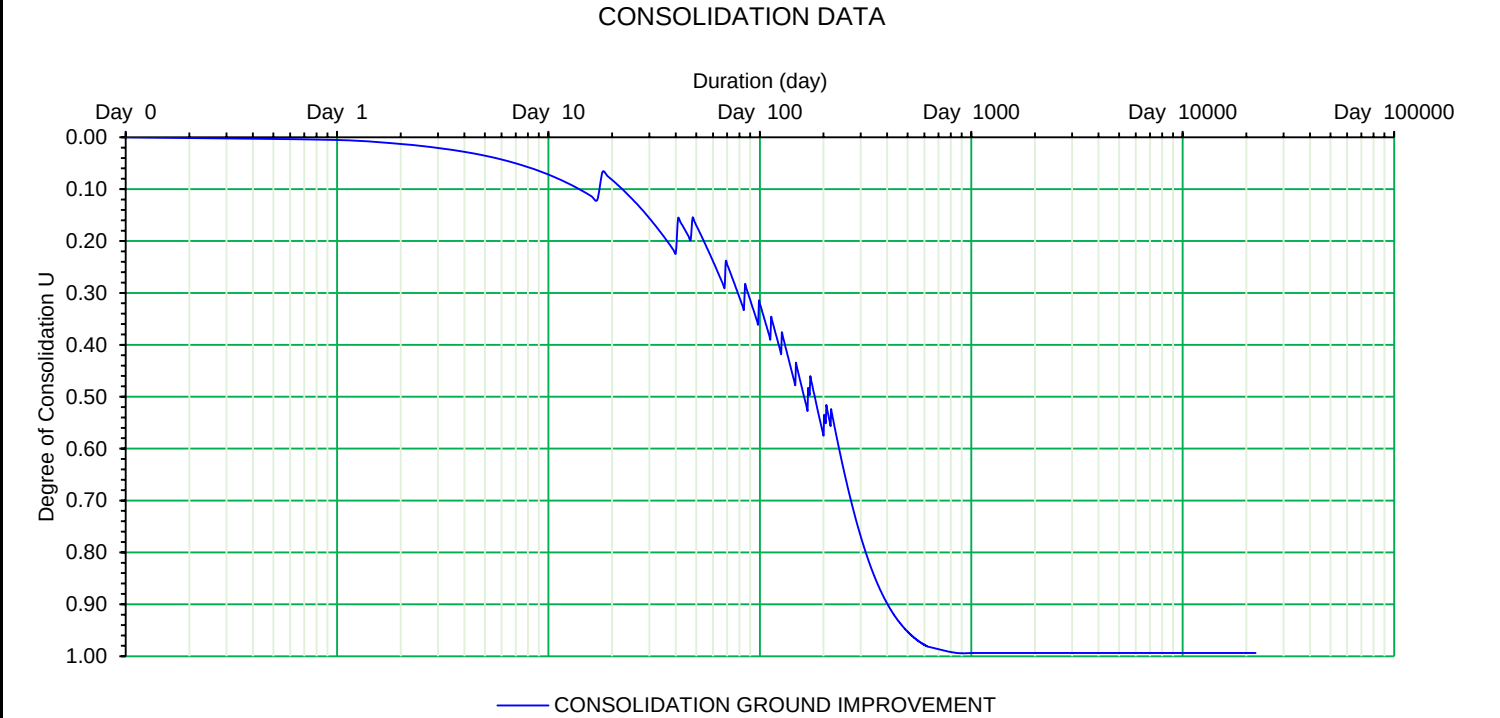
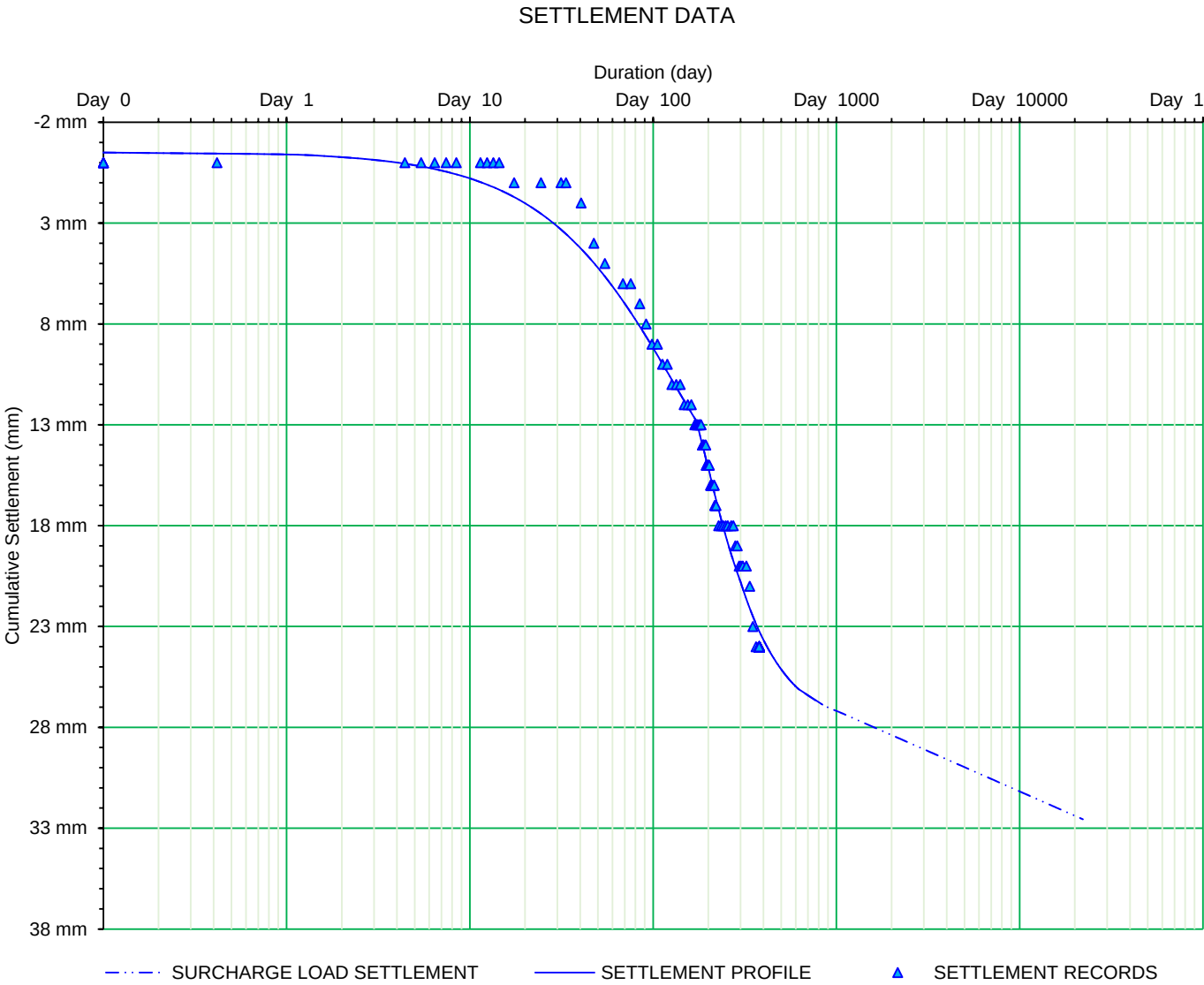


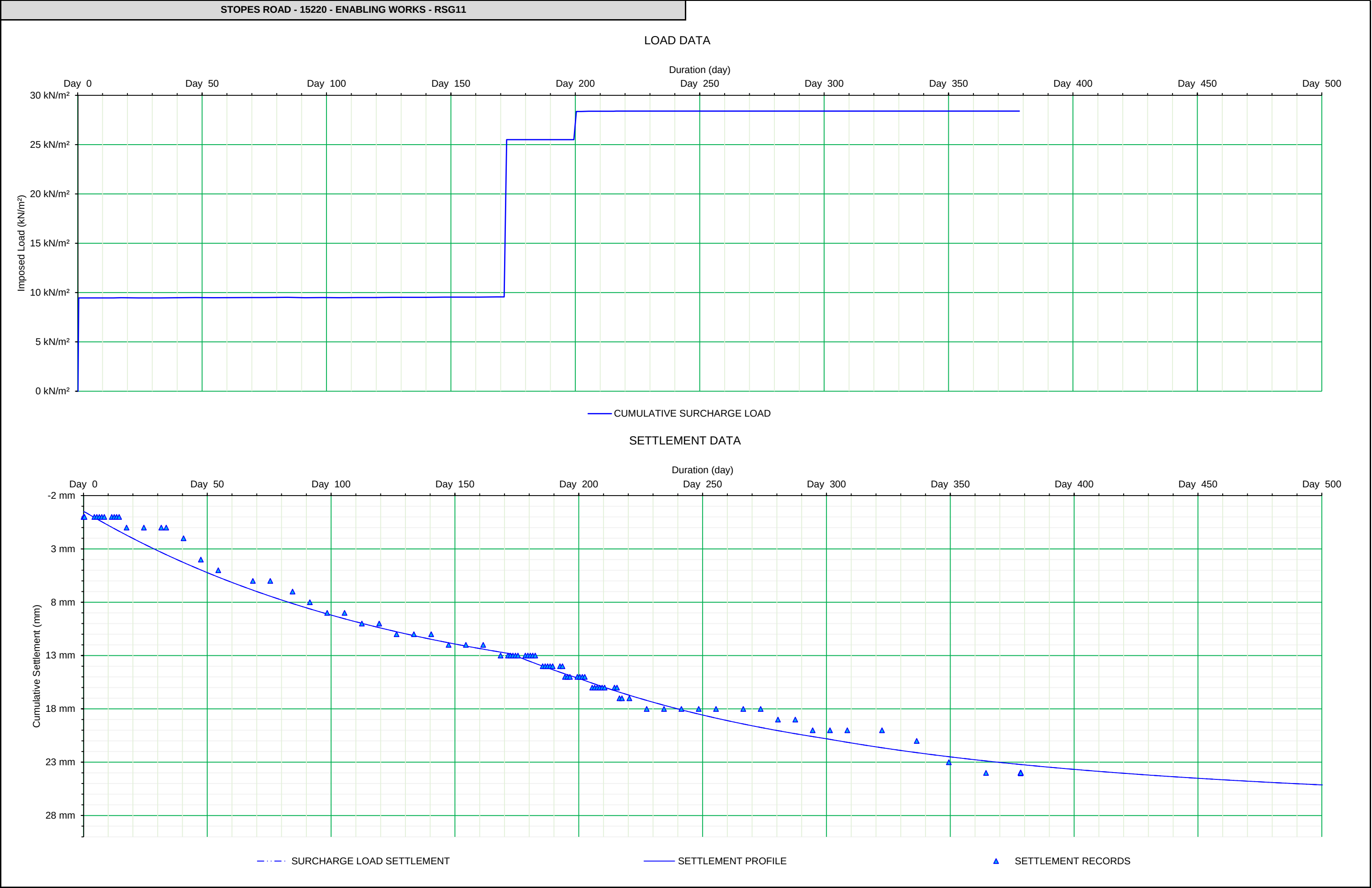
STOPES ROAD - 15220 - ENABLING WORKS - RSG10	
Date of Monitoring Installation	24/08/22
Date Surcharge Placement started	25/09/22
Date Surcharge Placement completed	00/01/00
Design Life	60 years
Surcharge Placement in Single or Multiple Phases	Single
Time Factor - Original - Duration in years to U = 90%	0.000 Years
Time Factor - Corrected duration to U = 90%	1.050 Years
Thickness of Compressible Layer	4.00m
Duration when Surcharge Removed (Actual)	1000 days
Estimated Settlement under application of Surcharge Load (Immediate) (ρ_i)	0.00 mm
Subgrade Settlement Modulus (Primary) (ρ_c)	3.18 MN/m ³
Creep Settlement Coefficient (Secondary) (ρ_s)	$Ca/(1+e0) = 0.00100$
Ratio Surcharge / Design Settlement	100% Preload & Surcharge
Apply Creep Factor after Day	Day 300
Predicted reduction in rate of secondary settlement following surcharge removal	0% reduction
Predicted Rebound	0.00 mm
Maximum Surcharge Load	67 kN/m ³
Maximum Design Load	67 kN/m ³
Predicted start of Secondary Compression (U = 0.90)	215 days
Maximum Settlement recorded under Surcharge	20 mm
Calculated Settlement under the Surcharge Load (ρ_{su}) over Design Life	28 mm
Predicted Consolidation Settlement Complete	28/04/2023





STOPES ROAD - 15220 - ENABLING WORKS - RSG11	
Date of Monitoring Installation	24/10/22
Date Surcharge Placement started	28/10/22
Date Surcharge Placement completed	00/01/00
Design Life	60 years
Surcharge Placement in Single or Multiple Phases	multiple
Time Factor - Original - Duration in years to U = 90%	0.000 Years
Time Factor - Corrected duration to U = 90%	1.300 Years
Thickness of Compressible Layer	4.00m
Duration when Surcharge Removed (Actual)	1000 days
Estimated Settlement under application of Surcharge Load (Immediate) (ρ_i)	-0.50 mm
Subgrade Settlement Modulus (Primary) (ρ_c)	1.70 MN/m ³
Creep Settlement Coefficient (Secondary) (ρ_s)	$Ca/(1+e0) = 0.00100$
Ratio Surcharge / Design Settlement	100% Preload & Surcharge
Apply Creep Factor after Day	Day 300
Predicted reduction in rate of secondary settlement following surcharge removal	0% reduction
Predicted Rebound	0.00 mm
Maximum Surcharge Load	28 kN/m ³
Maximum Design Load	28 kN/m ³
Predicted start of Secondary Compression (U = 0.90)	400 days
Maximum Settlement recorded under Surcharge	24 mm
Calculated Settlement under the Surcharge Load (ρ_{su}) over Design Life	32 mm
Predicted Consolidation Settlement Complete	02/12/2023





Appendix G Updated Foundation Zonation Plan