APPENDIX 1-1: INFORMATION REQUIREMENTS TABLE – TSF RAISE TO 987 M

JOINT APPLICATION INFORMATION REQUIREMENTS TABLE

April 2024
Version 2.0






BRITISH COLUMBIA
Ministry of Energy, Mines and Low Carbon Innovation

BRITISH COLUMBIA
Ministry of Environment and Climate Change Strategy

PROVINCE OF BRITISH COLUMBIA
B.C. Ministry of Energy, Mines and Low Carbon Innovation
and
Ministry of Environment and Climate Change Strategy

Joint Application Information Requirements Table (IRT)
Version 2.0
Published April 2024

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Information Requirements Sign-off

Project: TSF Raise to 987 m Project

Applicant Representative

Name: Don Parsons

Title: Chief Compliance Officer

Applicant signature to indicate agreement with project specific requirements	Date signed

Ministry of Environment and Climate Change Strategy, Environmental Protection Division

Application (AMS Tracking #):

Ministry Representative

Name:

Title:

Ministry representative signature to indicate agreement with project specific requirements	Date signed

Ministry of Energy, Mines and Low Carbon Innovation, Major Mines Office

Ministry Representative

Name:

Title:

Ministry representative signature to indicate agreement with project specific requirements	Date signed

Information (refer to Joint Application Information Requirements Guide for detailed information on each section)	Requirements	Comments	Location in Final Application
1. INTRODUCTION AND PROJECT OVERVIEW			
1.1. Project Description	Required ☒	The scope of this application includes the following construction activities: • Foundation preparation and construction of buttress • Extension of the North and South abutments • Relocation of seepage and surface water collection channels • Relocation of the south embankment pond, main embankment pond, Perimeter Embankment Till Borrow Pond (PETBP), and the Central Collection Sump (CCS) • Expansion of the Central Collection Sump (CCS) • A new pumped transfer system • Extension of the treated water discharge pipeline	
1.2. Proponent Information	Required ☒		
1.3. Project Overview			
1.3.1. Project History	Required ☒		
1.3.2. Overview of Products	Required ☒	Project benefits will be discussed	
1.3.3. Location, Access, and Land Use	Required ☒	A summary description of the Project location and access relative to MPMC, including a figure, will be included in the Application. Coordinates for the location of the Project will be provided in the Application. Figures will be developed to illustrate the following: • The location of MPMC • MPMC layout • Relevant infrastructure	
1.3.4. Mine Components	Required ☒	The components of the Project will be described in the Application. Stamped and signed (Issued for Permitting) engineering drawings will be provided at a suitable level of detailed design.	
1.3.5. Mine Design and Assessment Team	Required ☒		
1.3.6. Spatial Data	Required ☒	Relevant spatial data will be provided as maps, including maps of Project and Project component's locations.	
1.3.7. Concordance with Environmental Assessment Conditions	Required ☒	Information relevant to the proposed Project will be provided in the Application. If no relevant commitments, then a statement will be included in the Application indicating that there are no applicable commitments.	
1.4. Regulatory Framework	Required ☒	A summary of provincial authorizations / approvals required for the Project will be provided. Existing authorizations that govern aspects of the Project will be identified.	

Information (refer to Joint Application Information Requirements Guide for detailed information on each section)	Requirements	Comments	Location in Final Application
2. INDIGENOUS NATION ENGAGEMENT			
2.1. Background	Required ☒	MPMC operates in the territory of the William's Lake First Nation and the Xatśūll First Nation. Summary of previous and planned engagement activities with these First Nation's will be provided.	
2.2. Engagement Efforts and Information	Required ☒	See Section 2.1	
2.3. Aboriginal Interests and Potential Project Impacts	Required ☒	See Section 2.1	
2.4. Engagement and Participation Throughout Mine Life	Required ☒	See Section 2.1	
3. BASELINE INFORMATION			
3.1. Meteorology and Climate	Required ☒ Methods ☐	A summary of relevant meteorological and climate information will be provided, based on existing monitoring data. The baseline information will include parameters relevant for the design and construction of the Project, such as precipitation, snowpack, temperature, and evapotranspiration.	
3.2. Geology			
3.2.1. Deposit Geology	Required ☐ Methods ☐		
3.2.2. Surficial Geology, Terrain, and Geohazard Mapping	Required ☒ Methods ☐	A foundation characterization report that meets the intent of the EGBC site characterization for dam foundation guidelines will be provided.	
3.2.3. Natural and Seismic Hazards Assessment	Required ☒ Methods ☐	A foundation characterization report that meets the intent of the EGBC site characterization for dam foundation guidelines will be provided.	
3.2.4. Soil Survey and Soil Characterization for Reclamation	Required ☐ Methods ☐		
3.3. Topography and Surface Drainage Features	Required ☒ Methods ☐	Existing topography and surface drainage features relevant to the Project components addressed in this application will be described. A figure showing an overview of surface drainage will be provided.	
3.4. Water Quantity			
3.4.1. Surface Water Quantity	Required ☒ Methods ☐		
3.4.2. Groundwater Quantity	Required ☒ Methods ☐		
3.5. Water Quality			
3.5.1. Surface Water Quality	Required ☒ Methods ☐		
3.5.2. Groundwater Quality	Required ☒ Methods ☐	Buttresses are proposed to extend into a wetland area east of the current TSF that recharges Edney Creek and the area northeast of the TSF that recharges Hazeltine Creek. Ensure the Application characterizes the existing groundwater and surface water conditions, and changes to surface water / groundwater interactions and condition east of the TSF because of the Project.	
3.6. Sediment Quality	Required ☐ Methods ☐		

Information (refer to Joint Application Information Requirements Guide for detailed information on each section)	Requirements	Comments	Location in Final Application
3.7. Fisheries and Aquatic Resources			
3.7.1. Periphyton and Benthic Invertebrate Community Measures	Required ☐ Methods ☐		
3.7.2. Fish and Fish Habitat	Required ☒ Methods ☐		
3.7.3. Tissue Residues	Required ☐ Methods ☐		
3.8. Ecosystems and Wildlife	Required ☒ Methods ☐	Caribou Management Plan; Wildlife Management Plan	
3.9. Potential Receptors of Mine-related Influences	Required ☐ Methods ☐		
3.10. Land Status and Use	Required ☒ Methods ☐	A summary of land status and use will be provided.	
3.11. Archaeology	Required ☒ Methods ☒	The Project TSF expansion is expected to occur in a largely disturbed area within the M-200 permit boundary; however, archaeological resources for the site have previously been identified and will be summarized based on that report.	
3.12. Cultural Use	Required ☒ Methods ☐	The application will contain a brief statement that there is no current cultural resource use of the tailings storage area.	
4. MINE PLAN			
4.1. Mine Plan Overview	Required ☒	A high-level overview of current mining will be provided in the Application. A description of how the Project will interact with mining will be provided. The following figures are planned: • Site General Arrangement Plan • Project Overall Plot Plan	
4.2. Existing and Permitted Mine Plan	Required ☒	The existing environment will be described in Section 3 in the context of the Project. Integration of the Project with the mine site will be described in other sections.	
4.3. Proposed Mine Plan	Required ☒	Identified as required by MCM.	
4.4. Mine Facility Engineering Designs	Required ☐		
4.4.1. Open Pits	Required ☐		
4.4.2. Underground Workings	Required ☐		
4.4.3. Tailings Storage Facilities, Dams, and Associated Infrastructure	Required ☐		
4.4.3.1. Small Dams	Required ☐		
4.4.3.2. Low Consequence Classification Dams	Required ☐		
4.4.3.3. Significant or Higher Consequence Classification Dams	Required ☐		
4.4.3.4. Tailings Storage Facilities	Required ☒	A detailed design report for the TSF raise to elevation 987 m will be provided in the Application.	
4.4.4. Dumps and Stockpiles	Required ☒	Descriptions of the soil and construction materials associated with	

Information (refer to Joint Application Information Requirements Guide for detailed information on each section)	Requirements	Comments	Location in Final Application
		the Project will be provided in the Application.	
4.4.4.1. Dumps (Stability Class II or less)	Required ☐		
4.4.4.2. Dumps (Stability Class III or greater) and Major Dumps	Required ☐		
4.4.5. Surface Water Management Structures	Required ☐		
4.4.5.1. Ponds or Impoundments (without Dams)	Required ☒	A description of changes to water management structures will be provided in the application.	
4.4.5.2. Water Conveyance Structures	Required ☒	A description of changes to water management structures will be provided in the application.	
4.4.6. Mine Roads	Required ☐		
4.4.7. Processing Plant (Mill)	Required ☐		
4.4.8. Buildings, Ancillary Facilities, and Other Infrastructure	Required ☐		
4.4.9. Closure Designs	Required ☐		
4.4.9.1. Open Pits	Required ☐		
4.4.9.2. Underground	Required ☐		
4.4.9.3. TSFs and Dams	Required ☒	A detailed design report for the TSF raise to elevation 987 m will be provided in the Application. For discussion with MCM.	
4.4.9.4. Dumps and Stockpiles	Required ☐		
4.4.9.5. Surface Water Management Structures	Required ☒	A description of changes to water management structures will be provided in the application.	
5. RECLAMATION AND CLOSURE PLAN			
5.1. End Land Use Objectives and Capability Metrics for Planned Infrastructure/ Disturbance Footprints	Required ☒	The Application will include reclamation and closure information for the Project based on the latest update to the Mine Reclamation and Closure Plan	
5.1.1. Pre-Mining End Land Use and Capability	Required ☐		
5.1.2. Post-Mining End Land Use and Capability Objectives/Metrics	Required ☐		
5.2. Existing Mine Disturbance Footprints and Conditions	Required ☒	Identified as required by MCM	
5.3. Proposed 5-Year Mine Disturbance Footprint	Required ☒	Identified as required by MCM	
5.4. Life of Mine Disturbance Footprint	Required ☒	Identified as required by MCM	
5.5. Reclamation and Closure Approaches and Prescriptions	Required ☒	As informed by the Mine Reclamation and Closure Plan	
5.6. Habitat Compensation	Required ☒	As informed by the Mine Reclamation and Closure Plan	
5.7. Trace Elements in Soils and Vegetation	Required ☐ Methods ☐		
5.8. Contaminated Sites and Ecological Risk Assessment	Required ☐ Methods ☐		
5.9. Disposal of Chemicals, Reagents, Hazardous Materials, and Contaminated Materials	Required ☐ Methods ☐		
5.10. Groundwater Well Decommissioning	Required ☒ Methods ☐		
5.11. Reclamation and Closure Research	Required ☐	Identified as required by MCM; however. not relevant to the Application. 2027 RCP Update	
5.12. Reclamation Monitoring	Required ☒	As informed by the Mine Reclamation and Closure Plan	

Information (refer to Joint Application Information Requirements Guide for detailed information on each section)	Requirements	Comments	Location in Final Application
5.13. Post-closure Reclamation Maintenance	Required ☒	As informed by the Mine Reclamation and Closure Plan	
5.14. Care and Maintenance	Required ☒	Identified as required by MCM.	
6. WATER QUALITY MITIGATION AND WATER MODELLING			
6.1. Metal Leaching and Acid Rock Drainage Characterization	Required ☒ Methods ☐	Identified as required by MCM	
6.2. Geochemical Source Terms	Required ☒ Methods ☐	The existing geochemical characterization results used for the tailings will be provided.	
6.3. Conceptual Site Model	Required ☐ Methods ☐		
6.4. Water Quality Mitigation Measures			
6.4.1. Source Control	Required ☐ Methods ☐		
6.4.1.1. Management Practices	Required ☐ Methods ☐		
6.4.1.2. Engineered Controls	Required ☐ Methods ☐		
6.4.2. Water Management Measures	Required ☒ Methods ☐	Identified as required by MCM	
6.4.3. Technology Selection			
6.4.3.1. Best Achievable Technology Evaluation	Required ☐ Methods ☐		
6.4.3.2. Technology Readiness Assessment	Required ☐ Methods ☐		
6.4.4. Water and Effluent Treatment			
6.4.4.1. Description	Required ☒	A brief description of the existing water treatment system will be provided in the Application. A high-level description of the proposed modifications to infrastructure will be provided as part of the Application.	
6.4.4.2. Location	Required ☒	A brief description of the existing water treatment system will be provided in the Application. A high-level description of the proposed modifications will be provided as part of the Application.	
6.4.4.3. Detailed Design	Required ☐		
6.4.4.4. Site-specific Treatment Effectiveness	Required ☐		
6.4.4.5. Performance Risks	Required ☐		
6.4.4.6. Influent and Effluent Water Quality	Required ☐		
6.4.4.7. Waste By-products	Required ☒	Identified as required by MCM	
6.4.4.8. Maintenance	Required ☐		
6.4.4.9. Emergency Response Procedures	Required ☐		
6.4.4.10. Contingency Plans	Required ☐		
6.4.4.11. Monitoring Plans	Required ☒	Identified as required by MCM	
6.4.4.12. Schedule	Required ☒	Identified as required by MCM	
6.4.5. Water Treatment Research and Development Program	Required ☐		
6.5. Hydrogeologic Modelling	Required ☒		
6.5.1. Conceptual Hydrogeologic Model	Required ☒ Methods ☐		

Information (refer to Joint Application Information Requirements Guide for detailed information on each section)	Requirements	Comments	Location in Final Application
6.5.2. Numerical Hydrogeologic Model	Required ☒ Methods ☐	Existing numerical model for the TSF will be updated.	
6.6. Site-wide Water Balance Model	Required ☒ Methods ☐	An updated water balance will be provided with the Application.	
6.7. Surface Water Quality Model	Required ☒ Methods ☐	An updated water quality model will be provided with the Application.	
7. EFFLUENT DISCHARGES TO THE ENVIRONMENT			
7.1. Domestic Water/Sewage Treatment	Required ☐ Methods ☐		
7.2. Effluent Discharge	Required ☐ Methods ☐		
7.2.1. Non-point Source Discharges	Required ☒ Methods ☐		
7.3. Receiving Environment Modelling			
7.3.1. Initial Dilution Zone	Required ☐ Methods ☐		
8. ENVIRONMENTAL EFFECTS ASSESSMENT			
8.1. Aquatic Environment	Required ☐ Methods ☐		
8.2. Terrestrial Environment	Required ☒ Methods ☐	The Project TSF expansion is expected to occur in a largely disturbed area within the M-200 permit boundary; however, the associated water management infrastructure will extend beyond the M-200 permit boundary.	
8.3. Human Health	Required ☐ Methods ☐		
9. ENVIRONMENTAL MONITORING			
9.1. Mine Site Water Monitoring Program	Required ☒ Methods ☐	Identified as required by MCM.	
9.2. Discharge Monitoring Program	Required ☒ Methods ☐		
9.3. Environmental Monitoring Program	Required ☒ Methods ☐		
9.4. Aquatic Effects Monitoring Program	Required ☒ Methods ☐		
10. MANAGEMENT PLANS			
10.1. Environmental Management System	Required ☐		
10.2. Erosion and Sediment Control Plan	Required ☒	Relevant information for surface erosion prevention and sediment control will be included in the Application.	
10.3. Soil Management Plan	Required ☒	The existing Soil Management Plan will be used to inform the soil salvage and stockpile management.	
10.4. Construction Environmental Management Plan	Required ☒	Management of materials to be used on site during construction will be addressed through the Construction Environmental Management Plan.	
10.5. Metal Leaching and Acid Rock Drainage Management Plan			
10.5.1. Definition of PAG and Metal Leaching Materials	Required ☒	Relevant information will be provided in the MLARD Management Plan.	
10.5.2. ML/ARD Management	Required ☒	Relevant information will be provided in the MLARD Management Plan.	
10.5.3. ML/ARD Monitoring	Required ☒	Relevant information will be provided in the MLARD Management Plan.	
10.5.4. ML/ARD Reporting	Required ☒	Relevant information will be provided in the MLARD Management Plan.	

Information (refer to Joint Application Information Requirements Guide for detailed information on each section)	Requirements	Comments	Location in Final Application
10.6. Mine Site Water Management Plan	Required ☒		
10.7. Vegetation Management Plan	Required ☒		
10.8. Invasive Plant Management Plan	Required ☒		
10.9. Wildlife Management Plan	Required ☒		
10.10. Fugitive Dust Management Plan	Required ☒	Identified as required by MCM.	
10.11. Archaeological Management and Impact Mitigation Plan	Required ☒		
10.12. Fuel Management and Spill Control Plan	Required ☒		
10.13. Combustible Dust Management Plan	Required ☐		
10.14. Chemicals and Materials Storage, Transfer, and Handling Plan	Required ☐		
10.15. Waste (Refuse and Emissions) Management Plan	Required ☐		
11. RECLAMATION LIABILITY COST ESTIMATE			
11.1. RLCE Parameters			
11.1.1. Time Period	Required ☒	As informed by the 2025 RLCE Update	
11.1.2. Costing Scenarios	Required ☒	As informed by the 2025 RLCE Update.	
11.1.3. Progressive Reclamation	Required ☒	As informed by the 2025 RLCE Update.	
11.1.4. Third-party Costs	Required ☒	As informed by the 2025 RLCE Update.	
11.1.5. Revenue Streams	Required ☒	As informed by the 2025 RLCE Update.	
11.1.6. Mobilization/Demobilization	Required ☒	As informed by the 2025 RLCE Update.	
11.1.7. Project Management	Required ☒	As informed by the 2025 RLCE Update.	
11.1.8. Engineering/Consulting Costs	Required ☒	As informed by the 2025 RLCE Update.	
11.1.9. Contingency Fees	Required ☒	As informed by the 2025 RLCE Update.	
11.1.10. Discount Rates	Required ☒	As informed by the 2025 RLCE Update.	
11.2. Required Components			
11.2.1. RLCE Summary Report	Required ☒	As informed by the 2025 RLCE Update.	
11.2.2. RLCE Spreadsheets	Required ☒	As informed by the 2025 RLCE Update.	
11.3. Cost Categories			
11.3.1. Cost Category 1 – Infrastructure Removal			
11.3.1.1. General Requirements	Required ☐		
11.3.1.2. Infrastructure Types	Required ☐		
11.3.2. Cost Category 2 – Site Remediation			
11.3.2.1. Contaminated Sites Investigations	Required ☐		
11.3.2.2. Soil Treatment	Required ☐		
11.3.3. Cost Category 3 – Conventional Reclamation			
11.3.3.1. General Requirements	Required ☒	Identified as required by MCM, and will be completed as informed by the 2025 RLCE Update.	
11.3.3.2. Mine Components	Required ☒	Identified as required by MCM, and will be completed as informed by the 2025 RLCE Update.	
11.3.3.3. Reclamation Activities	Required ☒	Identified as required by MCM, and will be completed as informed by the 2025 RLCE Update.	

Information (refer to Joint Application Information Requirements Guide for detailed information on each section)	Requirements	Comments	Location in Final Application
11.3.3.4. Costs	Required ☒	Identified as required by MCM, and will be completed as informed by the 2025 RLCE Update.	
11.3.4. Cost Category 4 – Water Quality Mitigations			
11.3.4.1. General Requirements	Required ☒	Identified as required by MCM, and will be completed as informed by the 2025 RLCE Update.	
11.3.4.2. Capital Costs	Required ☒	Identified as required by MCM, and will be completed as informed by the 2025 RLCE Update.	
11.3.4.3. Operating Costs	Required ☒	Identified as required by MCM, and will be completed as informed by the 2025 RLCE Update.	
11.3.5. Cost Category 5 – Site Staffing			
11.3.5.1. General Requirements	Required ☒	Identified as required by MCM, and will be completed as informed by the 2025 RLCE Update.	
11.3.6. Cost Category 6 – Site Maintenance			
11.3.6.1. General Requirements	Required ☒	Identified as required by MCM, and will be completed as informed by the 2025 RLCE Update.	
11.3.6.2. Site Maintenance Items	Required ☒	Identified as required by MCM, and will be completed as informed by the 2025 RLCE Update.	
11.3.7. Cost Category 7 – Site Monitoring and Reporting			
11.3.7.1. General Requirements	Required ☒	Identified as required by MCM, and will be completed as informed by the 2025 RLCE Update.	
11.3.7.2. Monitoring Programs	Required ☒	Identified as required by MCM, and will be completed as informed by the 2025 RLCE Update.	
11.3.7.3. Monitoring Costs	Required ☒	Identified as required by MCM, and will be completed as informed by the 2025 RLCE Update.	
11.3.7.4. Reporting Costs	Required ☒	Identified as required by MCM, and will be completed as informed by the 2025 RLCE Update.	



Joint Application Information Requirements Table
(IRT)

APPENDIX 1-2: TAILINGS STORAGE FACILITY – DETAILED DESIGN TO ELEVATION 987

REPORT

Tailings Storage Facility – Detailed Design to Elevation 987 m

Mount Polley Mine

Submitted to:

Mount Polley Mining Corporation

PO Box 12
Likely BC V0L 1N0

Attention: Matt O'Leary

Submitted by:

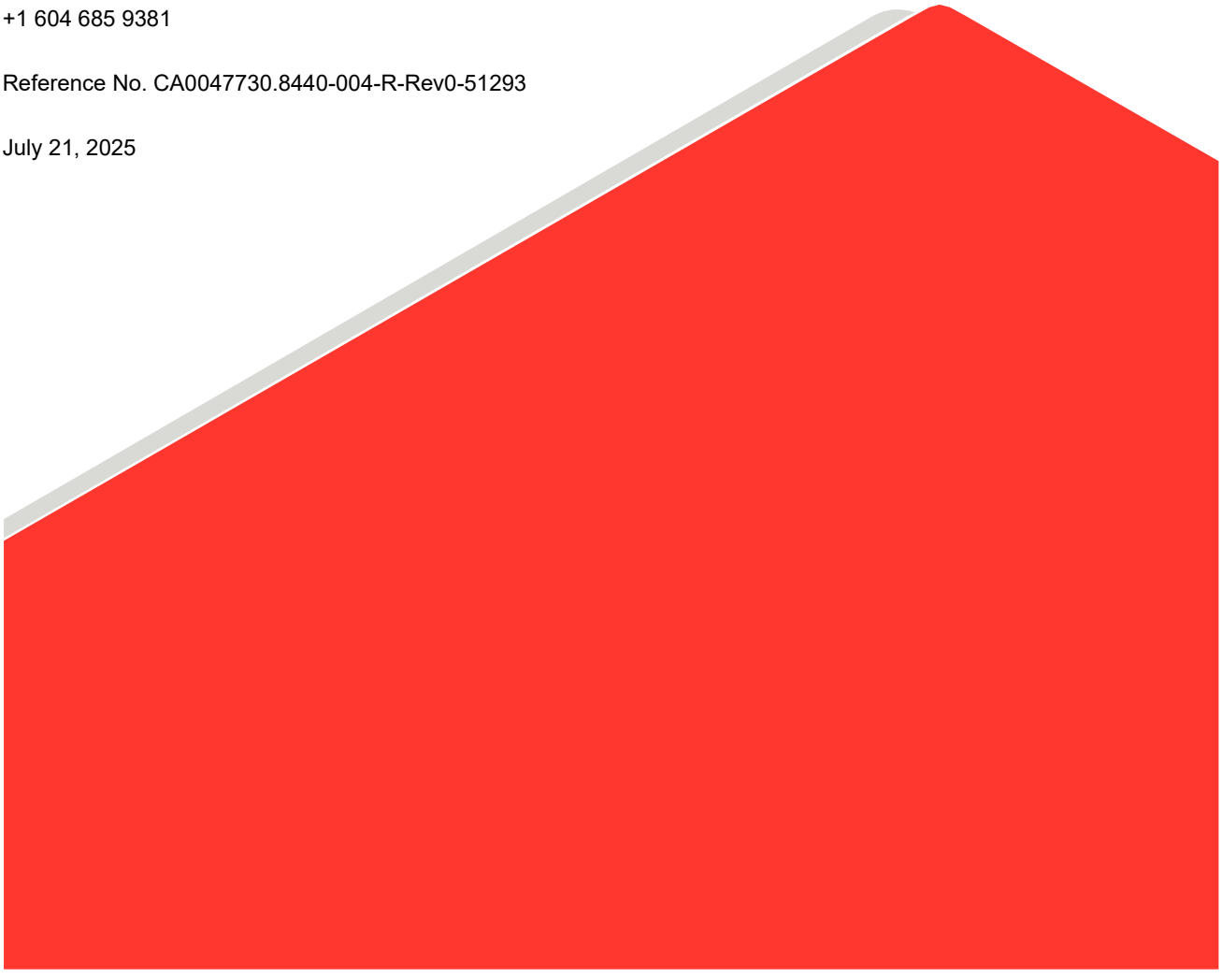
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July 21, 2025



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1.0 INTRODUCTION

Mount Polley Mining Corporation (MPMC) has retained WSP Canada Inc. (WSP) to complete a detailed design to raise the tailings storage facility (TSF) at Mount Polley Mine. This report presents the detailed design to support raising the TSF from its currently permitted elevation of 974 m to an ultimate crest elevation of 987 m, which is the elevation required to contain MPMC's projected life of mine (LoM) tailings. The elevation 974 m TSF design (WSP 2024a) was prepared as an interim design to enable permitting and construction while further foundation investigations and analyses were carried out to support this design to elevation 987 m. The elevation 974 m TSF design was prepared with the assumption that the facility would be ultimately raised to elevation 987 m. The following are included in this report:

- design of the TSF raise to an ultimate crest elevation of 987 m, including the following design assessments:
  - storage capacity
  - filter compatibility
  - seepage through the embankment and foundation
  - slope stability and deformation
  - water balance
  - risk review and design controls
- TSF pond management and freeboard requirements
- material quantities
- design drawings and technical specifications
- closure considerations

Design drawings and construction technical specifications for the TSF raise are provided in Appendix A and Appendix B, respectively.

MPMC uses a site-specific coordinate system defined as tailings grid for the TSF. All coordinates and elevations are presented in tailings grid.

This design supports the regulatory permit application and has been prepared in accordance with Part 10 of the Health, Safety and Reclamation Code for Mines in British Columbia (MCM 2024a). This design is informed by the LoM siting and best available technology assessment (WSP Golder 2022a), the TSF site characterization report (WSP 2025a), an updated dam breach and inundation study (WSP 2025e), and an updated consequence classification assessment (included in Appendix C).

A design summary document for the elevation 987 m TSF is included in Appendix D.

2.0 BACKGROUND

The Mount Polley Mine is a copper and gold mine operated by MPMC, a subsidiary of Imperial Metals Corporation. The site is located approximately 56 km northeast of Williams Lake, British Columbia (BC), between Polley Lake and Bootjack Lake. The Mount Polley Mine began production in 1997 and operated until October 2001 when operations were suspended for economic reasons. In March 2005, the mine restarted and was in operation up to the time of the TSF breach in August 2014 when the embankment crest was near elevation 968 m.

In 2015, the Freshet Embankment was constructed to elevation 950 m through the breach area to allow the capture and temporary storage of the 2015 and 2016 freshet flows. The construction of buttresses along the Perimeter and Main embankments was completed in October 2016 (Golder 2015a, 2017a).

The June 23, 2016, amendment of *Mines Act* Permit M-200 authorized the return to full operations at the mine, including construction and operation of the TSF design to elevation 970 m (Golder 2015b). Construction to raise the Freshet Embankment at Corner 1 to elevation 970 m started in June 2016. By September 2018, construction had been completed to elevation 968 m (Golder 2019a). Construction to raise the embankment to elevation 970 m started in July 2022 and was generally completed by the end of 2023. In preparation for a raise above elevation 970 m, widening and re-sloping of the downstream face of the embankment to 2H:1V was started in 2024.

Mining operations at the mine were halted between May 2019 and Q4 2021 for economic reasons. Deposition of tailings from the process plant into the TSF resumed in June 2022. Dredging of tailings from the Springer Pit and deposition into the TSF started in March 2018 and was halted in October 2019.

The TSF is located about 3 km southeast of the mill and includes one embankment that is approximately 4.8 km in length (Drawing 02, Appendix A). The embankment is subdivided into three sections: the Main Embankment, Perimeter Embankment, and South Embankment (Drawing 03, Appendix A). The embankment has incorporated a staged expansion design utilizing modified centreline and centreline construction methods. The general zoning of the TSF embankment consists of the following:

- upstream fill comprising tailings sand and select fill (e.g., rockfill, crushed aggregates)
- low permeability till core
- filter zone
- transition zone
- rockfill

Rockfill forms the downstream element of the embankment and the downstream buttress along the Perimeter and Main embankments. Sandy tailings reclaimed from Hazeltine Creek were also used in the construction of the downstream buttress at Corner 1.

In 2014, WSP, formerly Golder Associates Ltd. (Golder), completed a feasibility design for raising the embankment of the TSF to elevation 984 m (Golder 2015c). The objective of the feasibility assessment was to identify potential considerations, constraints, or conflicts that may limit the elevation to which the TSF could be raised. The results of the study indicated that a raise of the facility is feasible. As part of the restart of mining operations in 2022, MPMC updated the LoM plan, and field investigations, assessments, and design work were started by WSP to complete a detailed design to raise the TSF to provide containment for the LoM tailings. In 2024, WSP prepared a detailed design for an interim raise from elevation 970 m to 974 m to enable the TSF to be raised while design efforts for the LoM design were advanced (WSP 2024a). Construction to raise the facility above elevation 970 m started in April 2025.

3.0 BASIS OF DESIGN

The design basis for the raise of the TSF embankment is summarized in this section, including the design and operation philosophy and key design criteria. The design of the TSF raise is consistent with applicable regulatory documents and guidelines from MPMC, WSP, and national and international organizations, where applicable (e.g., the Canadian Dam Association [CDA] and International Commission on Large Dams [ICOLD]). The following regulations apply to this design:

- *Health, Safety and Reclamation Code for Mines in British Columbia* (MCM 2024a)
- *Code Guidance – Health, Safety and Reclamation Code for Mines in British Columbia. Part 10: Tailings Storage Facilities (TSF) and Dams* (MCM 2024b)

The design of the TSF is also consistent with the following guidelines, where applicable:

- Canadian Dam Association – *Dam Safety Guidelines* (CDA 2013)
- *Technical Bulletin: Application of Dam Safety Guidelines to Mining Dams* (CDA 2019)
- *Global Industry Standard on Tailings Management* (GISTM 2020)
- Mining Association of Canada – *A Guide to the Management of Tailings Facilities* (MAC 2021)
- The Association of Professional Engineers and Geoscientists of British Columbia Professional Practice Guidelines – *Site Characterization for Dam Foundations in BC* (APEGBC 2016)

The complete design basis and design criteria memorandum is included in Appendix C.

3.1 Design and Operation Philosophy

The design and operation of the TSF follows the principles set out by the Mining Association of Canada in its Towards Sustainable Mining program and the recommendations made by the Independent Expert Engineering Investigation and Review Panel (IEEIRP 2015). The following approaches have been used for the design and operation of the TSF:

- **Limit the amount of surface water to only that required for operation**—This will be achieved through maintaining storage capacity within Wight Pit and the external water management ponds and ongoing discharge of water from the mine site.
- **Promote unsaturated conditions in the tailings**—Wide sub-aerial beaches will be maintained upstream of the embankments and construction of upstream drains near elevation 970 m will create a zone of unsaturated tailings adjacent to the embankments.
- **Promote consolidation of tailings upstream of the TSF embankment**—Construction of upstream drains near elevation 970 m will create a zone of unsaturated tailings adjacent to the embankments.
- **Reduce the hydraulic gradient across the till core**—This will be achieved through maintaining wide sub-aerial beaches along the embankments and construction of upstream drains near elevation 970 m.

Operation of the facility is to follow the above philosophy. The quantitative performance objectives (QPOs) are periodically reviewed and updated (minimum annually) and are used to confirm that operation of the facility follows the operation philosophy.

Construction of the upstream drains near elevation 970 m is ongoing as part of the elevation 974 m design.

3.2 Design Basis and Criteria

The key design basis and criteria are summarized in Table 1. The complete design basis and criteria memorandum is included in Appendix C. Specific design criteria for each design component are provided in those sections of the report.

A design summary document for the elevation 987 m TSF detailed design is provided in Appendix D.

Table 1: Design Basis and Criteria

Criteria	Unit	Value	Source / Comment
General			
Life of mine	year	2031	MPMC (2021) Approximately 9 years starting on June 2022.
Nominal tailings production rate	t/day	20,000	MPMC (2021) Average annual tonnage is 7.3 Mt.
Life of mine tailings production	Mt	62.8	MPMC (2021) Includes tailings deposited since restart of operations in June 2022.
Dam consequence classification	-	High	Refer to Appendix C.
Coordinate system	-	Tailings grid	MPMC
Units	-	Metric	-
Design earthquake event	AEP	1:2,475	Informed by Table 10-4 of the HSRC (MCM 2024a). Other criteria specified for High consequence dams include: ▪ 1:2,475 AEP (Table 3-3, CDA 2019; Table 3, GISTM 2020). Consistent with WSP's best practice, an earthquake event of 1:10,000 AEP will be used to assess sensitivity of the pseudo-static analyses.
Design earthquake peak ground acceleration	g	0.048	For an earthquake event of 1:2,475 AEP and based on site-specific seismic hazard assessment (WSP 2025a). 0.116g for earthquake event of 1:10,000 AEP.
Seismic coefficient for limit equilibrium pseudo-static analysis	-	0.5	Hynes-Griffin and Franklin (1984). 20% strength reduction applied to glaciolacustrine deposits as recommended by Hynes-Griffin and Franklin (1984) for clays.
Static (long term)	FoS	1.5	Informed by Table 10-5 of the HSRC (MCM 2024a) and Table 3-4 of CDA (2019).
Static (during or at end of construction)	FoS	1.5	Informed by Table 10-5 of the HSRC (MCM 2024a). FoS >1.3 recommended in Table 3-4 of CDA (2019).

Table 1: Design Basis and Criteria

Criteria	Unit	Value	Source / Comment
Pseudo-static	FoS	1.0	Informed by Table 3-5 of CDA (2019) and Hynes-Griffin and Franklin (1984).
Post-earthquake	FoS	1.2	Informed by Table 10-5 of the HSRC (MCM 2024a) and Table 3-5 of CDA (2019).
Embankment Details			
TSF construction method	-	Centreline	Adopted
Low hydraulic conductivity element	-	Compacted till	Adopted
Overall downstream slope no steeper than	-	2H:1V	Informed by the HSRC (MCM 2024a).
Embankment fill material	-	Non-acid generating	MPMC
Tailings Characteristics			
Solids content of tailings slurry discharged to TSF	%wt	Nominally ~35	Provided by MPMC.
Tailings solids specific gravity	-	2.7	Estimated based on laboratory testing.
Tailings average dry density after deposition	t/m^3	1.35	Estimated by WSP (based on topographic and bathymetric surveys of the TSF between 2022 and 2024). 1.36 t/m^3 by KP (2005).
Tailings beach slope	%	sub-aerial – 0.5% sub-aqueous – 2%	Estimated based on available topographic and bathymetric surveys since 2016.
Water Management			
TSF IDF	-	PMF	For conservatism and consistency with WSP's best practice, IDF volume will be estimated considering the governing PMF, determined to be the spring PMP rainfall plus snowmelt. Other criteria specified for High consequence dams include: ▪ 1/3 between 1-in-1000-year and PMF (Table 10-4, MCM 2024a; Table 3-2, CDA 2019). ▪ 1-in-2,475-year return period recommended by GISTM (2020).
Maximum TSF extraction rate during IDF	m^3/d	100,000	Provided by MPMC.

Table 1: Design Basis and Criteria

Criteria	Unit	Value	Source / Comment
Extraction start date during IDF	days	Day 4 after start of IDF	Adopted
Volume required to store TSF IDF	Mm^3	1.62	Maximum volume required to be stored for IDF durations from 24-hour to 30-days with maximum extraction pumping of 100,000 m^3/d starting on day 4.
Normal freeboard	m	0.7	No overtopping by 95% of waves caused by the most critical wind with a frequency of 1:1,000-year with reservoir at maximum normal elevation (CDA 2013).
Minimal freeboard	m	0.7	No overtopping by 95% of waves caused by the most critical wind when the reservoir is at its maximum level during the IDF (CDA 2013).
Normal operating pond storage volume range	Mm^3	0.75 to 1.5	Minimum provided by MPMC for operation of the mill. Maximum adopted to maintain wide sub-aerial beaches and allow flexibility for mill operations above the minimum operating pond volume.
Normal operating pond storage volume target prior to freshet	Mm^3	0.75	Lowest achievable volume for operation of the mill provided by MPMC.
Climate change consideration	-	Considered to be not significant during operations	Climate change considerations are not included for operational design due to estimated mine life being completed in 2031.

TSF = tailings storage facility; Mt = million tonnes; Mm^3 = million cubic metres; HSRC = Health, Safety and Reclamation Code; AEP = annual exceedance probability; GISTM = Global Industry Standard on Tailings Management; FoS = factor of safety; %wt = weight percent; IDF = inflow design flood; PMF = probable maximum flood; PMP = probable maximum precipitation; MPMC = Mount Polley Mining Corporation.

4.0 SITE CONDITIONS

The Mount Polley TSF site characterization report (WSP 2025a) presents the TSF site conditions with respect to climate, geology, seismicity, geotechnical, hydrogeology, and geochemistry.

The Engineers and Geoscientists British Columbia (EGBC, formerly APEGBC) site characterization for dam foundation guidelines (APEGBC 2016) was followed during the preparation of the Mount Polley TSF site characterization report. It is intended that the TSF site characterization report be updated with data from future site investigations and with observations and data from construction and operation of the TSF. Should the understanding and interpretation of site conditions change with time, then the TSF design will be reassessed incorporating the condition changes.

A summary of the TSF site conditions is presented in this section to provide context for the design, and to define conditions and design parameters for analyses including climate and earthquake events. Foundation material properties adopted for seepage and stability modelling are presented in Section 7.4 and Section 7.5, respectively.

4.1 Site Location, Geomorphology, and Geohazards

Mount Polley Mine is located approximately 56 km northeast of Williams Lake, BC, between Polley Lake and Bootjack Lake.

The region is located on the eastern edge of the Interior Plateau, at the boundary between the Quesnel Highlands and the Fraser Plateau. Terrain and geomorphology of the region comprises flat and gently rolling topography with hummock bedrock exposures dissected by a network of streams and lakes. Surface drainage patterns are influenced by bedrock topography; most of the stream valleys in the region have a northwest orientation and drain southward toward the lowland area north of the western arm of Quesnel Lake (Bichler and Bobrowsky 2003).

In the TSF area, the gentle topography and surface expression of the lowland area at the head of the west arm of Quesnel Lake is the result of glacial advance followed by glacial retreat and inundation by meltwater. The regional surficial geology is dominantly the result of erosion and deposition associated with the most recent glaciation (WSP 2025a).

Due to the gently sloping topography in the area around the TSF, there is no or low risk of ground instability, snow avalanche, or rockfall. Hazeltine Creek is more than 200 m from the current toe of the TSF, and risk of erosion at the toe is not applicable.

4.2 Environmental Setting

The site is located within three sub-watersheds of the Quesnel River Watershed: Morehead Lake, Hazeltine Creek, and Edney Creek watersheds. The Morehead Lake watershed encompasses the Bootjack Lake catchment area. Hazeltine Creek conveys water from Polley Lake, and non-contact water from the east side of the mine and the area surrounding the TSF. Hazeltine and Edney creeks converge approximately 800 m prior to discharge into Quesnel Lake. Captured mine contact water from the water treatment plant discharges via pipeline to Quesnel Lake. Hazeltine and Edney creeks provide aquatic habitat to various fish species, including two species at risk present within the Quesnel River Watershed. The Interior Fraser population of Coho Salmon (*Oncorhynchus kisutch*) is listed federally as threatened by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and the Quesnel-S population of Sockey Salmon (*Oncorhynchus nerka*) is listed federally as endangered by COSEWIC (Government of Canada 2025). The aquatic habitat for these species is not located within the TSF raise to 987 m area.

The site is in the Cariboo Region of BC within the Interior Cedar-Hemlock biogeoclimatic zone and Horsefly Moist Cool subzone (ICHmk3; BC FLNRO 2021). The ICHmk3 occurs in areas with elevations ranging from 780 m to 1,250 m along the eastern flank of the Fraser Plateau as well as in sections of the Quesnel Highland (Steen and Coupé 1997). Characteristic zonal (i.e., medium moisture and medium nutrient) forested areas are dominated by western redcedar (*Thuja plicata*), Douglas-fir (*Pseudotsuga menziesii*), and lodgepole pine (*Pinus contorta var. latifolia*). White paper birch (*Betula papyrifera*) and trembling aspen (Populus tremuloides) dominate areas previously burned by fires. The understorey is typically dominated by black huckleberry (*Vaccinium membranaceum),* falsebox (*Paxistima myrsinites*), feathermoss (*Pleurozium sp.),* and other low-growing herbs (Steen and Coupé 1997). There were no observed element occurrence records of at-risk ecological communities mapped overlapping the TSF raise to 987 m area (Government of BC 2025). Wildlife species including the species at risk, western toad (*Anaxyrus boreas*) and woodland caribou (*Rangifer tarandus*) – Southern Mountain population have been documented within the area or have listed habitat overlapping with the site. The western toad is listed federally as special concern on Schedule 1 and by COSEWIC; however, the population is considered secure within BC (Government of Canada 2025; BC CDC 2025). The woodland caribou – Southern Mountain population is listed federally as endangered by COSEWIC and provincially as red (Government of Canada 2025; BC CDC 2025). A caribou management plan has been prepared and is currently in discussion with First Nations. The TSF raise to 987 m will extend the footprint incrementally along primarily previously disturbed areas.

4.3 Climate

The site experiences high summer precipitation due to summer storms, and the lowest monthly precipitation occurs in March. Precipitation typically occurs as snowfall starting in November and accumulates until March. Average annual precipitation at the site is estimated to be 612 mm, with a standard deviation of 118 mm based on precipitation records for the site from 1974 to 2021. Typically, temperatures over 0°C start in March, leading to freshet until June.

The five-year update of the climate baseline for the site is presented in WSP Golder (2022b) and includes precipitation, air temperature, relative humidity, solar radiation, evaporation, snow depths, and wind speed and direction. A summary of the baseline climate parameters is provided in Table 2.

The supplementary climate change memorandum (WSP 2025d) provides an evaluation of future climate change projections, estimating the magnitude of change relative to the modelled baseline (1991 to 2020), which represents the current climate regime. The climate change assessment indicates future climate at the site will likely be warmer with annual average temperature projected to change by 2°C in the 2050s and 2.7°C in the 2080s at the 50th percentile (WSP 2025d). Annual total precipitation is projected to increase by 8% in the 2050s and 10% in the 2080s, indicating an upward trend in precipitation on the annual scale at the 50th percentile (WSP 2025d).

Projected changes in extreme precipitation statistics across a set of durations and return periods ranges from 6% to 19% in the 2050s and 2080s at the 50th percentile. A projected change of 12% and 18% were estimated for the 1-day, 200-year event in the 2050s and 2080s at the 50th percentile, respectively.

Climate change considerations were not included in the operational design due to the estimated mine life being completed within the next 6 years.

Table 2: Summary of Key Climate Parameters for Mount Polley Mine

Parameter	Value
Mean annual total precipitation (mm)	612
1:2-year 24-hour rainfall (mm)	33
1:10-year 24-hour rainfall (mm)	47
1:200-year 24-hour rainfall (mm)	69
Projected annual total precipitation anomaly from baseline for 2050s (%)	+8
Projected annual total precipitation anomaly from baseline for 2080s (%)	+10
Projected change the 200-year 1-day precipitation for 2050s (%)	+12
Projected change the 200-year 1-day precipitation for 2080s (%)	+18
Mean annual temperature (°C)	3.9
Average winter season (sub-zero mean monthly temperatures)	November to March
Projected annual mean air temperature anomaly from baseline for 2050s (°C)	+2.0
Projected annual mean air temperature anomaly from baseline for 2080s (°C)	+2.7
Mean annual shallow lake evaporation (mm)	673
Mean annual potential evapotranspiration (mm)	863
Mean snow water equivalent for the month of March (mm)	185

Source: WSP Golder 2022b; WSP 2025d.

Note: Statistics are based on reviewed historical records from multiple climate stations and measured and derived data (where applicable).

4.4 Hydrology

The mine site is drained by three main watersheds: Hazeltine Creek, Edney Creek, and Morehead Lake. The Hazeltine Creek watershed includes Polley Lake and conveys all water from Polley Lake, the east side of Mount Polley, and the eastern area surrounding the TSF. In general, the hydrology of Hazeltine Creek and Edney Creek (and by extension, the mine area and TSF) can be described as snowmelt driven, with the majority of annual runoff occurring during the spring snowmelt in April and May freshet (KP 2014).

4.5 Geology

The regional surficial geology is predominantly the result of erosion and deposition associated with the late Pleistocene (Wisconsinan) glacial episode referred to as the Fraser Glaciation (Clague 1987, 1988). The stratigraphic sequence identified in the TSF area can be generalized in order of increasing depth as follows:

- fill and anthropogenic materials
- ablation till, including glaciolacustrine and glaciofluvial sub-units
- basal till, including glaciolacustrine and glaciofluvial sub-units
- bedrock

This stratigraphic sequence is generally applicable to the mine area and TSF, with local variations associated with the depositional and erosional history of a particular area. The surficial geological units of the TSF area are interpreted to represent two main stages of the Fraser Glaciation: the advance stage and recession stage (Bichler and Bobrowsky 2003). Basal till is punctuated by glaciofluvial and glaciolacustrine deposits that typify the early stages of deposition (the advance stage), represented in the TSF area by basal till and associated sub-units. The ablation till and some layers of the glaciofluvial and glaciolacustrine sub-units were likely deposited during the recession stage of glaciation.

Available mapping indicates the TSF area is underlain by altered, deformed, and brecciated volcanic and intrusive igneous rocks of the Late Triassic Nicola Group, with local sandstone and conglomerate of the Kamloops Group, Dragon Mountain Formation, and some unnamed sediment groups (Logan et al. 2007).

4.6 Seismicity

The site is in an area of relatively low seismicity for BC. WSP developed a site-specific seismic hazard model for the Mount Polley Mine site based on source models developed for the 6th Generation Canadian National Seismic Hazard Model (Canada SHM6) and a review of geological and paleoseismological features (WSP 2025a). Both near-field, moderate-magnitude crustal earthquakes and far-field subduction interface earthquakes contribute to the site seismic hazard. The shallow crustal earthquake sources are dominated by moderate-magnitude earthquakes (**M**6.0 to **M**6.5) close to the site (i.e., less than 60 km) at all annual exceedance probabilities (AEPs). The contribution to hazard at the site from the Cascadia subduction zone is from large earthquakes (**M**8+) at 450 km to 550 km from the site at all AEPs and spectral periods of interest.

Probabilistic analysis results from the site-specific hazard model are listed in Table 3.

Table 3: Peak Ground Accelerations (5%-damped) for Selected Annual Exceedance Probabilities at Mount Polley Tailings Storage Facility Site (V_{S30} = 849 m/s)

Annual Exceedance Probability (AEP)	Mean Acceleration (g)
1:1,000	0.026
1:2,475	0.048
1:5,000	0.076
1:10,000	0.116

V_{S30} = time-averaged shear-wave velocity (V_S) to a depth of 30 m.

For dams impounding tailings with a High consequence of potential failure classification, the Health, Safety and Reclamation Code (MCM 2024a) defines a minimum earthquake design ground motion with a 1:2,475 AEP.

4.7 Geotechnical Conditions

A detailed description of geotechnical conditions in the TSF area is provided in WSP (2025a). Typically, the stratigraphic units in the foundation of the TSF can be characterized as follows:

- **Till**—The till is generally a mixture of gravel, sand, and low plasticity fines ranging from silt to silty clay. The material is generally cohesive with a consistency ranging from firm to hard.

- **Glaciofluvial units**—The glaciofluvial units are generally gravelly sandy silt to silty sand with trace gravel. The material is generally non-cohesive with a compactness ranging from compact to very dense. The fines content ranges from about 4% to 100% and are generally non-plastic (note that samples selected for laboratory testing are typically biased towards samples with higher fines content with some plasticity).
- **Glaciolacustrine units (GLUs)**—The GLUs are generally silty clay to clay with trace to some sand. The fines range from low to high plasticity. The material is generally cohesive with a consistency ranging from firm to very stiff. The sensitivity of the glaciolacustrine soil interpreted from cone penetration test (CPT) data generally ranges from 2 to 3.
  - **Main Embankment**—A semi-continuous layer of glaciolacustrine soil is present at an elevation of approximately 900 m to 910 m and extends along the length of the Main Embankment. A shallower layer of glaciolacustrine soil at about elevation 920 m was identified near Stn. 2+455 and Stn. 2+695. The Main Embankment glaciolacustrine soil generally has a low to intermediate plasticity (silt to silty clay). The average water content is approximately 26%.

    At the elevation of the semi-continuous layer of glaciolacustrine soil, consolidation tests indicate a range of preconsolidation pressures from 1,100 kPa to 4,000 kPa, whereas CPT data generally indicate a minimum preconsolidation pressure of about 1,200 kPa. The CPT data from the higher elevation glaciolacustrine soil layer show an interpreted minimum preconsolidation pressure of about 850 kPa. The maximum excess pore pressures generated in the GLUs were observed following rockfill placement to widen and reslope the Main Embankment from May to July 2024. The maximum overall pore pressure coefficient (B-bar) was estimated to be on the order of 0.15.
  - **Perimeter Embankment**—The glaciolacustrine deposits are not continuous along the Perimeter Embankment, and their elevations generally range from about 885 m to 935 m. The Perimeter Embankment glaciolacustrine soil generally has a low to intermediate plasticity (silt to silty clay). The average water content is approximately 21%. Consolidation tests indicate a range of preconsolidation pressures from 900 kPa to 3,800 kPa.
  - **Perimeter Embankment at Corner 1**—Upper and lower glaciolacustrine deposits are present at Corner 1.
    - The upper glaciolacustrine unit (UGLU) is a semi-continuous layer between about elevation 918 m and 925 m from approximately Stn. 4+000 to Stn. 4+285. The UGLU generally consists of silty clay to clay, with trace to some sand, and a consistency ranging from firm to stiff. The fines are generally an intermediate to high plasticity material and range from silty clay to clay. The average water content of the UGLU is approximately 29% and is generally greater compared to the glaciolacustrine soil encountered in the foundation of the other embankments. Consolidation tests indicate a range of preconsolidation pressures from about 300 kPa to 590 kPa. The maximum excess pore pressures generated during the construction of the 2015 Freshet Management Embankment were equivalent to a B-bar of 0.46. Excess pore water pressures take approximately one year to dissipate based on the rate of consolidation measured in the laboratory and the field.
    - The lower glaciolacustrine unit (LGLU) is also a semi-continuous layer between about elevation 900 m and 918 m. The fines are generally low to intermediate plasticity and range from silty clay-clayey silt to silty clay. The average water content of the LGLU is approximately 21%. Consolidation tests indicate a range of preconsolidation pressures on the order of 700 kPa to 1,200 kPa.

- **South Embankment**—A layer of low plasticity silty clay interpreted to have deposited in a glaciolacustrine environment was encountered directly above bedrock near Stn. 1+095 at the South Embankment. However, the geotechnical testing completed on the material is not representative of the intermediate or high plasticity GLUs found within the footprint of the Perimeter Embankment at Corner 1. The maximum excess pore pressures generated in this silty clay layer was observed during rockfill placement to widen and reslope the embankment from May to July 2024. The overall pore pressure coefficient was estimated to be on the order of 0.15.

- **Highly weathered bedrock**—Generally weathered volcaniclastic conglomerate, volcanic debris, or completely weathered bedrock.

Material properties for limit equilibrium stability analysis are included in Section 7.5.2.

4.8 Hydrogeology

The groundwater flow direction prior to the development of the TSF was inferred to be from the west and northwest towards the east and southeast. The water table was observed to be near ground surface, with artesian pressures measured within the TSF basin upstream of Corner 4 and upward groundwater flow gradients measured along the Main Embankment and Perimeter Embankment at Corner 1.

The current groundwater flow direction in the TSF area is inferred to be partly dependent on the existing TSF pond level. Provided that surface water level elevations within the TSF are above the surrounding shallow groundwater level, groundwater flow will be radial from the TSF towards the southwest, southeast, and northeast. However, when the TSF pond level falls below the shallow groundwater levels on the west side of the TSF, the TSF area becomes a flow-through environment, similar to pre-development conditions, with groundwater flow directed across the TSF from the west and northwest towards the east and southeast.

Based on in situ and laboratory testing, the hydraulic conductivity of the foundation till (ablation till and basal till) is variable, ranging from 1×10^{-5} m/s to 2×10^{-8} m/s. The range in hydraulic conductivity for the glaciofluvial units, 8×10^{-4} m/s to 2×10^{-6} m/s, confirms that these units are more permeable and may act as preferential pathways for seepage from the TSF. Conversely, the range in hydraulic conductivity for the glaciolacustrine deposits, 7×10^{-8} m/s to 2×10^{-10} m/s, confirms that these units have a low permeability and may act as barriers for seepage migration, act as confining units where they occur directly above glaciofluvial units, and could potentially cause artesian pressures in the underlying glaciofluvial units.

Material properties for seepage analysis are included in Section 7.4.1.

4.9 Groundwater Geochemical Conditions

Baseline groundwater quality conditions are generally characterized by low concentrations of dissolved metals, sulphate, and nitrate as well as low to moderate hardness.

Over the last decade or so, although there were increasing parameter of interest concentration trends at some locations, significant changes to groundwater quality at the perimeter of the TSF has not been identified except with respect to sulphate. The concentration of sulphate in groundwater downgradient of the TSF at the Perimeter Embankment between Corner 1 and Corner 2 and at the South Embankment near Corner 3 approached or reached levels observed in the TSF pond water. The concentration of sulphate does not exceed the BC Ministry of Environment and Climate Change Strategy Contaminated Sites Regulation (BC ENV 1997) standards for protection of freshwater aquatic life and is monitored quarterly or semi-annually depending on location.

Details pertaining to uncaptured seepage to the downstream environment are described in the latest water management plan (WSP 2025h).

5.0 TAILINGS CHARACTERIZATION

5.1 Geotechnical Characterization

Typical characteristics of the tailings that have been deposited in the TSF are included in Table 4.

Table 4: Characteristics of Existing Tailings

Parameter		Value	Source / Comment
Slurry gradation	Sand	31%–38%	Available grain size distributions are shown in Figure 1. In 2014, three grain size analyses were undertaken on tailings samples collected from the beach within the facility near the Perimeter Embankment. The data indicates the tailings deposited near the embankment are generally silty sand to silt and sand (fines content ranging from 20% to 58%), likely due to varying degrees of segregation during deposition as conventional slurry.
	Fines	62%–69%	
Tailings gradation after deposition (beach near embankment)	Sand	42%–80%	
	Fines	20%–58%	
Plasticity		Non-plastic	Based on visual classification.
Specific gravity of solids		2.7–2.8	Estimated based on KP (1990) and Golder (2015d).
Hydraulic conductivity		1×10^{-6} to 1×10^{-5} m/s	Considered to be representative of tailings deposited near the embankment. Based on falling head laboratory test results (Golder 2015e) and estimated from available grain size distributions.
Sub-aerial beach slope		0.5%–1%	Based on available topographic and bathymetric surveys since 2016.
Sub-aqueous beach slope		2%–3%	Based on available topographic and bathymetric surveys since 2016.
Average dry density after deposition		1.35 t/m^3	Estimated by WSP (based on available topographic and bathymetric surveys from 2022 to 2024). Reported as 1.36 t/m^3 by KP (2005).

Three CPTs (CPT16-20, CPT16-21, and CPT16-22) were undertaken on the tailings beach in 2016 to maximum depths of up to 35 m below the tailings surface (Golder 2017b). The three CPTs were located within 100 m of the upstream crest of the embankment. Using the Robertson (1990) soil behaviour type classification, the tailings materials were predominantly classified as interlayered silty sand, sandy silt, clayey silt, and silty clay. This classification is generally consistent with the findings of grain size analyses completed on the tailings. The state parameter estimated for all CPTs were between about -0.2 and -0.1 for the upper 5 m to 10 m and between about -0.1 and 0 below that depth, except for a few thin layers with a positive state parameter (Golder 2017b).

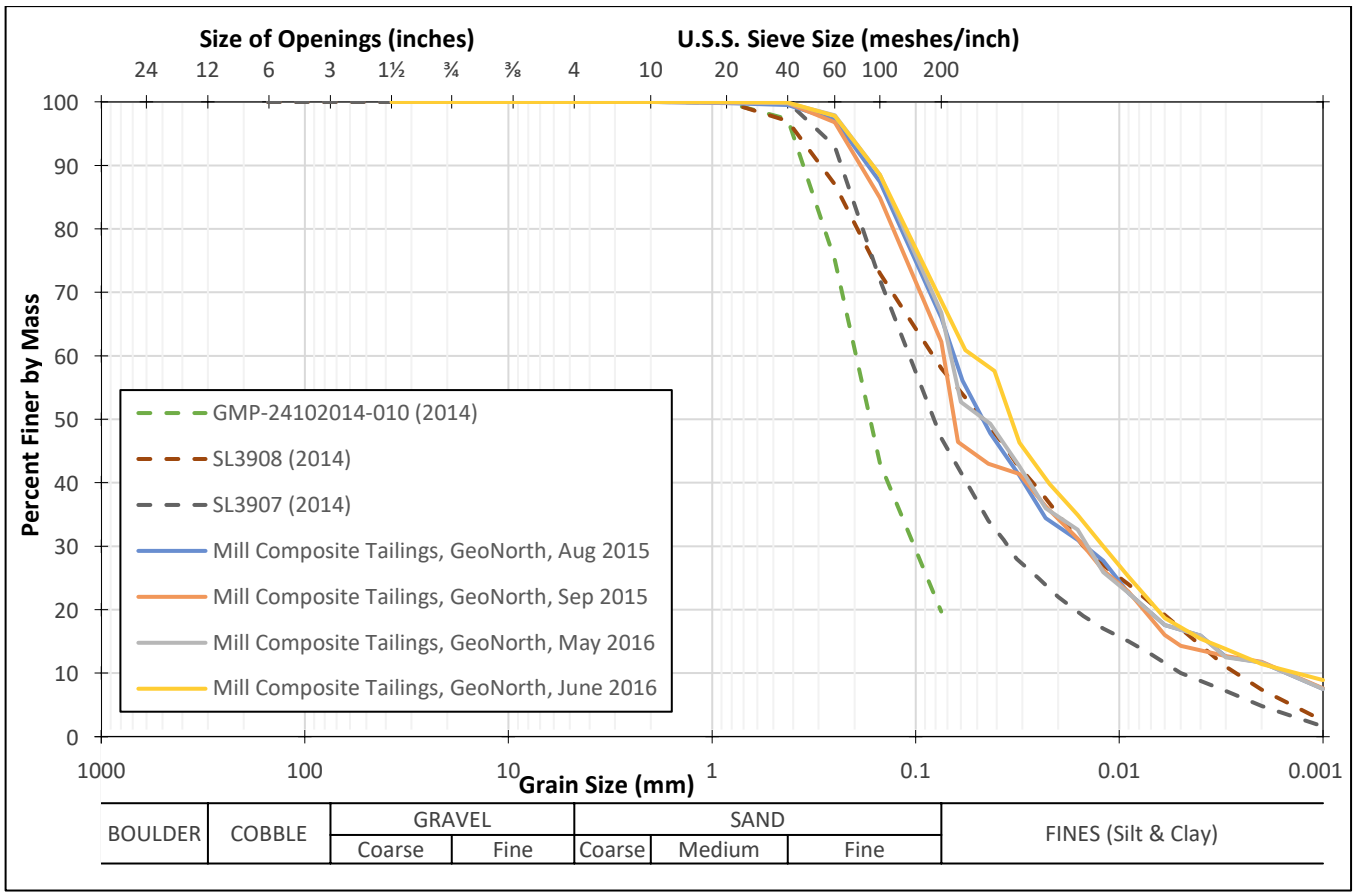


Figure 1: Gradation of Existing Tailings

5.2 Tailings Chemistry

The Mount Polley copper-gold porphyry deposit is classified as an alkalic porphyry copper gold deposit. The mined mineralized zones are enriched in copper and selenium relative to global norms. Processing of the ore yields a copper sulphide concentrate. The tailings are lower in sulphide mineral content compared to the ore because most of the copper sulphides are removed through ore processing. In addition, mill process reagents, except for lime, are not expected to be present within the tailings. Processing changes over time have been minimal and are not expected to affect the geochemical reactivity of the tailings; therefore, tailings geochemistry can be considered generally consistent over time (Kennedy et al. 2016; SRK 2025).

Mount Polley tailings are classified as non-acid generating based on operational monitoring and testing of tailings spilled into Hazeltine Creek in August 2014.

The leachate quality from humidity cell tests and column tests is described below:

- pH typically between 7.7 and 8.3
- sulphate concentrations initially on the order of 1,000 mg/L, with decreasing concentrations over time that reached lower stabilized values
- highest copper concentration of 0.15 mg/L in one test, but with typical maximum concentrations of 0.02 mg/L in humidity cell test leachates and 0.05 mg/L in column test leachates

- highest selenium concentrations were 0.01 mg/L in humidity cell test leachates and 0.06 mg/L in column test leachates
- molybdenum concentrations initially between 2 and 3 mg/L in column test leachates and have since stabilized to concentrations between 0.01 and 0.02 mg/L

The measured concentrations at the TSF pond are generally below discharge permit limits, with the exceptions for total copper, total phosphorous, and total zinc (WSP 2025f). The source of the increased concentrations in the monitoring data for these parameters between 2018 and 2022 is thought to be due to leachate drainage from the heap leach facility that was directed to the TSF without adequate dissolved copper pre-treatment, leading to a temporary increase until this issue was resolved. These concentrations were not observed throughout the operational phases of the mine and are considered atypical. These conditions are not expected to persist during future operational phases as the leachate will be managed exclusively through the milling process (WSP 2025g).

6.0 DESIGN DESCRIPTION

This section includes a description of the design, materials and zoning, foundation preparation, abutment details, water management, and tailings management.

6.1 Overview of Embankment Raise

The TSF embankments were constructed to an elevation of 970 m in 2023 and are being raised as part of the interim raise design to elevation 974 m in 2025 (WSP 2024a).

A siting and deposition technology assessment was completed as part of the Mount Polley TSF elevation 984 m LoM feasibility design in 2015 (Golder 2015c). The study included a review of available tailings deposition technologies, a review of potential sites to deposit tailings, and an assessment of the alternatives based on environmental, social, technical, and economic indicators. In 2022, the assessment was revisited to incorporate the updated LoM plan (MPMC 2021) and co-disposal of hydro-cyclone underflow in the Southeast Rock Disposal Site (WSP Golder 2022a). Deposition of the LoM tailings as a slurry within the existing TSF was identified as the best available option.

The design of the TSF to elevation 987 m provides storage capacity for the LoM tailings production of about 62.8 million tonnes (Mt). Approximately 14.6 Mt of this storage capacity has been used within the existing facility from the restart of operations in June 2022 to December 2024.

The embankment raise to elevation 987 m includes:

- raise and extension of the buttresses along the Main and Perimeter embankments
- construction of a buttress along the South Embankment
- extension of the embankments at the north and south abutments
- construction of new water management infrastructure downstream of the TSF (i.e., seepage collection ponds, ditches); details are included in WSP (2025b)

The facility will require a rate of rise of about 2.5 m per year to accommodate the planned tailings production.

An access ramp has been included in the design and Drawings based on existing ramp locations. Temporary or permanent modifications to ramps during construction or operation will be assessed prior to construction.

6.2 Embankment Materials and Zoning

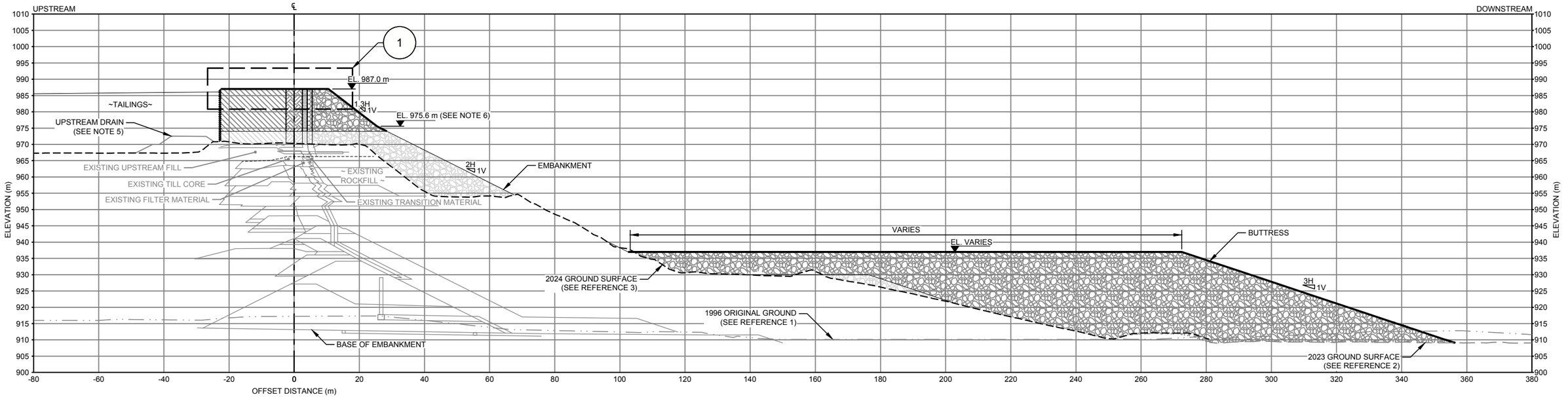
The embankment raise will consist of the components detailed in Table 5. A typical section and detail are shown in Figure 2. Technical specifications detailing placement, compaction, and quality assurance and quality control (QA/QC) requirements for the materials are included in Appendix B.

Table 5: Embankment Zoning

Name	Zone	Description and Purpose
Upstream fill	U	Minimum 20 m wide fill zone to provide upstream support to Zone S.
Till core	S	Minimum 5 m wide low hydraulic conductivity element, placed upstream of Zone F.
Filter	F	Minimum 1.5 m wide, placed upstream of Zone T and downstream of Zone S. Zone F is designed to be filter compatible with Zone S and the foundation till, and prevent erosion of Zone S and foundation till into the voids of Zone T.
Transition	T	Minimum 1.5 m wide, placed upstream of Zone C and downstream of Zone F. Zone T is designed to be filter compatible with Zone F and prevent erosion of Zone F into the voids of Zone C.
Compacted embankment rockfill	C	Minimum 10 m wide up to about elevation 983.2 m and then decreases to a minimum width of 5 m at elevation 987 m, placed downstream of Zone T and compacted in 1 m thick layers.
Embankment rockfill	-	Rockfill placed downstream of Zone C. The downstream face will consist of a composite slope of 2H:1V and 1.3H:1V, with a transition at about elevation 975.6 m along the embankment where the downstream buttresses are located. Near the south and north abutments, where the embankment is shallower and does not include a buttress, the downstream face of the embankment rockfill will have a minimum slope of 2H:1V.
Buttress rockfill	-	Rockfill placed for the downstream buttresses. The downstream face of the buttress rockfill will be 3H:1V, which will impose a lower shear stress on the foundation soils due to the flatter downstream slope and increase the length of potential slip surfaces passing through the foundation soils, thereby increasing the resisting force and improving stability.

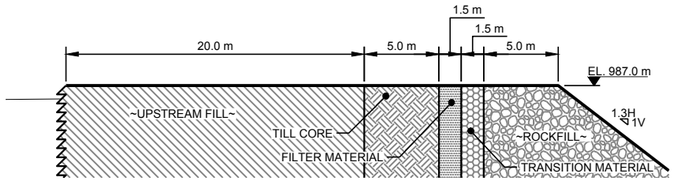
Note: Materials are listed in order from upstream to downstream of the embankment.

- = not applicable.



TYPICAL CROSS-SECTION

SCALE 1:600 m



SCALE 1:200 m

1 EMBANKMENT - TYPICAL DETAIL

1:200 METRES (0, 10, 20)

1:600 METRES (0, 20, 40)

LEGEND

- 1996 ORIGINAL GROUND (SEE REFERENCE 1)
- 2023 GROUND SURFACE (SEE REFERENCE 2)
- 2024 GROUND SURFACE (SEE REFERENCE 3)
- 2013 CONSTRUCTION (SEE NOTE 4)
- PREVIOUSLY CONSTRUCTED MATERIAL BOUNDARY
- EL. 987 m RAISE DESIGN ROCKFILL
- EL. 987 m RAISE DESIGN TRANSITION MATERIAL
- EL. 987 m RAISE DESIGN FILTER MATERIAL
- EL. 987 m RAISE DESIGN TILL CORE
- EL. 987 m RAISE DESIGN UPSTREAM FILL
- EL. 974 m RAISE DESIGN ROCKFILL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TRANSITION MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN FILTER MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TILL CORE (SEE NOTE 5)
- EL. 974 m RAISE DESIGN UPSTREAM FILL (SEE NOTE 5)

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. ELEVATIONS SHOWN ARE REFERENCED TO TAILINGS GRID.
3. SECTION INFORMATION WAS DIGITALIZED USING THE AMEC 2013 RECORD SURVEY AND ANNUAL REVIEW REPORT, FILE NAME: "2014 03 12 - 2013 AS-BUILT & ANNUAL REVIEW REPORT (AMEC).pdf", DATED: 12 MARCH 2014.
4. DIGITALIZED SECTION WAS UPDATED WITH THE 2014 AS-BUILT SURVEY PROVIDED BY MPMC ON 14 SEPTEMBER 2015 AND MAY 2015 SURVEY.
5. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).
6. SLOPE INFLECTION AT EL. 975.6 m BETWEEN STATIONS 0+650 TO 4+600.

REFERENCES

1. 1996 ORIGINAL GROUND PROVIDED BY MPMC, RECEIVED: 11 MARCH 2015, FILE NAME: "1996 TSF Topo.dxf".
2. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC, SURVEYED: 30 OCTOBER 2023, RECEIVED: 01 FEBRUARY 2024, FILE NAME: "231030-TSF Lidar Contor 0.1.dxf".
3. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC, SURVEYED: 10 DECEMBER 2024; RECEIVED: 13 DECEMBER 2024; FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".

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CLIENT: MOUNT POLLEY MINING CORPORATION

CONSULTANT: wsp

YYYY-MM-DD	2025-07-11
DESIGNED	R. GARRITSEN
PREPARED	J. HOPSON
REVIEWED	S. BAINBRIDGE
APPROVED	G. PIZARRO-SALA

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
TYPICAL CROSS-SECTION AND DETAIL

PROJECT NO.	PHASE/TASK/DOC.	REV.	FIGURE
CA0047730.8440	51200/51293/004	0	2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 25 mm

Path: \\corp.pbwan.net\CACAVAN400\CAD-GIS\Client\Imperial_Metals_Corp\Mount_Polley_Mine\99_PROJECTS\CA0047730_8440\51200\51293\Doc 004_987 Design\02_PRODUCTION\DWG\Figures\ | File Name: CA0047730_8440-51200-51293-004-02.dwg | Last Edited By: gld_jhopson Date: 2025-07-11 Time:1:27:14 PM | Printed By: gld_jhopson Date: 2025-07-11 Time:2:43:05 PM

The gradation envelopes of embankment construction materials are presented in Figure 3. Rockfill will consist of well-graded material with a maximum diameter of 1 m. All fill materials will be non-acid generating.

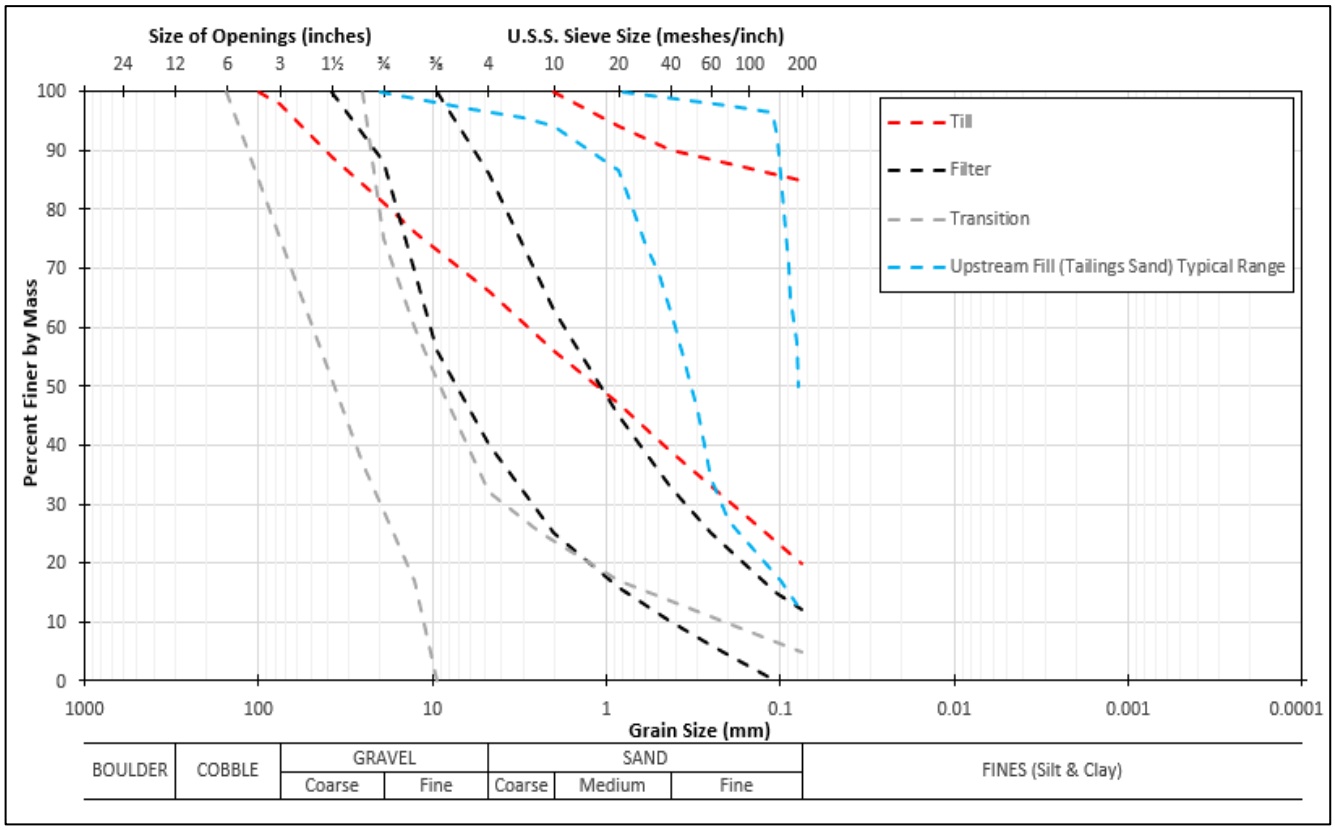


Figure 3: Embankment Construction Material Gradation Envelopes

The filter and transition materials have been designed to meet modern filter criteria (USBR 2011; FEMA 2011; Fell et al. 2015; USDA 2017) with a modification on the maximum sand content (i.e., 40%) in the filter band based on laboratory testing (Eldridge and Gilmer 2002). The laboratory testing was carried out on crushed aggregates with a similar gradation under hydraulic gradients much greater than those expected in the Mount Polley TSF.

The gradation envelope requirements for construction of the embankment to elevation 987 m remain unchanged from the gradation envelopes specified for construction of the embankment from its configuration in 2015 to elevation 970 m and from elevation 970 m to 974 m (Golder 2015b; WSP 2024a). Fill materials will be produced, stockpiled, hauled, and spread in a manner to minimize segregation. Materials not complying with the specification will not be used in the construction.

6.3 Foundation Preparation

Foundation preparation is required prior to any fill placement at the following locations:

- at the north and south abutments
- along the foundation of the South Embankment buttress
- along the foundation of the Main and Perimeter embankment buttress extensions

Stockpiled material, vegetation, and topsoil is to be stripped along the footprint of the abutments, buttress, and buttress extensions. Stripped material will be managed in accordance with MPMC's soil management programs. The extent of the foundation preparation is shown in Drawings 05, 11, 18, and 24 (Appendix A), and details are provided in the Technical Specifications (Appendix B).

6.3.1 North and South Abutments

The embankment will extend onto natural ground at the south and north abutments (i.e., Corner 4 and Corner 5). The abutment details will consist of the till core tied into competent foundation till or onto bedrock. A filter blanket is to be placed along the till foundation downstream of the till core. The embankment design at the abutments is shown in Drawings 30 and 31 (Appendix A). Foundation preparation will consist of removal of topsoil, organics, and soft or loose soil to expose competent foundation till. Where the foundation till is greater than 2 m thick, the till core will be keyed into the foundation till. Where the foundation till is less than 2 m thick, the till core is to extend down to competent bedrock. The depth of the foundation till will be confirmed by the excavation of test pits.

Where excavation is required to bedrock, highly fractured and weathered bedrock overlying sound bedrock is to be removed. The surface of the exposed bedrock is to be cleaned of all soil and loose rock. Depending on the condition of the bedrock and the opinion of the Engineer of Record representative, additional treatment may be required, which may consist of the placement of bentonite, shotcrete, slush grout, or a combination.

The final limits of foundation preparation at the abutments will be confirmed by the Engineer of Record representative during construction.

Placement of a till blanket may be required at the abutments after foundation preparation is complete to grade the surface, so it drains downstream from the till core.

6.4 Water Management

The mine site has an annual net water surplus, and discharge from site (after treatment) is necessary to manage the mine site water and to prevent accumulation of water on the mine site year over year.

Water management will be generally consistent with practice since the restart of operations in 2016. Temporary detention of water on-site will be necessary to manage large runoff volumes generated during freshet; however, the fundamental basis of the water management plan is to not accumulate water on-site (including the TSF) by treating and discharging water and to not carry over water from year to year even under extreme wet conditions. In 2024, MPMC introduced changes to the site water infrastructure to allow pumping from the central collection sump to Wight Pit. This change to site water management reduces the volume of water that would need to be temporarily retained in the TSF during large freshet events as presented in Section 7.1.

The majority of water inflows to the TSF are pumped and are therefore under the control of the operator. These inflows are as follows:

- water discharged with the tailings slurry at approximately 35% solids by weight
- during freshet and large storm events, surplus water from site will be temporarily detained primarily in Wight Pit and secondarily in the TSF

The water inflows to the TSF that are not pumped, and therefore not in the control of the operator, are as follows:

- precipitation on the direct footprint of the TSF (approximately 2.5 km^2)

- runoff from the catchment directly above the west side of the TSF (approximately 0.5 km^2)

Outflows from the TSF consist of the following:

- reclaim water pumped to the mill or water treatment plant by means of a floating barge within the TSF pond
- water retained in the voids of newly placed tailings (note that this is not an outflow, but it is permanently retained water in the facility)
- flow through the upstream drains to the seepage collection ponds
  - the detailed design to elevation 974 m includes an upstream drain system that consists of a series of drain pipes to be installed around the facility near elevation 970 m to control the hydraulic head imposed on the embankments. Once constructed, the upstream drains will collect water from the tailings deposited in the TSF and discharge it directly into the downstream water management infrastructure. The upstream drains will also promote unsaturated conditions and consolidation of the tailings deposited above the drain pipes. The upstream drain system was designed for an embankment crest elevation of 987 m. Additional details for the upstream drain design capacity and layout is presented in WSP (2024a)
- evaporation losses from the TSF pond and wet tailings beaches
- seepage through the embankment and foundation

The TSF will be managed by maintaining the pond volume within the normal operating range (i.e., 0.75 Mm^3 to 1.5 Mm^3) for reclaim and make-up water.

6.5 Tailings Management and Deposition

Tailings management and deposition will be consistent with practice to date. Tailings will be deposited as a slurry with approximately 35% solids by weight. The tailings will be discharged along the embankment crest and form an average sub-aerial beach slope of approximately 0.5% to 1%. The sub-aqueous tailings will form a steeper slope of approximately 2% to 3%. It is assumed that the pond depth during normal operations (pond volume between 0.75 and 1.5 Mm^3) is about 4 m at the location of the reclaim barge.

Deposition of the tailings will be planned to maintain the pond near the centre of the facility and against the natural topography on the western perimeter. A minimum beach length of 100 m will be maintained between the embankment and TSF pond during normal operations. To enable management of the pond against the natural ground and to maintain a minimum beach length of 100 m, the barge should remain in its central location between Corner 4 and Corner 5 throughout operations. Approximately 2 to 3 years before the end of operations, the tailings deposition will be adjusted to move the TSF pond towards the north abutment in preparation for closure.

The location of the pond throughout operations up to elevation 987 m of the TSF is shown in the tailings deposition figures in Appendix E.

7.0 DESIGN ANALYSES AND ASSESSMENTS

The design of the TSF embankment raise to elevation 987 m was informed by the studies and assessments presented in this section:

- water balance
- storage capacity analysis
- filter compatibility assessment
- seepage analysis
- slope stability analysis
- stress-deformation analysis
- water management and freeboard assessment
- closure considerations
- risk review and design controls

7.1 Tailings Storage Facility Water Balance

The site-wide water balance model (SWWBM) supports water management planning and the assessment of water quality and associated water treatment and discharge options. The SWWBM was updated to reflect the Springer Expansion LoM plan during the operational phase and incorporates closure and post-closure phases for Mount Polley Mine (WSP 2025i), which includes a proposed raise of the TSF to elevation 987 m.

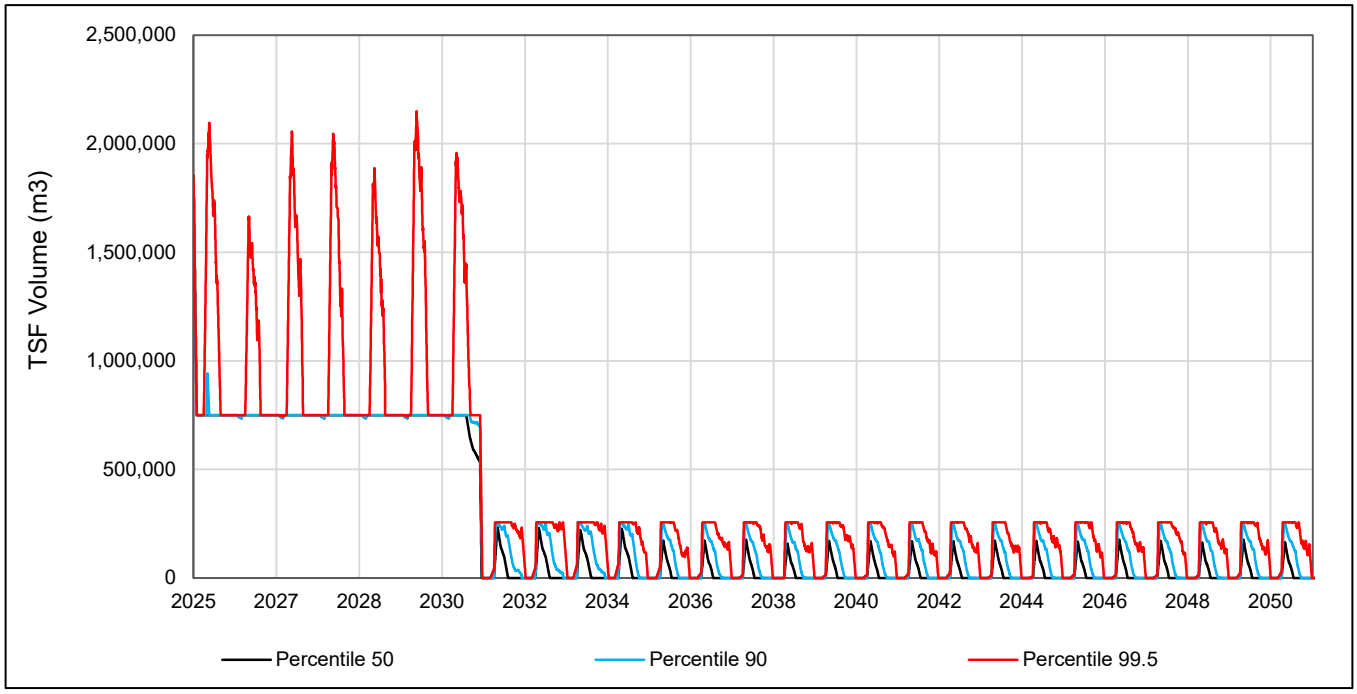
The stage–storage curves projected up to a crest elevation of 987 m constitute a snapshot that changes with time as tailings are deposited.

The SWWBM was run with probabilistic monthly climate inputs for this assessment. To develop probabilistic inputs, monthly precipitation data in the *Mount Polley Mine Climate Baseline Update* (WSP Golder 2022b) were fitted to a log-normal probability distribution.

The target operational water volumes set in the SWWBM for the TSF under normal conditions was 0.75 Mm^3 prior to freshet. During freshet, at the 99.5th percentile results, the TSF pond volume may reach a peak of 2.15 Mm^3. Excess water is removed from the TSF as soon as there is available capacity for discharge through the water treatment plant or storage in the Wight Pit, to return the pond volume to the specified normal operating range after freshet.

During closure and post-closure, the TSF pond is modelled to discharge via a spillway, and the TSF pond volume will vary seasonally, limited by the spillway invert, to a maximum volume of approximately 0.25 Mm^3.

Results of the SWWBM are presented in Figure 4 that show the water volume in the TSF throughout future operations and into closure until 10 years after post-closure. The TSF volume pattern shown for the 2041 to 2051 post-closure period is continued for the remaining 80 years of post-closure (until 2131).



TSF = tailings storage facility.

Figure 4: Tailings Storage Facility Water Volume from Operations to 10 Years after Post-closure – Springer Expansion Life of Mine Plan

Table 6 shows tabulated minimum, average, and maximum bounds for the three percentile trends shown in Figure 4. The bounds presented represent the minimum, average, and maximum values for each percentile during the operational period: TSF operation to crest elevation 987 m (2025–2031), closure period (2031–2041), and post-closure period (from 2041).

Table 6: Tailings Storage Facility Water Volume (m^3) – Springer Expansion Life of Mine Plan

Phase	Bound	50th Percentile	90th Percentile	99.5th Percentile
Operations[(a)] (2025–2031)	Minimum	737,000	737,000	744,000
	Average	750,000	750,000	1,034,000
	Maximum	750,000	750,000	2,150,000
Closure[(b)] (2031–2041)	Minimum	0	0	0
	Average	31,000	79,000	158,000
	Maximum	234,000	257,000	257,000
Post-closure (from 2041)	Minimum	0	0	0
	Average	24,000	66,000	146,000
	Maximum	177,000	257,000	257,000

Note: Numbers have been rounded to the nearest 1,000. These values represent conditions after the end of the 2025 freshet, which has already occurred at the time of this report.

(a) During the operational phase, the TSF is not used for water storage except when other facilities (i.e., Wight Pit or water treatment plant) capacity is exceeded. This exceedance is reflected in the 99.5th percentile results.

(b) These values are representative of the closure period after the transitional phase from operations.

7.2 Tailings Storage Capacity

A tailings storage capacity analysis was undertaken for the TSF to determine the crest elevation required to store the LoM tailings and provide input to the embankment raise construction schedule. The tailings deposition was modelled using Muk3D v2023.1.6 developed by MineBridge Software Inc.

The base surface used for the deposition modelling was generated by combining a topographic and bathymetric survey completed on August 25, 2023. At the time, approximately 5.3 Mt of the LoM tailings had already been deposited into the facility (i.e., from the restart of operations in June 2022 to August 2023). Tailings deposition was modelled using actual production values from August 2023 to December 2023 and mine plan tonnages reported in MPMC (2021) from January 2024 onwards. Actual total production was less than the mine plan from the restart of operations in June 2022 to December 2023. The deposition model was extended by about 5 months to account for this discrepancy, at a rate of 20,000 t/day, to achieve a LoM tailings production of 62.8 Mt.

In 2024, actual total production was approximately 6.7 Mt, which is about 0.6 Mt less compared to the mine plan tonnages presented in MPMC (2021).

The parameters adopted for the deposition modelling are presented in Table 7.

Table 7: Parameters Adopted for Tailings Deposition Modelling

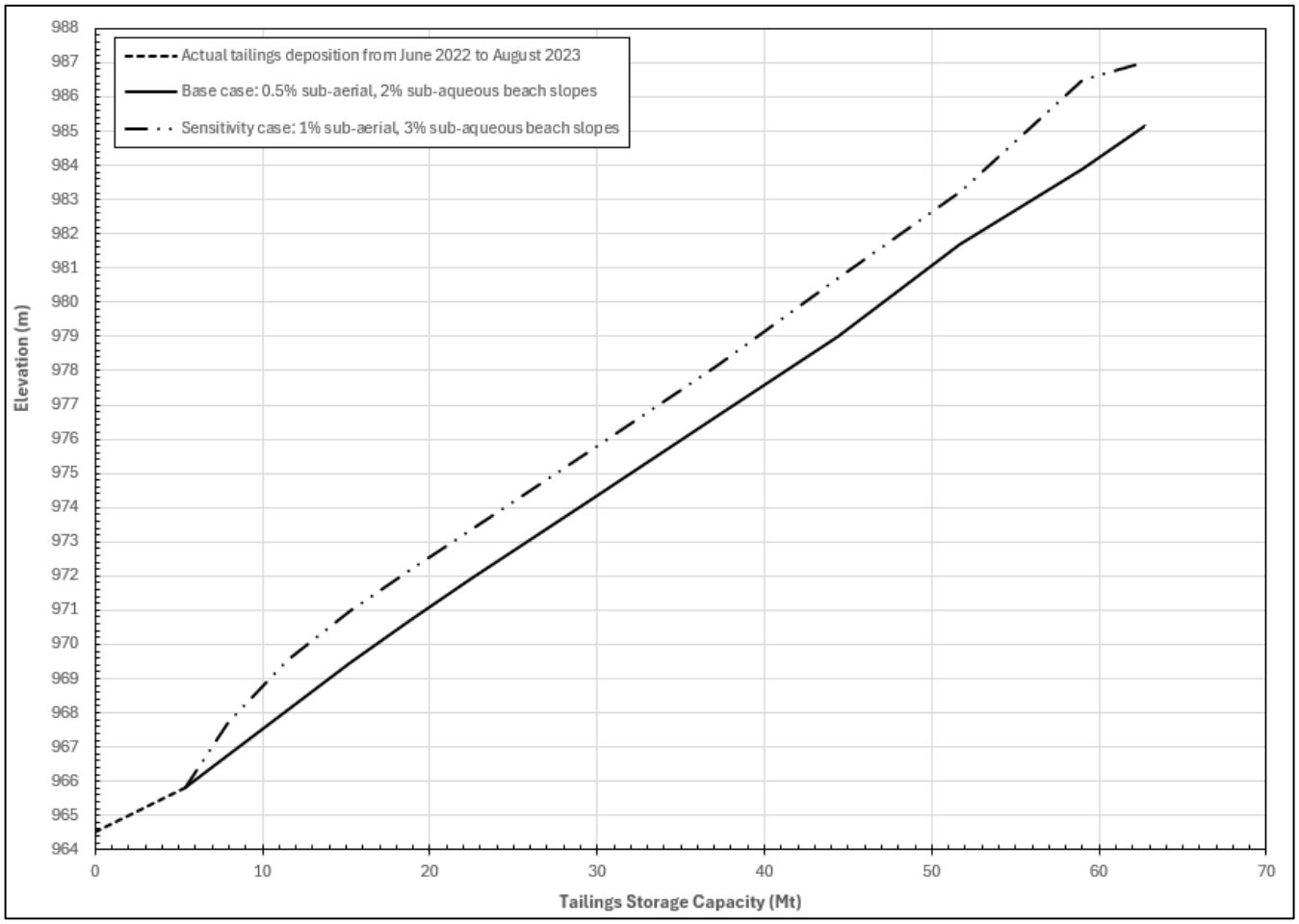
Parameter	Value	Comment
Tailings beach slope	sub-aerial: 0.5% sub-aqueous: 2%	Base case. Estimated based on available topographic and bathymetric surveys since 2022.
	sub-aerial: 1% sub-aqueous: 3%	Sensitivity case. Range based on available topographic and bathymetric surveys since 2016.
Pond volume	1.5 Mm^3	Maximum pond volume during normal operating conditions.
	0.6 Mm^3	Assumed pond volume during the final approximate 1.5 years of operations when the pond is moved against the north abutment for closure.
Pond depth	4 m (beneath the reclaim barge)	Estimated for normal operating conditions based on available bathymetric surveys since 2016.
Average dry density after deposition	1.35 t/m^3	Estimated by WSP (based on available topographic and bathymetric surveys from 2022 to 2024). Reported as 1.36 t/m^3 by KP (2005).

Mm^3 = million cubic metres.

Modelling of the deposition was conducted such that the pond is maintained away from the embankments and against the natural topography on the western perimeter of the TSF. To enable management of the pond against the natural ground and to maintain a minimum beach length of 100 m, the barge should remain in its central location between Corner 4 and Corner 5 until deposition is adjusted about 2 to 3 years before the end of

operations to move the TSF pond towards the north abutment in preparation for closure. The barge will need to be progressively relocated towards Corner 5 during that period.

The tailings storage capacity (tonnage) versus tailings discharge elevation for the adopted range of tailings beach slopes is presented in Figure 5. The maximum discharge elevation for the base case is 985.1 m. The maximum discharge elevation for the sensitivity case is 987.0 m. The base case provides more capacity for tailings deposition than the sensitivity case due to the tailings surface slope; however, increasingly shallower tailings slopes are not a desired condition as maintaining the pond away from the embankments would become more challenging. Select stages of the deposition modelling are presented in Appendix E. Deposition timelines and construction scheduling based on these tonnages are discussed in Section 10.0.



Mt = million tonnes.

Figure 5: Tailings Storage Curve for the Adopted Tailings Beach Slope and Density Criteria

7.3 Internal Erosion

The purpose of the filter and transition zones are to prevent erosion of the till core and till foundation into the voids of the rockfill shell.

The specified gradations of the filter and transition materials presented in Section 6.2 have been designed to meet modern filter criteria (USBR 2011; FEMA 2011; Fell et al. 2015; USDA 2017) with a modification to the maximum sand content (i.e., 40%) in the filter band based on laboratory testing (Eldridge and Gilmer 2002). The filter and transition gradation envelope requirements for construction of the embankment to elevation 987 m meet modern filter criteria and remain unchanged from the gradation envelopes specified for construction of the embankment from its configuration in 2015 to elevation 970 m and from elevation 970 m and 974 m (Golder 2015b; WSP 2024a).

A detailed assessment of the adequacy of the filter and transition in the embankment constructed prior to August 2014 is presented in Golder (2016a). A summary of the assessment is included in the following subsections.

7.3.1 Till Core – Filter Compatibility

The filter compatibility assessment between the till core and filter material was carried out following the criteria presented in Fell et al. (2015) on representative envelopes from grain size distribution curves for all stages of construction. Figure 6 shows the filter compatibility criteria and grain size distribution envelopes for the till core and filter material. The results show a portion of the as-constructed till core and filter grain size distributions, constructed prior to 2014, do not meet filter compatibility criteria.

To assess filters on existing dams, Foster and Fell (2001) developed a method based on laboratory testing and the analysis of dams that have experienced piping incidents. Erosion boundaries defined from this method are as follows:

- “No erosion – practically no erosion, i.e., <10 g of base material for cohesionless soils and no visible erosion of the preformed hole in cohesive soils.”
- “Some erosion and excessive erosion – filter seals after ‘some’ erosion of the base material.”
- “Continuing erosion – for the cases where the filter was too coarse to allow the eroded base materials to seal the filter, resulting in unrestricted erosion of the base soil.”

The no erosion, excessive erosion, and continuing erosion boundaries for the compatibility of the till core–filter materials are presented in Figure 6. In this case, the no erosion criteria coincide with the filter criteria. The results show that a portion of the as-constructed filter grain size distributions is in between the no erosion and excessive erosion boundaries; therefore, the filter would seal after “some” erosion of the till core.

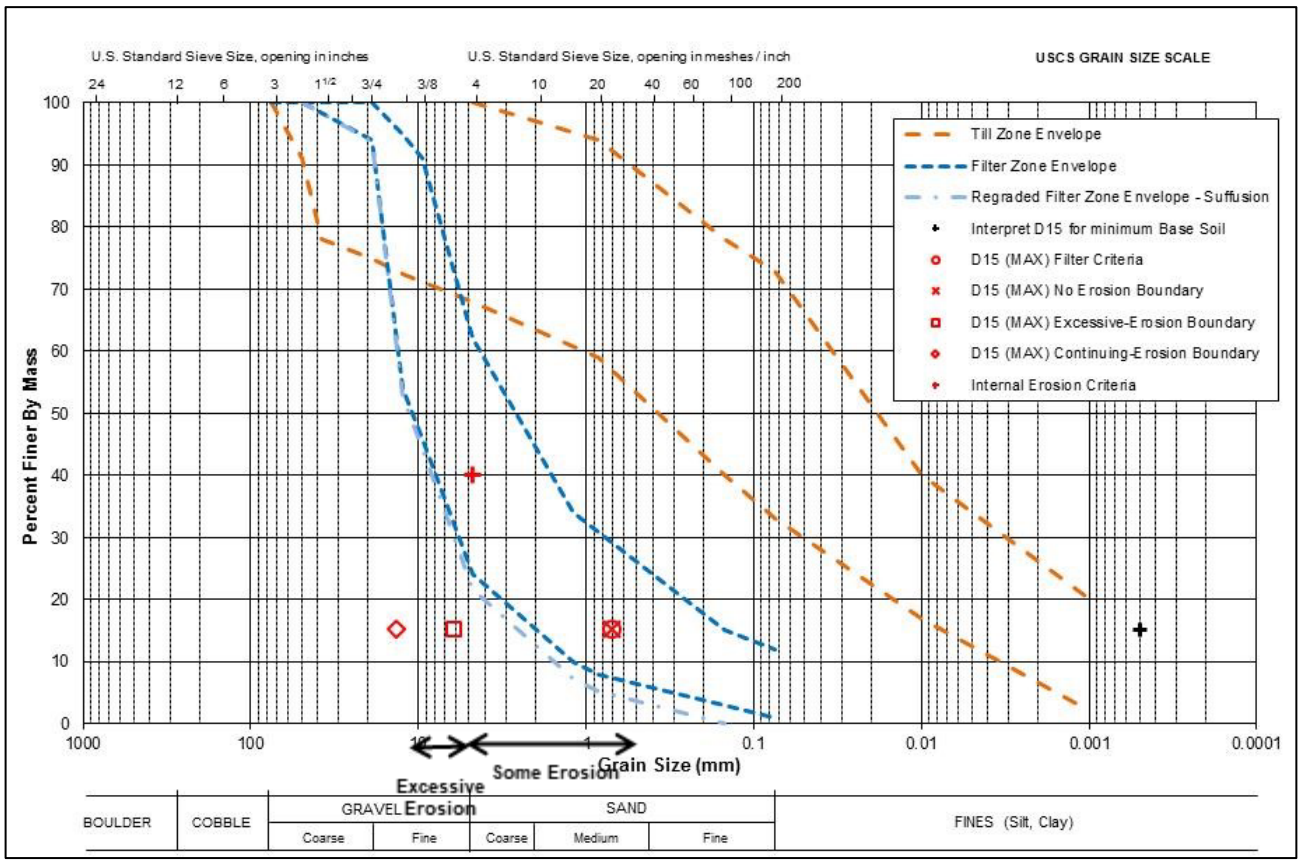


Figure 6: Filter Compatibility between the Till Core and Filter Constructed Prior to August 2014

Prior to the breach of the Perimeter Embankment, no signs of erosion or sinkholes were reported and the maximum hydraulic gradient imposed on the till core of the embankment was on the order of 5. As noted in ICOLD Bulletin 164, “The available evidence on the occurrence of global backward erosion (see Figure 2.7 in Section 2.3.2.2) in central core dams is that this internal erosion mode will only occur at relatively high gradients except when the core consists of cohesionless, internally unstable soil subject to suffusion.” The till core is considered not to be susceptible to suffusion due to its plasticity. As noted in Bulletin 164, “for practical purposes Fell et al. (2008) have concluded that based on the data described available soils with Plasticity Index > 7 should be considered not subject to suffusion at the gradients usually experienced in dams and their foundations” (ICOLD 2013).

Based on the filter criteria results and observations prior to the breach, if the hydraulic gradients were to raise to a level sufficient to initiate backward erosion of the till core, some erosion of the till core could be expected before the filter seals it.

During normal operations to elevation 987 m (i.e., tailings beach width greater than 100 m and the drains functioning as intended), increases to the phreatic level upstream of the embankment and the hydraulic gradient across the till core are relatively small (i.e., less than 1) compared to the conditions prior to the raise above elevation 974 m (WSP 2024a). During large freshet or precipitation events (upset conditions), beach widths may be temporarily reduced to less than 100 m; however, the seepage analysis results in Section 7.4 show that the upstream drains will provide an effective control to limit increases to the phreatic level upstream of the embankment and the hydraulic gradient across the till core during upset conditions.

Vibrating wire piezometers (VWPs) will be installed below and upstream of the upstream drains to confirm that the drains are functioning as intended. If the upstream drains were to fail or not perform as designed, the phreatic surface and hydraulic gradient can still be managed, with small increases, by increasing the operational beach width. The hydraulic head upstream of the till core will be monitored and performance of the upstream drains will be checked as the pond level raises, allowing time to implement changes to tailings deposition or TSF water management if required.

7.3.2 Filter – Transition Compatibility

The filter and transition as-constructed grain size distributions meet filter compatibility criteria. Figure 7 presents the filter compatibility criteria and grain size distribution envelopes for the filter and transition materials. The no erosion boundary is also included in Figure 7.

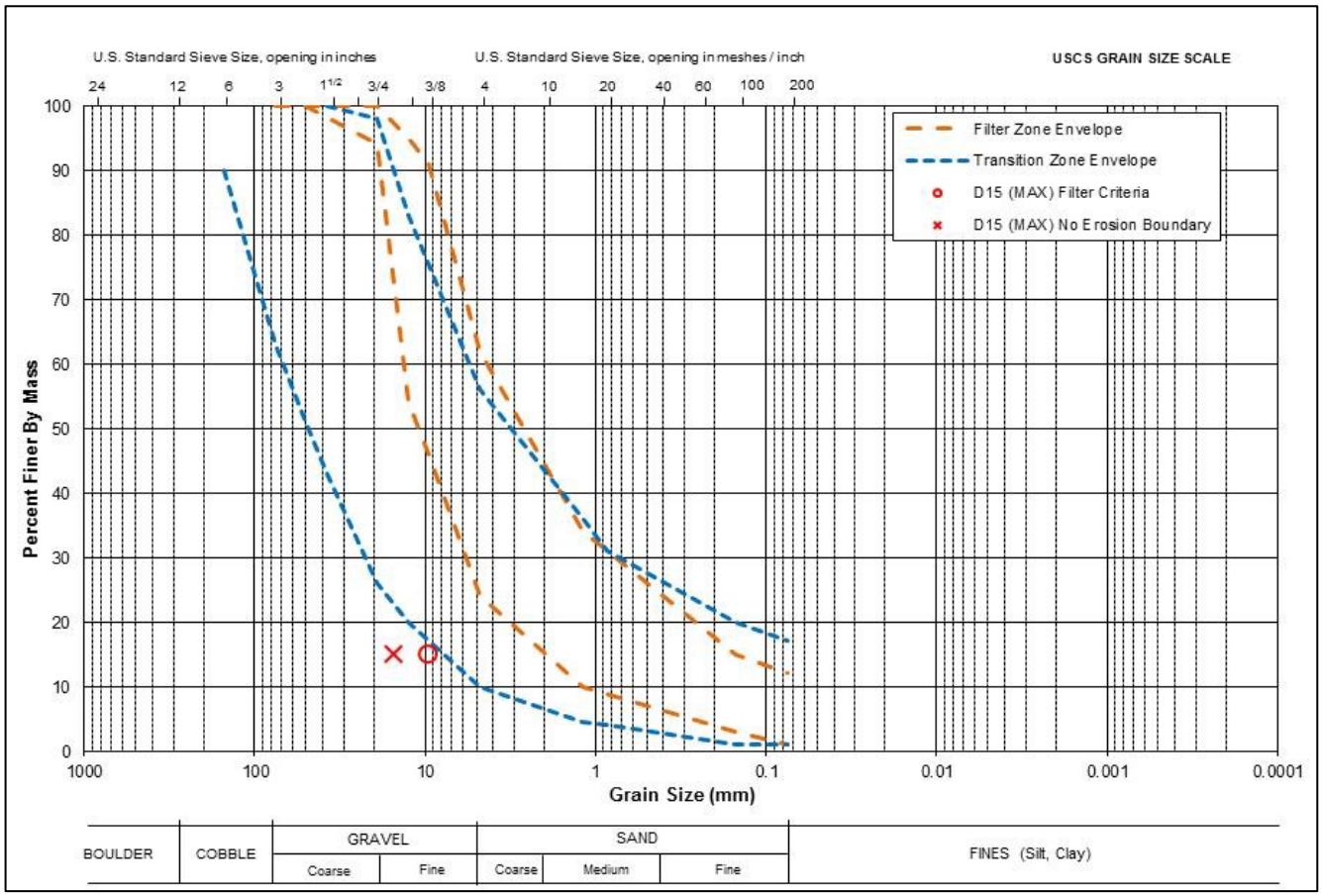


Figure 7: Filter Compatibility between the Filter and Transition Constructed Prior to August 2014

7.3.3 Transition – Rockfill Compatibility

The transition and rockfill as-constructed grain size distributions meet filter compatibility criteria. Figure 8 presents the filter compatibility criteria and grain size distribution envelopes for the transition and rockfill materials.

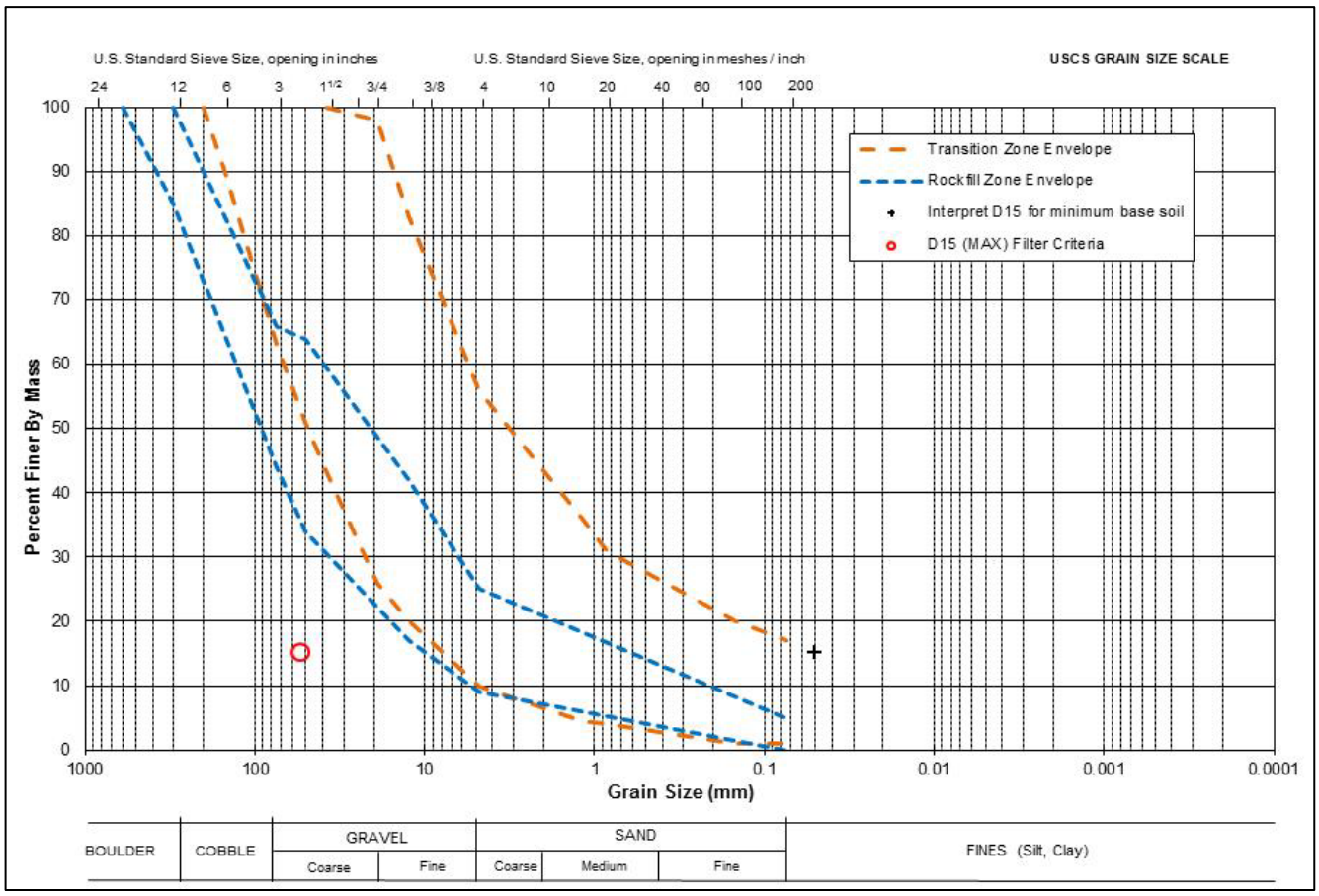


Figure 8: Filter Compatibility between the Transition and Rockfill Constructed Prior to August 2014

7.4 Seepage Analysis

Seepage analyses were carried out for typical sections of the elevation 987 m configuration of the South Embankment (Stn. 0+725), Main Embankment (Stn. 2+055), Perimeter Embankment (Stn. 3+765), and Perimeter Embankment at Corner 1 (Stn. 4+255) under steady-state conditions. The section at Corner 1 was analyzed to represent the portion of the embankment that includes a cut-off wall below elevation 950 m (from Stn. 3+996 to Stn. 4+464).

The seepage analyses were conducted using GeoStudio 2023.1.0. The objectives of the analyses were as follows:

- Determine the phreatic surface and estimate maximum hydraulic gradients across the till core.
  - Phreatic surface geometries were also used in stability analyses.
- Quantify anticipated seepage rates through the foundation, embankment, and upstream drains.
  - Assess sensitivity of the seepage rate through the embankment and foundation, and the flow rate through the upstream drains for a range of beach widths (i.e., distance from the embankment to the pond: 0, 50, 100, 200, and 300 m).

7.4.1 Material Properties

The tailings and foundation material properties used for seepage modelling were calibrated using available monitoring data at Corner 1 of the Perimeter Embankment (Stn. 4+255) and near the middle section of the Main Embankment (Stn. 2+055). Details of the calibration are included in the elevation 974 m detailed design report (WSP 2024a). The hydraulic conductivities assigned to the foundation materials were calibrated within the ranges reported in the TSF site characterization report (WSP 2025a).

Calibrated material properties for the seepage analyses are presented in Table 8.

Table 8: Material Properties used for Seepage Modelling

Material	Material Model	Saturated Hydraulic Conductivity K (m/s)	Anisotropy Ratio K_y'/K_x'	Comment
Glaciofluvial and foundation till	Saturated only	1×10^{-6}	0.1	Adopted based on foundation characterization (WSP 2025a) and model calibration (WSP 2024a). Glaciofluvial: 8×10^{-6} to 2×10^{-4} m/s Ablation till: 6.4×10^{-8} to 2×10^{-6} m/s (mean 2×10^{-7} m/s) Basal till: 4×10^{-8} to 2×10^{-6} m/s (mean 3×10^{-7} m/s)
Glaciolacustrine	Saturated only	5×10^{-10}	1	Adopted based on foundation characterization (WSP 2025a) and model calibration (WSP 2024a). HydrogeoSieveXL: 2×10^{-10} to 7×10^{-8} m/s (mean 7×10^{-9} m/s) CPT: 3×10^{-9} to 6×10^{-8} m/s (mean 2×10^{-8} m/s)
Rockfill	Saturated only	1×10^{-2}	1	Assumed by WSP.
Tailings (deposited since 2016)	Saturated / unsaturated	1×10^{-5}	0.1	Estimated based on model calibration (WSP 2024a).
Tailings (deposited prior to August 2014)	Saturated / unsaturated	1×10^{-6}	0.1	Estimated based on model calibration (WSP 2024a). Available permeability test on tailings sample collected upstream of Corner 1 in 2014: 2×10^{-6} m/s. Estimated hydraulic conductivity using Hazen and Kozeny–Carman for a range of tailings gradations near the embankment: 4×10^{-5} to 8×10^{-6} m/s
Till core	Saturated / unsaturated	1×10^{-8}	1	Based on forensic investigation data and characterization of foundation till (WSP 2025a).

Table 8: Material Properties used for Seepage Modelling

Material	Material Model	Saturated Hydraulic Conductivity K (m/s)	Anisotropy Ratio K_y'/K_x'	Comment
Filter, transition, and upstream drain rock	Saturated / unsaturated	1×10^{-2}	1	Assumed by WSP.
Upstream fill	Saturated / unsaturated	1×10^{-5}	1	Estimated based on model calibration of tailings (WSP 2024a).
Cut-off wall	Saturated only	1×10^{-8}	1	Upper bound based on hydraulic conductivity testing of samples taken from the cut-off wall (Golder 2015a).

K_y'/K_x' = vertical hydraulic conductivity over horizontal hydraulic conductivity; CPT = cone penetration test.

7.4.2 Boundary Conditions

The following boundary conditions were used:

- Total head boundaries within the facility to define pond elevations for various beach length configurations.
- Zero-pressure boundaries along the ground surface beyond the buttress toe.
- Potential seepage flow review boundaries within the upstream drain.
  - A potential seepage flow review boundary within the upstream drain acts as a sink, pulling water out of the model. This assumes the drain has enough capacity to maintain the phreatic surface at the elevation of the drain.
  - The flow rate at the point of zero-flow (potential seepage flow review) within the upstream drain does not report to the embankment buttress toe in the model.
  - The upstream drain at elevation 950 m at Corner 1 was assumed to not be operating.

7.4.3 Seepage Analysis Results

The results of the seepage analyses are presented in Appendix F and summarized in Section 7.4.3.1 to Section 7.4.3.3. The analyses were undertaken using the calibrated material properties in Table 8 and considering a range of beach widths (i.e., 0, 50, 100, 200, and 300 m) to reflect variations in operational and upset conditions. The maximum beach width of 300 m represents a scenario where the maximum operational pond (1.5 Mm^3) is against the natural ground to the west of the TSF and there is beach evenly distributed across each of the embankments.

7.4.3.1 Phreatic Level and Hydraulic Gradient

Table 9 presents the phreatic level of the pond against the till core and the hydraulic gradient through the till core. The results presented consider that construction of the upstream drains at approximately elevation 970 m to 972 m is completed, as detailed in WSP (2024a).

Table 9: Phreatic Level against the Till Core and Hydraulic Gradient across the Till Core

Embankment	Configuration	Phreatic Level and Hydraulic Gradient									
		No Beach		50 m Beach		100 m Beach		200 m Beach		300 m Beach	
		Phreatic Level (elev., m)	K	Phreatic Level (elev., m)	K	Phreatic Level (elev., m)	K	Phreatic Level (elev., m)	K	Phreatic Level (elev., m)	K
South Embankment	Without drains	986.4	7.1	984.9	6.8	983.5	6.5	980.6	5.9	977.5	5.3
	With drains at elevation 970 m	974.5	4.7	971.1	4.0	970.7	3.9	970.2	3.8	970.0	3.8
Main Embankment	Without drains	986.3	9.9	984.5	9.5	982.9	9.2	979.5	8.5	975.5	7.7
	With drains at elevation 970 m	974.4	7.5	971.1	6.8	970.6	6.7	970.1	6.6	970.0	6.6
Perimeter Embankment	Without drains	985.7	8.9	983.2	8.4	981.0	8.0	976.3	7.1	970.8	6.0
	With drains at elevation 970 m	973.9	6.9	970.6	5.9	970.0	5.8	970.0	5.8	970.0	5.8
Perimeter Embankment at Corner 1	Without drains	984.5	6.3	980.9	5.6	978.1	5.0	973.0	4.0	966.7	2.7
	With drains at elevation 970 m	973.9	4.2	971.9	3.8	970.9	3.6	970.0	3.4	-	-

Notes: Maximum hydraulic gradient across the till core was estimated at the following elevations based on available as-constructed cross sections: elevation 951 m at the South Embankment, elevation 937 m at the Main Embankment, elevation 941 m at the Perimeter Embankment, and elevation 953 m at the Perimeter Embankment at Corner 1.

Grey shaded cells indicate where phreatic level and hydraulic gradient are not reported in cases with drains at elevation 970 m where the phreatic level is lower than the drain.

The results show that during normal operations to elevation 987 m (i.e., tailings beach width greater than 100 m and the drains functioning as intended), increases to the phreatic level upstream of the embankment and the hydraulic gradient across the till core are relatively small compared to the conditions prior to the raise above elevation 974 m (WSP 2024a). During large freshet or precipitation events (upset conditions), beach widths may be temporarily reduced to less than 100 m; however, the results show that the upstream drains will provide an effective control to limit increases to the phreatic level upstream of the embankment and hydraulic gradient across the till core during upset conditions.

VWPs will be installed below and upstream of the upstream drains to confirm that the drains are functioning as intended. If the upstream drains were to fail or not perform as designed, the phreatic surface and hydraulic gradient can still be managed, with small increases, by increasing the operational beach width. The hydraulic head upstream of the till core will be monitored and performance of the upstream drains will be checked as the pond level raises, allowing time to implement changes to tailings deposition or TSF water management if required.

7.4.3.2 Flow Rates through Upstream Drain

Seepage analyses were undertaken as part of the elevation 974 m TSF raise design (WSP 2024a) to quantify anticipated flows through the elevation 970 m upstream drains for a TSF crest elevation of 987 m, in order to inform the design of the upstream drainpipe system. A typical drainage panel comprises eight upstream drainpipes, routed through a single discharge pipe.

Additional seepage analyses were undertaken as part of the elevation 987 m TSF raise design using a range of beach widths to inform the design of downstream water management infrastructure. The results of the seepage analyses for flow through the upstream drains per drain panel are summarized in Table 10. These results are based on a constructed drain elevation of 970 m.

Table 10: Flow through the Upstream Drains at Tailings Storage Facility Elevation 987 m

Embankment	Flow per Drain Panel[a]									
	No Beach		50 m Beach		100 m Beach		200 m Beach		300 m Beach	
	m^3/s	L/s	m^3/s	L/s	m^3/s	L/s	m^3/s	L/s	m^3/s	L/s
South Embankment	2.7×10^{-2}	27.2	1.4×10^{-2}	14.3	8.4×10^{-3}	8.4	4.0×10^{-3}	4.0	2.0×10^{-3}	2.0
Main Embankment	2.7×10^{-2}	26.8	1.4×10^{-2}	14.1	8.0×10^{-3}	8.0	3.6×10^{-3}	3.6	1.5×10^{-3}	1.5
Perimeter Embankment	2.7×10^{-2}	26.8	1.3×10^{-2}	13.3	7.2×10^{-3}	7.2	2.6×10^{-3}	2.6	4.8×10^{-4}	0.5
Perimeter Embankment at Corner 1[b]	2.6×10^{-2}	26.3	1.5×10^{-2}	14.5	8.1×10^{-3}	8.1	2.4×10^{-3}	2.4	-	-

Note: Grey shaded cells indicate that the phreatic level is lower than the drain and negligible flows are observed through the upstream drains.

(a) Reported flows are for the discharge pipe of a single drainage panel assuming 400 m long upstream drain panels with eight perforated upstream pipes. Panel 1 at the South Embankment has only six upstream drainpipes and will report lower flows.

(b) The existing upstream drain installed at elevation 950 m at Corner 1 was assumed to not be operational in the analyses in order to assess the potential flows that the upstream drain at elevation 970 m could experience. The existing upstream drain has performed as intended since installation in 2016.

The adopted design flow for the sizing of a discharge pipe was 54 L/s based on a minimum factor of safety (FoS) equal to 3 for a 50 m beach width (WSP 2024a). The results presented in Table 10 confirm that the discharge pipes have sufficient capacity and an approximate FoS equal to 2 to route the estimated flows during upset conditions (i.e., no beach). The results show that the flows through the upstream drains will be low when the pond is maintained away from the embankments (i.e., beach widths greater than 200 m). These flows will be less for crest elevations below 987 m.

7.4.3.3 Seepage Rates through Embankment and Foundation

Seepage analyses were undertaken to quantify seepage rates through the embankment and foundation and to inform the design of downstream water management infrastructure. The results of the analyses for seepage through the embankment and foundation are summarized in Table 11 and shown for the Main Embankment in Figure 9. The seepage values reported are for the operational case where the upstream drains are functioning.

Table 11: Flow through the Embankment and Foundation

Embankment	Total Seepage through Embankment and Foundation per Embankment									
	No Beach		50 m Beach		100 m Beach		200 m Beach		300 m Beach	
	m^3/s	L/s	m^3/s	L/s	m^3/s	L/s	m^3/s	L/s	m^3/s	L/s
South Embankment	5.1×10^{-3}	5.1	4.7×10^{-3}	4.7	4.6×10^{-3}	4.6	4.4×10^{-3}	4.4	4.2×10^{-3}	4.2
Main Embankment	9.2×10^{-3}	9.2	8.7×10^{-3}	8.7	8.6×10^{-3}	8.6	8.3×10^{-3}	8.3	8.1×10^{-3}	8.1
Perimeter Embankment	1.7×10^{-2}	16.9	1.2×10^{-2}	11.9	1.2×10^{-2}	11.6	1.2×10^{-2}	11.3	1.1×10^{-2}	11.0
Perimeter Embankment at Corner 1	9.9×10^{-3}	9.9	9.4×10^{-3}	9.4	9.2×10^{-3}	9.2	8.8×10^{-3}	8.8	8.1×10^{-3}	8.1

(a) South Embankment length of 1,050 m was used to calculate total seepage.

(b) Main Embankment length of 1,200 m was used to calculate total seepage.

(c) Perimeter Embankment length of 1,300 m was used to calculate total seepage (section from Corner 1 to Corner 2). The Perimeter Embankment section modelled includes the Perimeter Embankment Till Borrow Pond excavation and is considered an upper bound for seepage rate and not representative of the full length of the embankment.

(d) Perimeter Embankment at Corner 1 length of 450 m was used to calculate total seepage in.

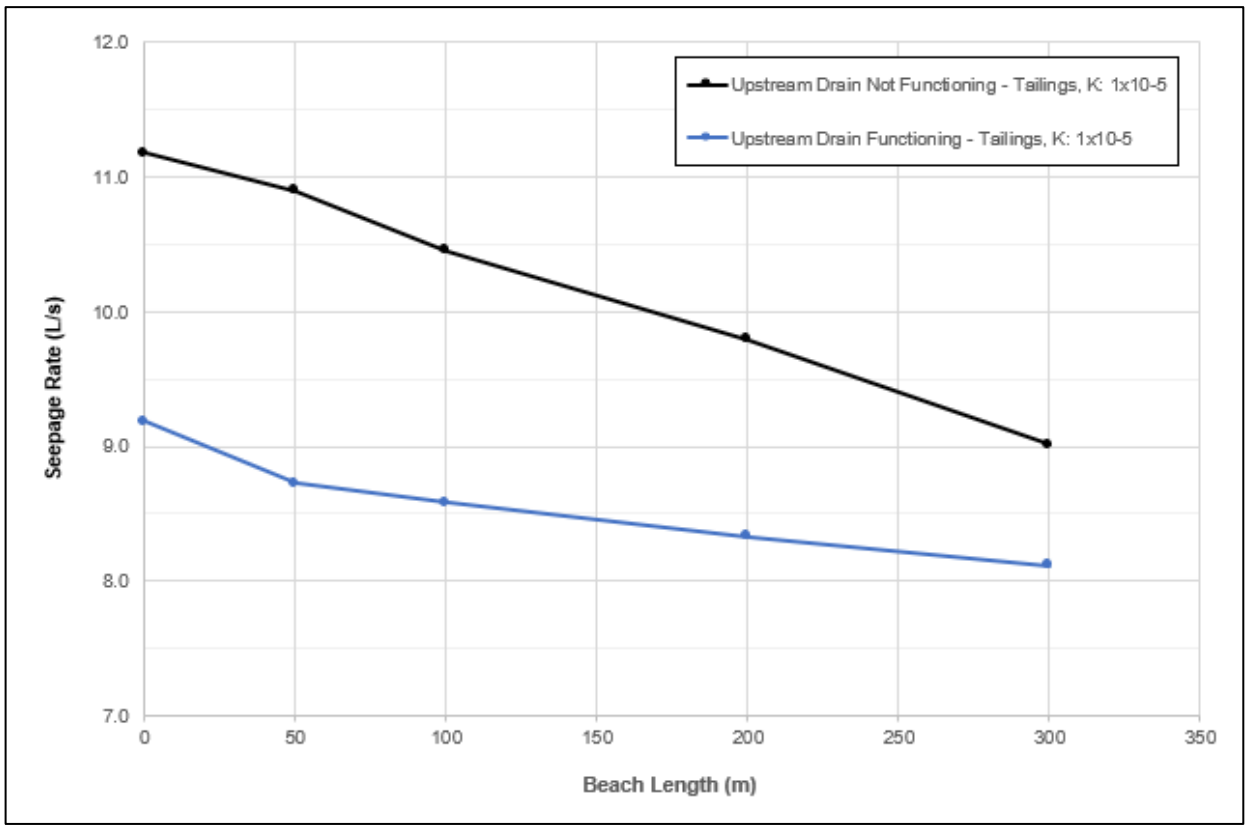


Figure 9: Main Embankment (Stn. 2+055) Total Seepage through the Embankment and Foundation

As expected, the seepage analyses carried out on typical sections of the embankment show that increases to the phreatic level upstream of the embankment are relatively small compared to the conditions prior to the raise above elevation 974 m; therefore, the seepage from the facility will not significantly increase and remains low, between about 8 and 11 L/s for the range of operating beach widths and upstream drain performance.

7.5 Stability Analysis

Two-dimensional limit equilibrium slope stability analyses were conducted using GeoStudio 2023.1.0. The objective of the stability analyses was to confirm that the FoS for short-term and long-term stability meet the design criteria.

7.5.1 Design Criteria for Slope Stability

The minimum FoS criteria are summarized in Table 12.

Table 12: Slope Stability Analysis Design Criteria

Criteria	Unit	Value	Source / Comment
Static (long term)	FoS	1.5	Informed by Table 10-5 of the HSRC (MCM 2024a) and Table 3-4 of CDA (2019).
Static (during or at end of construction)	FoS	1.5	Informed by Table 10-5 of the HSRC (MCM 2024a). FoS >1.3 recommended in Table 3-4 of CDA (2019).
Pseudo-static	FoS	1.0	Informed by Table 3-5 of CDA (2019) and Hynes-Griffin and Franklin (1984).

Table 12: Slope Stability Analysis Design Criteria

Criteria	Unit	Value	Source / Comment
Post-earthquake	FoS	1.2	Informed by Table 10-5 of the HSRC (MCM 2024a) and Table 3-5 of CDA (2019).
Design earthquake event	AEP	1:2,475	Informed by Table 10-4 of the HSRC (MCM 2024a). Other criteria specified for High consequence dams include: ▪ 1:2,475 AEP (Table 3-3, CDA 2019; Table 3, GISTM 2020) Consistent with WSP's best practice, an earthquake event of 1:10,000 AEP will be used to assess sensitivity of the pseudo-static analyses.
Design earthquake peak ground acceleration	g	0.048	For an earthquake event of 1:2,475 AEP and based on site-specific seismic hazard assessment (WSP 2025a). 0.116g for earthquake event of 1:10,000 AEP.
Seismic coefficient for limit equilibrium pseudo-static analysis	-	0.5	Hynes-Griffin and Franklin (1984). 20% strength reduction applied to GLU deposits as recommended by Hynes-Griffin and Franklin (1984) for clays.

FoS = factor of safety; HSRC = Health, Safety and Reclamation Code; AEP = annual exceedance probability; GISTM = Global Industry Standard for Tailings Management; GLU = glaciolacustrine unit.

7.5.2 Material Properties

7.5.2.1 Embankment Fill Materials

Strength parameters used in the stability analyses for embankment fill materials have been selected based on interpretation of the available field and laboratory test data and are consistent with strength parameters adopted for previous design analyses (WSP 2023a, 2024a).

Table 13: Embankment Material Properties for Stability Analysis

Material	Unit Weight (kN/m^3)	Shear Strength	Comment
Upstream fill	20	ϕ' = 32° c = 0 kPa	Estimated by Golder (2016b) based on Campaña (2011).
Till core	20.5	ϕ' = 33° c = 0 kPa	Based on triaxial testing of two recompacted samples of till (KP 1995a) and triaxial testing by KCB (2015a,b).
Filter and cut-off wall aggregate	20	ϕ' = 30° c = 0 kPa	Based on triaxial testing (Golder 2015e).
Transition	20	$T = 1.726\ \sigma'_n{}^{0.899}$	Based on Leps (1970) average rockfill (Golder 2016b).
Rockfill	21.5		
Tailings	17	Drained: ϕ' = 25° c = 0 kPa Undrained: $T/\sigma_v' = 0.1$	Estimated by WSP (2023a, 2024a). Undrained shear strength adopted for post-earthquake analysis. Assumes liquefied tailings.

T = shear strength; σ_v' = vertical effective stress; ϕ' = friction angle; σ'_n = effective normal stress; c = cohesion; kN/m^3 = kilonewton per cubic metre; kPa = kilopascal.

Post-earthquake analyses use an undrained strength ratio for the tailings, which is representative of a liquefied strength. The relatively small magnitude of ground acceleration anticipated during the design earthquake event is unlikely to trigger widespread liquefaction in the tailings. Results from stress-deformation modelling undertaken for the elevation 987 m TSF configuration indicate that a portion of the tailings below the water table, which is controlled by the upstream drains to be at about 970 m, could liquefy under the subduction interface earthquake (Appendix H). Thus, using a post-liquefied undrained strength for all tailings represents a worst-case scenario for post-earthquake tailings strength. The excess pore water pressure predicted in the upstream fill is less than 60% and is not expected to liquefy.

7.5.2.2 Foundation Soils

Strength parameters used to represent foundation soils in the stability analyses are presented in Table 14.

Foundation till and glaciofluvial materials vary in gradation depending on location, elevation, and depositional history; however, the results of laboratory testing show a relatively consistent high strength. The shear strength parameters selected for the foundation till and glaciofluvial layers represent an average for the materials. The strength parameters are consistent with previous design analyses, testing results, analyses of the Perimeter Embankment breach at Corner 1 carried out by the IEEIRP (2015), and the results of laboratory testing completed by KCB (2015b).

Glaciolacustrine soils were analyzed using total stress strength parameters (i.e., undrained strength parameters). The total stress approach uses the stress history and normalized soil engineering properties (SHANSEP) model that accounts for the stress history of the soil. The preconsolidation pressure selected for modelling the strength of the glaciolacustrine soil layers is based on data collected for the specific layer and soils in the immediate area. The data used includes the results of laboratory strength testing, CPT profiles, the soils response during in situ testing and sampling (e.g., unable to push a shear vane into the soil layer and bending of Shelby tubes during sampling), and correlation with index testing. Along the Perimeter and Main embankments, the preconsolidation pressures selected for the analyses were at or below the lower bound of values obtained from laboratory consolidation tests and estimated from CPT profiles. The parameters in the undrained shear strength ratio function used to characterize the glaciolacustrine materials was refined from Equation 1 to Equation 2 based on laboratory tests completed as part of the 2021/2022 site investigation:

$$\tau = 0.22\sigma'_v \, \mathrm{OCR}^{0.80} \quad (1)$$

$$\tau = 0.22\sigma'_v \, \mathrm{OCR}^{0.71} \quad (2)$$

where, τ = shear strength, σ'_v = vertical effective stress, and OCR = overconsolidation ratio.

A remoulded undrained shear strength continues to be adopted to characterize the UGLU that sheared at Corner 1 in 2014. The remoulded undrained shear strength was selected as the average minus one standard deviation of the measured values from vane shear tests and CPTs carried out as part of the forensic investigation in 2014. The embankment has since been repaired and constructed to elevation 970 m (approximately 40 m high) over the area where the UGLU had sheared. In 2023, a geotechnical investigation and laboratory testing program was undertaken to assess potential strength gains from reconsolidation of the UGLU due to loading from the reconstructed embankment (WSP 2025a). However, the in situ testing results did not provide conclusive evidence that the UGLU within the area that sheared had regained strength. No adjustments were made to the characterization of the UGLU based on the results of the investigation (i.e., a potential strength increase due to reconsolidation was not adopted for the UGLU within the area that sheared in 2014).

The sensitivity (strain-weakening) of the GLU was not incorporated into the limit equilibrium analyses. Stress-deformation analyses were completed to assess potential redistribution of stresses due to strain-weakening of the GLU. The results are presented in Section 7.7.

A layer of low plasticity silty clay, interpreted to have deposited in a glaciolacustrine environment, was identified directly above bedrock near Stn. 1+095 at the South Embankment. However, geotechnical testing completed on the material showed that it is not representative of the intermediate or high plasticity GLUs located at the Main and Perimeter embankments (including Corner 1). For the purposes of stability modelling, this layer was assigned the same shear strength and preconsolidation pressure (1,200 kPa) as the GLU at the Main Embankment.

B-bar values (i.e., change in pore pressure over the change in confining stress [Skempton 1954]) were assigned to the foundation till, glaciofluvial, and glaciolacustrine soils to account for excess pore pressures that may develop during construction (WSP 2025a). The B-bar values selected for each material are based on the maximum pore pressure response measured during construction from 2014 to 2024.

A detailed summary of available geotechnical data and characterization of the TSF foundation is presented in the TSF site characterization report (WSP 2025a). The TSF site characterization report will be updated with data from future site investigations and observations and information from construction and operation of the facility over the life of the TSF. Should the understanding and characterization of the foundation soils change over time, then required changes will be documented in future revisions of the TSF site characterization report and incorporated into this detailed design report.

Table 14: Foundation Material Parameters for Stability Analysis

Material	Unit Weight (kN/m^3)	Shear Strength	Pore Pressure Coefficient B-bar	Comment
Foundation till	22	$\phi' = 34°$ $c = 0$ kPa	0.20	Triaxial tests of till samples by IEEIRP (2015) and KCB (2015b).
Glaciofluvial	22	$\phi' = 34°$ $c = 0$ kPa	0.20	Triaxial tests of undisturbed glaciofluvial samples by Golder (2015d).
UGLU (Perimeter Embankment at Corner 1)	18	Peak: $T = 0.22\ \sigma_v' OCR^{0.71}$ where $\sigma_p' = 400$ kPa Remoulded: $S_{ur} = 22$ kPa	0.46	Field and laboratory test programs by IEEIRP (2015), KCB (2015a,b), and WSP (2024b) including vane shear tests, CPTs, direct simple shear, direct shear, and triaxial testing. CPT data did not provide conclusive evidence that the UGLU that sheared in 2014 regained strength after reloading it by construction of the embankment (WSP 2025a). Remoulded undrained shear strength was maintained as the average minus one standard deviation of the measured undrained shear strength values.
LGLU (Perimeter Embankment at Corner 1)	20	$T = 0.22\ \sigma_v' OCR^{0.71}$ where $\sigma_p' = 700$ kPa	0.20	Field and laboratory test programs by IEEIRP (2015), KCB (2015a,b), and Golder (2017b, 2019b) including vane shear tests, CPTs, direct simple shear, direct shear, and triaxial testing.
GLU (Perimeter Embankment)	20	$T = 0.22\ \sigma_v' OCR^{0.71}$ where $\sigma_p' = 900$ kPa	0.20	Consolidation testing by Golder (2015d) and WSP (2023b) on samples collected from boreholes GA15-06, GA21-03, and GA21-11 at the Perimeter Embankment. Test results indicate a range of preconsolidation pressure from 900 kPa to 3,600 kPa (excluding the samples assessed to be of very poor quality).

Table 14: Foundation Material Parameters for Stability Analysis

Material	Unit Weight (kN/m^3)	Shear Strength	Pore Pressure Coefficient B-bar	Comment
GLU (Main Embankment)	20	$T = 0.22\ \sigma_v'\ OCR^{0.71}$ where $\sigma_p' = 1{,}200$ kPa	0.20	Field and laboratory test programs by KP (2007), AMEC (2012), Golder (2015d), and WSP (2023b) including vane shear tests, CPTs, direct simple shear, direct shear, and triaxial testing. Consolidation tests indicate a range of preconsolidation pressure from 2,500 kPa to 4,000 kPa (excluding the samples assessed to be of very poor quality) and CPT data indicate a minimum preconsolidation pressure of about 1,200 kPa.
		$T = 0.22\ \sigma_v'\ OCR^{0.71}$ where $\sigma_p' = 850$ kPa		GLU at approximately elevation 922 m (Stn. 2+455 and Stn. 2+695). Field and laboratory test programs by AMEC (2012), Golder (2015d), and WSP (2023b). CPT21-07 data indicate a minimum preconsolidation pressure of about 850 kPa.
Low plasticity silty clay (South Embankment)	20	$T = 0.22\ \sigma_v'\ OCR^{0.71}$ where $\sigma_p' = 1{,}200$ kPa	0.20	Low plasticity silty clay at Stn. 1+095. Index laboratory testing by Golder (2017b).

Source: WSP 2025a.

T = shear strength; σ_v' = vertical effective stress; ϕ' = peak friction angle; OCR = overconsolidation ratio; σ_p' = preconsolidation pressure; c = cohesion; UGLU = upper glaciolacustrine unit; GLU = glaciolacustrine unit; LGLU = lower glaciolacustrine unit; CPT = cone penetration test; S_{ur} = remoulded undrained shear strength; kN/m^3 = kilonewton per cubic metre; kPa = kilopascal.

7.5.3 Liquefaction Potential of Foundation Soils

The foundation till and glaciofluvial materials vary in gradation, with the majority being a mixture of gravel, sand, and low plasticity fines. A portion of the glaciofluvial materials have a larger component of sand (up to 85%) with some fines. While localized zones of glaciofluvial units could be susceptible to seismic induced strength loss, these materials are typically non-continuous laterally and in a dense state and are not considered to be susceptible to liquefaction or cyclic softening.

7.5.4 Method and Scenarios Assessed

Twenty sections, identified to represent the variability of the foundation and embankment conditions over the length of the TSF embankment, were chosen for stability analyses (Figure 10). Nineteen of these sections were used for previous stability modelling for the elevation 970 m embankment downstream reslope (WSP 2023a) and the elevation 974 m TSF detailed design (WSP 2024a). One additional section has been added for this detailed design at Stn. 2+950.

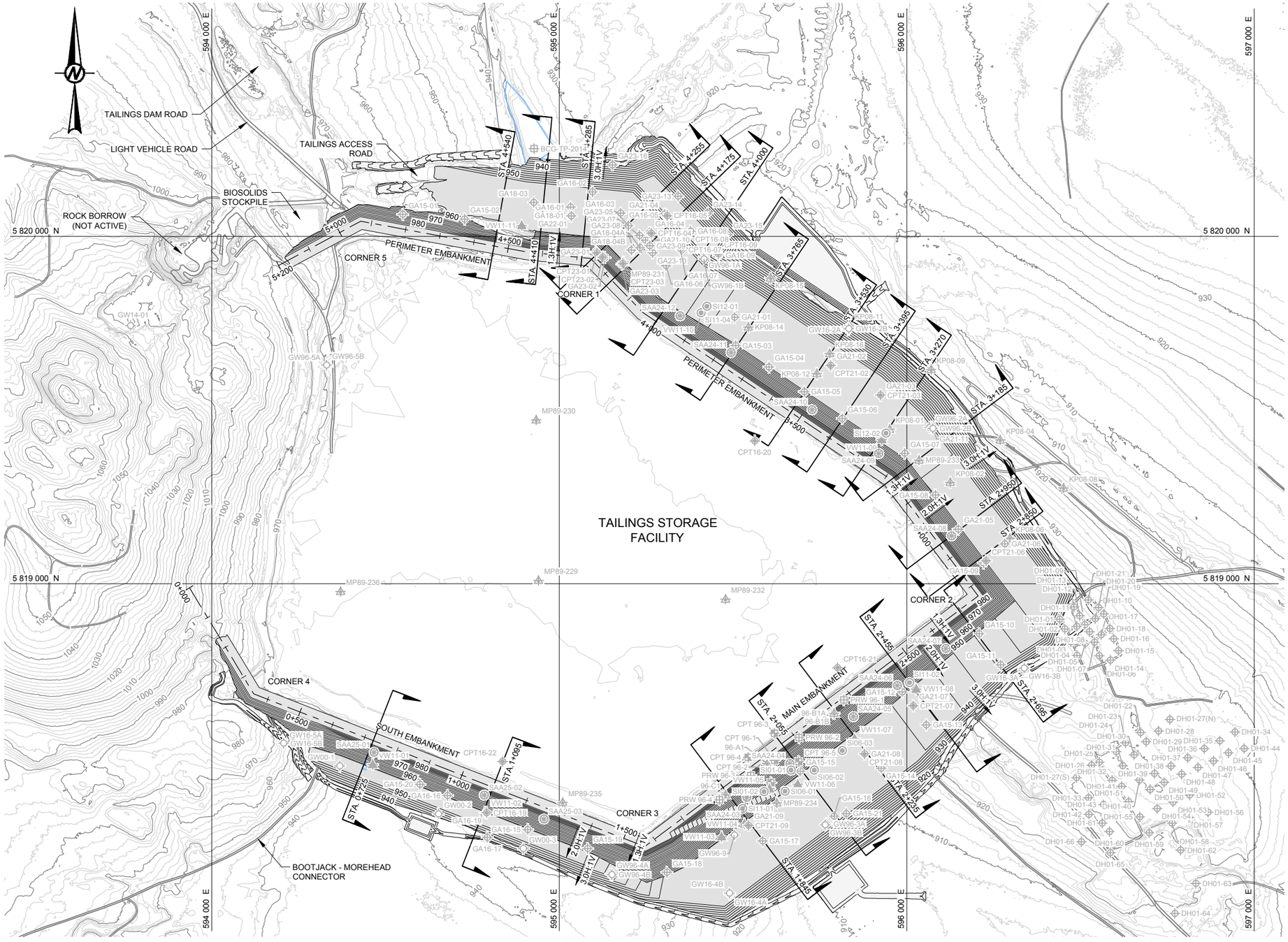
All sections were modelled for an embankment with an ultimate crest elevation of 987 m. All sections were analyzed for both normal operating conditions (i.e., minimum 100 m beach width and upstream drains functioning) and upset conditions (i.e., 0 m beach width and upstream drains not functioning). Iterative analyses were conducted to design a buttress that would meet the minimum FoS criteria presented in Table 12.

The following design scenarios were analyzed:

- static (end of construction)
  - In this case, the foundation soils are partially consolidated due to the applied load of the material used for raising the embankment and buttress extension. B-bar values were assigned to the foundation till, glaciofluvial, and GLUs to account for the excess pore water pressures that may develop during construction. The B-bar values used are based on measured pore pressure responses during construction from 2014 to 2024.
  - This case was analyzed in two construction stages.
    - Stage 1: Embankment crest raised to elevation 980 m and buttress extension constructed to the full design configuration. Maximum tailings elevation of 973 m.
    - Stage 2: Embankment crest raised to elevation 987 m with a maximum tailings elevation of 979 m.
- static (long term)
  - In this case, any excess pore water pressures developed during construction are considered to have dissipated and no B-bar values were assigned in the model.
  - Tailings were modelled to an elevation of 986 m.
- pseudo-static
  - A peak ground acceleration of 0.048g (corresponding to a 1:2,475 AEP) was used for pseudo-static analyses. A seismic coefficient of 0.5 was selected for the pseudo-static analyses as recommended by Hynes-Griffin and Franklin (1984).

- A 20% strength reduction factor was applied to GLUs as recommended by Hynes-Griffin and Franklin (1984) for clays to account for strength loss during cyclic loading.
- Tailings were modelled to an elevation of 986 m.

- post-earthquake
  - In this case, an undrained strength was used for the tailings, which represents a liquefied strength.
  - A 20% strength reduction factor was applied to GLUs to account for strength loss during cyclic loading.
  - Tailings were modelled to an elevation of 986 m.



LEGEND

- TAILINGS STORAGE FACILITY (TSF) EMBANKMENT CENTRELINE (4+400)
- GROUND CONTOURS (SEE REFERENCE 1)
- TSF EL. 987 m EMBANKMENT RAISE AND BUTTRESS DESIGN CONTOURS
- TSF EL. 987 m WATER MANAGEMENT DESIGN CONTOURS (SEE NOTE 6)
- SITE ACCESS ROADS (SEE REFERENCE 2)
- SAA25-03 — SONIC DRILLING, SAA AND PIEZOMETER INSTALLATION PERIMETER, MAIN, AND SOUTH EMBANKMENT (WSP, 2025)
- GA23-16 — SONIC DRILLING, SI AND PIEZOMETER INSTALLATION PERIMETER EMBANKMENT AT CORNER 1 (WSP, 2023)
- CPT23-03 — CPT - PERIMETER EMBANKMENT AT CORNER 1 (WSP, 2023)
- GA22-01 — SONIC DRILLING, PIEZOMETER INSTALLATION - CORNER 1 EMBANKMENT (WSP GOLDER, 2022)
- GA21-10 — SONIC DRILLING, SI AND PIEZOMETER INSTALLATION - CORNER 1, PERIMETER AND MAIN EMBANKMENT (GOLDER, 2021)
- CPT21-09 — CPT - PERIMETER AND MAIN EMBANKMENT (GOLDER, 2021)
- GA18-01 — SONIC DRILLING, SI AND PIEZOMETER INSTALLATION - CORNER 1 (GOLDER, 2018)
- GA16-01 — SONIC DRILLING, SI AND PIEZOMETER INSTALLATION - CORNER 1 AND SOUTH EMBANKMENT (GOLDER, 2016)
- CPT16-04 — CPT - TAILINGS, CORNER 1 AND SOUTH EMBANKMENT (GOLDER, 2016)
- GW16-2A — SONIC DRILLING, MONITORING WELL INSTALLATION (GOLDER, 2016)
- GA15-01 — SONIC DRILLING, SI AND PIEZOMETER INSTALLATION (GOLDER, 2015)
- BGC-TP-2014 — TEST PIT (BGC / GOLDER, 2014)
- SI12-01 — ODEX, SI INSTALLATION - PERIMETER EMBANKMENT (AMEC, 2012)
- VW11-01 — SONIC DRILLING, PIEZOMETER INSTALLATION (AMEC, 2011)
- SI11-01 — SONIC DRILLING, SI INSTALLATION (AMEC, 2011)
- KP08-01 — SONIC DRILLING, SPT, BORROW PROGRAM (KP, 2008)
- SI06-01 — ODEX, SPT, SI INSTALLATION - MAIN EMBANKMENT (KP, 2006)
- SI01-01 — ODEX, SPT - MAIN EMBANKMENT (KP, 2001)
- DH01-01 — DRILLING, BORROW PROGRAM (KP, 2001)
- GW00-01 — ODEX, SPT, MONITORING WELL INSTALLATION - SOUTH EMBANKMENT (KP, 2000)
- CPT 96-1 — CPT - MAIN EMBANKMENT (KP / CONETEC, 1996)
- 96-A1 — SOLID/HOLLOW STEM AUGER, SPT, PIEZOMETER INSTALLATION - MAIN EMBANKMENT (KP / R.E. GRAHAM ENG., 1996)
- PRW96-01 — SOLID STEM AUGER, PRESSURE RELIEF WELL - MAIN EMBANKMENT (KP, 1996)
- GW96-1 — AIR ROTARY, SPT, MONITORING WELL INSTALLATION (KP, 1996)
- MP89-230 — CONDEMNATION BOREHOLES, PIEZOMETER INSTALLATION (KP, 1989)
- 2+055 — STABILITY MODEL CROSS-SECTION LOCATION

0 200 400
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NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. COORDINATES AND ELEVATIONS ARE SHOWN IN TAILINGS GRID.
3. CONTOUR INTERVAL SHOWN AT 10 m MAJOR AND 2 m MINOR.
4. THE FORENSIC INVESTIGATION BOREHOLES NEAR CORNER 1 (FROM 2014) ARE NOT SHOWN ON THE FIGURE FOR CLARITY.
5. TEST PIT INVESTIGATIONS ARE NOT SHOWN ON THE FIGURE FOR CLARITY.
6. THE TSF EL. 987 m DOWNSTREAM WATER MANAGEMENT INFRASTRUCTURE HAS BEEN INCLUDED FOR REFERENCE ONLY. FOR FURTHER DETAILS, REFER TO DOCUMENT CA0047730.8440-007-TM-REV0-31153.

REFERENCES

1. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC, SURVEYED: 30 OCTOBER 2023; RECEIVED: 01 FEBRUARY 2024; FILE NAME: 231030-TSF Lidar Contor 0.1.dxf".
2. SITE FEATURES PROVIDED BY MPMC, RECEIVED: 5 SEPTEMBER 2014; FILE NAME: "MtPolley2013-Pln.dwg".

CLIENT
MOUNT POLLEY MINING CORPORATION

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APPROVED	G. PIZARRO-SALA

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
STABILITY MODEL CROSS-SECTION LOCATIONS

PROJECT NO.	PHASE/TASK/DOC.	REV.	FIGURE
CA0047730.8440	51200/51293/004	0	10

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7.5.5 South Embankment Stability Analysis Results

Two sections were used in previous stability analyses to represent the foundation conditions and geometry at the South Embankment (WSP 2023a, 2024a). The foundation characterization remains as per the detailed design to elevation 974 m (WSP 2024a). No GLU has been identified in the foundation along the South Embankment.

The slope stability analyses showed that a buttress is required at the South Embankment to meet the minimum FoS criteria described in Section 7.5.1. The buttress design was controlled by the stability requirements of the section at Stn. 1+095 where the layer of low plasticity silty clay is present. To maintain a consistent buttress geometry along the South Embankment for construction and operations, the controlling buttress geometry was extended from about Stn. 0+550 to Corner 3, resulting in FoS values that largely exceed the minimum design criteria.

The stability analysis results are summarized in Table 15 and shown in Figures G-3 to G-10 in Appendix G.

Table 15: Stability Analysis Results – South Embankment

Section	Static[(a)] (end of construction)		Static (long term)		Pseudo-static		Post-earthquake	
	Stage 1	Stage 2	Upset Conditions	Normal Operating Conditions	Upset Conditions	Normal Operating Conditions	Upset Conditions	Normal Operating Conditions
0+725	2.4	2.2	2.1	2.2	1.9	2.0	2.1	2.2
1+095	1.9	1.6	1.5	1.7	1.2	1.3	1.2	1.3

(a) Upset conditions (0 m sub-aerial beach) were modelled for both Stage 1 and Stage 2 construction scenarios.

7.5.6 Main Embankment Stability Analysis Results

Five sections, identified to represent the variability of the foundation and embankment conditions along the Main Embankment, were previously chosen for stability analysis (WSP 2023a, 2024a). The foundation characterization remains as per the detailed design to elevation 974 m (WSP 2024a).

The stability analysis results are summarized in Table 16 and shown in Figures G-11 to G-35 in Appendix G.

Table 16: Stability Analysis Results – Main Embankment

Section	Static[(a)] (end of construction)		Static (long term)		Pseudo-static		Post-earthquake	
	Stage 1	Stage 2	Upset Conditions	Normal Operating Conditions	Upset Conditions	Normal Operating Conditions	Upset Conditions	Normal Operating Conditions
1+845	1.9	1.7	1.6	1.7	1.2	1.3	1.3	1.3
2+055	1.8	1.7	1.6	1.7	1.2	1.3	1.3	1.3
2+235	1.8	1.6	1.6	1.7	1.1	1.2	1.2	1.2
2+455	1.7	1.6	1.6	1.6	1.2	1.2	1.2	1.2
2+695	2.4	2.2	2.1	2.2	1.8	1.9	2.0	2.1

(a) Upset conditions (0 m sub-aerial beach) were modelled for both Stage 1 and Stage 2 construction scenarios.

The slope stability analyses required raising and extending the buttress along the Main Embankment to meet the minimum FoS criteria described in Section 7.5.1. The FoS results presented are for the design buttress. The buttress design was controlled by the stability requirements of sections at Stn. 1+845 through Stn. 2+455. To maintain a consistent buttress geometry along the Main Embankment for construction and operations, the buttress geometry was extended from Stn. 2+455 to Corner 2, resulting in FoS values that largely exceed the minimum design criteria.

The sensitivity (strain-weakening) of the GLU was not incorporated into the limit equilibrium analyses; however, as discussed in Section 7.7, the stress-deformation model shows that strain-weakening of GLU is not predicted to occur at the Main Embankment.

In addition to the analyzed scenarios presented in Table 16, the following sensitivity analyses were performed on sections of the Main Embankment:

- The undrained shear strength of the GLU layer located at approximately elevation 922 m between about Stn. 2+455 and Stn. 2+695 was characterized with a preconsolidation pressure of 850 kPa based on CPT data. Sensitivity analyses were carried out for the section at Stn. 2+455, reducing the preconsolidation pressure to 700 kPa and 400 kPa. A preconsolidation pressure of 700 kPa is representative of the LGLU at Corner 1 and 400 kPa is representative of the UGLU at Corner 1.
  - The static (long-term) FoS reduced from 1.6 to 1.4 with a preconsolidation pressure of 700 kPa.
  - The static (long-term) FoS reduced from 1.6 to 1.2 with a preconsolidation pressure of 400 kPa. The sensitivity analysis shows the section remained stable (FoS >1.0) even with the lowest preconsolidation stress identified in the TSF area (400 kPa).
- Artesian conditions were applied to the confined glaciofluvial layers at Stn. 2+055 (5 m artesian pressure elevation), Stn. 2+235 (8 m artesian pressure elevation), and Stn. 2+455 (11 m artesian pressure elevation) to represent a scenario where the existing vertical drain wells fail and artesian pressures generate in the foundation. The static (long-term) FoS slightly decreased but remained at 1.6 for all three sections.
- A peak ground acceleration of 0.116g, corresponding to an earthquake event of 1:10,000 AEP, was applied for the normal operating conditions pseudo-static scenario (100 m beach and upstream drain functioning) at Stn. 2+235. The FoS reduced from 1.2 to 1.0 and still met the minimum design criteria with a significantly larger seismic load.

7.5.7 Perimeter Embankment Stability Analysis Results

Twelve sections, identified to represent the variability of the foundation and embankment conditions along the Perimeter Embankment, including Corner 1 (approximately Stn. 3+920 to Stn. 4+650), were previously chosen for stability analysis (WSP 2023a, 2024a). One additional section was included for the Perimeter Embankment at Stn. 2+950. This section was not reported in previous stability analyses since it did not govern the buttress design near Corner 2.

In 2023, a geotechnical investigation and laboratory testing program was undertaken to assess the continuity of the UGLU downstream of the embankment and under the buttress, and potential strength gains from reconsolidation of the UGLU due to loading from the reconstructed embankment (WSP 2025a). No adjustments were made to the strength characterization of the UGLU based on the results of the investigation (i.e., in situ testing results did not provide conclusive evidence that the UGLU within the area that sheared had regained strength). Similarly, no adjustments were made to the continuity of the UGLU, although the investigation showed spatial variability (i.e., UGLU was present and absent in boreholes drilled within relatively short distances).

In 2024, boreholes were drilled to install shape acceleration arrays (SAAs) near the downstream toe of the starter dams for the South, Main, and Perimeter embankments. The stratigraphy of the foundation at Stn. 3+765 and Stn. 4+000 was updated based on logging of the core and laboratory testing completed as part of the drilling program.

The sections and details of the foundation stratigraphy adjustments are as follows:

- Stn. 2+950: An approximate 1 m thick layer of GLU was modelled dipping from elevation 936.5 m to 929.5 m towards the downstream of the embankment based on boreholes GA21-05 and KP08-06. A separate 1 m thick layer of GLU was modelled at elevation 910 m based on borehole GA21-05.
- Stn. 3+765: The shallower layer of GLU located downstream of the embankment was extended across the section from about elevation 918 m to 920 m based on borehole SAA24-11. The approximate 1 m thick layer of GLU below the buttress was extended across the section and increased to about 4 m thick near elevation 910 m below the embankment based on borehole SAA24-11.
- Stn. 4+000: An approximate 4 m thick layer of LGLU was incorporated below the embankment and buttress from elevation 910.4 m to 914.5 m based on borehole SAA24-12. This layer was not observed in borehole GA16-09.

The stability analysis results are summarized in Table 17 and shown in Figures G-36 to G-91 in Appendix G.

Table 17: Stability Analysis Results – Perimeter Embankment

Section	Static[(a)] (end of construction)		Static (long term)		Pseudo-static		Post-earthquake	
	Stage 1	Stage 2	Upset Conditions	Normal Operating Conditions	Upset Conditions	Normal Operating Conditions	Upset Conditions	Normal Operating Conditions
Perimeter Embankment								
2+850	2.1	1.8	1.8	1.9	1.4	1.6	1.6	1.7
2+950	1.9	1.6	1.5	1.7	1.3	1.4	1.3	1.3
3+185	2.2	2.1	2.0	2.1	1.6	1.7	1.9	1.9
3+270	1.8	1.6	1.5	1.7	1.1	1.2	1.2	1.3
3+395	1.7	1.5	1.5	1.6	1.1	1.2	1.2	1.2
3+530	1.7	1.5	1.5	1.6	1.1	1.2	1.2	1.3
3+765	1.8	1.6	1.6	1.7	1.1	1.2	1.2	1.3
Perimeter Embankment at Corner 1								
4+000	2.5	2.3	2.0	2.3	1.5	1.6	1.6	1.7
4+175	1.8	1.6	1.5	1.7	1.1	1.2	1.3	1.3
4+255	2.3	1.9	1.7	1.9	1.3	1.4	1.4	1.6
4+285	2.0	1.7	1.6	1.9	1.2	1.3	1.4	1.4
4+410	1.9	1.6	1.5	1.7	1.1	1.3	1.3	1.3
4+540	1.9	1.6	1.5	1.7	1.1	1.2	1.2	1.3

(a) Upset conditions (0 m sub-aerial beach) were modelled for both Stage 1 and Stage 2 construction scenarios.

The slope stability analyses required raising and extending the buttress along the Perimeter Embankment to meet the minimum FoS criteria described in Section 7.5.1. The FoS results presented in Table 17 are for the design buttress.

In addition to the analyzed scenarios presented in Table 17, the following sensitivity analyses were performed on sections of the Perimeter Embankment:

- Additional analyses were carried out to determine the sensitivity of the FoS to the undrained shear strength of the GLU along the Perimeter Embankment. Sensitivity analyses were undertaken for the long-term design scenario with upset conditions (0 m beach and upstream drain not functioning) for sections at Stn. 2+950 and Stn. 3+395. Lower preconsolidation pressures only identified at Corner 1 were assessed (i.e., 400 kPa and 700 kPa). For both sections:
  - The static (long-term) FoS reduced from 1.5 to 1.4 with a preconsolidation pressure of 700 kPa.
  - The static (long-term) FoS reduced from 1.5 to 1.3 with a preconsolidation pressure of 400 kPa. The sensitivity analyses show the sections remained stable (FoS >1.0) even with the lowest preconsolidation stress identified in the TSF area (400 kPa).
- A peak ground acceleration of 0.116g, corresponding to an earthquake event of 1:10,000 AEP, was applied for the normal operating conditions pseudo-static scenario (100 m beach and upstream drain functioning) at Stn. 3+395 and Stn. 4+175. The FoS reduced from 1.2 to 1.0 for both sections and still met the minimum design criteria with a significantly larger seismic load.

7.6 Static Deformations

Vertical deformations resulting from consolidation and settlement of embankment fill materials under static conditions were monitored with a survey monument during construction of the Perimeter Embankment at Corner 1 raise from elevation 966 m to 970 m (from 2017 to 2023). The recorded settlement at the crest of the rockfill shell was approximately 10 cm over a five-year period. Future raises are anticipated to be consistent with previous annual raise rates (i.e., 2 to 3 m per year), and it is anticipated that settlements will remain low within the previously recorded range. A freeboard allowance (Section 7.8) has been included to account for settlement of the crest. It is also noted that any settlements are corrected as part of annual embankment raises.

Horizontal deformations are anticipated to be minor and distributed along the embankment crest broadly proportionally to the height of the embankment (i.e., would not occur as horizontal shear at a single location). Anticipated deformations would not compromise the integrity of the 5 m wide till core or continuity of the 1.5 m wide filter and transition zones.

7.7 Stress-Deformation Analysis

A stress-deformation analysis was carried out on sections at Stn. 2+055 of the Main Embankment and Stn. 4+175 of the Perimeter Embankment at Corner 1 using the commercially available computer code FLAC Version 8.1 (Itasca 2019). The section at the Main Embankment represents the tallest section of the facility and includes a semi-continuous layer of GLU present along the length of the Main Embankment foundation. The section at the Perimeter Embankment at Corner 1 includes the portion of the foundation that sheared in 2014 and has GLU with the lowest preconsolidation stress along the TSF embankment. These sections generally correspond to those controlling the design of the buttress at each embankment based on limit equilibrium analyses.

The analyses were performed to assess the stability and potential deformation of the embankments up to elevation 987 m (static analysis) and under the 2,475-year earthquake load (seismic analysis), including the potential for strain-weakening of the GLUs. Eleven two-horizontal-component earthquake acceleration time histories were used as input ground motions in the seismic analysis.

The analysis procedure, characterization of the foundation and embankment materials for modelling purposes, and the static and seismic deformation analyses results are included in Appendix H. A summary of the findings is presented in the following subsections.

7.7.1 Static Analysis Results

Sections at Stn. 2+055 of the Main Embankment and Stn. 4+175 of the Perimeter Embankment at Corner 1 are predicted to be stable at the end of construction up to elevation 987 m under the analyzed conditions. The FoS computed at the end of construction is 1.8 for Stn. 2+055 and 1.7 for Stn. 4+175, which is consistent with limit equilibrium modelling undertaken for these sections as the buttress configuration was determined to limit the development of strain-weakening in the GLUs.

At Stn. 2+055 of the Main Embankment, strain-weakening is not predicted to be initiated in the GLU during construction up to elevation 987 m.

At Stn. 4+175 of the Perimeter Embankment at Corner 1, a shear band about 3 m long with a maximum plastic shear strain of about 16% is predicted to develop below the downstream slope. The predicted degree of strain-weakening is relatively low (about 13% strength reduction in a 3 m long shear band) and does not have a significant impact on the stability of the elevation 987 m embankment.

7.7.2 Seismic Analysis Results

Sections at Stn. 2+055 of the Main Embankment and Stn. 4+175 of the Perimeter Embankment at Corner 1 are predicted to be stable under the action of the 2,475-year earthquake ground motion.

The displacement time histories show that the movement of both sections stop at the end of earthquake shaking, indicating that the embankment in both sections is stable at the end of the earthquake design ground motions.

The maximum permanent horizontal and vertical displacement in the downstream direction is less than 6 cm in the embankment and buttress of both analyzed sections. The till core is 5 m wide; therefore, the serviceability of the embankment is not expected to be affected by this level of displacement. Section 7.7.4 discusses potential deformation of the upstream drains.

Strain-weakening is not predicted to be initiated in the GLU at Stn. 2+055 of the Main Embankment under the action of the 2,475-year earthquake ground motion.

At Stn. 4+175 of the Perimeter Embankment at Corner 1, a relatively low level of strain-weakening (less than 1% strength reduction during seismic loading) is predicted in the UGLU under the downstream slope during the 2,475-year earthquake ground motion. This degree of weakening is not expected to have a significant impact on the seismic stability of the embankment.

7.7.3 Post-Seismic Analysis Results

Sections at Stn. 2+055 of the Main Embankment and Stn. 4+175 of the Perimeter Embankment at Corner 1 are predicted to be stable under post-seismic conditions. The computed FoS is 1.6 for both analyzed sections.

The computed FoS from the limit equilibrium analysis is 1.3 at both Stn. 2+055 and Stn. 4+175, which meet the design criteria. The post-seismic limit equilibrium analysis assumes a 20% strength reduction on the GLU and liquefaction of all tailings upstream of the embankment, which is conservative because cyclic direct simple shear tests undertaken on GLU from the Main Embankment and Perimeter Embankment at Corner 1 show relatively low potential for cyclic softening under the 2,475-year earthquake load (Appendix H).

7.7.4 Upstream Drain Settlement

A series of upstream drains were designed as part of the elevation 974 m TSF raise to collect water from the tailings upstream of the embankment and discharge it into the downstream water management infrastructure. The upstream drainpipes were designed at a variable elevation between about 970 m and 974 m, and they extend through the upstream fill, till core, filter, and transition zones of the embankment with a design slope of 1% to 2% from the tailings (WSP 2024a).

A stress-deformation analysis was completed to evaluate the potential effects of differential settlements on the drainpipes during operation to elevation 987 m and under seismic loading. Sections at Stn. 2+055 of the Main Embankment and Stn. 4+175 of the Perimeter Embankment at Corner 1 were analyzed using FLAC Version 8.1. Details of material characterization and model properties are included in Appendix H.

Figure 11 shows the cumulative settlement predicted during the simulation of the tailings deposition and staged construction of the analyzed section at the Main Embankment from elevation 970 m to 987 m. The results show differential settlements are predicted between the tailings, upstream fill, and till core. For the tallest part of the TSF at the Main Embankment, the maximum predicted settlement occurs in the tailings and is about 32 cm.

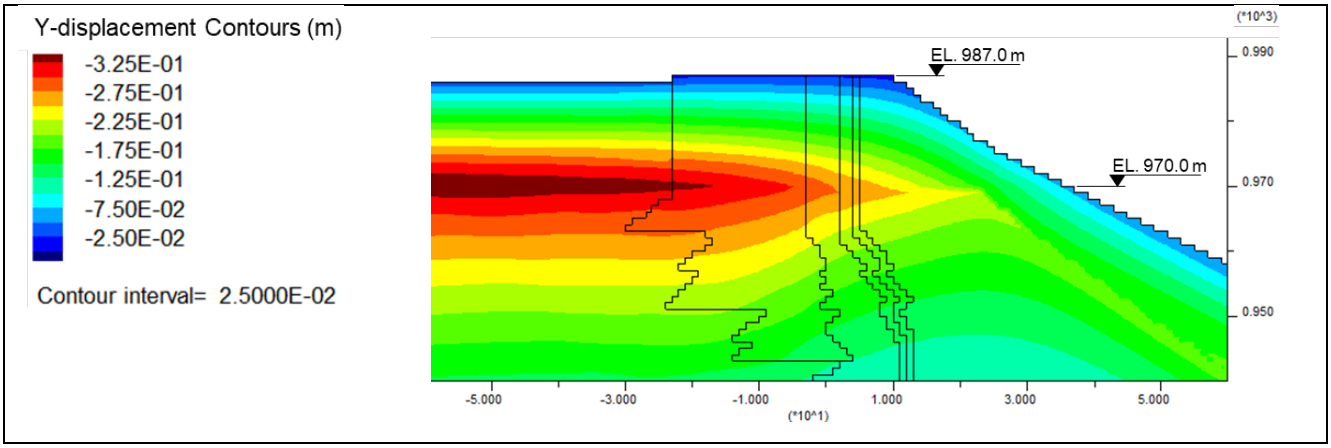


Figure 11: Cumulative Vertical Displacements Predicted during Construction and Tailings Deposition from Elevation 970 m to 987 m at Stn. 2+055 of the Main Embankment

Potential deformation of the upstream drainpipe at the end of construction and deposition of tailings, up to elevation 987 m, was estimated assuming a 1% design slope and subtracting the predicted settlements at elevation 970 m. The resultant slope of the pipe accounting for settlement is about 0.8% and there are no significant deflections along the pipe due to differential settlement. Generally, for non-pressured thermoplastic pipes, a 7.5% deflection limit provides a large safety factor against potential deformation and damage of the pipe but can remain geometrically stable to deflections of 25% to 30% (AWWA 2020). The calculated pipe settlement is not expected to affect the serviceability of the upstream drains during construction and deposition of tailings from elevation 970 m to 987 m.

Minimum grades for the approximately 200 m long upstream drain collection pipes constructed within the upstream drain were calculated by assuming potential differential settlement equal to the total predicted settlements. The maximum predicted settlement in the tailings under the upstream drain is 32 cm at the Main Embankment. Over a 200 m length of drainpipe, this equates to a differential settlement of about 0.2%, which is less than the minimum 0.5% to 1.0% grade of the collection pipe.

Results from stress-deformation modelling undertaken for the elevation 974 m TSF show that liquefaction and settlement of the upstream fill (up to 0.5 m) could occur below the drain elevation at 970 m during the subduction interface motion (WSP 2024a). As the TSF is raised above elevation 974 m, the tailings and upstream fill at depth are no longer predicted to liquefy as shown in the results of the stress-deformation modelling undertaken for the elevation 987 m TSF configuration (Appendix H). Displacements associated with deformation of the upstream fill could potentially affect the serviceability of the drain during the initial years of the raise above elevation 974 m, when the crest elevation is closer to the drains at elevation 970 m. As construction and operation of the TSF approaches the elevation 987 m TSF configuration, displacements associated with deformation of the tailings and upstream fill are not expected to affect the serviceability of the drain.

7.8 Water Management Infrastructure

7.8.1 Tailings Storage Facility Freeboard

The inflows that directly contribute to the TSF are from precipitation on the footprint of the TSF and runoff from the catchment directly upstream of the TSF. The major contribution to TSF supernatant volume is pumped from the site contact water facilities including the central collection sump. During freshet and high flow events, surplus water from water management structures will be temporarily detained, primarily in Wight Pit and secondarily in the TSF. However, a fundamental basis of the water management plan is to not accumulate water year over year on-site, including the TSF, by treating and discharging water.

A freeboard is required to prevent overtopping of the TSF embankment. The freeboard calculations follow the procedures and equations discussed in the CDA (2013, 2019) guidelines. Wind speeds, pond depth, and embankment slope geometry were considered to determine the greatest wave uprush value for the normal and minimum freeboard scenarios. The minimum freeboard for the TSF is 0.7 m, which accounts for the wave run-up and setup, as well as a freeboard contingency. The minimum freeboard controls the freeboard requirement. Freeboard calculations are provided in the TSF Raise to Elevation 987 m Design Freeboard and Water Level Analysis memorandum included in Appendix I.

The TSF is a non-release facility with no emergency spillway, designed to retain the inflow design flood (IDF) entirely within its storage capacity. The critical duration of the IDF was evaluated using the IDF volumes for durations up to 30 days. The critical duration probable maximum flood event was estimated using a TSF pump out rate capacity of 100,000 m^3/d (provided by MPMC). The runoff volumes during IDF events were estimated using the total catchment area of 3 km^2 and a runoff coefficient of 0.93 (Appendix I). The required TSF storage was calculated as the difference between inflow and outflow. Based on this analysis, the controlling event for the TSF design was identified as a 10-day duration, which governs the maximum storage volume required in the TSF. The maximum storage required for a critical duration 10-day spring probable maximum flood is 1.62 Mm^3 if extraction starts on day 4 at a daily rate of 100,000 m^3/d.

7.8.2 Tailings Storage Facility Seepage Collection Channels and Ponds

The design report for the TSF diversion channel, collection channels, and ponds is provided in a separate document (WSP 2025b).

The existing and some of the elevation 974 m TSF temporary seepage collection channels and ponds will be covered because of the buttress extensions of the elevation 987 m TSF design. The following modifications to existing water management infrastructure around the TSF will be required:

- relocation of the Perimeter Embankment Till Borrow Pond downstream of its current location
- relocation of seepage collection channels that direct contact water to the Main Embankment Seepage Collection Pond, Perimeter Embankment Till Borrow Pond, and central collection sump

The South Embankment Seepage Collection Pond and the Main Embankment Seepage Collection Pond designed for the elevation 974 m TSF design will remain in place for the elevation 987 m TSF design. The seepage collection channels that direct contact water to the South Embankment Seepage Collection Pond designed for the elevation 974 m TSF design will also remain in place for the elevation 987 m TSF design.

The inflow to the ponds includes seepage and runoff that will be collected by the collection channels, flow from the upstream drains, and direct precipitation to the ponds. The ponds are designed to store the inflow generated from the 1:10-year 24-hour rain plus snowmelt event as well as seepage and upstream drain flow plus any pumped flow to and from other ponds while allowing a depth of 0.5 m at the bottom to account for deposition of sediments (dead volume). The pond spillways are designed to maintain a 0.5 m freeboard between the crest of the pond and the maximum water level during the design flow of a 1:200-year 24-hour rain plus snowmelt event.

The collection channels are proposed to convey the peak flow generated from the 1:200-year 24-hour storm event plus seepage and upstream drain flow rates. The channels include a minimum 0.3 m freeboard.

The diversion channel upstream of Corner 4 is designed to convey the peak flow generated from the 1:200-year 24-hour storm event, while maintaining a minimum 0.3 m freeboard.

7.9 Tailings Storage Facility Closure and Reclamation

The closure philosophy will be consistent with the most recent Mine Reclamation and Closure Plan (MPMC 2022). The TSF will remain a permanent structure, which will be reclaimed and given productive land use.

Prior to cover soil placement on the 2H:1V embankment slopes, an assessment will be conducted to determine which species can successfully revegetate the TSF embankments. This assessment will also investigate which species and revegetation/reclamation techniques will maximize overall cover soil stability and minimize erosion and future maintenance requirements.

Following cover soil placement, the TSF will be revegetated. A spillway, sized with capacity for the probable maximum flood, will also be constructed during active closure so that a desirable long-term pond level will be maintained.

7.10 Geotechnical Risk Review and Design Controls

Potential failure modes that must be addressed in the design of a TSF are summarized in Table 18 with the designer's assessment of each mode. The designer's assessment was made against typical dam failure mechanisms presented in the ICOLD Tailings Dam Safety Bulletin (ICOLD 2022).

The design and operational philosophy and controls incorporate the findings and recommendations of the IEEIRP (2015) *Report on Mount Polley Tailings Storage Facility Breach*. These are to limit the amount of surface water to only that required for operation, promote unsaturated conditions in the tailings with drainage provisions, and promote consolidation of the tailings upstream of the embankments.

MPMC has an active failure modes and effects analysis for the TSF that is updated annually with the Engineer of Record. The failure modes and effects analysis includes a likelihood and risk review for failure modes and effects related to dam safety, environment, health and safety, and mine operations. Table 18 incorporates failure modes that could result in a potential breach of the TSF.

Failure modes presented in Table 18 have been assessed as credible or non-credible. A credible failure mode has been defined as a feasible failure mode that could result in a potential breach of the TSF with controls in place. A non-credible failure mode is a failure mode that cannot be triggered by the design criteria external loading conditions and/or operational upset conditions.

The Engineers and Geoscientists British Columbia guide to the standard for documented independent review of high-risk professional activities or work (EGBC 2023) were followed and a Type I independent review was completed. The independent review checklist and signoff is included in Appendix J.

Table 18: Tailings Storage Facility Failure Modes Assessment

Failure Modes (adapted from ICOLD 2022)		Designer's Assessment		
Typical Failure Mode	**Mechanism**	**Discussion**	**Identified Controls**	**Assessment (if constructed as designed with operational mitigative controls)**
Instability due to foundation failure	Undetected weak foundation materials	Multiple field investigations have been completed along the foundation of the embankments and buttresses to delineate the extent and characterize the foundation materials. WSP has carried out six geotechnical investigations since 2014 along the South, Main, and Perimeter embankments (Golder 2015d, 2017b, 2019b; WSP 2023b, 2024b, 2025c). Two site investigations were undertaken by others following the breach in 2014 (KCB 2015a,b; IEEIRP 2015). Prior investigations include KP (1990, 1995b, 1997) and AMEC (2012). In 2024/2025, 13 SI casings were installed with SAA instrumentation near the toe of the starter dams of the embankments (WSP 2025c). Stress-deformation analyses (Zabolotnii et al. 2022) indicate that SIs could provide an indication of movement in advance of a potential foundation failure through a layer of GLU if the SIs are located where plastic strains would first occur. Foundation characterization has been completed per EGBC guidelines and HSRC requirements (WSP 2025a). The design criteria FoS for limit equilibrium stability are met for all embankments.	Design of the elevation 987 m TSF raise has been undertaken incorporating a minimum 2H:1V overall downstream slope with wide buttresses along the South, Main, and Perimeter embankments. Buttress width and height has been maintained along portions of the embankment irrespective of limit equilibrium analyses (i.e., FoS greater than minimum criteria along portions of the embankment). Instrumentation has been installed to monitor foundation response (SIs, IPI, SAAs, and VWPs). QPOs, including trigger levels and monitoring frequency, are in place for the existing TSF and will be reviewed annually and updated as required.	Credible
	Incorrect strength characterization	Multiple field investigations have been completed along the foundation of the embankments and buttresses to delineate the extent and characterize the foundation materials. WSP has carried out six geotechnical investigations since 2014 along the South, Main, and Perimeter embankments (Golder 2015d, 2017b, 2019b; WSP 2023b, 2024b, 2025c). Two site investigations were undertaken by others following the breach in 2014 (KCB 2015a,b; IEEIRP 2015). Prior investigations include KP (1990, 1995b, 1997) and AMEC (2012). In 2024/2025, 13 SI casings were installed with SAA instrumentation near the toe of the starter dams of the embankments (WSP 2025c). Stress-deformation analyses (Zabolotnii et al. 2022) indicate that SIs could provide an indication of movement in advance of a potential foundation failure through a layer of GLU if the SIs are located where plastic strains would first occur. Foundation material properties have been assigned based on in situ and laboratory test results. Shear strength parameters selected for the foundation till and glaciofluvial layers represent an average for the materials. Glaciolacustrine soils have been analyzed using total stress (undrained) strength parameters. The preconsolidation pressure values selected for the analyses are at or below the lower bound of values calculated from the laboratory consolidation tests and estimated from the CPT profiles. Foundation characterization has been completed per EGBC guidelines and HSRC requirements (WSP 2025a). The design criteria FoS for limit equilibrium stability are met for all embankments. Limit equilibrium analyses were completed for a range of GLU strengths to assess sensitivity to potential variability. Stress-deformation analyses were completed to assess potential redistribution of stresses due to strain-weakening of the GLU.	Design of the elevation 987 m TSF raise has been undertaken incorporating a minimum 2H:1V overall downstream slope with wide buttresses along the South, Main, and Perimeter embankments. Buttress width and height has been maintained along portions of the embankment irrespective of limit equilibrium analyses (i.e., FoS greater than minimum criteria along portions of the embankment). Instrumentation has been installed to monitor foundation response (SIs, IPI, SAAs, and VWPs). QPOs, including trigger levels and monitoring frequency, are in place for the existing TSF and will be reviewed annually and updated as required.	Credible
	Unexpected pore pressure generation	Excess pore water pressures may develop in the foundation under the embankment and buttress extension during construction. However, extensive field and laboratory investigations have been completed to characterize the foundation, and the pore pressure response has been monitored during construction of the embankment and buttresses since 2014. The measured maximum pore pressure responses were used in the short-term stability analyses (e.g., during or at the end of construction). The design criteria FoS for limit equilibrium stability are met for all embankments. Limit equilibrium stability analyses show little sensitivity with increased pore pressures.	Construction sequence (buttress construction prior to raising the embankment). Instrumentation (VWPs) has been installed to monitor foundation response. QPOs, including trigger levels and monitoring frequency, are in place for the existing TSF and will be reviewed annually and updated as required.	Not credible

Table 18: Tailings Storage Facility Failure Modes Assessment

Failure Modes (adapted from ICOLD 2022)		Designer's Assessment		
Typical Failure Mode	**Mechanism**	**Discussion**	**Identified Controls**	**Assessment (if constructed as designed with operational mitigative controls)**
Instability due to foundation failure (continued)	Artesian pore pressure generation	Upward gradients and artesian pressures are present within glaciofluvial units in the Main Embankment foundation. Four vertical drain wells installed under the Main Embankment help relieve some of the artesian pressures. Limit equilibrium stability analyses show little sensitivity to artesian pressures (i.e., if vertical drain wells were to fail and pore pressures increased).	Vertical drain wells have been installed in the foundation of the Main Embankment. Instrumentation (VWPs) has been installed to monitor pore pressures in the foundation. QPOs, including trigger levels and monitoring frequency, are in place for the existing TSF and will be reviewed annually and updated as required.	Not credible
	Liquefaction of cohesionless soils and cyclic softening of cohesive soils	The site is in an area of relatively low seismicity (peak ground acceleration equal to 0.048g for design earthquake event with a 1:2,475 AEP). Laboratory testing has been completed on GLU samples to characterize the cyclic response (WSP 2025a). Stress-deformation modelling predicts the maximum permanent horizontal and vertical displacement in the downstream direction is less than 6 cm for the embankments and buttresses of both analyzed sections under the action of the 2,475-year earthquake ground motion. A 20% strength reduction factor has been applied in the pseudo-static and post-seismic limit equilibrium stability analyses to the GLU deposits to account for potential strength loss during cyclic loading. The dense till foundation materials are considered to not be susceptible to liquefaction or cyclic softening. The glaciofluvial foundation materials are considered to not be susceptible to liquefaction (typically not continuous layers and in a dense state).	Design of the elevation 987 m TSF raise has been undertaken incorporating a minimum 2H:1V overall downstream slope with wide buttresses along the South, Main, and Perimeter embankments. Buttress width and height has been maintained along portions of the embankment irrespective of limit equilibrium analyses (i.e., FoS greater than minimum criteria along portions of the embankment).	Not credible
	Incorrect seismic hazard/response analysis	The site is in an area of relatively low seismicity. A site-specific probabilistic seismic hazard assessment was undertaken for the TSF in 2023 (WSP 2025a). Limit equilibrium stability analyses were completed for an earthquake event with a 1:10,000 AEP to assess sensitivity to potential variability. Results show the FoS is equal to or greater than 1 for normal operating conditions (i.e., 100 m beach width and upstream drains functioning). Stress-deformation analyses were completed to confirm stability of the facility due to seismic loading.	Design of the elevation 987 m TSF raise incorporates sensitivity analysis for the extreme consequence earthquake event (1:10,000 AEP). Design of the elevation 987 m TSF raise has been undertaken incorporating a minimum 2H:1V overall downstream slope with wide buttresses along the South, Main, and Perimeter embankments. Buttress width and height has been maintained along portions of the embankment irrespective of limit equilibrium analyses (i.e., FoS greater than minimum criteria along portions of the embankment).	Not credible
	Erosion at the toe due to nearby water courses	Hazeltine Creek is over 100 m away from the toe of the embankment buttress; its flow can be regulated by a weir. Hazeltine Creek is not considered an erosion risk to the buttress and embankment. The South Embankment will extend across an unnamed creek at Corner 4. The catchment of the creek is small (approximately 0.15 km^2), and its flow is not considered an erosion risk to the embankment.	Construction QA/QC will be performed to confirm foundation preparation to promote water drainage away from the till core.	Not credible
	Excavation at the toe for seepage collection ditches or sumps	Seepage collection ditches are shallow (approximately 1 m deep), and ponds are offset from the toe of the buttress. Limit equilibrium analyses will be completed to confirm the stability of the embankments with the associated downstream water management infrastructure (i.e., seepage collection pond excavations).	Construction QA/QC will be performed to prevent over excavation of seepage collection ditches and ponds. Construction sequence (i.e., temporary and permanent seepage collection pond relocation will be completed during early stages of development of the elevation 987 m TSF design).	Not credible

Table 18: Tailings Storage Facility Failure Modes Assessment

Failure Modes (adapted from ICOLD 2022)		Designer's Assessment		
Typical Failure Mode	**Mechanism**	**Discussion**	**Identified Controls**	**Assessment (if constructed as designed with operational mitigative controls)**
Instability due to foundation failure (continued)	Landslide at an abutment	Foundation at the abutments comprises competent till and variable weathered bedrock. Glaciolacustrine deposits have not been encountered at the abutments. Additional test pits are excavated at the abutments as part of foundation preparation to confirm foundation conditions each construction season. Surficial organic and/or weak soils are removed as part of foundation preparation. Natural slope grades at the abutments and upstream are gentle (less than 30%). No evidence of historical landslides has been observed.	Construction QA/QC will be performed to further confirm foundation conditions at the abutments.	Not credible
Instability of the TSF slope	Inclusion of weak materials in the structural portion of the TSF, possibly due to lack of compaction and/or poor drainage	Design of the TSF embankment raise is consistent with previous raises. Rockfill forms the downstream wedge of the embankments and the downstream buttresses. Rockfill is mainly fresh, intrusive rock with a relatively high internal friction angle (Golder 2016b). Construction of safety berms at different stages of construction may have resulted in localized zones of loose rockfill or finer rockfill. Some ravelling has been observed on the angle of repose slope; however, the existing downstream slope has been re-sloped to 2H:1V using a bottom-up construction method. Surficial organic and/or weak soils are removed as part of foundation preparation. Compaction of the prepared foundation is confirmed by visual inspections and proof-rolling as required. Foundation preparation is completed in a manner to promote drainage away from the embankment and buttress.	Design of the elevation 987 m TSF raise has been undertaken incorporating a minimum 2H:1V overall downstream slope with wide buttresses along the South, Main, and Perimeter embankments. Construction QA/QC has been performed to prevent inclusion of weak materials or layers in the embankment rockfill shell and buttress.	Not credible
	Liquefaction of non-cohesive soils and cyclic softening of cohesive soils	Downstream slope: The till core, filter, transition, and rockfill are mechanically placed and compacted and are not susceptible to liquefaction or cyclic softening.	Construction QA/QC will be performed.	Not credible
		Upstream slope: Tailings upstream of the embankment are susceptible to liquefaction. Stress-deformation analyses indicate that the till core would experience minor deformations (<6 cm) if the tailings and upstream fill liquefy. No loss of containment is expected.	The amount of surface water is limited to only that required for operation (i.e., lower phreatic surface upstream of the embankment). Construction of upstream drains near elevation 970 m to promote unsaturated conditions in the tailings upstream of the embankment as per WSP (2024a).	Not credible

Table 18: Tailings Storage Facility Failure Modes Assessment

Failure Modes (adapted from ICOLD 2022)		Designer's Assessment		
Typical Failure Mode	**Mechanism**	**Discussion**	**Identified Controls**	**Assessment (if constructed as designed with operational mitigative controls)**
Overtopping	Large flood that exceeds capacity to store IDF	The TSF is a non-release facility with no emergency spillway, designed to retain the IDF within its storage capacity. The majority of water inflows into the TSF are pumped and are therefore in the direct control of the operator. The catchment reporting to the TSF is small and well defined. Water can be temporarily stored in open pits if required.	IDF criteria adopted for freeboard design is probable maximum flood (i.e., probable maximum precipitation plus snowmelt) with durations from 24-hour to 30-days and extraction pumping starting on day 4. Freeboard contingency is included in the design. Water freeboard QPO, including trigger levels and monitoring frequency, are in place for the existing TSF and will be reviewed annually, and updated as required.	Not credible
	Wave action	Deposition of tailings is to maintain the pond near the centre of the facility and against the natural topography on the western perimeter until a few years before the end of operations when the pond is reduced and moved towards Corner 5. The TSF is managed by maintaining the pond volume within the operating range for reclaim water and make-up water. During large freshet events, the pond could encroach onto the upstream fill of the embankment. A minimum 20 m wide zone of sandy tailings (upstream fill) is compacted directly upstream of the till core. Progression of erosion is slow and can be addressed before it reaches the till core.	The pond is maintained away from the embankments during normal operating conditions, near the centre of the facility and against the natural topography. Freeboard contingency is included in the design. Wight Pit will be used as the primary location to temporarily store surplus site-wide water from freshet and high flow events. QPOs, including trigger levels and monitoring frequency, are in place for the existing TSF and will be reviewed annually and updated as required. QPOs specific for this failure mechanism include water freeboard and beach width.	Not credible
	Operational upset (improper water management)	The majority of water inflows to the TSF are pumped and are therefore in the direct control of the operator. The catchment reporting to the TSF is small and well defined. Water can be temporarily stored in open pits if required.	Wight Pit will be used as the primary location to temporarily store any surplus site-wide water from freshet and high flow events. Regular inspections of the facility and water management infrastructure by the owner are planned. QPOs, including trigger levels and monitoring frequency, are in place for the existing TSF and will be reviewed annually and updated as required. QPOs specific for this failure mechanism include water freeboard, beach width, and pond volume.	Credible
	Uncontrolled rupture of a tailings slurry delivery or water reclaim pipeline	The tailings pipeline is located in ditches and along the upstream crest of the TSF embankment. Upstream fill is more susceptible to erosion than the till core and rockfill shell. An uncontrolled rupture of the tailings slurry pipeline is expected to erode a portion of the upstream fill and slurry would flow upstream to the TSF basin. The water reclaim pipeline is located between Corner 4 and Corner 5, away from the embankment.	Regular inspections of the facility and water management infrastructure by the owner are planned.	Not credible
	Landslide into reservoir (rock, snow, or soil)	The natural slope above the TSF is less than 30 degrees and heavily vegetated. There is no evidence of historical landslides.	Regular inspections of the facility by the owner are planned.	Not credible
	Settlement of crest (due to static and/or seismic deformations)	Minor settlement will mainly occur after TSF raises as a result of consolidation of the embankment and foundation. Construction to raise the embankment to elevation 987 m is expected to occur in seven consecutive years. Settlements are corrected as part of construction the following year. Stress-deformation analyses completed to assess deformation due to static and seismic loading show relatively small deformations due to earthquake loading (<6 cm).	Freeboard contingency is included in the design. Topographic surveys of the facility are completed twice per year.	Not credible

Table 18: Tailings Storage Facility Failure Modes Assessment

Failure Modes (adapted from ICOLD 2022)		Designer's Assessment		
Typical Failure Mode	**Mechanism**	**Discussion**	**Identified Controls**	**Assessment (if constructed as designed with operational mitigative controls)**
Internal erosion (piping)	Material incompatibility between low and high hydraulic conductivity zones of the embankment	A portion of the filter constructed before 2014 does not meet modern filter criteria. The till core is not expected to initiate backward erosion for the gradients that will be imposed on the core, and if backward erosion were initiated, the filter as constructed prior to 2014 would prevent ongoing erosion. The pond prior to 2014 reached a maximum elevation of 966.45 m and the pond was in contact with the embankments in some areas. No signs of erosion or sinkholes were reported prior to the breach. The filter and transition designed and constructed since 2014 follow modern filter criteria. Filter extends 25 m downstream in the breach area where foundation cracking/disruption is known to have occurred. Deposition of tailings is to maintain the pond near the centre of the facility and against the natural topography on the western perimeter until a few years before the end of operations when the pond is reduced and moved towards Corner 5. The TSF is managed by maintaining the pond volume within the operating range for reclaim water and make-up water. The existing upstream drain at elevation 950 m has performed as intended limiting the hydraulic head against the Perimeter Embankment at Corner 1. If the upstream drains at elevation 970 m were to fail or not perform as designed, the phreatic surface and hydraulic gradient can be managed by maintaining the pond away from the embankment. Performance of the upstream drains will be monitored as the pond level rises (i.e., performance of the upstream drains can be tested before they are required to limit the hydraulic head).	Construction of upstream drains near elevation 970 m to limit the hydraulic head against the embankments. Wight Pit will be used as the primary location to temporarily store surplus site-wide water from freshet and high flow events. QPOs (trigger levels, monitoring frequency, and actions): ▪ piezometric levels ▪ minimum beach width ▪ toe drain flow ▪ toe drain turbidity	Credible
	Elevated pore water pressures and increased hydraulic gradient	The pond prior to 2014 reached a maximum elevation of 966.45 m and the pond was in contact with the embankments in some areas. No signs of erosion or sinkholes were reported prior to the breach. Deposition of tailings is planned to maintain the pond near the centre of the facility and against the natural topography on the western perimeter until a few years before the end of operations when the pond is reduced and moved towards Corner 5. The TSF is managed by maintaining the pond volume within the operating range for reclaim water and make-up water. The existing upstream drain at elevation 950 m has performed as intended limiting the hydraulic head against the Perimeter Embankment at Corner 1. If the upstream drains at elevation 970 m were to fail or not perform as designed, the phreatic surface and hydraulic gradient can be managed by maintaining the pond away from the embankment. Performance of the upstream drains will be monitored as the pond level rises (i.e., performance of the upstream drains can be tested before they are required to limit the hydraulic head).	Construction of upstream drains near elevation 970 m to limit the hydraulic head against the embankments. Wight Pit will be used as the primary location to temporarily store surplus site-wide water from freshet and high flow events. QPOs (trigger levels, monitoring frequency, and actions): ▪ piezometric levels ▪ minimum beach width ▪ toe drain flow ▪ toe drain turbidity	Credible
	Hydraulic fracturing due to stress distribution within the TSF, differential settlement, or resulting from deformations due to seismic events	The foundation till generally rises gradually in elevation along the north and south abutments. The till core is designed to be either keyed into competent foundation till or bedrock. Foundation conditions do not rapidly vary along the embankment. GLUs are typically thin (<1 to 2 m). Stress-deformation analyses completed to assess deformation due to seismic loading show relatively small deformations due to earthquake loading (<6 cm). The cut-off wall is designed to allow deformation. Plastic concrete is resistant to erosion. Cut-off aggregate upstream of the wall has fines that will migrate into a crack and seal it.	QPOs (trigger levels, monitoring frequency, and actions): ▪ piezometric levels ▪ minimum beach width ▪ toe drain flow ▪ toe drain turbidity	Not credible

Table 18: Tailings Storage Facility Failure Modes Assessment

Failure Modes (adapted from ICOLD 2022)		Designer's Assessment		
Typical Failure Mode	**Mechanism**	**Discussion**	**Identified Controls**	**Assessment (if constructed as designed with operational mitigative controls)**
Internal erosion (piping) (continued)	Pipes through the TSF, including decant towers and pipes (seepage along the pipe, collapse of the pipe)	Design of the upstream drains near elevation 970 m incorporates uniformly graded filter sand around pipes crossing the embankment upstream and downstream of the till core. The upstream drains at Corner 1 at elevation 950 m incorporates uniformly graded filter sand around pipes crossing the embankment downstream of the till core. Older upstream drains between about elevation 936 m and 950 m also incorporate filters around the conduits downstream of the till core. During normal operation, the pond will be a minimum 100 m from the embankments and the phreatic level against the embankment is expected to be at the elevation of the new upstream drains and pipe crossings at elevation 970 m. The new drains will limit the hydraulic head upstream of the pipe crossings. The pond prior to 2014 reached a maximum elevation of 966.45 m and the pond was in contact with the embankments in some areas. No signs of erosion or sinkholes were reported prior to the breach. Monitoring data for the upstream drain at Corner 1 at elevation 950 m show that the drain is effectively maintaining the pore pressures upstream of the till core at the elevation of the drain. The current tailings beach at Corner 1 is about 18 m above the elevation of the drain; the maximum height of the tailings above the new upstream drains near elevation 970 m will be about 15 m to 17 m near the end of operations of the TSF to elevation 987 m. HDPE pipes can accommodate the extra load of the facility raise to elevation 987 m. An analysis was completed to evaluate the potential effects of differential settlements of the embankment on the slope of the drain pipes upon completion of raising the TSF to elevation 987 m. The results show that potential differential settlements of the tailings beach and embankment are not expected to affect the serviceability of the upstream drains near elevation 970 m.	Uniformly graded filter sand around the drain pipe upstream and downstream of the till core. Construction of upstream drains near elevation 970 m to limit the hydraulic head upstream of pipes crossing the embankment. Construction QA/QC was performed for the pipe crossing at Corner 1 at elevation 950 m and is being performed for ongoing pipe crossing construction near elevation 970 m. QPOs (trigger levels, monitoring frequency, and actions): ▪ piezometric levels ▪ minimum beach width ▪ toe drain flow ▪ toe drain turbidity	Credible
	Underground features that could cause internal erosion	Development of preferential flow pathways in the foundation soils (e.g., glaciofluvial layers) or bedrock could lead to increased seepage through the foundation. Glaciofluvial layers are typically non-continuous with a wide range of hydraulic conductivity. Foundation checks (test pits/trenches) are completed during foundation preparation at the north and south abutments. Filter blanket is installed over the prepared foundation along the embankment downstream of the till core and cut-off wall. Ongoing foundation preparation for the elevation 974 m south abutment intercepted an organics stockpile of highly fractured, slightly to highly weathered bedrock near Sta. 0+280. Unsuitable materials were excavated, and bedrock was hydro-pressure jet-washed prior to placement of slush grout and shotcrete. The foundation under an upstream access road could not be investigated or prepared.	Filter blanket to be placed over the prepared foundation downstream of the till core along the north and south abutment extensions. Foundation checks (test pits and trenches) are completed during foundation preparation at the north and south abutments. QPOs (trigger levels, monitoring frequency, and actions): ▪ piezometric levels ▪ minimum beach width ▪ toe drain flow ▪ toe drain turbidity	Credible

HSRC = Health, Safety and Reclamation Code for Mines in British Columbia; EGBC = Engineers and Geoscientists British Columbia; TSF = tailings storage facility; SI = slope inclinometer; IPI = in-place inclinometer; SAA = shape acceleration array; VWP = vibrating wire piezometer; QPOs = quantitative performance objectives; CPT = cone penetration test; FoS = factor of safety; GLU = glaciolacustrine unit; AEP = annual exceedance probability; QA/QC = quality assurance / quality control; MPMC = Mount Polley Mining Corporation; EoR = Engineer of Record; IDF = inflow design flood; HDPE = high-density polyethylene.

8.0 INSTRUMENTATION

An instrumentation and monitoring system is in place for the TSF in conjunction with established QPOs to monitor performance of the facility.

The monitoring system is reviewed on a regular basis based on failure modes, critical controls, and the design and operational philosophy. The intention of the monitoring system is to provide early warning indications of changing conditions that may affect the safe and effective management of the TSF.

The TSF instrumentation is monitored and assessed against the QPOs by MPMC staff. The Engineer of Record team reviews and interprets the instrumentation data provided by MPMC periodically. MPMC staff is responsible for implementation of specific actions and responses in the event of anomalous data or QPO exceedances, including informing the Engineer of Record when the QPO thresholds are triggered.

As part of the design for the raise of the TSF to elevation 987 m, the existing TSF instrumentation monitoring system will be retained. Instrumentation, where required, will be relocated or extended during construction.

Instrumentation and monitoring will follow the requirements set out in the existing Operation, Maintenance and Surveillance (OMS) manual for the TSF. The OMS manual is reviewed annually and updated as required to reflect changing conditions for the TSF.

Slope inclinometer casing, VWP cables, and SAA cables will be extended and raised as part of the construction to raise the embankment. Raising inclinometer casings and standpipe wells through the rockfill buttress can be challenging, and some of the existing inclinometers and standpipes may be damaged during construction. Instrumentation coverage will be reviewed if existing instrumentation is damaged. The need to replace instrumentation will be assessed on a case-by-case basis.

Existing and proposed instrumentation for monitoring the TSF is presented in Table 19. The location of the slope inclinometers and SAAs are presented in Drawing 32 in Appendix A. Specifications for the instrumentation are included in Appendix B, details for individual instrumentation installs will be determined closer to the time of installation.

Table 19: Existing Instrumentation for Monitoring of Tailings Storage Facility Failure Modes and Operational Philosophy

Failure Mode / Operational Philosophy	Key Monitoring and Instrumentation Controls	Instrumentation to be Retained (Existing and Elevation 974 m Design)
Instability due to foundation failure	■ VWPs are installed in the foundation of the embankment and buttress to monitor changes in pore water pressure. ■ SAAs are installed along the South, Main, and Perimeter embankments, near the toe of the original starter dams, to monitor deformation in the foundation.	■ VWP cables are to be extended and protected from damage. ■ SAA cables are to be extended and protected from damage. ■ Existing SIs along the Perimeter Embankment (SI15-01, SI18-03, SI23-10, SI21-01, SI21-02, SI21-03, and SI21-06) and Main Embankment (SI15-14, SI15-17, and SI15-18) are to be decommissioned prior to raising and widening the buttress. These instruments have been replaced by the SAAs installed at the toe of the original starter dams. ■ SI15-02 was damaged in 2024 and is to be replaced in 2025 near the toe of the original starter dam. ■ SI23-01, SI23-02, and SI23-03 are to be extended vertically and protected from damage until the instruments are on the slope of the embankment.
Overtopping	■ Freeboard is monitored by survey of the pond level.	
Internal erosion (piping)	■ VWPs are installed in the upstream. tailings and upstream drains to monitor the water head upstream of the embankment. ■ VWPs are installed in the embankment (i.e., till core, filter, and seepage collection drain) to monitor changes in pore water pressure. ■ Manual flow rate and turbidity readings are taken for the Perimeter Embankment at Corner 1 upstream drain, cut-off wall seepage collection drain, South Embankment toe drain (upstream drain), and east and west Main Embankment toe drains. ■ An SAA is installed at Corner 1 to monitor deformation of the cut-off wall.	■ VWPs are to be installed during construction of the upstream drains as specified in the elevation 974 m TSF design. ■ Existing VWP cables are to be extended and protected from damage. ■ Flow rate and turbidity readings are to be taken at the outlet of the new upstream drains to be installed as part of the elevation 974 m TSF design. ■ The north and south diversion ditches at Corner 1 were buried under the embankment buttress in Q1 2025.
Water management	■ Pond volume is monitored by maintaining records of the TSF water balance (water in and out of the TSF) and calibrated yearly by survey of the tailings surface. ■ Minimum beach width and general location of the pond are monitored by visual inspection and satellite images.	

VWP = vibrating wire piezometer; SI = slope inclinometer; SAA = shape acceleration array; TSF = tailings storage facility.

9.0 MATERIAL QUANTITIES

The estimated in-place material quantities required for construction of the embankment from crest elevation 974 m to 987 m are summarized in Table 20.

The fill volumes were estimated using a combined base surface consisting of the elevation 974 m TSF design and topographic survey from October 30, 2023, for areas downstream of the embankment. All fill quantities are estimated based on neat lines. No allowances for constructability or bulking factors have been included in the material quantity estimates. Actual quantities may vary based on conditions encountered in the field.

Table 20: Material Quantities for Embankment Raise to Elevation 987 m

Task[(b)(c)]	Unit	Quantity
Foundation preparation	m^2	491,000
Filter blanket	m^3	3,000
Upstream fill (Zone U)	m^3	1,260,000
Till core (Zone S)	m^3	320,000
Filter (Zone F)[(a)]	m^3	97,000
Transition (Zone T)	m^3	97,000
Embankment rockfill (including Zone C)	m^3	1,066,000
Buttress rockfill	m^3	8,342,000

(a) The quantity provided for Filter (Zone F) excludes the filter blanket to be placed on the prepared foundation downstream of the till core.

(b) As part of the elevation 974 m embankment raise, the upstream drain and cut-off wall seepage collection drainpipes are assumed to be installed to the elevation 987 m surface water management infrastructure. All associated materials for this were excluded from the estimate.

(c) Materials required for potential bedrock treatment at the abutments were excluded as the quantities are dependent on encountered conditions during foundation preparation and should be taken on a case-by-case basis.

10.0 CONSTRUCTION

10.1 Construction Schedule

The TSF embankment will be required to be raised approximately 2.5 m per year up to an ultimate crest elevation of 987 m to meet MPMC's LoM plan and tailings production. The required annual construction raise may vary from year to year based on actual tailings production and in-place tailings slope and density. MPMC is to plan construction to allow adequate schedule flexibility to account for unforeseen circumstances that could slow down construction in a given year (e.g., forest fires, weather conditions).

Construction of the till core should be limited to when temperatures are above freezing. Generally, that is from May to October each year. Construction of the rockfill shell and rockfill buttress can occur year-round provided snow, ice, and surface water are effectively managed.

10.2 Construction Sequence

The following construction sequence is proposed for construction of the TSF to elevation 987 m, although some activities will be performed simultaneously:

- **Instrumentation**—extension and protection of instrumentation that may be affected during construction.
- **Foundation preparation**—removal of unsuitable materials.
- **Abutment foundation preparation**—removal of unsuitable materials and excavation to the underlying competent foundation till or bedrock to provide suitable tie-in for the till core.
- **Toe buttress extension**—buttress construction must be completed prior to raising the embankment.
- **Raise of embankment**—till core construction from elevation 974 m, including surrounding upstream fill, filter, transition, and rockfill.

Sufficient construction material must be stockpiled or available during construction to allow the sequential raising of the embankment with upstream fill, till, filter, transition, and rockfill.

The QA/QC requirements are further described in the Embankment Construction to Elevation 987 m Technical Specifications (Appendix B). The Quality Assurance Manager will be present on-site full-time during construction activities and will be responsible for the QA activities.

11.0 CLOSURE

The reader is referred to the Study Limitations, which precedes the text and forms an integral part of this report. We trust the above information is sufficient for your needs at this time. Should you have any questions or require clarification, please do not hesitate to contact the undersigned.

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https://wsponline.sharepoint.com/sites/gld-10023g/2025 deliverables1/ca0047730.8440 deliverables/002_issued/004-r-51293-tsf el. 987 m detailed design report/rev0/ca0047730.8440-004-r-rev0-51293-987 m tsf detailed design 21jul_25.docx

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WSP. 2025i. Mount Polley Mine Water Balance Model – TSF Raise to 987 m Permit Amendment Application. Prepared for Mount Polley Mining Corporation. WSP Doc. No. CA0047730.8440-035-R-Rev0-31191. June 26, 2025.

Zabolotnii E, Morgenstern NR, Wilson GW, Simms PH. 2022. Pre-failure Stability of the Mount Polley TSF Embankment: Conventional vs. Performance-based Evaluations. Proceedings of Tailings and Mine Waste, November 6–10, 2022; Denver Colorado.

APPENDIX A

Design Drawings

MOUNT POLLEY MINING CORPORATION
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

DRAWING LIST				
DRAWING NUMBER	DRAWING TITLE	REVISION NUMBER	PURPOSE OF ISSUE	DATE OF ISSUE
01	DRAWING LIST AND PROJECT LOCATION PLAN	0	ISSUED FOR CONSTRUCTION	2025-07-11
02	SITE PLAN	0	ISSUED FOR CONSTRUCTION	2025-07-11
03	PRE-CONSTRUCTION CONDITIONS	0	ISSUED FOR CONSTRUCTION	2025-07-11
04	GENERAL ARRANGEMENT - PLAN VIEW	0	ISSUED FOR CONSTRUCTION	2025-07-11
05	SOUTH EMBANKMENT AND BUTTRESS - FOUNDATION PREPERATION	0	ISSUED FOR CONSTRUCTION	2025-07-11
06	SOUTH EMBANKMENT AND BUTTRESS - PLAN VIEW	0	ISSUED FOR CONSTRUCTION	2025-07-11
07	SOUTH EMBANKMENT AND BUTTRESS - TYPICAL CROSS-SECTIONS	0	ISSUED FOR CONSTRUCTION	2025-07-11
08	SOUTH EMBANKMENT - CROSS-SECTIONS (1 OF 2)	0	ISSUED FOR CONSTRUCTION	2025-07-11
09	SOUTH EMBANKMENT - CROSS-SECTIONS (2 OF 2)	0	ISSUED FOR CONSTRUCTION	2025-07-11
10	SOUTH EMBANKMENT BUTTRESS - CROSS-SECTIONS	0	ISSUED FOR CONSTRUCTION	2025-07-11
11	MAIN EMBANKMENT AND BUTTRESS - FOUNDATION PREPERATION	0	ISSUED FOR CONSTRUCTION	2025-07-11
12	MAIN EMBANKMENT AND BUTTRESS - PLAN VIEW	0	ISSUED FOR CONSTRUCTION	2025-07-11
13	MAIN EMBANKMENT AND BUTTRESS - TYPICAL CROSS-SECTION AND DETAILS	0	ISSUED FOR CONSTRUCTION	2025-07-11
14	MAIN EMBANKMENT - CROSS-SECTIONS (1 OF 2)	0	ISSUED FOR CONSTRUCTION	2025-07-11
15	MAIN EMBANKMENT - CROSS-SECTIONS (2 OF 2)	0	ISSUED FOR CONSTRUCTION	2025-07-11
16	MAIN EMBANKMENT BUTTRESS - CROSS-SECTIONS (1 OF 2)	0	ISSUED FOR CONSTRUCTION	2025-07-11
17	MAIN EMBANKMENT BUTTRESS - CROSS-SECTIONS (2 OF 2)	0	ISSUED FOR CONSTRUCTION	2025-07-11
18	PERIMETER EMBANKMENT AND BUTTRESS (CORNER 2-CORNER 1) - FOUNDATION PREPERATION	0	ISSUED FOR CONSTRUCTION	2025-07-11
19	PERIMETER EMBANKMENT AND BUTTRESS (CORNER 2-CORNER 1) - PLAN VIEW	0	ISSUED FOR CONSTRUCTION	2025-07-11
20	PERIMETER EMBANKMENT AND BUTTRESS (CORNER 2-CORNER 1) - TYPICAL CROSS-SECTION	0	ISSUED FOR CONSTRUCTION	2025-07-11
21	PERIMETER EMBANKMENT (CORNER 2-CORNER 1) - CROSS-SECTIONS (1 OF 2)	0	ISSUED FOR CONSTRUCTION	2025-07-11
22	PERIMETER EMBANKMENT (CORNER 2-CORNER 1) - CROSS-SECTIONS (2 OF 2)	0	ISSUED FOR CONSTRUCTION	2025-07-11
23	PERIMETER EMBANKMENT BUTTRESS (CORNER 2-CORNER 1) - CROSS-SECTIONS	0	ISSUED FOR CONSTRUCTION	2025-07-11
24	PERIMETER EMBANKMENT AND BUTTRESS (CORNER 1-CORNER 5) - FOUNDATION PREPERATION	0	ISSUED FOR CONSTRUCTION	2025-07-11
25	PERIMETER EMBANKMENT AND BUTTRESS (CORNER 1-CORNER 5) - PLAN VIEW	0	ISSUED FOR CONSTRUCTION	2025-07-11
26	PERIMETER EMBANKMENT AND BUTTRESS (CORNER 1-CORNER 5) - TYPICAL CROSS-SECTIONS	0	ISSUED FOR CONSTRUCTION	2025-07-11
27	PERIMETER EMBANKMENT (CORNER 1-CORNER 5) - CROSS-SECTIONS (1 OF 2)	0	ISSUED FOR CONSTRUCTION	2025-07-11
28	PERIMETER EMBANKMENT (CORNER 1-CORNER 5) - CROSS-SECTIONS (2 OF 2)	0	ISSUED FOR CONSTRUCTION	2025-07-11
29	PERIMETER EMBANKMENT BUTTRESS (CORNER 1-CORNER 5) - CROSS-SECTIONS	0	ISSUED FOR CONSTRUCTION	2025-07-11
30	SOUTH AND PERIMETER EMBANKMENT ABUTMENTS PLAN VIEW AND TYPICAL CROSS-SECTIONS	0	ISSUED FOR CONSTRUCTION	2025-07-11
31	SOUTH AND PERIMETER EMBANKMENT ABUTMENTS - CROSS-SECTIONS	0	ISSUED FOR CONSTRUCTION	2025-07-11
32	INSTRUMENTATION - SLOPE INCLINOMETERS AND SAAS - PLAN VIEW	0	ISSUED FOR CONSTRUCTION	2025-07-11



PROJECT LOCATION PLAN
NOT TO SCALE

SPECIFICATIONS			
SPECIFICATION NUMBER	SPECIFICATION TITLE	REVISION NUMBER	DATE OF ISSUE
CA0047730.8440-004-R-Rev0-51294	MOUNT POLLEY MINE TAILINGS STORAGE FACILITY EMBANKMENT CONSTRUCTION TO ELEVATION 987 m TECHNICAL SPECIFICATIONS	0	2025-07-08

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0	2025-07-11	ISSUED FOR CONSTRUCTION	R.G.	J.S.H.	S.B.	G.P.S.

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Engineers & Geoscientists BC
Permit #1000200

SEAL
PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077
2025-07-16

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT
WSP CANADA INC.
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V6Z 2M1
[+1] (604) 685 9381

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
DRAWING LIST AND PROJECT LOCATION PLAN

PROJECT NO.	PHASE/TASK/DOC.	REV.		DRAWING
CA0047730.8440	51200/51293/004	0	1 of 32	01

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D
0 25 mm

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POLLEY LAKE

WIGHT PIT

WIGHT PIT HAUL ROAD

NEZ DUMP

SOUTHEAST ROCK DISPOSAL SITE (SERDS)

NORTH BELL DUMP

MILL SITE

CARIBOO PIT

SPRINGER PIT

MINE ACCESS ROAD

NW TEMPORARY PAG STOCKPILE

OLD MINE ACCESS ROAD

TAILINGS DAM ROAD

BOOTJACK LAKE

CENTRAL COLLECTION SUMP

PERIMETER EMBANKMENT TILL BORROW POND (PETBP)

PERIMETER EMBANKMENT

MAIN EMBANKMENT

SOUTH EMBANKMENT

BOOTJACK CREEK

BIOSOLIDS STOCKPILE

SOUTH BOOTJACK DAM

TAILINGS STORAGE FACILITY

HAZELTINE CREEK

N.E. EDNEY CREEK (TRIBUTARY 1)

S.W. EDNEY CREEK (TRIBUTARY 2)

592 500 E

594 000 E

595 500 E

597 000 E

589 500 E

591 000 E

5 826 000 N

5 824 500 N

5 823 000 N

5 821 500 N

5 820 000 N

5 818 500 N

5 817 000 N

5 824 500 N

5 823 000 N

5 821 500 N

5 820 000 N

5 818 500 N

5 817 000 N

LEGEND

- GROUND CONTOURS (SEE NOTE 4)
- SITE ACCESS ROADS (SEE REFERENCE 6)
- WATERCOURSE (SEE REFERENCE 6)
- WATERBODY (SEE REFERENCE 6)
- SHORELINE (SEE REFERENCE 6)

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. COORDINATES RELATIVE TO UTM, NAD83 AND ELEVATIONS OF MINE SITE REPRESENT GEODETIC DATUM, AND TAILINGS STORAGE FACILITY ARE RELATIVE TO TAILINGS GRID.
3. CONTOUR INTERVAL SHOWN AT 25 m MAJOR AND 5 m MINOR.
4. GROUND CONTOURS REPRESENT COMPOSITE SURVEYS FROM 2013-2024 (SEE REFERENCES 1-5).

REFERENCES

1. 2013 TOPOGRAPHY PROVIDED BY MPMC, FILE NAME: "MTPOLLEY2013-DTM.dwg", SURVEYED: 2013, RECEIVED: 1 OCTOBER 2014.
2. 2014 TOPOGRAPHY PROVIDED BY MPMC, FILE NAME: "MtPolley_20140805_1m_LiDAR_Contour.dwg", SURVEYED: 5 AUGUST 2014, RECEIVED: SEPTEMBER 3, 2014.
3. 2019 TOPOGRAPHY PROVIDED BY MPMC AS MULTIPLE .las FILES, SURVEYED: 18 OCTOBER 2019, RECEIVED: 09 FEBRUARY 2020.
4. 2023 TOPOGRAPHY PROVIDED BY MPMC AS 0.1 m CONTOUR DATA, SURVEYED: 30 OCTOBER 2023; RECEIVED: 01 FEBRUARY 2024; FILE NAME: "231030-TSF Lidar Contor 0.1.dxf" .
5. 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES, SURVEYED: 10 DECEMBER 2024; RECEIVED: 13 DECEMBER 2024; FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf" .
6. SITE FEATURES PROVIDED BY MPMC. FILE NAME: "MtPolley2013-Pln.dwg", SURVEYED: 2013, RECEIVED: 5 SEPTEMBER 2014.

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CONSTRUCTION

0 500 1,000

1:12,500 METRES

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SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

CLIENT

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[+1] (604) 685 9381

PROJECT

MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

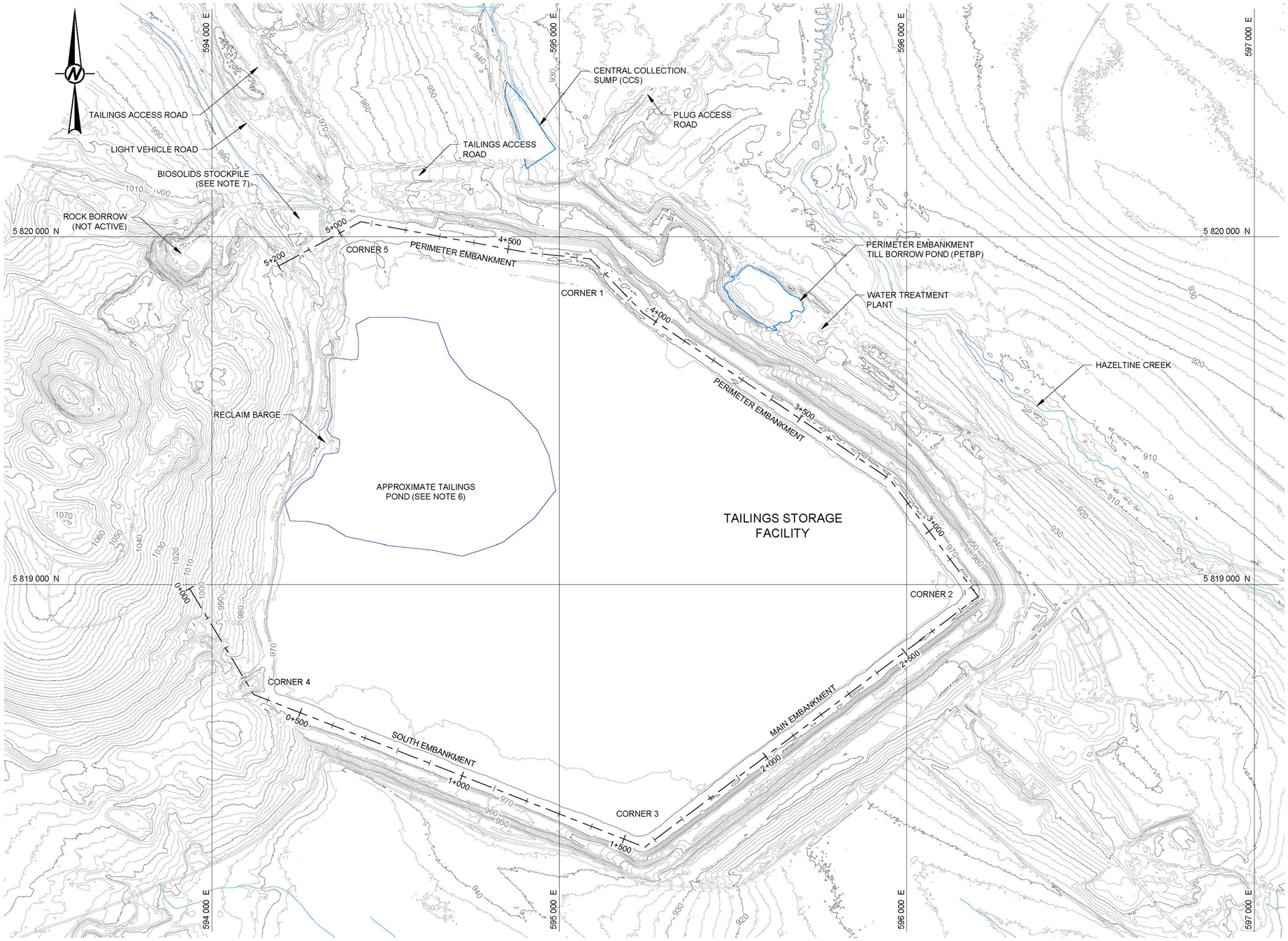
TITLE

SITE PLAN

PROJECT NO.	PHASE/TASK/DOC.	REV.		DRAWING
CA0047730.8440	51200/51293/004	0	2 of 32	02

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 25 mm



LEGEND

- TAILINGS STORAGE FACILITY (TSF) EMBANKMENT CENTRELINE (4+400)
- GROUND CONTOURS (SEE NOTE 4)
- SITE ACCESS ROADS (SEE REFERENCE 4)
- WATERCOURSE (SEE REFERENCE 4)
- WATERBODY (SEE REFERENCE 4)
- APPROXIMATE TAILINGS POND (SEE NOTE 6)

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. COORDINATES AND ELEVATIONS ARE SHOWN IN TAILINGS GRID.
3. CONTOUR INTERVAL SHOWN AT 10 m MAJOR AND 2 m MINOR.
4. GROUND CONTOURS REPRESENT COMPOSITE SURVEYS FROM 2023 AND 2024 (SEE REFERENCES 1 AND 2).
5. TSF CONSTRUCTION TO ELEVATION 974 m IS IN PROGRESS.
6. POND EXTENT DIGITIZED FROM AERIAL IMAGERY (SEE REFERENCE 3).
7. BIOSOLIDS STOCKPILE REMOVAL IS ONGOING AS PART OF ABUTMENT FOUNDATION PREPARATION, EXTENT OF EXCAVATION AND FOUNDATION PREPARATION TO BE CONFIRMED BY THE QA MANAGER.
8. CORNERS 1, 2, 3, 4, AND 5 ARE SHOWN AS BEING STRAIGHT ANGLES. HOWEVER, THE EXISTING EMBANKMENT TILL CORE, FILTER AND TRANSITION ARE CURVED AT THESE CORNERS.

REFERENCES

1. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC AS 0.1 m CONTOUR DATA, SURVEYED: 30 OCTOBER 2023; RECEIVED: 01 FEBRUARY 2024; FILE NAME: 231030-TSF Lidar Contor 0.1.dxf".
2. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES, SURVEYED: 10 DECEMBER 2024; RECEIVED: 13 DECEMBER 2024; FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".
3. AERIAL IMAGERY OBTAINED FROM COPERNICUS BROWSER, IMAGE DATE: 11 OCTOBER 2024.
4. SITE FEATURES PROVIDED BY MPMC. FILE NAME: "MtPolley2013-Pln.dwg", RECEIVED: 5 SEPTEMBER 2014.

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0 200 400

1:6,000 METRES

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2025-07-16

CLIENT: MOUNT POLLEY MINING CORPORATION

CONSULTANT

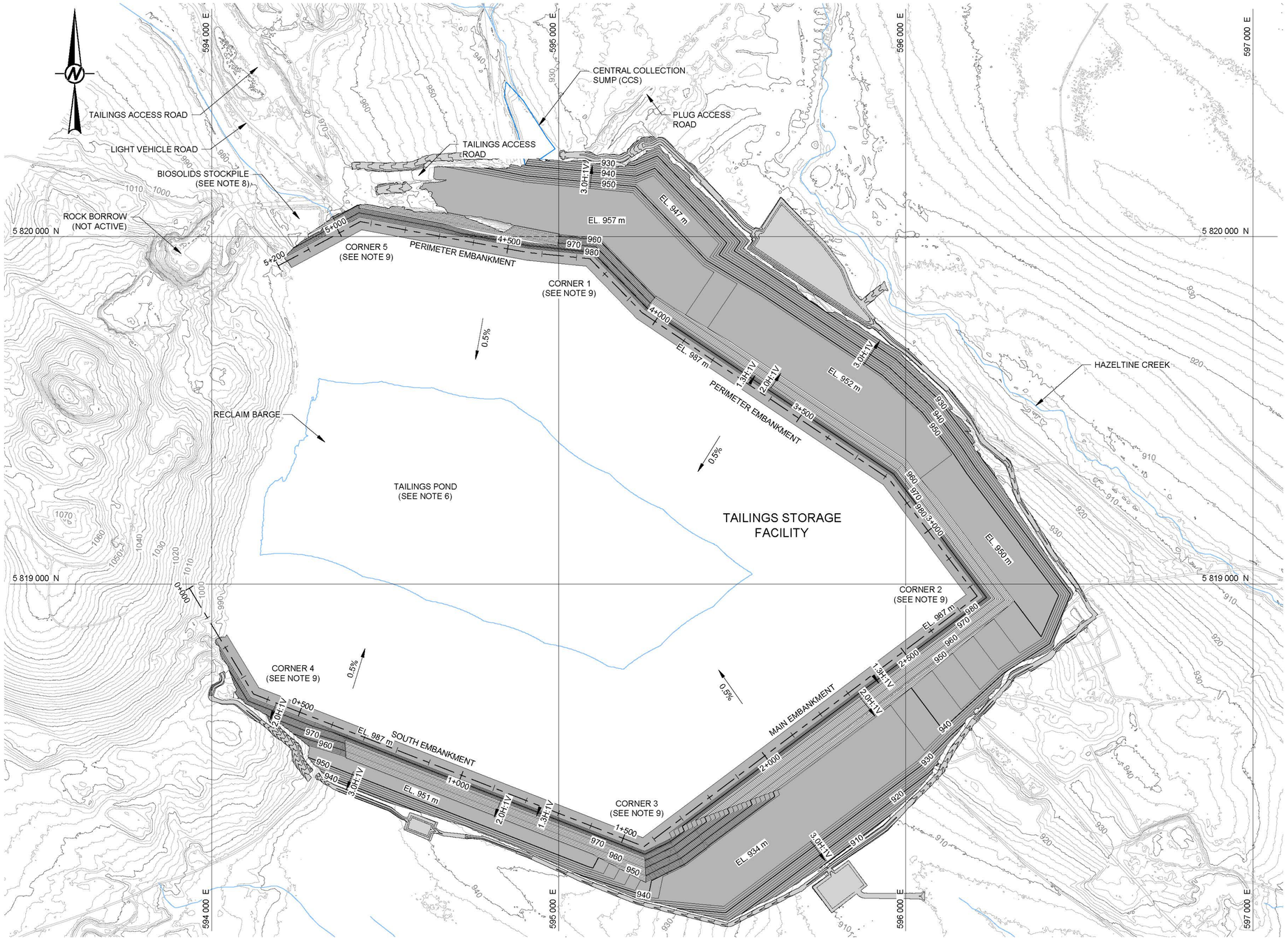
WSP CANADA INC.
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PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
PRE-CONSTRUCTION CONDITIONS

PROJECT NO.	PHASE/TASK/DOC.	REV.		DRAWING
CA0047730.8440	51200/51293/004	0	3 of 32	03

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D
0 25 mm



LEGEND

- TAILINGS STORAGE FACILITY (TSF) EMBANKMENT CENTRELINE (4+400)
- GROUND CONTOURS (SEE NOTE 4)
- SITE ACCESS ROADS (SEE REFERENCE 3)
- WATERCOURSE (SEE REFERENCE 3)
- WATERBODY (SEE REFERENCE 3)
- TSF EL. 987 m EMBANKMENT RAISE AND BUTTRESS DESIGN CONTOURS
- TSF EL. 987 m WATER MANAGEMENT DESIGN CONTOURS (SEE NOTE 5)
- TSF EL. 974 m EMBANKMENT RAISE AND BUTTRESS DESIGN CONTOURS (SEE NOTE 6)
- TAILINGS POND (SEE NOTE 7)

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. COORDINATES AND ELEVATIONS ARE SHOWN IN TAILINGS GRID.
3. CONTOUR INTERVAL SHOWN AT 10 m MAJOR AND 2 m MINOR, TAILINGS DEPOSITION CONTOUR INTERVAL SHOWN AT 5 m MAJOR AND 1 m MINOR.
4. GROUND CONTOURS REPRESENT COMPOSITE SURVEYS FROM 2023 AND 2024 (SEE REFERENCES 1 AND 2).
5. THE EL. 987 m WATER MANAGEMENT IFP DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-007-REV0-31153).
6. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394). THE EL. 974 m SPILLWAY IS NOT SHOWN IN DRAWINGS.
7. TAILINGS SURFACE SHOWN FOR REFERENCE ONLY, BEACH SLOPE WILL VARY.
8. BIOSOLIDS STOCKPILE REMOVAL IS ONGOING AS PART OF ABUTMENT FOUNDATION PREPARATION. EXTENT OF EXCAVATION AND FOUNDATION PREPARATION TO BE CONFIRMED BY THE QA MANAGER.
9. CORNERS ARE SHOWN AS BEING STRAIGHT ANGLES. CONSTRUCTION IS TO FOLLOW THE EXISTING CURVATURE OF THE TILL CORE.

REFERENCES

1. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC AS 0.1 m CONTOUR DATA, SURVEYED: 30 OCTOBER 2023; RECEIVED: 01 FEBRUARY 2024; FILE NAME: 231030-TSF Lidar Contor 0.1.dxf".
2. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES, SURVEYED: 10 DECEMBER 2024; RECEIVED: 13 DECEMBER 2024; FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf" .
3. SITE FEATURES PROVIDED BY MPMC. FILE NAME: "MtPolley2013-Pln.dwg", RECEIVED: 5 SEPTEMBER 2014.

ISSUED FOR

CONSTRUCTION

0 200 400

1:6,000 METRES

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0	2025-07-11	ISSUED FOR CONSTRUCTION	R.G.	J.S.H.	S.B.	G.P.S.

SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

CLIENT: MOUNT POLLEY MINING CORPORATION

CONSULTANT

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[+1] (604) 685 9381

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
GENERAL ARRANGEMENT - PLAN VIEW

PROJECT NO.	PHASE/TASK/DOC.	REV.		DRAWING
CA0047730.8440	51200/51293/004	0	4 of 32	04

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 25 mm

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SOUTH EMBANKMENT AND BUTTRESS - FOUNDATION PREPARATION

SCALE 1:2 000 m

LEGEND

- TAILINGS STORAGE FACILITY (TSF) EMBANKMENT CENTRELINE (4+400)
- GROUND CONTOURS (SEE NOTE 4)
- SITE ACCESS ROADS (SEE REFERENCE 3)
- TSF EL. 974 m EMBANKMENT RAISE AND BUTTRESS DESIGN CONTOURS (SEE NOTE 8)
- TSF EL. 987 m EMBANKMENT RAISE DESIGN TOE
- TSF EL. 987 m BUTTRESS RAISE DESIGN TOE
- TSF EL. 987 m FOUNDATION PREPARATION FOOTPRINT (SEE NOTE 6)
- SOUTH EMBANKMENT FOUNDATION PREPARATION SETOUT POINT (SEFP-07)

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. COORDINATES AND ELEVATIONS ARE SHOWN IN TAILINGS GRID.
3. CONTOUR INTERVAL SHOWN AT 10 m MAJOR AND 2 m MINOR, TAILINGS DEPOSITION CONTOUR INTERVAL SHOWN AT 5 m MAJOR AND 1 m MINOR.
4. GROUND CONTOURS REPRESENT COMPOSITE SURVEYS FROM 2023 AND 2024 (SEE REFERENCES 1 AND 2).
5. TAILINGS SURFACE SHOWN FOR REFERENCE ONLY, BEACH SLOPE WILL VARY.
6. EXTENT AND DEPTH OF FOUNDATION PREPARATION TO BE CONFIRMED BY QA MANAGER.
7. CORNERS 3 AND 4 ARE SHOWN AS BEING STRAIGHT ANGLES. HOWEVER, THE EXISTING EMBANKMENT TILL CORE, FILTER AND TRANSITION ARE CURVED AT THESE CORNERS.
8. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).
9. COMPLETED AND ONGOING FOUNDATION PREPARATION AS PART OF THE EL. 974 m IFC DESIGN IS NOT SHOWN.
10. BOOTJACK-MOREHEAD CONNECTOR REALIGNMENT DESIGNED BY OTHERS AND IS NOT SHOWN IN THESE DRAWINGS.

REFERENCES

1. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC AS 0.1 m CONTOUR DATA, SURVEYED: 30 OCTOBER 2023, RECEIVED: 01 FEBRUARY 2024, FILE NAME: "231030-TSF Lidar Contor 0.1.dxf".
2. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES, SURVEYED: 10 DECEMBER 2024, RECEIVED: 13 DECEMBER 2024, FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".
3. SITE FEATURES PROVIDED BY MPMC, RECEIVED: 5 SEPTEMBER 2014, FILE NAME: "MtPolley2013-Pln.dwg".

SOUTH EMBANKMENT FOUNDATION PREPARATION SETOUT TABLE

POINT ID	EASTING (m)	NORTHING (m)	ELEVATION (m)
SEFP-01	594005.08	5818835.64	985.55
SEFP-02	594066.91	5818678.26	970.48
SEFP-03	594176.28	5818606.06	969.16
SEFP-04	594279.13	5818527.19	951.90
SEFP-05	594329.28	5818442.51	940.13
SEFP-06	594703.81	5818306.07	941.94
SEFP-07	595229.98	5818089.81	934.97

ISSUED FOR

CONSTRUCTION

0 100 200

1:2,000 METRES

THIS DRAWING IS INTENDED FOR CLIENT'S ONE TIME USE ONLY AND IT IS NOT INTENDED OR REPRESENTED BY WSP TO BE SUITABLE FOR REUSE BY ANY PARTY, INCLUDING, BUT NOT LIMITED TO, THE CLIENT, ITS EMPLOYEES, AGENTS, SUBCONTRACTORS OR SUBSEQUENT OWNERS ON ANY EXTENSION OF A SPECIFIC PROJECT OR FUTURE PROJECTS, WHETHER CLIENTS OR OTHERWISE, WITHOUT WSPS PRIOR WRITTEN PERMISSION. ANY MANIPULATION, ADAPTATION, MODIFICATION, ALTERATION, MISUSE OR REUSE UNAUTHORIZED BY WSP WILL BE AT CLIENT'S SOLE RISK. WSP EXPRESSLY DISCLAIMS ALL LIABILITY AGAINST ALL THIRD PARTIES RELYING, USING OR MAKING DECISIONS ON THIS DRAWING. THIRD PARTIES DO SO AT THEIR OWN RISK. EXCEPT WHERE WRITTEN AGREEMENT STATES OTHERWISE, THIS DRAWING IS THE PROPERTY OF WSP CANADA INC.

REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
0	2025-07-11	ISSUED FOR CONSTRUCTION	R.G.	J.S.H.	S.B.	G.P.S.

WSP Canada Inc.
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Permit #1000200

SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

CLIENT

MOUNT POLLEY MINING CORPORATION

CONSULTANT

WSP CANADA INC.
840 HOWE STREET, SUITE 1000
VANCOUVER, BC
V6Z 2M1
[+1] (604) 685 9381

PROJECT

MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE

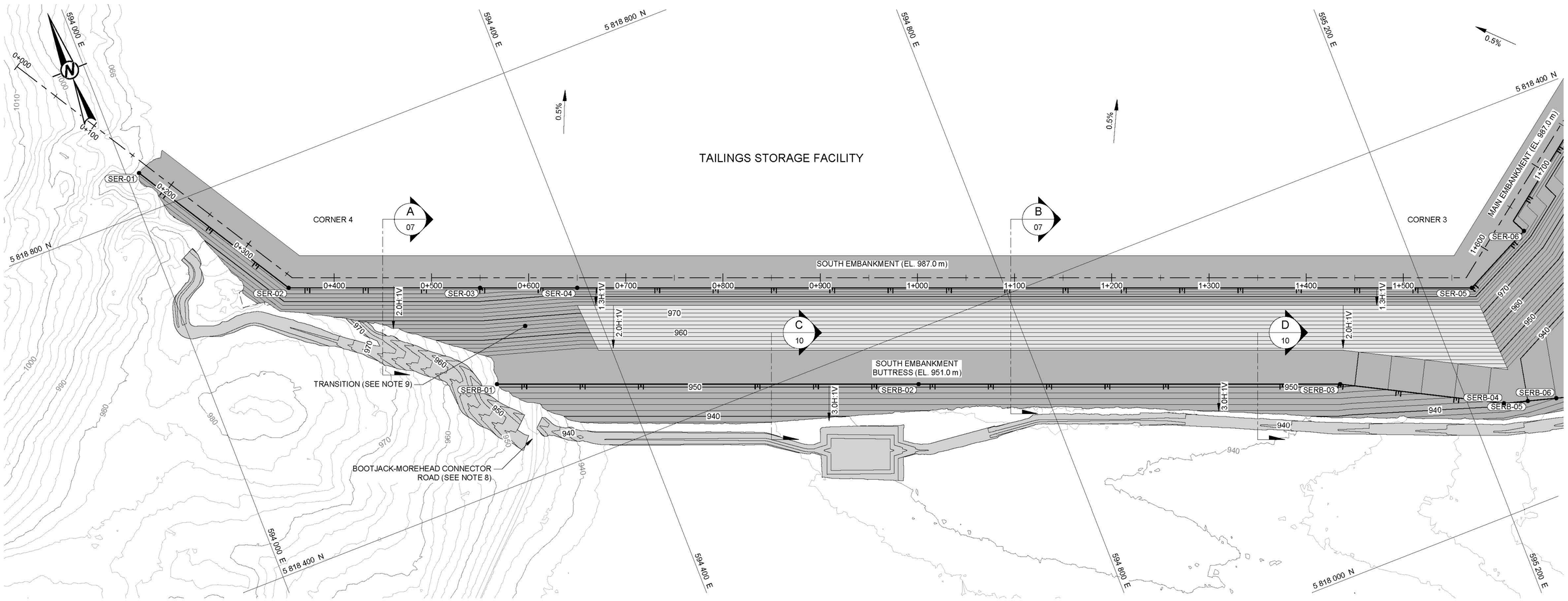
SOUTH EMBANKMENT AND BUTTRESS FOUNDATION PREPERATION

PROJECT NO.	PHASE/TASK/DOC.	REV.	5 of 32	DRAWING
CA0047730.8440	51200/51293/004	0		05

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 25 mm

Path: \\corp.pbwan.net\CA\CALVAN4400\CAD-GIS\Client\Imperial_Metals_Corp\Mount_Polley_Mine\09_PRO_JECTS\CA0047730_8440\51200\51293\Dec 004_987 Design\02_PRODUCTION\DWGS\Drawings\ | File Name: CA0047730_8440-51200-51293-004-005.dwg | Last Edited By: gld_jhopson Date: 2025-07-09 Time:4:53:01 PM | Printed By: gld_jhopson Date: 2025-07-11 Time:12:49:17 PM



SOUTH EMBANKMENT AND BUTTRESS - PLAN VIEW

SCALE 1:2 000 m

LEGEND

- TAILINGS STORAGE FACILITY (TSF) EMBANKMENT CENTRELINE (4+400)
- GROUND CONTOURS (SEE NOTE 4)
- SITE ACCESS ROADS (SEE REFERENCE 3)
- TSF EL. 987 m EMBANKMENT RAISE AND BUTTRESS DESIGN CONTOURS
- TSF EL. 987 m WATER MANAGEMENT DESIGN CONTOURS (SEE NOTE 6)
- TSF EL. 974 m EMBANKMENT RAISE AND BUTTRESS DESIGN CONTOURS (SEE NOTE 7)
- SER-06 SOUTH EMBANKMENT RAISE SETOUT POINT
- SERB-06 SOUTH EMBANKMENT BUTTRESS SETOUT POINT

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. COORDINATES AND ELEVATIONS ARE SHOWN IN TAILINGS GRID.
3. CONTOUR INTERVAL SHOWN AT 10 m MAJOR AND 2 m MINOR, TAILINGS DEPOSITION CONTOUR INTERVAL SHOWN AT 5 m MAJOR AND 1 m MINOR.
4. GROUND CONTOURS REPRESENT COMPOSITE SURVEYS FROM 2023 AND 2024 (SEE REFERENCES 1 AND 2).
5. TAILINGS SURFACE SHOWN FOR REFERENCE ONLY, BEACH SLOPE WILL VARY.
6. THE EL. 987 m WATER MANAGEMENT IFP DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-007-REV0-31153).
7. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).
8. BOOTJACK-MOREHEAD CONNECTOR REALIGNMENT DESIGNED BY OTHERS AND IS NOT SHOWN IN THESE DRAWINGS.
9. FROM STATION 0+170 TO 0+550, THE EMBANKMENT SLOPE IS 2H:1V FROM CREST TO TOE. FROM STATION 0+650 TO 1+570, THE EMBANKMENT SLOPE IS 1.3H:1V ABOVE AND 2H:1V BELOW ELEVATION 975.6 m. THE EMBANKMENT SLOPE TRANSITIONS BETWEEN THESE CONFIGURATIONS FROM STATION 0+550 TO 0+650.
10. ACCESS RAMPS HAVE BEEN INCLUDED ON DRAWINGS BASED ON EXISTING RAMP LOCATIONS. RAMP LOCATIONS MAY BE ADJUSTED FOLLOWING WRITTEN CONFIRMATION BY THE ENGINEER.

REFERENCES

1. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC AS 0.1 m CONTOUR DATA, SURVEYED: 30 OCTOBER 2023, RECEIVED: 01 FEBRUARY 2024, FILE NAME: "231030-TSF Lidar Contor 0.1.dxf".
2. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES, SURVEYED: 10 DECEMBER 2024, RECEIVED: 13 DECEMBER 2024, FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".
3. SITE FEATURES PROVIDED BY MPMC, RECEIVED: 5 SEPTEMBER 2014, FILE NAME: "MtPolley2013-Pln.dwg".

SOUTH EMBANKMENT EL. 987 m RAISE SETOUT TABLE

POINT ID	EASTING (m)	NORTHING (m)	ELEVATION (m)
SER-01	594012.92	5818840.83	987.00
SER-02	594113.37	5818674.78	987.00
SER-03	594296.70	5818603.17	987.00
SER-04	594389.85	5818566.79	987.00
SER-05	595247.23	5818231.89	987.00
SER-06	595318.43	5818266.96	987.00

SOUTH EMBANKMENT BUTTRESS DESIGN SETOUT TABLE

POINT ID	EASTING (m)	NORTHING (m)	ELEVATION (m)
SERB-01	594276.92	5818504.61	951.00
SERB-02	594680.94	5818346.80	951.00
SERB-03	595084.97	5818188.99	951.00
SERB-04	595234.72	5818109.28	941.00
SERB-05	595258.42	5818102.60	940.00
SERB-06	595286.79	5818094.61	938.00

0 100 200
1:2,000 METRES

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CONSTRUCTION

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0	2025-07-11	ISSUED FOR CONSTRUCTION	R.G.	J.S.H.	S.B.	G.P.S.

WSP Canada Inc.
Engineers & Geoscientists BC
Permit #1000200

SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

CLIENT: MOUNT POLLEY MINING CORPORATION

CONSULTANT

WSP CANADA INC.
840 HOWE STREET, SUITE 1000
VANCOUVER, BC
V6Z 2M1
[+1] (604) 685 9381

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

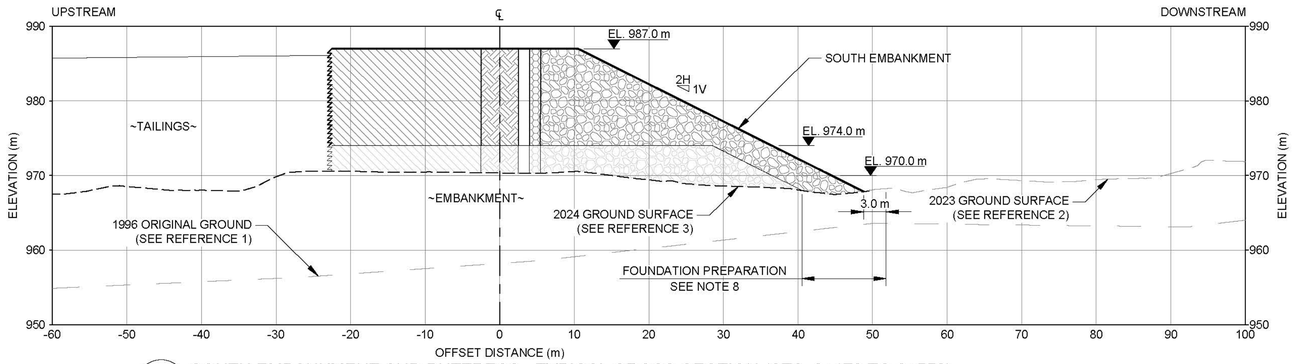
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SOUTH EMBANKMENT AND BUTTRESS PLAN VIEW

PROJECT NO.	PHASE/TASK/DOC.	REV.		DRAWING
CA0047730.8440	51200/51293/004	0	6 of 32	06

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

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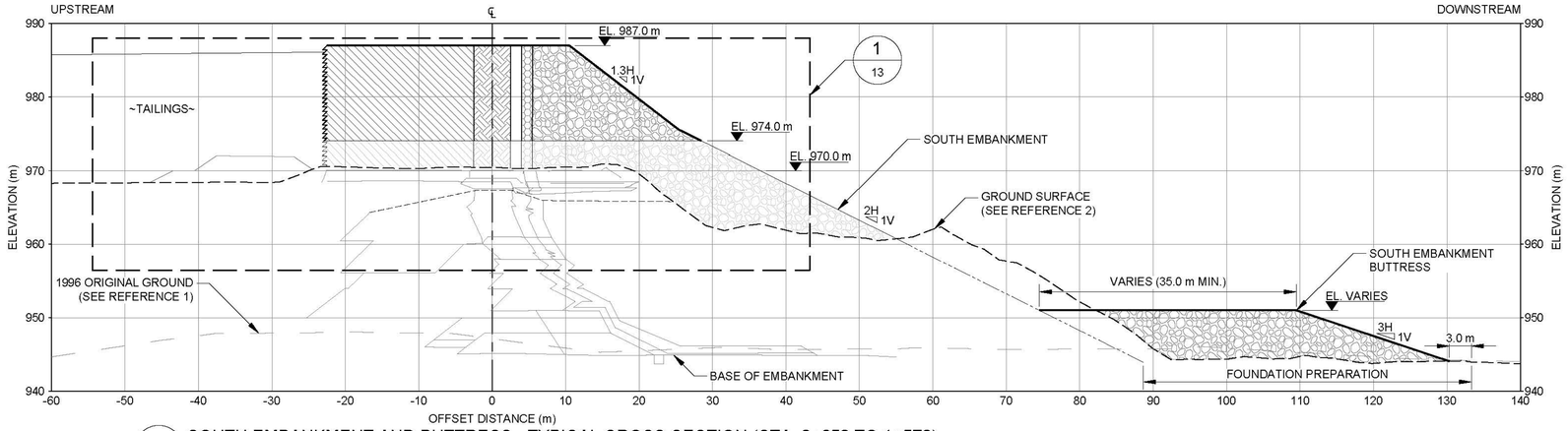
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SCALE 1:400 m

A 05 06

SOUTH EMBANKMENT AND BUTTRESS - TYPICAL CROSS-SECTION (STA. 0+170 TO 0+550)



SCALE 1:400 m

B 05 06

SOUTH EMBANKMENT AND BUTTRESS - TYPICAL CROSS-SECTION (STA. 0+650 TO 1+570)

LEGEND

- 1996 ORIGINAL GROUND (SEE NOTE 7 AND REFERENCE 1)
- GROUND SURFACE (SEE REFERENCE 2)
- PREVIOUSLY CONSTRUCTED MATERIAL BOUNDARY
- 2013 CONSTRUCTION (SEE NOTE 4)
- EL. 974 m EMBANKMENT DESIGN SLOPE
- EL. 987 m RAISE DESIGN ROCKFILL
- EL. 987 m RAISE DESIGN TRANSITION MATERIAL
- EL. 987 m RAISE DESIGN FILTER MATERIAL
- EL. 987 m RAISE DESIGN TILL CORE
- EL. 987 m RAISE DESIGN UPSTREAM FILL
- EL. 974 m RAISE DESIGN ROCKFILL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TRANSITION MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN FILTER MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TILL CORE (SEE NOTE 5)
- EL. 974 m RAISE DESIGN UPSTREAM FILL (SEE NOTE 5)

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. ELEVATIONS SHOWN ARE REFERENCED TO TAILINGS GRID.
3. SECTION INFORMATION WAS DIGITALIZED USING THE AMEC 2013 RECORD SURVEY AND ANNUAL REVIEW REPORT, FILE NAME: "2014 03 12 - 2013 AS-BUILT & ANNUAL REVIEW REPORT (AMEC).pdf", DATED: 12 MARCH 2014.
4. DIGITALIZED SECTION WAS UPDATED WITH THE 2014 AS-BUILT SURVEY PROVIDED BY MPMC ON 14 SEPTEMBER 2015 AND MAY 2015 SURVEY.
5. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).
6. FROM STATION 0+170 TO 0+550, THE EMBANKMENT SLOPE IS 2H:1V FROM CREST TO TOE. FROM STATION 0+650 TO 1+570, THE EMBANKMENT SLOPE IS 1.3H:1V ABOVE AND 2H:1V BELOW ELEVATION 975.6 m. THE EMBANKMENT SLOPE TRANSITIONS BETWEEN THESE CONFIGURATIONS FROM STATION 0+550 TO 0+650.
7. ORIGINAL GROUND SURVEY DISCREPANCY WITH ENCOUNTERED CONDITIONS FROM STATION 0+300 TO 0+500.
8. FOUNDATION PREPARATION REQUIRED IN AREAS WHERE NO PREVIOUS FOUNDATION PREPARATION HAS BEEN DONE.

REFERENCES

1. 1996 ORIGINAL GROUND PROVIDED BY MPMC, RECEIVED: 11 MARCH 2015, FILE NAME: "1996 TSF Topo.dxf".
2. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC AS 0.1 m CONTOUR DATA, SURVEYED: 30 OCTOBER 2023, RECEIVED: 01 FEBRUARY 2024, FILE NAME: "231030-TSF Lidar Contor 0.1.dxf".
3. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES, SURVEYED: 10 DECEMBER 2024, RECEIVED: 13 DECEMBER 2024, FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".

ISSUED FOR

CONSTRUCTION

0 20 40

1:400 METRES

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0	2025-07-11	ISSUED FOR CONSTRUCTION	R.G.	J.S.H.	S.B.	G.P.S.

WSP Canada Inc.
Engineers & Geoscientists BC
Permit #1000200

SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

CLIENT: MOUNT POLLEY MINING CORPORATION

CONSULTANT

WSP CANADA INC.
840 HOWE STREET, SUITE 1000
VANCOUVER, BC
V6Z 2M1
[+1] (604) 685 9381

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

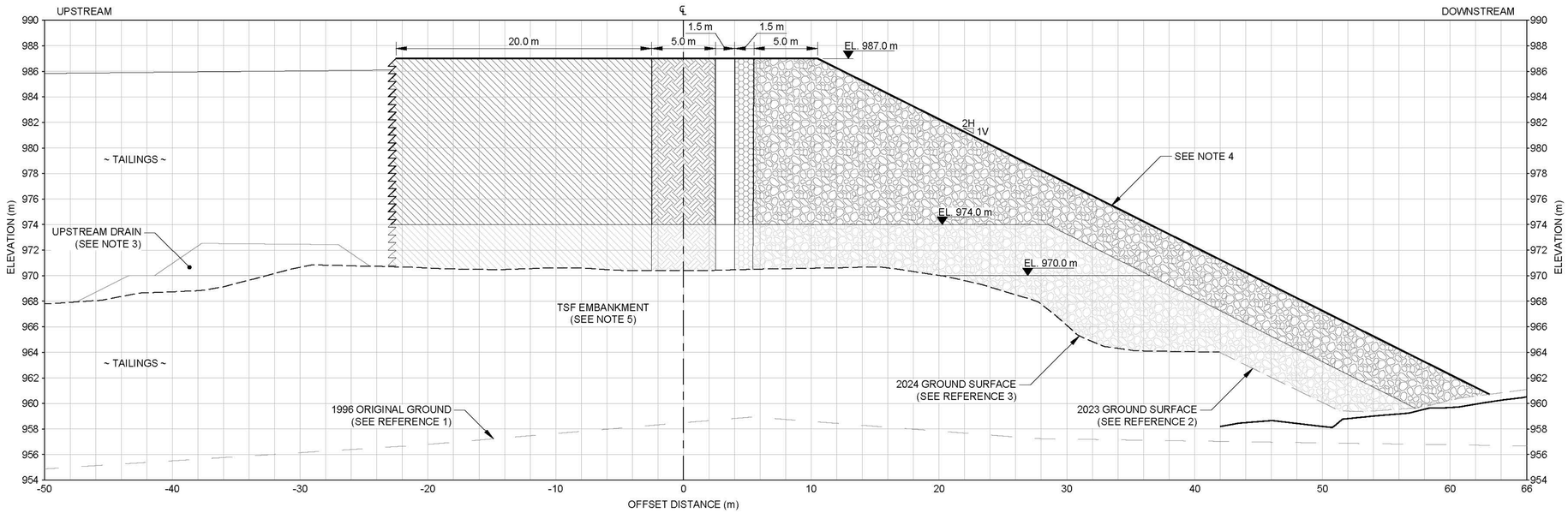
TITLE
SOUTH EMBANKMENT AND BUTTRESS TYPICAL CROSS-SECTIONS

PROJECT NO.	PHASE/TASK/DOC.	REV.	7 of 32	DRAWING
CA0047730.8440	51200/51293/004	0		07

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

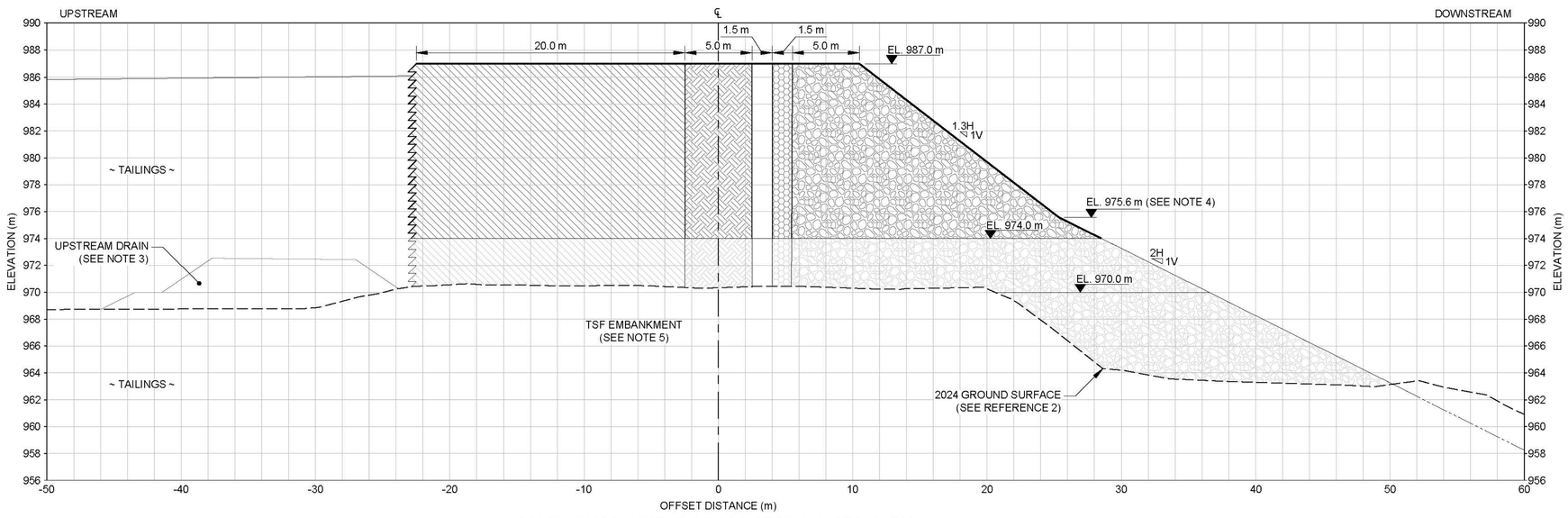
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Path: \\corp.pbwan.net\CACAVAN490\CAD-GIS\Client\Imperial_Metals_Corp\Mount_Polley_Mine\99_PROJECTS\CA0047730_8440\51200\51293\Doc 004_987 Design\02_PRODUCTION\DWG\Drawings\ | File Name: CA0047730_8440-51200-51293-004-007.dwg | Last Edited By: gld_jhopson Date: 2025-07-10 Time:11:53:38 AM | Printed By: gld_jhopson Date: 2025-07-11 Time:12:52:12 PM



SOUTH EMBANKMENT CROSS-SECTION (STA. 0+500)

SCALE 1:200 m



SOUTH EMBANKMENT CROSS-SECTION (STA. 0+700)

SCALE 1:200 m

LEGEND

- 1996 ORIGINAL GROUND (SEE NOTE 6 AND REFERENCE 1)
- 2023 GROUND SURFACE (SEE REFERENCE 2)
- 2024 GROUND SURFACE (SEE REFERENCE 3)
- EL. 974 m EMBANKMENT DESIGN SLOPE
- HISTORICAL FOUNDATION PREPARATION (SEE REFERENCE 4)
- EL. 987 m RAISE DESIGN ROCKFILL
- EL. 987 m RAISE DESIGN TRANSITION MATERIAL
- EL. 987 m RAISE DESIGN FILTER MATERIAL
- EL. 987 m RAISE DESIGN TILL CORE
- EL. 987 m RAISE DESIGN UPSTREAM FILL
- EL. 974 m RAISE DESIGN ROCKFILL (SEE NOTE 3)
- EL. 974 m RAISE DESIGN TRANSITION MATERIAL (SEE NOTE 3)
- EL. 974 m RAISE DESIGN FILTER MATERIAL (SEE NOTE 3)
- EL. 974 m RAISE DESIGN TILL CORE (SEE NOTE 3)
- EL. 974 m RAISE DESIGN UPSTREAM FILL (SEE NOTE 3)

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. ELEVATIONS SHOWN ARE REFERENCED TO TAILINGS GRID.
3. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).
4. FROM STATION 0+170 TO 0+550, THE EMBANKMENT SLOPE IS 2H:1V FROM CREST TO TOE. FROM STATION 0+650 TO 1+570, THE EMBANKMENT SLOPE IS 1.3H:1V ABOVE AND 2H:1V BELOW ELEVATION 975.6 m. THE EMBANKMENT SLOPE TRANSITIONS BETWEEN THESE CONFIGURATIONS FROM STATION 0+550 TO 0+650.
5. NO AS-CONSTRUCTED SURVEY AVAILABLE FOR THE TSF EMBANKMENT.
6. ORIGINAL GROUND SURVEY DISCREPANCY WITH ENCOUNTERED CONDITIONS FROM STATION 0+300 TO 0+500.

REFERENCES

1. 1996 ORIGINAL GROUND PROVIDED BY MPMC, RECEIVED: 11 MARCH 2015, FILE NAME: "1996 TSF Topo.dxf".
2. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC AS 0.1 m CONTOUR DATA, SURVEYED: 30 OCTOBER 2023, RECEIVED: 01 FEBRUARY 2024, FILE NAME: "231030-TSF Lidar Contor 0.1.dxf".
3. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES, SURVEYED: 10 DECEMBER 2024, RECEIVED: 13 DECEMBER 2024, FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".
4. HISTORICAL FOUNDATION PREPARATION PROVIDED BY MPMC AS MULTIPLE SURVEYS, SURVEYED: 2015 TO 2024, RECEIVED: 2015 TO 2025.

ISSUED FOR

CONSTRUCTION

0 10 20

1:200 METRES

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0	2025-07-11	ISSUED FOR CONSTRUCTION	R.G.	J.S.H.	S.B.	G.P.S.

WSP Canada Inc.
Engineers & Geoscientists BC
Permit #1000200

SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA — # 40077

2025-07-16

CLIENT

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CONSULTANT

WSP CANADA INC.
840 HOWE STREET, SUITE 1000
VANCOUVER, BC
V6Z 2M1
[+1] (604) 685 9381

PROJECT

MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE

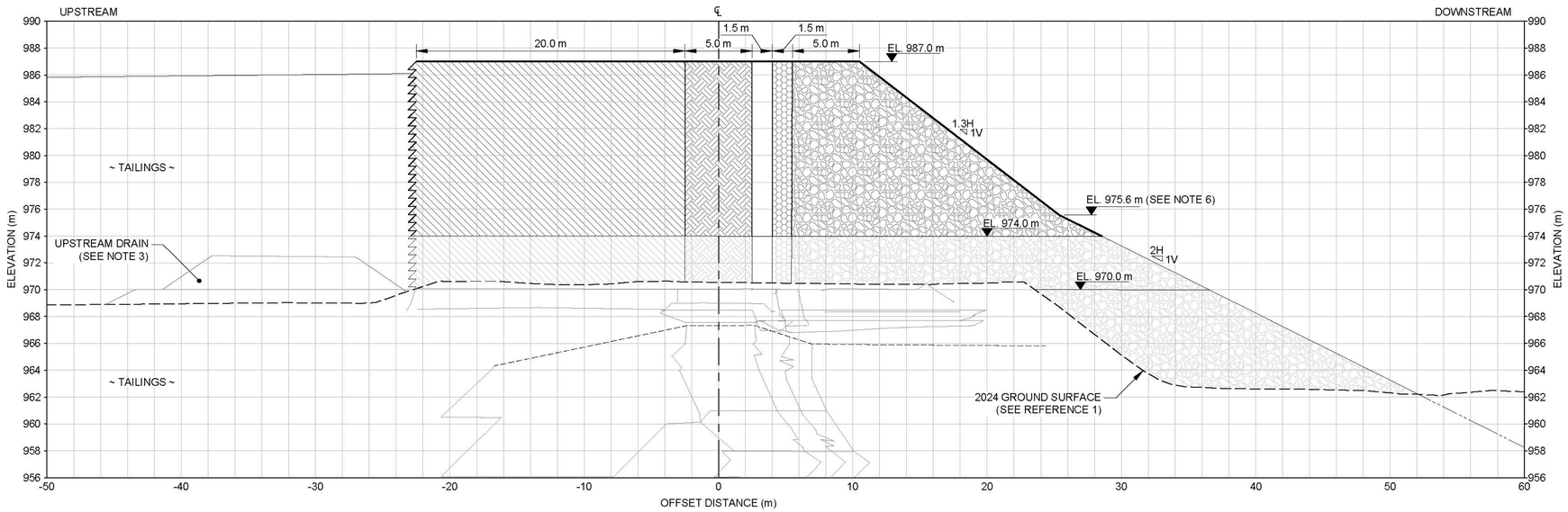
SOUTH EMBANKMENT - CROSS-SECTIONS (1 OF 2)

PROJECT NO.	PHASE/TASK/DOC.	REV.	8 of 32	DRAWING
CA0047730.8440	51200/51293/004	0		08

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D

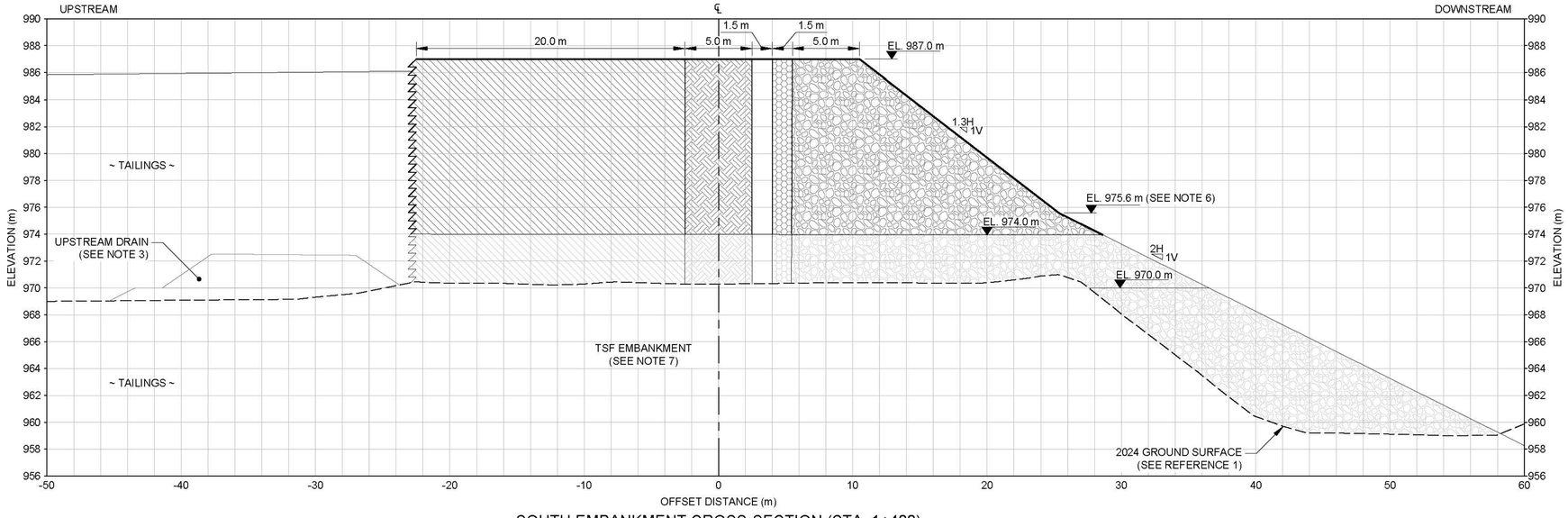
0 25 mm

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SOUTH EMBANKMENT CROSS-SECTION (STA. 1+000)

SCALE 1:200 m



SOUTH EMBANKMENT CROSS-SECTION (STA. 1+400)

SCALE 1:200 m

LEGEND

- 2024 GROUND SURFACE (SEE REFERENCE 1)
- PREVIOUSLY CONSTRUCTED MATERIAL BOUNDARY
- 2013 CONSTRUCTION (SEE NOTE 4)
- EL. 974 m EMBANKMENT DESIGN SLOPE
- EL. 987 m RAISE DESIGN ROCKFILL
- EL. 987 m RAISE DESIGN TRANSITION MATERIAL
- EL. 987 m RAISE DESIGN FILTER MATERIAL
- EL. 987 m RAISE DESIGN TILL CORE
- EL. 987 m RAISE DESIGN UPSTREAM FILL
- EL. 974 m RAISE DESIGN ROCKFILL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TRANSITION MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN FILTER MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TILL CORE (SEE NOTE 5)
- EL. 974 m RAISE DESIGN UPSTREAM FILL (SEE NOTE 5)

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. ELEVATIONS SHOWN ARE REFERENCED TO TAILINGS GRID.
3. SECTION INFORMATION WAS DIGITALIZED USING THE AMEC 2013 RECORD SURVEY AND ANNUAL REVIEW REPORT,
   FILE NAME: "2014 03 12 - 2013 AS-BUILT & ANNUAL REVIEW REPORT (AMEC).pdf",
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4. DIGITALIZED SECTION WAS UPDATED WITH THE 2014 AS-BUILT SURVEY PROVIDED BY MPMC ON 14 SEPTEMBER 2015 AND MAY 2015 SURVEY.
5. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).
6. FROM STATION 0+170 TO 0+550, THE EMBANKMENT SLOPE IS 2H:1V FROM CREST TO TOE. FROM STATION 0+650 TO 1+570, THE EMBANKMENT SLOPE IS 1.3H:1V ABOVE AND 2H:1V BELOW ELEVATION 975.6 m. THE EMBANKMENT SLOPE TRANSITIONS BETWEEN THESE CONFIGURATIONS FROM STATION 0+550 TO 0+650.
7. NO AS-CONSTRUCTED SURVEY AVAILABLE FOR THE TSF EMBANKMENT.

REFERENCE

1. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES, SURVEYED: 10 DECEMBER 2024, RECEIVED: 13 DECEMBER 2024, FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".

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CONSTRUCTION

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1:200 METRES

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REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
0	2025-07-11	ISSUED FOR CONSTRUCTION	R.G.	J.S.H.	S.B.	G.P.S.

SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

CLIENT

MOUNT POLLEY MINING CORPORATION

CONSULTANT

WSP CANADA INC.
840 HOWE STREET, SUITE 1000
VANCOUVER, BC
V6Z 2M1
[+1] (604) 685 9381

PROJECT

MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE

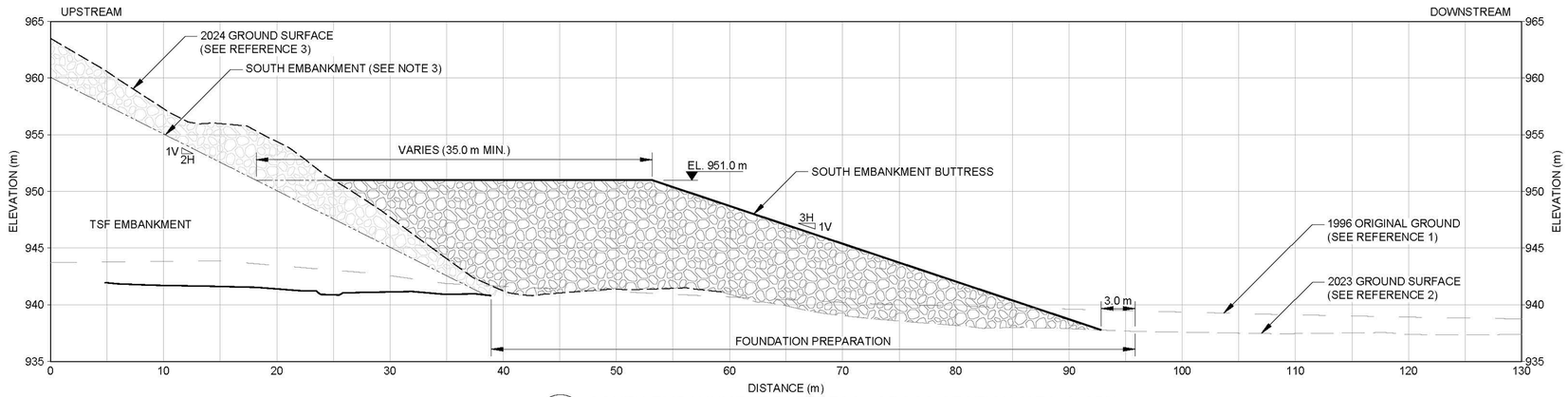
SOUTH EMBANKMENT - CROSS-SECTIONS (2 OF 2)

PROJECT NO.	PHASE/TASK/DOC.	REV.	9 of 32	DRAWING
CA0047730.8440	51200/51293/004	0		09

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 25 mm

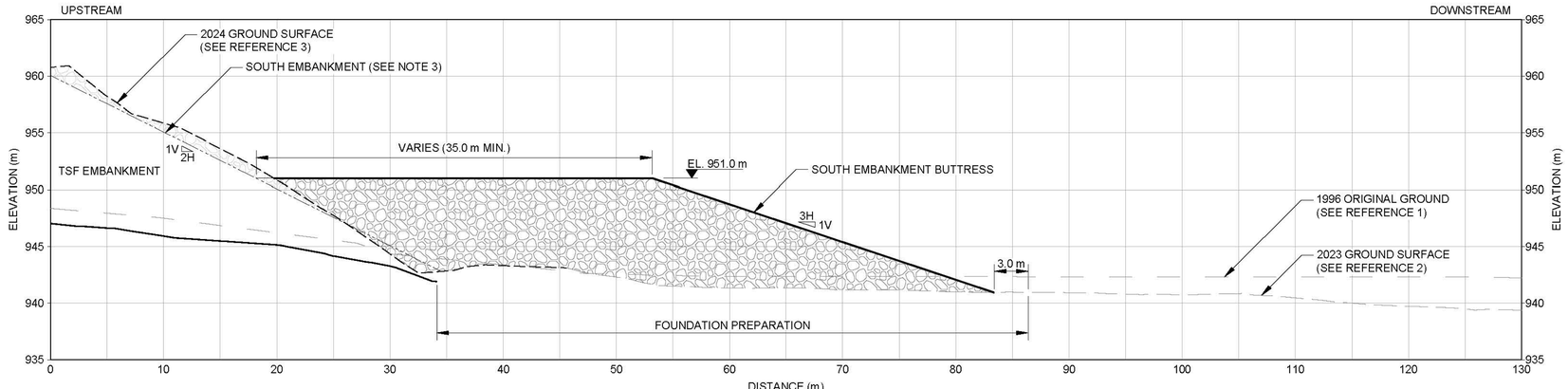
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SCALE 1:250 m

C
05 06

SOUTH EMBANKMENT BUTTRESS - CROSS-SECTION (STA. 0+850)



SCALE 1:250 m

D
05 06

SOUTH EMBANKMENT BUTTRESS - CROSS-SECTION (STA. 1+350)

LEGEND

- 1996 ORIGINAL GROUND (SEE REFERENCE 1)
- 2023 GROUND SURFACE (SEE REFERENCE 2)
- 2024 GROUND SURFACE (SEE REFERENCE 3)
- EL. 974 m EMBANKMENT DESIGN SLOPE
- HISTORICAL FOUNDATION PREPARATION (SEE REFERENCE 4)
- EL. 987 m RAISE DESIGN ROCKFILL
- EL. 974 m RAISE DESIGN ROCKFILL (SEE NOTE 3)

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. ELEVATIONS SHOWN ARE REFERENCED TO TAILINGS GRID.
3. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).

REFERENCES

1. 1996 ORIGINAL GROUND PROVIDED BY MPMC, RECEIVED: 11 MARCH 2015, FILE NAME: "1996 TSF Topo.dxf".
2. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC AS 0.1 m CONTOUR DATA, SURVEYED: 30 OCTOBER 2023, RECEIVED: 01 FEBRUARY 2024, FILE NAME: "231030-TSF Lidar Contor 0.1.dxf".
3. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES, SURVEYED: 10 DECEMBER 2024, RECEIVED: 13 DECEMBER 2024, FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".
4. HISTORICAL FOUNDATION PREPARATION PROVIDED BY MPMC AS MULTIPLE SURVEYS, SURVEYED: 2015 TO 2024, RECEIVED: 2015 TO 2025.

ISSUED FOR

CONSTRUCTION

0 10 20

1:250 METRES

THIS DRAWING IS INTENDED FOR CLIENT'S ONE TIME USE ONLY AND IT IS NOT INTENDED OR REPRESENTED BY WSP TO BE SUITABLE FOR REUSE BY ANY PARTY, INCLUDING, BUT NOT LIMITED TO, THE CLIENT, ITS EMPLOYEES, AGENTS, SUBCONTRACTORS OR SUBSEQUENT OWNERS ON ANY EXTENSION OF A SPECIFIC PROJECT OR FUTURE PROJECTS, WHETHER CLIENT'S OR OTHERWISE, WITHOUT WSP'S PRIOR WRITTEN PERMISSION. ANY MANIPULATION, ADAPTATION, MODIFICATION, ALTERATION, MISUSE OR REUSE UNAUTHORIZED BY WSP WILL BE AT CLIENT'S SOLE RISK. WSP EXPRESSLY DISCLAIMS ALL LIABILITY AGAINST ALL THIRD PARTIES RELYING, USING OR MAKING DECISIONS ON THIS DRAWING. THIRD PARTIES DO SO AT THEIR OWN RISK. EXCEPT WHERE WRITTEN AGREEMENT STATES OTHERWISE, THIS DRAWING IS THE PROPERTY OF WSP CANADA INC.

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0	2025-07-11	ISSUED FOR CONSTRUCTION	R.G.	J.S.H.	S.B.	G.P.S.

SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

CLIENT

MOUNT POLLEY MINING CORPORATION

CONSULTANT

WSP CANADA INC.
840 HOWE STREET, SUITE 1000
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V6Z 2M1
[+1] (604) 685 9381

PROJECT

MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE

SOUTH EMBANKMENT BUTTRESS - CROSS-SECTIONS

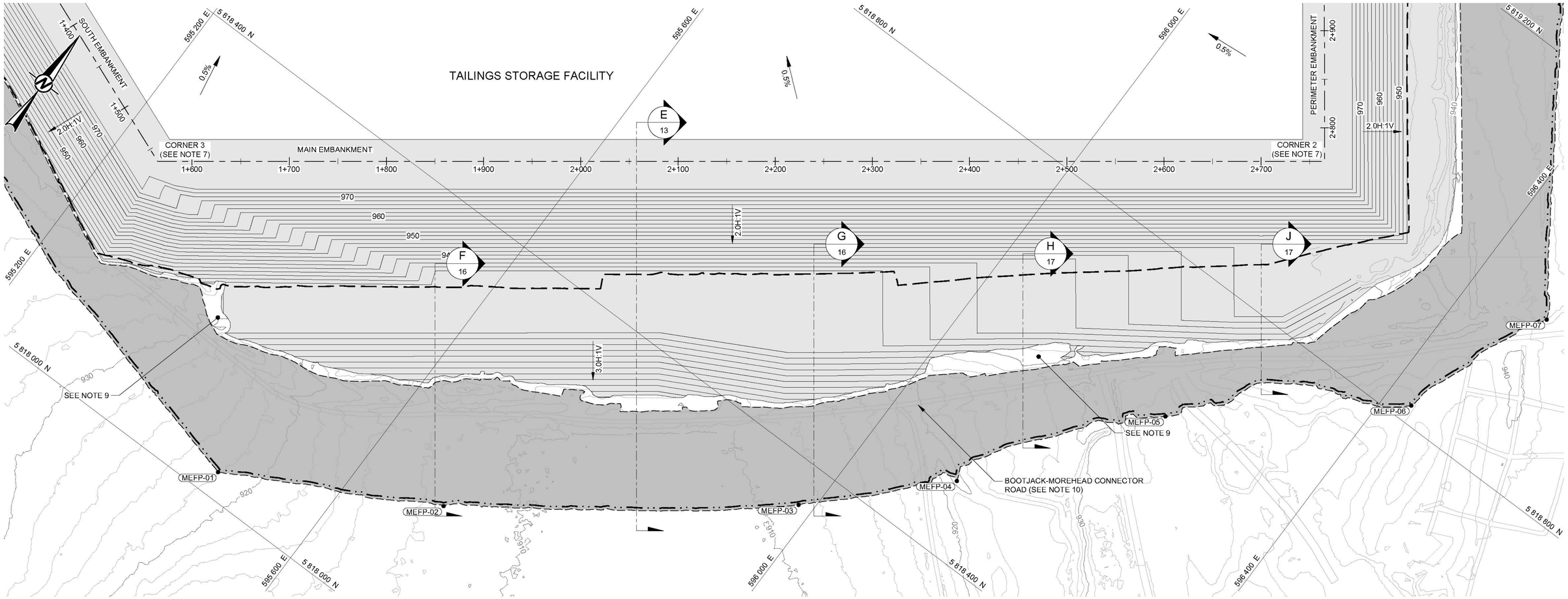
PROJECT NO.	PHASE/TASK/DOC.	REV.	10 of 32	DRAWING
CA0047730.8440	51200/51293/004	0		10

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

25 mm

0

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MAIN EMBANKMENT AND BUTTRESS - FOUNDATION PREPARATION

SCALE 1:2 000 m

LEGEND

- TAILINGS STORAGE FACILITY (TSF) EMBANKMENT CENTRELINE (4+400)
- GROUND CONTOURS (SEE NOTE 4)
- SITE ACCESS ROADS (SEE REFERENCE 3)
- TSF EL. 974 m EMBANKMENT RAISE AND BUTTRESS DESIGN CONTOURS (SEE NOTE 8)
- TSF EL. 987 m EMBANKMENT RAISE DESIGN TOE
- TSF EL. 987 m BUTTRESS RAISE DESIGN TOE
- TSF EL. 987 m FOUNDATION PREPARATION FOOTPRINT (SEE NOTE 6)
- (MEFP-07) MAIN EMBANKMENT FOUNDATION PREPARATION SETOUT POINT

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. COORDINATES AND ELEVATIONS ARE SHOWN IN TAILINGS GRID.
3. CONTOUR INTERVAL SHOWN AT 10 m MAJOR AND 2 m MINOR, TAILINGS DEPOSITION CONTOUR INTERVAL SHOWN AT 5 m MAJOR AND 1 m MINOR.
4. GROUND CONTOURS REPRESENT COMPOSITE SURVEYS FROM 2023 AND 2024 (SEE REFERENCES 1 AND 2).
5. TAILINGS SURFACE SHOWN FOR REFERENCE ONLY, BEACH SLOPE WILL VARY.
6. EXTENT AND DEPTH OF FOUNDATION PREPARATION TO BE CONFIRMED BY QA MANAGER.
7. CORNERS 2 AND 3 ARE SHOWN AS BEING STRAIGHT ANGLES. HOWEVER, THE EXISTING EMBANKMENT TILL CORE, FILTER AND TRANSITION ARE CURVED AT THESE CORNERS.
8. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).
9. COMPLETED AND ONGOING FOUNDATION PREPARATION AS PART OF THE EL. 974 m IFC DESIGN IS NOT SHOWN.
10. BOOTJACK-MOREHEAD CONNECTOR REALIGNMENT DESIGNED BY OTHERS AND IS NOT SHOWN IN THESE DRAWINGS.

REFERENCES

1. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC AS 0.1 m CONTOUR DATA, SURVEYED: 30 OCTOBER 2023, RECEIVED: 01 FEBRUARY 2024, FILE NAME: "231030-TSF Lidar Contor 0.1.dxf".
2. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES, SURVEYED: 10 DECEMBER 2024, RECEIVED: 13 DECEMBER 2024, FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".
3. SITE FEATURES PROVIDED BY MPMC, RECEIVED: 5 SEPTEMBER 2014, FILE NAME: "MtPolley2013-Pln.dwg".

MAIN EMANKMENT FOUNDATION PREPARATION SETOUT TABLE

POINT ID	EASTING (m)	NORTHING (m)	ELEVATION (m)
MEFP-01	595487.36	5818025.64	922.09
MEFP-02	595693.80	5818137.12	910.78
MEFP-03	595985.03	5818357.58	911.00
MEFP-04	596100.45	5818475.06	919.23
MEFP-05	596232.12	5818657.03	930.94
MEFP-06	596427.52	5818817.90	935.50
MEFP-07	596485.90	5818972.25	938.60

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0 100 200

1:2,000 METRES

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SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

CLIENT: MOUNT POLLEY MINING CORPORATION

CONSULTANT

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PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
MAIN EMBANKMENT AND BUTTRESS FOUNDATION PREPERATION

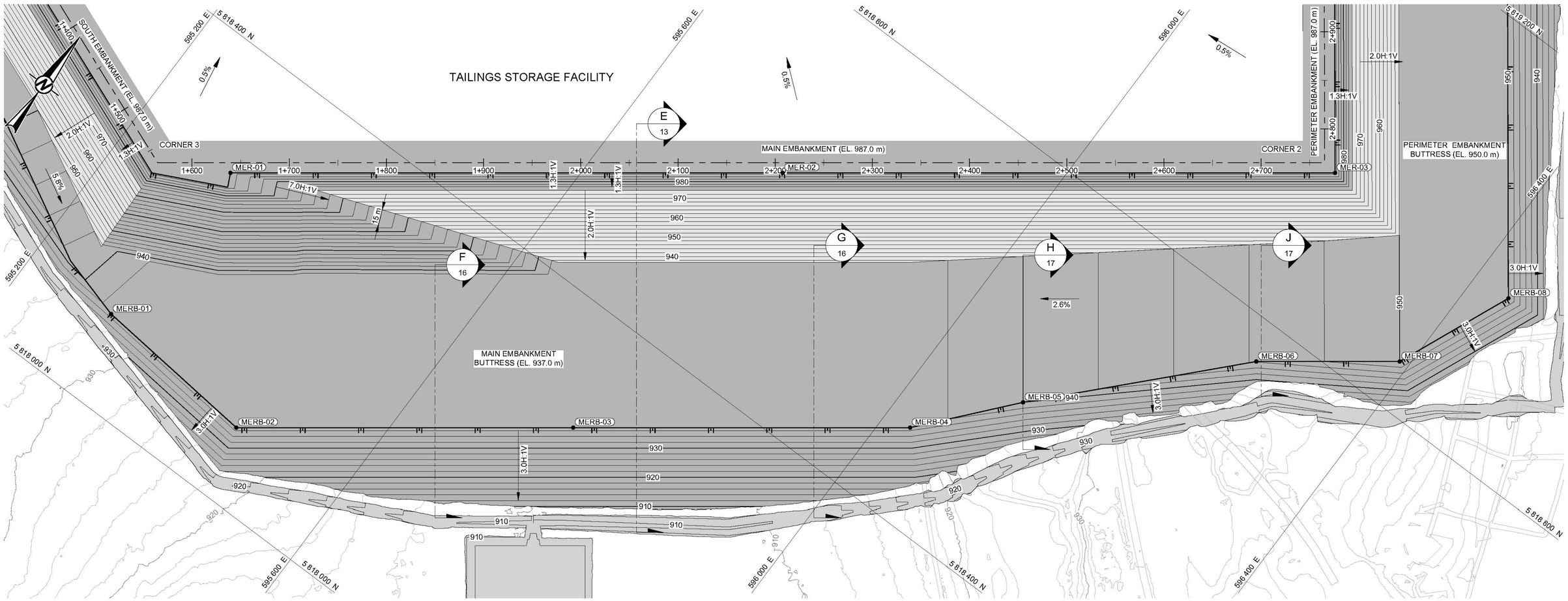
PROJECT NO.	PHASE/TASK/DOC.	REV.	11 of 32	DRAWING
CA0047730.8440	51200/51293/004	0		11

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0 25 mm

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MAIN EMBANKMENT AND BUTTRESS - PLAN VIEW

SCALE 1:2 000 m

LEGEND

- TAILINGS STORAGE FACILITY (TSF) EMBANKMENT CENTRELINE (4+400)
- GROUND CONTOURS (SEE NOTE 4)
- SITE ACCESS ROADS (SEE REFERENCE 3)
- TSF EL. 987 m EMBANKMENT RAISE AND BUTTRESS DESIGN CONTOURS
- TSF EL. 987 m WATER MANAGEMENT DESIGN CONTOURS (SEE NOTE 6)
- TSF EL. 974 m EMBANKMENT RAISE AND BUTTRESS DESIGN CONTOURS (SEE NOTE 7)
- (MER-06) MAIN EMBANKMENT RAISE SETOUT POINT
- (MERB-09) MAIN EMBANKMENT BUTTRESS SETOUT POINT

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. COORDINATES AND ELEVATIONS ARE SHOWN IN TAILINGS GRID.
3. CONTOUR INTERVAL SHOWN AT 10 m MAJOR AND 2 m MINOR, TAILINGS DEPOSITION CONTOUR INTERVAL SHOWN AT 5 m MAJOR AND 1 m MINOR.
4. GROUND CONTOURS REPRESENT COMPOSITE SURVEYS FROM 2023 AND 2024 (SEE REFERENCES 1 AND 2).
5. TAILINGS SURFACE SHOWN FOR REFERENCE ONLY, BEACH SLOPE WILL VARY.
6. THE EL. 987 m WATER MANAGEMENT IFP DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-007-REV0-31153).
7. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).
8. BOOTJACK-MOREHEAD CONNECTOR REALIGNMENT DESIGNED BY OTHERS AND IS NOT SHOWN IN THESE DRAWINGS.
9. CORNERS ARE SHOWN AS BEING STRAIGHT ANGLES. CONSTRUCTION IS TO FOLLOW THE EXISTING CURVATURE OF THE TILL CORE.
10. ACCESS RAMPS HAVE BEEN INCLUDED ON DRAWINGS BASED ON EXISTING RAMP LOCATIONS. RAMP LOCATIONS MAY BE ADJUSTED FOLLOWING WRITTEN CONFIRMATION BY THE ENGINEER.
11. FROM STATION 1+566 TO 2+756, THE EMBANKMENT SLOPE IS 1.3H:1V ABOVE AND 2H:1V BELOW ELEVATION 975.6 m.

REFERENCES

1. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC AS 0.1 m CONTOUR DATA, SURVEYED: 30 OCTOBER 2023, RECEIVED: 01 FEBRUARY 2024, FILE NAME: "231030-TSF Lidar Contor 0.1.dxf".
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3. SITE FEATURES PROVIDED BY MPMC, RECEIVED: 05 SEPTEMBER 2014, FILE NAME: "MtPolley2013-Pln.dwg".

MAIN EMBANKMENT BUTTRESS DESIGN SETOUT TABLE

POINT ID	EASTING (m)	NORTHING (m)	ELEVATION (m)
MERB-01	595300.98	5818090.61	937.00
MERB-02	595474.02	5818074.59	937.00
MERB-03	595751.11	5818282.84	937.00
MERB-04	596028.19	5818491.09	937.00
MERB-05	596105.47	5818581.69	940.00
MERB-06	596272.09	5818759.46	946.20
MERB-07	596389.98	5818848.06	950.00
MERB-08	596440.35	5818967.19	950.00

MAIN EMBANKMENT EL. 987 m RAISE SETOUT TABLE

POINT ID	EASTING (m)	NORTHING (m)	ELEVATION (m)
MER-01	595311.80	5818280.42	987.00
MER-02	595766.03	5818621.81	987.00
MER-03	596220.26	5818963.19	987.00

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0 100 200

1:2,000 METRES

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SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

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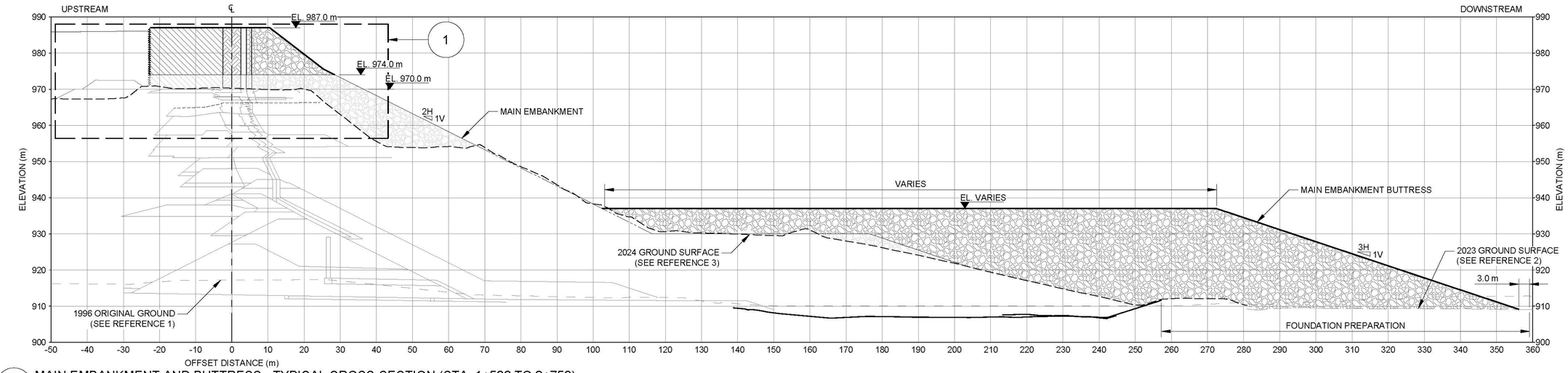
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
MAIN EMBANKMENT AND BUTTRESS PLAN VIEW

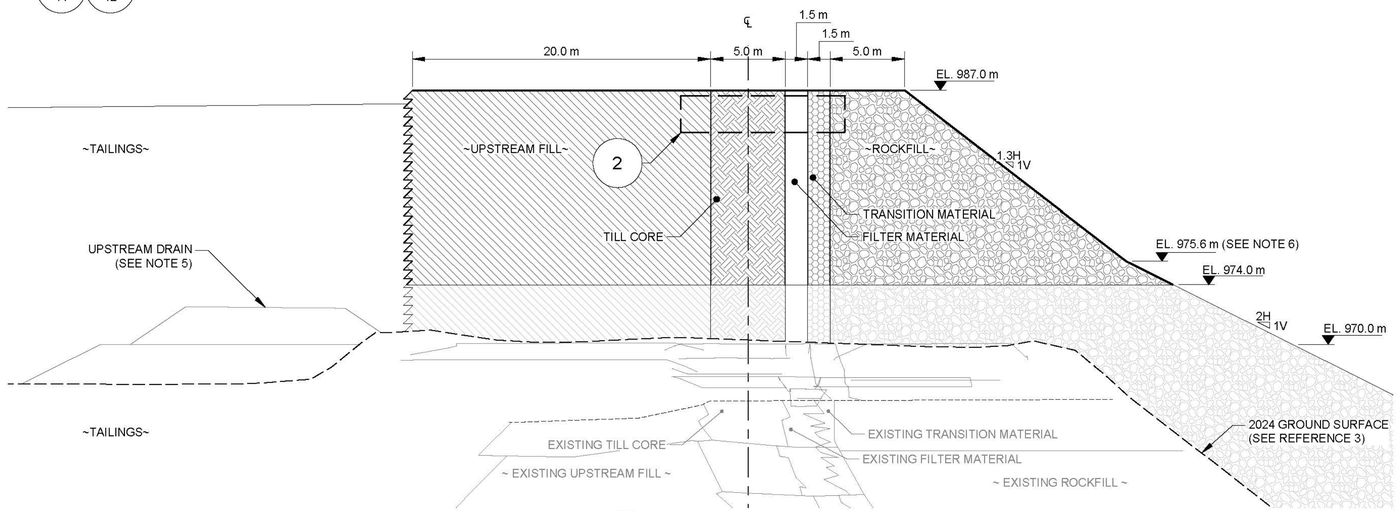
PROJECT NO.	PHASE/TASK/DOC.	REV.	12 of 32	DRAWING
CA0047730.8440	51200/51293/004	0		12

0 25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

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SCALE 1:600 m — E 11 12 — MAIN EMBANKMENT AND BUTTRESS - TYPICAL CROSS-SECTION (STA. 1+566 TO 2+756)



SCALE 1:200 m — 1 — 07 20 26 — EMBANKMENT - TYPICAL DETAIL

LEGEND

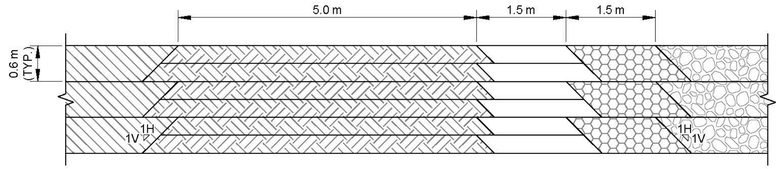
- 1996 ORIGINAL GROUND (SEE REFERENCE 1)
- 2023 GROUND SURFACE (SEE REFERENCE 2)
- 2024 GROUND SURFACE (SEE REFERENCE 3)
- HISTORICAL FOUNDATION PREPARATION (SEE REFERENCE 4)
- PREVIOUSLY CONSTRUCTED MATERIAL BOUNDARY
- 2013 CONSTRUCTION (SEE NOTE 4)
- EL. 974 m EMBANKMENT DESIGN SLOPE
- EL. 987 m RAISE DESIGN ROCKFILL
- EL. 987 m RAISE DESIGN TRANSITION MATERIAL
- EL. 987 m RAISE DESIGN FILTER MATERIAL
- EL. 987 m RAISE DESIGN TILL CORE
- EL. 987 m RAISE DESIGN UPSTREAM FILL
- EL. 974 m RAISE DESIGN ROCKFILL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TRANSITION MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN FILTER MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TILL CORE (SEE NOTE 5)
- EL. 974 m RAISE DESIGN UPSTREAM FILL (SEE NOTE 5)

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. ELEVATIONS SHOWN ARE REFERENCED TO TAILINGS GRID.
3. SECTION INFORMATION WAS DIGITALIZED USING THE AMEC 2013 RECORD SURVEY AND ANNUAL REVIEW REPORT, FILE NAME: "2014 03 12 - 2013 AS-BUILT & ANNUAL REVIEW REPORT (AMEC).pdf", DATED: 12 MARCH 2014.
4. DIGITALIZED SECTION WAS UPDATED WITH THE 2014 AS-BUILT SURVEY PROVIDED BY MPMC ON 14 SEPTEMBER 2015 AND MAY 2015 SURVEY.
5. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).
6. FROM STATION 0+170 TO 0+550, THE EMBANKMENT SLOPE IS 2H:1V FROM CREST TO TOE. FROM STATION 0+650 TO 4+600, THE EMBANKMENT SLOPE IS 1.3H:1V ABOVE AND 2H:1V BELOW ELEVATION 975.6 m. FROM STATION 4+700 TO 5+170, THE EMBANKMENT SLOPE IS 2H:1V FROM CREST TO TOE. THE EMBANKMENT SLOPE TRANSITIONS BETWEEN THESE CONFIGURATIONS FROM STATION 0+550 TO 0+650 AND FROM STATION 4+600 TO 4+700.

REFERENCES

1. 1996 ORIGINAL GROUND PROVIDED BY MPMC, RECEIVED: 11 MARCH 2015, FILE NAME: "1996 TSF Topo.dxf".
2. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC, SURVEYED: 30 OCTOBER 2023, RECEIVED: 01 FEBRUARY 2024, FILE NAME: "231030-TSF Lidar Contor 0.1.dxf".
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4. HISTORICAL FOUNDATION PREPARATION PROVIDED BY MPMC AS MULTIPLE SURVEYS, SURVEYED: 2015 TO 2024, RECEIVED: 2015 TO 2025.



SCALE 1:200 m — 2 — TILL CORE - TYPICAL DETAIL

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CONSTRUCTION

0 2 4
1:50 METRES

0 10 20
1:200 METRES

0 20 40
1:600 METRES

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0	2025-07-11	ISSUED FOR CONSTRUCTION	R.G.	J.S.H.	S.B.	G.P.S.

WSP Canada Inc.
Engineers & Geoscientists BC
Permit #1000200

SEAL



2025-07-16

CLIENT
MOUNT POLLEY MINING CORPORATION

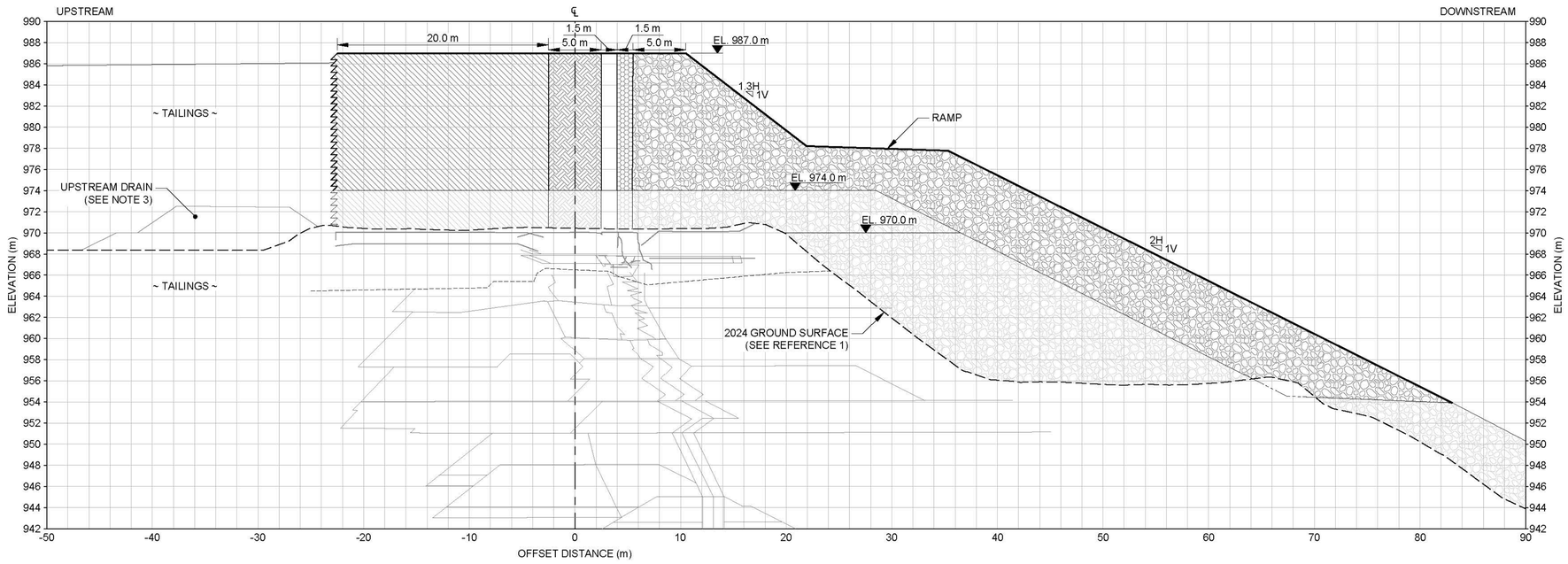
CONSULTANT
WSP CANADA INC.
840 HOWE STREET, SUITE 1000
VANCOUVER, BC
V6Z 2M1
[+1] (604) 685 9381

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
MAIN EMBANKMENT AND BUTTRESS
TYPICAL CROSS-SECTION AND DETAILS

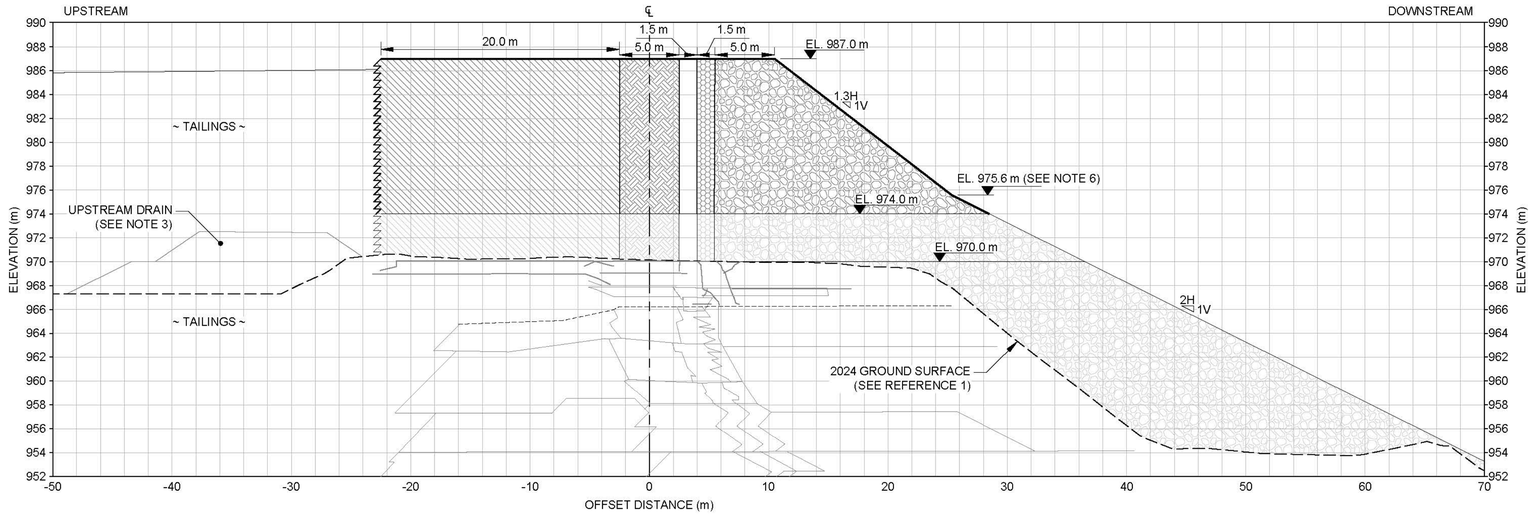
PROJECT NO.	PHASE/TASK/DOC.	REV.	13 of 32	DRAWING
CA0047730.8440	51200/51293/004	0		13

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D
0 25 mm



MAIN EMBANKMENT CROSS-SECTION (STA. 1+700)

SCALE 1:250 m



MAIN EMBANKMENT CROSS-SECTION (STA. 2+000)

SCALE 1:250 m

LEGEND

- 2024 GROUND SURFACE (SEE REFERENCE 1)
- PREVIOUSLY CONSTRUCTED MATERIAL BOUNDARY
- 2013 CONSTRUCTION (SEE NOTE 4)
- EL. 974 m EMBANKMENT DESIGN SLOPE
- EL. 987 m RAISE DESIGN ROCKFILL
- EL. 987 m RAISE DESIGN TRANSITION MATERIAL
- EL. 987 m RAISE DESIGN FILTER MATERIAL
- EL. 987 m RAISE DESIGN TILL CORE
- EL. 987 m RAISE DESIGN UPSTREAM FILL
- EL. 974 m RAISE DESIGN ROCKFILL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TRANSITION MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN FILTER MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TILL CORE (SEE NOTE 5)
- EL. 974 m RAISE DESIGN UPSTREAM FILL (SEE NOTE 5)

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. ELEVATIONS SHOWN ARE REFERENCED TO TAILINGS GRID.
3. SECTION INFORMATION WAS DIGITALIZED USING THE AMEC 2013 RECORD SURVEY AND ANNUAL REVIEW REPORT,
   FILE NAME: "2014 03 12 - 2013 AS-BUILT & ANNUAL REVIEW REPORT (AMEC).pdf",
   DATED: 12 MARCH 2014.
4. DIGITALIZED SECTION WAS UPDATED WITH THE 2014 AS-BUILT SURVEY PROVIDED BY MPMC ON 14 SEPTEMBER 2015 AND MAY 2015 SURVEY.
5. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).
6. FROM STATION 1+566 TO 2+756, THE EMBANKMENT SLOPE IS 1.3H:1V ABOVE AND 2H:1V BELOW ELEVATION 975.6 m.
7. ACCESS RAMPS HAVE BEEN INCLUDED ON DRAWINGS BASED ON EXISTING RAMP LOCATIONS. RAMP LOCATIONS MAY BE ADJUSTED FOLLOWING WRITTEN CONFIRMATION BY THE ENGINEER.

REFERENCE

1. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES, SURVEYED: 10 DECEMBER 2024, RECEIVED: 13 DECEMBER 2024, FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".

ISSUED FOR

CONSTRUCTION

0 10 20

1:250 METRES

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SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALAS # 40077

2025-07-16

CLIENT

MOUNT POLLEY MINING CORPORATION

CONSULTANT

WSP CANADA INC.
840 HOWE STREET, SUITE 1000
VANCOUVER, BC
V6Z 2M1
[+1] (604) 685 9381

PROJECT

MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE

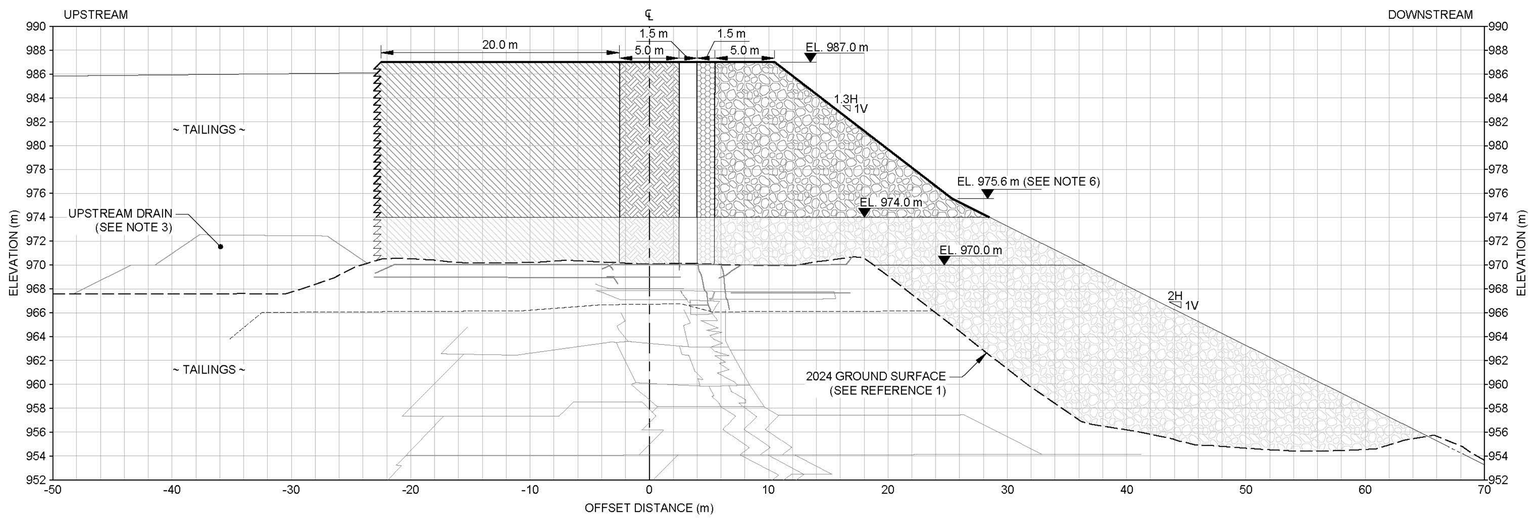
MAIN EMBANKMENT - CROSS-SECTIONS (1 OF 2)

PROJECT NO.	PHASE/TASK/DOC.	REV.	14 of 32	DRAWING
CA0047730.8440	51200/51293/004	0		14

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

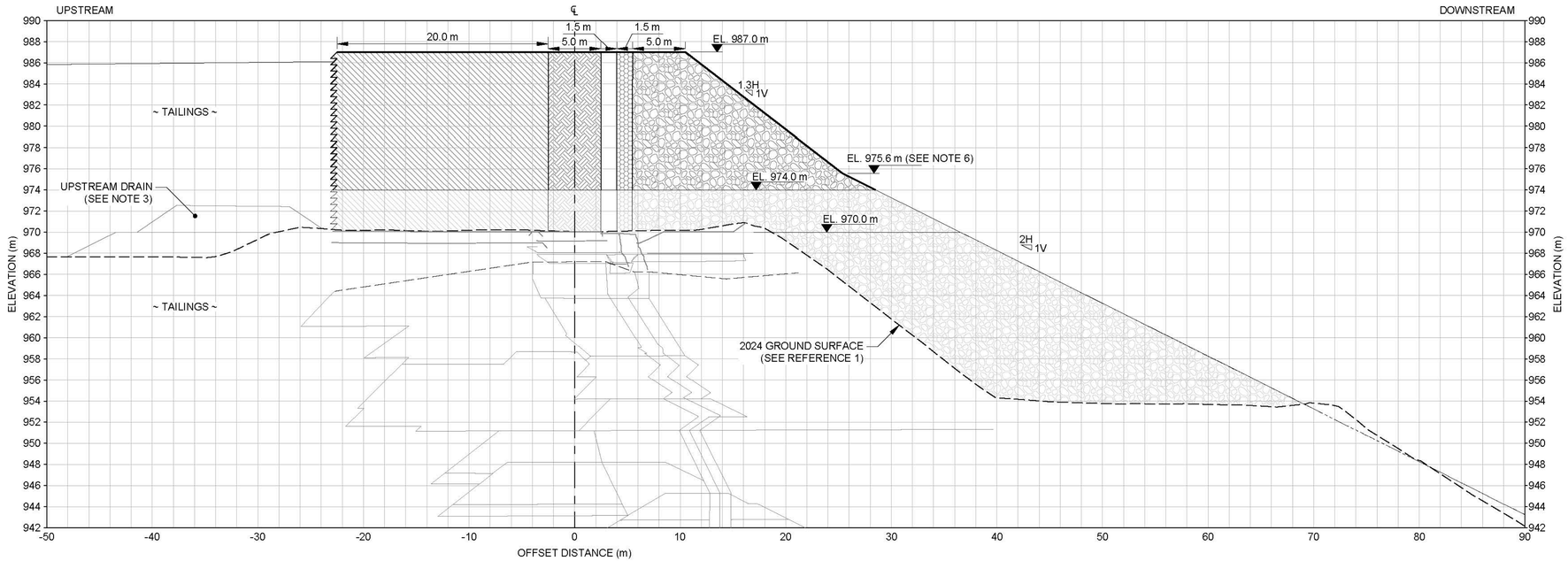
0 25 mm

Path: \\corp.pbwan.net\CA\CAVAN400\CAD-03\SC\client\imperial_Metals_Corp\Mount_Polley_Mine\99_PRO JECTS\CA0047730_8440\51200\51293\Doc 004_987 Designs\02_PRODUCTION\DWG\Drawings\ | File Name: CA0047730_8440-51200-51293-004-014_015.dwg | Last Edited By: gld_jhopson Date: 2025-07-10, Time 3:40:18 PM | Printed By: gld_jhopson Date: 2025-07-11, Time 12:58:07 PM



MAIN EMBANKMENT CROSS-SECTION (STA. 2+300)

SCALE 1:250 m



MAIN EMBANKMENT CROSS-SECTION (STA. 2+600)

SCALE 1:250 m

LEGEND

- 2024 GROUND SURFACE (SEE REFERENCE 1)
- PREVIOUSLY CONSTRUCTED MATERIAL BOUNDARY
- 2013 CONSTRUCTION (SEE NOTE 4)
- EL. 974 m EMBANKMENT DESIGN SLOPE
- EL. 987 m RAISE DESIGN ROCKFILL
- EL. 987 m RAISE DESIGN TRANSITION MATERIAL
- EL. 987 m RAISE DESIGN FILTER MATERIAL
- EL. 987 m RAISE DESIGN TILL CORE
- EL. 987 m RAISE DESIGN UPSTREAM FILL
- EL. 974 m RAISE DESIGN ROCKFILL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TRANSITION MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN FILTER MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TILL CORE (SEE NOTE 5)
- EL. 974 m RAISE DESIGN UPSTREAM FILL (SEE NOTE 5)

NOTES

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2. ELEVATIONS SHOWN ARE REFERENCED TO TAILINGS GRID.
3. SECTION INFORMATION WAS DIGITALIZED USING THE AMEC 2013 RECORD SURVEY AND ANNUAL REVIEW REPORT,
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ISSUED FOR

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0 10 20

1:250 METRES

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Engineers & Geoscientists BC
Permit #1000200

SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

CLIENT

MOUNT POLLEY MINING CORPORATION

CONSULTANT

WSP CANADA INC.
840 HOWE STREET, SUITE 1000
VANCOUVER, BC
V6Z 2M1
[+1] (604) 685 9381

PROJECT

MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE

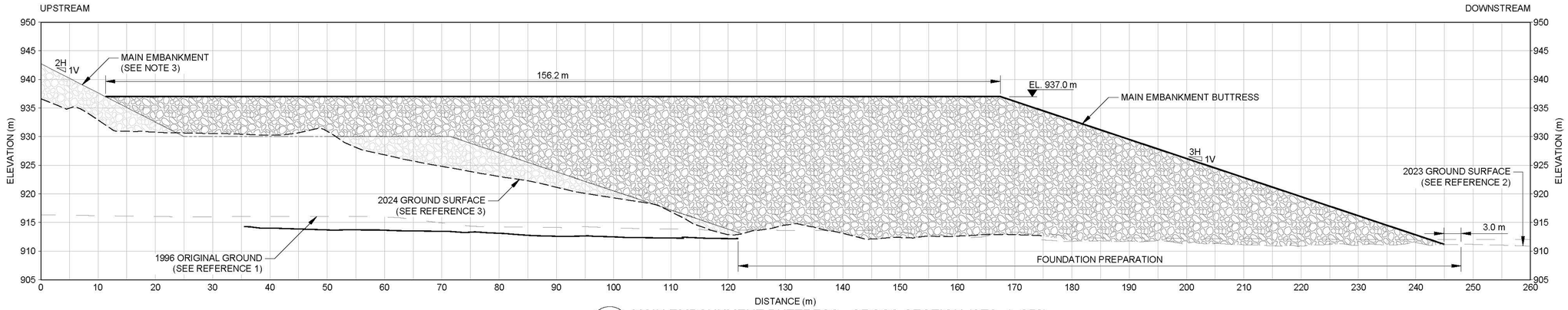
MAIN EMBANKMENT - CROSS-SECTIONS (2 OF 2)

PROJECT NO.	PHASE/TASK/DOC.	REV.	15 of 32	DRAWING
CA0047730.8440	51200/51293/004	0		15

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 25 mm

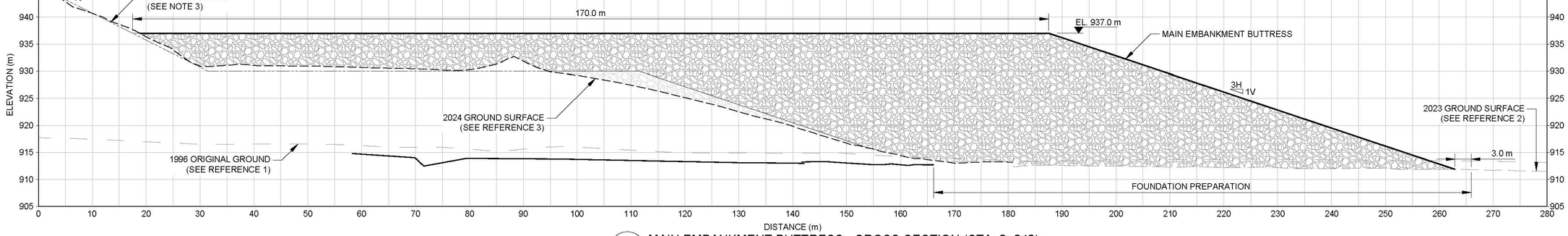
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SCALE 1:400 m

F 11 12

MAIN EMBANKMENT BUTTRESS - CROSS-SECTION (STA. 1+850)



SCALE 1:400 m

G 11 12

MAIN EMBANKMENT BUTTRESS - CROSS-SECTION (STA. 2+240)

LEGEND

- 1996 ORIGINAL GROUND (SEE REFERENCE 1)
- 2023 GROUND SURFACE (SEE REFERENCE 2)
- 2024 GROUND SURFACE (SEE REFERENCE 3)
- HISTORICAL FOUNDATION PREPARATION (SEE REFERENCE 4)
- EL. 974 m EMBANKMENT DESIGN SLOPE
- EL. 987 m RAISE DESIGN ROCKFILL
- EL. 974 m RAISE DESIGN ROCKFILL (SEE NOTE 3)

NOTES

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3. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).

REFERENCES

1. 1996 ORIGINAL GROUND PROVIDED BY MPMC, RECEIVED: 11 MARCH 2015, FILE NAME: "1996 TSF Topo.dxf".
2. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC, SURVEYED: 30 OCTOBER 2023, RECEIVED: 01 FEBRUARY 2024, FILE NAME: "231030-TSF Lidar Contor 0.1.dxf".
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4. HISTORICAL FOUNDATION PREPARATION PROVIDED BY MPMC AS MULTIPLE SURVEYS, SURVEYED: 2015 TO 2024, RECEIVED: 2015 TO 2025.

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CONSTRUCTION

0 20 40

1:400 METRES

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WSP Canada Inc.
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Permit #1000200

SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

CLIENT

MOUNT POLLEY MINING CORPORATION

CONSULTANT

WSP CANADA INC.
840 HOWE STREET, SUITE 1000
VANCOUVER, BC
V6Z 2M1
[+1] (604) 685 9381

PROJECT

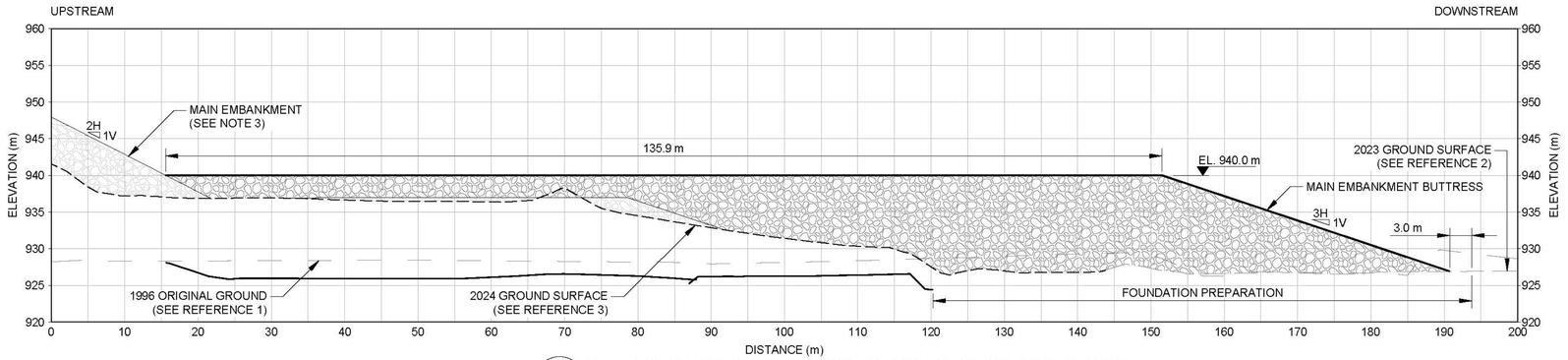
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE

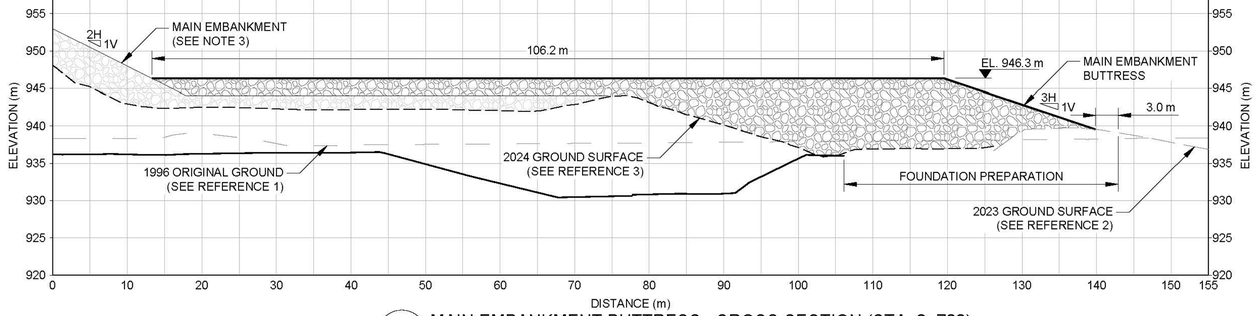
MAIN EMBANKMENT BUTTRESS - CROSS-SECTIONS (1 OF 2)

PROJECT NO.	PHASE/TASK/DOC.	REV.	16 of 32	DRAWING
CA0047730.8440	51200/51293/004	0		16

Path: \\corp.pbnet\CA\CALVAN4\00\CAD-GIS\Client\Imperial_Metals_Corp\Mount_Polley_Mine\9j_PROJECTS\CA0047730_8440\51200\51293\Doc 004_987 Design\02_PRODUCTION\DWG\Drawings\ | File Name: CA0047730_8440-51200-51293-004-016_017.dwg | Last Edited By: gld_jhopson Date: 2025-07-10 Time:12:15:29 PM | Printed By: gld_jhopson Date: 2025-07-11 Time:12:39:37 PM
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D
0 25 mm



SCALE 1:400 m — H (11, 12) — MAIN EMBANKMENT BUTTRESS - CROSS-SECTION (STA. 2+450)



SCALE 1:400 m — J (11, 12) — MAIN EMBANKMENT BUTTRESS - CROSS-SECTION (STA. 2+700)

LEGEND

- 1996 ORIGINAL GROUND (SEE REFERENCE 1)
- 2023 GROUND SURFACE (SEE REFERENCE 2)
- 2024 GROUND SURFACE (SEE REFERENCE 3)
- HISTORICAL FOUNDATION PREPARATION (SEE REFERENCE 4)
- EL. 974 m EMBANKMENT DESIGN SLOPE
- EL. 987 m RAISE DESIGN ROCKFILL
- EL. 974 m RAISE DESIGN ROCKFILL (SEE NOTE 3)

NOTES

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3. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).

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0 20 40

1:400 METRES

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SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

CLIENT: MOUNT POLLEY MINING CORPORATION

CONSULTANT

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840 HOWE STREET, SUITE 1000
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V6Z 2M1
[+1] (604) 685 9381

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

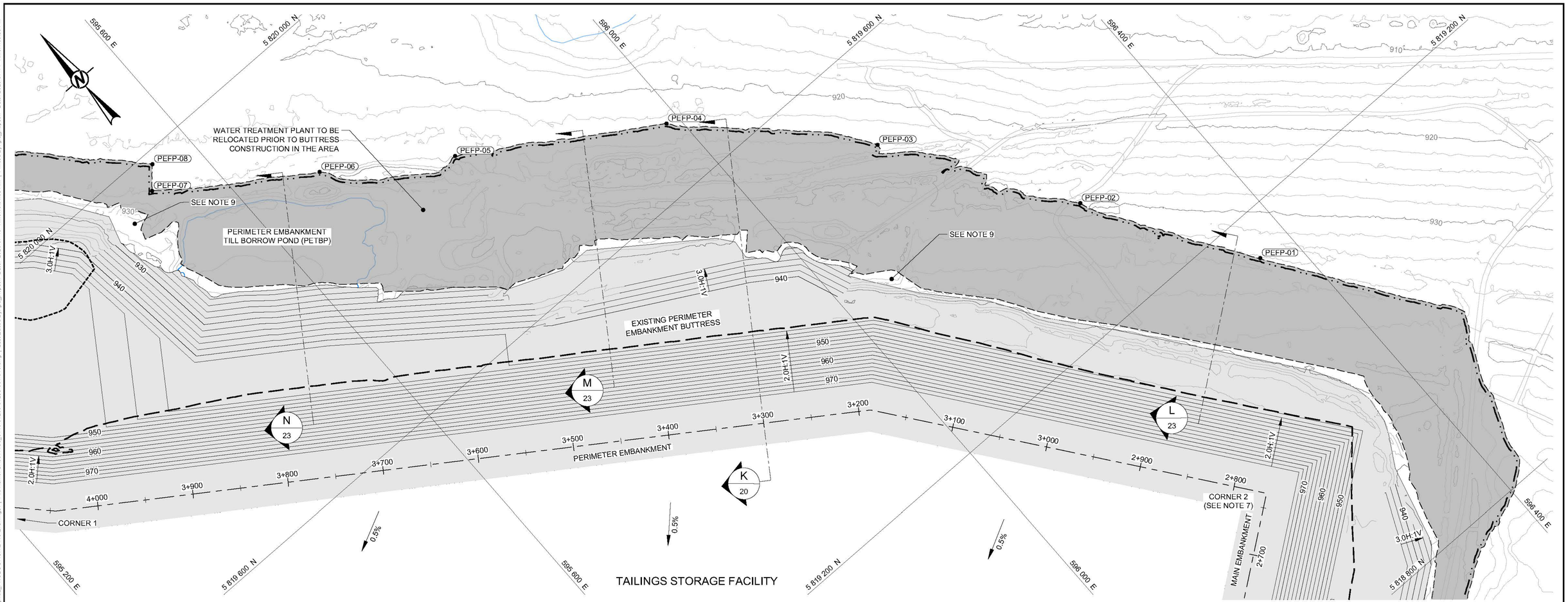
TITLE
MAIN EMBANKMENT BUTTRESS - CROSS-SECTIONS (2 OF 2)

PROJECT NO.	PHASE/TASK/DOC.	REV.	17 of 32	DRAWING
CA0047730.8440	51200/51293/004	0		17

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI D

0 25 mm

Path: \\corp.pbwan.net\CA\CAVAN400\CAD-GIS\Client\Imperial_Metals_Corp\Mount_Polley_Mine\68_PROJECTS\CA0047730_8440\51200\51293\Doc\004_987 Design\02_PRODUCTION\DWG\Drawings\ | File Name: CA0047730_8440-51200-51293-004-016_017.dwg | Last Edited By: gld_jhopson Date: 2025-07-10 Time: 12:15:29 PM | Printed By: gld_jhopson Date: 2025-07-11 Time: 12:29:43 PM



TAILINGS STORAGE FACILITY

PERIMETER EMBANKMENT AND BUTTRESS (CORNER 2-CORNER 1) - FOUNDATION PREPARATION

SCALE 1:2 000 m

LEGEND

- TAILINGS STORAGE FACILITY (TSF) EMBANKMENT CENTRELINE (4+400)
- GROUND CONTOURS (SEE NOTE 4)
- SITE ACCESS ROADS (SEE REFERENCE 3)
- WATERBODY (SEE REFERENCE 3)
- TSF EL. 974 m EMBANKMENT RAISE AND BUTTRESS DESIGN CONTOURS (SEE NOTE 8)
- TSF EL. 987 m EMBANKMENT RAISE DESIGN TOE
- TSF EL. 987 m BUTTRESS RAISE DESIGN TOE
- TSF EL. 987 m FOUNDATION PREPARATION FOOTPRINT (SEE NOTES 6 AND 7)
- PERIMETER EMBANKMENT FOUNDATION PREPARATION SETOUT POINT (PEFP-08)

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. COORDINATES AND ELEVATIONS ARE SHOWN IN TAILINGS GRID.
3. CONTOUR INTERVAL SHOWN AT 10 m MAJOR AND 2 m MINOR, TAILINGS DEPOSITION CONTOUR INTERVAL SHOWN AT 5 m MAJOR AND 1 m MINOR.
4. GROUND CONTOURS REPRESENT COMPOSITE SURVEYS FROM 2023 AND 2024 (SEE REFERENCES 1 AND 2).
5. TAILINGS SURFACE SHOWN FOR REFERENCE ONLY, BEACH SLOPE WILL VARY.
6. EXTENT AND DEPTH OF FOUNDATION PREPARATION TO BE CONFIRMED BY QA MANAGER.
7. CORNER 2 IS SHOWN AS BEING STRAIGHT ANGLES. HOWEVER, THE EXISTING EMBANKMENT TILL CORE, FILTER AND TRANSITION ARE CURVED AT CORNER 2.
8. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).
9. COMPLETED AND ONGOING FOUNDATION PREPARATION AS PART OF THE EL. 974 m IFC DESIGN IS NOT SHOWN.

REFERENCES

1. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC AS 0.1 m CONTOUR DATA, SURVEYED: 30 OCTOBER 2023, RECEIVED: 01 FEBRUARY 2024, FILE NAME: "231030-TSF Lidar Contor 0.1.dxf".
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3. SITE FEATURES PROVIDED BY MPMC, RECEIVED: 5 SEPTEMBER 2014, FILE NAME: "MtPolley2013-Pln.dwg".

PERIMETER EMBANKMENT FOUNDATION PREPARATION SETOUT TABLE (1 OF 2)

POINT ID	EASTING (m)	NORTHING (m)	ELEVATION (m)
PEFP-01	596361.69	5819154.65	934.24
PEFP-02	596257.60	5819321.26	928.34
PEFP-03	596138.08	5819505.94	924.23
PEFP-04	595986.53	5819667.26	922.48
PEFP-05	595798.01	5819786.61	924.68
PEFP-06	595680.48	5819866.84	924.32
PEFP-07	595535.59	5819966.66	923.98
PEFP-08	595554.14	5819987.43	922.89

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CONSTRUCTION

0 100 200

1:2,000 METRES

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0	2025-07-11	ISSUED FOR CONSTRUCTION	R.G.	J.S.H.	S.B.	G.P.S.

WSP Canada Inc.
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Permit #1000200

SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

CLIENT: MOUNT POLLEY MINING CORPORATION

CONSULTANT

WSP CANADA INC.
840 HOWE STREET, SUITE 1000
VANCOUVER, BC
V6Z 2M1
[+1] (604) 685 9381

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

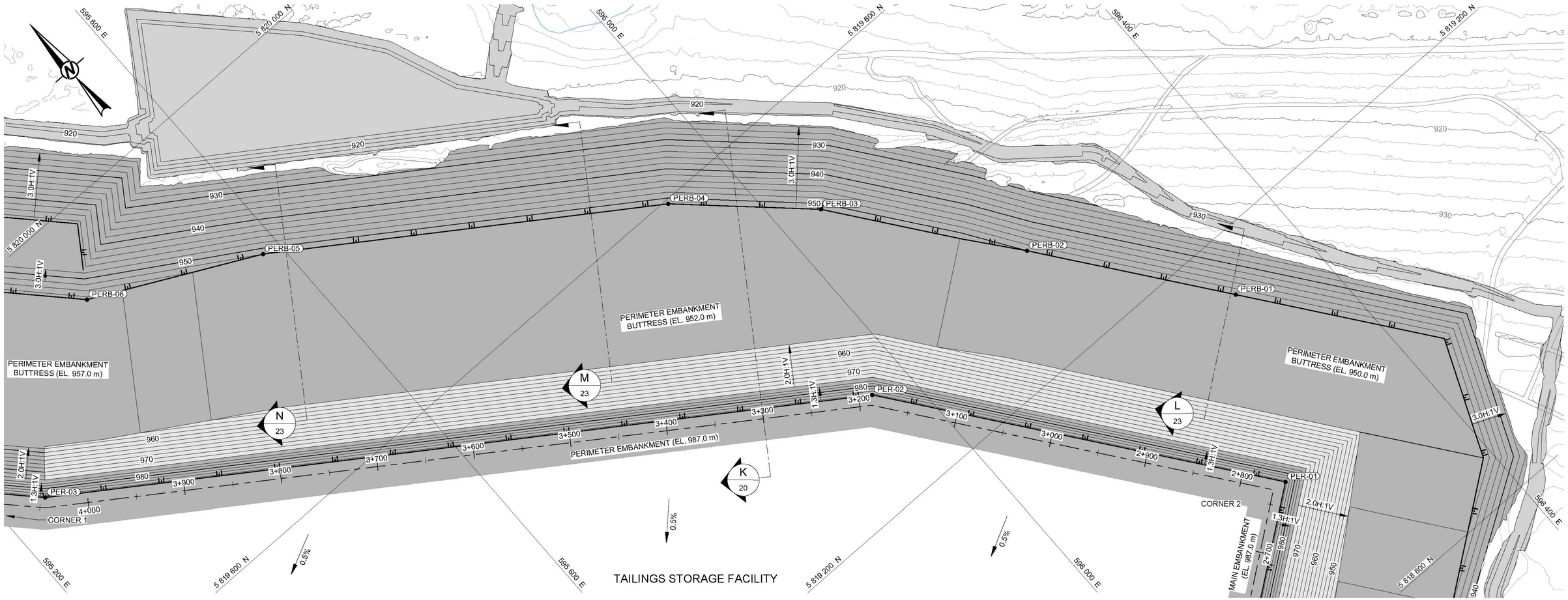
TITLE
PERIMETER EMBANKMENT AND BUTTRESS (CORNER 2-CORNER 1) - FOUNDATION PREPERATION

PROJECT NO.	PHASE/TASK/DOC.	REV.		DRAWING
CA0047730.8440	51200/51293/004	0	18 of 32	18

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 25 mm

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TAILINGS STORAGE FACILITY

PERIMETER EMBANKMENT AND BUTTRESS (CORNER 2-CORNER 1) - PLAN VIEW

SCALE 1:2 000 m

LEGEND

- TAILINGS STORAGE FACILITY (TSF) EMBANKMENT CENTRELINE (4+400)
- GROUND CONTOURS (SEE NOTE 4)
- SITE ACCESS ROADS (SEE REFERENCE 3)
- TSF EL. 987 m EMBANKMENT RAISE AND BUTTRESS DESIGN CONTOURS
- TSF EL. 987 m WATER MANAGEMENT DESIGN CONTOURS (SEE NOTE 6)
- TSF EL. 974 m EMBANKMENT RAISE AND BUTTRESS DESIGN CONTOURS (SEE NOTE 7)
- PER-03 PERIMETER EMBANKMENT RAISE SETOUT POINT
- PERB-06 PERIMETER EMBANKMENT BUTTRESS SETOUT POINT

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. COORDINATES AND ELEVATIONS ARE SHOWN IN TAILINGS GRID.
3. CONTOUR INTERVAL SHOWN AT 10 m MAJOR AND 2 m MINOR, TAILINGS DEPOSITION CONTOUR INTERVAL SHOWN AT 5 m MAJOR AND 1 m MINOR.
4. GROUND CONTOURS REPRESENT COMPOSITE SURVEYS FROM 2023 AND 2024 (SEE REFERENCES 1 AND 2).
5. TAILINGS SURFACE SHOWN FOR REFERENCE ONLY, BEACH SLOPE WILL VARY.
6. THE EL. 987 m WATER MANAGEMENT IFP DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-007-REV0-31153).
7. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).
8. CORNERS ARE SHOWN AS BEING STRAIGHT ANGLES. CONSTRUCTION IS TO FOLLOW THE EXISTING CURVATURE OF THE TILL CORE.
9. FROM STATION 2+756 TO 4+000, THE EMBANKMENT SLOPE IS 1.3H:1V ABOVE AND 2H:1V BELOW ELEVATION 975.6 m.
10. ACCESS RAMPS HAVE BEEN INCLUDED ON DRAWINGS BASED ON EXISTING RAMP LOCATIONS. RAMP LOCATIONS MAY BE ADJUSTED FOLLOWING WRITTEN CONFIRMATION BY THE ENGINEER.

REFERENCES

1. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC AS 0.1 m CONTOUR DATA, SURVEYED: 30 OCTOBER 2023, RECEIVED: 01 FEBRUARY 2024, FILE NAME: "231030-TSF Lidar Contor 0.1.dxf".
2. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES, SURVEYED: 10 DECEMBER 2024, RECEIVED: 13 DECEMBER 2024, FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".
3. SITE FEATURES PROVIDED BY MPMC, RECEIVED: 5 SEPTEMBER 2014, FILE NAME: "MtPolley2013-Pln.dwg".

PERIMETER EMBANKMENT BUTTRESS DESIGN SETOUT TABLE (1 OF 2)

POINT ID	EASTING (m)	NORTHING (m)	ELEVATION (m)
PERB-01	596308.13	5819142.17	950.00
PERB-02	596175.90	5819317.15	950.00
PERB-03	596043.89	5819488.53	952.00
PERB-04	595929.09	5819595.99	952.00
PERB-05	595580.76	5819830.62	952.00
PERB-06	595413.34	5819914.22	957.00

PERIMETER EMBANKMENT EL. 987 m RAISE SETOUT TABLE (1 OF 2)

POINT ID	EASTING (m)	NORTHING (m)	ELEVATION (m)
PER-01	596220.26	5818963.19	987.00
PER-02	595958.30	5819309.86	987.00
PER-03	595247.21	5819788.83	987.00

0 100 200
1:2,000 METRES

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0	2025-07-11	ISSUED FOR CONSTRUCTION	R.G.	J.S.H.	S.B.	G.P.S.

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Permit #1000200

SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

CLIENT: MOUNT POLLEY MINING CORPORATION

CONSULTANT

WSP CANADA INC.
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VANCOUVER, BC
V6Z 2M1
[+1] (604) 685 9381

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

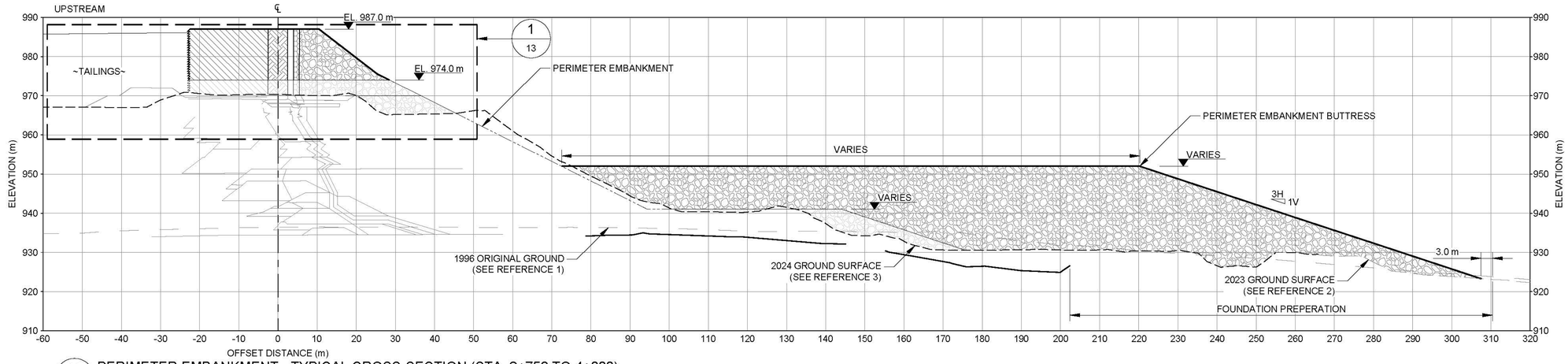
TITLE
PERIMETER EMBANKMENT AND BUTTRESS (CORNER 2-CORNER 1) - PLAN VIEW

PROJECT NO.	PHASE/TASK/DOC.	REV.		DRAWING
CA0047730.8440	51200/51293/004	0	19 of 32	19

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 25 mm

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SCALE 1:600 m

K
18 19

PERIMETER EMBANKMENT - TYPICAL CROSS-SECTION (STA. 2+756 TO 4+000)

LEGEND

- 1996 ORIGINAL GROUND (SEE REFERENCE 1)
- 2023 GROUND SURFACE (SEE REFERENCE 2)
- 2024 GROUND SURFACE (SEE REFERENCE 3)
- HISTORICAL FOUNDATION PREPARATION (SEE REFERENCE 4)
- PREVIOUSLY CONSTRUCTED MATERIAL BOUNDARY
- 2013 CONSTRUCTION (SEE NOTE 4)
- EL. 974 m EMBANKMENT DESIGN SLOPE
- EL. 987 m RAISE DESIGN ROCKFILL
- EL. 987 m RAISE DESIGN TRANSITION MATERIAL
- EL. 987 m RAISE DESIGN FILTER MATERIAL
- EL. 987 m RAISE DESIGN TILL CORE
- EL. 987 m RAISE DESIGN UPSTREAM FILL
- EL. 974 m RAISE DESIGN ROCKFILL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TRANSITION MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN FILTER MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TILL CORE (SEE NOTE 5)
- EL. 974 m RAISE DESIGN UPSTREAM FILL (SEE NOTE 5)

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. ELEVATIONS SHOWN ARE REFERENCED TO TAILINGS GRID.
3. SECTION INFORMATION WAS DIGITALIZED USING THE AMEC 2013 RECORD SURVEY AND ANNUAL REVIEW REPORT,
   FILE NAME: “2014 03 12 - 2013 AS-BUILT & ANNUAL REVIEW REPORT (AMEC).pdf”,
   DATED: 12 MARCH 2014.
4. DIGITALIZED SECTION WAS UPDATED WITH THE 2014 AS-BUILT SURVEY PROVIDED BY MPMC ON 14 SEPTEMBER 2015 AND MAY 2015 SURVEY.
5. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).
6. FROM STATION 2+756 TO 4+000, THE EMBANKMENT SLOPE IS 1.3H:1V ABOVE AND 2H:1V BELOW ELEVATION 975.6 m.

REFERENCES

1. 1996 ORIGINAL GROUND PROVIDED BY MPMC,
   RECEIVED: 11 MARCH 2015, FILE NAME: "1996 TSF Topo.dxf".
2. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC,
   SURVEYED: 30 OCTOBER 2023,
   RECEIVED: 01 FEBRUARY 2024,
   FILE NAME: "231030-TSF Lidar Contor 0.1.dxf".
3. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC,
   SURVEYED: 10 DECEMBER 2024,
   RECEIVED: 13 DECEMBER 2024,
   FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".
4. HISTORICAL FOUNDATION PREPARATION PROVIDED BY MPMC AS MULTIPLE SURVEYS,
   SURVEYED: 2015 TO 2024, RECEIVED: 2015 TO 2025.

ISSUED FOR

CONSTRUCTION

0 20 40

1:600 METRES

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0	2025-07-11	ISSUED FOR CONSTRUCTION	R.G.	J.S.H.	S.B.	G.P.S.

SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

CLIENT: MOUNT POLLEY MINING CORPORATION

CONSULTANT

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840 HOWE STREET, SUITE 1000
VANCOUVER, BC
V6Z 2M1
[+1] (604) 685 9381

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

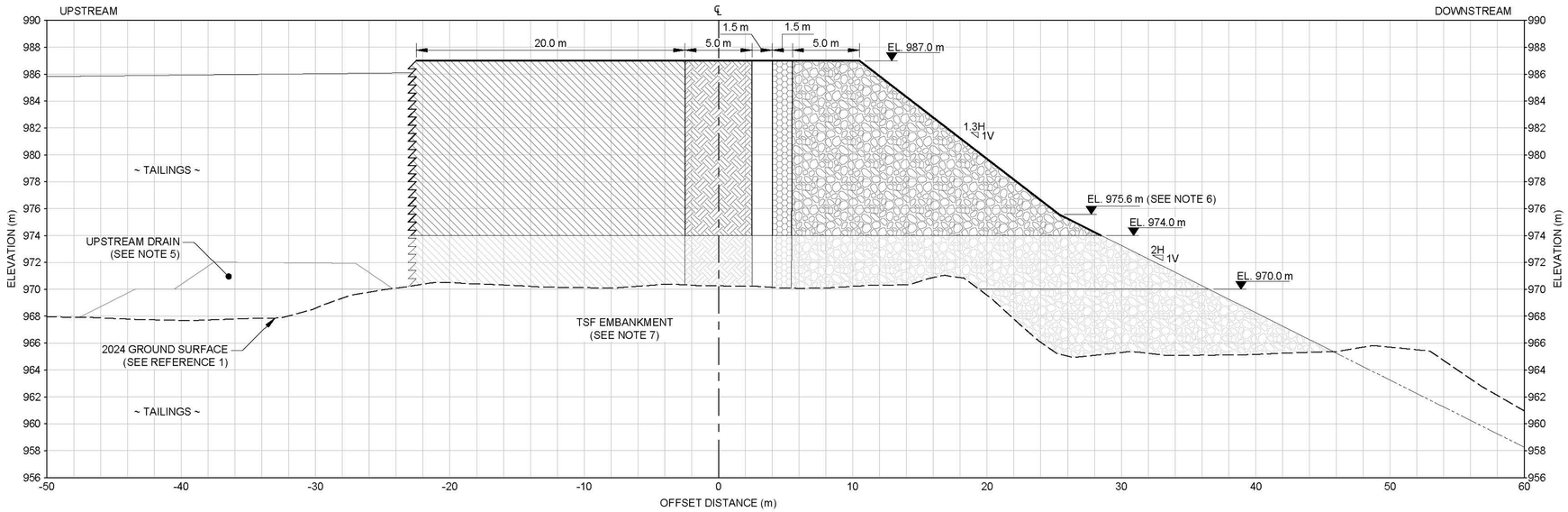
TITLE
PERIMETER EMBANKMENT AND BUTTRESS (CORNER 2-CORNER 1) - TYPICAL CROSS-SECTION

PROJECT NO.	PHASE/TASK/DOC.	REV.		DRAWING
CA0047730.8440	51200/51293/004	0	20 of 32	20

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

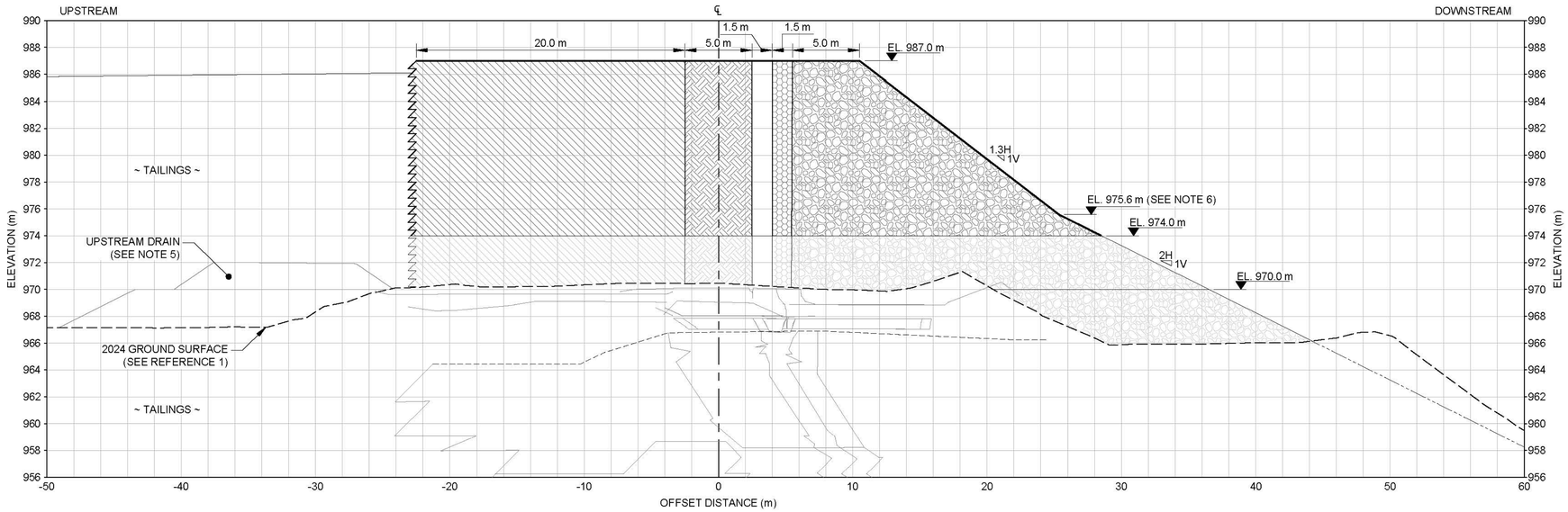
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Path: \\corp.pbwan.net\CA\CAVAN490\CAD-GIS\Client\Imperial_Metals_Corp\Mount_Polley_Mine\99_PROJECTS\CA0047730_8440\51200\51293\Doc 004_987 Design\02_PRODUCTION\DWGS\Drawings\ | File Name: CA0047730_8440-51200-51293-004-020.dwg | Last Edited By: gld.jhopson Date: 2025-07-10 Time:12:16:39 PM | Printed By: gld.jhopson Date: 2025-07-11 Time:1:02:34 PM



PERIMETER EMBANKMENT CROSS-SECTION (STA. 2+900)

SCALE 1:200 m



PERIMETER EMBANKMENT CROSS-SECTION (STA. 3+200)

SCALE 1:200 m

LEGEND

- 2024 GROUND SURFACE (SEE REFERENCE 1)
- EL. 974 m EMBANKMENT DESIGN SLOPE
- PREVIOUSLY CONSTRUCTED MATERIAL BOUNDARY
- 2013 CONSTRUCTION (SEE NOTE 4)
- EL. 987 m RAISE DESIGN ROCKFILL
- EL. 987 m RAISE DESIGN TRANSITION MATERIAL
- EL. 987 m RAISE DESIGN FILTER MATERIAL
- EL. 987 m RAISE DESIGN TILL CORE
- EL. 987 m RAISE DESIGN UPSTREAM FILL
- EL. 974 m RAISE DESIGN ROCKFILL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TRANSITION MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN FILTER MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TILL CORE (SEE NOTE 5)
- EL. 974 m RAISE DESIGN UPSTREAM FILL (SEE NOTE 5)

NOTES

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2. ELEVATIONS SHOWN ARE REFERENCED TO TAILINGS GRID.
3. SECTION INFORMATION WAS DIGITALIZED USING THE AMEC 2013 RECORD SURVEY AND ANNUAL REVIEW REPORT,
   FILE NAME: "2014 03 12 - 2013 AS-BUILT & ANNUAL REVIEW REPORT (AMEC).pdf",
   DATED: 12 MARCH 2014.
4. DIGITALIZED SECTION WAS UPDATED WITH THE 2014 AS-BUILT SURVEY PROVIDED BY MPMC ON 14 SEPTEMBER 2015 AND MAY 2015 SURVEY.
5. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).
6. FROM STATION 2+756 TO 4+000, THE EMBANKMENT SLOPE IS 1.3H:1V ABOVE AND 2H:1V BELOW ELEVATION 975.6 m.
7. NO AS-CONSTRUCTED SURVEY AVAILABLE FOR THE TSF EMBANKMENT.

REFERENCE

1. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES,
   SURVEYED: 10 DECEMBER 2024, RECEIVED: 13 DECEMBER 2024,
   FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".

ISSUED FOR

CONSTRUCTION

0 10 20

1:200 METRES

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0	2025-07-11	ISSUED FOR CONSTRUCTION	R.G.	J.S.H.	S.B.	G.P.S.

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Permit #1000200

SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

CLIENT: MOUNT POLLEY MINING CORPORATION

CONSULTANT

WSP CANADA INC.
840 HOWE STREET, SUITE 1000
VANCOUVER, BC
V6Z 2M1
[+1] (604) 685 9381

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

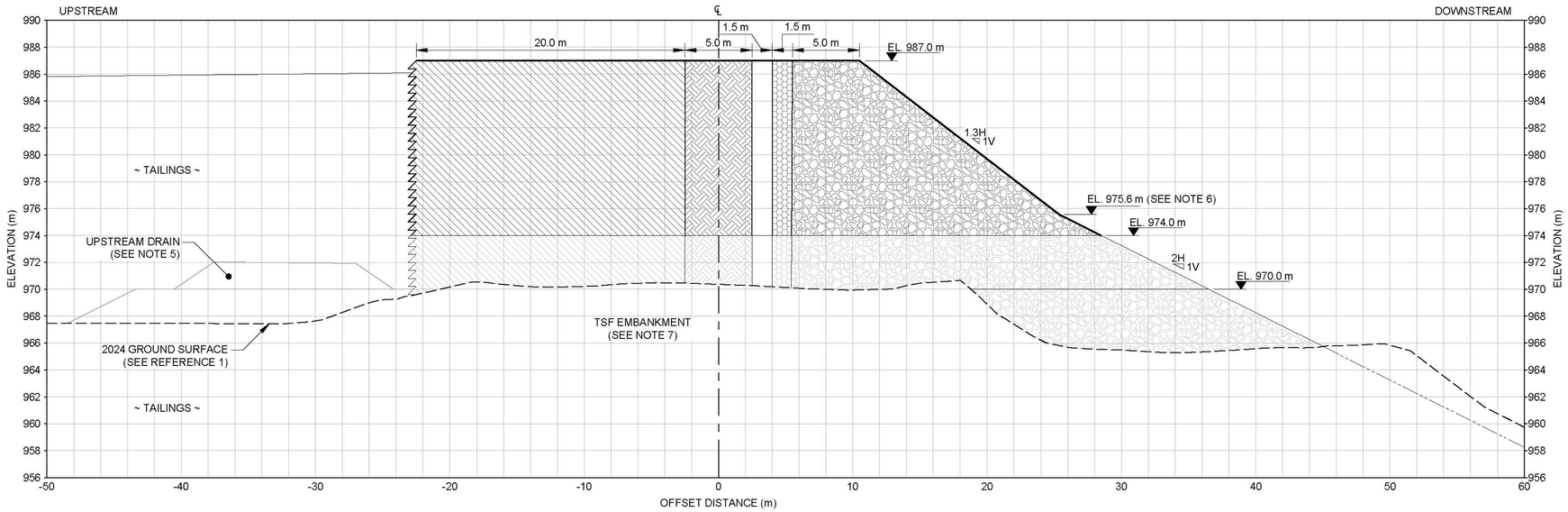
TITLE
PERIMETER EMBANKMENT (CORNER 2-CORNER 1) CROSS-SECTIONS (1 OF 2)

PROJECT NO.	PHASE/TASK/DOC.	REV.	21 of 32	DRAWING
CA0047730.8440	51200/51293/004	0		21

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

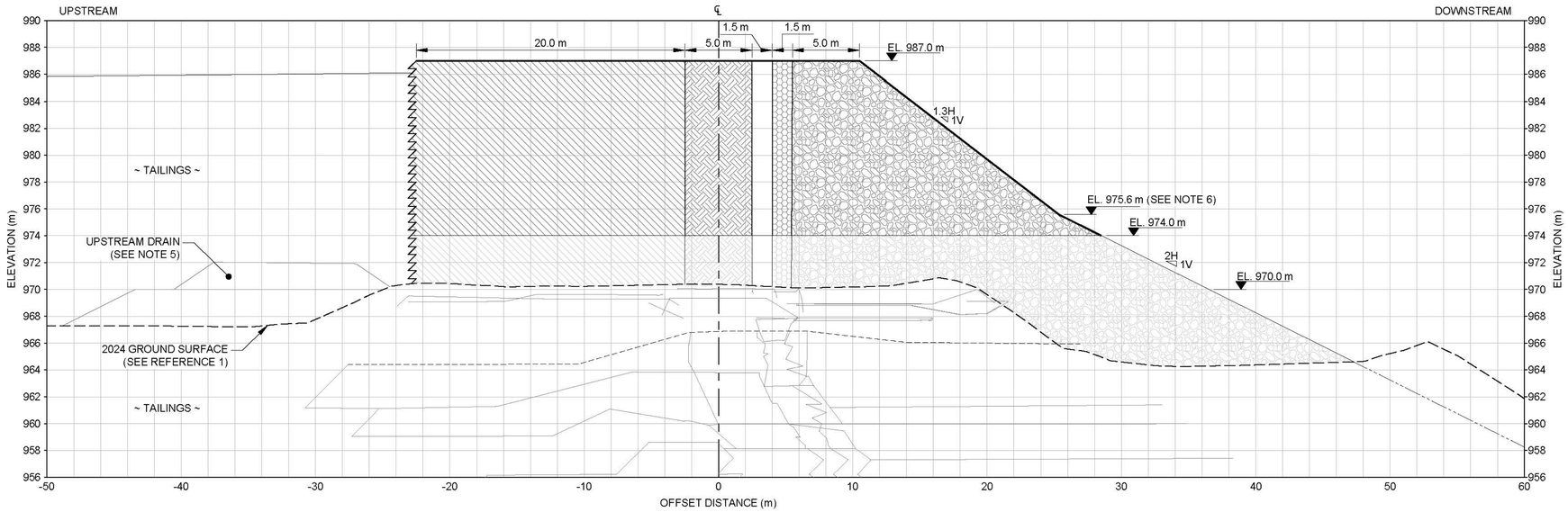
0 10 20 25 mm

Path: \\corp.pswan.net\CAN\CAVAN\400\CAD-GIS\Client\Imperial_Metals_Corp\Mount_Polley_Mine\09_PRO_JECTS\CA0047730_8440\51200\51293\Doc\004_987 Design\03_PRODUCTION\DWG\Drawings\ | File Name: CA0047730_8440-51200-51293-004-021_022.dwg | Last Edited By: gld_jhopson Date: 2025-07-10 Time:12:18:02 PM | Printed By: gld_jhopson Date: 2025-07-11 Time:1:03:20 PM



PERIMETER EMBANKMENT CROSS-SECTION (STA. 3+500)

SCALE 1:200 m



PERIMETER EMBANKMENT CROSS-SECTION (STA. 3+800)

SCALE 1:200 m

LEGEND

- 2024 GROUND SURFACE (SEE REFERENCE 1)
- EL. 974 m EMBANKMENT DESIGN SLOPE
- PREVIOUSLY CONSTRUCTED MATERIAL BOUNDARY
- 2013 CONSTRUCTION (SEE NOTE 4)
- EL. 987 m RAISE DESIGN ROCKFILL
- EL. 987 m RAISE DESIGN TRANSITION MATERIAL
- EL. 987 m RAISE DESIGN FILTER MATERIAL
- EL. 987 m RAISE DESIGN TILL CORE
- EL. 987 m RAISE DESIGN UPSTREAM FILL
- EL. 974 m RAISE DESIGN ROCKFILL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TRANSITION MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN FILTER MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TILL CORE (SEE NOTE 5)
- EL. 974 m RAISE DESIGN UPSTREAM FILL (SEE NOTE 5)

NOTES

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3. SECTION INFORMATION WAS DIGITALIZED USING THE AMEC 2013 RECORD SURVEY AND ANNUAL REVIEW REPORT,
   FILE NAME: "2014 03 12 - 2013 AS-BUILT & ANNUAL REVIEW REPORT (AMEC).pdf",
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4. DIGITALIZED SECTION WAS UPDATED WITH THE 2014 AS-BUILT SURVEY PROVIDED BY MPMC ON 14 SEPTEMBER 2015 AND MAY 2015 SURVEY.
5. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).
6. FROM STATION 2+756 TO 4+000, THE EMBANKMENT SLOPE IS 1.3H:1V ABOVE AND 2H:1V BELOW ELEVATION 975.6 m.
7. NO AS-CONSTRUCTED SURVEY AVAILABLE FOR THE TSF EMBANKMENT.

REFERENCE

1. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES, SURVEYED: 10 DECEMBER 2024, RECEIVED: 13 DECEMBER 2024, FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".

ISSUED FOR

CONSTRUCTION

0 10 20

1:200 METRES

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SEAL

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2025-07-16

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[+1] (604) 685 9381

PROJECT

MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE

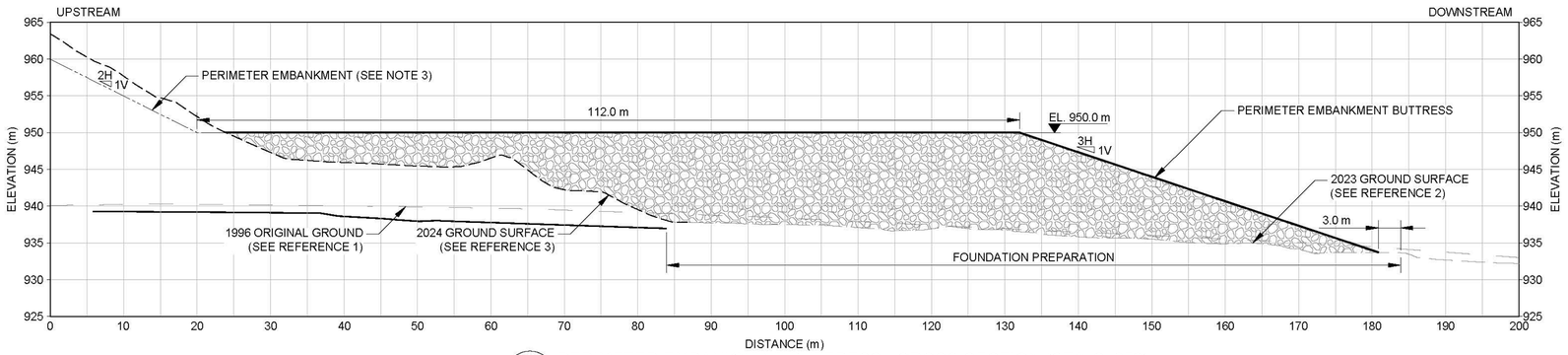
PERIMETER EMBANKMENT (CORNER 2-CORNER 1) CROSS-SECTIONS (2 OF 2)

PROJECT NO.	PHASE/TASK/DOC.	REV.	22 of 32	DRAWING
CA0047730.8440	51200/51293/004	0		22

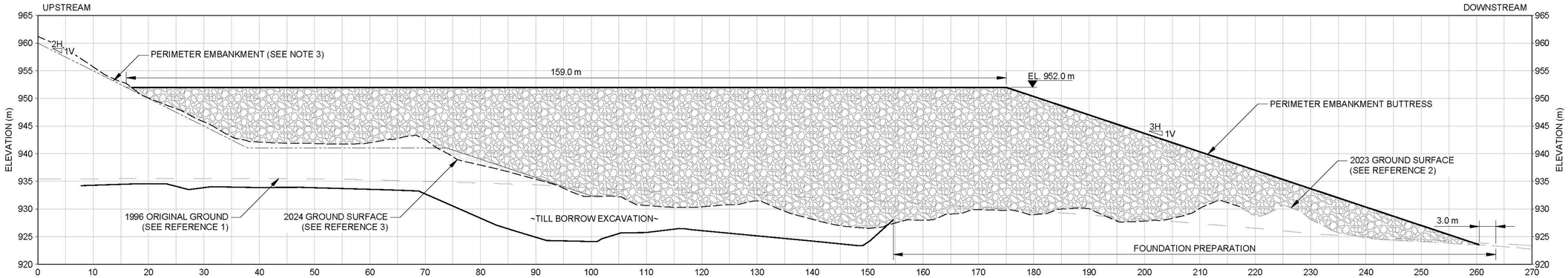
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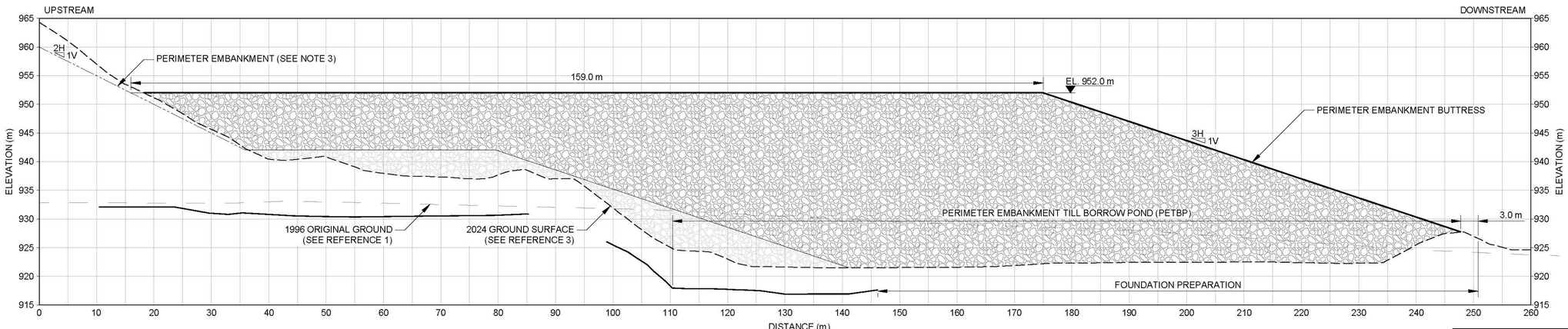
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SCALE 1:400 m — L (18 / 19) — PERIMETER EMBANKMENT BUTTRESS - CROSS-SECTION (STA. 2+850)



SCALE 1:400 m — M (18 / 19) — PERIMETER EMBANKMENT BUTTRESS - CROSS-SECTION (STA. 3+450)



SCALE 1:400 m — N (18 / 19) — PERIMETER EMBANKMENT BUTTRESS - CROSS-SECTION (STA. 3+762)

LEGEND

- 1996 ORIGINAL GROUND (SEE REFERENCE 1)
- 2023 GROUND SURFACE (SEE REFERENCE 2)
- 2024 GROUND SURFACE (SEE REFERENCE 3)
- HISTORICAL FOUNDATION PREPARATION (SEE REFERENCE 4)
- EL. 974 m EMBANKMENT DESIGN SLOPE
- EL. 987 m RAISE DESIGN ROCKFILL
- EL. 974 m RAISE DESIGN ROCKFILL (SEE NOTE 3)

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. ELEVATIONS SHOWN ARE REFERENCED TO TAILINGS GRID.
3. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).

REFERENCES

1. 1996 ORIGINAL GROUND PROVIDED BY MPMC, RECEIVED: 11 MARCH 2015, FILE NAME: "1996 TSF Topo.dxf".
2. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC AS 0.1 m CONTOUR DATA, SURVEYED: 30 OCTOBER 2023, RECEIVED: 01 FEBRUARY 2024, FILE NAME: "231030-TSF Lidar Contor 0.1.dxf".
3. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES, SURVEYED: 10 DECEMBER 2024, RECEIVED: 13 DECEMBER 2024, FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".
4. HISTORICAL FOUNDATION PREPARATION PROVIDED BY MPMC AS MULTIPLE SURVEYS, SURVEYED: 2015 TO 2024, RECEIVED: 2015 TO 2025.

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CONSTRUCTION

0 20 40

1:400 METRES

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REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
0	2025-07-11	ISSUED FOR CONSTRUCTION	R.G.	J.S.H.	S.B.	G.P.S.

SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

CLIENT

MOUNT POLLEY MINING CORPORATION

CONSULTANT

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V6Z 2M1
[+1] (604) 685 9381

PROJECT

MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE

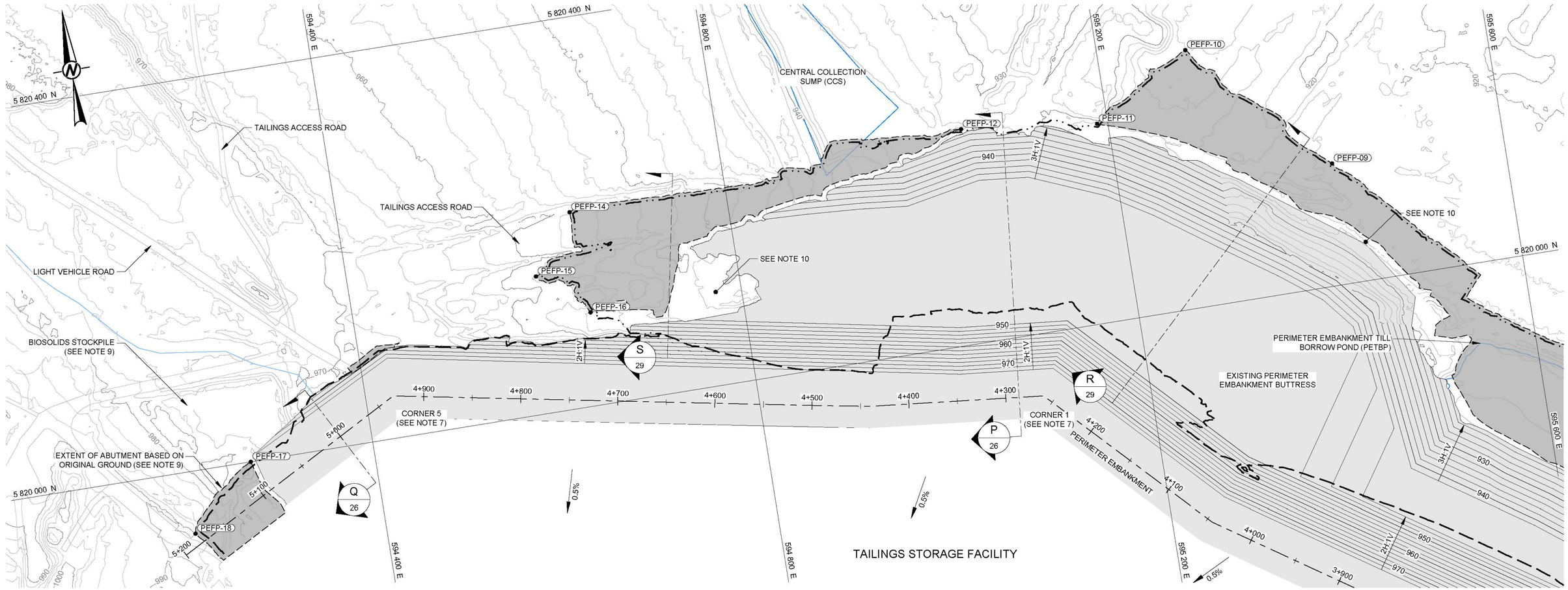
PERIMETER EMBANKMENT BUTTRESS (CORNER 2-CORNER 1) - CROSS-SECTIONS

PROJECT NO.	PHASE/TASK/DOC.	REV.	23 of 32	DRAWING
CA0047730.8440	51200/51293/004	0		23

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 25 mm

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TAILINGS STORAGE FACILITY

PERIMETER EMBANKMENT (CORNER 1-CORNER 5) - FOUNDATION PREPARATION

SCALE 1:2 000 m

LEGEND

- TAILINGS STORAGE FACILITY (TSF) EMBANKMENT CENTRELINE (4+400)
- GROUND CONTOURS (SEE NOTE 4)
- SITE ACCESS ROADS (SEE REFERENCE 3)
- WATERCOURSE (SEE REFERENCE 3)
- WATERBODY (SEE REFERENCE 3)
- TSF EL. 974 m EMBANKMENT RAISE AND BUTTRESS DESIGN CONTOURS (SEE NOTE 8)
- TSF EL. 987 m EMBANKMENT RAISE DESIGN TOE
- TSF EL. 987 m BUTTRESS RAISE DESIGN TOE
- TSF EL. 987 m FOUNDATION PREPARATION FOOTPRINT (SEE NOTES 6 AND 7)
- PERIMETER EMBANKMENT FOUNDATION PREPARATION SETOUT POINT (PEFP-18)

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. COORDINATES AND ELEVATIONS ARE SHOWN IN TAILINGS GRID.
3. CONTOUR INTERVAL SHOWN AT 10 m MAJOR AND 2 m MINOR, TAILINGS DEPOSITION CONTOUR INTERVAL SHOWN AT 5 m MAJOR AND 1 m MINOR.
4. GROUND CONITOURS REPRESENT COMPOSITE SURVEYS FROM 2023 AND 2024 (SEE REFERENCES 1 AND 2).
5. TAILINGS SURFACE SHOWN FOR REFERENCE ONLY, BEACH SLOPE WILL VARY.
6. EXTENT AND DEPTH OF FOUNDATION PREPARATION TO BE CONFIRMED BY QA MANAGER.
7. CORNERS 1 AND 5 ARE SHOWN AS BEING STRAIGHT ANGLES. HOWEVER, THE EXISTING EMBANKMENT TILL CORE, FILTER AND TRANSITION ARE CURVED AT THESE CORNERS.
8. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).
9. BIOSOLIDS STOCKPILE TO BE REMOVED AS PART OF ABUTMENT FOUNDATION PREPARATION, EXTENT OF EXCAVATION AND FOUNDATION PREPARATION TO BE CONFIRMED BY THE QA MANAGER.
10. COMPLETED AND ONGOING FOUNDATION PREPARATION AS PART OF THE EL. 974 m IFC DESIGN IS NOT SHOWN.

REFERENCES

1. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC AS 0.1 m CONTOUR DATA, SURVEYED: 30 OCTOBER 2023, RECEIVED: 01 FEBRUARY 2024, FILE NAME: "231030-TSF Lidar Contor 0.1.dxf".
2. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES, SURVEYED: 10 DECEMBER 2024, RECEIVED: 13 DECEMBER 2024, FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".
3. SITE FEATURES PROVIDED BY MPMC, RECEIVED: 5 SEPTEMBER 2014, FILE NAME: "MtPolley2013-Pln.dwg".

PERIMETER EMBANKMENT FOUNDATION PREPARATION SETOUT TABLE (2 OF 2)

POINT ID	EASTING (m)	NORTHING (m)	ELEVATION (m)
PEFP-09	595421.38	5820125.04	923.01
PEFP-10	595290.76	5820264.49	921.74
PEFP-11	595188.95	5820204.11	932.56
PEFP-12	595049.77	5820220.98	931.57
PEFP-14	594637.97	5820201.07	957.65
PEFP-15	594593.27	5820141.32	957.40
PEFP-16	594642.83	5820095.85	958.11
PEFP-17	594272.78	5820000.00	976.85
PEFP-18	594204.87	5819936.39	989.46

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0 100 200

1:2,000 METRES

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0	2025-07-11	ISSUED FOR CONSTRUCTION	R.G.	J.S.H.	S.B.	G.P.S.

WSP Canada Inc.
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Permit #1000200

SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

CLIENT: MOUNT POLLEY MINING CORPORATION

CONSULTANT

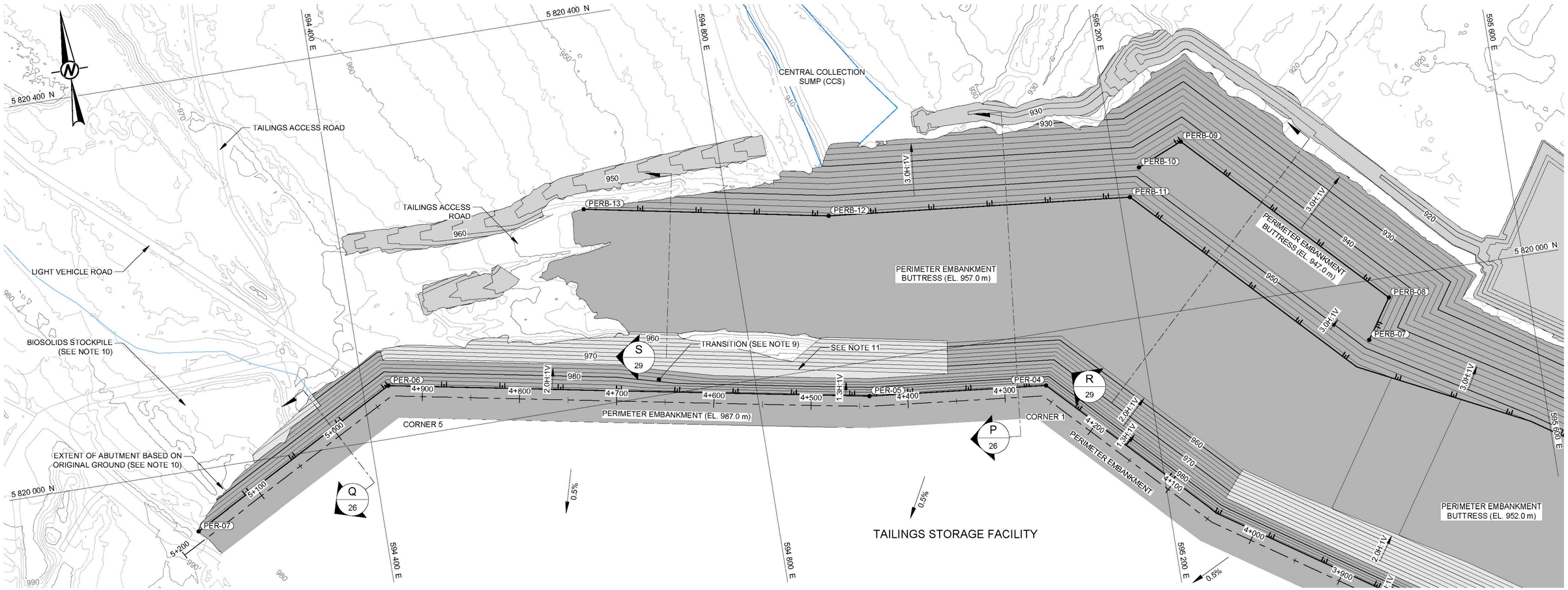
WSP CANADA INC.
840 HOWE STREET, SUITE 1000
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V6Z 2M1
[+1] (604) 685 9381

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
PERIMETER EMBANKMENT AND BUTTRESS (CORNER 1-CORNER 5) - FOUNDATION PREPERATION

PROJECT NO.	PHASE/TASK/DOC.	REV.	24 of 32	DRAWING
CA0047730.8440	51200/51293/004	0		24

Path: \\corp.pbwan.net\CA\CAVAN4490\CAD-GIS\Client\Imperial_Metals_Corp\Mount_Polley_Mine\09_PROJECTS\CA0047730_8440\51200\51293\004\Dwg\0_8440-51200-51293-004-024.dwg | Last Edited By: gld_jthopson Date: 2025-07-10 Time:10:55:43 AM | Printed By: gld_jthopson Date: 2025-07-11 Time:1:05:31 PM
0 25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D



PERIMETER EMBANKMENT (CORNER 1-CORNER 5) - PLAN VIEW

SCALE 1:2 000 m

LEGEND

- 4+400 — TAILINGS STORAGE FACILITY (TSF) EMBANKMENT CENTRELINE
- GROUND CONTOURS (SEE NOTE 4)
- SITE ACCESS ROADS (SEE REFERENCE 3)
- WATERCOURSE (SEE REFERENCE 3)
- WATERBODY (SEE REFERENCE 3)
- TSF EL. 987 m EMBANKMENT RAISE AND BUTTRESS DESIGN CONTOURS
- TSF EL. 987 m WATER MANAGEMENT DESIGN CONTOURS (SEE NOTE 6)
- TSF EL. 974 m EMBANKMENT RAISE AND BUTTRESS DESIGN CONTOURS (SEE NOTE 7)
- PER-07 — PERIMETER EMBANKMENT RAISE SETOUT POINT
- PERB-13 — PERIMETER EMBANKMENT BUTTRESS SETOUT POINT

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. COORDINATES AND ELEVATIONS ARE SHOWN IN TAILINGS GRID.
3. CONTOUR INTERVAL SHOWN AT 10 m MAJOR AND 2 m MINOR. TAILINGS DEPOSITION CONTOUR INTERVAL SHOWN AT 5 m MAJOR AND 1 m MINOR.
4. GROUND CONTOURS REPRESENT COMPOSITE SURVEYS FROM 2023 AND 2024 (SEE REFERENCES 1 AND 2).
5. TAILINGS SURFACE SHOWN FOR REFERENCE ONLY, BEACH SLOPE WILL VARY.
6. THE EL. 987 m WATER MANAGEMENT IFP DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-007-REV0-31153).
7. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).
8. CORNERS ARE SHOWN AS BEING STRAIGHT ANGLES. CONSTRUCTION IS TO FOLLOW THE EXISTING CURVATURE OF THE TILL CORE.
9. FROM STATION 4+000 TO 4+600, THE EMBANKMENT SLOPE IS 1.3H:1V ABOVE AND 2H:1V BELOW ELEVATION 975.6 m. FROM STATION 4+700 TO 5+170, THE EMBANKMENT SLOPE IS 2H:1V FROM CREST TO TOE. THE EMBANKMENT SLOPE TRANSITIONS BETWEEN THESE CONFIGURATIONS FROM STATION 4+600 TO 4+700.
10. BIOSOLIDS STOCKPILE TO BE REMOVED AS PART OF ABUTMENT FOUNDATION PREPARATION, EXTENT OF EXCAVATION AND FOUNDATION PREPARATION TO BE CONFIRMED BY THE QA MANAGER.
11. MODIFICATION TO EL. 974 m RAISE DESIGN ROCKFILL SHELL WIDTH FROM STATION 4+350 TO 4+700. REFER TO SECTIONS AT STATION 4+400 IN DRAWING 27 AND 4+650 IN DRAWING 28.

REFERENCES

1. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC AS 0.1 m CONTOUR DATA, SURVEYED: 30 OCTOBER 2023, RECEIVED: 01 FEBRUARY 2024, FILE NAME: "231030-TSF Lidar Contor 0.1.dxf".
2. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES, SURVEYED: 10 DECEMBER 2024, RECEIVED: 13 DECEMBER 2024, FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".
3. SITE FEATURES PROVIDED BY MPMC, RECEIVED: 5 SEPTEMBER 2014, FILE NAME: "MtPolley2013-Pln.dwg".

PERIMETER EMBANKMENT BUTTRESS DESIGN SETOUT TABLE (2 OF 2)

POINT ID	EASTING (m)	NORTHING (m)	ELEVATION (m)
PERB-07	595430.44	5819939.64	947.00
PERB-08	595457.28	5819979.50	947.00
PERB-09	595271.58	5820172.22	947.00
PERB-10	595224.87	5820152.83	947.00
PERB-11	595210.97	5820124.06	957.00
PERB-12	594901.83	5820154.53	957.00
PERB-13	594654.09	5820201.60	957.00

PERIMETER EMBANKMENT EL. 987 m RAISE SETOUT TABLE (2 OF 2)

POINT ID	EASTING (m)	NORTHING (m)	ELEVATION (m)
PER-04	595094.77	5819946.45	987.00
PER-05	594913.58	5819964.72	987.00
PER-06	594426.66	5820054.51	987.00
PER-07	594210.07	5819937.83	987.00

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1:2,000 METRES

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REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
0	2025-07-11	ISSUED FOR CONSTRUCTION	R.G.	J.S.H.	S.B.	G.P.S.

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Engineers & Geoscientists BC
Permit #1000200

SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

CLIENT

MOUNT POLLEY MINING CORPORATION

CONSULTANT

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V6Z 2M1
[+1] (604) 685 9381

PROJECT

MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE

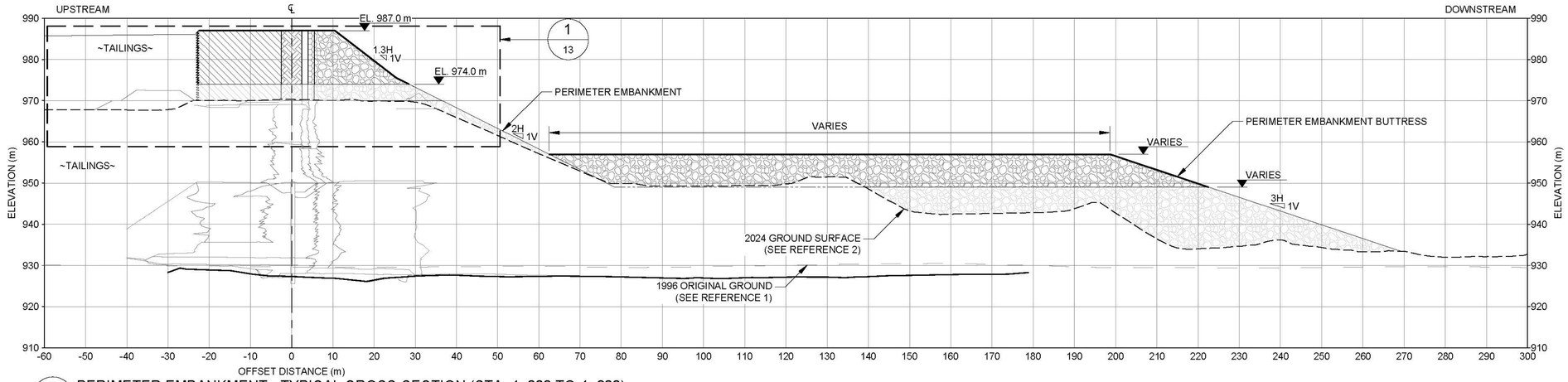
PERIMETER EMBANKMENT AND BUTTRESS (CORNER 1-CORNER 5) - PLAN VIEW

PROJECT NO.	PHASE/TASK/DOC.	REV.	25 of 32	DRAWING
CA0047730.8440	51200/51293/004	0		25

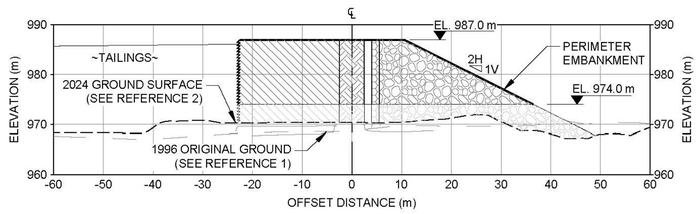
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 25 mm

Path: \\corp.pbwan.net\CA\CAVAN490\CAD-GIS\Client\Imperial_Metals_Corp\Mount_Polley_Mine\99_PROJECTS\CA0047730_8440\51200\51293\004_8440\51200\51293\Doc 004_997 Design\02_PRODUCTION\DWG\Drawings\ | File Name: CA0047730_8440-51200-51293-004-025.dwg | Last Edited By: gld.jhopson Date: 2025-07-10 Time: 12:39:56 PM | Printed By: gld.jhopson Date: 2025-07-11 Time: 1:06:46 PM



SCALE 1:600 m — P (24 / 25) — PERIMETER EMBANKMENT - TYPICAL CROSS-SECTION (STA. 4+000 TO 4+600)



SCALE 1:600 m — Q (24 / 25) — PERIMETER EMBANKMENT - TYPICAL CROSS-SECTION (STA. 4+700 TO 5+170)

LEGEND

- 1996 ORIGINAL GROUND (SEE REFERENCE 1)
- 2024 GROUND SURFACE (SEE REFERENCE 3)
- HISTORICAL FOUNDATION PREPARATION (SEE REFERENCE 4)
- PREVIOUSLY CONSTRUCTED MATERIAL BOUNDARY
- 2013 CONSTRUCTION (SEE NOTE 4)
- EL. 974 m EMBANKMENT DESIGN SLOPE
- EL. 987 m RAISE DESIGN ROCKFILL
- EL. 987 m RAISE DESIGN TRANSITION MATERIAL
- EL. 987 m RAISE DESIGN FILTER MATERIAL
- EL. 987 m RAISE DESIGN TILL CORE
- EL. 987 m RAISE DESIGN UPSTREAM FILL
- EL. 974 m RAISE DESIGN ROCKFILL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TRANSITION MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN FILTER MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TILL CORE (SEE NOTE 5)
- EL. 974 m RAISE DESIGN UPSTREAM FILL (SEE NOTE 5)

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. ELEVATIONS SHOWN ARE REFERENCED TO TAILINGS GRID.
3. SECTION INFORMATION WAS DIGITALIZED USING THE AMEC 2013 RECORD SURVEY AND ANNUAL REVIEW REPORT, FILE NAME: "2014 03 12 - 2013 AS-BUILT & ANNUAL REVIEW REPORT (AMEC).pdf", DATED: 12 MARCH 2014.
4. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).
5. FROM STATION 4+000 TO 4+600, THE EMBANKMENT SLOPE IS 1.3H:1V ABOVE AND 2H:1V BELOW ELEVATION 975.6 m. FROM STATION 4+700 TO 5+170, THE EMBANKMENT SLOPE IS 2H:1V FROM CREST TO TOE. THE EMBANKMENT SLOPE TRANSITIONS BETWEEN THESE CONFIGURATIONS FROM STATION 4+600 TO 4+700.

REFERENCES

1. 1996 ORIGINAL GROUND PROVIDED BY MPMC, RECEIVED: 11 MARCH 2015, FILE NAME: "1996 TSF Topo.dxf".
2. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC, SURVEYED: 30 OCTOBER 2023, RECEIVED: 01 FEBRUARY 2024, FILE NAME: "231030-TSF Lidar Contor 0.1.dxf".
3. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC, SURVEYED: 10 DECEMBER 2024, RECEIVED: 13 DECEMBER 2024, FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".
4. HISTORICAL FOUNDATION PREPARATION PROVIDED BY MPMC AS MULTIPLE SURVEYS, SURVEYED: 2015 TO 2024, RECEIVED: 2015 TO 2025.

ISSUED FOR

CONSTRUCTION

0 20 40

1:600 METRES

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SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

CLIENT: MOUNT POLLEY MINING CORPORATION

CONSULTANT

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VANCOUVER, BC
V6Z 2M1
[+1] (604) 685 9381

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

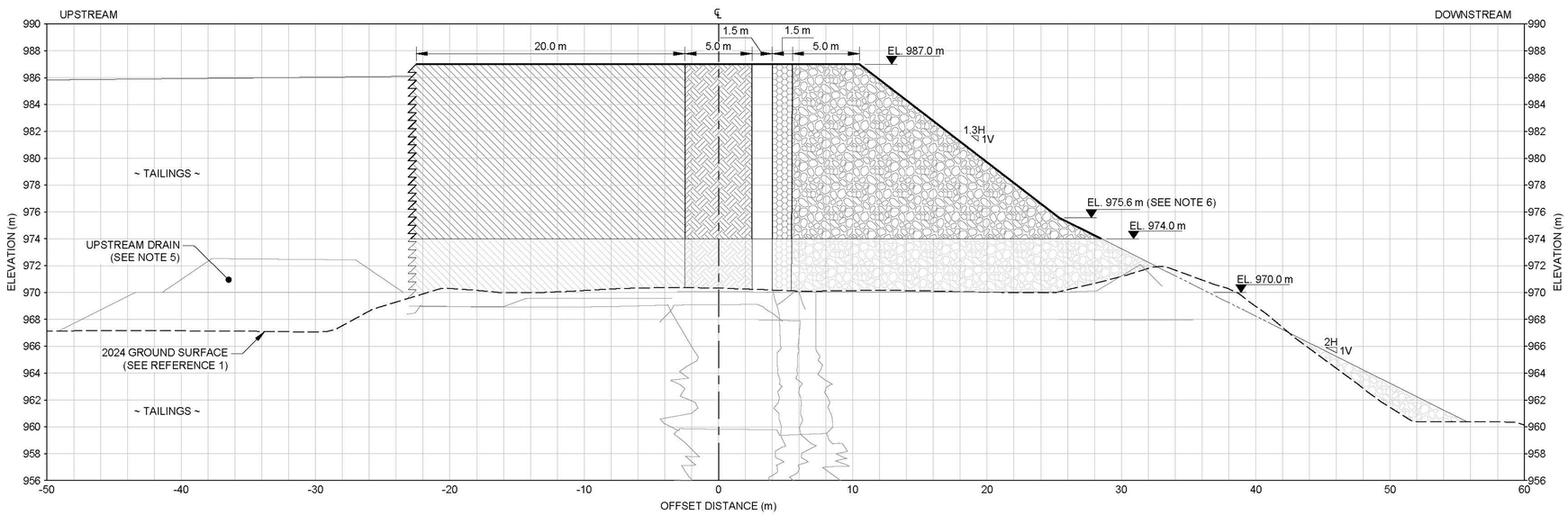
TITLE
PERIMETER EMBANKMENT AND BUTTRESS (CORNER 1-CORNER 5) - TYPICAL CROSS-SECTIONS

PROJECT NO.	PHASE/TASK/DOC.	REV.		DRAWING
CA0047730.8440	51200/51293/004	0	26 of 32	26

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

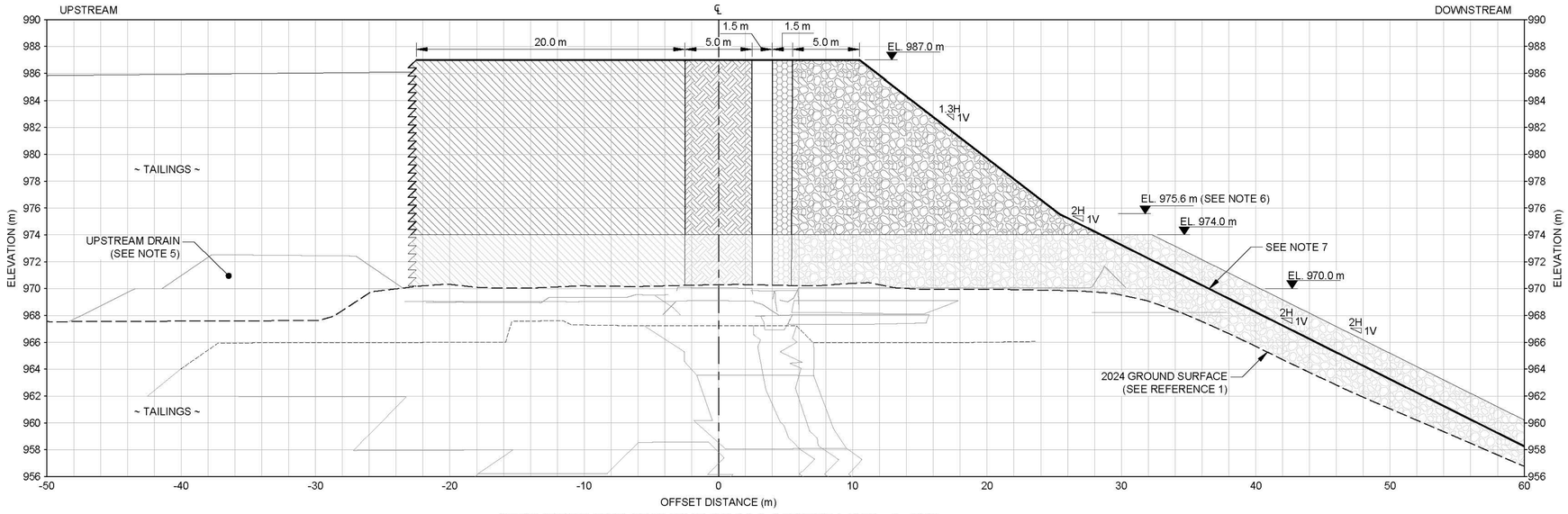
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Path: \\corp.pbwan.net\CAVCAVAN400\CAD-GIS\Client\Imperial_Metals_Corp\Mount_Polley_Mine\99_PROJECTS\CA0047730_8440\51200\51293\Doc 004_987 Design\02_PRODUCT\ONDWG\Drawings\ | File Name: CA0047730_8440-51200-51293-004-026.dwg | Last Edited By: gld_jhopson Date: 2025-07-10 Time:12:24:22 PM | Printed By: gld_jhopson Date: 2025-07-11 Time:1:08:18 PM



PERIMETER EMBANKMENT CROSS-SECTION (STA. 4+100)

SCALE 1:200 m



PERIMETER EMBANKMENT CROSS-SECTION (STA. 4+400)

SCALE 1:200 m

LEGEND

- 2024 GROUND SURFACE (SEE REFERENCE 1)
- EL. 974 m EMBANKMENT DESIGN SLOPE
- PREVIOUSLY CONSTRUCTED MATERIAL BOUNDARY
- 2013 CONSTRUCTION (SEE NOTE 4)
- EL. 987 m RAISE DESIGN ROCKFILL
- EL. 987 m RAISE DESIGN TRANSITION MATERIAL
- EL. 987 m RAISE DESIGN FILTER MATERIAL
- EL. 987 m RAISE DESIGN TILL CORE
- EL. 987 m RAISE DESIGN UPSTREAM FILL
- EL. 974 m RAISE DESIGN ROCKFILL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TRANSITION MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN FILTER MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TILL CORE (SEE NOTE 5)
- EL. 974 m RAISE DESIGN UPSTREAM FILL (SEE NOTE 5)

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. ELEVATIONS SHOWN ARE REFERENCED TO TAILINGS GRID.
3. SECTION INFORMATION WAS DIGITALIZED USING THE AMEC 2013 RECORD SURVEY AND ANNUAL REVIEW REPORT,
   FILE NAME: "2014 03 12 - 2013 AS-BUILT & ANNUAL REVIEW REPORT (AMEC).pdf",
   DATED: 12 MARCH 2014.
4. DIGITALIZED SECTION WAS UPDATED WITH THE 2014 AS-BUILT SURVEY PROVIDED BY MPMC ON 14 SEPTEMBER 2015 AND MAY 2015 SURVEY.
5. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).
6. FROM STATION 4+000 TO 4+600, THE EMBANKMENT SLOPE IS 1.3H:1V ABOVE AND 2H:1V BELOW ELEVATION 975.6 m. FROM STATION 4+700 TO 5+170, THE EMBANKMENT SLOPE IS 2H:1V FROM CREST TO TOE. THE EMBANKMENT SLOPE TRANSITIONS BETWEEN THESE CONFIGURATIONS FROM STATION 4+600 TO 4+700.
7. MODIFICATION TO EL. 974 m RAISE DESIGN ROCKFILL SHELL WIDTH FROM STATION 4+350 TO 4+700.

REFERENCE

1. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES, SURVEYED: 10 DECEMBER 2024, RECEIVED: 13 DECEMBER 2024, FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".

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CONSTRUCTION

0 10 20

1:200 METRES

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REV.	YYYY-MM-DD	DESCRIPTION	DESIGNED	PREPARED	REVIEWED	APPROVED
0	2025-07-11	ISSUED FOR CONSTRUCTION	R.G.	J.S.H.	S.B.	G.P.S.

WSP Canada Inc.
Engineers & Geoscientists BC
Permit #1000200

SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

CLIENT: MOUNT POLLEY MINING CORPORATION

CONSULTANT

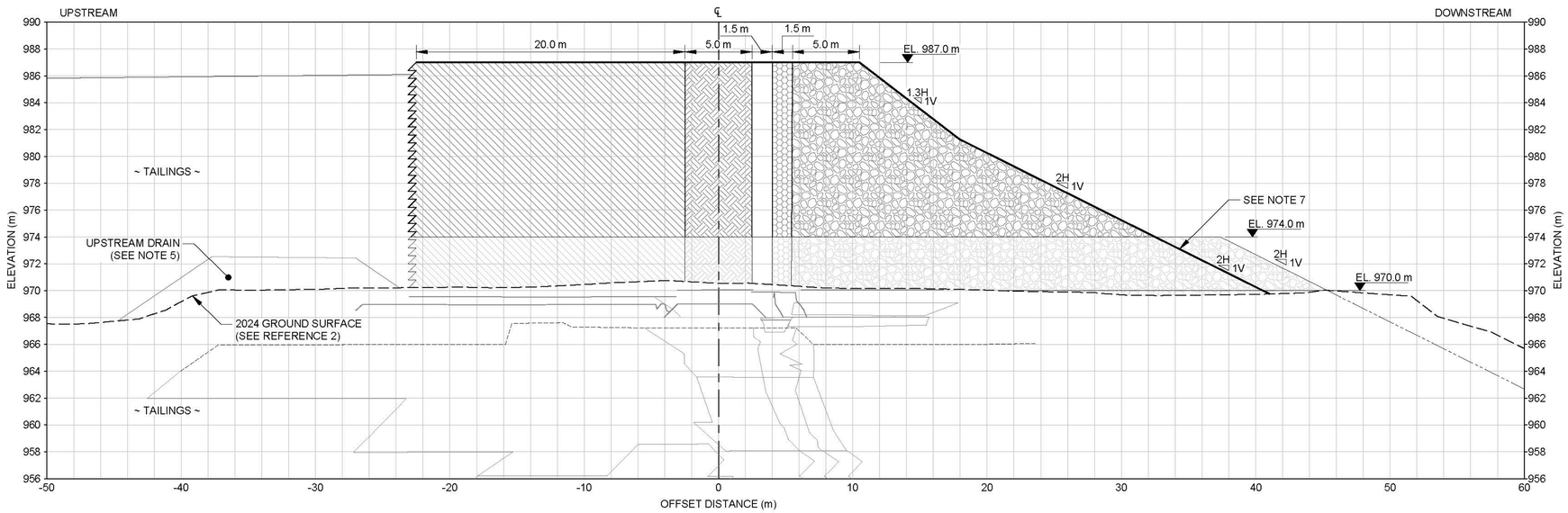
WSP CANADA INC.
840 HOWE STREET, SUITE 1000
VANCOUVER, BC
V6Z 2M1
[+1] (604) 685 9381

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
PERIMETER EMBANKMENT (CORNER 1-CORNER 5) CROSS-SECTIONS (1 OF 2)

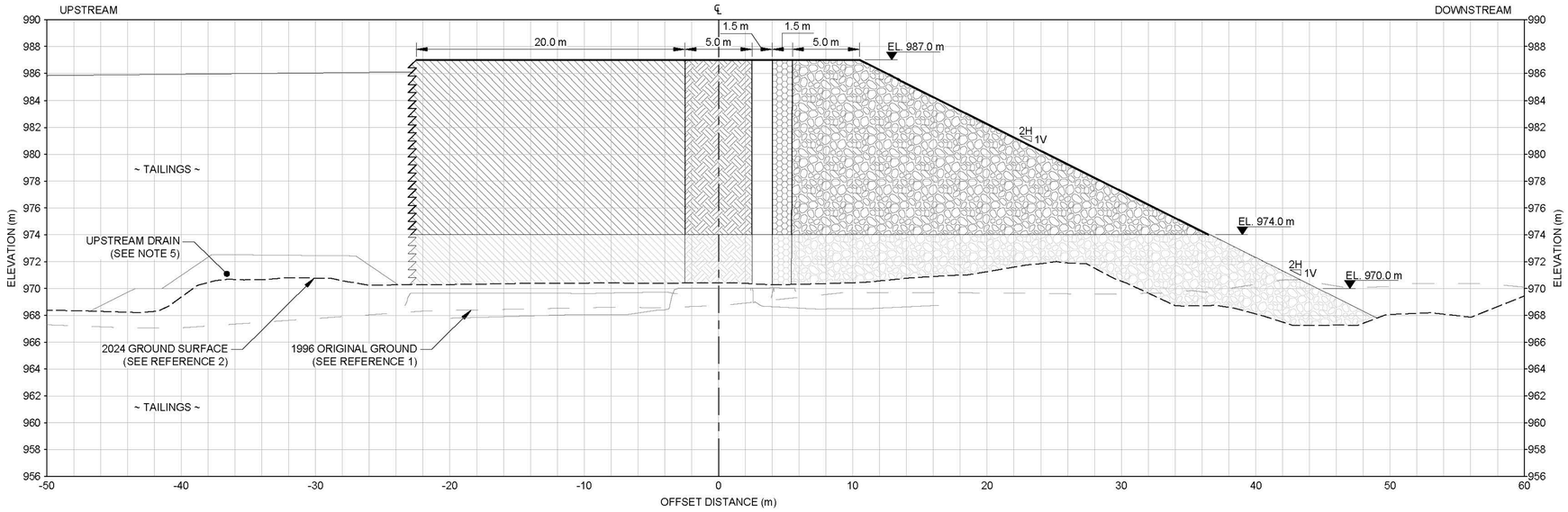
PROJECT NO.	PHASE/TASK/DOC.	REV.	27 of 32	DRAWING
CA0047730.8440	51200/51293/004	0		27

Path: \\corp.pbwan.net\CA\CAV\AM40\DCAD-GIS\Client\Imperial_Metals_Corp\Mount_Polley_Mine\99_PRO_JECT S\CA0047730_8440\51200\51293\Doc 004_987 Design\02_PRODUCTION\DWG\Drawings\ | File Name: CA0047730_8440-51200-51293-004-027_028.dwg | Last Edited By: gld_jhopson Date: 2025-07-10 Time: 3:24:41 PM | Printed By: gld_jhopson Date: 2025-07-11 Time: 1:09:55 PM
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D
0 25 mm



PERIMETER EMBANKMENT CROSS-SECTION (STA. 4+650)

SCALE 1:200 m



PERIMETER EMBANKMENT CROSS-SECTION (STA. 5+000)

SCALE 1:200 m

LEGEND

- 1996 ORIGINAL GROUND (SEE REFERENCE 1)
- 2024 GROUND SURFACE (SEE REFERENCE 2)
- PREVIOUSLY CONSTRUCTED MATERIAL BOUNDARY
- 2013 CONSTRUCTION (SEE NOTE 4)
- EL. 987 m RAISE DESIGN ROCKFILL
- EL. 987 m RAISE DESIGN TRANSITION MATERIAL
- EL. 987 m RAISE DESIGN FILTER MATERIAL
- EL. 987 m RAISE DESIGN TILL CORE
- EL. 987 m RAISE DESIGN UPSTREAM FILL
- EL. 974 m RAISE DESIGN ROCKFILL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TRANSITION MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN FILTER MATERIAL (SEE NOTE 5)
- EL. 974 m RAISE DESIGN TILL CORE (SEE NOTE 5)
- EL. 974 m RAISE DESIGN UPSTREAM FILL (SEE NOTE 5)

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. ELEVATIONS SHOWN ARE REFERENCED TO TAILINGS GRID.
3. SECTION INFORMATION WAS DIGITALIZED USING THE AMEC 2013 RECORD SURVEY AND ANNUAL REVIEW REPORT,
   FILE NAME: "2014 03 12 - 2013 AS-BUILT & ANNUAL REVIEW REPORT (AMEC).pdf",
   DATED: 12 MARCH 2014.
4. DIGITALIZED SECTION WAS UPDATED WITH THE 2014 AS-BUILT SURVEY PROVIDED BY MPMC ON 14 SEPTEMBER 2015 AND MAY 2015 SURVEY.
5. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).
6. FROM STATION 4+000 TO 4+600, THE EMBANKMENT SLOPE IS 1.3H:1V ABOVE AND 2H:1V BELOW ELEVATION 975.6 m. FROM STATION 4+700 TO 5+170, THE EMBANKMENT SLOPE IS 2H:1V FROM CREST TO TOE. THE EMBANKMENT SLOPE TRANSITIONS BETWEEN THESE CONFIGURATIONS FROM STATION 4+600 TO 4+700.
7. MODIFICATION TO EL. 974 m RAISE DESIGN ROCKFILL SHELL WIDTH FROM STATION 4+350 TO 4+700.

REFERENCE

1. 1996 ORIGINAL GROUND PROVIDED BY MPMC, RECEIVED: 11 MARCH 2015,
   FILE NAME: "1996 TSF Topo.dxf".
2. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES,
   SURVEYED: 10 DECEMBER 2024, RECEIVED: 13 DECEMBER 2024,
   FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".

ISSUED FOR

CONSTRUCTION

0 10 20

1:200 METRES

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0	2025-07-11	ISSUED FOR CONSTRUCTION	R.G.	J.S.H.	S.B.	G.P.S.

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Permit #1000200

SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

CLIENT

MOUNT POLLEY MINING CORPORATION

CONSULTANT

WSP CANADA INC.
840 HOWE STREET, SUITE 1000
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V6Z 2M1
[+1] (604) 685 9381

PROJECT

MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE

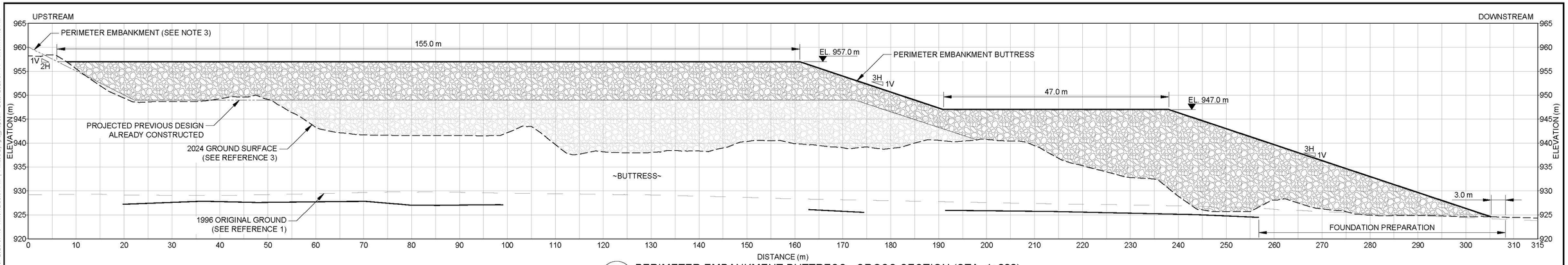
PERIMETER EMBANKMENT (CORNER 1-CORNER 5) CROSS-SECTIONS (2 OF 2)

PROJECT NO.	PHASE/TASK/DOC.	REV.	28 of 32	DRAWING
CA0047730.8440	51200/51293/004	0		28

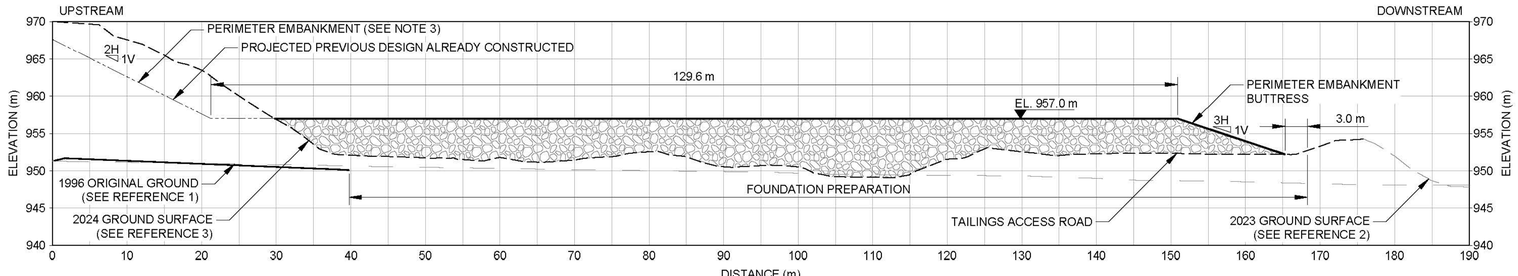
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 25 mm

Path: \\corp.pbwan.net\CA\CAVAN4\01\CAD-GIS\Client\Imperial_Metals_Corp\Mount_Polley_Mine\09_PRO_JECT S\CA0047730_8440\61200\51293\Doc 004_987 Design\02_PRODUCTION\CIVIL\Drawings\ | File Name: CA0047730_8440-51200-51293-004-027_028.dwg | Last Edited By: gld_jhopson Date: 2025-07-10 Time:3:24:41 PM | Printed By: gld_jhopson Date: 2025-07-11 Time:1:10:16 PM



SCALE 1:400 m (R 24 25) PERIMETER EMBANKMENT BUTTRESS - CROSS-SECTION (STA. 4+200)



SCALE 1:400 m (S 24 25) PERIMETER EMBANKMENT BUTTRESS - CROSS-SECTION (STA. 4+650)

LEGEND

- 1996 ORIGINAL GROUND (SEE REFERENCE 1)
- 2023 GROUND SURFACE (SEE REFERENCE 2)
- 2024 GROUND SURFACE (SEE REFERENCE 3)
- HISTORICAL FOUNDATION PREPARATION (SEE REFERENCE 4)
- EL. 974 m EMBANKMENT DESIGN SLOPE
- EL. 987 m RAISE DESIGN ROCKFILL
- EL. 974 m RAISE DESIGN ROCKFILL (SEE NOTE 3)

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. ELEVATIONS SHOWN ARE REFERENCED TO TAILINGS GRID.
3. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).

REFERENCES

1. 1996 ORIGINAL GROUND PROVIDED BY MPMC, RECEIVED: 11 MARCH 2015, FILE NAME: "1996 TSF Topo.dxf".
2. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC AS 0.1 m CONTOUR DATA, SURVEYED: 30 OCTOBER 2023, RECEIVED: 01 FEBRUARY 2024, FILE NAME: "231030-TSF Lidar Contor 0.1.dxf".
3. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES, SURVEYED: 10 DECEMBER 2024, RECEIVED: 13 DECEMBER 2024, FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".
4. HISTORICAL FOUNDATION PREPARATION PROVIDED BY MPMC AS MULTIPLE SURVEYS, SURVEYED: 2015 TO 2024, RECEIVED: 2015 TO 2025.

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CONSTRUCTION

0 20 40

1:400 METRES

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WSP Canada Inc.
Engineers & Geoscientists BC
Permit #1000200

SEAL

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

CLIENT: MOUNT POLLEY MINING CORPORATION

CONSULTANT

WSP CANADA INC.
840 HOWE STREET, SUITE 1000
VANCOUVER, BC
V6Z 2M1
[+1] (604) 685 9381

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

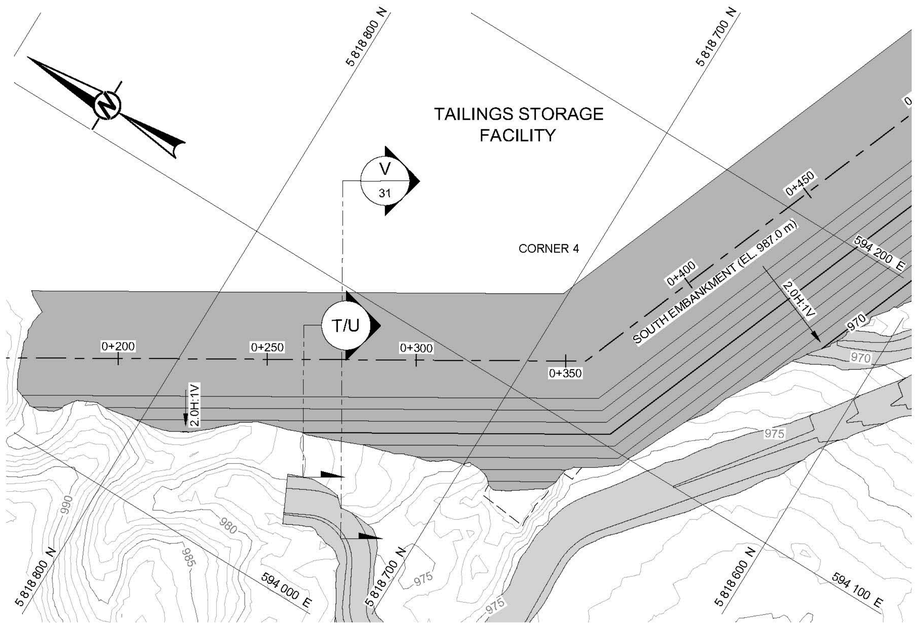
TITLE
PERIMETER EMBANKMENT BUTTRESS (CORNER 1-CORNER 5) - CROSS-SECTIONS

PROJECT NO.	PHASE/TASK/DOC.	REV.		DRAWING
CA0047730.8440	51200/51293/004	0	29 of 32	29

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

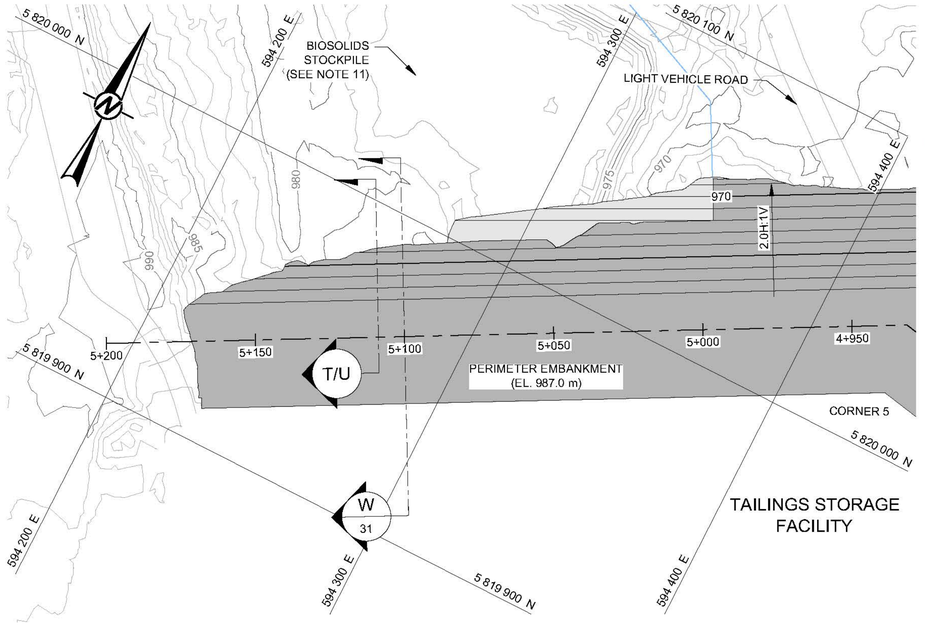
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Path: \\corp.pbwan.net\CA\CAVAN4400\CAD-GIS\Client\Imperial_Metals_Corp\Mount_Polley_Mine\09_PRO_JECTS\CA0047730_8440\51200\51293\Doc 004_987 Design\02_PRODUCTION\DWG\Drawings\ | File Name: CA0047730_8440-51200-51293-004-029.dwg | Last Edited By: gld Jhopson Date: 2025-07-10 Time:12:33:57 PM | Printed By: gld Jhopson Date: 2025-07-11 Time:1:11:19 PM



SOUTH EMBANKMENT ABUTMENT DETAIL

SCALE 1:1 000 m



PERIMETER EMBANKMENT ABUTMENT DETAIL

SCALE 1:1 000 m

LEGEND

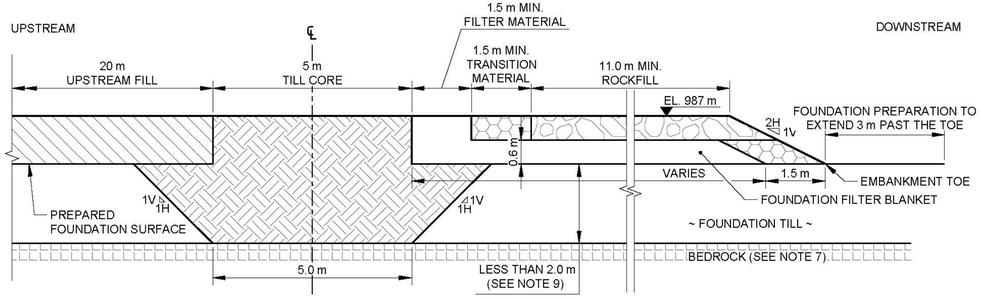
- TAILINGS STORAGE FACILITY (TSF) EMBANKMENT CENTRELINE (4+400)
- GROUND CONTOURS (SEE NOTE 4)
- SITE ACCESS ROADS (SEE REFERENCE 3)
- WATERCOURSE (SEE REFERENCE 3)
- TSF EL. 987 m EMBANKMENT RAISE AND BUTTRESS DESIGN CONTOURS
- TSF EL. 987 m WATER MANAGEMENT DESIGN CONTOURS (SEE NOTE 6)
- TSF EL. 974 m EMBANKMENT RAISE AND BUTTRESS DESIGN CONTOURS (SEE NOTE 7)
- EL. 987 m RAISE DESIGN ROCKFILL
- EL. 987 m RAISE DESIGN TRANSITION MATERIAL
- EL. 987 m RAISE DESIGN FILTER MATERIAL
- EL. 987 m RAISE DESIGN TILL CORE
- EL. 987 m RAISE DESIGN UPSTREAM FILL
- BEDROCK

NOTES

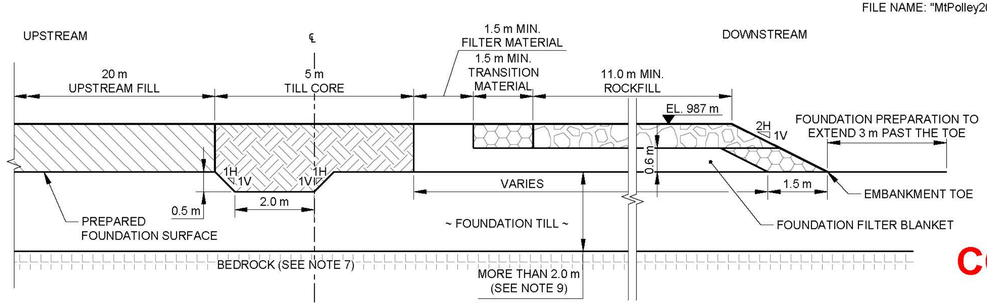
1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. COORDINATES AND ELEVATIONS ARE SHOWN IN TAILINGS GRID.
3. MAJOR CONTOUR INTERVAL 5 m, MINOR CONTOUR INTERVAL 1 m.
4. GROUND CONTOURS REPRESENT COMPOSITE SURVEYS FROM 2023 AND 2024 (SEE REFERENCES 1 AND 2).
5. TAILINGS SURFACE SHOWN FOR REFERENCE ONLY, BEACH SLOPE WILL VARY.
6. THE EL. 987 m WATER MANAGEMENT IFP DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-007-REV0-31154).
7. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394).
8. DEPTH TO BEDROCK TO BE CONFIRMED BY THE QA MANAGER.
9. EXTENT OF EXCAVATION AND FOUNDATION PREPARATION TO BE CONFIRMED BY THE QA MANAGER.
10. EXTEND TILL CORE TO BEDROCK IF FOUNDATION TILL THICKNESS IS LESS THAN 2.0 m.
11. BIOSOLIDS STOCKPILE TO BE REMOVED AS PART OF ABUTMENT FOUNDATION PREPARATION. EXTENT OF EXCAVATION AND FOUNDATION PREPARATION TO BE CONFIRMED BY THE QA MANAGER.

REFERENCES

1. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC AS 0.1 m CONTOUR DATA, SURVEYED: 30 OCTOBER 2023, RECEIVED: 01 FEBRUARY 2024, FILE NAME: "231030-TSF Lidar Contor 0.1.dxf".
2. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES, SURVEYED: 10 DECEMBER 2024, RECEIVED: 13 DECEMBER 2024, FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".
3. SITE FEATURES PROVIDED BY MPMC, RECEIVED: 05 SEPTEMBER 2014, FILE NAME: "MtPolley2013-Pln.dwg".



SCALE 1:75 m (T) TYPICAL TILL CORE TIE-IN TO FOUNDATION BEDROCK CROSS-SECTION



SCALE 1:75 m (U) TYPICAL TILL CORE TIE-IN TO FOUNDATION TILL CROSS-SECTION

ISSUED FOR

CONSTRUCTION

0 2.5 5
1:75 METRES

0 50 100
1:1,000 METRES

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0	2025-07-11	ISSUED FOR CONSTRUCTION	R.G.	J.S.H.	S.B.	G.P.S.

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PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077

2025-07-16

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840 HOWE STREET, SUITE 1000
VANCOUVER, BC
V6Z 2M1
[+1] (604) 685 9381

PROJECT

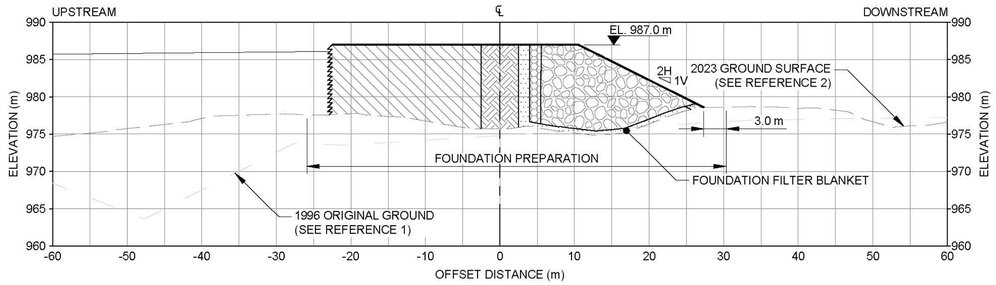
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE

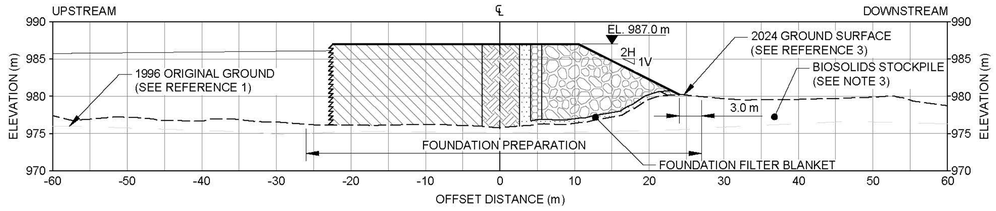
SOUTH AND PERIMETER EMBANKMENT ABUTMENTS PLAN VIEW AND TYPICAL CROSS-SECTIONS

PROJECT NO.	PHASE/TASK/DOC.	REV.		DRAWING
CA0047730.8440	51200/51293/004	0	30 of 32	30

Path: \\corp.pbwan.net\CA\CAVAN1\400\CAD-GIS\Client\Imperial_Metals_Corp\Mount_Polley_Mine\99_PRO_JECTS\CA0047730_8440\51200\51293\004\030_31.dwg | Last Edited By: grld_Jhopson Date: 2025-07-10 Time:12:39:47 PM | Printed By: grld_Jhopson Date: 2025-07-11 Time:1:12:49 PM | File Name: CA0047730_8440-51200-51293-004-030_31 Drawing\s | Plot Scale: 1:1 000 m
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D
0 25 mm



SCALE 1:400 m — V 30 — SOUTH ABUTMENT - CROSS-SECTION (STA. 0+275)



SCALE 1:400 m — W 30 — NORTH ABUTMENT - CROSS-SECTION (STA. 5+100)

LEGEND

- 1996 ORIGINAL GROUND (SEE REFERENCE 1)
- 2023 GROUND SURFACE (SEE REFERENCE 2)
- 2024 GROUND SURFACE (SEE REFERENCE 3)
- EL. 987 m RAISE DESIGN ROCKFILL
- EL. 987 m RAISE DESIGN TRANSITION MATERIAL
- EL. 987 m RAISE DESIGN FILTER MATERIAL
- EL. 987 m RAISE DESIGN TILL CORE
- EL. 987 m RAISE DESIGN UPSTREAM FILL

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. ELEVATIONS SHOWN ARE REFERENCED TO TAILINGS GRID.
3. BIOSOLIDS STOCKPILE TO BE REMOVED AS PART OF ABUTMENT FOUNDATION PREPARATION, EXTENT OF EXCAVATION AND FOUNDATION PREPARATION TO BE CONFIRMED BY THE QA MANAGER.

REFERENCES

1. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC AS 0.1 m CONTOUR DATA, SURVEYED: 30 OCTOBER 2023, RECEIVED: 01 FEBRUARY 2024, FILE NAME: "231030-TSF Lidar Contor 0.1.dxf".
2. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES, SURVEYED: 10 DECEMBER 2024, RECEIVED: 13 DECEMBER 2024, FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf".
3. SITE FEATURES PROVIDED BY MPMC, RECEIVED: 05 SEPTEMBER 2014, FILE NAME: "MtPolley2013-Pln.dwg".

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CONSTRUCTION

0 20 40
1:400 METRES

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0	2025-07-11	ISSUED FOR CONSTRUCTION	R.G.	J.S.H.	S.B.	G.P.S.

SEAL
PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077
2025-07-16

CLIENT
MOUNT POLLEY MINING CORPORATION

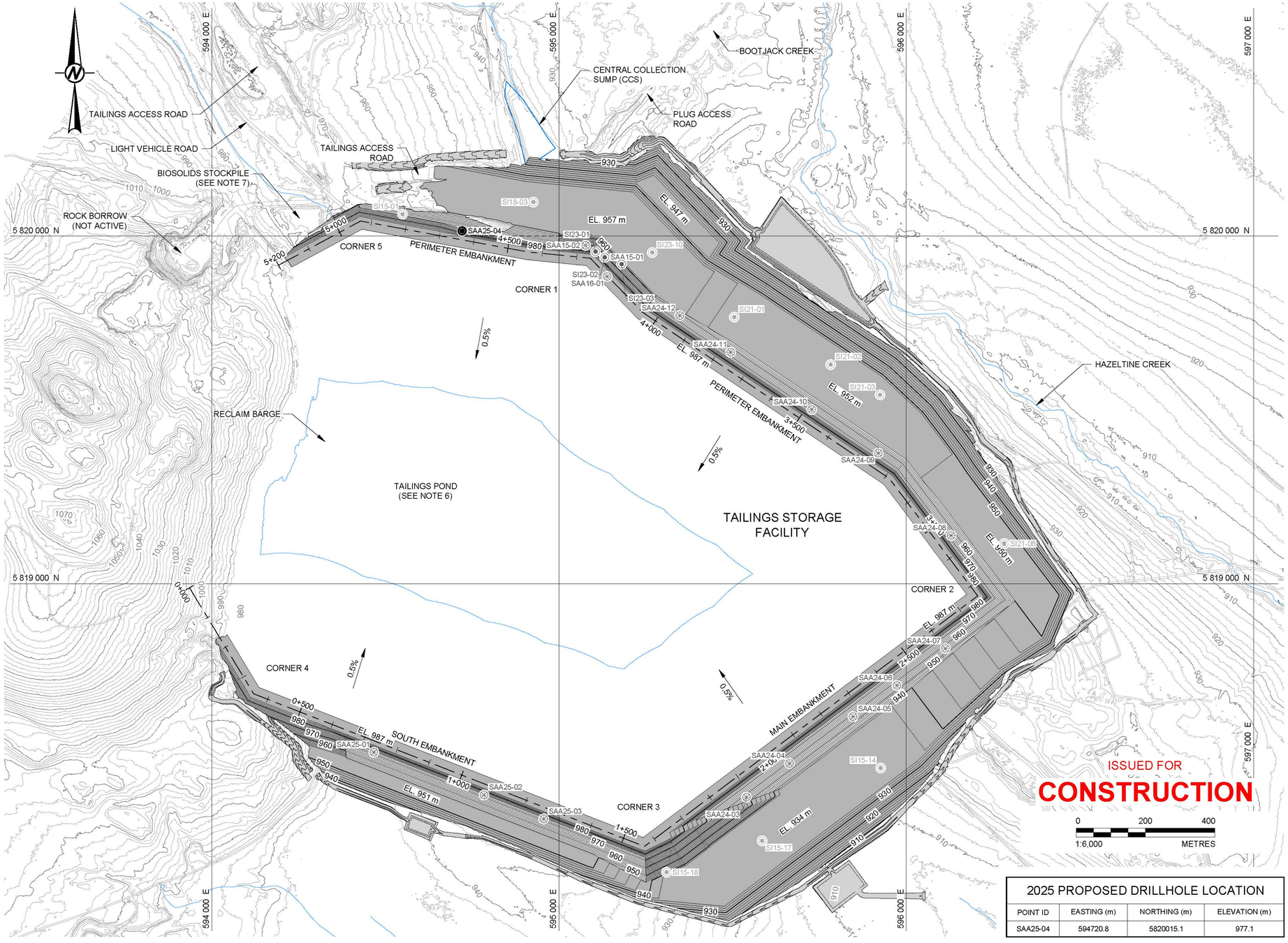
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PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
SOUTH AND PERIMETER EMBANKMENT ABUTMENTS CROSS-SECTIONS

PROJECT NO.	PHASE/TASK/DOC.	REV.		DRAWING
CA0047730.8440	51200/51293/004	0	31 of 32	31

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0 25 mm



LEGEND

- TAILINGS STORAGE FACILITY (TSF) EMBANKMENT CENTRELINE (4+400)
- GROUND CONTOURS (SEE NOTE 4)
- SITE ACCESS ROADS (SEE REFERENCE 3)
- WATERCOURSE (SEE REFERENCE 3)
- WATERBODY (SEE REFERENCE 3)
- TSF EL. 987 m EMBANKMENT RAISE AND BUTTRESS DESIGN CONTOURS
- TSF EL. 974 m EMBANKMENT RAISE AND BUTTRESS DESIGN CONTOURS
- TAILINGS POND (SEE NOTE 6)
- PROPOSED SHAPE ACCEL ARRAY (SAA)
- EXISTING SHAPE ACCEL ARRAY (SAA) (CABLES TO BE EXTENDED AND PROTECTED ON THE SLOPE SURFACE)
- EXISTING SLOPE INCLINOMETER (SI) TO BE EXTENDED
- SLOPE INCLINOMETER (SI) TO BE DECOMMISSIONED

NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. COORDINATES AND ELEVATIONS ARE SHOWN IN TAILINGS GRID.
3. CONTOUR INTERVAL SHOWN AT 10 m MAJOR AND 2 m MINOR, TAILINGS DEPOSITION CONTOUR INTERVAL SHOWN AT 5 m MAJOR AND 1 m MINOR.
4. GROUND CONTOURS REPRESENT COMPOSITE SURVEYS FROM 2023 AND 2024 (SEE REFERENCES 1 AND 2).
5. THE EL. 974 m IFC DESIGN IS PREPARED UNDER SEPARATE COVER (CA0020527.4505-014-REV0-51394). THE EL. 974 m SPILLWAY IS NOT SHOWN IN DRAWINGS.
6. TAILINGS SURFACE SHOWN FOR REFERENCE ONLY, BEACH SLOPE WILL VARY.
7. BIOSOLIDS STOCKPILE REMOVAL IS ONGOING AS PART OF ABUTMENT FOUNDATION PREPARATION, EXTENT OF EXCAVATION AND FOUNDATION PREPARATION TO BE CONFIRMED BY THE QA MANAGER.
8. EXISTING VIBRATING WIRE PIEZOMETERS (VWPS) AND SLOPE ACCEL ARRAYS (SAA) CABLES TO BE EXTENDED PER DETAIL 3.
9. ALL FUNCTIONING SLOPE INCLINOMETERS SHOULD CONTINUE TO BE READ UNTIL BUTTRESS CONSTRUCTION COMMENCES IN THOSE AREAS. MPMC TO INFORM THE ENGINEER PRIOR TO DECOMMISSIONING ANY INSTRUMENTS.

REFERENCES

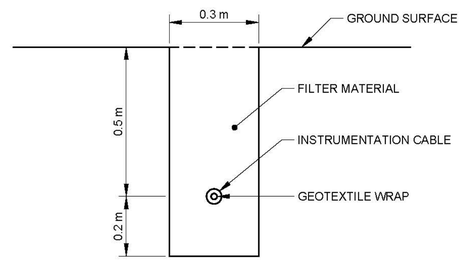
1. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC AS 0.1 m CONTOUR DATA, SURVEYED: 30 OCTOBER 2023; RECEIVED: 01 FEBRUARY 2024; FILE NAME: 231030-TSF Lidar Contor 0.1.dxf".
2. DECEMBER 2024 TOPOGRAPHY PROVIDED BY MPMC AS 3D FACES, SURVEYED: 10 DECEMBER 2024; RECEIVED: 13 DECEMBER 2024; FILE NAME: "Dec 10th,2024 TSF embankment Flight.dxf" .
3. SITE FEATURES PROVIDED BY MPMC. FILE NAME: "MtPolley2013-Pln.dwg", RECEIVED: 5 SEPTEMBER 2014.

ISSUED FOR
CONSTRUCTION

0 200 400
1:6,000 METRES

2025 PROPOSED DRILLHOLE LOCATION

POINT ID	EASTING (m)	NORTHING (m)	ELEVATION (m)
SAA25-04	594720.8	5820015.1	977.1



NOT TO SCALE 3 INSTRUMENTATION CABLE EXTENSION TYPICAL DETAIL

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SEAL
PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. E. PIZARRO SALA # 40077
2025-07-16

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PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
INSTRUMENTATION - SLOPE INCLINOMETERS AND SAAS PLAN VIEW

PROJECT NO.	PHASE/TASK/DOC.	REV.	31 of 32	DRAWING
CA0047730.8440	51200/51293/004	0		32

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APPENDIX B

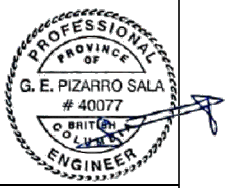
Technical Specifications

PREPARED FOR:

MOUNT POLLEY MINING CORPORATION

PREPARED BY:

WSP Canada Inc.
Engineers & Geoscientists BC
Permit #1000200



REV.	DATE	REASON FOR REVISION	CHK	APP
0	July 8, 2025	ISSUED FOR CONSTRUCTION	RG	GP
A	June 19, 2025	ISSUED FOR REVIEW	RG	GP

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1.0 SCOPE

These Specifications provide the technical information for construction of the TSF embankments from elevation 974 m to 987 m, at the Mount Polley Mine near Likely, British Columbia. The scope of this Work includes, but is not limited to, the following:

- Foundation preparation.
- South, Main, and Perimeter embankments raise.
- Raise and extension of the rockfill buttress along the Main and Perimeter embankments.
- Construction of a rockfill buttress along the South Embankment.
- Extension and protection of upstream drain and seepage collection pipes.
- Extension and protection of existing instrumentation.
- Control of water during construction.

These Specifications shall be read in combination with the latest revision of the Drawings. The Work is to be constructed in accordance with, and to the lines and grades shown on the Drawings, and as directed by the MPMC Construction Manager and the Engineer's QA Manager.

The technical specifications for the TSF downstream water management infrastructure are presented under a separate cover.

2.0 GENERAL

2.1 Definitions

The definitions used in this Specification are given in Table 2-1.

Table 2-1: List of Definitions

Term	Definition
Approval	A written engineering or geotechnical opinion, concerning the progress and completion of the work.
ASTM	ASTM International.
Code	Health, Safety and Reclamation Code for Mines in British Columbia.
Drawings	The most recent revision of the Issued for Construction (IFC) Tailings Storage Facility Drawings prepared by the Engineer.
Engineer	Tailings Storage Facility Engineer of Record
General Fill	Fill consisting of sandy tailings or other granular material approved by the Engineer.

Table 2-1: List of Definitions

Term	Definition
Fill	A general terminology to describe soil or rockfill materials placed during the construction.
Filter (Zone F)	Material produced from crushing or screening NPAG rockfill to be placed in contact with the till core and transition and meeting the requirements of these Specifications.
Key-in	A layer of compacted material that is physically integrated with the adjacent and underlying layers through cutting, benching, or scarification, to ensure an effective structural bond between the two layers.
NPAG	Non-Potentially Acid Generating.
Owner	Mount Polley Mining Corporation (MPMC).
PAG	Potentially Acid Generating.
Quality Assurance	Planned and systematic activities that provide confidence to the Owner and various stakeholders that quality control is being implemented effectively.
Quality Control	A planned system of inspection and testing carried out according to accepted standard specifications to ensure the quality of the work meets the design requirements.
Rockfill (including Zone C)	Run-of-Mine NPAG rock material meeting the Specifications.
Specifications	The most recent revision of the Tailings Storage Facility Technical Specifications prepared by the Engineer.
TSF	Tailings Storage Facility.
Till (Zone S)	Soil consisting of particle sizes ranging from clay to cobbles that will be placed and compacted to form a low hydraulic conductivity layer and meeting the requirements of these Specifications.
Till Foundation	Natural soil layer consisting of particle sizes ranging from clay to cobbles that form the foundation of the facility.
Transition (Zone T)	Material produced from crushing or screening NPAG rockfill to be placed in contact with the filter and rockfill and meeting the requirements of these Specifications.
Upstream Fill (Zone U)	Fill consisting of mainly sandy tailings and meeting the Specifications.
Work	The construction works, or additional work, required to complete construction of the Tailings Storage Facility as defined in the Drawings and Specifications.

2.2 Drawings

Table 2-2 presents a list of the Drawings.

Where a discrepancy exists between these Specifications and the Drawings, the Engineer shall be notified upon discovery of the discrepancy, and a formal written Request for Information (RFI) shall be issued to the Engineer to clarify the design intent.

The user is responsible to confirm that they are using the most recent version of the Specifications and Drawings.

Table 2-2: List of Drawings

Drawing No.	Drawing Title	Revision
01	DRAWING LIST AND PROJECT LOCATION PLAN	0
02	SITE PLAN	0
03	PRE-CONSTRUCTION CONDITIONS	0
04	GENERAL ARRANGEMENT – PLAN VIEW	0
05	SOUTH EMBANKMENT AND BUTTRESS – FOUNDATION PREPARATION	0
06	SOUTH EMBANKMENT AND BUTTRESS – PLAN VIEW	0
07	SOUTH EMBANKMENT AND BUTTRESS – TYPICAL CROSS-SECTIONS	0
08	SOUTH EMBANKMENT – CROSS-SECTIONS (1 OF 2)	0
09	SOUTH EMBANKMENT – CROSS-SECTIONS (2 OF 2)	0
10	SOUTH EMBANKMENT BUTTRESS – CROSS-SECTIONS	0
11	MAIN EMBANKMENT AND BUTTRESS – FOUNDATION PREPARATION	0
12	MAIN EMBANKMENT AND BUTTRESS – PLAN VIEW	0
13	MAIN EMBANKMENT AND BUTTRESS – TYPICAL CROSS-SECTION AND DETAILS	0
14	MAIN EMBANKMENT – CROSS-SECTIONS (1 OF 2)	0
15	MAIN EMBANKMENT – CROSS-SECTIONS (2 OF 2)	0
16	MAIN EMBANKMENT BUTTRESS – CROSS-SECTIONS (1 OF 2)	0
17	MAIN EMBANKMENT BUTTRESS – CROSS-SECTIONS (2 OF 2)	0
18	PERIMETER EMBANKMENT AND BUTTRESS (CORNER 2-CORNER 1) – FOUNDATION PREPERATION	0
19	PERIMETER EMBANKMENT AND BUTTRESS (CORNER 2-CORNER 1) – PLAN VIEW	0
20	PERIMETER EMBANKMENT AND BUTTRESS (CORNER 2-CORNER 1) – TYPICAL CROSS-SECTION	0
21	PERIMETER EMBANKMENT (CORNER 2-CORNER 1) – CROSS-SECTIONS (1 OF 2)	0
22	PERIMETER EMBANKMENT (CORNER 2-CORNER 1) – CROSS-SECTIONS (2 OF 2)	0
23	PERIMETER EMBANKMENT BUTTRESS (CORNER 2-CORNER 1) – CROSS-SECTIONS	0

Table 2-2: List of Drawings

Drawing No.	Drawing Title	Revision
24	PERIMETER EMBANKMENT AND BUTTRESS (CORNER 1-CORNER 5) – FOUNDATION PREPERATION	0
25	PERIMETER EMBANKMENT AND BUTTRESS (CORNER 1-CORNER 5) – PLAN VIEW	0
26	PERIMETER EMBANKMENT AND BUTTRESS (CORNER 1-CORNER 5) – TYPICAL CROSS-SECTIONS	0
27	PERIMETER EMBANKMENT (CORNER 1-CORNER 5) – CROSS-SECTIONS (1 OF 2)	0
28	PERIMETER EMBANKMENT (CORNER 1-CORNER 5) – CROSS-SECTIONS (2 OF 2)	0
29	PERIMETER EMBANKMENT BUTTRESS (CORNER 1-CORNER 5) – CROSS-SECTIONS	0
30	SOUTH AND PERIMETER EMBANKMENT ABUTMENTS – PLAN VIEW AND TYPICAL CROSS-SECTIONS	0
31	SOUTH AND PERIMETER EMBANKMENT ABUTMENTS – CROSS-SECTIONS	0
32	INSTRUMENTATION – SLOPE INCLINOMETERS AND SAAS – PLAN VIEW	0

2.3 Standards

Work shall conform to, but not be limited to, the requirements of the latest edition of the standards listed in Table 2-3. Work included in this Specification shall conform to the applicable provisions in these publications, except as modified by the requirements specified herein or as indicated in the Drawings. Each publication shall be the most recent revision in effect at the time of issue of the bid package for this work.

If materials are offered which conform to a standard other than that specified then the standard offered shall be equal to or superior, when tested, to the specified standard and full details of the difference between the standard offered and the standard specified shall be given.

Table 2-3: List of Standards

Standard	Description
ASTM C117	Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing.
ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
ASTM D75	Standard Practice for Sampling Aggregates.
ASTM D422	Standard Test Method for Particle-Size Analysis of Soils.
ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort.
ASTM D2216	Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass.

Table 2-3: List of Standards

Standard	Description
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
ASTM D6913	Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis.
ASTM D6938	Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).

2.4 Roles and Responsibilities

Table 2-4 presents a summary of the key roles and associated responsibilities and authorities. The roles and responsibilities of each position shall be reviewed, documented, and agreed upon prior to the start of Work for each stage of the project.

Table 2-4: Table of Responsibilities

Role	Responsibility	Authority
MPMC TSF Construction Team		
MPMC TSF Qualified Person	▪ Coordinates the design, construction, and overall management of the TSF with the Engineer and MPMC Construction Manager, as well as internal and external resources.	▪ Designated by the mine manager for safe management of the TSF.
MPMC Construction Manager	▪ Defines the scope of the project. ▪ Provides all materials, including water, and site access. ▪ Obtains all relevant permits. ▪ Provides reasonable access to the general open areas around the work site. ▪ Provision of survey for set-out and construction record. ▪ Coordinates all project communications. ▪ Arranges coordination and progress meetings, as required. ▪ Leads problem resolution meetings for all QA and QC issues.	▪ Retains the Contractor to complete the project. ▪ Directs the scope of work to complete the project. ▪ Has the authority to stop work due to non-compliance (which shall resume only after a plan for corrective action has been approved by the MPMC Construction Manager and QA Manager).

Table 2-4: Table of Responsibilities

Role	Responsibility	Authority
Contractor	▪ Retained by the MPMC Construction Manager. ▪ Assigned tasks by the MPMC Construction Manager to bring the Work, or additional work, to final completion. ▪ Ensures the Work is done in accordance with the Drawings and Specifications. ▪ Follows the QC plan. ▪ Reports to the MPMC Construction Manager. ▪ Requests information, as necessary, to clarify the design intent.	▪ Directs work.
Quality Control (QC) Laboratory	▪ Reports to the MPMC Construction Manager. ▪ Responsible for performing the QC laboratory and in-situ tests outlined in Section 5.0.	▪ Reports test results to the MPMC Construction Manager and the QA Manager.
Engineering Team		
Engineer of Record (Engineer)	▪ Ensures that the Work is constructed in accordance with the design intent. ▪ Conducts site visits at key points to check on progress of work and support the QA team. ▪ Responsible to oversee the QA program to confirm that the Works are constructed in accordance with the design intent. ▪ Responsible for the design and preparation of the Drawings and Specifications. ▪ Responsible for all design changes through updates to the Drawings and Specifications, including modifications or clarifications required during construction. ▪ Responsible for the preparation of the construction record report. ▪ Prepares a deviance accountability report. ▪ Fulfils the requirements of the Engineer of Record as defined in Section 10.4.1 of the Code.	▪ Overall supervision and coordination of the QA team. ▪ Evaluates the adequacy of the as-built facility relative to the design, as well as applicable standards, criteria, and guidelines. ▪ Signs construction record report.

Table 2-4: Table of Responsibilities

Role	Responsibility	Authority
Quality Assurance (QA) Manager	▪ Reports to the Engineer and represents the Engineer on-site. ▪ Responsible for performing the QA tasks outlined in Section 5.0. ▪ Responsible for monitoring the QC program to confirm that the Works are constructed in accordance with the design intent. ▪ Review of QC data and sign-offs provided for compliance with the design intent, Drawings, and Specifications. ▪ Attends site meetings and conducts site inspections. ▪ Assesses site design and construction issues or non-compliances and prepares recommendations for review by the Engineer. ▪ Prepares draft site documentation for review by the Engineer.	▪ Approves work as meeting the design intent, as set out in the Drawings and Specifications. ▪ Rejects work which fails to meet the design intent, as set out in the Drawings and Specifications. ▪ Signs as the QA Manager on the construction checklists. ▪ Reports non-conformance of Work to the MPMC Construction Manager and the Engineer.

3.0 CARE OF WATER

3.1 Scope

This section describes care of water during the construction, which consists of all work required to control water from any sources, including groundwater, surface water, snowmelt, and precipitation, in order to complete the Work in accordance with the Drawings and Specifications, and in accordance with all environmental and safety controls established by MPMC. Care of water shall include the following:

- Managing water before, during, and after excavating, preparing, placing, and compacting embankment fill material. Water management is also to be conducted in designated waste areas, access roads, stockpiles, and when undertaking any other part of the Work.
- Dewatering foundations and associated working areas. Providing, operating, and maintaining any channels, flumes, drains, sumps, pumps, and other drainage facilities and equipment necessary to divert or to remove water from construction areas.
- Constructing and maintaining any embankments and other protective works required to divert water away from areas required for the Work, and where applicable, removing such structures upon completion of the Work.

3.2 General

Surface water shall be temporarily diverted and managed during construction of the Work. Appropriate channel, ditch, dike, and other facilities required to divert surface water from any area required to complete the Work shall be constructed.

Pumps, hoses, culverts, and any other equipment required to dewater and maintain all parts of the construction site free from water shall be furnished, installed, maintained, and operated.

Temporary diversion and protective works and pumping stations shall be adequately operated and maintained. These shall also be readily accessible at all times.

Temporary dikes and other temporary works shall be removed promptly when they are no longer required at the direction of the MPMC's Construction Manager. Materials from such removal shall be hauled to disposal areas designated by the MPMC's Construction Manager.

Excavations shall be dewatered prior to performing work in the excavations, to the extent determined acceptable by the QA Manager. This includes the Central Collection Sump, Perimeter Embankment Till Borrow Pond, till borrows along the Main and Perimeter embankments, Main Embankment Seepage Collection Pond, temporary South Embankment seepage collection sump, and seepage collection ditches.

4.0 SURFACE AND FOUNDATION PREPARATION

4.1 Scope

This section provides the requirements for surface and foundation preparation for raising the TSF embankments. The surface and foundation preparation for the South, Main, and Perimeter embankments include:

- clearing, stripping, and preparing the foundation within the buttress extension footprint
- clearing, stripping, and preparing the foundation at the embankment abutments
- exposing and preparing the surface of the Upstream Fill, Till Core, Filter, and Transition materials along the crest of the embankments
- clearing the surface of the rockfill along the crest of the embankment and buttress
- loading, hauling, dumping, and disposing of excavated materials

4.2 General

Excavation shall be carried out in accordance with the Drawings and Specifications using ground support and water control measures required for safe and effective operation. Excavation procedures shall be such that the stability of adjacent fill or cut slopes or of completed Work shall not be at risk.

The excavation shall be laid out, subject to inspection by the QA Manager, prior to commencing any excavation. Excavation shall not start on any part of the Work until the proposed methodology and construction sequence has been approved by the MPMC's Construction Manager.

Survey shall be performed to confirm the elevations and coordinates shown on the Drawings.

Excavation work may begin only after the necessary infiltration and runoff control measures have been completed in accordance with Section 3.0, and the necessary equipment, elements, and materials for protection of surface excavations are available at the site. Temporary drainage and pumping systems shall be provided, operated, and maintained, as required, to direct water away from the excavation areas, as specified in Section 3.0.

The location of the exposed material boundaries and exposed surface shall be surveyed.

4.3 Clearing and Stripping

Any area to be cleared and stripped shall require prior approval by the MPMC's Construction Manager and the MPMC Environmental Department.

Clearing and stripping shall consist of removing stockpile material, topsoil, vegetation, and other deleterious materials, including trees, stumps, roots, and debris, and loading, hauling, and dumping such materials into stockpiles within designated waste areas.

Competent foundation material, as determined by the QA Manager, shall be exposed. Foundation material considered unsuitable by the QA Manager shall be excavated and removed.

Vegetation shall not be disturbed beyond the boundaries shown on the Drawings unless so directed by the MPMC's Construction Manager. Waste materials shall not be deposited into any riverbed or other water channel.

4.4 Foundation Preparation

Following clearing and stripping, the surface of the foundation shall be visually inspected and proof-rolled, as directed by the QA Manager. Where movements are observed which are deemed unacceptable by the QA Manager, the area shall be excavated, as directed by the QA Manager.

The foundation preparation and proof-rolling may be adjusted in the field to suit actual conditions, as defined by the QA Manager.

Fill placement shall not commence until preparation works have been completed, surveyed, and written Approval to proceed has been provided by the QA Manager.

4.5 Surface Preparation along the Crest of the Embankment and Buttress

The existing Upstream Fill, Till Core, Filter, and Transition materials along the crest of the embankments are to be exposed, as directed by the QA Manager. All deleterious materials are to be removed and hauled to a designated waste area.

Frost affected material along the crest of the Till Core shall be removed as directed by the QA Manager. After removal of frost affected material, the exposed surface of the Till Core shall be re-compacted with a sheep's foot roller. The exposed Till Core surface may require additional moisture conditioning prior to re-compaction and placement of the subsequent lift, as directed by the QA Manager.

Loose Upstream Fill material along the crest of the embankment shall be moisture conditioned and re-compacted as directed by the QA Manager.

The rockfill surface along the crest of the embankment and buttress shall be cleared and leveled prior to subsequent placement, as directed by the QA Manager. All deleterious materials are to be removed and hauled to a designated waste area.

4.6 Perimeter and South Embankment Abutments

Stockpiled material, topsoil, vegetation, and other deleterious materials, including trees, stumps, roots, and debris is to be removed from the South Embankment abutment and Perimeter Embankment abutment. The material is to be loaded, hauled, and dumped into stockpiles within designated waste areas.

The thickness of competent foundation till is to be confirmed by the excavation of test pits, as directed by the QA Manager. The test pits are to be excavated along the Till Core and Upstream Fill footprint.

Where a minimum of 2 m of competent foundation till exists above bedrock, the Till Core will be keyed into the foundation till by the excavation of a 0.5 m deep and 2.0 m wide trench.

Where the depth of foundation till to bedrock is less than 2 m, the Till Core shall be placed directly onto bedrock. The bedrock surface will be prepared to receive Till by the removal of all residual soil to fully expose the bedrock. Relatively loose, diggable bedrock is to be excavated and the surface cleaned by high pressure jets. Depending on the condition of the bedrock surface, the QA Manager may request additional preparation which could include placement of bentonite, shotcrete, slush grout, or a combination.

Foundation preparation at the abutments shall be completed in such a way that water drains away from the Till Core. This may require placement of a till blanket downstream of the Till Core.

4.7 Designated Waste Areas

Surplus and unsuitable materials shall be disposed of at waste areas designated by MPMC's Construction Manager. Such materials shall be loaded, hauled, and placed into such waste areas, and shaped into waste piles. Waste piles shall be constructed such that drainage of surface water and groundwater is not impeded, and such that the piles are stable as defined by MPMC's Construction Manager.

Vegetation, topsoil, and other materials resulting from clearing and stripping operations shall be stockpiled separately from other soil or rock materials at designated waste areas, avoiding obstruction of any natural or man-made water flows. All vegetation beyond the limits of such storage areas shall be preserved.

Upon completion of the work, the designated waste area shall be shaped in accordance with the requirements of MPMC's Construction Manager.

5.0 FILL PLACEMENT

5.1 Scope

This section comprises the requirements for placement of fills in the Works to the lines and grades shown on the Drawings, or as directed by MPMC's Construction Manager and the QA Manager.

5.2 General

Fill placement shall be to the lines, grades, and cross-sections shown on the Drawings and in accordance with the Specifications.

Dam embankment materials shall not encroach upon adjacent zones any further than allowed by the tolerances shown on the Drawings, or where benching or key-in of lifts is required.

Water control measures such as temporary drainage and pumping systems shall be operated and maintained as required to direct water away from the fill placement areas as specified in Section 3.0.

Access to the Work will be provided and coordinated by MPMC's Construction Manager.

No fill shall be placed on any portion of the Works until excavation, and surface and foundation preparation, as specified in Section 4.0, has been completed and such portions have been approved in writing by the QA Manager.

Fill shall not be placed on a surface where ice, snow, or excessive moisture has accumulated. A previously approved foundation or fill surface, which in the opinion of the QA Manager, has deteriorated shall be repaired prior to any fill placement.

Fill shall consist of unfrozen material that is free of organic or other deleterious material, as approved by the QA Manager.

If requested by the QA Manager, the surface of existing lifts shall be scarified to the QA Manager’s satisfaction prior to the placement of any subsequent lifts.

Fill which, while acceptable at the time of selection has, in the opinion of the QA Manager, deteriorated for any reason such that it no longer meets the Specifications for that material shall not be incorporated in the Works.

Construction traffic shall be routed such that no ruts are formed on the surface of excavated or placed fill areas. If ruts are formed, the ruts shall be graded level and re-compacted to the relevant degree of compaction for the particular fill type as required by the Specification.

5.3 Fill Materials

The material zones of the embankment are shown on the Drawings and described in this Specification.

Materials used in the construction are to be non-potentially acid generating (NPAG). Acceptance of all fill materials based on geochemical properties shall be the responsibility of MPMC's Construction Manager.

The particle size envelopes shown in these Specifications shall apply to the as-placed materials and in the stockpiles.

Fill materials shall be well-graded within the specified gradation limits (i.e., they shall contain an even distribution of all sizes of particles within the designated envelope, without significant deficiency or absence of certain particle sizes). Fill material gradations shall meet the specification gradation within the envelope drawn between the specified points and not just at the specified points. Any unsuitable material from the fill shall be excavated and removed.

5.3.1 Till (Zone S)

The Till (Zone S) shall be a well-graded till with a minimum fines content of 20% by weight (particles finer than 0.075 mm). The Till shall be sourced from designated borrow areas. The Till shall have a minimum plasticity index (PI) of 7.

The Till shall meet the gradation in Table 5-1.

Table 5-1: Gradation Limits for the Till (Zone S)

Size (mm)	Sieve Size (USS)	Percent Passing (%)
100	4”	100
75	3”	98–100
37.5	1.5”	89–100
19	0.75”	81–100
12.5	0.5”	76–100
4.75	#4	66–100
2	#10	56–100
0.85	#20	47–94
0.425	#40	39–90
0.075	#200	20–85

Particles larger than 100 mm shall be removed from the material prior to compaction.
USS = United States Standard Sieve Size.

5.3.2 Filter (Zone F)

The Filter (Zone F) material is to be placed downstream of the Till Core. At the abutments, Filter (Zone F) material is also to be placed downstream of the Till Core and extend on top of the prepared foundation till as a foundation filter blanket. The material shall consist of hard, durable mineral particles, without organic matter, clay, soft particles, snow, ice, or any other unsuitable material.

The Filter shall meet the gradation in Table 5-2. Filter shall be well-graded within the specified gradation limits (i.e., Filter shall contain an even distribution of all sizes of particles within the designated envelope, without significant deficiency or absence of certain particle sizes).

Table 5-2: Gradation Limits for the Filter (Zone F)

Size (mm)	Sieve Size (USS)	Percent Passing (%)
37.5	1.5”	100
19	0.75”	88–100
9.5	3/8”	56–100
4.75	#4	40–86
2	#10	25–63
0.85	#20	16–45
0.425	#40	10–33
0.25	#60	6–25
0.106	#140	0–15
0.075	#200	0–12

USS = United States Standard Sieve Size.

5.3.3 Transition (Zone T)

The Transition (Zone T) material shall be used as a transition zone between the Filter and Compacted Embankment Rockfill, and at the downstream side of the foundation filter blanket at the abutments. The material shall consist of a mix of processed boulders, cobbles, gravel, and sand produced by crushing or screening rockfill. The material shall consist of hard, durable mineral particles, without organic matter, clay, soft particles, snow, ice, or any other unsuitable material.

The Transition shall meet the gradation in Table 5-3. Transition shall be well-graded within the specified gradation limits (i.e., Transition shall contain an even distribution of all sizes of particles within the designated envelope, without significant deficiency or absence of certain particle sizes).

Table 5-3: Gradation Limits for the Transition (Zone T)

Size (mm)	Sieve Size (USS)	Percent Passing (%)
152	6”	100
25	1”	37–100
19	0.75”	29–75
12.5	0.5”	17–60
9.5	3/8”	0–51
4.75	#4	0–32
2.36	#8	0–25
0.85	#20	0–17
0.075	#200	0–5

USS = United States Standard Sieve Size.

5.3.4 Upstream Fill (Zone U)

The Upstream Fill (Zone U) shall consist of sandy tailings material or other granular material approved by the Engineer. Sandy tailings can be excavated from within the TSF and placed and compacted mechanically in lifts or can be segregated from the tailings slurry in sand cells.

Till may be used if conditions allow compaction, and subject to the approval of the QA Manager. Filter, Transition, or Rockfill may be used in select locations subject to the approval of the QA Manager.

5.3.5 Compacted Embankment Rockfill (Zone C) and Buttress Rockfill

Rockfill used in construction of the embankment (Zone C) and buttresses are to be NPAG. Acceptance of all fill materials based on geochemical properties shall be the responsibility of MPMC's Construction Manager.

The rockfill shall consist of well-graded material with a maximum diameter of 1 m, obtained from run-of-mine NPAG rockfill. The material shall consist of hard, durable mineral particles, without organic matter, clay, soft particles, or any other unsuitable material. Any unsuitable materials from the rockfill shall be excavated and removed.

Select coarser rockfill, to be placed within the Central Collection Sump and Perimeter Embankment Till Borrow Pond, shall be uniformly graded with only a small proportion of gravel, sand, and silt size particles, as approved by the QA Manager.

5.3.6 General Fill

If required by construction sequence, General Fill can be used to laterally support the 20 m wide Upstream Fill. General Fill shall consist of sandy tailings material or other granular material approved by the Engineer. General Fill is to be placed mechanically in lifts or by depositing tailings slurry into sand cells.

5.4 Placement and Compaction

Fill materials shall be placed to the lines and elevations shown on the Drawings.

The placement of fill materials for the various zones of the embankment shall be scheduled as directed by MPMC’s Construction Manager. To achieve this, the various fill materials shall be stockpiled so that they are available at the location of the fill placement when required.

MPMC’s Construction Manager may require modifications to the fill construction program, depending upon conditions encountered during construction.

The embankments shall be constructed such that lenses, pockets, streaks, and layers of materials differing substantially in gradation from the surrounding material within each zone are avoided.

Filter and Transition shall be hauled, placed, and spread in such a manner as to prevent segregation. Any material placed which, in the opinion of the QA Manager, does not meet the specified requirements shall be removed or remixed, blended, or otherwise reworked to produce a material which meets the specified requirements, whether or not such material has been covered by other fill material.

The fill shall be leveled prior to compaction by means of a tracked dozer, excavator, or other suitable approved equipment to obtain an even surface with no depressions.

5.4.1 Till (Zone S)

The Till (Zone S) material shall be spread parallel to the axis of the embankment in horizontal lifts of uniform thickness not exceeding 0.3 m prior to compaction.

Till shall only be placed in contact with the existing Till Core, Upstream Fill, and Filter. Till shall not be placed in direct contact with Transition or Rockfill.

Precautions shall be taken to avoid any presence of particles greater than 100 mm. Oversize material shall be removed to the satisfaction of the QA Manager. Affected zones of Till material shall be removed at the direction of the QA Manager.

The Till shall be compacted with a vibratory sheep's foot roller to achieve a dry density of at least 95% of the Standard Proctor maximum dry density, as determined by ASTM D698 and within plus or minus 2% of the optimum moisture content.

Where the moisture content is outside these limits, the lift must be either dried or wetted as directed by the QA Manager. The compacted till surface shall be graded to prevent ponding water.

When placing Till adjacent to a slope of existing Till, the slope of the existing fill shall be benched to key-in between the placed Till and the existing fill. The bench height shall be equal to the fill lift thickness and at least one lift thickness in length to achieve a suitable contact surface between the ground and the new fill.

Construction of the Till Core (Zone S) shall be carried out during non-freezing conditions (above 0°C). Frozen Till or Till that freezes during placement or compaction is to be removed as directed by the QA Manager. Lift thicknesses may be adjusted, as directed by the QA Manager, if temperatures drop to or below 0°C during placement or compaction of Till.

5.4.2 Filter (Zone F)

The Filter (Zone F) material shall be placed in loose lift thicknesses of 0.3 m or less prior to compaction.

Precautions shall be taken to prevent any contamination of the material. Any contaminated materials shall be removed and replaced. Contaminated material shall be removed to the satisfaction of the QA Manager prior to additional material being placed. Precautions shall be taken to prevent segregation of the Filter material during placement and spreading. Visibly segregated zones of Filter material shall be removed at the direction of the QA Manager.

Filter material shall only be placed in contact with compacted Till Core, Transition, and existing Filter. Zone F material shall not be placed in direct contact with Rockfill.

The Filter material shall be compacted with a vibratory smooth drum roller to achieve a dry density of at least 95% of the Standard Proctor maximum dry density, as determined by ASTM D698. Over-compaction of the Filter is to be avoided to minimize particle breakage and production of fine particles.

The Filter (Zone F) material shall be raised simultaneously with the Till (Zone S), with no more than 0.6 m elevation difference between the zones. When the elevation difference is larger than 0.3 m, the downstream slope of the till is to be cut after compaction of the till lifts. The Till (Zone S) layer shall be raised ahead of the Filter (Zone F) layer.

5.4.3 Transition (Zone T)

The Transition (Zone T) material shall be placed in loose lift thicknesses of 0.6 m or less prior to compaction.

The Transition material shall be compacted with six (6) passes of a smooth drum vibratory compactor having a static weight of at least twelve (12) tonnes.

The Transition (Zone T) and Filter (Zone F) materials shall be raised with no more than one (1) Transition lift thickness between the elevations of both zones. The Zone F is to be placed ahead of the Zone T.

Zone T material shall only be placed in contact with Filter and Rockfill. Transition shall not be placed in direct contact with the Till Core.

5.4.4 Upstream Fill (Zone U)

The Upstream Fill (Zone U) shall be placed within the 20 m wide zone adjacent to the Till Core.

The Upstream Fill shall be placed in nominal 0.6 m thick layers or less and compacted with a smooth drum roller. The sandy tailings shall be compacted with a smooth drum vibratory compactor having a static weight of at least twelve (12) tonnes to achieve a dry density of at least 95% of the Standard Proctor maximum dry density, as determined by ASTM D698.

Alternatively, Upstream Fill (Zone U) shall be sandy tailings deposited in cells. A confining berm shall be constructed on the outside edges of the cells. A culvert is to be constructed through the berm at the end furthest from the tailings discharge point. The culvert will drain the water and finer tailings material into the TSF. Constant reworking of the tailings by a tracked dozer shall be carried out to segregate the coarser and finer portions of the tailings and to provide compaction of the sandy tailings that deposit within the cell.

5.4.5 Compacted Embankment Rockfill (Zone C)

The Compacted Embankment Rockfill (Zone C) next to the Transition (Zone T) shall be placed in a loose lift thickness of 1 m or less. The Zone C shall extend a minimum of 10 m downstream of the Zone T. Oversize boulders (greater than 1 m) shall not be incorporated in the fill. Such oversize materials shall be broken to size or moved to the downstream edge of the embankment.

The Compacted Embankment Rockfill shall be raised ahead of the Transition with no more than 1 m lift thickness between the elevation of both zones.

The Compacted Embankment Rockfill (Zone C) shall be compacted by routing of the loaded haul truck traffic across the entire width of the fill. The rockfill immediately downstream of the Transition (Zone T) shall be compacted with six (6) passes of a smooth drum vibratory compactor having a static weight of at least twelve (12) tonnes after placement of the Transition.

As the crest of the embankment narrows and routing of haul trucks will not be possible, compaction of the Compacted Embankment Rockfill (Zone C) shall be carried out with six (6) passes of a smooth drum vibratory compactor having a static weight of at least twelve (12) tonnes.

5.4.6 Embankment Rockfill

The Embankment Rockfill shall be placed downstream of the Compacted Embankment Rockfill (Zone C) in a loose lift thickness of 3 m or less (prior to compaction). Routing of the loaded haul truck traffic on the rockfill shall be carried out such that compaction is obtained across the entire width of the fill.

As Embankment Rockfill is placed along the Compacted Embankment Rockfill, the loose side slope of the rockfill shall be reworked and incorporated into the lift during placement.

Oversize boulders (greater than 1 m) shall not be incorporated in the fill. Such oversize materials shall be broken to size or moved to the downstream edge of the embankment.

All temporary and permanent ramps required to be constructed on the Embankment Rockfill shall be submitted to MPMC's Construction Manager and the Engineer for review. Ramp slopes for haul trucks shall not exceed 10%. Access ramps have been included in the Drawings based on existing ramp locations. Ramp locations may be adjusted following written confirmation by MPMC's Construction Manager and the Engineer.

The existing instrumentation is to be raised and/or protected from damage during construction, as specified in Section 6.0 of this Specification.

5.4.7 Buttress Rockfill

Buttress Rockfill shall be placed in a single lift and dumped or pushed from the crest to the toe, resulting in segregation of the rockfill. Coarser rockfill should collect along the base of the buttress. Select coarse rockfill is to be placed in a single lift within the Perimeter Embankment Till Borrow Pond.

Rockfill placement for the buttress is to be sequenced so the overall downstream slope is approximately 3 horizontal to 1 vertical (3H:1V). A tracked dozer is to grade the downstream face of the placed rockfill to the required 3H:1V grade.

The completed rockfill surface shall be leveled by means of a tracked dozer or other suitable approved equipment to obtain an even surface with no depressions. All necessary steps shall be taken to avoid ponding of water on the fill.

All ramps constructed in rockfill shall be submitted to MPMC's Construction Manager and the Engineer for review. Ramp slopes for haul trucks shall not exceed 10%.

The existing instrumentation is to be raised and/or protected from damage during construction, as specified in Section 6.0 of this Specification.

The water treatment plant and Main Embankment Toe Drain Collection Sump are to be relocated.

The cut-off wall seepage collection drain pipe and upstream drain pipes are to be extended and protected from damage. The outlet of the pipes shall be kept isolated from other water and safe access shall be constructed to allow continuous monitoring and sampling.

5.4.8 Pipe Bedding and Backfill Material in the Buttress

Crushed aggregates (37.5 mm minus) shall be used as pipe bedding and backfill material for solid HDPE pipe relocations or extensions in the buttress.

- The pipe bedding shall be placed in a single minimum 0.15 m thick loose lift and nominally compacted.
- The pipe haunch backfill shall be placed in a 75 mm loose lift and shall be nominally compacted. The embedment material shall be worked and tamped within the haunches of the pipe.
- Pipe backfill material shall be placed in 0.3 m thick loose lifts and compacted with a minimum of four (4) passes using hand-held compaction equipment. The 0.3 m thick loose lift shall be carried out after the backfill material has reached the pipe crown. The backfill material shall extend to a minimum of 0.6 m above the crest of the pipe.

A minimum 0.15 m thick layer of backfill material is to be placed over any pipe before hand-held equipment is operated above the pipe. A minimum 1.0 m thick layer of fill material is to be placed over any pipe before ride-on equipment or construction vehicles are operated above the pipe. A minimum 1.3 m thick layer of fill material is to be placed over any pipe to prevent potential freezing of the pipe.

5.5 Compaction Requirements

Each layer of fill material shall be compacted in a systematic, orderly, and continuous manner to ensure that the entire fill is properly compacted. Layer thickness is defined as the thickness of the loose fill before compaction.

Compaction equipment shall generally travel parallel to the alignment of the embankment being constructed, except where such routing is not practical, such as at turning areas or adjacent to instrumentation. In such areas, the compaction equipment shall be routed such that the best compaction can be attained.

Materials that cannot be adequately compacted by the specified compaction equipment because of location or space limitations shall be compacted with specified special compactors. Where such special compactors are required, fill layer thickness shall be modified, as required by the QA Manager.

One (1) pass shall mean a single traverse of a compactor across the surface of a layer in one direction. An overlap of at least 0.5 m shall be maintained between adjacent passes.

Vibratory rollers shall travel at an operating speed of no more than 70 m per minute. The operating speed of the compaction equipment is subject to review by the QA Manager and will depend on the type of fill.

The compaction traffic pattern at fill zone boundaries or construction ramp joints shall be carried out such that the full number of roller passes extends completely across such boundaries.

5.5.1 Compaction Equipment

Sufficient compaction equipment of the types and sizes specified, as necessary for compaction of the various fill materials, shall be provided. This equipment shall be available and shall be maintained in good condition at all times.

Alternative compaction equipment may be used only if it can be demonstrated to the satisfaction of the QA Manager that such alternative equipment will compact the fill materials as effectively as the specified equipment, and that the material after compaction meets the requirements of the Specifications.

5.5.2 Special Compactors

Special compactors shall include loaded haul trucks, hand-operated mechanical tampers and vibratory rollers, and any other compaction equipment not specified, subject to the approval of the QA Manager.

Special compactors shall be capable of producing the required compaction within a reasonable number of passes.

Hand-operated heavy-duty mechanical tampers shall be used under restricted space and access conditions. The operating frequency shall be such that previously compacted material is not disturbed. Operation shall proceed continuously until the specified level of compaction has been achieved.

A sufficient number of special compactors shall be available to compact inaccessible areas.

5.6 Protection and Maintenance

Any fill placed shall be maintained in a condition satisfactory to the QA Manager until completion of the Work. All necessary steps shall be taken to avoid ponding of water on the fill, or contamination of the fill by traffic or other causes. The surface and slopes shall at all times be kept free from rejected or unsuitable fill, or waste materials.

Should slumps or erosion occur within or onto any placed fill, such materials and all other materials affected shall be removed, and the portion rebuilt as required by the QA Manager.

5.7 Quality Control and Quality Assurance

Quality Control (QC) will be performed to ensure that the Work is constructed in accordance with the Drawings and Specifications.

Quality Assurance (QA) monitoring and testing will be carried out by the Engineer through their QA Manager, to satisfy themselves and MPMC that the Work is being carried out in accordance with the Drawings and Specifications.

The QC and QA testing requirements and frequency are listed in Table 5-4. At a minimum, all the required testing shall be performed to document the construction quality. The material testing listed in Table 5-4 shall be completed on record samples taken from placed material on the embankment to evaluate suitability of material and segregation during placement.

All necessary inspections, sampling, and testing shall be performed to ensure that only materials of the specified composition, gradation, and moisture content are supplied to the construction area. A sufficient number of control samples collected from the stockpiles are to be tested prior to use to confirm the suitability of the material.

MPMC's Construction Manager shall identify material stockpiles available for use in the construction.

Table 5-4: QA/QC Testing of Fill Placement

Material	Testing[a]		
	Test	QC Frequency	QA Frequency
Perimeter and South Embankment Abutment Foundation[b]	Water Content (ASTM D2216)	1 every 500 m^2 [c]	1 every 5 QC Tests
	Atterberg Limits (ASTM D4318)	1 every 500 m^2 [c]	1 every 5 QC Tests
	Gradation and Hydrometer (ASTM D422 & D6913)	1 every 500 m^2 [c]	1 every 5 QC Tests
Till Core Material (Zone S)	Water Content (ASTM D2216)	1 every 1,000 m^3	1 every 10 QC Tests
	Atterberg Limits (ASTM D4318)	1 every 2,000 m^3	1 every 10 QC Tests
	Gradation (ASTM D6913)	1 every 4,000 m^3	1 every 10 QC Tests
	Hydrometer (ASTM D422)	1 every 12,000 m^3	1 every 10 QC Tests
	Standard Proctor Maximum Dry Density (ASTM D698)	1 every 8,000 m^3	1 every 10 QC Tests
	In Situ Density by Portable Nuclear Gauge (ASTM D6938)	1 per each lift completed in a day and 1 every 300 m^3	1 every 10 QC Tests
	Lift Thickness	Measured continuously	Measured periodically
Filter Material (Zone F)	Water Content (ASTM D2216)	1 every 1,000 m^3	1 every 10 QC Tests
	Wash Sieve Gradation (ASTM C136 & C117)	1 every 1,000 m^3	1 every 10 QC Tests
	Standard Proctor Maximum Dry Density (ASTM D698)	1 every 5,000 m^3	1 every 10 QC Tests
	In Situ Density by Portable Nuclear Gauge (ASTM D6938)	1 per each lift completed in a day and 1 every 100 m^3	1 every 10 QC Tests
	Lift Thickness	Measured continuously	Measured periodically
Transition Material (Zone T)	Wash Sieve Gradation (ASTM C136 & C117)	1 every 3,000 m^3	1 every 2 QC Tests
	Lift Thickness	Measured continuously	Measured periodically
	Number of Passes of Compactor	Measured continuously	Measured periodically

Table 5-4: QA/QC Testing of Fill Placement

Material	Testing[a]		
	Test	QC Frequency	QA Frequency
Rockfill (Zone C)	Lift Thickness	Measured continuously	Measured periodically
	Visual Gradation	Measured continuously	Measured periodically
Upstream Fill – Tailings Sand (Zone U)	Wash Sieve Gradation (ASTM C136 & C117)	1 every 10,000 m^3	1 every 10 QC Tests
	Standard Proctor Maximum Dry Density (ASTM D698)	1 every 20,000 m^3	1 every 10 QC Tests
	In Situ Density by Portable Nuclear Gauge (ASTM D6938) [d]	1 per each lift completed in a day and 1 every 2,500 m^3	1 every 10 QC Tests
	Lift Thickness	Measured continuously	Measured periodically

(a) Test frequencies are based on in-place compacted volumes.

(b) Samples for testing shall be collected from the foundation within the Till Core and Upstream Fill footprint. Test frequencies are based on the area defined by the Till Core and Upstream Fill footprint.

(c) Minimum of two tests per abutment per construction year.

(d) Small excavations may be required to test the in-situ density of the bottom portion of the 0.6 m thick lifts as required by the QA Manager.

6.0 INSTRUMENTATION

6.1 Scope

This section describes the requirements for the supply, installation, testing, data acquisition, and protection of instrumentation. The requirements include equipment and application software for the data acquisition, transmission, and processing system. The scope includes:

- extension of existing vibrating wire piezometer (VWP) cables
- extension of existing Shape Accel Array (SAA) cables
- installation of a slope inclinometer casing and SAA
- extension or decommissioning of existing slope inclinometer casings
- data acquisition and processing equipment

The Work shall include all labour, materials, and equipment to complete the design as shown on the Drawings.

6.2 General

The locations for the instrumentation are shown in the Drawings, and installation procedures provided in this Specification. The location and installation of all instruments will be subject to approval by the QA Manager.

New instrumentation will be installed as shown in the Drawings. The integrity of the existing instrumentation shall be kept unless otherwise shown in the Drawings.

The instrumentation and all materials required for the installation shall be brought to site at least 15 days in advance of installation, and the QA Manager shall review, inspect, and provide approval prior to installation.

6.3 Submittals

A list of all instruments, cable, and casing lengths shall be submitted to the Engineer. A method for marking and identifying cables for individual instruments are to be included in the submission.

Manufacturer calibration sheets for all instruments to be installed shall be submitted to the Engineer.

Installation data shall be provided to the Engineer and include the installed location, instrument identification number, instrument serial number, and installation date and time.

6.4 Installation Procedures

Installation of the instruments shall be carried out in accordance with the Drawings, Specification, and the instructions of the equipment manufacturer.

Readings of each instrument shall be taken to verify functionality. Backfill shall not be placed over the instruments or cable leads until the instruments have been tested and initial readings have been taken. An initial set of readings shall be taken immediately after installation.

Sufficient cable shall be purchased to route the SAA and VWP cables to dataloggers or VWP connector boxes. The cable shall be long enough to provide adequate strain relief. Existing instrumentation shall be extended and protected.

All cables shall be marked with identification tags at intervals of 15 m, or closer if required. In addition, each instrument shall be marked with the identification given to it on the Drawings or as identified by the QA Manager.

All instruments, cables, and connectors shall be protected from damage and displacement during progress of the Work, and markers and barricades shall be provided and installed as necessary.

Cables from the instruments to the dataloggers or connector boxes shall be wrapped in geotextile and installed in trenches, as shown on the Drawings or as directed by the QA Manager. The instrumentation cables shall be backfilled with hand-tamped sand or crushed aggregate to protect from impact and damage during construction.

No traffic or equipment shall pass over any part of any instrument, cable, or connection until at least 500 mm thick of compacted cover material has been installed.

6.5 Electrical Protection and Safety

New and existing instrumentation shall be connected to the data acquisition system, and it shall be confirmed that the system provides the following minimum protection for all electrical equipment:

- over-voltage peak suppressor

- alternating current filter to eliminate interference
- grounding system for lightning protection

6.6 Voltage and Electrical Frequency

Facilities requiring permanent electrical power, including battery chargers and space heaters, shall be configured to operate at 110 V, alternating current at 60 Hz.

6.7 Protection

The instrumentation shall be protected with end caps and protective casing.

Cabins, supports, and accessories necessary for the installation and protection of the instruments shall be provided.

6.8 Grout Mix

The grout mixture presented in Table 6-1 shall be used to install the instrumentation.

Table 6-1: Grout Mixture

Material	Quantity	Ratio (by weight)
Portland Cement	42.5 kg	1
Water	107.5 L	2.5
Bentonite Powder	12.8 kg	0.3

The quantities provided above shall be adjusted to match the cement weight such that the grout mixture comprises a unit number of bags of cement.

Mixing shall be carried out by first introducing the water into the mixer followed by the cement. The water cement mixture shall be thoroughly mixed before the bentonite is added. Bentonite powder and not pellets shall be used. Mixing shall continue until a stable and uniform slurry is achieved.

Grout shall be continuously agitated during pumping and grouting.

Instrumentation shall be backfilled from the bottom up. Grout shall be delivered into the borehole by a threaded tremie PVC pipe.

6.9 Vibrating Wire Piezometers

6.9.1 General

All existing VWPs are to be extended and protected during construction. VWPs are expected to be installed as part of drilling to install SAA25-04 at the Perimeter Embankment. Installation will be confirmed by the QA Manager based on encountered conditions.

VWPs shall include the piezometer sensors, leads, connector box, and all associated equipment and materials, including waterproof junction boxes, universal lead connectors, electrical protection systems, and conduits necessary for installation, testing, and operation. All such equipment shall be provided by the same manufacturer.

Data reading and recording shall be carried out manually during construction of the Work, and automatically thereafter.

Each piezometer shall have a sensor measuring range of up to 1 MPa, with a sensitivity of 0.025% and accuracy of ±0.1% of full-scale (FS) pressure.

The following piezometers may be installed:

- Model VW2100 manufactured by RST Instruments Ltd. (RST), or approved equivalent.
- Model 4500S manufactured by Geokon Inc., or approved equivalent.

The connector boxes shall have capacity for simultaneous installation of all leads from the piezometers.

Additional piezometer cable may be required to connect the existing piezometers to the connector boxes.

A portable vibrating wire read-out unit shall be provided to process signals from VWPs and to display the results.

6.9.2 Installation

Piezometers shall be installed according to the manufacturer's instructions. Piezometers may be installed at the same time the inclinometer casing is installed.

Prior to installation, the piezometer shall be immersed in de-aired water in accordance with the manufacturer's instructions.

The VWPs shall be attached, filter facing up, to the outside of the inclinometer casing using duct tape or electrical tape. The VWP filter shall not be covered with tape. An initial reading is required immediately after the readings have stabilized in the borehole and before the borehole is backfilled with grout to confirm functionality.

Following installation, the borehole shall be grouted with a cement-bentonite slurry from bottom up using a tremie pipe. The grout mixture to be used is defined in Section 6.8.

Installation of the piezometers shall be completed by connecting the leads to the connector boxes or datalogger. The leads from the instruments to the connector boxes or datalogger shall be wrapped in geotextile and installed in trenches, as shown on the Drawings or as directed by the QA Manager.

6.9.3 Cable Extensions

As part of the embankment raise construction activities, it will be necessary to relocate and/or extend VWP cables so that they can be accessed from the raised embankment crest or buttress, as shown on the Drawings, and specified in this section.

- Existing excess cable length can be used where available and suitable.

- All cables shall be inspected for suitability and tested, using a portable vibrating wire read-out unit, prior to extension to confirm functionality.
- All extended VWP cables shall be laid horizontally or vertically within the embankment construction material.
  - At the initial location of cable realignment (i.e., initial 90-degree turn), the VWP cable shall be backfilled with cement-bentonite grout to form a minimum 2 m long plug.
  - VWP cables shall be placed on a minimum 0.2 m thick layer of hand placed bedding material (Section 5.4.8) with a maximum particle size of 37.5 mm and nominally compacted with hand-operated equipment.
  - VWP cables shall be backfilled to a minimum depth of 0.5 m above the cable with backfill material.
- Where required, new cable shall be spliced in accordance with the manufacturer's instructions.
  - Spliced cable sections shall be placed horizontally so that they are located a minimum of 0.5 m from any cable bends, in any direction.
  - Spliced cable sections shall be backfilled with cement-bentonite grout.

All relocated and/or extended cables shall be tested, using a portable vibrating wire read-out unit, following relocation or extension to confirm it is operational.

6.10 Shape Acceleration Array Systems

6.10.1 General

This section covers furnishing and installing SAA systems.

The SAA system shall be a SAAV, as manufactured by Measurand Inc. (Measurand), or approved equivalent. The SAA system shall have segment lengths of 500 mm. The lengths of each SAA system will be confirmed after drilling of the boreholes is completed.

A data acquisition system (DAS) shall be installed to collect data from the SAA instruments. Options include the DAS-1 and DAS-5. Both systems contain Campbell Scientific Inc. dataloggers, interface modules, and other components to automate data collection. Refer to the manufacturer for specific and additional components for each DAS. Batteries are not included with the DAS and shall be selected based on the manufacturer's specifications. Maximum cable lengths for SAAV vary; refer to the manufacturer for details. A SAA surge protection device shall be installed to protect the SAA from electrical surges caused by nearby lightning strikes. Refer to the manufacturer for details.

One SAA shall be installed in a new slope inclinometer casing near the downstream toe of the original starter dam at the Perimeter Embankment as shown on the Drawings.

Only SAA splice kits, manufactured by Measurand shall be used for splicing SAA cables. Other splicing kits can only be used with SAA manufacturer approval.

6.10.2 Installation

The SAA systems shall be installed in accordance with the manufacturer's handling and installation specifications. The vertical installation shall be done in accordance with the following procedure:

- The installation depth for the SAA shall be confirmed and documented by the QA Manager.
- A 70 mm diameter SAA casing cap shall be placed on the inclinometer casing.
- The SAAV reel shall be set on the reel stand such that it unreels from the top. The reel shall be placed 1.0 m to 1.5 m away from the borehole. For SAAVs longer than 50 m, a sufficiently large reel stand (e.g., jack stands) shall be used to place the reel directly above the borehole.
- The insertion of the SAAV shall be done by at least two people: one person to guide the SAA instrument into the borehole, and the other to control the rate of descent by handling the reel.
- One extension tube shall be detached from the SAAV reel and attached to the spring box assembly. The X-mark on the extension tube should align with the X-mark on the SAAV. In cases where the SAAV is shorter than the borehole, several extension tubes may be required. See manufacturer's instructions for more details.
- Once the extension tube has been attached and the SAAV is resting on the bottom of the borehole, the SAAV shall be settled into the inclinometer casing (see manufacturer's instructions for more details):
    - The SAAV installation verification tool included in the Measurand SAA recorder software shall be used by connecting a computer to the SAA.
    - The casing cap shall be removed and set aside with enough slack cable to avoid interference with the settling process.
    - The SAAV shall be lifted until it is hanging in the casing with one segment touching the bottom. The angle reported by the SAAV installation verification tool should be 4 to 6 degrees.
    - Once the SAAV is resting on the bottom of the casing, the SAAV shall be dropped such that it falls straight into the casing. Approximately 5 lbs of downward pressure shall be applied to compress the SAAV within the casing. The compression value shall be recorded in the SAAV installation verification tool and sample data from the SAA recorder shall be collected.
    - The SAAV shall be lifted so only the last segment is resting on the bottom of the casing and dropped repeatedly until three sequential readings of compression do not change by more than 1 mm (10 to 15 drops).
    - The casing cap shall be replaced over the extension rods and onto the top of the casing.
- The azimuth offset shall be determined using the X-mark protractor and methods described in the manufacturer's instructions.

- The SAAV casing cap shall be attached to the inclinometer casing using the method outlined in the manufacturer's instructions.
- The extension tube shall be cut by an amount determined by compressing the SAAV with 11 lbs of mass, and with the use of the extension tube anchor, the cutting location shall be marked.
- After cutting, the extension tube anchor shall be inserted into the top of the tube, and the extension tube shall be compressed until the bolt can be screwed into place.
- The SAAV cable shall be inserted into the cable grommet in the SAAV casing cap. The SAAV casing cap shall be closed and secured. See manufacturer's instructions for more details.

6.11 Inclinometers

6.11.1 General

Three existing inclinometer casings at Corner 1 (SI23-01, SI23-02, and SI23-03) shall be extended vertically and protected from damage until the instruments are on the downstream slope of the embankment. The ten existing inclinometer casings along the Perimeter and Main embankments shall be decommissioned prior to raising and widening the buttresses.

An inclinometer casing shall be installed to install SAA25-04 at the Perimeter Embankment as shown on the Drawings.

A 70 mm diameter inclinometer casing manufactured by RST or Durham Geo Slope Indicator (DGSI), or approved equivalent, shall be installed. The corresponding casing coupling manufactured by RST or DGSI, or approved equivalent, shall be used to connect the inclinometer casings.

6.11.2 Installation

The borehole diameter should be large enough to accommodate the inclinometer casing and a tremie pipe so that grout can be pumped into the annulus from the bottom up.

Installation should closely follow the following procedure:

- Once the borehole has been drilled to the required depth, the first length of casing shall be inserted with a bottom cap and anchor. Additional lengths of casing are then attached and lowered in the borehole until the desired depth is reached.
- Once the inclinometer casing is lowered into the borehole to the required depth, a pair of grooves should be aligned with the expected direction of ground movement. This should be done only if it can be accomplished without applying excessive torque to the casing.
- Grout should be pumped through the tremie pipe, once lowered into the borehole, displacing any groundwater within the borehole.

- During casing installation, groundwater, drilling fluid, or grout slurry within the borehole may exert an uplift buoyancy force on the casing, thereby lifting the casing out of the borehole. The following measures shall be used to prevent this uplift force:
  - Anchor the casing at the bottom of the borehole prior to grouting by special accessory “casing anchors”.
  - Fill the inclinometer casing with water prior to grouting.
  - Grout the borehole in stages.
  - Blow all the water from the inclinometer casing.
- Where there are no special constraints, the casing should stick up about 0.50 m to 0.75 m.
- The azimuth of the inclinometer groove positioned in the expected direction of ground movement shall be measured (typically defined as the A+ direction).
- Spiral twisting of the grooves should not exceed 0.75 degrees per metre length of the casing. Where considered necessary by the QA Manager (e.g., on very deep installations, typically greater than 60 m) a spiral survey of the casing grooves shall be carried out after installation and an appropriate correction applied by the data reduction software.
- Upon completion of the installation, the inside of the inclinometer casing should be kept clean so that the probe can travel in the grooves all the way in and out of the casing. If the grooves become contaminated by grout, they should be cleaned by flushing with water and gentle brushing, and a dummy probe can be lowered to the bottom to check that the grooves are clear.
- After installation and curing of the grout, two sets of inclinometer readings should be taken to provide a reliable baseline. If the two sets of readings show any apparent movement, additional readings should be taken.

6.11.3 Extensions

The inclinometer casing extensions shall be protected with fine aggregate before rockfill is placed around them. Inclinometer casing ends shall be capped while fine aggregate is being placed to avoid clogging. Extension casings, caps, and fittings shall be provided in advance. The inclinometer casings shall be extended until the instruments are above the downstream slope of the embankment.

6.11.4 Decommissioning

The existing inclinometer casings along the Perimeter and Main embankments shall be decommissioned prior to raising and widening the buttresses by backfilling the casing with grout. The grout mixture is defined in Section 6.8.

The inclinometer casings shall be backfilled from the bottom up to ground surface. Grout shall be delivered into the casing by a threaded tremie pipe.

APPENDIX C

Design Criteria

TECHNICAL MEMORANDUM

DATE July 17, 2025 **Reference No.** CA0047730.8440-005-TM-Rev0-51293

TO Matt O'Leary
Mount Polley Mining Corporation

FROM Ryan Garritsen, Germán Pizarro, Nasim Hosseini, and Curtis VanWerkhoven

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MOUNT POLLEY MINE, BRITISH COLUMBIA – BASIS OF DESIGN AND DESIGN CRITERIA FOR LIFE OF MINE TAILINGS STORAGE FACILITY RAISE

1.0 INTRODUCTION

WSP Canada Inc. (WSP) has prepared this technical memorandum as part of a design to support the permit to raise the Mount Polley Mining Corporation (MPMC) tailings storage facility (TSF). This document presents the basis for design and the associated design criteria to be used by WSP for the detailed design for raising the existing TSF from elevation 974 m to the elevation required to contain the life of mine (LoM) tailings (approximately elevation 987 m). This document provides the following:

- **Project Description**—Section 2.0
- **Scope of Work**—Section 3.0
- **Design Basis**—Section 4.0
- **Design and Operation Philosophy**—Section 5.0
- **Design Criteria**—Section 6.0
- **Closure Philosophy**—Section 7.0

The reader is referred to the Study Limitations section, which follows the text and forms an integral part of this memorandum.

This memorandum supersedes the previous revision of the LoM TSF design criteria (WSP 2023a).

2.0 PROJECT DESCRIPTION

The Mount Polley Mine is a copper and gold mine operated by MPMC, a subsidiary of Imperial Metals Corporation. The site is located approximately 56 km northeast of Williams Lake, British Columbia, between Polley Lake and Bootjack Lake. The Mount Polley Mine began production in 1997 and operated until October 2001 when operations were suspended for economic reasons. In March 2005, the mine restarted and was in operation up to the time of the TSF breach in August 2014 when the embankment crest was near elevation 968 m.

In 2015, the Freshet Embankment was constructed to elevation 950 m through the breach area to allow the capture and temporary storage of the 2015 and 2016 freshet flows. The construction of buttresses along the Perimeter and Main embankments was completed in October 2016 (Golder 2015a, 2017a).

The June 23, 2016, amendment of the *Mines Act* Permit M-200 authorized the return to full operations at the mine, including construction and operation of the TSF design to elevation 970 m (Golder 2015b). Construction to raise the Freshet Embankment at Corner 1 to elevation 970 m started in June 2016. By September 2018, construction of the Perimeter Embankment at Corner 1 had been completed to elevation 968 m (Golder 2019a). The raise of the Freshet Embankment is referred to as the Perimeter Embankment at Corner 1. Construction to raise the embankment to elevation 970 m started in July 2022 and was generally completed by the end of 2023. In preparation for a raise above elevation 970 m, widening and re-sloping of the downstream slope of the embankment to 2H:1V was started in 2024.

Mining operations at the Mount Polley Mine were halted between May 2019 and Q4 2021 for economic reasons. Deposition of tailings generated at the process plant into the TSF resumed in June 2022. Dredging of tailings from the Springer Pit and deposition into the TSF started in March 2018 and was halted in October 2019.

The TSF is located about 3 km southeast of the mill and includes one embankment that is approximately 4.8 km in length. The embankment is subdivided into three sections: the Main Embankment, Perimeter Embankment, and South Embankment. The embankment has incorporated a staged expansion design utilizing modified centerline and centerline construction methods. The general zoning of the TSF embankment includes the following:

- upstream fill comprising tailings sand and select fill (e.g., rockfill, crushed aggregates)
- low permeability till core
- filter zone
- transition zone
- rockfill

Rockfill forms the downstream wedge of the embankment and the downstream buttress along the Perimeter and Main embankments. Sandy tailings reclaimed from Hazeltine Creek were also used in the construction of the downstream buttress at Corner 1.

In 2014, WSP, formerly Golder Associates Ltd. (Golder), completed a feasibility design for raising the embankment of the TSF to a maximum elevation of 984 m (Golder 2015c). The objective of the feasibility assessment was to identify potential considerations, constraints, or conflicts that may limit the elevation to which the TSF could be raised. The results of the study indicated that a raise of the facility is feasible. The LoM plan was updated in 2021 and a crest elevation of approximately 987 m is estimated to be required to contain the LoM tailings.

In 2024, WSP prepared a detailed design for an interim raise from elevation 970 m to 974 m (WSP 2024). Construction to raise the facility above elevation 970 m started in April 2025.

3.0 SCOPE OF WORK

Design of the TSF raise to an ultimate crest elevation of 987 m includes the following assessments:

- storage capacity
- filter compatibility
- seepage through the embankment and foundation
- slope stability and deformation
- water balance
- risk review and design controls
- TSF pond management and freeboard requirements
- material quantities
- closure considerations
- detailed design report including design drawings and technical specifications

The battery limits for the study are:

- discharge of tailings into the TSF
- return water at the TSF barge
- the footprint boundaries of the TSF and downstream water management infrastructure
- tie-in points to infrastructure and utilities (e.g., electrical power, access roads, data and communication, and network)

Design criteria for the downstream water management infrastructure is excluded from this memorandum and is covered under a separate document (WSP 2025a).

4.0 DESIGN BASIS

The basis of design is established in accordance with relevant design codes, standards, and guidelines.

4.1 Regulations, Standards, and Guidelines

The assessment of the TSF will be consistent with applicable regulatory documents and guidelines from MPMC, WSP, and national and international organizations, where applicable (e.g., the Canadian Dam Association [CDA] and International Commission on Large Dams [ICOLD]). Regulations applicable to this study comprise the following:

- *Health, Safety and Reclamation Code for Mines in British Columbia* (MCM 2024a)

- *Code Guidance – Health, Safety and Reclamation Code for Mines in British Columbia. Part 10 – Tailings Storage Facilities (TSF) and Dams* (MCM 2024b)

The assessment of the TSF will also be consistent with the following guidelines, where applicable:

- CDA – *Dam Safety Guidelines* (CDA 2013)
- *Technical Bulletin: Application of Dam Safety Guidelines to Mining Dams* (CDA 2019)
- *Global Industry Standard on Tailings Management* (GISTM 2020)
- Mining Association of Canada – *A Guide to the Management of Tailings Facilities* (MAC 2021)
- APEGBC Professional Practice Guidelines – *Site Characterization for Dam Foundations in BC* (APEGBC 2016)

Other internationally recognized codes and standards may be used, provided these codes and standards meet or exceed the referenced codes herein.

4.2 Dam Consequence Classification

Tailings dams in British Columbia are regulated under the Health, Safety and Reclamation Code (HSRC) for Mines in British Columbia, which was revised in April 2024 (MCM 2024a). The Code provides criteria to classify TSFs.

Consequence categories are based on the incremental losses that a failure of the dam might inflict on the downstream or upstream areas, or at the dam location itself. Incremental losses are those over and above the losses that might have occurred in the same natural event or condition had the dam not failed. Infrastructure and economic consequences are based on third-party losses (including indirect and tangible losses). The consequences of a potential dam failure are ranked as Low, Significant, High, Very High, or Extreme for each of the loss categories. The classification assigned to an individual dam is the highest rank determined among the loss categories (MCM 2024b).

Table 1 presents the consequences of potential failure criteria outlined in the revised HSRC and Code Guidance documents (MCM 2024a,b). The Mount Polley TSF was ranked as a Significant consequence of potential failure facility based on the criteria included in the previous Code Guidance (BC MEM 2016). An updated consequence classification assessment is presented below.

Table 1: Consequences of Potential TSF or Dam Failure Scenarios

Consequences of Potential Failure Scenarios	Potential Loss of Life[a]	Potential Losses[e]		
		Environment[b,c]	Health, Social and Cultural	Infrastructure and Economics[d]
Low	None	▪ Minimal short-term loss of environmental values. ▪ No expected impact on livestock or fauna drinking water. ▪ Limited area of impact and restoration feasible in short term.	▪ Minimal effects and disruption of business and livelihood. ▪ No measurable effects on human health. ▪ No disruption of heritage, recreation, community or cultural assets.	▪ Low economic loss: area contains limited infrastructure or services.
Significant	None	▪ Limited loss or deterioration of environmental values. ▪ Potential contamination of livestock or fauna water supply. ▪ Moderate area of impact and restoration possible.	▪ Limited effects and disruption of business and livelihood. ▪ No measurable effects on human health. ▪ Limited loss of regional heritage, recreation, community or cultural assets.	▪ Moderate economic loss: losses to recreational facilities, seasonal workplaces and infrequently used transportation routes.
High	1 to 10	▪ Significant loss or deterioration of critical environmental values. ▪ Potential contamination of livestock or fauna water supply. ▪ Potential area of impact 5 km^2 to 20 km^2. Restoration possible within a moderate time frame.	▪ Many people affected by disruption of business, services or social dislocation. ▪ Significant loss of regional heritage, recreation, community or cultural assets. ▪ Potential for some short-term human health effects.	▪ High economic loss: losses affecting infrastructure, public transportation, commercial facilities or employment. Moderate relocation costs and/or compensation to communities.

Table 1: Consequences of Potential TSF or Dam Failure Scenarios

Consequences of Potential Failure Scenarios	Potential Loss of Life[a]	Potential Losses[e]		
		Environment[b,c]	Health, Social and Cultural	Infrastructure and Economics[d]
Very High	10 to 100	▪ Major loss or deterioration of critical environmental values including rare and endangered species of high significance. ▪ Potential area of impact >20 km^2. Restoration or compensation possible but very difficult and requires a moderate to long time frame.	▪ A high number of people affected by disruption of business, services or social dislocation for more than one year. ▪ Significant loss of national heritage, recreation, or community facilities or cultural assets. ▪ Significant long-term human health effects.	▪ Very high economic loss: losses affecting important infrastructure, services (e.g., highway, industrial facilities or storage facilities for dangerous substances) or employment. High relocation costs and/or compensation to communities.
Extreme	> 100	▪ Catastrophic loss of critical environmental values including rare and endangered species of high significance. ▪ Very large areas of potential impact. Restoration or compensation in kind impossible or requires a very long time.	▪ A large number of people affected by disruption of business, services, or social dislocation for years. ▪ Significant national heritage or community facilities or cultural assets destroyed. ▪ Potential for severe and/or long-term human health effects.	▪ Extreme economic loss: losses affecting critical infrastructure or services (e.g., hospital, major industrial complex, major storage facilities for dangerous substances) or employment. Very high relocation costs and/or compensation to communities and very high social readjustment costs.

Sources: MCM 2024a,b.

(a) Potential Loss of Life: This includes population at risk, and an allowance for people who may be within the inundation zone on a short-term or intermittent basis (e.g., seasonal or recreational visitors, temporary travelers or workers). There are several methods used to estimate potential loss of life.

(b) Environmental values: Include aquatic and terrestrial habitat and life, the presence of rare and endangered species, and ecosystem integrity. Significant loss of environmental values is referenced to the percentage of the regional values.

(c) The potential effects due to released tailings or process water consider the geochemical properties, restoration time and the effectiveness of restoration.

(d) Infrastructure and economics: Include indirect and tangible losses.

(e) Consequences shown are indicators and professional judgement is used to select the appropriate consequence category for the dam.

The TSF is located between the Hazeltine Creek watershed (north of the TSF) and Edney Creek watershed (south of the TSF). Both watersheds flow on an approximate northwest to southeast direction to Quesnel Lake. The topographical features along the south edge of the Edney Creek watershed are up to 40 m higher than Edney Lake, and the topography along the north edge of the Hazeltine Creek watershed are up to about 30 m higher than Hazeltine Creek. The topography to the south and north of the TSF discourage the inundation extending outside of the Hazeltine Creek watershed and the Edney Creek watershed.

A dam breach and inundation study was originally carried out considering a hypothetical sunny-day and flood-induced failure of the South Embankment and Main Embankment with a crest elevation of 970 m (Golder 2017b). A summary of the results is provided below.

- **South Embankment—**the runoff would flow south to Edney Lake and southeast along Hazeltine Creek and Edney Creek to Quesnel Lake. There are no permanent structures in this area. A maximum inundation extent was estimated to be approximately 8.1 km^2.
- **Main Embankment—**the runoff would flow southeast along Hazeltine Creek and Edney Creek to Quesnel Lake. There are no permanent structures in this area. A maximum inundation extent was estimated to be approximately 8.5 km^2.

A hypothetical failure of the Perimeter Embankment was not modelled in the study; however, as observed in 2014, the runoff from a breach of the Perimeter Embankment with a crest elevation of about 970 m would flow southeast along Hazeltine Creek or Edney Creek to Quesnel Lake depending on the location of the breach.

An assessment to evaluate the sensitivity of the inundation area was completed in 2025 considering a hypothetical flood-induced overtopping failure of the South Embankment and Main Embankment with a crest elevation of 987 m and is included in attachment A. The hypothetical flood-induced overtopping failure was selected for this study as it was identified as the failure scenario with the highest potential for the breach volume to flow beyond the topographical constraints of the Hazeltine Creek and Edney Creek watersheds. The results showed that the inundation areas would not extend beyond the Hazeltine Creek and Edney Creek watersheds. A summary of the results is provided below.

- **South Embankment—**the runoff would flow south to Edney Lake and southeast along Hazeltine Creek and Edney Creek to Quesnel Lake. There are no permanent structures in this area. The potential inundation zone for the scenarios considered was estimated to range from about 15 km^2 to 17 km^2.
- **Main Embankment—**the runoff would flow southeast along Hazeltine Creek and Edney Creek to Quesnel Lake. There are no permanent structures in this area. The potential inundation zone for the scenarios considered was estimated to range from about 8 km^2 to 11 km^2.

Based on the results of the dam breach and inundation studies, the TSF embankments were evaluated according to the consequence classification and potential loss criteria presented in Table 1.

4.2.1 Potential Loss of Life

There is no permanent population at risk (PAR) downstream of the TSF. The PAR was estimated by the number of people that may be temporarily within the inundation zone and the duration of exposure of the people involved. The PAR was estimated based on the results of the dam breach and inundation studies (Golder 2017b; WSP 2025b).

Temporary personal that may be within the failure impact zone include mine personnel working on, or downstream of the TSF (i.e., construction crews, mine staff inspecting the TSF or downstream water management infrastructure, mine staff at the water treatment plant), forestry personnel performing logging activities downstream of the TSF, general public using the section of Gavin Lake Road downstream of the TSF, the bridge crossings on Edney Creek, and the area at the confluence of Hazeltine Creek and Edney Creek with Quesnel Lake, and members of the public recreationally hunting or fishing.

The PAR has been presented as an annualized number based on the likelihood of a number of people temporarily being within the breach zone at the time of a potential breach. Table 2 presents the PAR estimation and assumptions. The PAR is estimated to be 5.5 under this hypothetical situation.

Based on the hydraulic modelling, the flood propagates through the areas where the majority of the PAR may be located (i.e., on top or directly downstream of the TSF) within approximately 30 to 60 minutes. Therefore, there would be little warning time once a breach occurred, and it has been assumed that potential loss of life (PLL) is equal to PAR.

The PLL is estimated to be 5.5 based on the limited exposure time of the general population, mine staff, and construction staff. The PLL consequence classification is High.

Table 2: Population at Risk

Population	Occupancy (number of people)	Exposure Time (hours/day)	Frequency (days/week)	Frequency (weeks/year)	Total Exposure (hours/year)	PAR	Source / Assumptions
TSF Construction Crew (Summer)	9	12	7	35	26,460	3.02	Based on construction at the TSF since 2022. Assumes 6 personnel at the crest and 3 personnel working on the buttress, pond or ditches at the toe of the buttress.
TSF Construction Crew (Winter)	2	12	7	17	2,856	0.33	Assumes rockfill placement during the winter with one haul truck and one dozer within the failure impact zone.
Logging Crew	7	12	7	4	2,352	0.27	Assumed one logging crew for two, two-week shifts during a year. Logging crew consists of 6 workers plus one supervisor. Three to four hauling trucks, three times a day spread throughout the day. Assumed the entire crew is within the inundation zone for 12-hours per day (West Fraser, 2024).
MPMC Environmental and Instrumentation Staff	2	4	4	52	1,664	0.19	Assumed one technician reading instruments and one reading drain flows and checking downstream water management infrastructure.
Public using Gavin Lake Road	4	1	7	52	1,456	0.17	Assumed total of one hour per day of multiple vehicles with four passengers.
Public recreation in vicinity (i.e., hunting)	3	12	7	52	13,104	1.50	Assumed one group of 3 people.
					Total Population at Risk	**5.47**	

4.2.2 Environment

The dam breach and inundation studies for the South and Main embankments and observations from the 2014 Perimeter Embankment failure identifies Polley Flats, Hazeltine Creek, Edney Creek, and Quesnel Lake as the receiving environment of a hypothetical breach.

4.2.2.1 Species at Risk

The following at risk aquatic species have been observed within the inundation area, specifically documented in lower Hazeltine Creek and lower Edney Creek (BC ENV 2024a,b; Minnow 2022):

- Coho Salmon (*Oncorhynchus kisutch*) – Interior Fraser population
- Sockeye Salmon (*Oncorhynchus nerka*) – Quesnel-S population

The Interior Fraser Coho (IFC) salmon population is federally listed as Threatened (Table 3). The IFC salmon population was designated as Endangered in 2002 and re-examined as Threatened in 2017 under the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). This genetically discrete population has been recovering in the Quesnel River watershed, with the presence of Coho Salmon documented within Edney Creek (Holmes and Holmes 2008). This salmon species is widely distributed along the Pacific coast in North America. They are anadromous, spending part of their lives in freshwater rivers and streams, and part at sea, returning to rivers at maturity to breed (COSEWIC 2016). Young Coho Salmon, including fry and parr stages, spend on average one to two years in their natal streams and rivers before journeying out to sea as a smolt in their second year (COSEWIC 2016). Mature IFC have been observed in Edney and Hazeltine Creeks (Holmes and Holmes 2008). It has also been documented by Holmes and Holmes (2008) that the lower reaches of these creeks include spawning habitat for Coho Salmon.

The Quesnel-South Sockeye Salmon population (Quesnel-S) is federally listed as Endangered (Table 3). Sockeye Salmon have 24 Designatable Units (DUs) in the Fraser River drainage basin (COSEWIC 2017), of which 15 are listed as at risk (i.e., Special Concern, Endangered, or Threatened) under COSEWIC. The Quesnel-S population (DU 16) was designated as Endangered in 2017. The population has been in decline since 2000 and faces threats in both their freshwater and marine habitats due to declining habitat quality. Adults typically spawn in lake tributaries and along foreshores. Most young Sockeye Salmon rear in lakes and associated tributaries for generally up to two years, and Horsefly River Sockeye Salmon have been reported to remain in Quesnel Lake for one year before emigrating to sea as a smolt in the spring (Hillaby 2011).

Critical habitat for fish was identified within the study area, at and near the mouth of the creek into Quesnel Lake (BC ENV 2024a; Holmes and Holmes 2008). No fisheries sensitive watersheds were identified within the study area (BC ENV 2024a; DFO 2024).

Additionally, the following at risk wildlife species and critical wildlife habitat have been reported within a 1 km buffer radius of the area of inundation (BC ENV 2024a,b; SNC-Lavalin 2015):

- Western Toad (*Anaxyrus boreas*)
- Woodland Caribou (*Rangifer tarandus*) – Southern Mountain Population

The western toad is a federally and provincially listed species (Table 3). Post-breach, the species have been observed in the tailings failure area (SNC-Lavalin 2015), and along Polley Flats near the south end of Polley Lake, and within the till borrow area ponds in large numbers (Golder 2017c). Amphibians present on Polley Flats in 2017 were captured and relocated to allow for remediation and re-vegetation (Golder 2017c). The western toad breeding habitat includes shallow littoral zones of lakes, pools, slow moving streams, wetlands, and ephemeral waterbodies, and adult populations inhabit riparian areas, forests, and woodlands (COSEWIC 2012).

The woodland caribou (southern mountain population) is a federally and provincially listed species (Table 3). The mapped critical habitat of Quesnel Highlands for the woodland caribou (southern mountain population) overlaps with the impacted area (BC CDC 2023). Woodland caribou feed on terrestrial and arboreal lichens, inhabiting forests near marshes and lakes. The species primarily winters in mature old-growth coniferous forests abundant with arboreal lichens, and in summer forage in young forests that regenerate after burning or logging (COSEWIC 2012).

There are no recorded plants or ecosystems at risk, wildlife habitat areas, wildlife habitat features, or ungulate winter range within the study area (BC ENV 2024b; BC CDC 2023). There are no important bird areas overlapping with the study area (Birds Canada 2024).

The listed species at risk observed in the hypothetical inundation area are listed in Table 3.

Table 3. Identified Species at Risk

Species	COSEWIC[(a)]	SARA[(a)]	BC Status[(b)]
Coho Salmon (*Oncorhynchus kisutch*) – Interior Fraser population	Threatened	Not on Schedule 1 (under consideration for addition)	Not Reviewed
Sockeye Salmon (*Oncorhynchus nerka*) – Quesnel-S population	Endangered	Not on Schedule 1 (under consideration for addition)	Not Reviewed
Western Toad (*Anaxyrus boreas*)	Special Concern	Special Concern	Yellow
Woodland Caribou (*Rangifer tarandus*) – Southern Mountain Population	Endangered	Not Active	Red

(a) Government of Canada (2023).

(b) BC CDC (2023).

BC = British Columbia; COSEWIC = Committee on the Status of Endangered Wildlife in Canada; SARA = *Species at Risk Act*.

4.2.2.2 Intrinsic Hazard

4.2.2.2.1 Characterization of Effluent

The water quality of the TSF pond is monitored several times per year at monitoring location E1a as part of the Mount Polley Mine's Comprehensive Environmental Monitoring Plan under the Environmental Management Act Permit 11678 and Mines Act Permit M-200. Water samples for toxicity testing were collected at E1a on October 11, 2022. Toxicity tests included acute 96-hour rainbow trout (*Oncorhynchus mykiss*) LC50 and 48-hour *Daphnia magna* LC50. The laboratory results reported 100% survival and chronic 7-day *Ceriodaphnia dubia* survival and reproduction, 7-day rainbow trout embryo viability, 7-day *Lemna minor* growth inhibition, and 72-h *Pseudokirchneriella subcapitata* growth inhibition (Nautilus Environmental 2022a,b). These results indicate that the stored water is not acutely lethal. There were no chronic adverse effects observed for *C. dubia*, rainbow trout, or *P. subcapitata*. Inhibitory effects were observed only for *L. minor*.

4.2.2.2.2 Characterization of Solids

Mount Polley tailings are classified as non-acid generating based on operational monitoring and testing of tailings spilled into Hazeltine Creek in August 2014. Compared to crustal normal concentrations, copper and selenium were present in the tailings sampled from Hazeltine Creek following the tailings release at an order of magnitude higher concentrations, indicating tailings enriched in copper and selenium. However, average selenium concentrations in the operational tailings from within the TSF were lower than the spilled tailings in the creek and were similar to background levels (i.e., similar to average selenium concentrations in stream sediment samples from the region surrounding Mount Polley [Kennedy and Anglin 2016]).

Humidity cell tests and column tests that ran for about 52 weeks and 35 weeks, respectively, using selected samples which had typical characteristics of tailings in the impoundment, were used to assess potential tailings leachate quality. The leachate quality from these tests is described below:

- pH typically between 7.7 and 8.3
- sulphate concentrations initially on the order of 1,000 mg/L, with decreasing concentrations over time that reached lower stabilized values
- highest copper concentration of 0.15 mg/L in one test, but with typical maximum concentrations of 0.02 mg/L in humidity cell test leachates and 0.05 mg/L in column test leachates
- highest selenium concentrations were 0.01 mg/L in humidity cell test leachates and 0.06 mg/L in column test leachates
- molybdenum concentrations initially between 2 and 3 mg/L in column leachates and have since stabilized to concentrations between 0.01 and 0.02 mg/L

The Mount Polley tailings were identified as being non-acid generating and non-metal leaching (Kennedy and Anglin 2016).

4.2.2.2.3 Classification of Contents

The following information outlines the key findings of the data to support classification of the intrinsic hazard:

- The stored water/liquid is not acutely lethal.

- The tailings are classified as non-metal leaching or acid-generating.

4.2.2.3 Habitat Quantification and Restoration

Mount Polley Mine is located within the Interior Cedar-Hemlock biogeoclimatic zone and Horsefly Moist Cool subzone (ICHmk3; BC FLNRO 2021). Due to the temperate climate of this location, and with the assistance of active remedial work, establishment of a successional trajectory would require approximately 10 to 25 years, which is considered a moderate timeframe (CDA 2023).

Based on the dam breach and inundation studies, a runoff event from the TSF would result in an inundation zone of approximately 8 km^2 to 17 km^2. This would include Coho and Sockeye salmon spawning habitat.

Since the 2014 TSF breach occurred about 10 years ago, restoration and remediation has been an ongoing process, starting in upper Hazeltine Creek and working downstream towards its mouth to prevent siltation of restored habitat from construction works. An extensive restoration of fish habitats has been carried out in Hazeltine Creek since the TSF breach (Nikl, et al. 2016; Golder 2019b). The main and deliberate goal, established by MPMC, First Nations and Government, was to restore trout spawning and rearing habitat along the upper reaches of the creek, and for Coho and Sockeye Salmon habitat in the lower portion of the creek (Golder 2019b).

Evaluation of baseline and post-breach conditions in Hazeltine and Edney Creeks concluded that the constructed fish habitat is performing as designed and expected for Rainbow Trout populations (WSP 2023b). Recent monitoring of adult Rainbow Trout has also described the successful return of spawning adults from Polley Lake to Hazeltine Creek to spawn during the spring seasons of 2018 to 2022 (Minnow 2022). Riparian vegetation is established, actively growing, and is providing overhead cover in upper sections of the creek where remediation efforts were first initiated after the breach (DWB 2022). Similarly, monitoring of lower Edney Creek by Minnow (2022) concluded that the constructed fish habitat is as good or better than unimpacted habitat and is effectively meeting design objectives. Based on fish usage and spawning survey data collected from 2016 to 2021, it appears that remediation objectives are being met for not only Rainbow Trout, but also Interior Fraser Coho Salmon and Sockeye Salmon (Minnow 2022). Since the reopening of lower Hazeltine Creek to fall spawning fish, hundreds of spawning Sockeye Salmon have been observed each year since 2021.

4.2.2.4 Environmental Consequence Classification

The following summarizes the key findings of the data to support classification of the environmental consequence of a hypothetical breach:

- the potential area of impact for each embankment is estimated to be less than 20 km^2
- listed aquatic and terrestrial species at risk and critical habitat are present in the inundation area
- low potential for contamination of the water supply based on intrinsic hazard or the contents
- restoration is possible within a moderate timeframe, as demonstrated by the rehabilitation works completed in Hazeltine Creek

The environmental consequence classification is High.

4.2.3 Health, Social and Cultural

MPMC operates in the recognized claimed traditional territory of the Williams Lake First Nation and the Xatśūll First Nation. The Williams Lake First Nation and the Xatśūll First Nation are members of the Secwepemc Nation located in the Cariboo region of the Central Interior region of BC. Nearby communities include, 100 Mile House, Williams Lake, Quesnel, Wells, with Likely and Horsefly being the closest.

As part of the mines plan to return to operations, MPMC began regular communications in July 2021. These communications have included meetings with regulators through bi-weekly meetings and calls specific to the project, introductions to the project presented through community meetings, and discussions with additional stakeholders through the Public Liaison Committee (PLC).

4.2.3.1 Social

Access to the mine occurs via the Morehead-Bootjack Forest and Service Road from Likely Road. As reported in the Mount Polley Mine Springer Expansion Permit Amendment Application, traffic is managed by existing traffic and access standard practices and procedures maintained by MPMC. Recreational activities and industrial use (such as forestry, ranching, and fisheries) do not occur within the limits of the mine boundaries, as public access is prohibited under the *Mines* and *Trespass Act*.

Mount Polley Mine is located in the vicinity of recreational areas such as Quesnel Lake and Polley Lake. Quesnel Lake and the surrounding backcountry is an important place of recreation for local and regional users (Province of British Columbia 2015). Quesnel Lake provides recreational users with access to boat launches, three campsites, and facilities such as toilets and tables. Recreational use at Quesnel Lake and in the surrounding area includes scenery and wildlife viewing, swimming, boating, kayaking, canoeing, and waterskiing/tubing/wakeboarding, and in the winter, snowmobiling and ice fishing when ice conditions allow. In addition to recreation, Quesnel Lake contributes to regional tourism through sport fishing (Cariboo Regional District nd).

When evaluating potential consequences to the social environment, social context is a key factor. The communities surrounding Mount Polley Mine experienced a TSF breach in 2014 which contributes to the perceived sense of safety and security in these communities and the perceived magnitude of another such breach. An additional TSF breach would therefore likely have a higher social impact given this historical social context.

4.2.3.2 Cultural

Traditional uses including plant and animal harvesting and fishing occur within the region and may, in the future, occur in areas near Mount Polley Mine. Current traditional use within the project footprint by Williams Lake First Nation and the Xatśūll First Nation citizens is restricted given that the area is within the existing mine boundary, which maintains public and worker safety, however there are the potential for effects on traditional use in downstream areas due to flooding. Representatives of these Nations are engaged through the PLC, permitting applications, and the terms of the Impact Benefit Agreements.

In 2011 and 2012, MPMC executed Participation Agreements with the Williams Lake First Nation and the Xatśūll First Nation, respectively. Williams Lake First Nation renewed the Participation Agreement on April 12, 2022, with MPMC. Meetings with the Williams Lake First Nation have taken place since March 16, 2012, and since July 19, 2012, with the Xatśūll First Nation. Joint Implementation Committee meetings have been held with representatives from MPMC, the Williams Lake First Nation, and the Xatśūll First Nation since October 18, 2012. Joint Implementation Committee meetings are held at minimum quarterly.

4.2.3.3 Health, Social and Cultural Consequence Classification

The dam breach and inundation study showed that a hypothetical breach of the TSF would not extend beyond the Hazeltine Creek watershed and the Edney Creek watershed (Golder 2017b; WSP 2025b). However, within this context, communities in the vicinity of the mine have experienced a TSF breach in 2014. As such, communities in the vicinity of the mine are expected to be highly sensitive to future breaches. This social context is a considerable factor when classifying the facility, resulting in a higher rating than may be expected given the consequence criteria.

The potential impacts of a TSF breach on social and cultural components include:

- potential access and area use for recreational sites in the vicinity of the TSF, including Polley Lake recreation site, Raft Creek recreation site, among others resulting in a disruption to recreation opportunities and potential social dislocation
- potential effect from changes in the environmental setting (such as noise, air, and visual quality) due to a dam breach, resulting in potential for short term changes in experience for recreational users
- potential effect from changes in access and area use for fishing, which can impact cultural continuity and knowledge transfer for Indigenous communities in the area, resulting in loss of cultural, recreation, and community assets

Considered together, these potential effects could result in limited loss of regional heritage, recreation, community or cultural assets, corresponding with a Significant consequence rating of a potential TSF failure scenario. However, given the social context in the region specifically associated with the 2014 TSF breach, it is expected that, should a failure occur, the perceived magnitude of these effects would be higher. Social effects from a dam breach are therefore anticipated to be High consequence given the social context in the region.

4.2.4 Infrastructure and Economics

The potential impacts of a TSF breach on infrastructure and economics are varying:

- Losses affecting infrastructure are low. Infrastructure downstream of the TSF is limited to the mine water treatment plant and Gavin Lake Road which is an infrequently used transportation route.
- Third-party economic losses are low. A breach could impact logging operations to the south of the TSF, mine staff employment from local communities and local tourism businesses (i.e., fishing in Quesnel Lake).

The infrastructure and economics potential losses are classified as Low consequence.

4.2.5 Consequence Classification Summary

The overall consequence classification for the TSF has been assessed as High according to the HSRC (MCM 2024a), based on the following categories:

- Potential Loss of Life – High
- Environmental – High
- Health, Social and Cultural – High
- Infrastructure and Economics – Low

4.3 Foundation Conditions

The geological setting of the Mount Polley TSF has been extensively investigated, and a dam foundation characterization report has been developed for the TSF (WSP 2025c). The foundation characterization report interprets all available information for the TSF foundation conditions. The stratigraphic sequence identified in the area of the TSF can be generalized in order of increasing depth as follows:

- fill and anthropogenic materials
- ablation till
  - glaciolacustrine sediments
  - glaciofluvial sediments
- basal till
  - glaciolacustrine sediments
  - glaciofluvial sediments
- bedrock

4.4 Climate Data

Climate conditions for the site were estimated based on data from several meteorological stations in the region and at the site. MPMC has operated climate stations on site since 1995, although records are not continuous. Climate parameter statistics for the site were prepared using data from the three on-site climate stations (Mill Site Weather Station, Weather Station #1, Weather Station #2) and five regional climate stations operated by Environment and Climate Change Canada (Likely, Williams Lake A, Spokin Lake 4E, Barkerville, Quesnel A, Prince George A [wind data only]). The details of the climate information can be found in the climate baseline update report (WSP Golder 2022).

The site experiences high summer precipitation due to summer storms, and the lowest monthly precipitation occurs in March. Precipitation typically occurs as snowfall starting in November and accumulates until March. Average annual precipitation at the site is estimated to be 612 mm, with a standard deviation of 118 mm based on precipitation records for the site from 1974 to 2021.

The estimated annual average air temperature at the site varies between 1.7°C and 6.3°C, with a long-term mean of 3.9°C. The mean monthly temperature ranges from -6.7°C in January to 15.1°C in July. The historical daily maximum and minimum air temperatures were recorded at 38.1°C in June 2021 and -39.8°C in December 1996, respectively. The mean monthly air temperature usually becomes positive in April and negative in November. The mean annual relative humidity is 68.1%, and the monthly mean relative humidity values range from 57.7% in April to 82.2% in December. The 25th and 75th percentiles for monthly relative humidity indicate little variation from the median, which suggests that the site experiences relatively consistent relative humidity, on a monthly basis, from year to year.

A frequency analysis was completed on annual maximum 24-hour rainfall depths from the long-term derived precipitation record (WSP Golder 2022) to estimate extreme storm rainfall depths. The 24-hour rainfall depths for select return periods are presented in Table 4. The 24-hour and 3-day annual and spring probable maximum precipitation (PMP) depths were calculated with the Hershfield method (WMO 2009) and are presented in Table 5.

Table 4: 24-hour Precipitation Depths for the Site, 1974 to 2021

Return Period (yr)	Depth (mm)
2	33
10	47
25	54
100	64
200	69
1,000	80

Source: WSP Golder 2022.

Table 5: Annual and Spring Probable Maximum Precipitation Depths for the Site, 1974 to 2021

Duration	Annual PMP (mm)	Spring PMP[(a)] (mm)
24-hour	224	192
3-day	339	259

Source: WSP Golder 2022.

(a) Spring is considered to include March, April, and May.

PMP=probable maximum precipitation.

4.5 Site Seismicity

Mount Polley is located in an area of relatively low seismicity for British Columbia. WSP developed a site-specific seismic hazard model for Mount Polley based on historical seismicity and a review of geological and paleoseismological features (WSP 2025c). Probabilistic analysis results from the site-specific hazard model are listed in Table 6.

Table 6: Site Seismic Hazard Values

Exceedance Probability	Return Period (yrs)	Peak Ground Acceleration (g)
5% in 50 years	1,000	0.026
2% in 50 years	2,475	0.048
1% in 50 years	5,000	0.076
½% in 50 years	10,000	0.116

Return periods are not exact representations of annual exceedance probabilities; rounding per Canadian Dam Association guidelines (CDA 2013, 2019) is shown.

5.0 DESIGN AND OPERATION PHILOSOPHY

The design and operation of the TSF follows the principles set out by the Mining Association of Canada in its Towards Sustainable Mining program and the recommendations made by the Independent Expert Engineering Investigation and Review Panel (IEERP 2015). The following approaches have been used for the design and operation of the TSF:

- **Limit the amount of surface water to only that required for operation** – this will be achieved through maintaining storage capacity within Wight Pit and the external water management ponds and ongoing discharge of water from the mine site.
- **Promote unsaturated conditions in the tailings** – wide sub-aerial beaches will be maintained upstream of the embankments and construction of upstream drains near elevation 970 m will create a zone of unsaturated tailings adjacent to the embankments.
- **Promote consolidation of tailings upstream of the TSF embankment** – construction of upstream drains near elevation 970 m will create a zone of unsaturated tailings adjacent to the embankments.
- **Reduce the hydraulic gradient across the till core** – this will be achieved through maintaining wide sub-aerial beaches along the embankments and construction of upstream drains near elevation 970 m.

Operation of the facility is to follow the above philosophy. The quantitative performance objectives are periodically reviewed and updated (minimum annually) and are used to confirm that operation of the facility follows the operation philosophy.

6.0 DESIGN CRITERIA

The project-specific design criteria are detailed in Table 7.

Table 7: Design Criteria

Criteria	Unit	Value	Source / Comment
General			
Life of mine	year	2031	MPMC (2021) Approximately 9 years starting on June 2022.
Nominal tailings production rate	t/day	20,000	MPMC (2021) Average annual tonnage is 7.3 Mt.
Life of mine tailings production	Mt	62.8	MPMC (2021) Includes tailings deposited since restart of operations in June 2022.
Dam consequence classification	-	High	Refer to Section 4.2.
Coordinate system	-	Tailings grid	MPMC
Units	-	Metric	-
Design earthquake event	AEP	1:2,475	Informed by Table 10-4 of the HSRC (MCM 2024a). Other criteria specified for High consequence dams include: ▪ 1:2,475 AEP (Table 3-3, CDA 2019; Table 3, GISTM 2020). Consistent with WSP's best practice, an earthquake event of 1:10,000 AEP will be used to assess sensitivity of the pseudo-static analyses.
Design earthquake peak ground acceleration	g	0.048	For an earthquake event of 1:2,475 AEP and based on site-specific seismic hazard assessment (WSP 2025c). 0.116g for earthquake event of 1:10,000 AEP.
Seismic coefficient for limit equilibrium pseudo-static analysis	-	0.5	Hynes-Griffin and Franklin (1984). 20% strength reduction applied to glaciolacustrine deposits as recommended by Hynes-Griffin and Franklin (1984) for clays.
Static (long term)	FoS	1.5	Informed by Table 10-5 of the HSRC (MCM 2024a) and Table 3-4 of CDA (2019).
Static (during or at end of construction)	FoS	1.5	Informed by Table 10-5 of the HSRC (MCM 2024a). FoS >1.3 recommended in Table 3-4 of CDA (2019).
Pseudo-static	FoS	1.0	Informed by Table 3-5 of CDA (2019) and Hynes-Griffin and Franklin (1984).

Table 7: Design Criteria

Criteria	Unit	Value	Source / Comment
Post-earthquake	FoS	1.2	Informed by Table 10-5 of the HSRC (MCM 2024a) and Table 3-5 of CDA (2019).
Embankment Details			
TSF construction method	-	Centreline	Adopted
Low hydraulic conductivity element	-	Compacted till	Adopted
Overall downstream slope no steeper than	-	2H:1V	Informed by the HSRC (MCM 2024a).
Embankment fill material	-	Non-acid generating	MPMC
Tailings Characteristics			
Solids content of tailings slurry discharged to TSF	%wt	Nominally ~35	Provided by MPMC.
Tailings solids specific gravity	-	2.7	Estimated based on laboratory testing.
Tailings average dry density after deposition	t/m^3	1.35	Estimated by WSP (based on topographic and bathymetric surveys of the TSF between 2022 and 2024). 1.36 t/m^3 by KP (2005).
Tailings beach slope	%	sub-aerial – 0.5% sub-aqueous – 2%	Estimated based on available topographic and bathymetric surveys since 2016.

TSF = tailings storage facility; FoS = factor of safety; AEP = annual exceedance probability.

6.1 Water Management Criteria

The Mount Polley Mine site has an annual net water surplus, and discharge from site (after treatment) is necessary to manage the mine site water and to prevent accumulation of water on the mine site year over year. Temporary detention of water on site will be necessary to manage large runoff volumes generated during freshet; however, the fundamental basis of the water management plan is to not accumulate water on site (including the TSF) by treating and discharging water and to not carry over water from year to year even under extreme wet conditions.

The majority of water inflows to the TSF are pumped and are therefore under control of the operator. These inflows are as follows:

- water discharged with the tailings slurry, at approximately 35% solids by weight
- during freshet and high flow events, surplus water from site will be temporarily detained primarily in Wight Pit and secondarily in the TSF

Catchment areas directly contributing to the TSF are provided in Figure 1 and Table 8. This catchment delineation is used as input to assess TSF freeboard requirements. Any ditch, berm, or road upstream of the biosolids that could divert flow from the quarry towards the TSF is anticipated to be decommissioned as part of the biosolids relocation process.

The water inflows to the TSF that are not pumped, and therefore not in the control of the operator, are as follows:

- precipitation on the direct footprint of the TSF
- runoff from the catchment directly above the west side of the TSF (TSF Upstream in Figure 1)

Outflows from the TSF consist of the following:

- reclaim water pumped to the mill, Wight Pit, or water treatment plant by means of a floating barge within the TSF pond
- seepage through the embankment and foundation, including flow through the upstream drains, to the seepage collection ponds
- evaporation losses from the TSF pond and wet tailings beaches
- water retained in the voids of newly placed tailings (note that this is not an outflow, but it is permanently retained water in the facility)

Deposition of the tailings will be planned in a manner that maintains the pond near the centre of the TSF and against the natural topography on the western perimeter.

Relevant parameters used as design criteria are summarized in Table 9.



Figure 1: TSF Catchment Areas

Table 8: TSF Catchment Areas

Catchment	Watershed Area (km^2)
TSF Upstream	0.5
TSF	2.5

Table 9: Design Criteria for Tailings Storage Facility Water Management

Criteria	Unit	Value	Source / Comment
TSF IDF	-	PMF	For conservatism and consistency with WSP's best practice, IDF volume will be estimated considering the governing PMF, determined to be the spring PMP rainfall plus snowmelt. Other criteria specified for High consequence dams include: ▪ 1/3 between 1-in-1,000-year and PMF (Table 10-4, MCM 2024a; Table 3-2, CDA 2019). ▪ 1-in-2,475-year return period recommended by GISTM (2020).
Maximum TSF extraction rate during IDF	m^3/d	100,000	Provided by MPMC. WSP (2025d)
Extraction start date during IDF	days	Day 4 after start of IDF	Adopted
Volume required to store TSF IDF	Mm^3	1.62	Maximum volume required to be stored for IDF durations from 24-hour to 30-days with maximum extraction pumping of 100,000 m^3/d starting on day 4 (WSP 2025d).
Normal freeboard	m	0.7	No overtopping by 95% of waves caused by the most critical wind with a frequency of 1:1,000-year with reservoir at maximum normal elevation (CDA 2013).
Minimal freeboard	m	0.7	No overtopping by 95% of waves caused by the most critical wind when the reservoir is at its maximum level during the IDF (CDA 2013).
Normal operating pond storage volume range	Mm^3	0.75 to 1.5	Minimum provided by MPMC for operation of the mill. Maximum adopted to maintain wide sub-aerial beaches and allow flexibility for mill operations, above the minimum operating pond volume.
Normal operating pond storage volume target prior to freshet	Mm^3	0.75	Lowest achievable volume for operation of the mill provided by MPMC.
Climate change consideration	-	Considered to be not significant during operations	Climate change considerations are not included for operational design, due to estimated mine life being completed in 2031.

IDF = inflow design flood; PMF = probable maximum flood; TSF = tailings storage facility; MPMC = Mount Polley Mining Corporation.

7.0 CLOSURE PHILOSOPHY

The closure philosophy will be consistent with the most recent Mine Reclamation and Closure Plan (*Mines Act* Permit M-200). The TSF will remain a permanent structure, which will be reclaimed and given productive land use. The final configuration of the TSF will include a small permanent pond and wetland area on the surface, with maximum 2H:1V embankment slopes and a spillway for pond water level control. The principal activities and areas for reclamation of the TSF will be as follows:

- removal of all infrastructure
- re-sloping and reclamation of embankments
- spillway construction to limit the pond volume to about 0.25 Mm^3
- reclamation of tailings surface (beach and pond)
- reclamation of till borrow pits, as required

8.0 CLOSURE

The reader is referred to the Study Limitations, which follows the text and forms an integral part of this memorandum.

We trust that this technical memorandum provides sufficient information for your present needs. Please do not hesitate to contact us if you require any further elaboration or clarification.

WSP Canada Inc.



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Permit #1000200

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STUDY LIMITATIONS

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ATTACHMENT 1

Dam Breach Assessment Letter

June 19, 2025 Reference No. 23590671-063-L-Rev2-51396

Matt O'Leary
Mount Polley Mining Corporation

DAM BREACH HIGH-LEVEL ASSESSMENT LETTER FOR TAILINGS STORAGE FACILITY RAISE ABOVE ELEVATION 970 M – MOUNT POLLEY MINE, BRITISH COLUMBIA

Dear Mr. O'Leary,

WSP Canada Inc. (WSP) was retained by Mount Polley Mining Corporation (MPMC) to carry out a sensitivity assessment of the elevation 987 m tailings storage facility (TSF) dam breach inundation area based on the results of the dam breach analysis conducted for the TSF with a crest elevation of 970 m (Golder 2017).

The results of the 2017 study showed that a hypothetical breach of the TSF with a crest elevation of 970 m would not extend beyond the Hazeltine Creek watershed and the Edney Creek watershed. The two watersheds are illustrated in Figure 1. The 2017 study also showed that the maximum inundation area from both the Main Embankment and South Embankment failures were 8.5 km^2 and 8.1 km^2, respectively.

The purpose of the assessment presented in Attachment 1 was to assess the sensitivity of the inundation area for a TSF raise to elevation 987 m. The 2017 model of the flood-induced overtopping failure at the Main Embankment and South Embankment was re-run with modifications to account for a facility raise to elevation 987 m, including extended modelling domain with updated topographic data, an increase of outflow volume, and reduced time to failure for sensitivity analysis. All other assumptions made in the 2017 study in terms of potential failure mechanism, breach parameters, material properties, and modelling methodology were maintained. The reader is directed to Attachment 1 for details on the analysis which forms an integral part of this document.

The following findings are drawn from this sensitivity assessment:

- The topographical features to the South of the TSF are up to 40 m higher than Edney Lake, and the topography to the North of the TSF has a similar elevation difference, which would discourage the inundation extending outside of the Hazeltine Creek watershed and the Edney Creek watershed.
- Under the assumptions provided in Section 3.0 of Attachment 1, and for both the South Embankment and Main Embankment hypothetical breach locations, it appears that the modelled inundation area for the TSF with a crest elevation of 987 m does not flow beyond the Hazeltine Creek watershed and the Edney Creek watershed. The inundation areas for both embankments do not exceed 20 km^2.
    - The inundation area for the South Embankment and Main Embankment are approximately 14.5 km^2 and 7.5 km^2, respectively.

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- For compressed hydrographs with higher discharge rates (sensitivity scenarios), the inundation areas do not flow beyond the Hazeltine Creek watershed and the Edney Creek watershed, and the inundation areas do not exceed 20 km^2.
  - Using a compressed hydrograph, the inundation area for South Embankment and Main Embankment are 16.8 km^2 and 9.4 km^2, respectively.
- A third scenario was considered for the Main Embankment in which the dam erodes to the foundation, as opposed to the buttress crest. The inundation area for this scenario is 11 km^2.

A full dam breach assessment using current guidelines (CDA 2021) would need to be carried out to refine these findings.

We trust that this document provides sufficient information for your present needs. Please do not hesitate to contact us if you require further elaboration or clarification.

WSP Canada Inc.

Evelyn Dina, EIT
Geotechnical Tailings Engineer-in-Training

Sophie Bainbridge, P.Eng.
Principal Geotechnical Engineer

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
K. D. J. D. VU
55014
2025-06-19

Jeremy Vu, P.Eng.
Water Resources Engineer

Germán Pizarro, P.Eng.
Principal Geotechnical Engineer

ED/SB/JV/JC/GP/ca/na/ah/tk/ar

WSP Canada Inc.
Engineers & Geoscientists BC
Permit #1000200

Attachments: Figure 1
Attachment 1: Analysis Details

https://wsponline.sharepoint.com/sites/gld-10023g/23590671 deliverables/002_issued/063-l-51396-dba letter/rev2/23590671-063-l-rev2-51396-dba letter 19jun_25.docx

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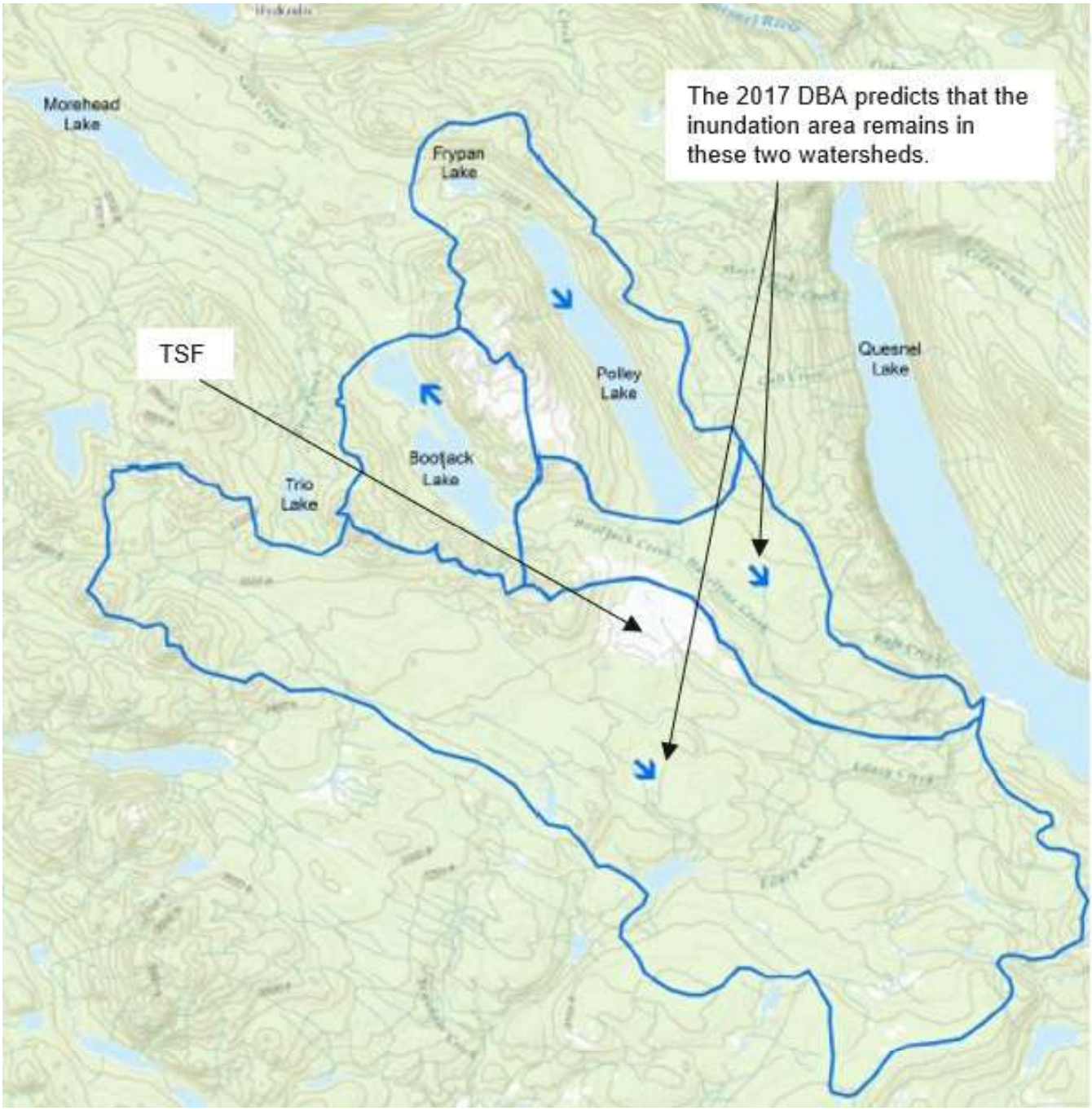


Figure 1: Watersheds in Mount Polley Region

ATTACHMENT 1

Analysis Details

1.0 SENSITIVITY ASSESSMENT METHODOLOGY

The methodology of this sensitivity assessment is summarized as follows:

- Updated topography was used which incorporates full site survey data from October 2019, provided by MPMC. In addition, the topographic model has been extended further South roughly 4 km to incorporate upper portions of the Edney Creek watershed.
- To capture the Southerly extended topography in the numerical model, the 2025 modelling domain was also enlarged. The 2025 modelling domain was used for the assessments at both the South Embankment and Main Embankment. The extents of the modelling domain are presented in Figure 1, with the dashed blue line representing the 2017 extents, and the solid red line representing the 2025 extents.

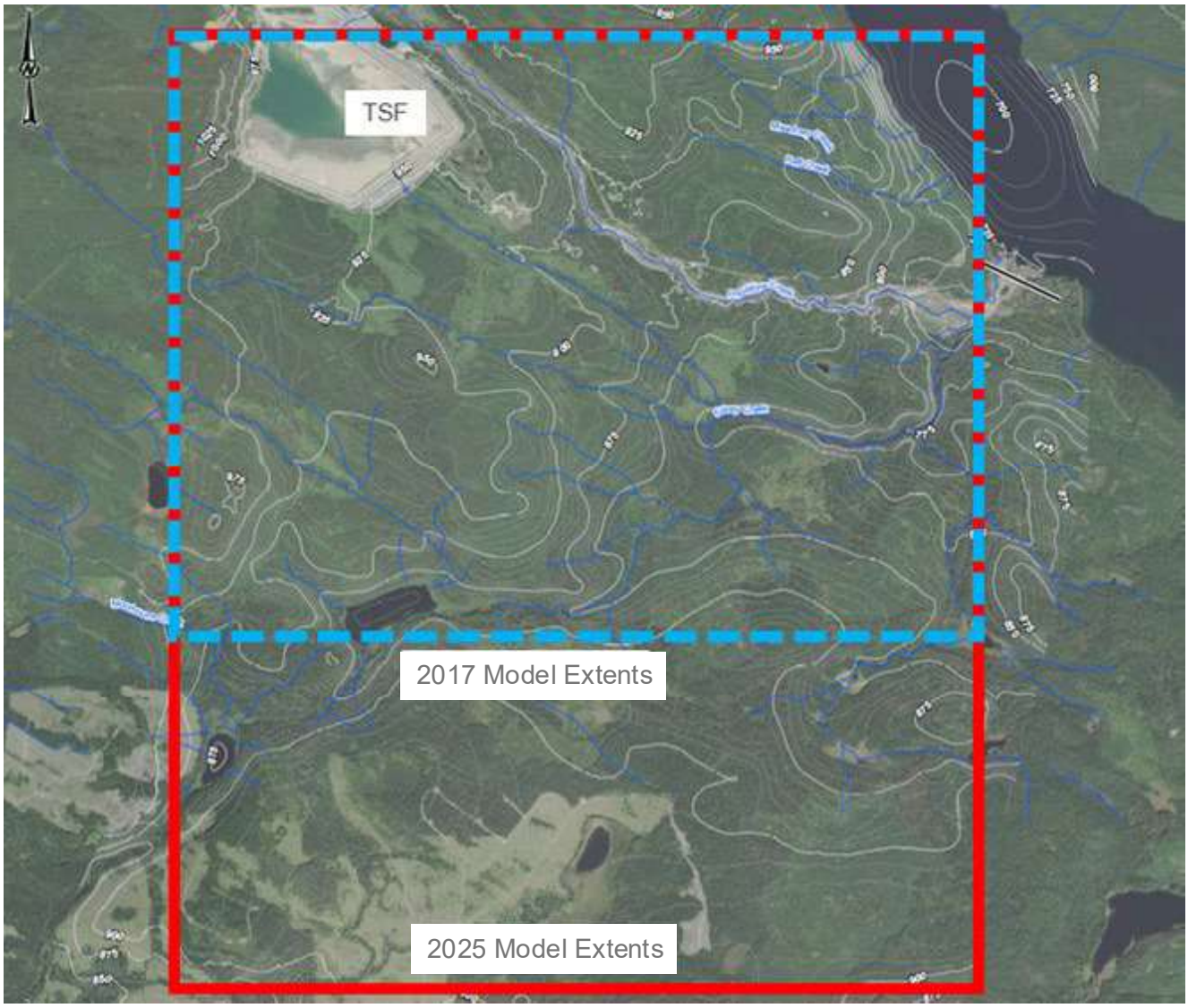


Figure 1: Numerical Model Domain Extents

- As a sensitivity assessment for the TSF raise to El. 987 m, the flood-induced overtopping failure scenarios occurring at the South Embankment and Main Embankment were re-run with updated hydrographs reflecting the higher storage capacity and using the 2017 inundation study assumptions (further discussed in Section 3.0). Based on the results in the 2017 dam breach assessment (DBA) study (Golder 2017), this failure scenario was identified as having the highest potential for a larger inundation area, and for the breach volume to flow outside of the general flood area for the El. 970 m TSF configuration.
- Similar to the 2017 study for the overtopping failure, the total outflow mixture consists of pond water and liquefied tailings. The estimated mobilized tailings volume assumed a failure surface that radiates outward from the breach location at an upward average angle of 3.5%. The breach geometry at embankment crest El. 970 m remains unchanged, and was extended upward to the raised embankment crest El. 987 m. Using this method, the estimated volume of released tailings is 25.1 million cubic metres (Mm^3) at the South Embankment and 30.1 Mm^3 at the Main Embankment. Given a pond water volume of 5.5 Mm^3 for the assumed overtopping scenario, the total breach outflow volume of mixture approximates 30.6 Mm^3, and 35.6 Mm^3 at the South and Main Embankments, respectively, and is treated as water flow in routing similar to the 2017 study.
  - Note: the breach volume for the Main Embankment considered for this analysis is less than the breach volume considered in the 2017 assessment. The previous 2017 assessment considered a breach extending from the crest to the ground elevation for conservatism. The current assessment considers a breach only down to El. 937m, which is the top elevation of the approximately 150 m wide main embankment rockfill buttress (Figure 2).

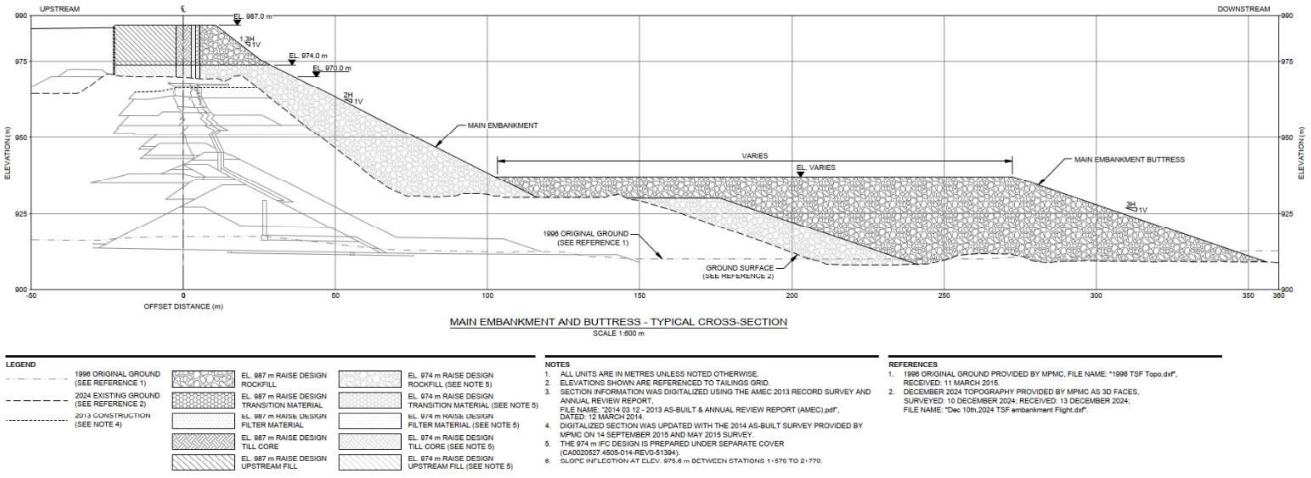


Figure 2: Main Embankment Cross-Section

- A second sensitivity scenario for the Main Embankment was considered in which the breach extends to the ground elevation. The breach volume for this scenario is 95.8 Mm^3.
- A dam breach hydrograph for flood-induced overtopping failure is typically developed associated with dam breach characteristics such as breach geometry, time of failure, breach volume. The hydrographs developed previously (Golder 2017) were scaled in the current modelling such that the total breach volume matches the updated breach volume, while keeping the same breach duration (i.e., the temporal scale was not changed). The South Embankment and Main Embankment breach hydrographs used for the analysis are presented in Figure 3 and Figure 4, respectively, with the 2017 DBA hydrograph (at TSF El. 970 m) for comparison.

- This approach implies a higher discharge, intended to partially capture the fast nature of collapse failure for the impounded tailings after the embankment downstream slope is steepened by surface erosion caused by overtopping and becomes unstable in a hypothetical event.
- A limitation of this approach is that it does not consider the effects of updated breach geometry and time of failure. Due to the increase in height of the TSF, the time of failure and breach geometry will change, resulting in a different hydrograph. It is possible that the breach occurs over a shorter period of time than the current assumption. A higher discharge rate can result in a greater inundation area. Due to the increased height of the TSF, the volumes of pond water and tailings are different from the 2017 study, which can lead to different mixture properties, outflow behavior and duration of flow.

- A second set of hydrographs were developed to assess the sensitivity of the model to the limitations of the adopted hydrograph. In the second hydrograph the updated breach volumes (30.6 Mm^3 and 35.6 Mm^3 for a South Embankment and Main Embankment Breach, respectively) are assumed to occur over half the period of time.
- A third hydrograph was developed for the Main Embankment breach for the scenario in which the breach extends to the existing ground elevation (breach volume of 95.8 Mm^3).

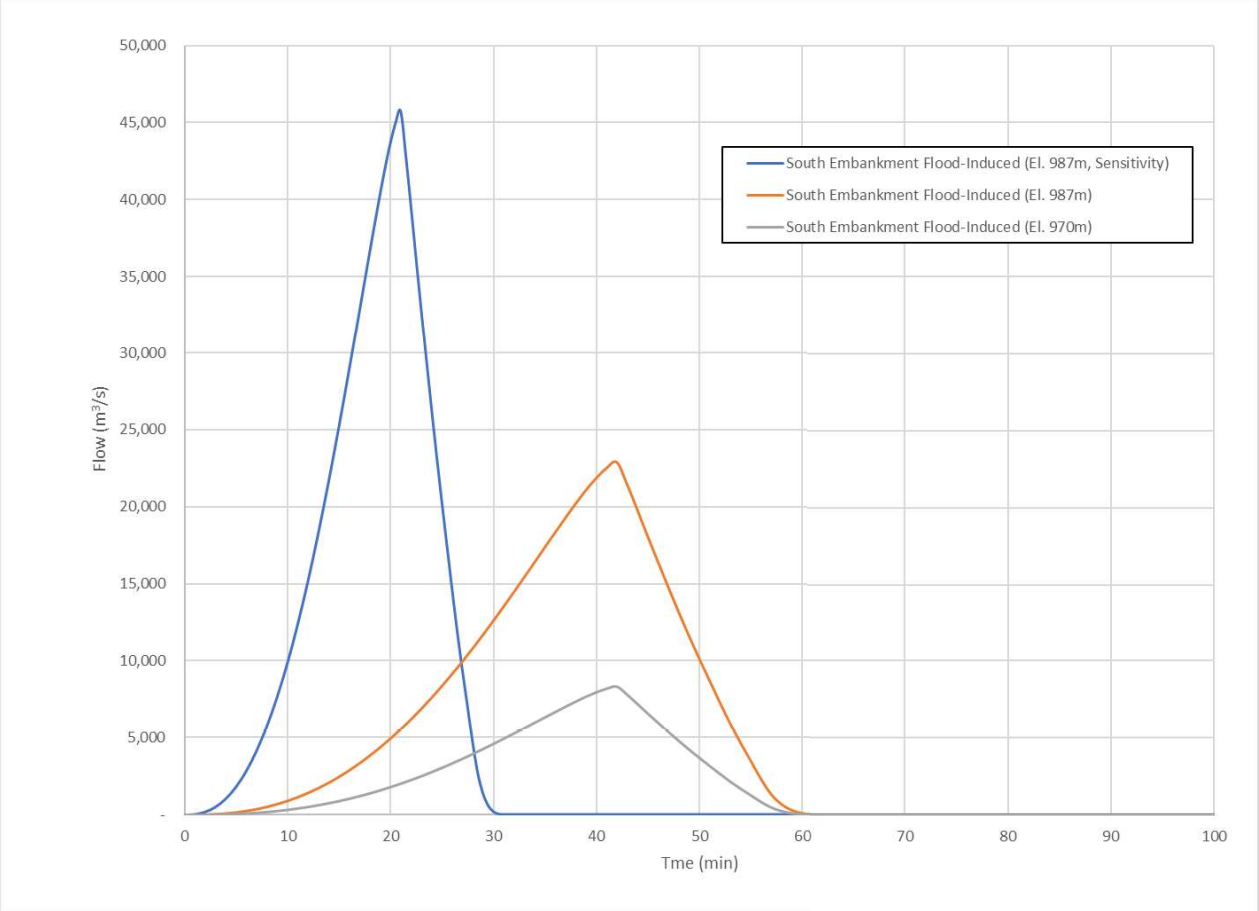


Figure 3: Hypothetical Breach Hydrographs – South Embankment

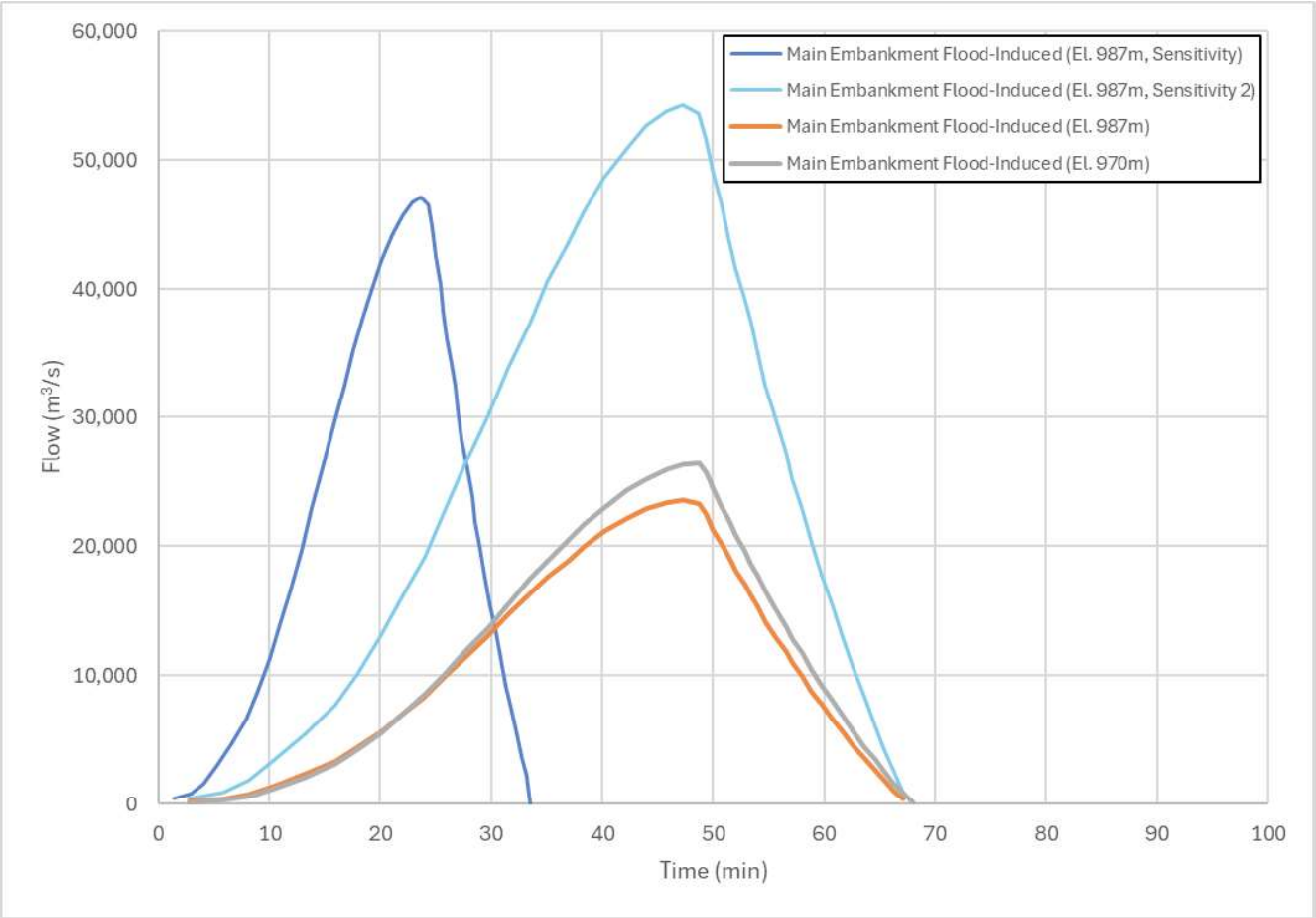


Figure 4: Hypothetical Breach Hydrographs – Main Embankment

2.0 MODELLING RESULTS

The modelling and flow routing was performed using the commercially available FLOW-3D software package (Flow Science 2019), as used in the 2017 inundation study.

The inundation extents and maximum flood depths for the South Embankment are presented in Figure 5, and they are similar to those observed in the previous study (Golder 2017. Figure A5). Due to the steep terrain South of Edney Lake, the inundation pools at the lake and does not travel further South. The total inundation area is approximately 14.5 square kilometres (km^2) and does not extend outside of the watersheds identified in the 2017 inundation study. For comparison, the inundation area of the flood-induced overtopping failure scenario occurring at the South Embankment observed in the 2017 study was approximately 8 km^2.

The inundation extents and maximum flood depths for the Main Embankment are presented in Figure 7, and they are similar to those observed in the previous study (Golder 2017. Figure A1). The inundation flows through Edney Creek and Hazeltine Creek, to Quesnel Lake and does not extend outside of the watersheds identified in the 2017 inundation study. The total inundation area is approximately 7.5 km^2, in comparison to the inundation area of 8.5 km^2 from the flood-induced overtopping failure scenario in the 2017 study. It is acknowledged that this is non-intuitive in that a higher embankment crest elevation would result in a lower inundation area – the reason is that the 2017 analysis considers the Main Embankment to erode to the foundation; however, the buttress for the elevation 987 m TSF is significantly larger and the embankment is considered to erode to the buttress crest elevation. This is further explained in Section 3.0 .

Table 10-3 in the HSRC (EMLI 2024) lists the potential area of impact for high consequence dams as 5 km^2 to 20 km^2. The inundation areas modelled for the South Embankment and Main Embankment are within this range for all scenarios. Both inundation areas also do not extend beyond the Edney Creek watershed and the Hazeltine Creek watershed.

2.1 Varying Breach Timing and Volume

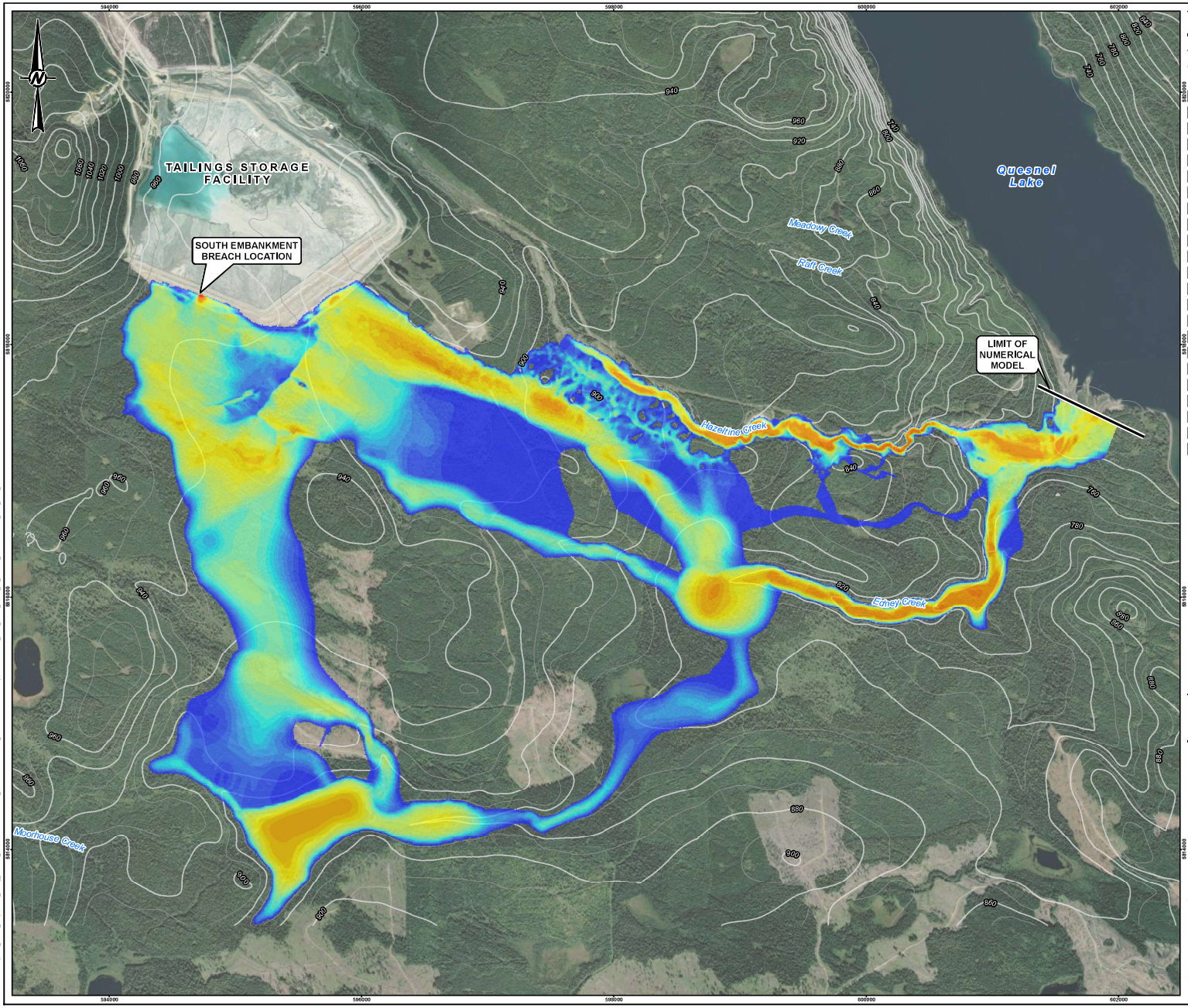
A sensitivity analysis was carried out assuming the hypothetical breach of the TSF with a crest elevation of 987 m occurs over half the duration (see Section 1.0 for further details). The inundation extents and maximum flow depths in this scenario are shown in Figure 6 and Figure 8 for the South Embankment and Main Embankment, respectively.

The inundation areas achieved from the sensitivity analysis are (see Section 2.0 for base case results):

- South Embankment: 16.8 km^2 (roughly 16% larger than the base case)
- Main Embankment: 9.4 km^2 (roughly 25% larger than the base case)

The sensitivity analysis results shows that discharge (rate of outflow) and outflow duration influence the inundation area, as expected. For both embankments, the calculated inundation areas from the reduced outflow durations still remain within the same two watersheds identified in the 2017 inundation study, and are both less than the HSRC potential area of impact criteria for a High Consequence facility (20 km^2).

A third sensitivity scenario for the Main Embankment was used to assess the potential consequence of the Main Embankment eroding to existing ground, as opposed to the buttress crest (further detailed in Section 1.0). This scenario considers a larger breach volume due to the increased breach height. The inundation extents and maximum flow depths for this scenario are presented in Figure 9. The inundation area in this scenario is 11 km^2.



LEGEND

- LIMIT OF NUMERICAL MODEL
- WATERCOURSE
- SURFACE TOPOGRAPHY CONTOUR (10m)

MAXIMUM DEPTH (m)

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- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- 1.00 - 1.25
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- 20.00 - 25.00
- 25.00 - 30.00
- > 30.00

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REFERENCE(S)

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2. SURFACE TOPOGRAPHY: MPMC (SURVEYED OCTOBER 2019), NATURAL RESOURCES CANADA.

COORDINATE SYSTEM: NAD 1983 UTM ZONE 10N

CLIENT

MOUNT POLLEY MINING CORPORATION

PROJECT

DAM BREACH ASSESSMENT LETTER FOR TAILINGS STORAGE FACILITY RAISE

TITLE

TSF SOUTH EMBANKMENT DAM BREACH (EL. 987 m)
FLOOD INDUCED FAILURE
MAXIMUM FLOOD DEPTH

CONSULTANT

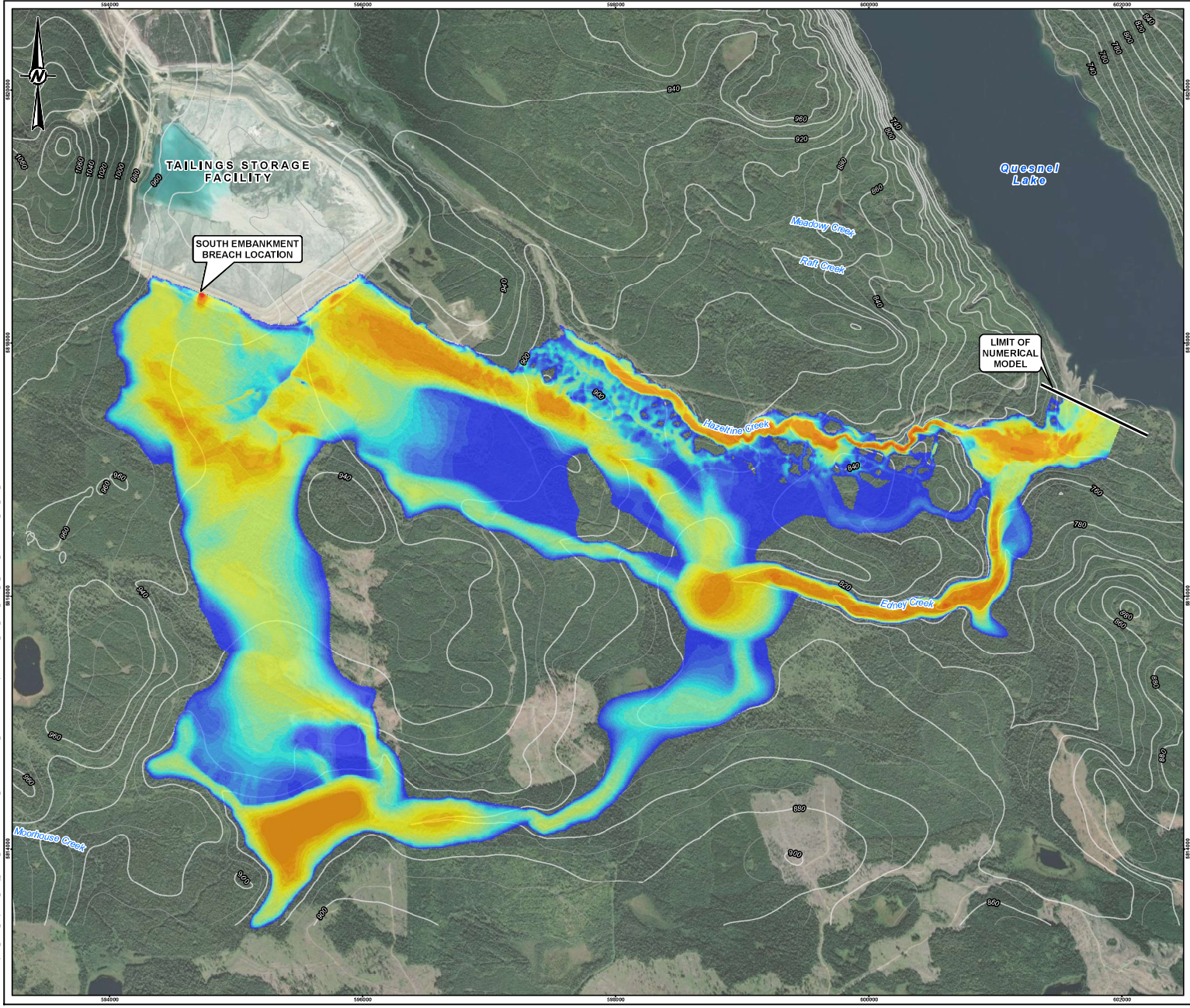
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DESIGNED	JV
PREPARED	CDB
REVIEWED	JV
APPROVED	GP

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LEGEND

- LIMIT OF NUMERICAL MODEL
- WATERCOURSE
- SURFACE TOPOGRAPHY CONTOUR (10m)

MAXIMUM DEPTH (m)

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2. SURFACE TOPOGRAPHY: MPMC (SURVEYED OCTOBER 2019), NATURAL RESOURCES CANADA.

COORDINATE SYSTEM: NAD 1983 UTM ZONE 10N

CLIENT
MOUNT POLLEY MINING CORPORATION

PROJECT
DAM BREACH ASSESSMENT LETTER FOR TAILINGS STORAGE FACILITY RAISE

TITLE
TSF SOUTH EMBANKMENT DAM BREACH (EL. 987 m, SENSITIVITY SCENARIO) FLOOD INDUCED FAILURE MAXIMUM FLOOD DEPTH

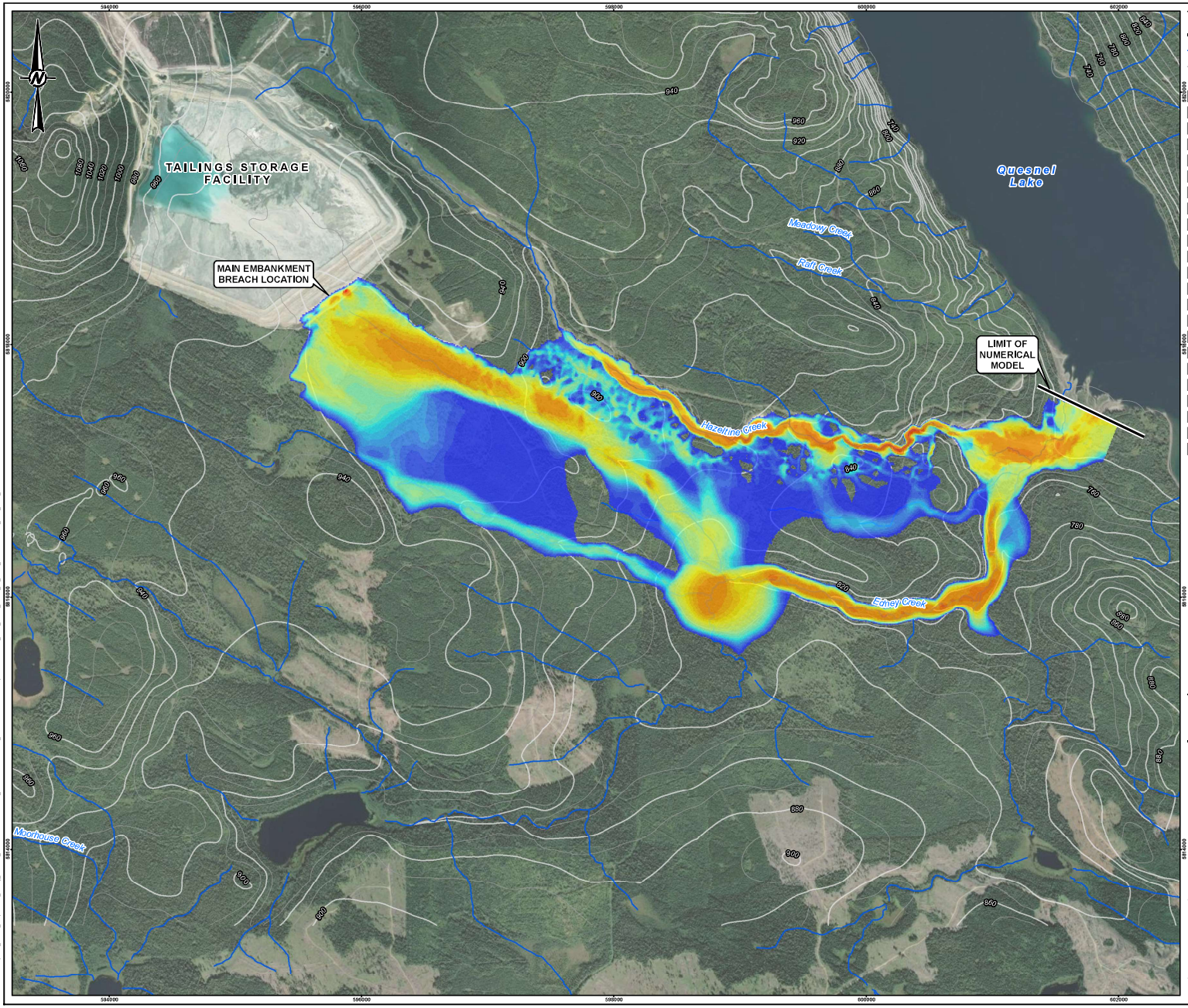
CONSULTANT
wsp

YYYY-MM-DD	2023-12-22
DESIGNED	JV
PREPARED	CDB
REVIEWED	JV
APPROVED	GP

PROJECT NO.	CONTROL	REV.	FIGURE
23590671	51300/51396	0	6

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

0 25mm



LEGEND

- LIMIT OF NUMERICAL MODEL
- WATERCOURSE
- SURFACE TOPOGRAPHY CONTOUR (10m)

MAXIMUM DEPTH (m)

- < 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- 1.00 - 1.25
- 1.25 - 1.50
- 1.50 - 1.75
- 1.75 - 2.00
- 2.00 - 2.50
- 2.50 - 3.00
- 3.00 - 3.50
- 3.50 - 4.00
- 4.00 - 5.00
- 5.00 - 6.00
- 6.00 - 7.00
- 7.00 - 8.00
- 8.00 - 9.00
- 9.00 - 10.00
- 10.00 - 15.00
- 15.00 - 20.00
- 20.00 - 25.00
- 25.00 - 30.00
- > 30.00

0 600 1,200

1:30,000 METRES

REFERENCE(S)

1. AERIAL IMAGERY: ESRI, MAXAR, VIVID, APRIL 2023.
2. SURFACE TOPOGRAPHY: MPMC (SURVEYED OCTOBER 2019), NATURAL RESOURCES CANADA.

COORDINATE SYSTEM: NAD 1983 UTM ZONE 10N

CLIENT

MOUNT POLLEY MINING CORPORATION

PROJECT

DAM BREACH ASSESSMENT LETTER FOR TAILINGS STORAGE FACILITY RAISE

TITLE

TSF MAIN EMBANKMENT DAM BREACH (EL. 987 m)
FLOOD INDUCED FAILURE
MAXIMUM FLOOD DEPTH

CONSULTANT

wsp

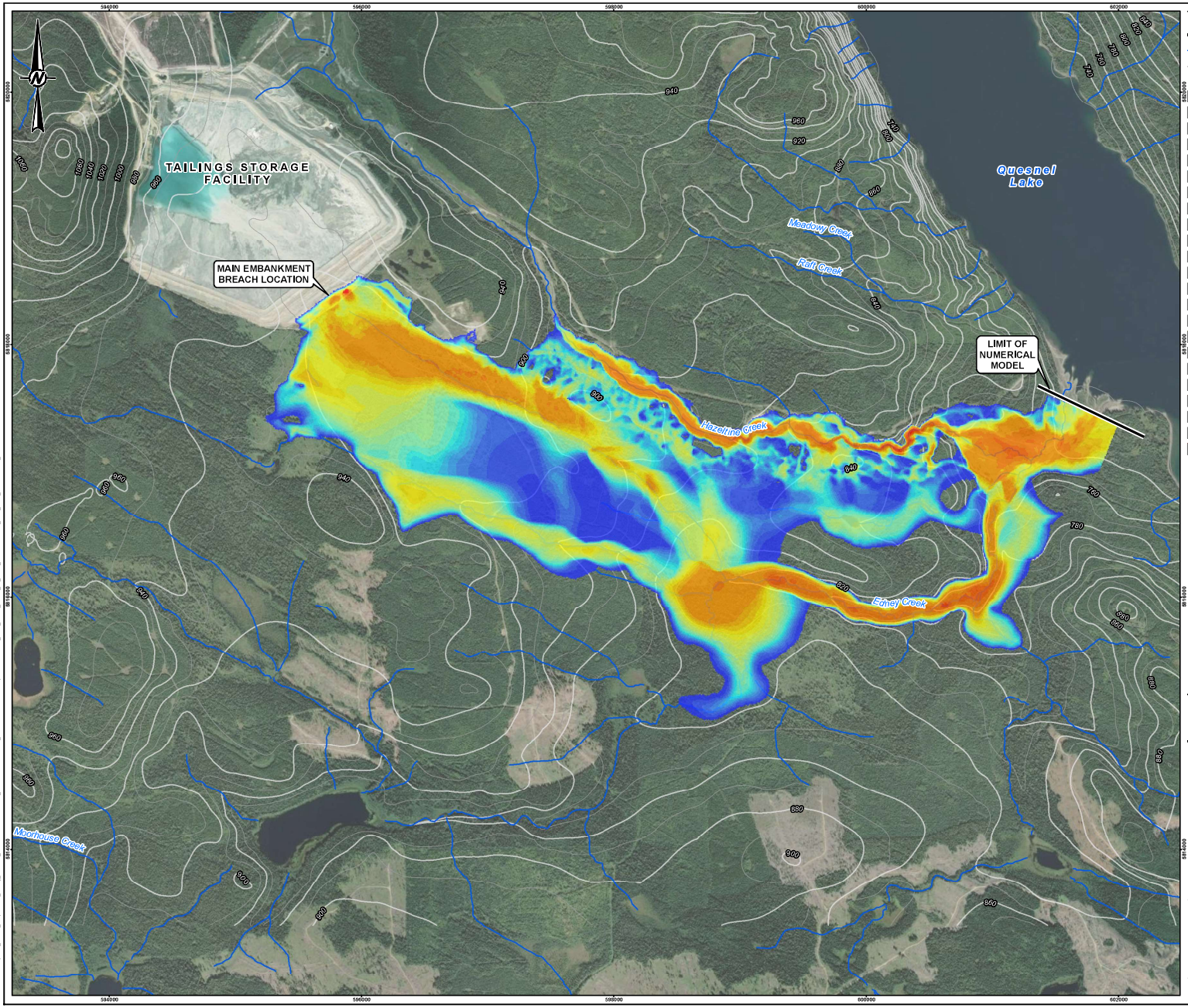
YYYY-MM-DD	2025-04-29
DESIGNED	ED
PREPARED	CDB
REVIEWED	JV
APPROVED	GP

PROJECT NO.	CONTROL	REV.	FIGURE
23590671	51300/51396	1	7

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

25mm

0



LEGEND

- LIMIT OF NUMERICAL MODEL
- WATERCOURSE
- SURFACE TOPOGRAPHY CONTOUR (10m)

MAXIMUM DEPTH (m)

- < 0.25
- 0.25 - 0.50
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- 25.00 - 30.00
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REFERENCE(S)

1. AERIAL IMAGERY: ESRI, MAXAR, VIVID, APRIL 2023.
2. SURFACE TOPOGRAPHY: MPMC (SURVEYED OCTOBER 2019), NATURAL RESOURCES CANADA.

COORDINATE SYSTEM: NAD 1983 UTM ZONE 10N

CLIENT

MOUNT POLLEY MINING CORPORATION

PROJECT

DAM BREACH ASSESSMENT LETTER FOR TAILINGS STORAGE FACILITY RAISE

TITLE

TSF MAIN EMBANKMENT DAM BREACH (EL. 987 m, SENSITIVITY SCENARIO 1)
FLOOD INDUCED FAILURE
MAXIMUM FLOOD DEPTH

CONSULTANT

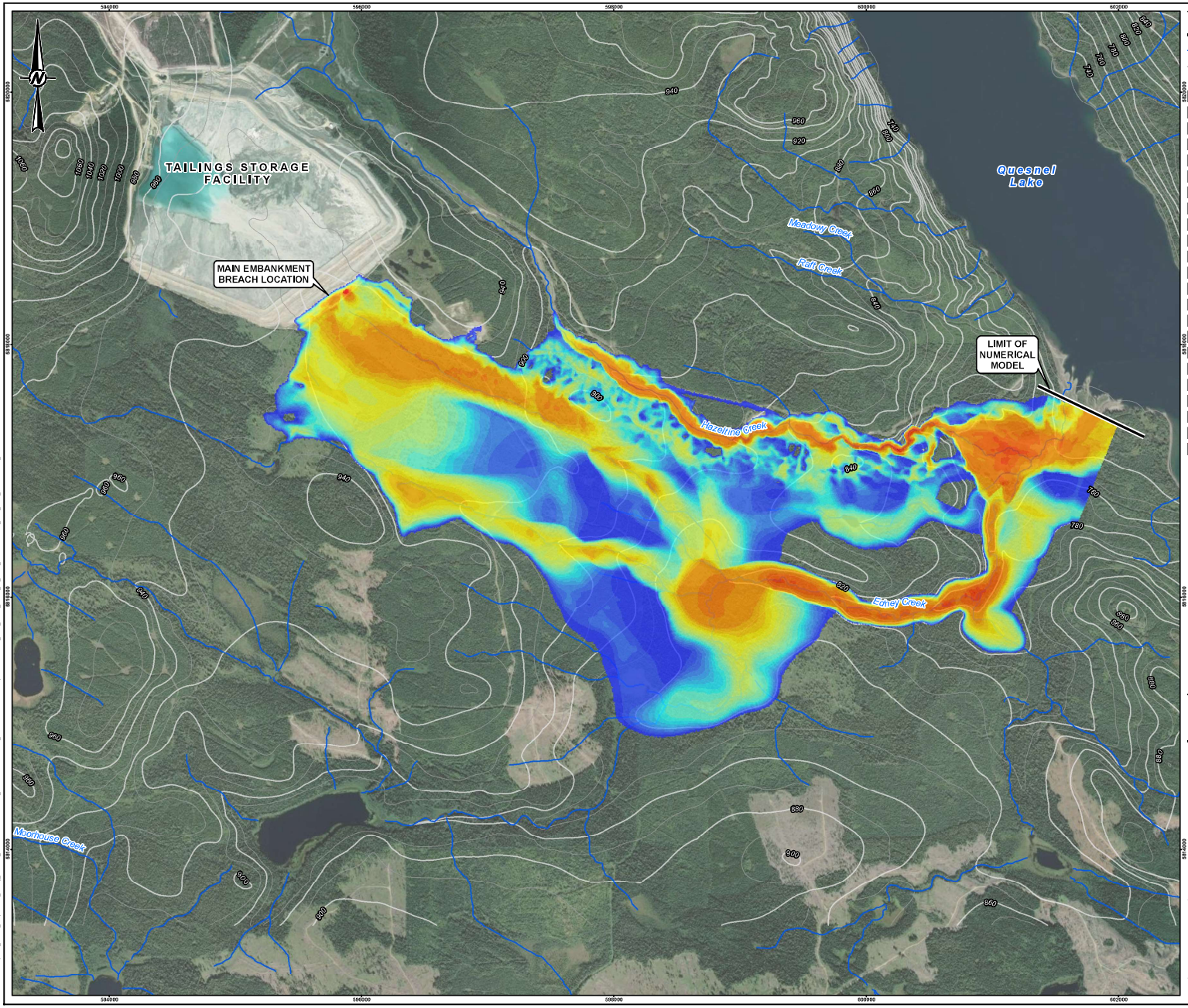
wsp

YYYY-MM-DD	2025-04-29
DESIGNED	ED
PREPARED	CDB
REVIEWED	JV
APPROVED	GP

PROJECT NO.	CONTROL	REV.	FIGURE
23590671	51300/51396	1	8

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

0 25mm



LEGEND

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- WATERCOURSE
- SURFACE TOPOGRAPHY CONTOUR (10m)

MAXIMUM DEPTH (m)

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- 7.00 - 8.00
- 8.00 - 9.00
- 9.00 - 10.00
- 10.00 - 15.00
- 15.00 - 20.00
- 20.00 - 25.00
- 25.00 - 30.00
- > 30.00

0 600 1,200

1:30,000 METRES

REFERENCE(S)

1. AERIAL IMAGERY: ESRI, MAXAR, VIVID, APRIL 2023.
2. SURFACE TOPOGRAPHY: MPMC (SURVEYED OCTOBER 2019), NATURAL RESOURCES CANADA.

COORDINATE SYSTEM: NAD 1983 UTM ZONE 10N

CLIENT

MOUNT POLLEY MINING CORPORATION

PROJECT

DAM BREACH ASSESSMENT LETTER FOR TAILINGS STORAGE FACILITY RAISE

TITLE

TSF MAIN EMBANKMENT DAM BREACH (EL. 987 m, SENSITIVITY SCENARIO 2)
FLOOD INDUCED FAILURE
MAXIMUM FLOOD DEPTH

CONSULTANT

wsp

YYYY-MM-DD	2025-04-29
DESIGNED	ED
PREPARED	CDB
REVIEWED	JV
APPROVED	GP

PROJECT NO.	CONTROL	REV.	FIGURE
23590671	51300/51396	1	9

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

0 25mm

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3.0 ASSUMPTIONS AND EXCLUSIONS

The assessment has the following assumptions, limitations and exclusions:

- A full dam breach assessment using current guidelines (CDA 2021) would need to be carried out to further refine the findings presented in this assessment.
- The 2017 inundation study (Golder 2017) assumptions in terms of potential failure mechanism, breach parameters, and modelling methodology are used. In addition, a number of assumptions have been made relating to the dam breach characterization (e.g., outflow volume, duration of flow) based on engineering judgement, and are discussed below.
- Only the flood-induced overtopping failure scenario was performed, excluding the collapse failure mode. This is based on the available results in the 2017 inundation study (Golder 2017):
  - the flood-induced overtopping failure at the South Embankment was identified as the failure scenario with the highest potential for the breach volume to flow outside of the general flood area for the El. 970 m TSF configuration,
  - the flood-induced overtopping failure at the Main Embankment was identified as the failure scenario with the largest potential inundation area, and
  - the sunny-day failure scenarios were identified as having less potential to flow outside the general flood areas determined in the 2017 inundation study and are therefore excluded from this assessment.
- For a flood-induced overtopping failure, the pond elevation is assumed to be at the final embankment crest elevation of 987 m, which is equivalent to an estimated pond water volume of 5.5 Mm^3.

REFERENCES

CDA (Canadian Dam Association). 2013. Original dated 2007, revised, 2013. Dam Safety Guidelines. Canadian Dam Association.

CDA. 2021. Technical Bulletin: Tailings Dam Breach Analysis. Canadian Dam Association.

EMLI (British Columbia Ministry of Energy, Mines and Low Carbon Innovation). 2024. Health, Safety and Reclamation Code for Mines in British Columbia. Victoria, BC. Revised April 2024.

Flow Science (Flow Science Inc.). 2019. FLOW-3D User Manual.

Golder (Golder Associates Ltd.). 2017. Mount Polley Tailings Storage Facility Dam Breach Analysis and Inundation Study. Prepared for Mount Polley Mining Corporation. Golder Doc. No. 1662612-169-R-Rev0-51134; October 13, 2017.

STUDY LIMITATIONS

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Dam breach assessment and inundation studies are based on hypothetical scenarios performed to inform dam consequence classification and/or as input to emergency plans that would be enacted in the occurrence of a dam breach event. A dam breach and inundation study does not constitute, nor imply a Dam Safety Review and specifically excludes detailed consideration of the likelihood of failure and/or probable failure modes. Rather, it assumes that a breach is initiated for considered credible failure modes based on historic dam failures and assumed site conditions.

The dam breach scenarios simulated in this study and presented in this document are hypothetical and are not a reflection of the integrity of the current Mount Polley Dam.

APPENDIX D

Design Summary Document

Components	Description	Source
General Site Information		
Mine location	56 km northeast of Williams Lake, British Columbia.	WSP (2025a)
TSF location	52°30'49" N; 121°35'56" W (latitude, longitude) 5,819,100 N; 595,085 E (UTM).	WSP (2025a)
Regional topography	Flat and gently rolling topography.	WSP (2025a)
TSF topography	Generally flat with a gently sloping hill along the western perimeter.	WSP (2025a)
Climate & physiography	Fraser Plateau physiographic subdivision, approximately 10 km west of its boundary with the Quesnel Highland subdivision. Characterized by rolling uplands, thick glacial drift and basaltic lava bedrock. Climate is seasonal, with winter months characterized by snow and sub-zero temperatures between approximately November through March and variable precipitation with warmer temperatures April through October.	WSP Golder (2022), WSP (2025a)
Key communities & First Nations	Community of Likely, Williams Lake First Nation and Xatśūll First Nation (members of the Secwepemc Nation)	-
Regulatory & permitting	Mount Polley Mine has been operational since 1997 – Mines Act Permit M-200; Section 10 of the Mines Act R.S.B.C. 1996 c. 293.	BC MEMLCI (2025)
Environment	Interior Cedar-Hemlock biogeoclimatic zone and Horsefly Moist Cool subzone. Dominated by hyprid Engelmann-white spruce and subalpine fir trees. Wetlands are abundant, dotting the landscape in poorly drained areas. There are species at risk and critical habitat present in the region. Aquatic species include Coho Salmon and Sockeye Salmon, terrestrial listed species include Western Toad and Woodland Caribou.	BC FLNRO (2021), WSP (2025b)
Mine and Tailings Storage Facility Plan		
Nominal tailings production rate	20,000 t/d (7.3 Mt approximate annual tonnage).	MPMC (2021)
Tailings stored	Approximately 104 Mt (calculated as of Q1 2025).	Approximated from deposition model
Ultimate stored tonnage	Approximately 152 Mt.	Approximated from deposition model and remaining LoM tailings production
Ore process	Milling and flotation producing concentrates.	MPMC
TSF footprint area	Ultimate TSF footprint: 3.7 km^2.	WSP (2025c)

Components	Description	Source
Design Criteria Basis		
Dam consequence classification	High	WSP (2025b)
Seismic	Design earthquake event: 1:2,475 Annual Exceedance Probability (AEP). Peak ground acceleration for 1:2,475 AEP event = 0.048g.	WSP (2025b), WSP (2025c)
Flood	Volume required to store inflow design flood (IDF): 1.62 Mm^3. (10-day spring PMP plus 1:100-year snowmelt event with maximum extraction pumping of 100,000 m^3/d starting on day 4).	WSP (2025b), WSP (2025d)
Environmental design flood	Not applicable – TSF is a non-release facility with no emergency spillway (designed to retain the IDF).	WSP (2025c), WSP (2025d)
Estimated allowable seepage rate	No criteria for maximum allowable seepage rate. Quantitative performance objectives (QPOs) set for drain flow and turbidity.	WSP (2025f)
Design – Geotechnical		
Dam geometry	Centerline dam with minimum 2H:1V overall downstream slope. 5.0 km long embankment subdivided into three sections (Main, Perimeter, and South embankments). Approximate maximum dam height: 75 m (Main Embankment), 57 m (Perimeter Embankment), 49 m (South Embankment). Crest elevation 987 m.	WSP (2025c)
Dam section	General zoning of earthfill embankment: upstream fill comprising tailings sand and select fill, low permeability till core, filter zone, transition zone, rockfill.	WSP (2025c)
Static factor of safety	1.5 (long term).	CDA (2019), MCM (2024), WSP (2025b), WSP (2025c)
	1.5 (during or at end of construction).	
Pseudo-static factor of safety	1.0	
Post seismic factor of safety	1.2	

Components	Description	Source
Minimum deformation	Deformation criteria for the TSF is to retain the integrity of the till core and not lose freeboard during construction and the design seismic event (1:2,475-year). Vertical deformations resulting from consolidation/settlement of embankment fill materials and foundation are anticipated to be minor and distributed uniformly along the embankment. Stress-deformation analysis undertaken for the facility at an elevation of 987 m show a shear band about 3 m long with a maximum plastic shear strain of about 16% is predicted to develop below the downstream slope of the Perimeter Embankment at Corner 1 at Section 4+175 by the end of construction. However, the predicted degree of strain-weakening is relatively low and does not have a significant impact on the stability of the embankment. Seismic stress-deformation analysis shows maximum permanent horizontal and vertical deformations of less than 6 cm in the embankment and buttress, which are finite and do not impact the integrity of the till core or materially change freeboard requirements. At Section 4+175 of the Perimeter Embankment at Corner 1, a relatively low level of strain-weakening (less than 1% strength reduction during seismic loading) is predicted in the UGLU under the downstream slope during the 2,475-year earthquake ground motion. This degree of weakening is not expected to have a significant impact on the seismic stability of the embankment.	WSP (2025c)
Controlling potential failure modes	Instability due to foundation failure – controls: Foundation is well understood; six geotechnical investigations carried out after the breach; GLU undrained response and strain weakening considered in the design. Design includes a minimum 2H:1V overall downstream slope and wide buttresses along the South, Perimeter, and Main embankments. The design criteria FoS's for limit equilibrium stability are met for all embankments. Instrumentation is installed to monitor foundation response. Slope inclinometers installed near the toe of the starter dam along the embankments have been retrofitted with shape acceleration arrays. QPOs are set for pore pressure response and movement in the foundation. Internal erosion (piping) – controls: Construction of upstream drains near elevation 970 m to limit the hydraulic head against the embankments. Wide tailings beaches maintained upstream of the embankments and limiting pond size in the TSF. Monitoring of toe drain flow and turbidity. Monitoring of piezometric levels within embankments (upstream, till core, filters). Overtopping – controls: Facility is designed to store the IDF (10-day spring PMP plus 1:100-year snowmelt event with maximum extraction pumping of 100,000 m^3/d starting on day 4). Water pumped to the TSF can be controlled by shutting off pumps; ability exists to pump and store water on-site using open pit storage. QPOs in place to monitor freeboard; OMS in place.	WSP (2025c)

<table>
<tr><th>Components</th><th>Description</th><th>Source</th></tr>
<tr><td>Drainage and filter controls</td><td>Embankment includes 1.5 m wide filter and transition zones downstream of the till core. Filter blanket installed on the till foundation downstream of the till core/starter dam.

Water is drained from the tailings upstream of the embankment through upstream drains installed within the tailings beach upstream of the till core. Seepage through the embankment is collected by seepage collection ditches buried under the embankment rockfill shell and discharge the seepage into seepage collection ponds.</td><td>WSP (2025c)</td></tr>
<tr><td>Dam, tailings, & foundation strength parameters</td><td>
<table>
<tr><th colspan="3">Embankment Material Properties</th></tr>
<tr><th>Material</th><th>Unit Weight (kN/m^3)</th><th>Shear Strength</th></tr>
<tr><td>Upstream fill</td><td>20</td><td>φ’ = 32°
c = 0 kPa</td></tr>
<tr><td>Till core</td><td>20.5</td><td>φ’ = 33°
c = 0 kPa</td></tr>
<tr><td>Filter and cut-off wall aggregate</td><td>20</td><td>φ’ = 30°
c = 0 kPa</td></tr>
<tr><td>Transition</td><td>20</td><td rowspan="2">$\tau = 1.726\sigma_n'^{0.899}$</td></tr>
<tr><td>Rockfill</td><td>21.5</td></tr>
<tr><td>Tailings</td><td>17</td><td>Drained:
φ’ = 25°
c = 0 kPa

Undrained:
τ/σ_v' = 0.1</td></tr>
</table>
</td><td>WSP (2025a), WSP (2025c)</td></tr>
</table>

<table>
<tr><th>Components</th><th>Description</th><th>Source</th></tr>
<tr><td></td><td>
<table>
<tr><th colspan="4">Foundation Material Parameters</th></tr>
<tr><th>Material</th><th>Unit Weight (kN/m^3)</th><th>Shear Strength</th><th>Pore Pressure Coefficient B-bar</th></tr>
<tr><td>Foundation till</td><td>22</td><td>φ’ = 34°
c = 0 kPa</td><td>0.20</td></tr>
<tr><td>Glaciofluvial</td><td>22</td><td>φ’ = 34°
c = 0 kPa</td><td>0.20</td></tr>
<tr><td>UGLU
(Perimeter Embankment at Corner 1)</td><td>18</td><td>Peak:
$\tau = 0.22\,\sigma_v'OCR^{0.71}$
σ_p' = 400 kPa

Remoulded:
S_{ur} = 22 kPa</td><td>0.46</td></tr>
<tr><td>LGLU
(Perimeter Embankment at Corner 1)</td><td>20</td><td>$\tau = 0.22\,\sigma_v'OCR^{0.71}$
σ_p' = 700 kPa</td><td>0.20</td></tr>
<tr><td>GLU
(Perimeter Embankment)</td><td>20</td><td>$\tau = 0.22\,\sigma_v'OCR^{0.71}$
σ_p' = 900 kPa</td><td>0.20</td></tr>
<tr><td rowspan="2">GLU
(Main Embankment)</td><td rowspan="2">20</td><td>$\tau = 0.22\,\sigma_v'OCR^{0.71}$
σ_p' = 1,200 kPa</td><td rowspan="2">0.20</td></tr>
<tr><td>$\tau = 0.22\,\sigma_v'OCR^{0.71}$
σ_p' = 850 kPa

(GLU at approx. elev. 922 m at Stn. 2+455 and Stn. 2+695)</td></tr>
<tr><td>Low plasticity silty clay
(South Embankment)</td><td>20</td><td>$\tau = 0.22\,\sigma_v'OCR^{0.71}$
σ_p' = 1,200 kPa</td><td>0.20</td></tr>
</table>
</td><td></td></tr>
</table>

Components	Description	Source
Design – Water		
Annual water balance	The TSF is designed to provide temporary retention of site water to manage large runoff volumes generated during spring freshet or precipitation events. However, the pond volume is to be maintained within the normal operating pond volume criteria as outlined in the QPOs.	WSP (2025f)
Normal operating water pond volume	0.75 to 1.5 Mm^3. 0.75 Mm^3 prior to freshet.	WSP (2025b)
Projected pond volume during temporary retention of freshet flows	During freshet, at the 99.5th percentile, the TSF pond is estimated to reach a peak volume of 2.15 Mm^3.	WSP (2025g)
TSF catchment area	Total upstream catchment – 0.5 km^2. TSF catchment – 2.5 km^2. Total catchment – 3.0 km^2.	WSP (2025b), WSP (2025d)
Flood design	Required storage capacity to retain the IDF volume: 1.62 Mm^3. (10-day spring PMP rainfall plus 1:100-year snowmelt event and assumes water extraction starts on day 4 at a daily rate of 100,000 m^3/d).	WSP (2025c), WSP (2025d)
Spillway design	Not applicable.	WSP (2025c)
Freeboard	Normal freeboard (as defined in CDA) = 0.7 m. Minimum freeboard (as defined in CDA) = 0.7 m.	WSP (2025d)
Quantifiable Performance Objectives		
General statement	The existing TSF instrumentation monitoring system will be retained for the raise to elevation 987 m. The QPOs are reviewed and updated regularly to reflect changes in operation and conditions. The existing QPOs for the facility provided in this section are presented in WSP (2025e,f).	-
Water freeboard	Control to prevent overtopping of the embankment (to store IDF plus minimum freeboard). Normal operating zone > 2.0 m.	WSP (2025e)
Normal operating beach width	Follows best practices to mitigate risk and does not constitute a dam safety issue in itself. Normal operating zone > 100 m.	WSP (2025f)
Pond volume	Normal operating zone: < 0.75 Mm^3 (prior to freshet). < 1.5 Mm^3 (after period required to temporarily detain large freshet events).	WSP (2025e)

Components	Description	Source
Downstream displacement (SAAs installed in the foundation)	Control that monitors potential instability through the foundation of the embankment Normal operating zone < 1 mm.	WSP (2025f)
Downstream displacement (SAAs installed in the cut-off wall)	Control that monitors potential instability through the cut-off wall Normal operating zone < 3 mm.	WSP (2025f)
Downstream displacement (Slope inclinometers)	Control that monitors potential instability through the foundation of the embankment Normal operating zone < 5 mm.	WSP (2025f)
Pore Pressures (VWPs installed in the foundation downstream of the till core and cut-off wall)	VWPs installed in areas away from ongoing embankment reslope or buttress construction. Normal operating zone: Pressure increase or decrease < 1.0 m in any unit. VWPs installed in areas with ongoing construction. Normal operating zone: Pressure increases in GLU at Corner 1 < 1.1 times thickness of rockfill placed in area. Pressure increases in any other unit < 0.5 times thickness of rockfill placed in area.	WSP (2025f)
Seepage turbidity	Control that indirectly monitors internal erosion of the embankment. Normal operating zone: Turbidity < 2.0 NTU.	WSP (2025f)
Seepage rate	Control that indirectly monitors the integrity of the cut-off wall and internal erosion above elevation 950 m at Corner 1. Normal operating zone < 2.0 L/s.	WSP (2025f)
Tailings Characterization		
Discharge/placement % solids by weight	Approximately 35%wt solids content of tailings slurry.	MPMC
Specific gravity	2.7	WSP (2025b)
In situ dry density	Average after deposition: 1.35 t/m^3.	WSP (2025b)
ICOLD tailings type classification	Hard Rock tailings.	ICOLD (2022)

<table>
<tr><th>Components</th><th>Description</th><th>Source</th></tr>
<tr><td>Tailings discharge gradation</td><td>Slurry gradation: 31%-38% sand (<4.75 mm); 62%-69% fines (<0.075 mm).</td><td>WSP (2025c)</td></tr>
<tr><td>Plasticity</td><td>Non-plastic.</td><td>WSP (2025c)</td></tr>
<tr><td>Beach slopes</td><td>Approximately 0.5% sub-aerial and 2% sub-aqueous.</td><td>WSP (2025b)</td></tr>
<tr><td>% sulphide</td><td>0.16% sulphur.</td><td>MPMC (Springer Pit tailings)</td></tr>
<tr><td>Neutralization potential ratio</td><td>Classified as non-acid generating.</td><td>MPMC</td></tr>
<tr><td>Neutral metal leaching potential</td><td>Classified as non-metal leaching.</td><td>MPMC</td></tr>
<tr><td>Constituents of potential concern (COPC)</td><td>Copper and selenium.</td><td>Kennedy and Anglin (2016)</td></tr>
<tr><th colspan="3">Climate</th></tr>
<tr><td>Monthly average precipitation distribution</td><td>
<table>
<tr><th rowspan="2">Month</th><th colspan="5">Precipitation (mm)</th></tr>
<tr><th>Average</th><th>1:200 Year Wet</th><th>1:25 Year Wet</th><th>1:25 Year Dry</th><th>1:200 Year Dry</th></tr>
<tr><td>January</td><td>49.4</td><td>74.3</td><td>66.5</td><td>33.2</td><td>28.2</td></tr>
<tr><td>February</td><td>35.8</td><td>54.0</td><td>48.3</td><td>24.1</td><td>20.5</td></tr>
<tr><td>March</td><td>29.7</td><td>44.7</td><td>40.0</td><td>20.0</td><td>16.9</td></tr>
<tr><td>April</td><td>44.7</td><td>67.3</td><td>60.2</td><td>30.1</td><td>25.5</td></tr>
<tr><td>May</td><td>49.9</td><td>75.2</td><td>67.2</td><td>33.6</td><td>28.5</td></tr>
<tr><td>June</td><td>70.8</td><td>107</td><td>95.4</td><td>47.7</td><td>40.4</td></tr>
<tr><td>July</td><td>63.6</td><td>95.8</td><td>85.7</td><td>42.9</td><td>36.3</td></tr>
<tr><td>August</td><td>50.6</td><td>76.2</td><td>68.1</td><td>34.1</td><td>28.8</td></tr>
<tr><td>September</td><td>52.3</td><td>78.8</td><td>70.5</td><td>35.2</td><td>29.9</td></tr>
<tr><td>October</td><td>58.1</td><td>87.5</td><td>78.2</td><td>39.1</td><td>33.1</td></tr>
<tr><td>November</td><td>49.8</td><td>75.0</td><td>67.1</td><td>33.5</td><td>28.4</td></tr>
<tr><td>December</td><td>57.6</td><td>86.8</td><td>77.7</td><td>38.8</td><td>32.9</td></tr>
<tr><td>Annual Total</td><td>612</td><td>922</td><td>825</td><td>412</td><td>349</td></tr>
</table>
</td><td>WSP Golder (2022)</td></tr>
</table>

<table>
<tr><th>Components</th><th>Description</th><th>Source</th></tr>
<tr><td>Monthly average evaporation distribution</td><td>
<table>
<tr><th rowspan="2">Month</th><th colspan="3">Shallow Lake Evaporation (mm)</th></tr>
<tr><th>Minimum</th><th>Mean</th><th>Maximum</th></tr>
<tr><td>January</td><td>0</td><td>1</td><td>4</td></tr>
<tr><td>February</td><td>1</td><td>7</td><td>12</td></tr>
<tr><td>March</td><td>24</td><td>32</td><td>43</td></tr>
<tr><td>April</td><td>52</td><td>66</td><td>79</td></tr>
<tr><td>May</td><td>86</td><td>105</td><td>140</td></tr>
<tr><td>June</td><td>95</td><td>122</td><td>155</td></tr>
<tr><td>July</td><td>110</td><td>138</td><td>173</td></tr>
<tr><td>August</td><td>80</td><td>115</td><td>137</td></tr>
<tr><td>September</td><td>37</td><td>61</td><td>80</td></tr>
<tr><td>October</td><td>18</td><td>22</td><td>28</td></tr>
<tr><td>November</td><td>0</td><td>4</td><td>8</td></tr>
<tr><td>December</td><td>0</td><td>0</td><td>3</td></tr>
<tr><td>Annual</td><td>606</td><td>673</td><td>762</td></tr>
</table>
Note: The monthly values represent maximums from different years, so their sum exceeds the actual annual maximum, which reflects the highest total from a single year.
</td><td>WSP Golder (2022)</td></tr>
<tr><td>Rainfall events (<1,000-year return period)</td><td>
<table>
<tr><th>Return Period (yr)</th><th>24-hour Event Depth (mm)</th></tr>
<tr><td>2</td><td>33</td></tr>
<tr><td>10</td><td>47</td></tr>
<tr><td>25</td><td>54</td></tr>
<tr><td>100</td><td>64</td></tr>
<tr><td>200</td><td>69</td></tr>
<tr><td>1,000</td><td>80</td></tr>
</table>
Note: Data from 1974 to 2021.
</td><td>WSP Golder (2022)</td></tr>
</table>

<table>
<tr><th>Components</th><th>Description</th><th>Source</th></tr>
<tr><td>PMF
(PMP & Snowmelt)</td><td>
<table>
<tr><th>Duration (days)</th><th>Spring PMP (mm) – Adjusted for Climate Day</th><th>1:100-year April Temperature (°C)</th><th>Snowmelt using 1:100-yr April Temperature (mm)</th><th>Spring PMP plus 1:100-year Snowmelt (mm)</th></tr>
<tr><td>1</td><td>192</td><td>16.3</td><td>87</td><td>279</td></tr>
<tr><td>2</td><td>259</td><td>15.9</td><td>144</td><td>402</td></tr>
<tr><td>3</td><td>272</td><td>15.1</td><td>184</td><td>456</td></tr>
<tr><td>4</td><td>287</td><td>14.6</td><td>222</td><td>509</td></tr>
<tr><td>5</td><td>289</td><td>14.8</td><td>269</td><td>558</td></tr>
<tr><td>6</td><td>303</td><td>14.3</td><td>306</td><td>609</td></tr>
<tr><td>7</td><td>323</td><td>14.2</td><td>349</td><td>672</td></tr>
<tr><td>8</td><td>361</td><td>13.6</td><td>381</td><td>742</td></tr>
<tr><td>9</td><td>378</td><td>12.6</td><td>394</td><td>772</td></tr>
<tr><td>10</td><td>412</td><td>12.2</td><td>421</td><td>833</td></tr>
<tr><td>15</td><td>462</td><td>10.6</td><td>428</td><td>889</td></tr>
<tr><td>20</td><td>552</td><td>9.9</td><td>428</td><td>980</td></tr>
<tr><td>30</td><td>665</td><td>8.7</td><td>428</td><td>1,093</td></tr>
</table>
Note: Snowmelt is limited to 1:100-year snowpack in April that was derived from frequency analysis of snowpack data for the months of March and April from 1998 to 2021.
</td><td>WSP (2025d)</td></tr>
<tr><td colspan="3">Earth Sciences</td></tr>
<tr><td>Geohazards</td><td>Due to the gently sloping topography in the area around the TSF (<30 degrees), there is no or low risk of slope instability, snow avalanche, or rockfall. Hazeltine Creek is more than 100 m from the toe of the TSF and risk of erosion at the toe is not applicable.</td><td>WSP (2025c)</td></tr>
<tr><td>Seismic hazard assessment</td><td>Peak ground acceleration for 1:2,475 AEP = 0.048 g.
Peak ground acceleration for 1:10,000 AEP = 0.116 g.</td><td>WSP (2025a)</td></tr>
<tr><td>Surficial and bedrock geology</td><td>Quaternary glacial sediments overlain by fill and anthropogenic deposits.
Foundation units: ablation till, basal till, glaciofluvial and glaciolacustrine sub-units, and bedrock.
Bedrock is weathered volcaniclastic conglomerate, volcanic debris, or completely weathered bedrock.</td><td>WSP (2025a)</td></tr>
<tr><td>Hydrogeology</td><td>Foundation till and weathered or competent bedrock hydraulic conductivities are highly variable; glaciofluvial units are more permeable; glaciolacustrine units have a low permeability.
Groundwater flow is radial from the TSF towards the southwest, southeast, and northeast when the TSF pond level is above groundwater level.
Groundwater flow is directed across the TSF from the west and northwest towards the east and southeast when the TSF pond level is below groundwater level.</td><td>WSP (2025a)</td></tr>
</table>

Components	Description	Source
Closure Design		
General statement	The closure philosophy will be consistent with the most recent Mine Reclamation and Closure Plan. Current life of mine is estimated to year 2031 and a TSF embankment crest elevation of 987 m.	MPMC (2022)
Physical stability	The current configuration achieves the design criteria for static stability. Embankment slopes near the elevation 987 m crest that are not at 2H:1V will be regraded to 2H:1V, which will not negatively affect overall stability. A spillway sized with capacity for the IDF will be constructed during active closure to maintain a long-term pond level that does not exceed 15% of the tailings surface area.	MPMC (2022)
Geochemical stability	Tailings have been characterized as non-acid generating (NAG). NAG tailings will have variable levels of saturation during active and post-closure. Geochemical source terms have been developed for both saturated and unsaturated tailings in the TSF. Seepage from the TSF will consist of passive capture and collection in drainage sumps.	MPMC (2022)
Ecological and landform aspects	Overall, the target of reclamation of the TSF surface is to create a patchy mosaic of deciduous trees and shrub thickets with a gradual transition towards a wetland and pond near Corner 5.	MPMC (2022)
Land and water use objectives	The end land uses include wildlife, indigenous cultural use, recreation, and commercial forestry.	MPMC (2022)

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WSP. 2025c. Tailings Storage Facility – Detailed Design to Elevation 987 m. Prepared for Mount Polley Mining Corporation. WSP Doc. No. CA0047730.8440-004-R-RevA-51293. June 20, 2025.

WSP. 2025d. Tailings Storage Facility Raise to Elevation 987 m Design – Freeboard and Water Level Analysis – Mount Polley Mine. Prepared for Mount Polley Mining Corporation. WSP Doc. No. CA0047730.8440-019-TM-RevA-31153. March 24, 2025.

WSP. 2025e. Quantitative Performance Objectives – Tailings Storage Facility. Prepared for Mount Polley Mining Corporation. WSP Doc. No. 1413803-085-TM-Rev6-51115. February 28, 2025.

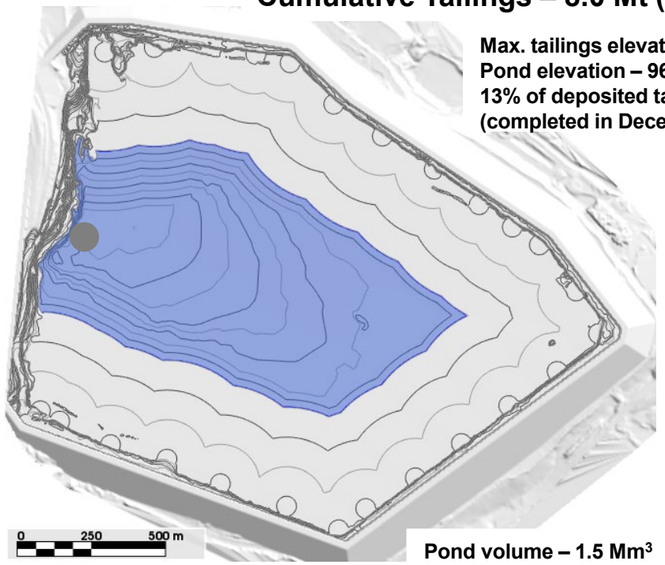
WSP. 2025f. Quantitative Performance Objectives – Tailings Storage Facility. Prepared for Mount Polley Mining Corporation. WSP Doc. No. 1413803-085-TM-Rev7-51115. May 15, 2025.

WSP. 2025g. Mount Polley Mine Water Balance Model – TSF Raise to 987 m Permit Amendment Application. Prepared for Mount Polley Mining Corporation. WSP Doc. No. CA0047730.8440-035-R-RevA-31191. June 26, 2025.

APPENDIX E

Tailings Deposition Models

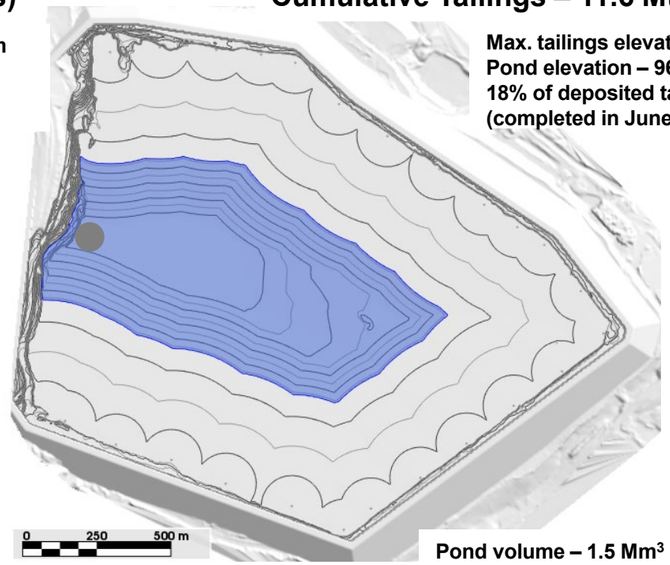
Cumulative Tailings – 8.0 Mt (1.6 Years)



Max. tailings elevation – 966.8 m
Pond elevation – 965.0 m
13% of deposited tailings
(completed in December 2023)

Pond volume – 1.5 Mm^3

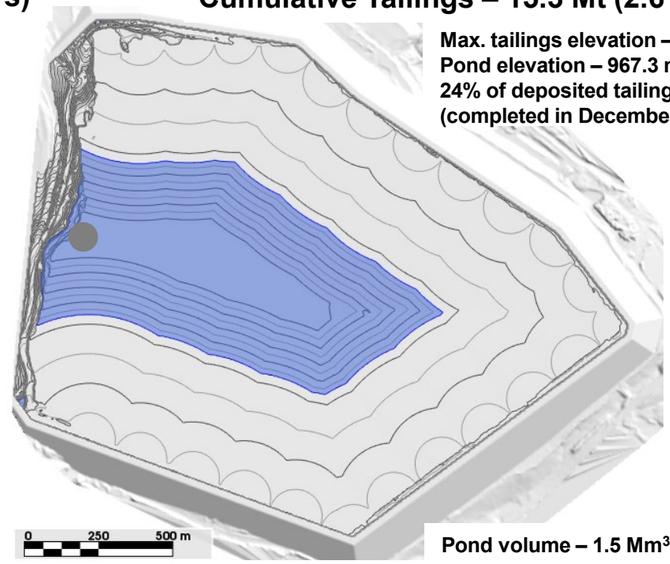
Cumulative Tailings – 11.6 Mt (2.1 Years)



Max. tailings elevation – 968.1 m
Pond elevation – 966.1 m
18% of deposited tailings
(completed in June 2024)

Pond volume – 1.5 Mm^3

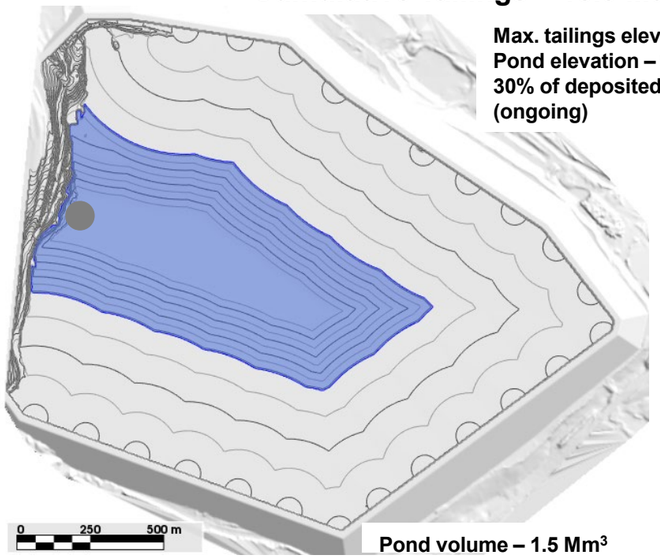
Cumulative Tailings – 15.3 Mt (2.6 Years)



Max. tailings elevation – 969.5 m
Pond elevation – 967.3 m
24% of deposited tailings
(completed in December 2024)

Pond volume – 1.5 Mm^3

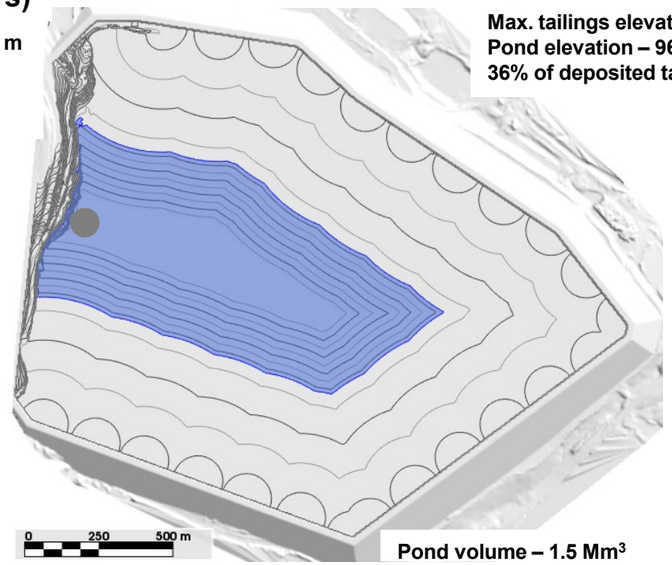
Cumulative Tailings – 18.9 Mt (3.1 Years)



Max. tailings elevation – 970.7 m
Pond elevation – 968.6 m
30% of deposited tailings
(ongoing)

Pond volume – 1.5 Mm^3

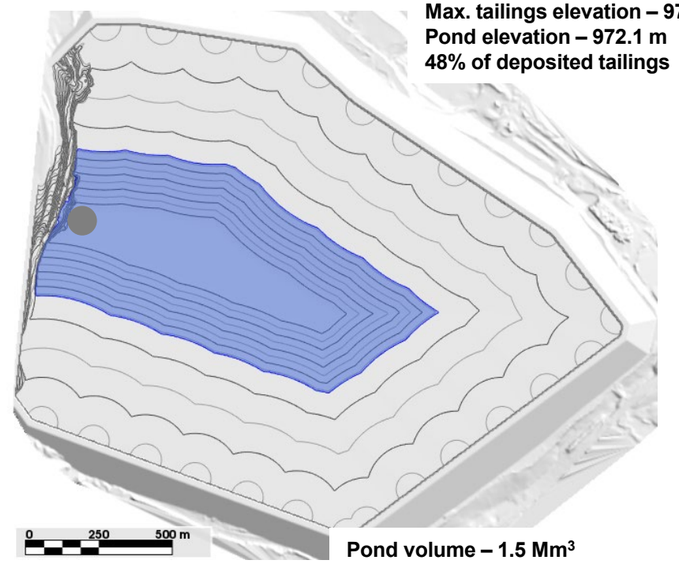
Cumulative Tailings – 22.6 Mt (3.6 Years)



Max. tailings elevation – 971.9 m
Pond elevation – 969.8 m
36% of deposited tailings

Pond volume – 1.5 Mm^3

Cumulative Tailings – 29.9 Mt (4.6 Years)



Max. tailings elevation – 974.3 m
Pond elevation – 972.1 m
48% of deposited tailings

Pond volume – 1.5 Mm^3

LEGEND:

- Pond
- Approximate Barge Location

NOTES:

1. Sub-aerial beach slope = 0.5%; sub-aqueous beach slope = 2%.
2. Major and minor contours at 1.0 m and 0.5 m, respectively.
3. Maximum pond depth = 4 m.
4. Cumulative tailings and timeline is based on actual production from the restart of operations in June 2022 to December 2023 and mine plan reported by MPMC (2021).
5. In place dry density of 1.35 tonnes/m^3 assumed.

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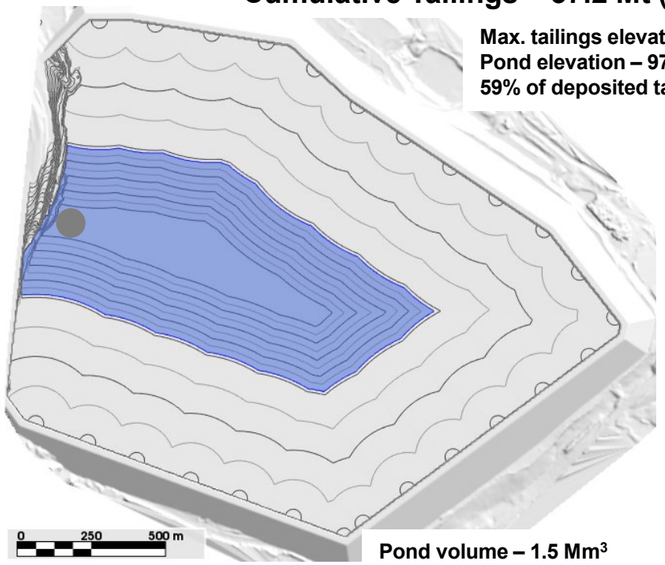
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PREPARED	AD
DESIGN	RG
REVIEW	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
TAILINGS DEPOSITION MODELLING RESULTS (Mine Plan; August 2023 Survey)
0.5% sub-aerial; 2% sub-aqueous

PROJECT No.	Phase/Task	Rev.	Figure No.
CA0047730.8440	51200/51293	0	E-1

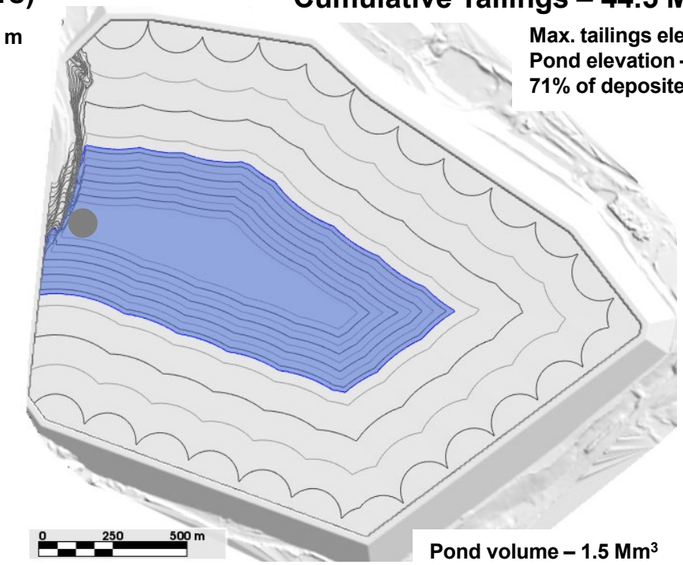
Cumulative Tailings – 37.2 Mt (5.6 Years)



Max. tailings elevation – 976.6 m
Pond elevation – 974.4 m
59% of deposited tailings

Pond volume – 1.5 Mm^3

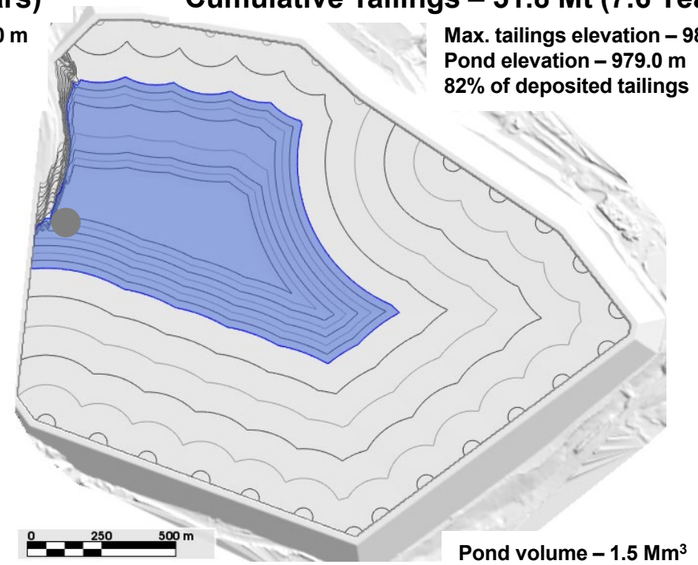
Cumulative Tailings – 44.5 Mt (6.6 Years)



Max. tailings elevation – 979.0 m
Pond elevation – 976.8 m
71% of deposited tailings

Pond volume – 1.5 Mm^3

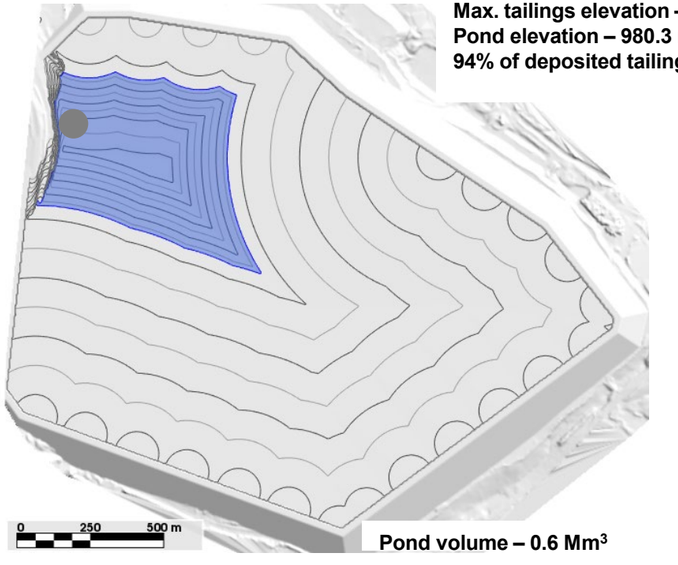
Cumulative Tailings – 51.8 Mt (7.6 Years)



Max. tailings elevation – 981.7 m
Pond elevation – 979.0 m
82% of deposited tailings

Pond volume – 1.5 Mm^3

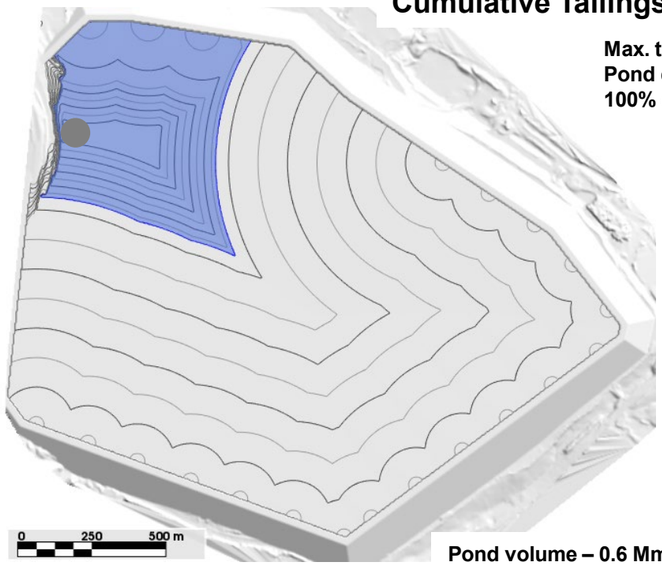
Cumulative Tailings – 59.1 Mt (8.6 Years)



Max. tailings elevation – 983.9 m
Pond elevation – 980.3 m
94% of deposited tailings

Pond volume – 0.6 Mm^3

Cumulative Tailings – 62.8 Mt (9.1 Years)



Max. tailings elevation – 985.1 m
Pond elevation – 981.3 m
100% of deposited tailings

Pond volume – 0.6 Mm^3

LEGEND:

- Pond
- Approximate Barge Location

NOTES:

1. Sub-aerial beach slope = 0.5%; sub-aqueous beach slope = 2%.
2. Major and minor contours at 1.0 m and 0.5 m, respectively.
3. Maximum pond depth = 4 m.
4. Cumulative tailings and timeline is based on actual production from the restart of operations in June 2022 to December 2023 and mine plan reported by MPMC (2021).
5. In place dry density of 1.35 tonnes/m^3 assumed.

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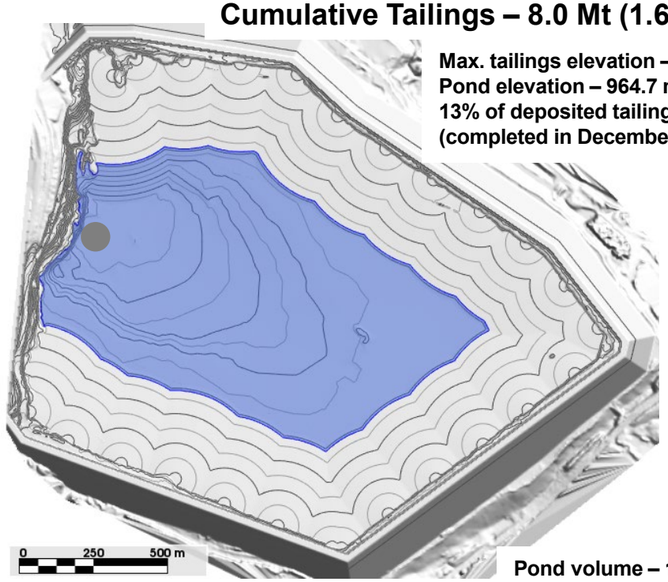
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PREPARED	AD
DESIGN	RG
REVIEW	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
TAILINGS DEPOSITION MODELLING RESULTS (Mine Plan; August 2023 Survey)
0.5% sub-aerial; 2% sub-aqueous

PROJECT No.	Phase/Task	Rev.	Figure No.
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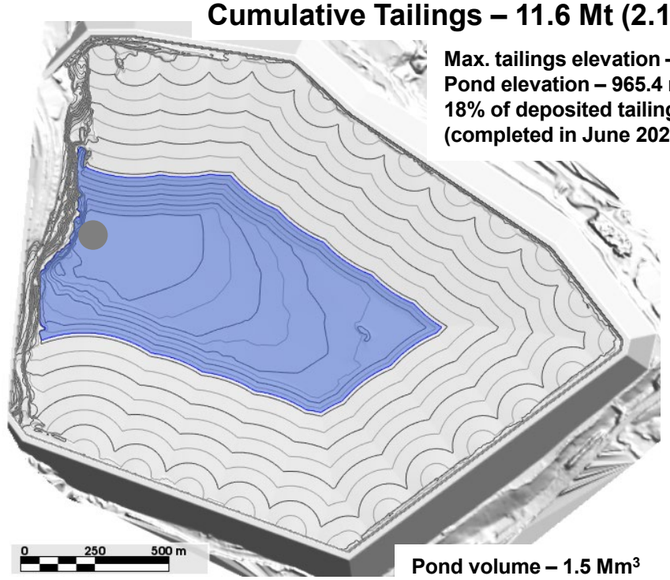
Cumulative Tailings – 8.0 Mt (1.6 Years)



Max. tailings elevation – 967.7 m
Pond elevation – 964.7 m
13% of deposited tailings
(completed in December 2023)

Pond volume – 1.5 Mm^3

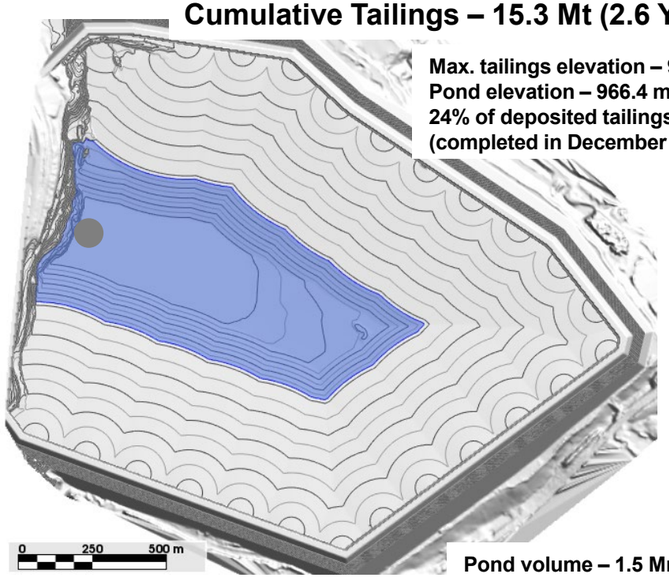
Cumulative Tailings – 11.6 Mt (2.1 Years)



Max. tailings elevation – 969.5 m
Pond elevation – 965.4 m
18% of deposited tailings
(completed in June 2024)

Pond volume – 1.5 Mm^3

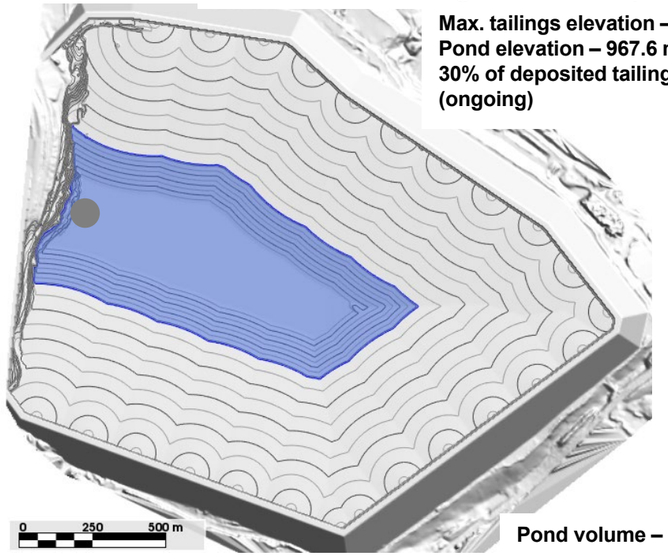
Cumulative Tailings – 15.3 Mt (2.6 Years)



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Pond elevation – 966.4 m
24% of deposited tailings
(completed in December 2024)

Pond volume – 1.5 Mm^3

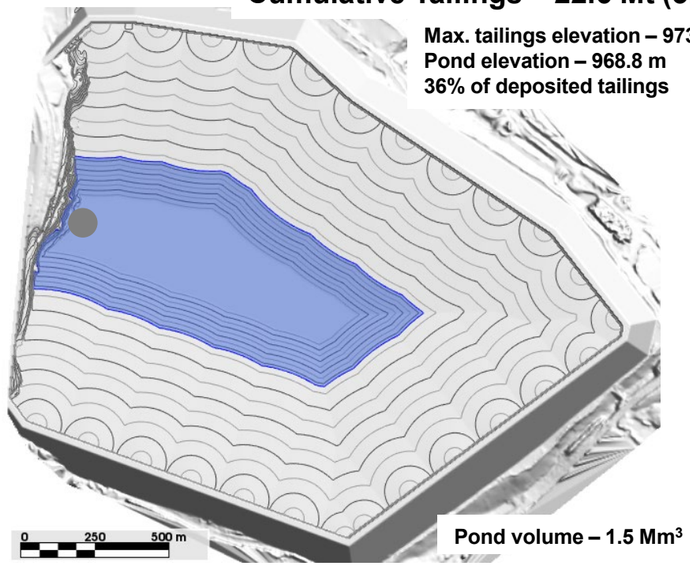
Cumulative Tailings – 18.9 Mt (3.1 Years)



Max. tailings elevation – 972.2 m
Pond elevation – 967.6 m
30% of deposited tailings
(ongoing)

Pond volume – 1.5 Mm^3

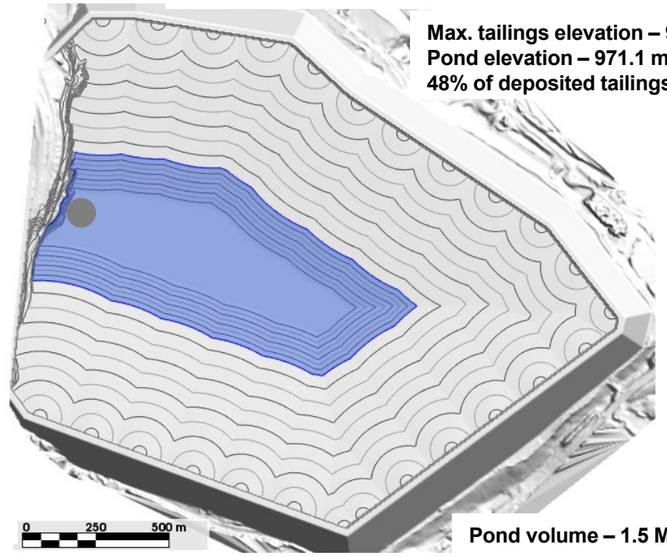
Cumulative Tailings – 22.6 Mt (3.6 Years)



Max. tailings elevation – 973.4 m
Pond elevation – 968.8 m
36% of deposited tailings

Pond volume – 1.5 Mm^3

Cumulative Tailings – 29.9 Mt (4.6 Years)



Max. tailings elevation – 975.8 m
Pond elevation – 971.1 m
48% of deposited tailings

Pond volume – 1.5 Mm^3

LEGEND:

- Pond
- Approximate Barge Location

NOTES:

1. Sub-aerial beach slope = 1%; sub-aqueous beach slope = 3%.
2. Major and minor contours at 1.0 m and 0.5 m, respectively.
3. Maximum pond depth = 4 m.
4. Cumulative tailings and timeline is based on actual production from the restart of operations in June 2022 to December 2023 and mine plan reported by MPMC (2021).
5. In place dry density of 1.35 tonnes/m^3 assumed.

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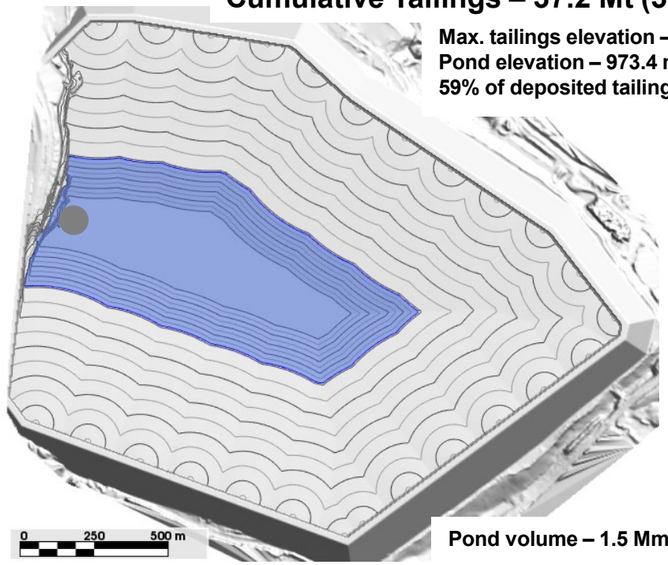
YYYY-MM-DD	2025-07-02
PREPARED	AD
DESIGN	RG
REVIEW	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
TAILINGS DEPOSITION MODELLING RESULTS (Mine Plan; August 2023 Survey)
1% sub-aerial; 3% sub-aqueous

PROJECT No.	Phase/Task	Rev.	Figure No.
CA0047730.8440	51200/51293	0	E-3

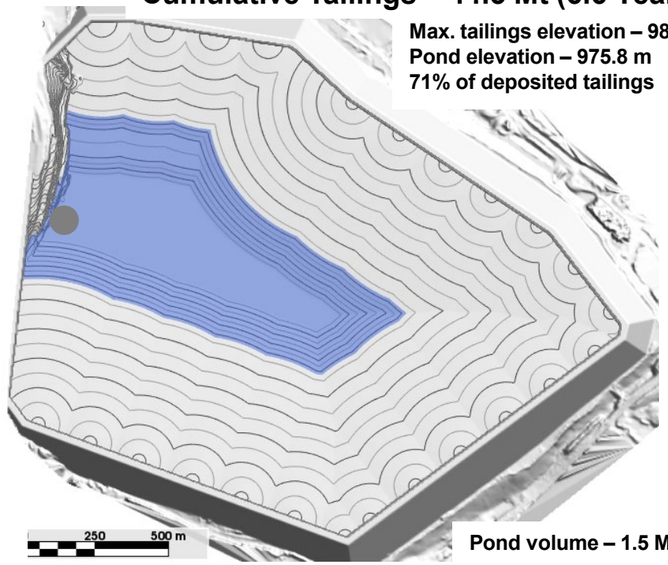
Cumulative Tailings – 37.2 Mt (5.6 Years)



Max. tailings elevation – 978.1 m
Pond elevation – 973.4 m
59% of deposited tailings

Pond volume – 1.5 Mm^3

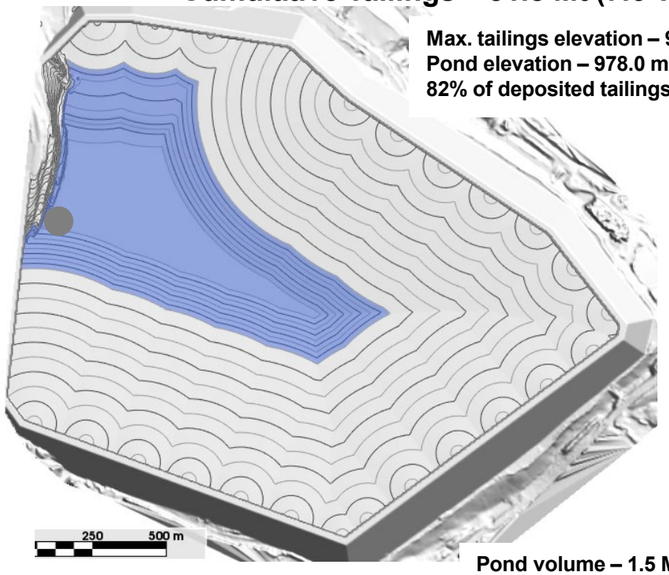
Cumulative Tailings – 44.5 Mt (6.6 Years)



Max. tailings elevation – 980.7 m
Pond elevation – 975.8 m
71% of deposited tailings

Pond volume – 1.5 Mm^3

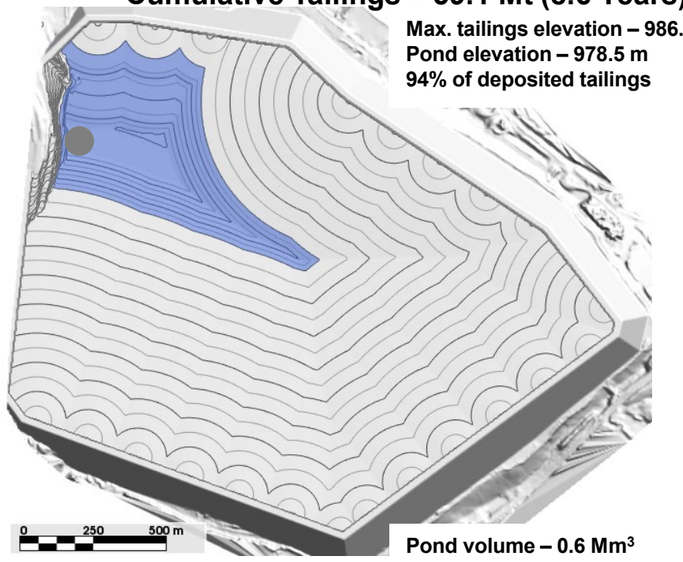
Cumulative Tailings – 51.8 Mt (7.6 Years)



Max. tailings elevation – 983.3 m
Pond elevation – 978.0 m
82% of deposited tailings

Pond volume – 1.5 Mm^3

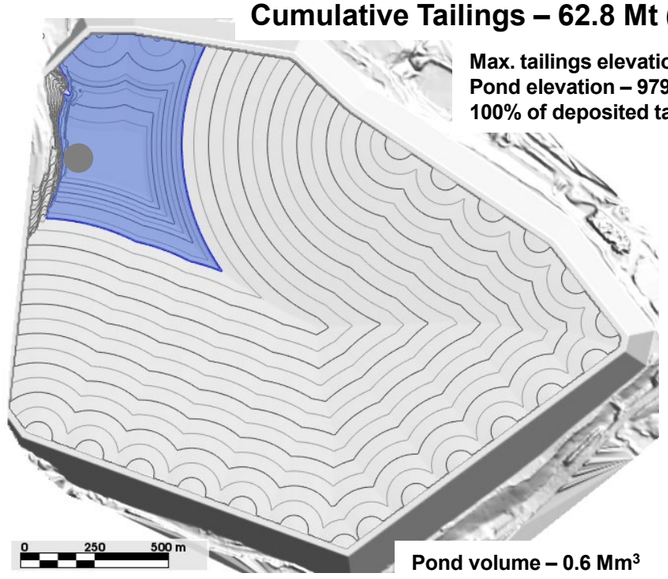
Cumulative Tailings – 59.1 Mt (8.6 Years)



Max. tailings elevation – 986.5 m
Pond elevation – 978.5 m
94% of deposited tailings

Pond volume – 0.6 Mm^3

Cumulative Tailings – 62.8 Mt (9.1 Years)



Max. tailings elevation – 987.0 m
Pond elevation – 979.6 m
100% of deposited tailings

Pond volume – 0.6 Mm^3

LEGEND:

- Pond
- Approximate Barge Location

NOTES:

1. Sub-aerial beach slope = 1%; sub-aqueous beach slope = 3%.
2. Major and minor contours at 1.0 m and 0.5 m, respectively.
3. Maximum pond depth = 4 m.
4. Cumulative tailings and timeline is based on actual production from the restart of operations in June 2022 to December 2023 and mine plan reported by MPMC (2021).
5. In place dry density of 1.35 tonnes/m^3 assumed.

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PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
TAILINGS DEPOSITION MODELLING RESULTS (Mine Plan; August 2023 Survey)
1% sub-aerial; 3% sub-aqueous

PROJECT No.	Phase/Task	Rev.	Figure No.
CA0047730.8440	51200/51293	0	E-4

APPENDIX F

Seepage Models

Material Properties				
Materials	**Colour**	**Material Model**	**Saturated Hydraulic Conductivity (m/s)**	**Anisotropy Ratio Ky'/Kx'**
Foundation Till / Glaciofluvial		Saturated Only	1×10^{-6}	0.1
Glaciolacustrine		Saturated Only	5×10^{-10}	1
Upstream Fill		Saturated / Unsaturated	1×10^{-5}	1
Till Core		Saturated / Unsaturated	1×10^{-8}	1
Filter		Saturated / Unsaturated	1×10^{-2}	1
Transition		Saturated / Unsaturated	1×10^{-2}	1
Rockfill		Saturated Only	1×10^{-2}	1
Tailings (deposited since 2016)		Saturated / Unsaturated	1×10^{-5}	0.1
Tailings (deposited prior to 2014)		Saturated / Unsaturated	1×10^{-6}	0.1
Tailings Sand		Saturated / Unsaturated	1×10^{-5}	1
Cut-off Wall		Saturated Only	1×10^{-8}	1
Upstream Drain		Saturated / Unsaturated	1×10^{-2}	1
Bedrock		None	-	-

REFERENCES/NOTES

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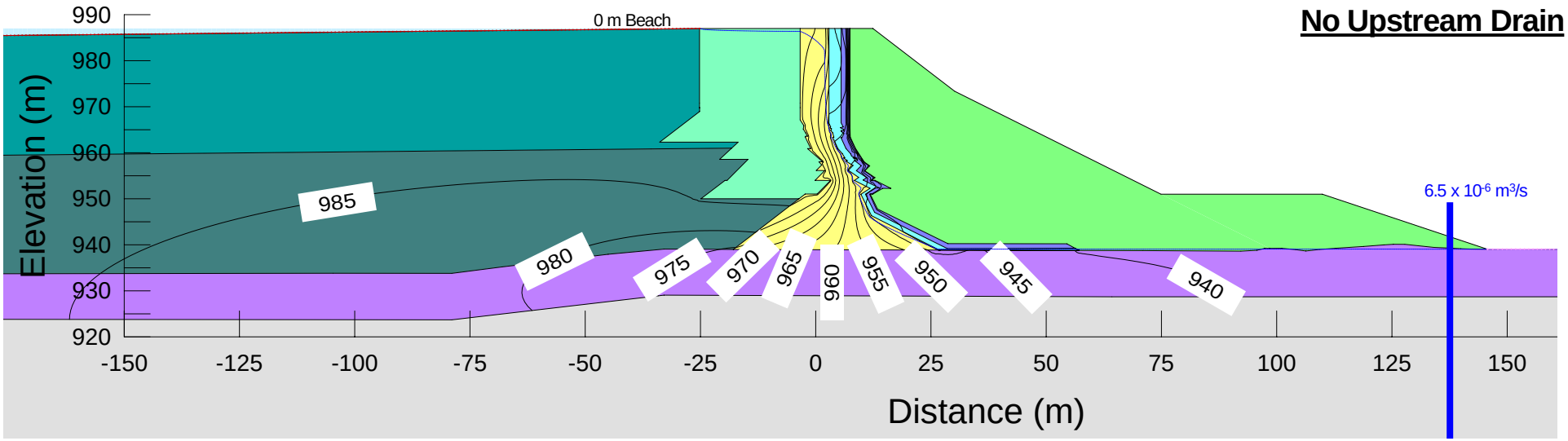
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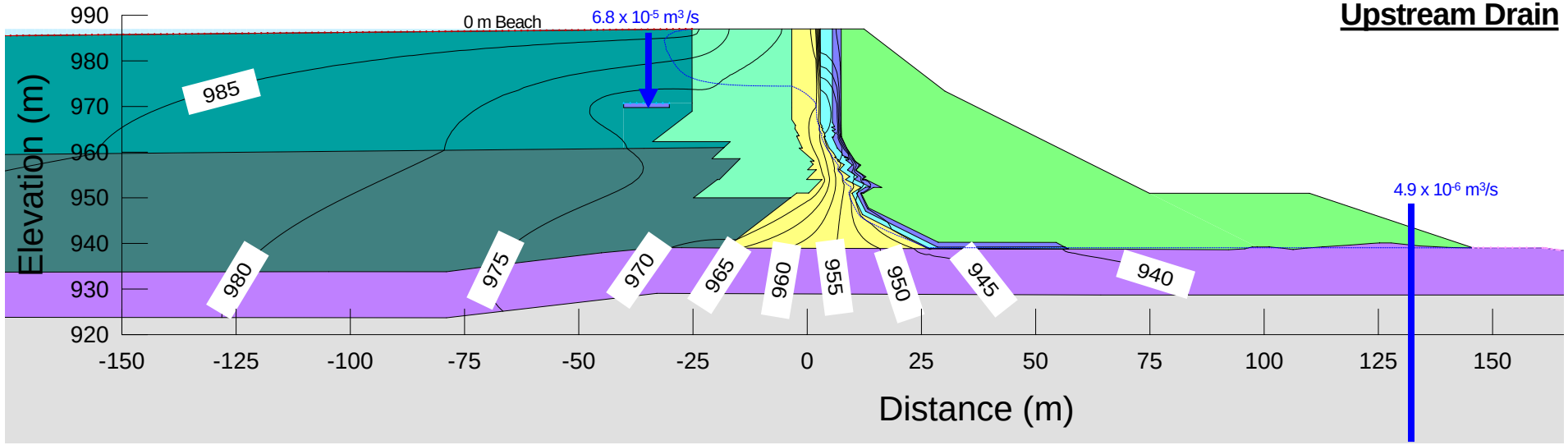
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PREPARED	YJ
DESIGNED	YJ
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
SEEPAGE ANALYSIS
MATERIAL PROPERTIES

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	**51200/51293**	**0**	**F-1**





Piezometric Line

REFERENCES/NOTES

1. Contours show total head, 5 m intervals.
2. Zero flow boundary applied for the drain.
3. Zero pressure applied to the downstream foundation surface.

CLIENT
MOUNT POLLEY MINING CORPORATION

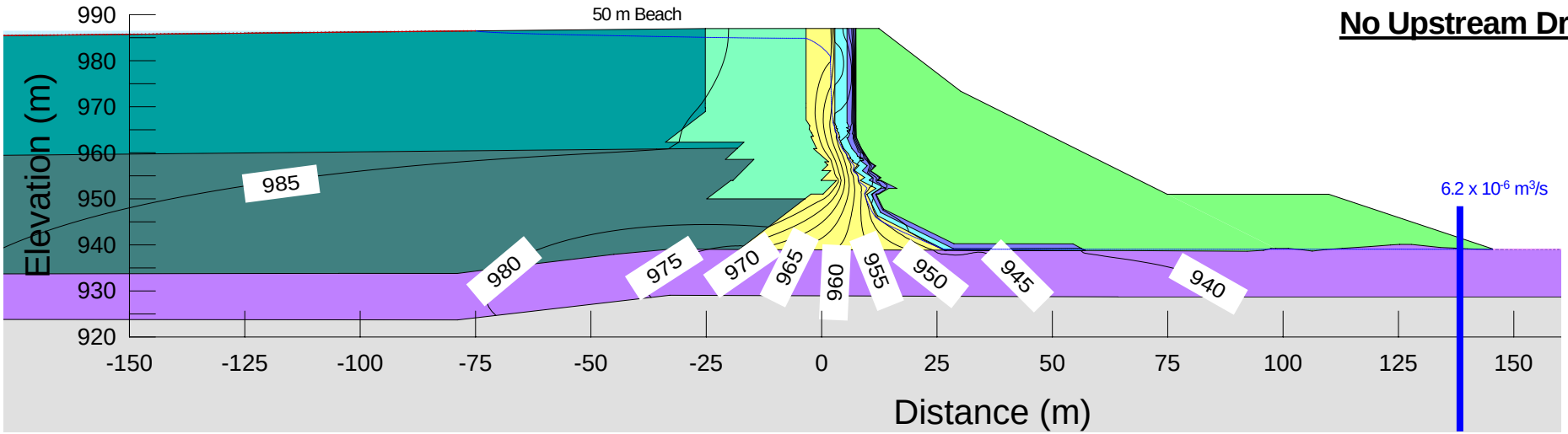
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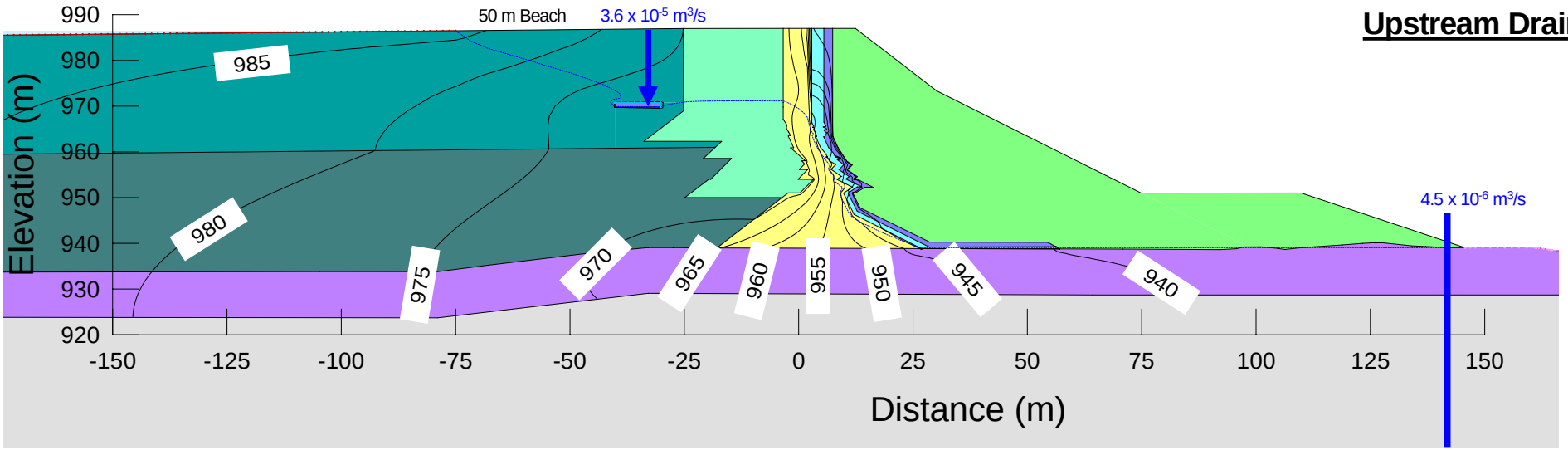
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DESIGNED	YJ
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
SEEPAGE ANALYSIS (SOUTH EMBANKMENT)
SECTION 0+725 *(Old Stn. 0+720)*
NO SUB-AERIAL BEACH

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	F-2





Piezometric Line

REFERENCES/NOTES

1. Contours show total head, 5 m intervals.
2. Zero flow boundary applied for the drain.
3. Zero pressure applied to the downstream foundation surface.

CLIENT
MOUNT POLLEY MINING CORPORATION

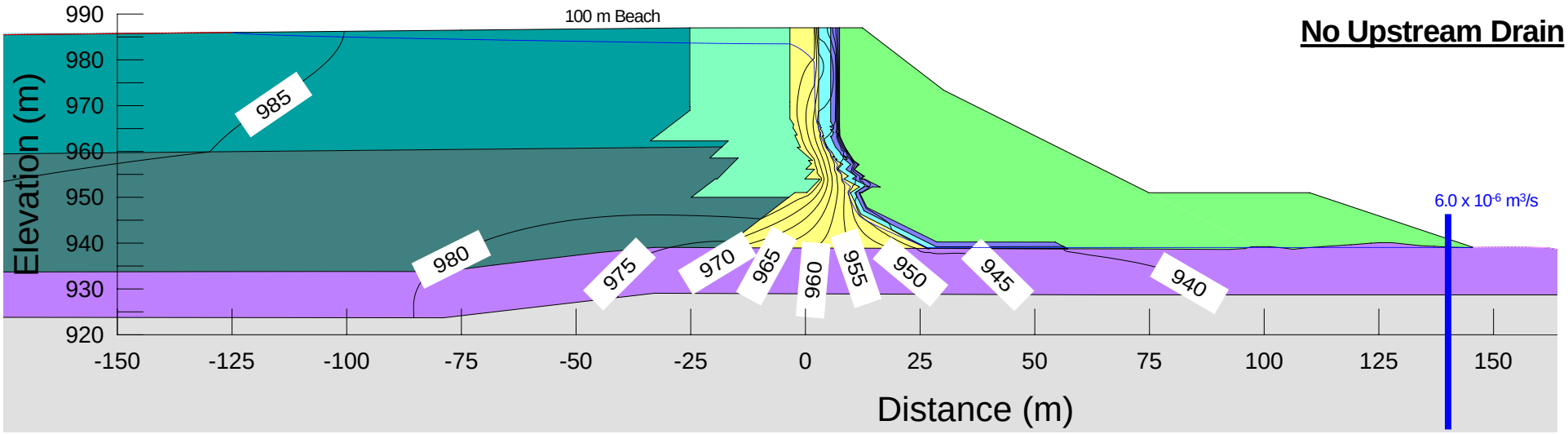
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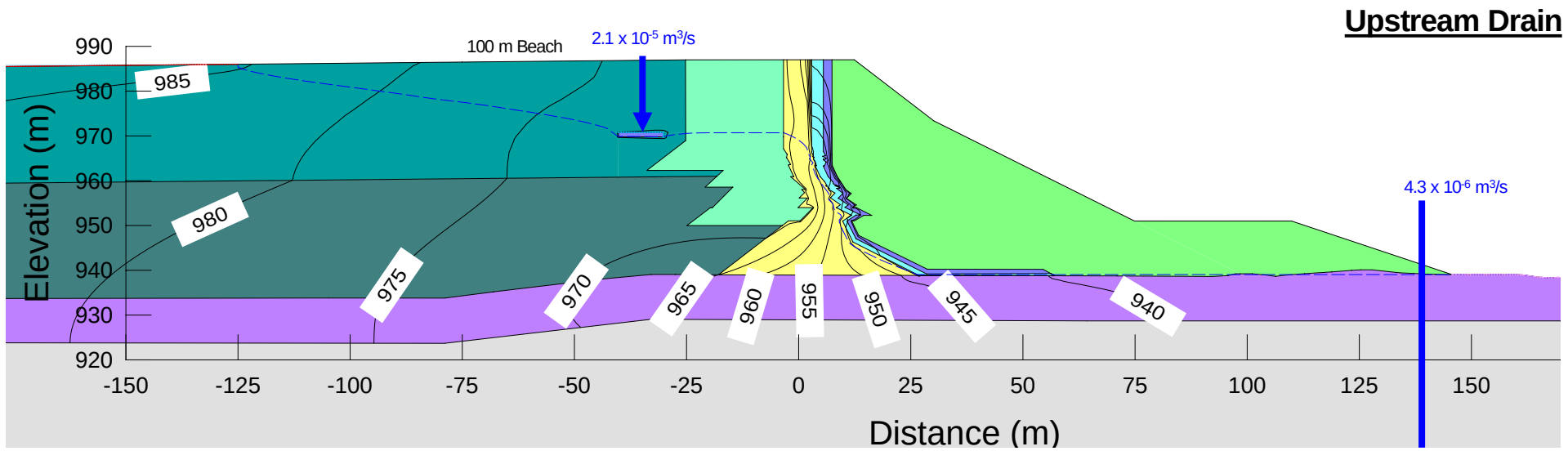
YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	YJ
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
SEEPAGE ANALYSIS (SOUTH EMBANKMENT)
SECTION 0+725 *(Old Stn. 0+720)*
50 m SUB-AERIAL BEACH

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	F-3





Piezometric Line

REFERENCES/NOTES

1. Contours show total head, 5 m intervals.
2. Zero flow boundary applied for the drain.
3. Zero pressure applied to the downstream foundation surface.

CLIENT
MOUNT POLLEY MINING CORPORATION

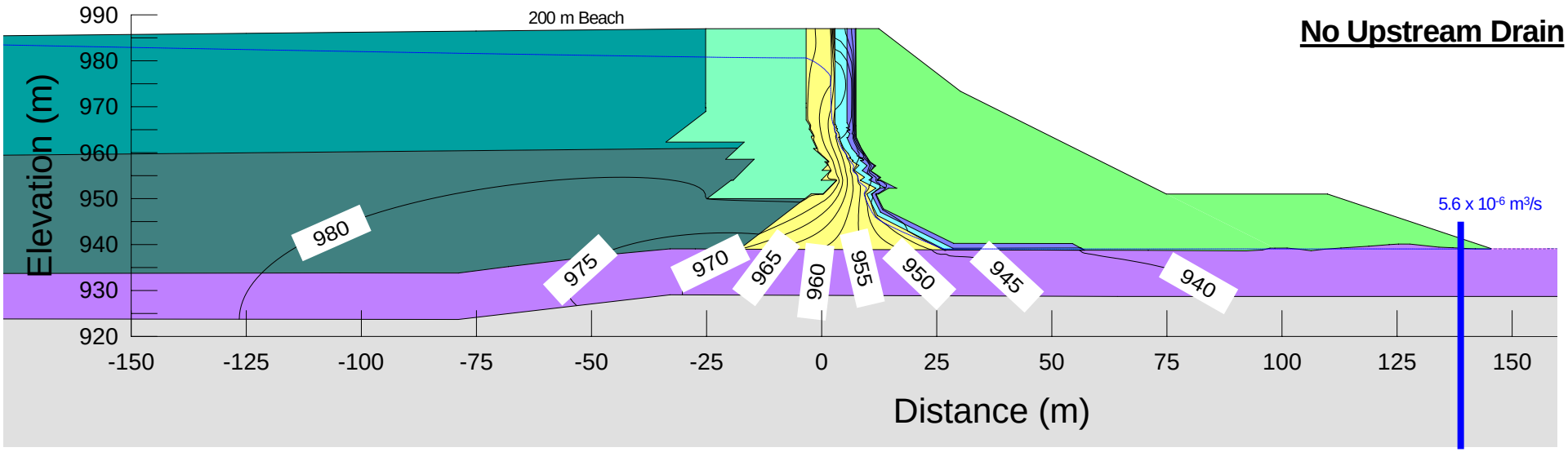
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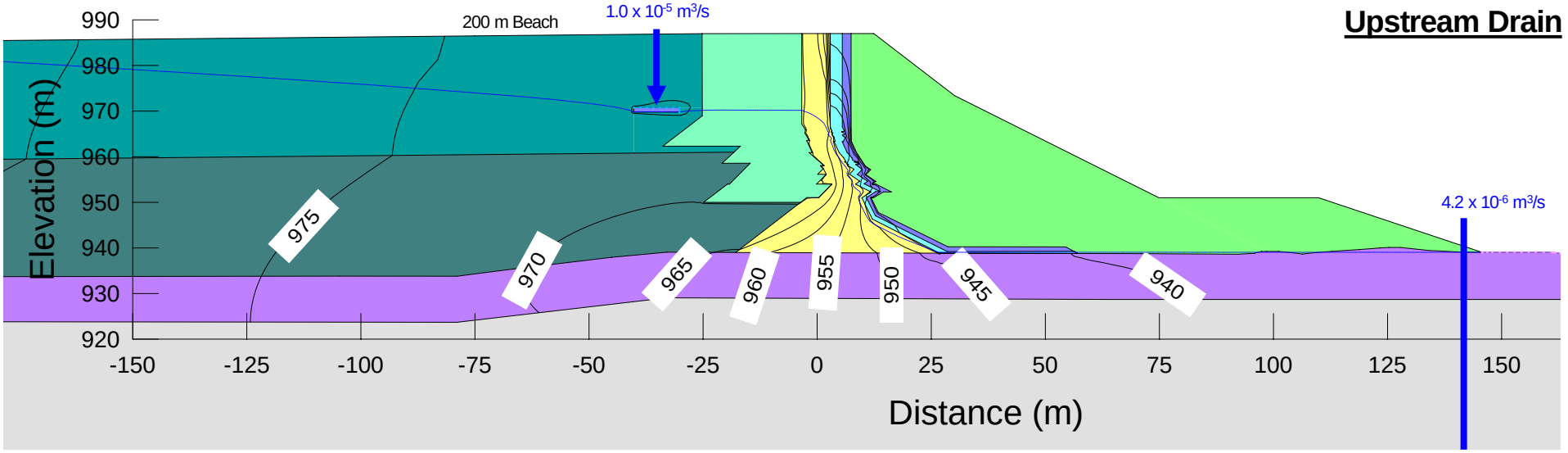
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DESIGNED	YJ
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
SEEPAGE ANALYSIS (SOUTH EMBANKMENT)
SECTION 0+725 *(Old Stn. 0+720)*
100 m SUB-AERIAL BEACH

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	F-4





Piezometric Line

REFERENCES/NOTES

1. Contours show total head, 5 m intervals.
2. Zero flow boundary applied for the drain.
3. Zero pressure applied to the downstream foundation surface.

CLIENT
MOUNT POLLEY MINING CORPORATION

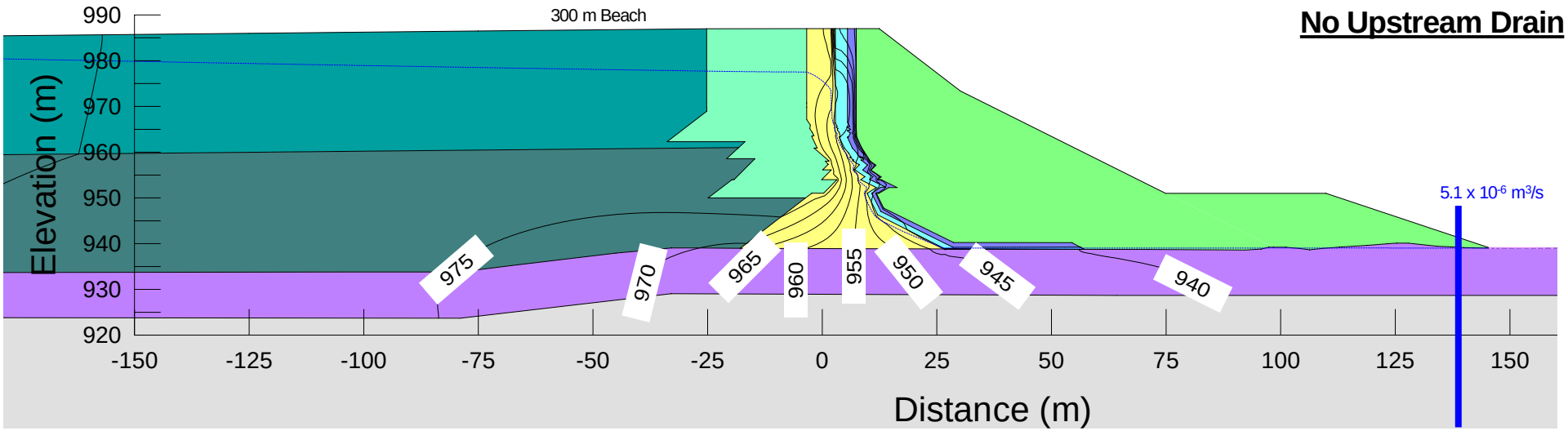
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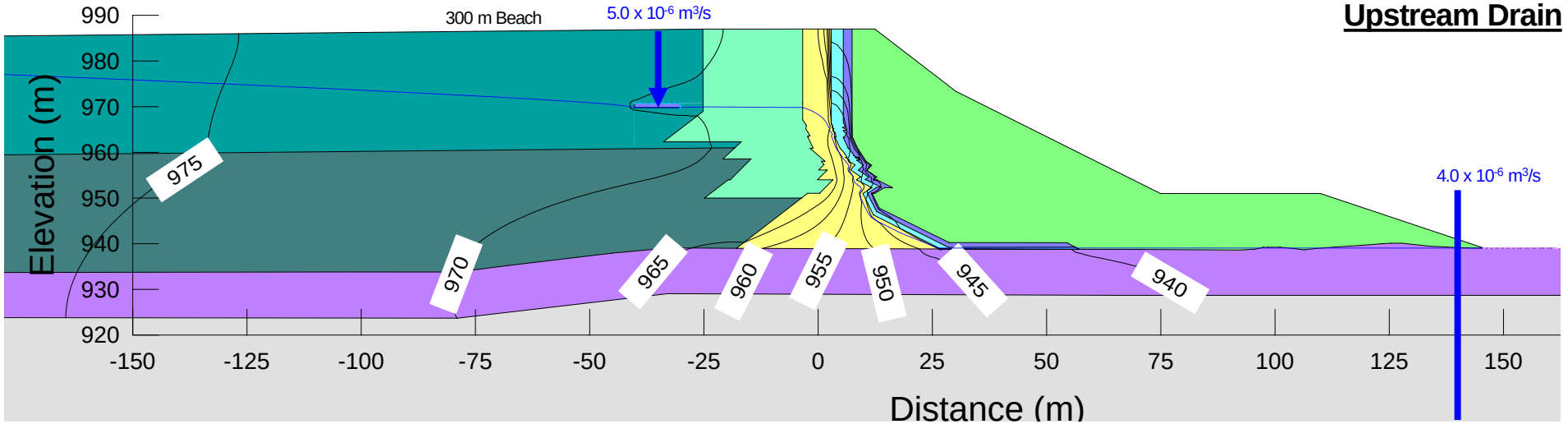
YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	YJ
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
SEEPAGE ANALYSIS (SOUTH EMBANKMENT)
SECTION 0+725 *(Old Stn. 0+720)*
200 m SUB-AERIAL BEACH

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	F-5





Piezometric Line

REFERENCES/NOTES

1. Contours show total head, 5 m intervals.
2. Zero flow boundary applied for the drain.
3. Zero pressure applied to the downstream foundation surface.

CLIENT
MOUNT POLLEY MINING CORPORATION

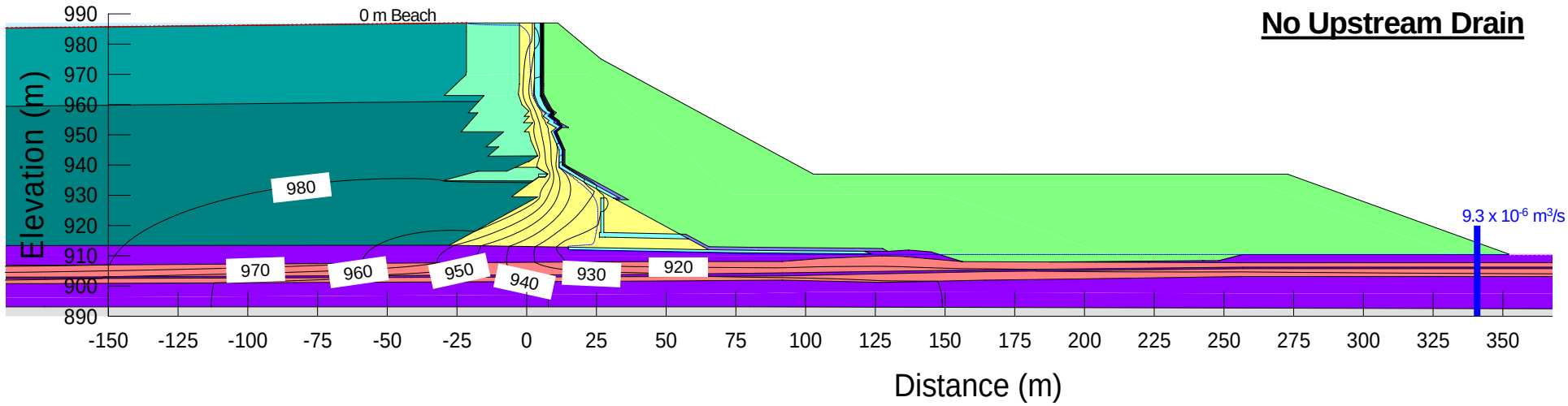
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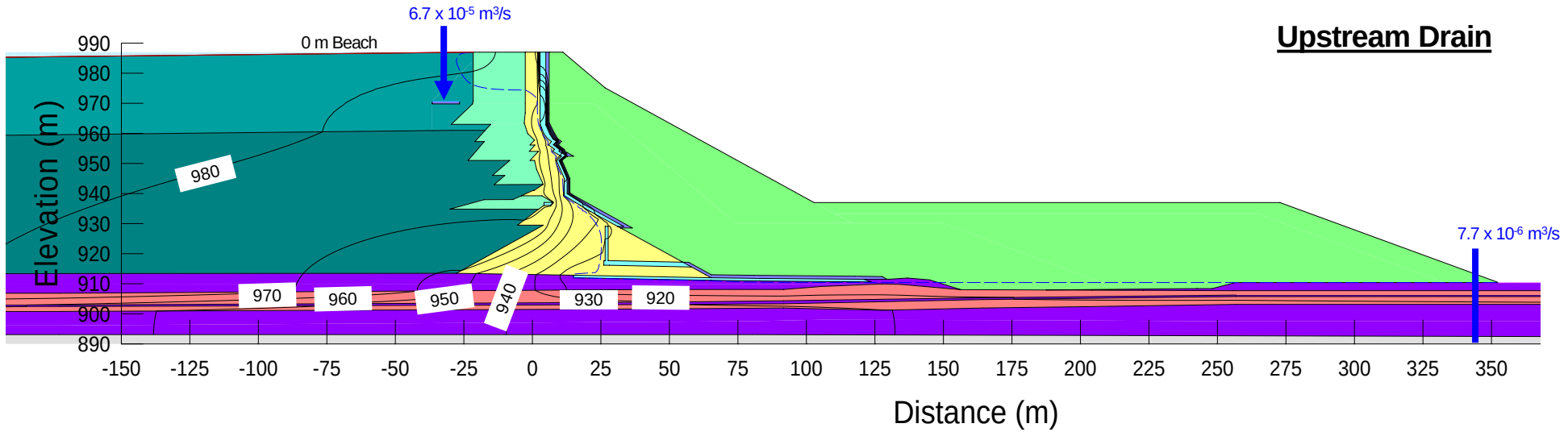
YYYY-MM-DD	2025-07-02
PREPARED	YJ
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APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
SEEPAGE ANALYSIS (SOUTH EMBANKMENT)
SECTION 0+725 *(Old Stn. 0+720)*
300 m SUB-AERIAL BEACH

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	F-6





Piezometric Line

REFERENCES/NOTES

1. Contours show total head, 10 m intervals.
2. Zero flow boundary applied for the drain.
3. Zero pressure applied to the downstream foundation surface.

CLIENT
MOUNT POLLEY MINING CORPORATION

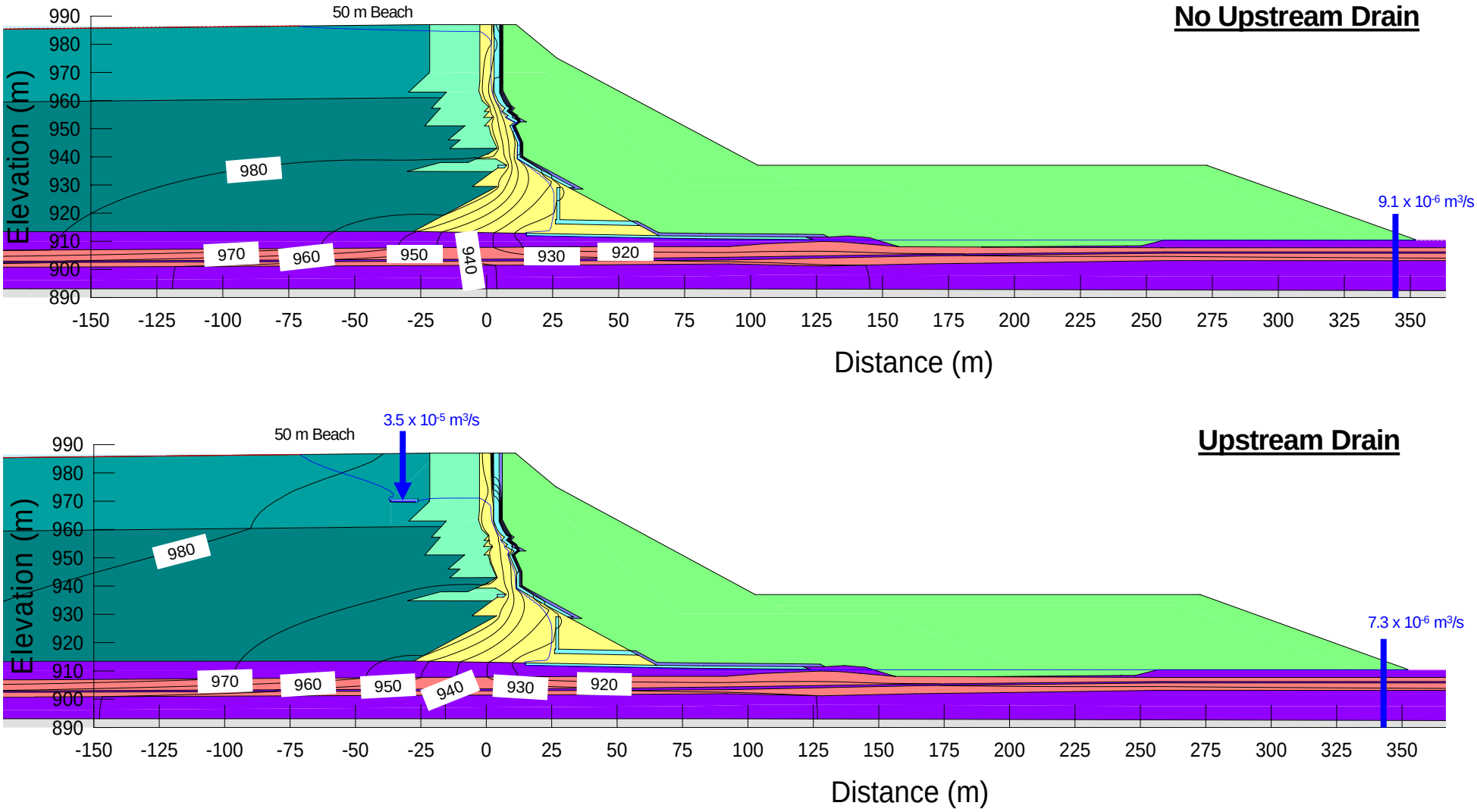
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PREPARED	YJ
DESIGNED	YJ
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
SEEPAGE ANALYSIS (MAIN EMBANKMENT)
SECTION 2+055 *(Old Stn. 2+060)*
NO SUB-AERIAL BEACH

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	F-7



REFERENCES/NOTES

1. Contours show total head, 10 m intervals.
2. Zero flow boundary applied for the drain.
3. Zero pressure applied to the downstream foundation surface.

CLIENT
MOUNT POLLEY MINING CORPORATION

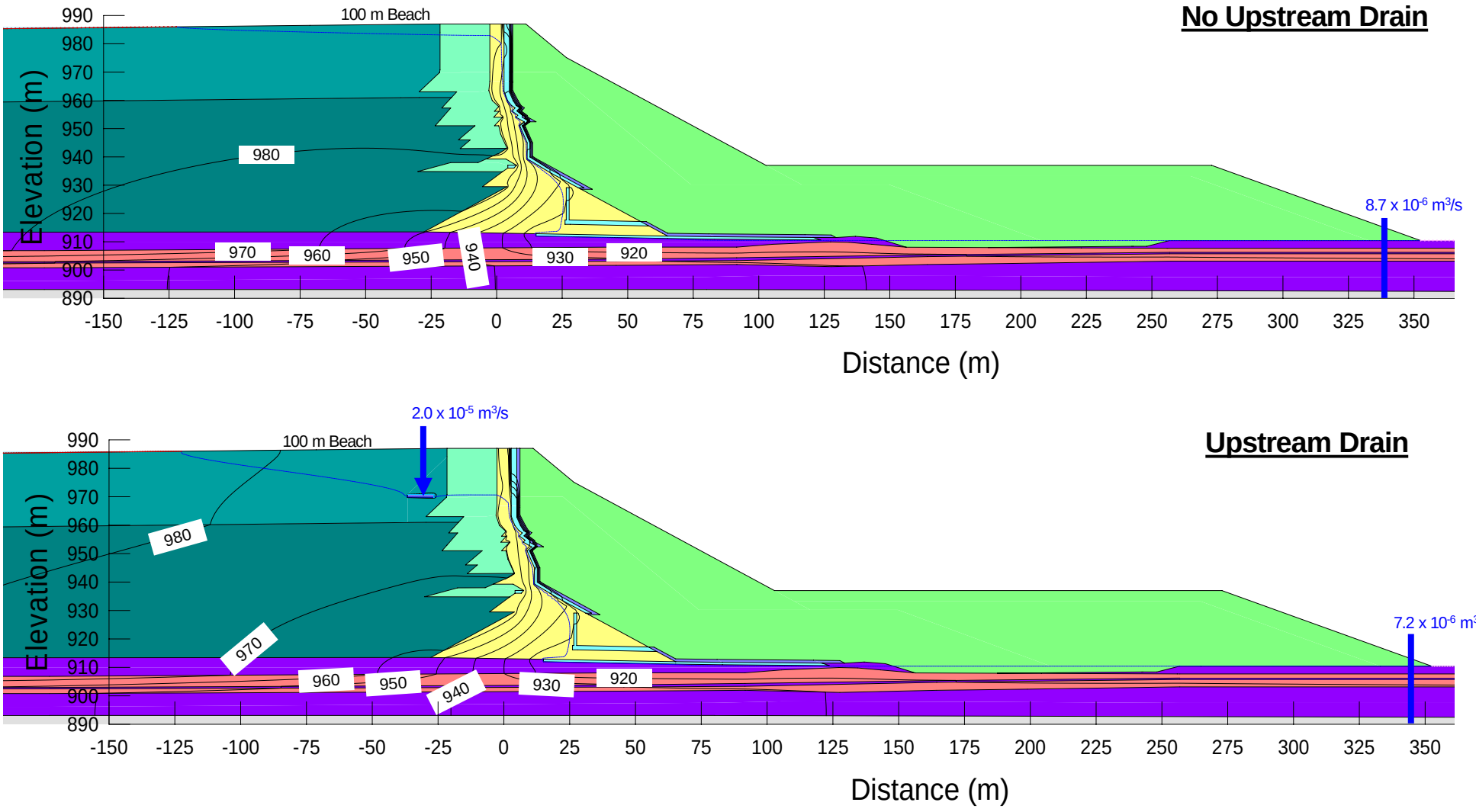
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DESIGNED	YJ
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
SEEPAGE ANALYSIS (MAIN EMBANKMENT)
SECTION 2+055 *(Old Stn. 2+060)*
50 m SUB-AERIAL BEACH

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	F-8



Piezometric Line

REFERENCES/NOTES

1. Contours show total head, 10 m intervals.
2. Zero flow boundary applied for the drain.
3. Zero pressure applied to the downstream foundation surface.

CLIENT
MOUNT POLLEY MINING CORPORATION

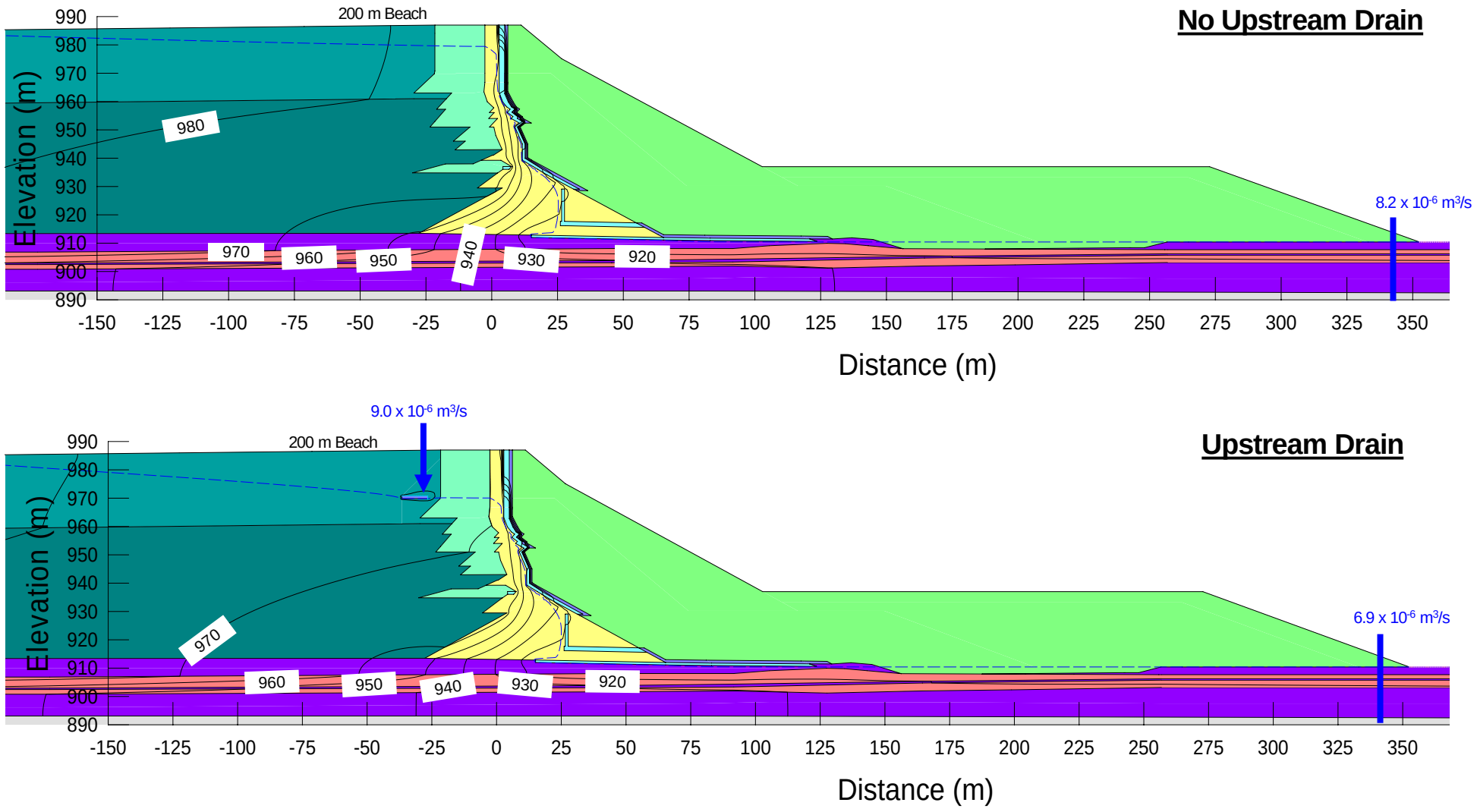
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YYYY-MM-DD	2025-07-02
PREPARED	YJ
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REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
SEEPAGE ANALYSIS (MAIN EMBANKMENT)
SECTION 2+055 *(Old Stn. 2+060)*
100 m SUB-AERIAL BEACH

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	F-9



REFERENCES/NOTES

1. Contours show total head, 10 m intervals.
2. Zero flow boundary applied for the drain.
3. Zero pressure applied to the downstream foundation surface.

CLIENT
MOUNT POLLEY MINING CORPORATION

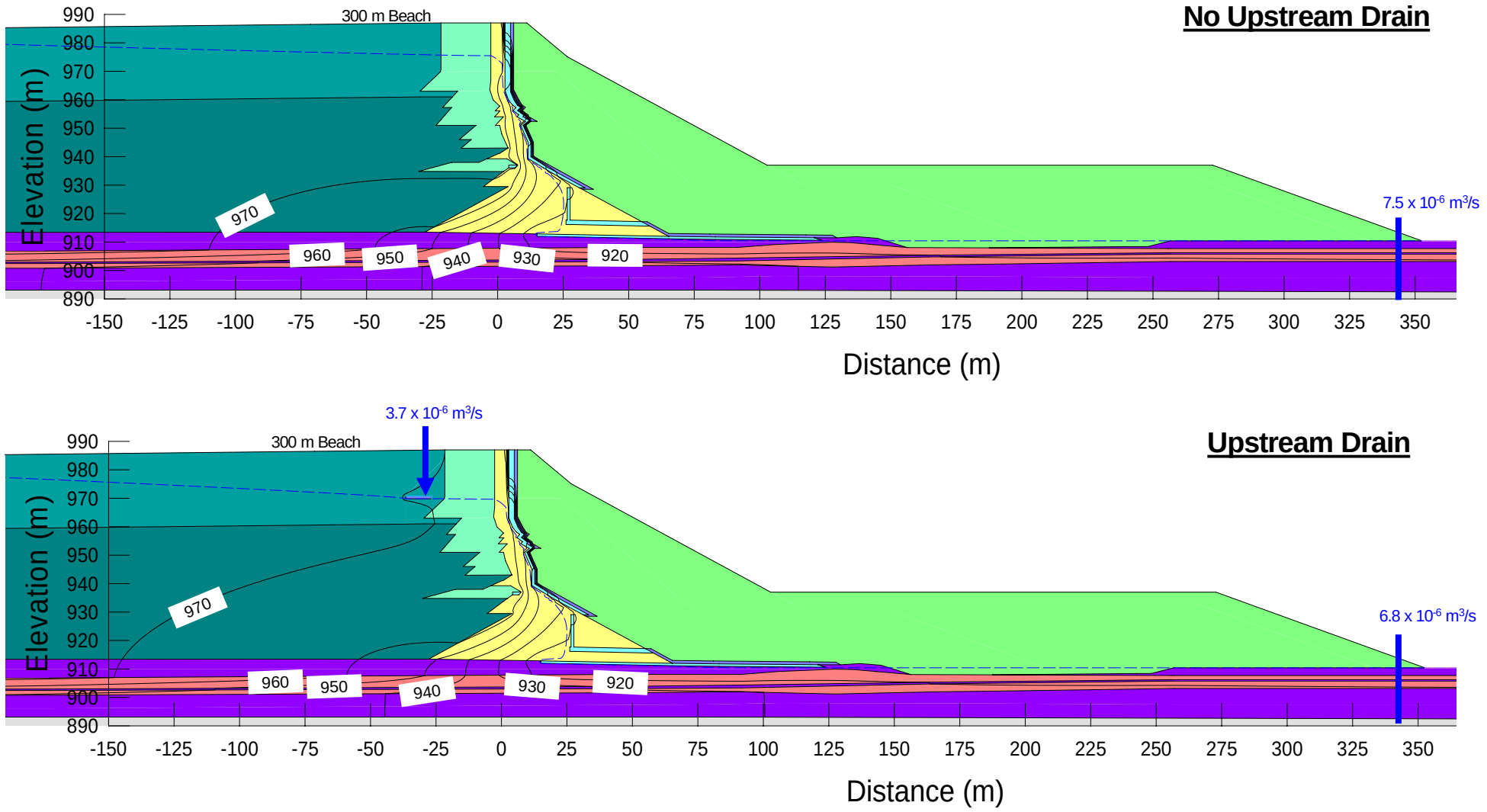
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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	YJ
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
SEEPAGE ANALYSIS (MAIN EMBANKMENT)
SECTION 2+055 *(Old Stn. 2+060)*
200 m SUB-AERIAL BEACH

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	F-10



Piezometric Line

REFERENCES/NOTES

1. Contours show total head, 10 m intervals.
2. Zero flow boundary applied for the drain.
3. Zero pressure applied to the downstream foundation surface.

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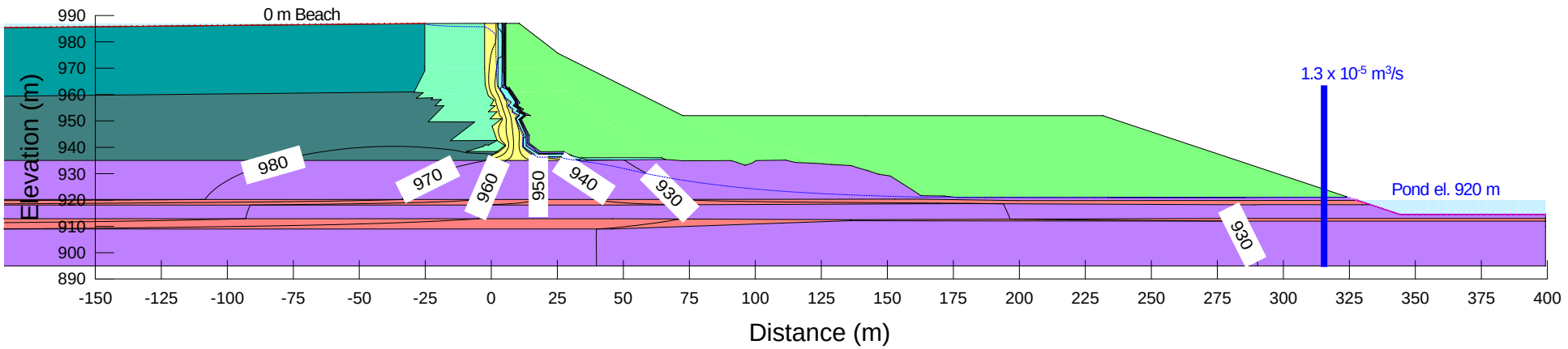
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PREPARED	YJ
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APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

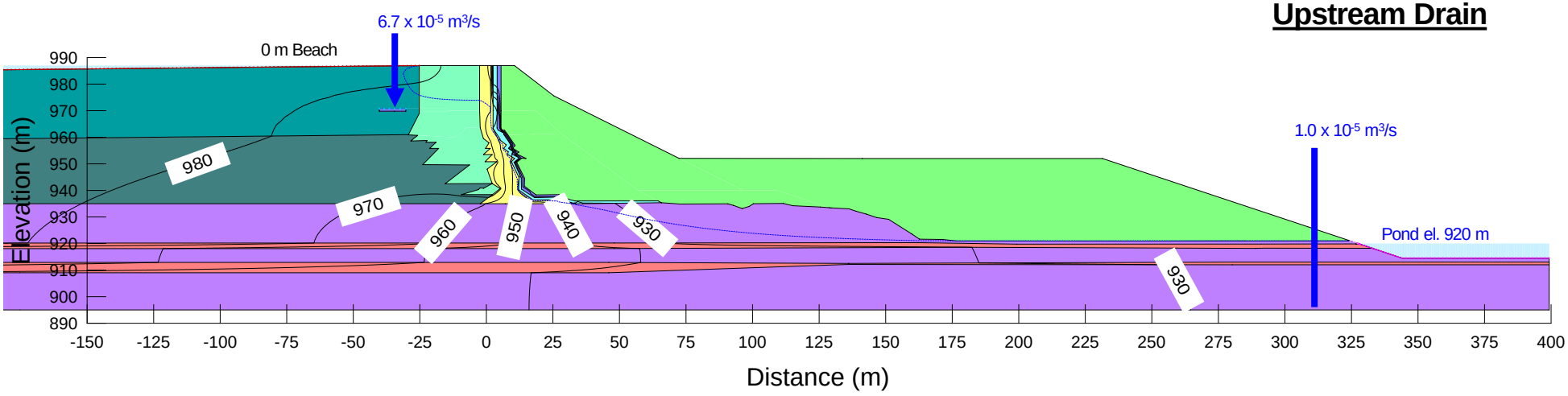
TITLE
SEEPAGE ANALYSIS (MAIN EMBANKMENT)
SECTION 2+055 *(Old Stn. 2+060)*
300 m SUB-AERIAL BEACH

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	F-11

No Upstream Drain



Upstream Drain



Piezometric Line

REFERENCES/NOTES

1. Contours show total head, 10 m intervals.
2. Zero flow boundary applied for the drain.
3. Zero pressure and water total head boundaries applied to the downstream foundation surface.
4. The natural berm below the embankment buttress toe will be removed or breached.

CLIENT
MOUNT POLLEY MINING CORPORATION

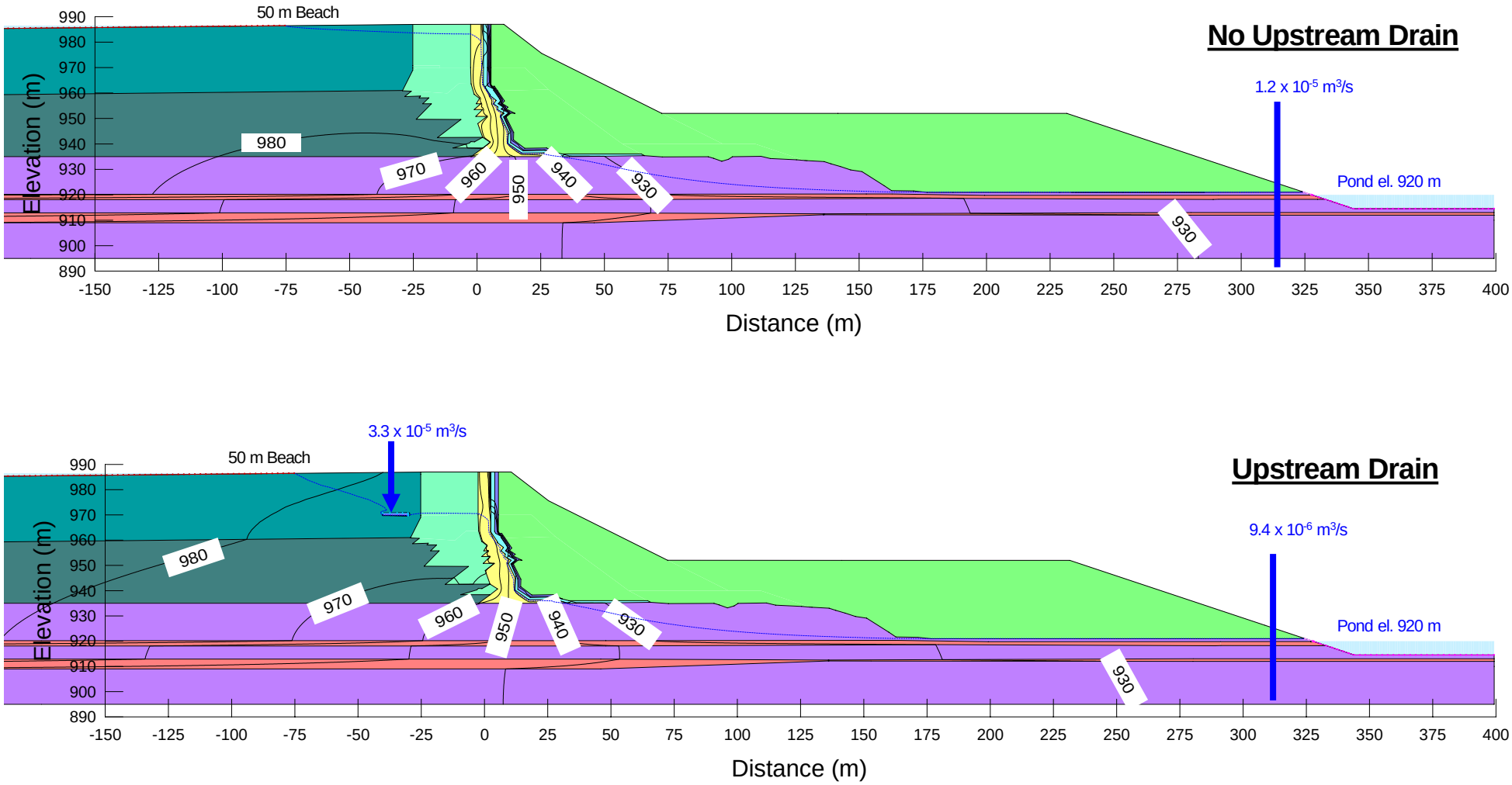
CONSULTANT
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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	YJ
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
SEEPAGE ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+765 *(Old Stn. 3+770)*
NO SUB-AERIAL BEACH

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	F-12



Piezometric Line

REFERENCES/NOTES

1. Contours show total head, 10 m intervals.
2. Zero flow boundary applied for the drain.
3. Zero pressure and water total head boundaries applied to the downstream foundation surface.
4. The natural berm below the embankment buttress toe will be removed or breached.

CLIENT
MOUNT POLLEY MINING CORPORATION

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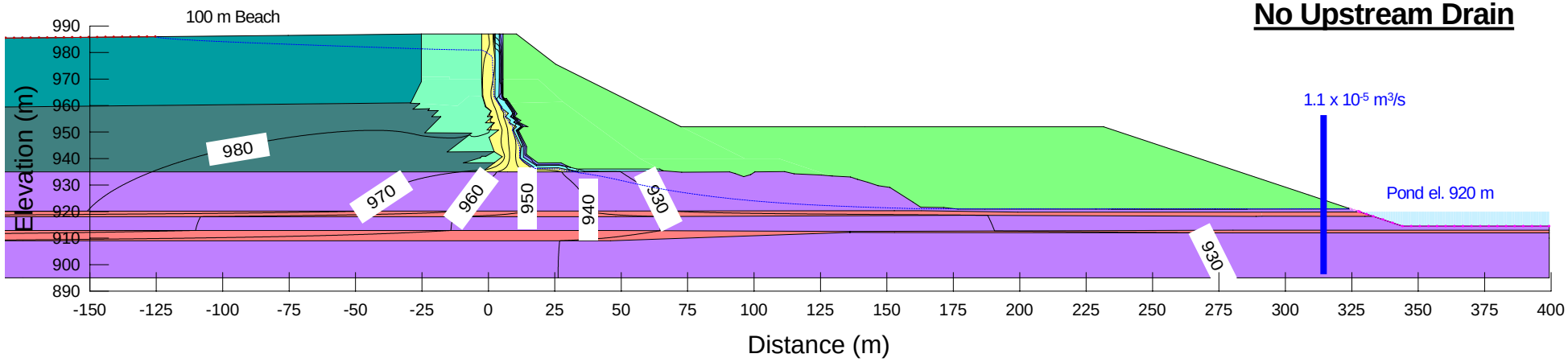
YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	YJ
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APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

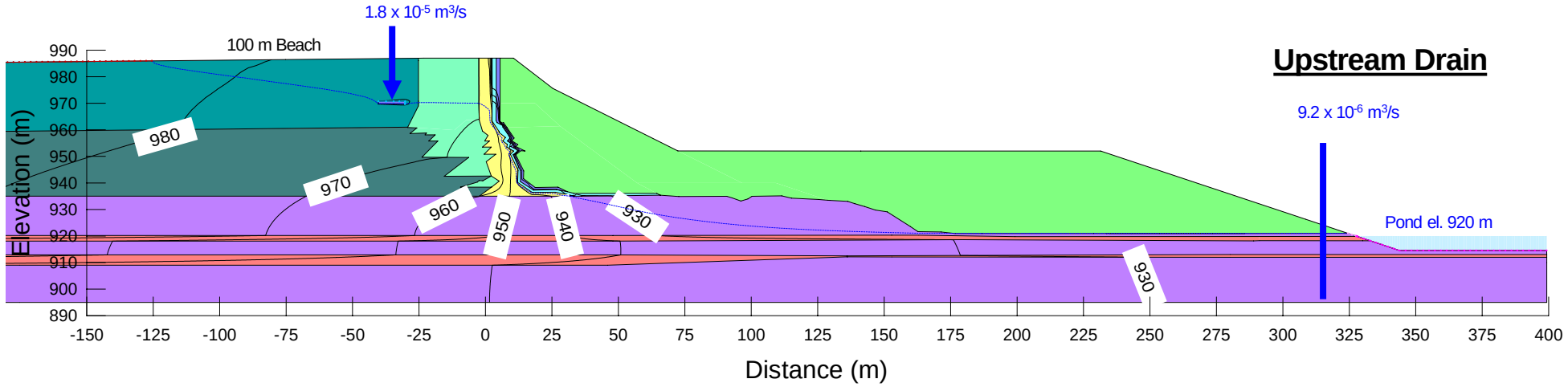
TITLE
SEEPAGE ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+765 *(Old Stn. 3+770)*
50 m SUB-AERIAL BEACH

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	F-13

No Upstream Drain



Upstream Drain



Piezometric Line

REFERENCES/NOTES

1. Contours show total head, 10 m intervals.
2. Zero flow boundary applied for the drain.
3. Zero pressure and water total head boundaries applied to the downstream foundation surface.
4. The natural berm below the embankment buttress toe will be removed or breached.

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MOUNT POLLEY MINING CORPORATION

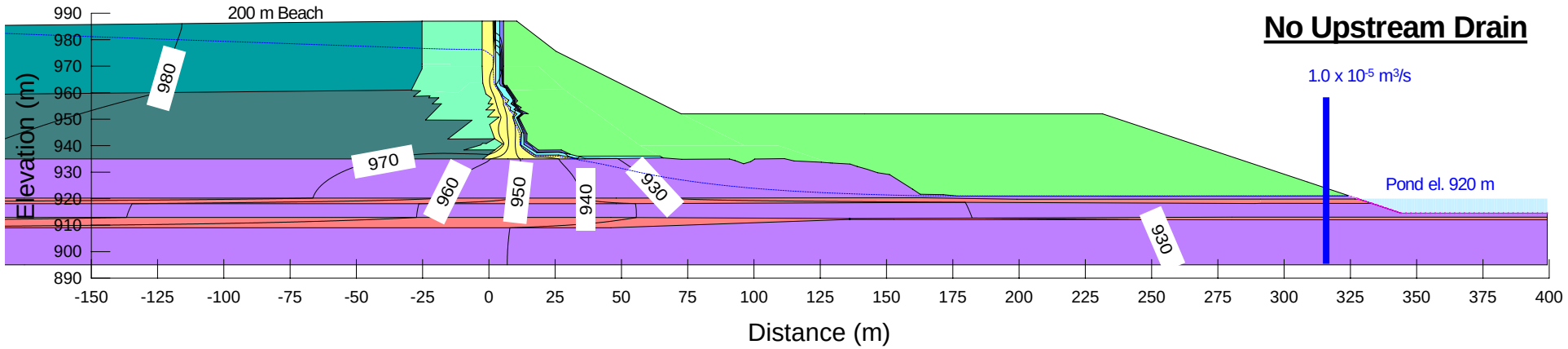
CONSULTANT
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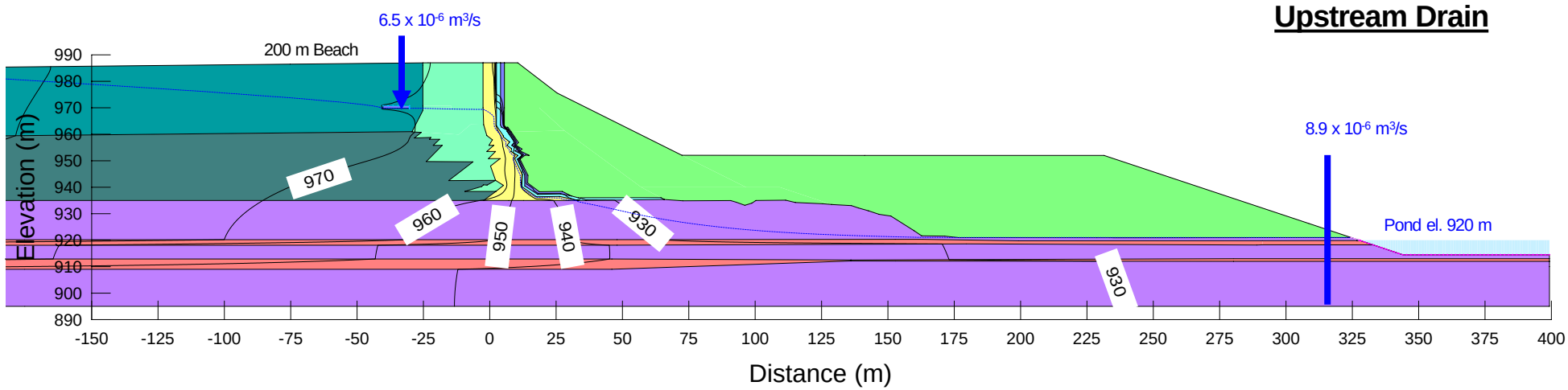
YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	YJ
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
SEEPAGE ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+765 *(Old Stn. 3+770)*
100 m SUB-AERIAL BEACH

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	F-14





Piezometric Line

REFERENCES/NOTES

1. Contours show total head, 10 m intervals.
2. Zero flow boundary applied for the drain.
3. Zero pressure and water total head boundaries applied to the downstream foundation surface.
4. The natural berm below the embankment buttress toe will be removed or breached.

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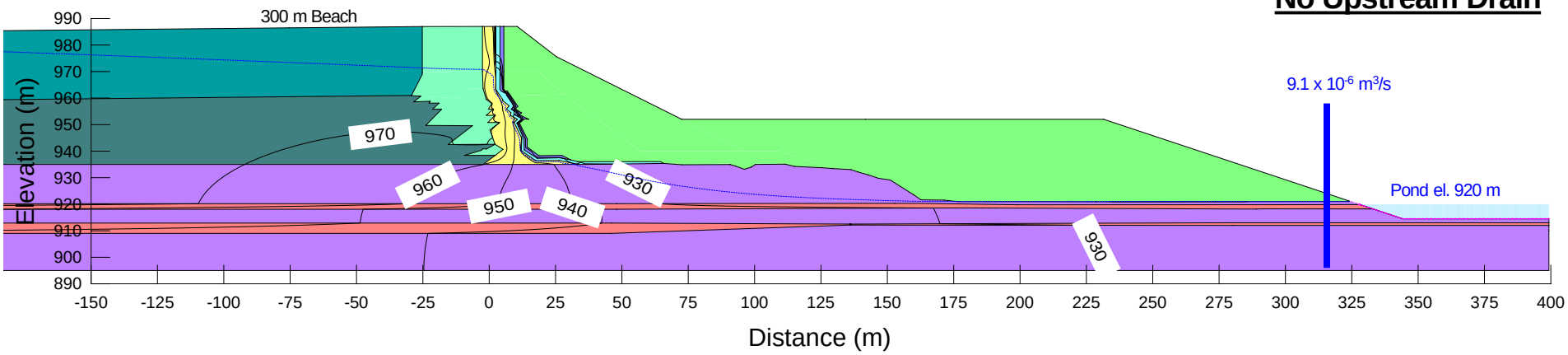
YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	YJ
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

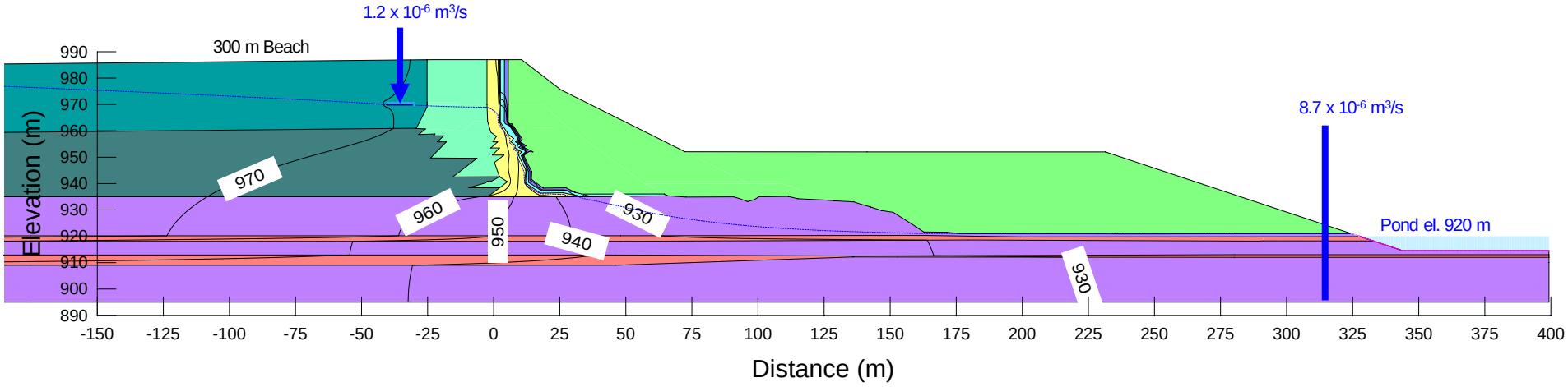
TITLE
SEEPAGE ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+765 *(Old Stn. 3+770)*
200 m SUB-AERIAL BEACH

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	F-15

No Upstream Drain



Upstream Drain



Piezometric Line

REFERENCES/NOTES

1. Contours show total head, 10 m intervals.
2. Zero flow boundary applied for the drain.
3. Zero pressure and water total head boundaries applied to the downstream foundation surface.
4. The natural berm below the embankment buttress toe will be removed or breached.

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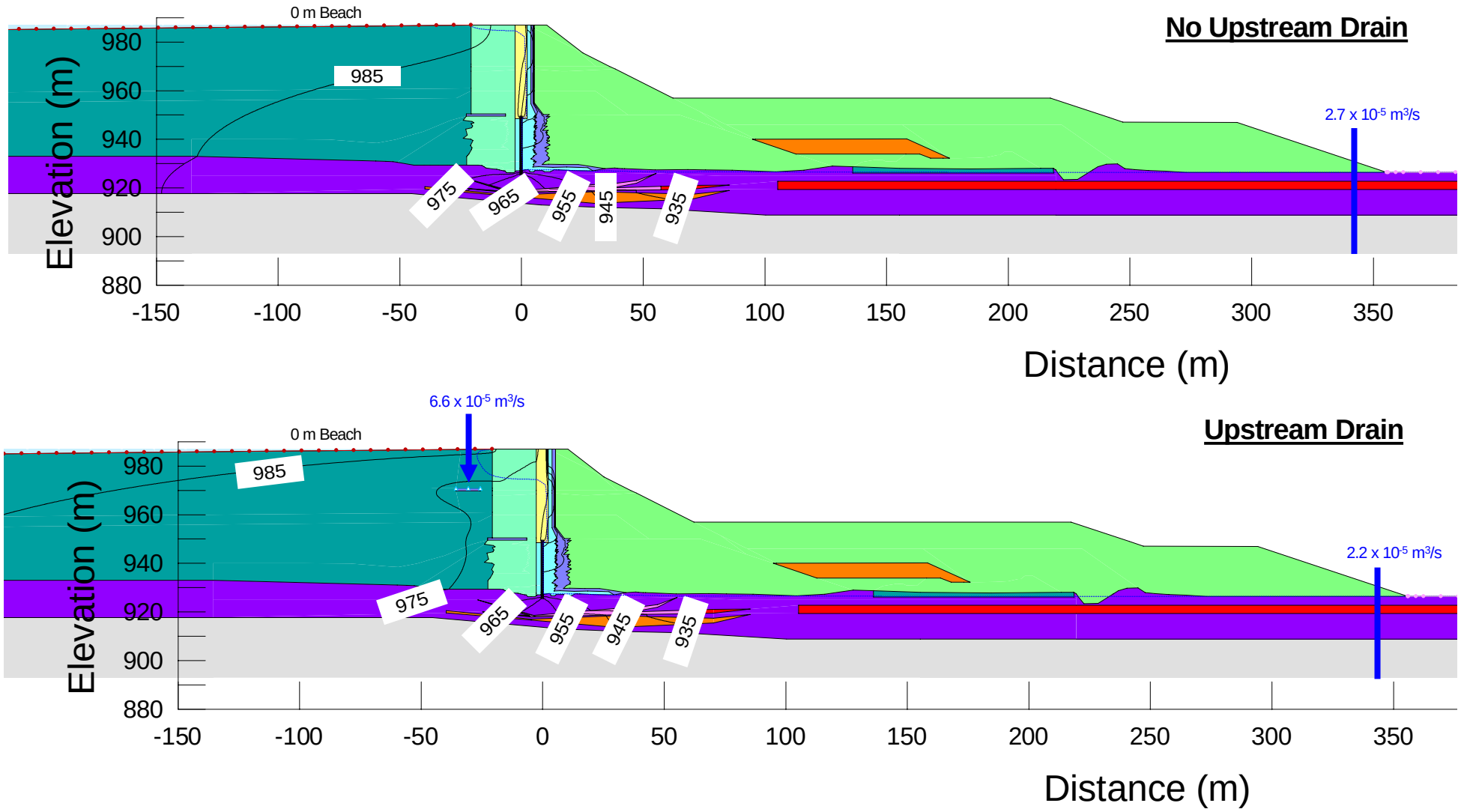
CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	YJ
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
SEEPAGE ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+765 *(Old Stn. 3+770)*
300 m SUB-AERIAL BEACH

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	F-16



Piezometric Line

REFERENCES/NOTES

1. Contours show total head, 10 m intervals.
2. Zero flow boundary applied for the drain.
3. Zero pressure applied to the downstream foundation surface.

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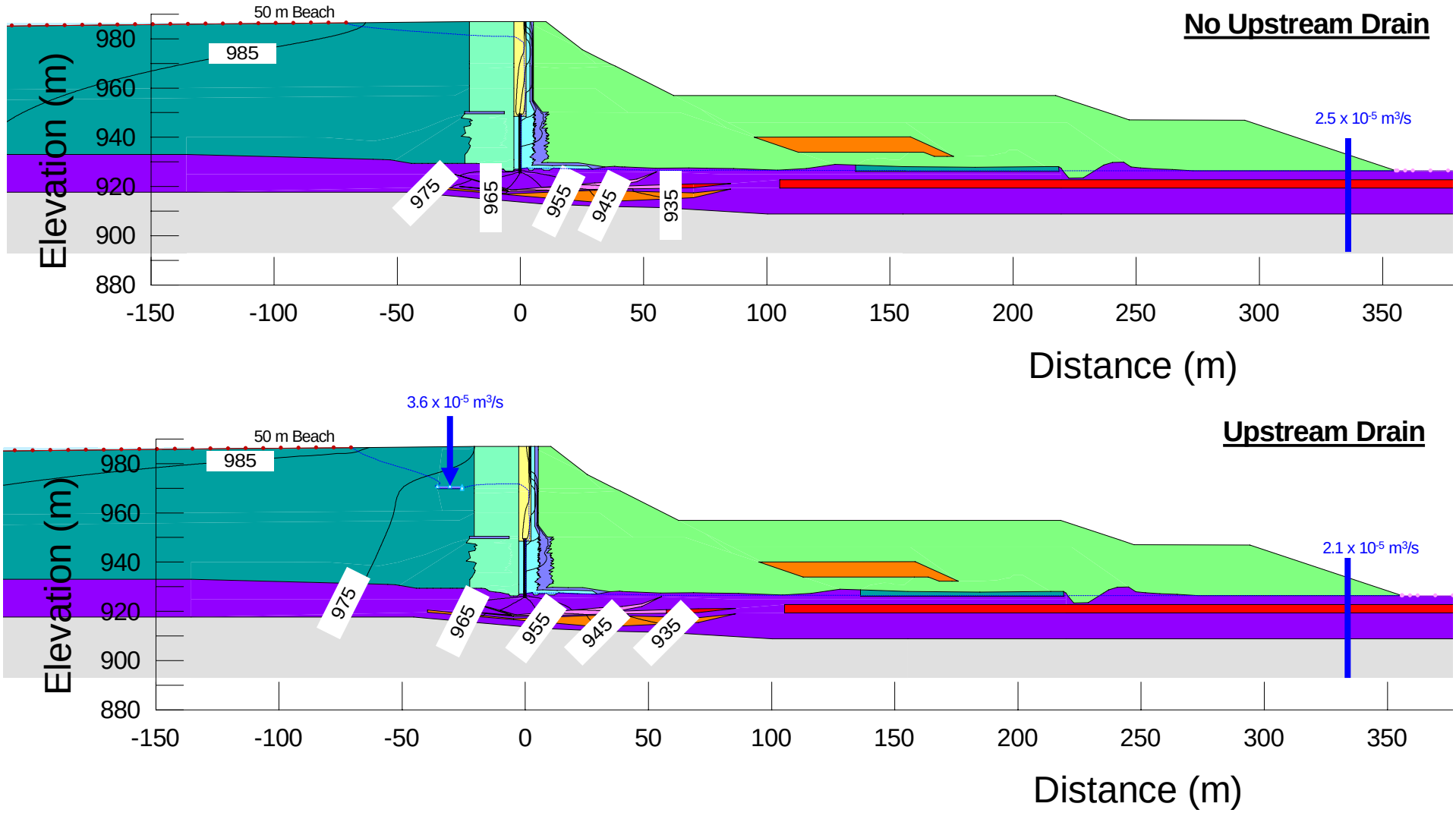
CONSULTANT

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	YJ
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
SEEPAGE ANALYSIS (CORNER 1)
SECTION 4+255 (Old Stn. 20+265)
NO SUB-AERIAL BEACH

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	F-17



Piezometric Line

REFERENCES/NOTES

1. Contours show total head, 10 m intervals.
2. Zero flow boundary applied for the drain.
3. Zero pressure applied to the downstream foundation surface.

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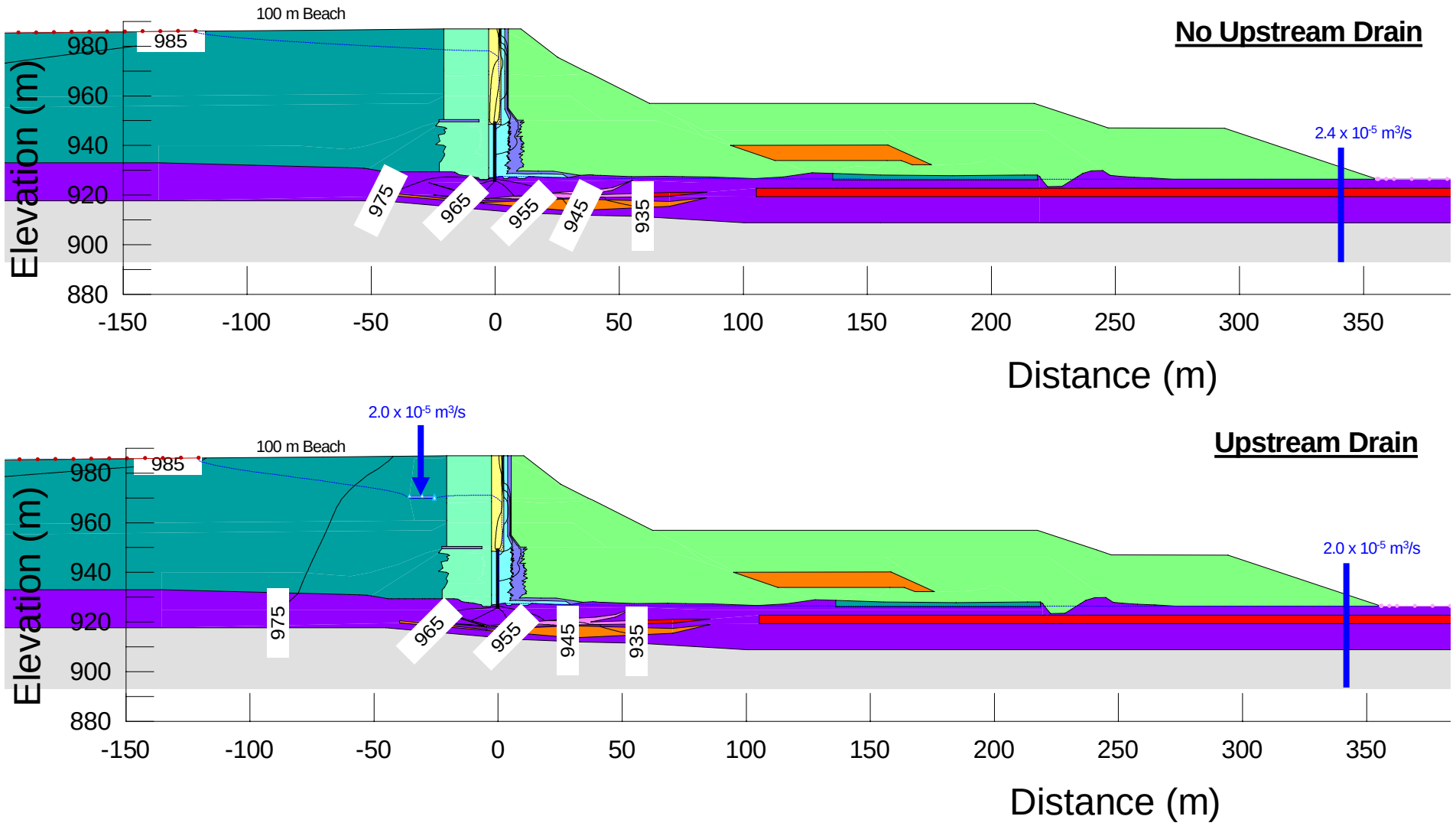
CONSULTANT

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	YJ
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
SEEPAGE ANALYSIS (CORNER 1)
SECTION 4+255 (Old Stn. 20+265)
50 m SUB-AERIAL BEACH

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	F-18



Piezometric Line

REFERENCES/NOTES

1. Contours show total head, 10 m intervals.
2. Zero flow boundary applied for the drain.
3. Zero pressure applied to the downstream foundation surface.

CLIENT
MOUNT POLLEY MINING CORPORATION

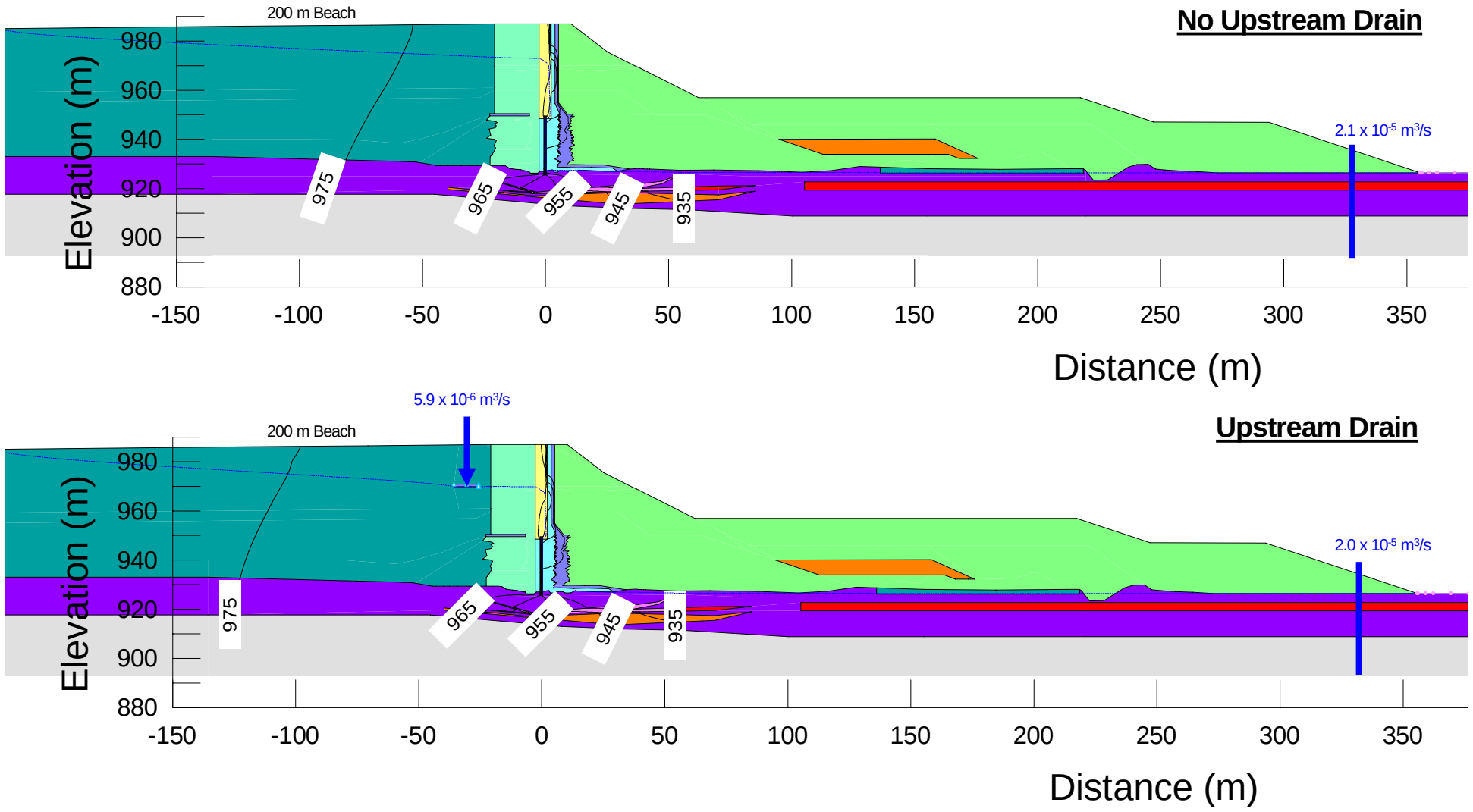
CONSULTANT
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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	YJ
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
SEEPAGE ANALYSIS (CORNER 1)
SECTION 4+255 (Old Stn. 20+265)
100 m SUB-AERIAL BEACH

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	F-19



REFERENCES/NOTES

1. Contours show total head, 10 m intervals.
2. Zero flow boundary applied for the drain.
3. Zero pressure applied to the downstream foundation surface.

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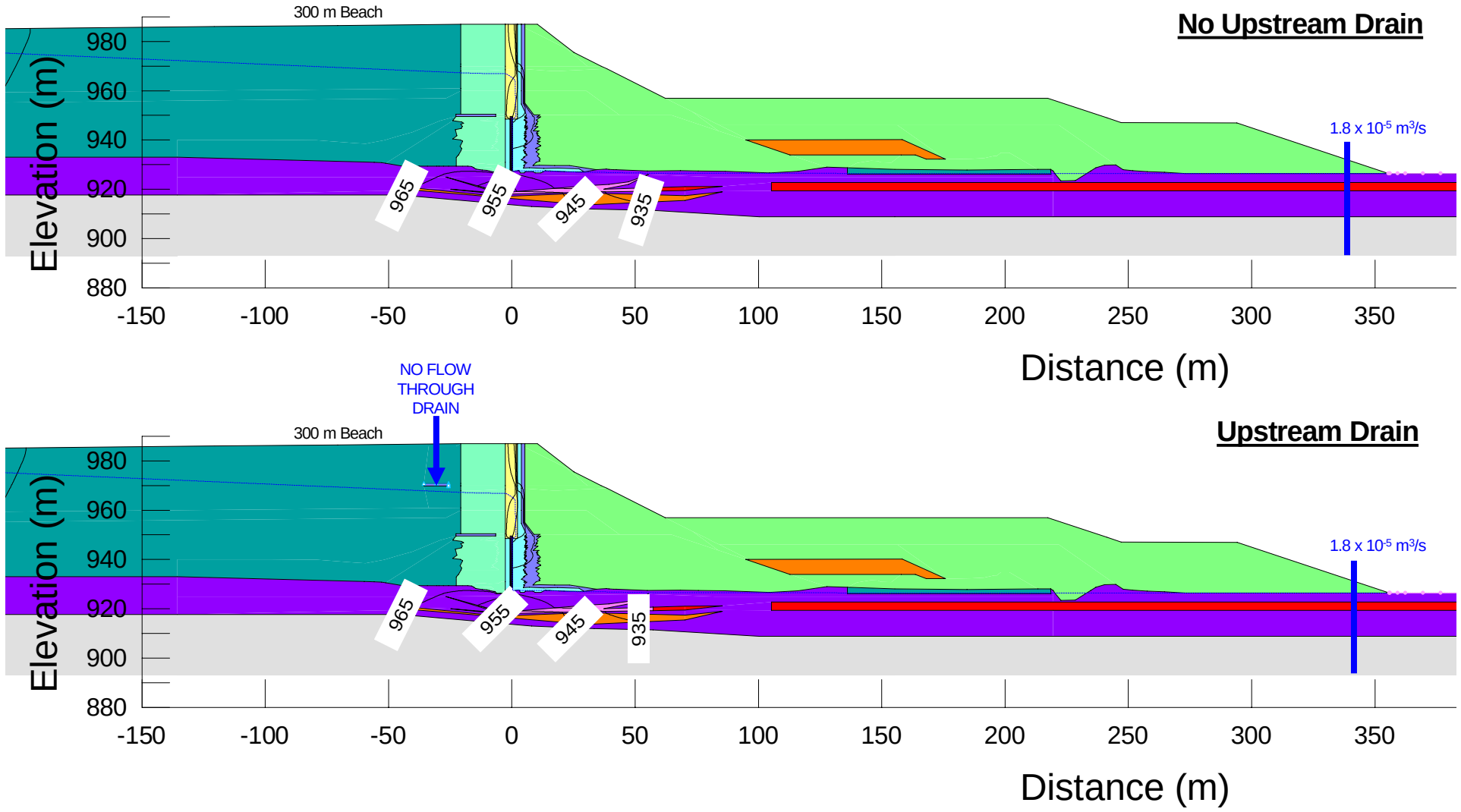
CONSULTANT

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	YJ
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
SEEPAGE ANALYSIS (CORNER 1)
SECTION 4+255 (Old Stn. 20+265)
200 m SUB-AERIAL BEACH

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	F-20



Piezometric Line

REFERENCES/NOTES

1. Contours show total head, 10 m intervals.
2. Zero flow boundary applied for the drain.
3. Zero pressure applied to the downstream foundation surface.

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DESIGNED	YJ
REVIEWED	SB
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PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
SEEPAGE ANALYSIS (CORNER 1)
SECTION 4+255 (Old Stn. 20+265)
300 m SUB-AERIAL BEACH

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	F-21

APPENDIX G

Stability Models

Material Properties				Glossary: φ = friction angle; *c* = cohesion
Materials	**Colour**	**Unit Weight (kN/m³)**	**Pore Pressure Coefficient B-bar[1]**	**Strength Parameters[2]**
Foundation Till		22	0.20	Mohr-Coulomb: φ = 34°; c = 0 kPa
Glaciofluvial		22	0.20	Mohr-Coulomb: φ = 34°; c = 0 kPa
Upper Glaciolacustrine (Perimeter Embankment at Corner 1)		18	0.46	Peak: $T = 0.22\ \sigma_v' \ OCR^{0.71}$, where σ_p' = 400 kPa
		18	0.46	Remolded: S_{ur} = 22 kPa
Lower Glaciolacustrine (Perimeter Embankment at Corner 1)		20	0.20	Peak: $T = 0.22\ \sigma_v' \ OCR^{0.71}$, where σ_p' = 700 kPa
Glaciolacustrine (Perimeter Embankment)		20	0.20	Peak: $T = 0.22\ \sigma_v' \ OCR^{0.71}$, where σ_p' = 900 kPa
Glaciolacustrine (Main Embankment) and Low Plasticity Silty Clay (South Embankment)		20	0.20	Peak: $T = 0.22\ \sigma_v' \ OCR^{0.71}$, where σ_p' = 1,200 kPa
Glaciolacustrine (Main Embankment - approx. El. 922 m Stn. 2+455 and 2+695)		20	0.20	Peak: $T = 0.22\ \sigma_v' \ OCR^{0.71}$, where σ_p' = 850 kPa
Bedrock		-	-	Bedrock (Impenetrable)
Upstream Fill		20	-	Mohr-Coulomb: φ = 32°; c = 0 kPa
Till Core		20.5	-	Mohr-Coulomb: φ = 33°; c = 0 kPa
Filter		20	-	Mohr-Coulomb: φ = 30°; c = 0 kPa
Transition		20	-	Shear-Normal Function: $T = 1.726\ \sigma_n'^{0.899}$
Rockfill		21.5	-	Shear-Normal Function: $T = 1.726\ \sigma_n'^{0.899}$
Tailings		17	-	Mohr-Coulomb: φ = 25°; c = 0 kPa Undrained: τ / σ_v' = 0.1

REFERENCES/NOTES

1. B-bar values were assigned to foundation till, glaciofluvial, and glaciolacustrine for the short-term static case to account for excess pore water pressures that may be generated during construction.
2. For pseudo-static loading condition, glaciolacustrine shear strength was reduced to 80%.

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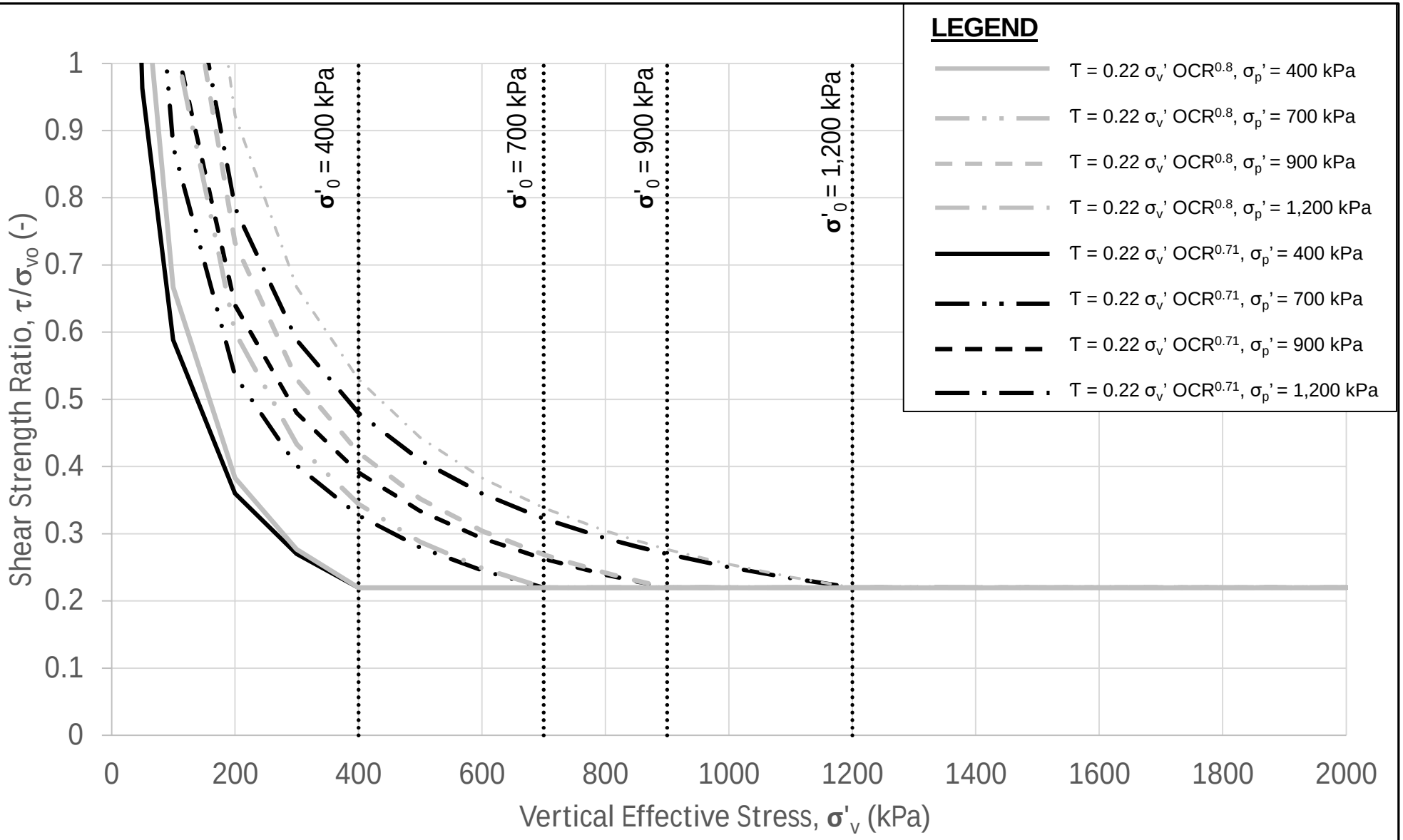
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REVIEWED	SB
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PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
STABILITY ANALYSIS
MATERIAL PROPERTIES

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	**51200/51293**	**0**	**G-1**



REFERENCES/NOTES

1. Grey curves depict undrained shear strength functions used in the El. 970 m detailed design (Golder 2015b).
2. Black curves depict undrained shear strength functions refined for the El. 974 m (WSP 2024a) and El. 987 m detailed designs.

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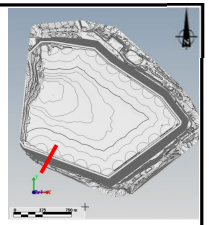
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MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

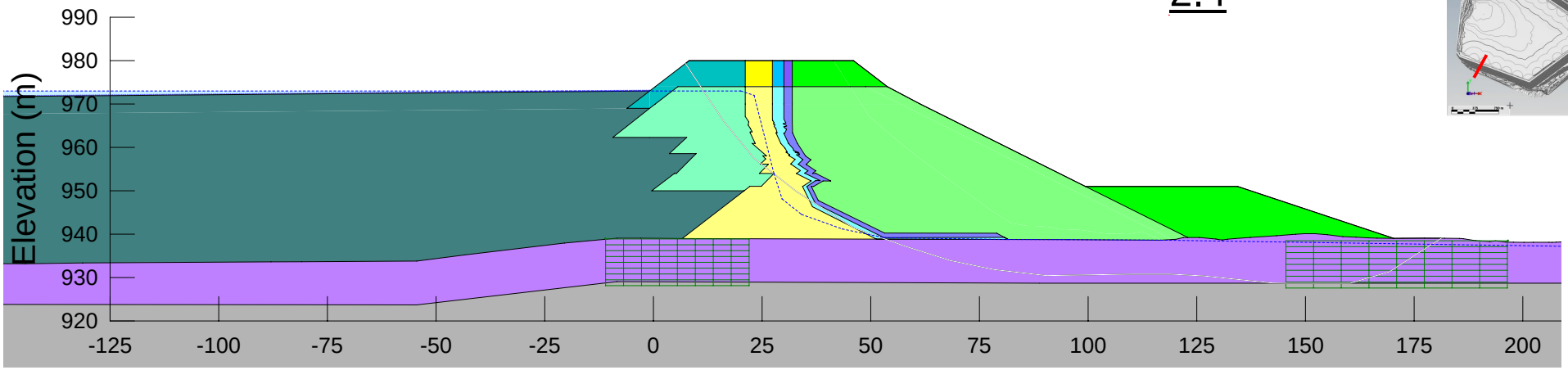
TITLE
STABILITY ANALYSIS
UNDRAINED SHEAR STRENGTH FUNCTION
GLACIOLACUSTRINE UNITS

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	**51200/51293**	**0**	**G-2**

Stage 1 Construction - Upset Conditions (0 m beach, drains not functioning)

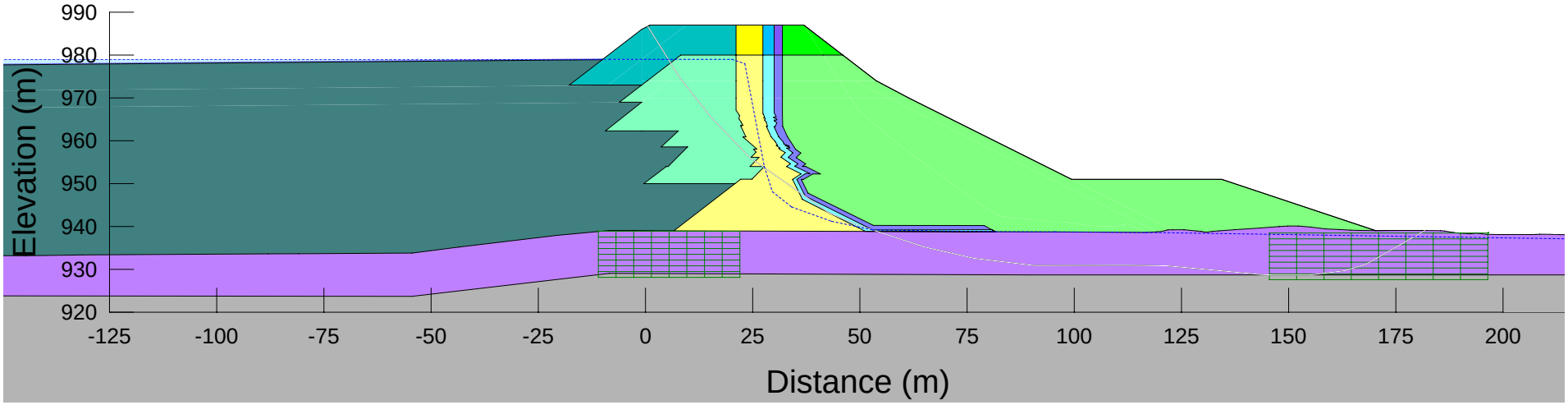
2.4





Stage 2 Construction - Upset Conditions (0 m beach, drains not functioning)

2.2



Piezometric Line

REFERENCES/NOTES

1. Partially consolidated foundation soils; B-bar applied.
2. Stage 1: crest el. 980 m, pond and tailings el. 973 m.
3. Stage 2: crest el. 987 m, pond and tailings el. 979 m.
4. Incremental construction material represented by darker shade.

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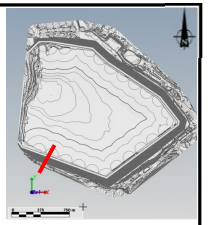
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

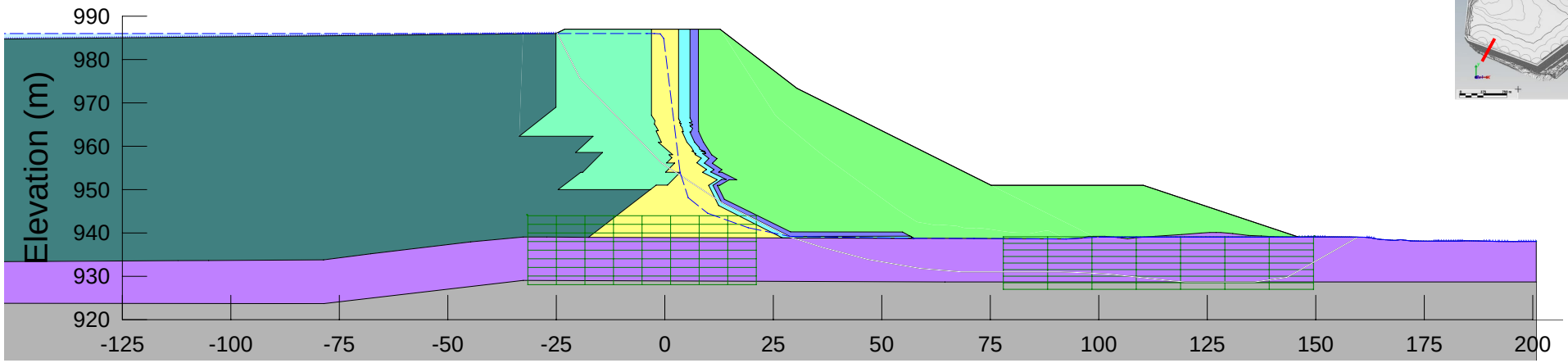
TITLE
STABILITY ANALYSIS (SOUTH EMBANKMENT)
SECTION 0+725 *(Old Stn. 0+720)*
SHORT-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	**51200/51293**	**0**	**G-3**

Upset Conditions (0 m beach, drains not functioning)

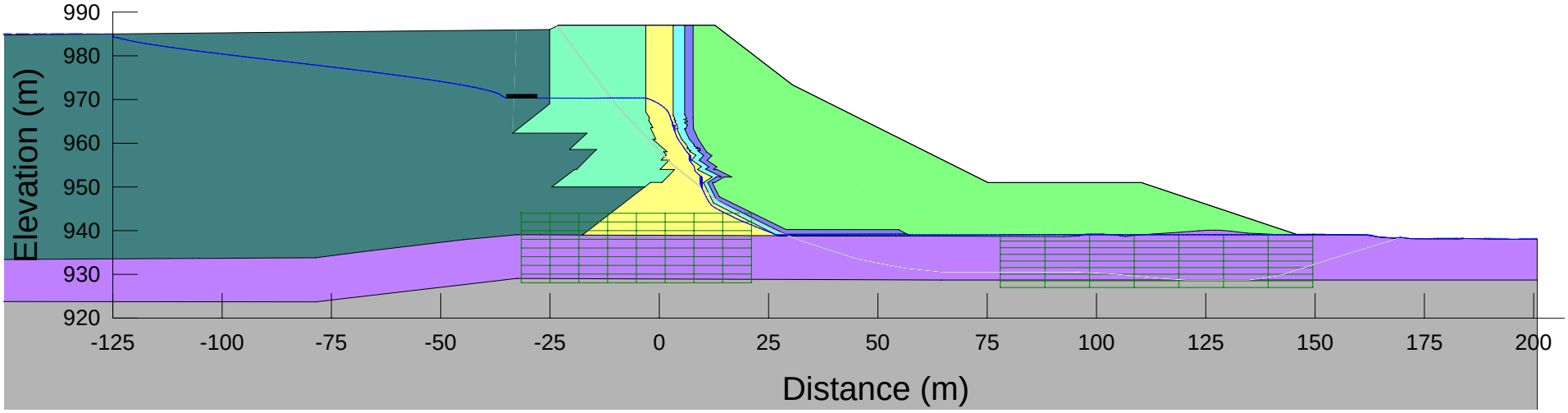
2.1





Normal Operating Conditions (100 m beach, drains functioning)

2.2



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.

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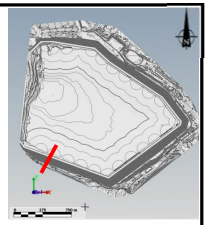
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

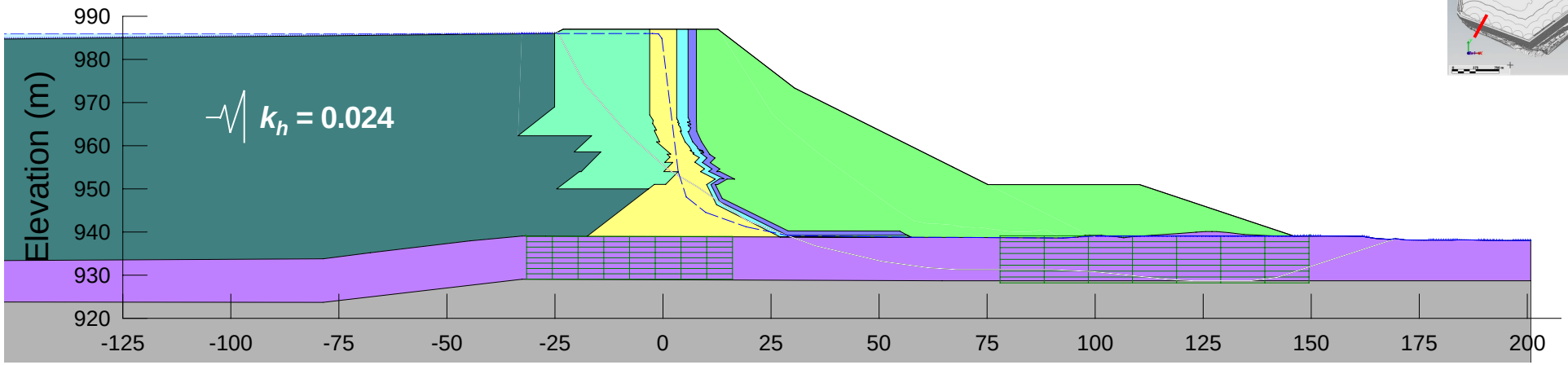
TITLE
STABILITY ANALYSIS (SOUTH EMBANKMENT)
SECTION 0+725 *(Old Stn. 0+720)*
LONG-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-4

Upset Conditions (0 m beach, drains not functioning)

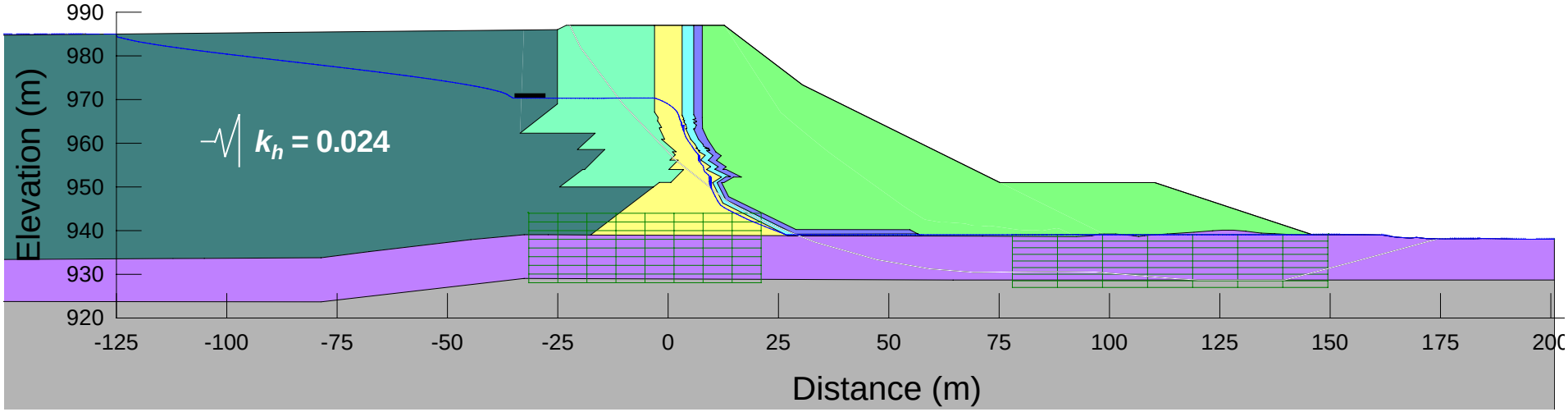
1.9





2.0

Normal Operating Conditions (100 m beach, drains functioning)



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 2,475-year AEP.

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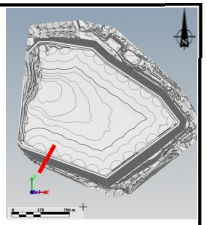
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

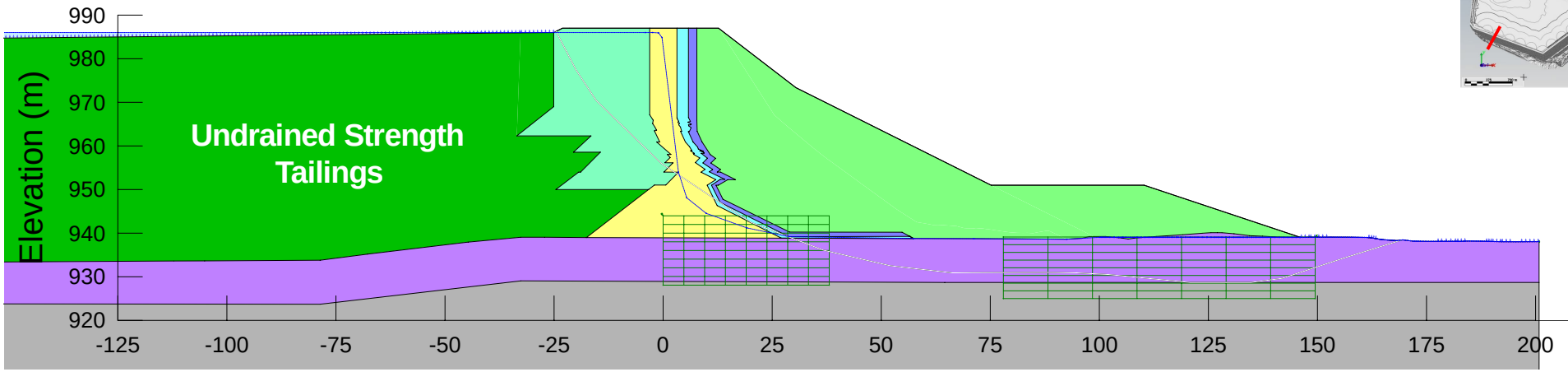
TITLE
STABILITY ANALYSIS (SOUTH EMBANKMENT)
SECTION 0+725 *(Old Stn. 0+720)*
PSEUDO-STATIC LOADING

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-5

Upset Conditions (0 m beach, drains not functioning)

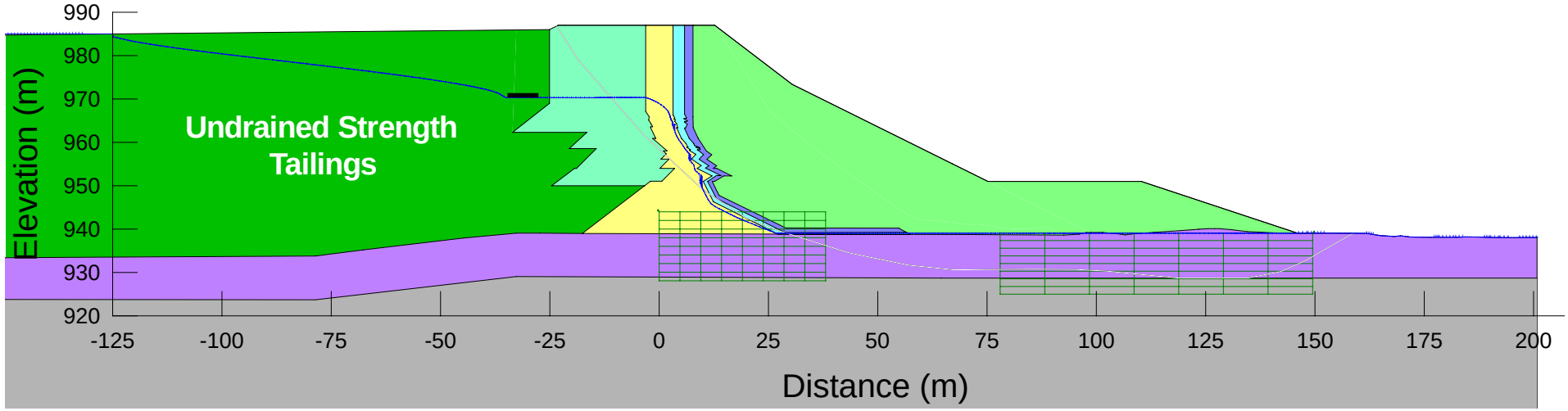
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Normal Operating Conditions (100 m beach, drains functioning)

2.2



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. No seismic loading applied.

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APPROVED	GP

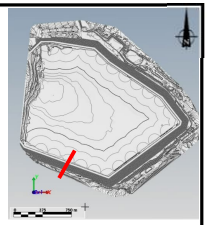
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

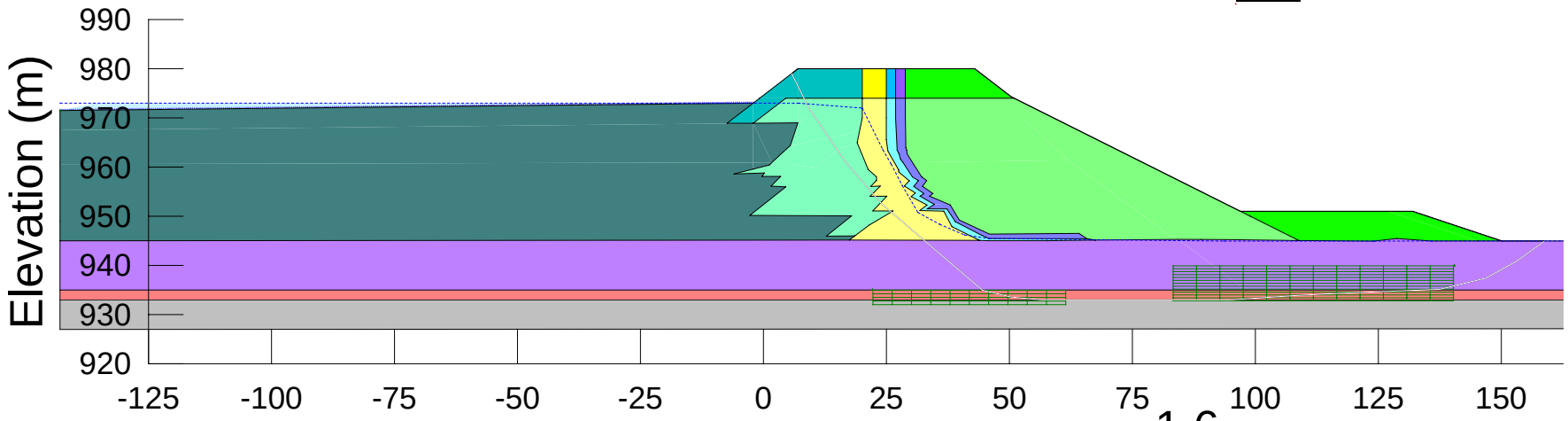
TITLE
STABILITY ANALYSIS (SOUTH EMBANKMENT)
SECTION 0+725 *(Old Stn. 0+720)*
POST-EARTHQUAKE

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-6

Stage 1 Construction - Upset Conditions (0 m beach, drains not functioning)

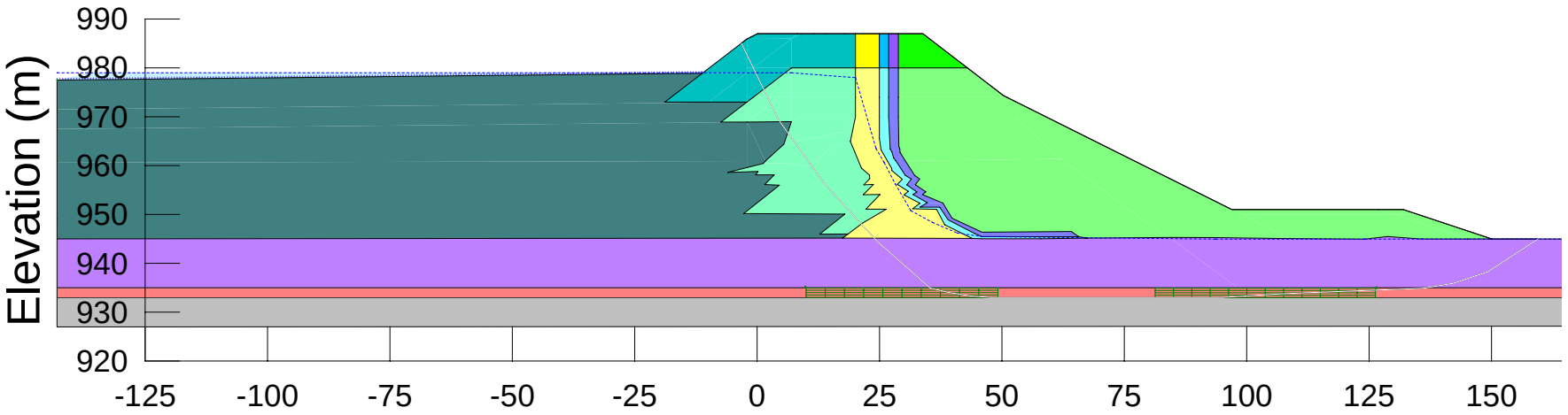
1.9





Stage 2 Construction - Upset Conditions (0 m beach, drains not functioning)

1.6



Distance (m)

Piezometric Line

REFERENCES/NOTES

1. Partially consolidated foundation soils; B-bar applied.
2. Stage 1: crest el. 980 m, pond and tailings el. 973 m.
3. Stage 2: crest el. 987 m: pond and tailings el. 979 m.
4. Incremental construction material represented by darker shade.
5. Pre-consolidation pressure for the low plasticity silty clay: 1,200 kPa.

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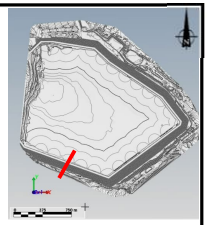
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

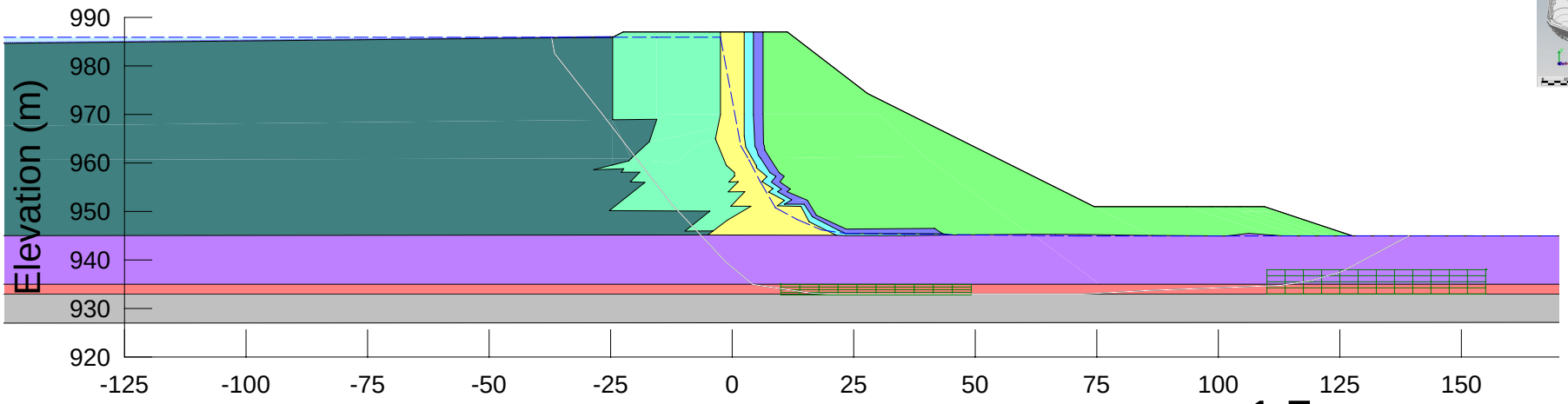
TITLE
STABILITY ANALYSIS (SOUTH EMBANKMENT)
SECTION 1+095 *(Old Stn. 1+100)*
SHORT-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-7

Upset Conditions (0 m beach, drains not functioning)

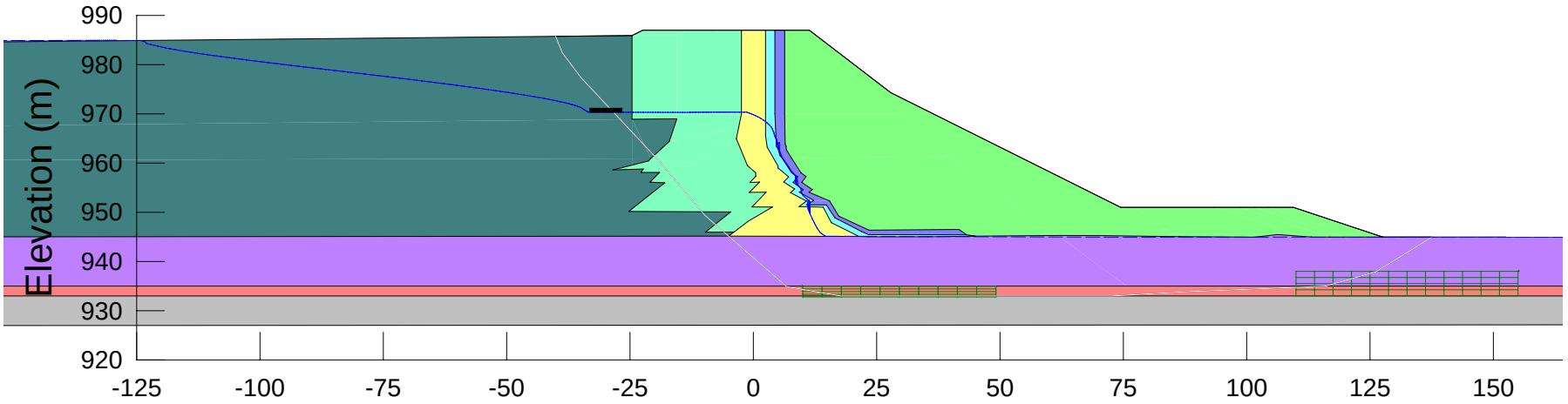
1.5





1.7

Normal Operating Conditions (100 m beach, drains functioning)



Piezometric Line

Distance (m)

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Pre-consolidation pressure for the low plasticity silty clay: 1,200 kPa.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

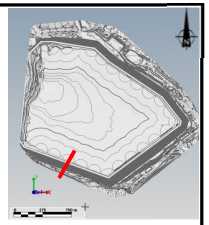
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

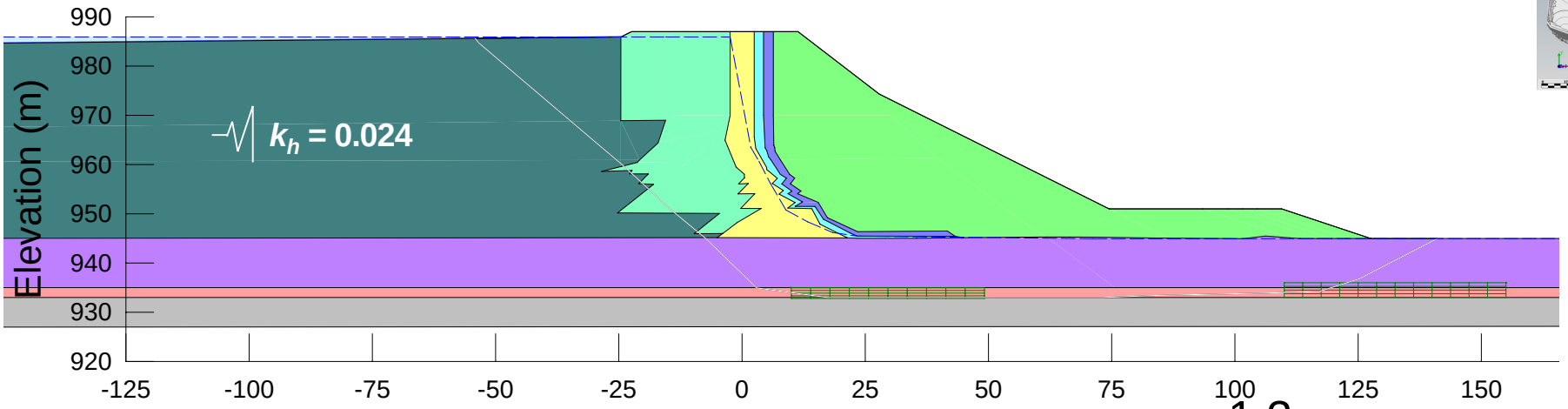
TITLE
STABILITY ANALYSIS (SOUTH EMBANKMENT)
SECTION 1+095 *(Old Stn. 1+100)*
LONG-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-8

Upset Conditions (0 m beach, drains not functioning)

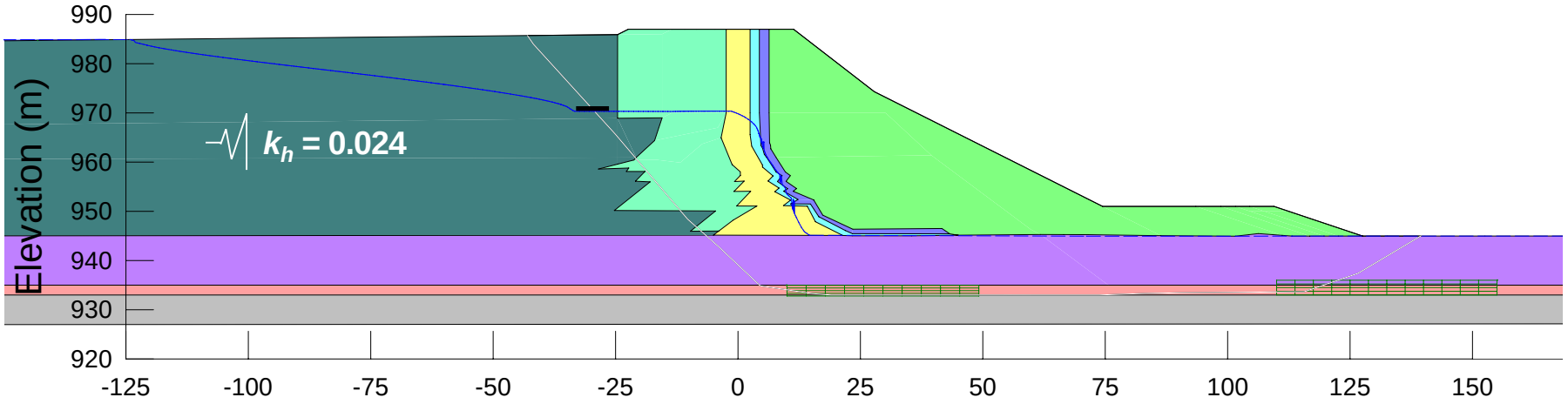
1.2





Normal Operating Conditions (100 m beach, drains functioning)

1.3



Piezometric Line

Distance (m)

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 2,475-year AEP.
5. Low plasticity silty clay shear strength reduced to 80%.
6. Pre-consolidation pressure for the low plasticity silty clay: 1,200 kPa.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

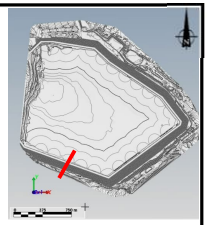
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

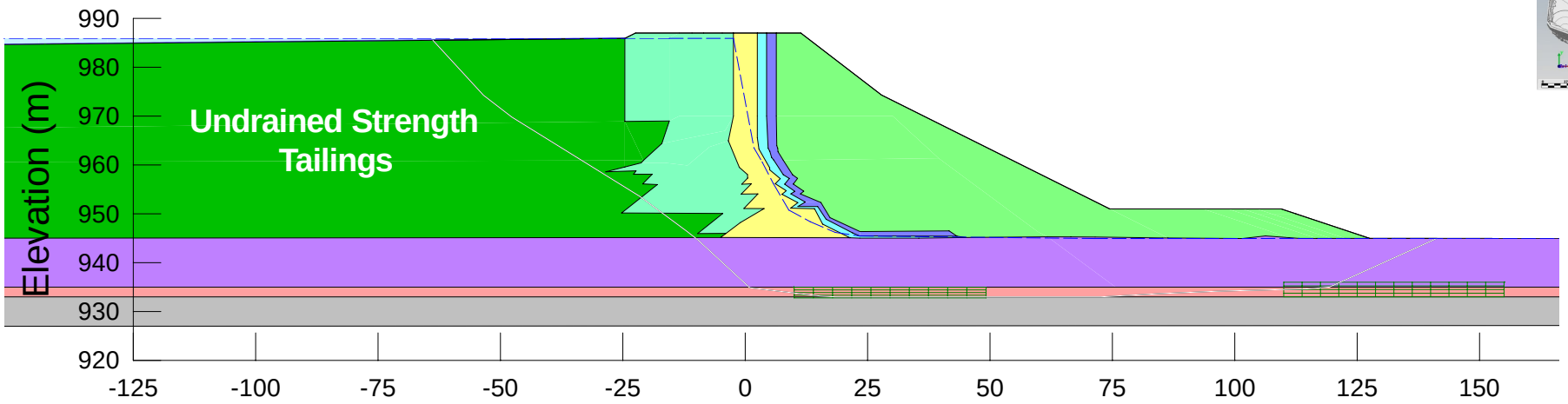
TITLE
STABILITY ANALYSIS (SOUTH EMBANKMENT)
SECTION 1+095 *(Old Stn. 1+100)*
PSEUDO-STATIC LOADING

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-9

Upset Conditions (0 m beach, drains not functioning)

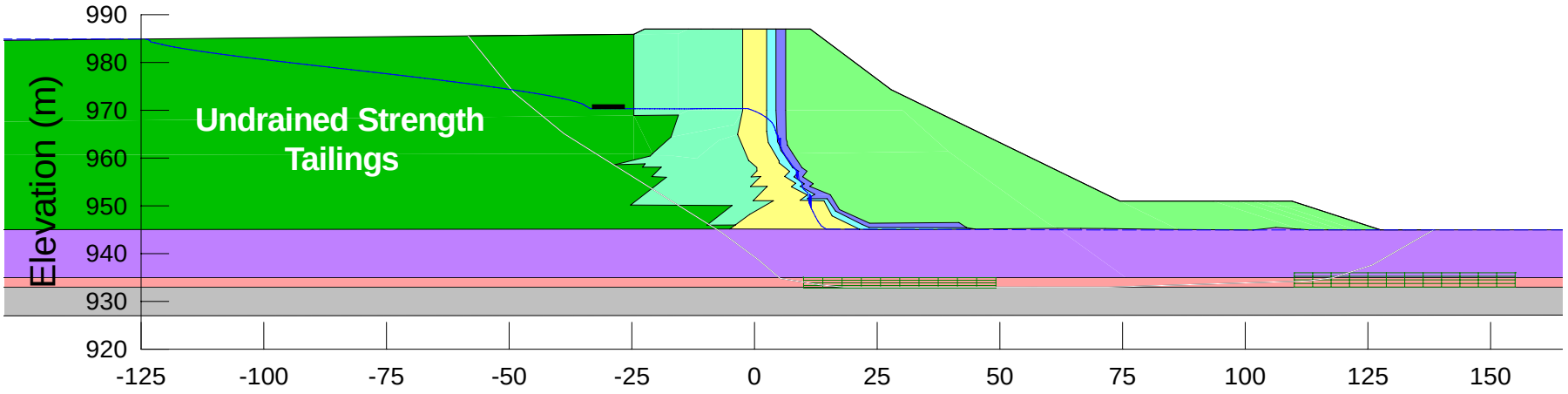
1.2





Normal Operating Conditions (100 m beach, drains functioning)

1.3



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Low plasticity silty clay shear strength reduced to 80%.
5. No seismic loading applied.
6. Pre-consolidation pressure for the low plasticity silty clay: 1,200 kPa.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

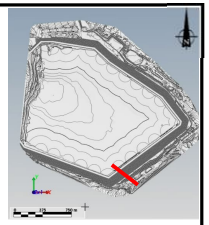
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

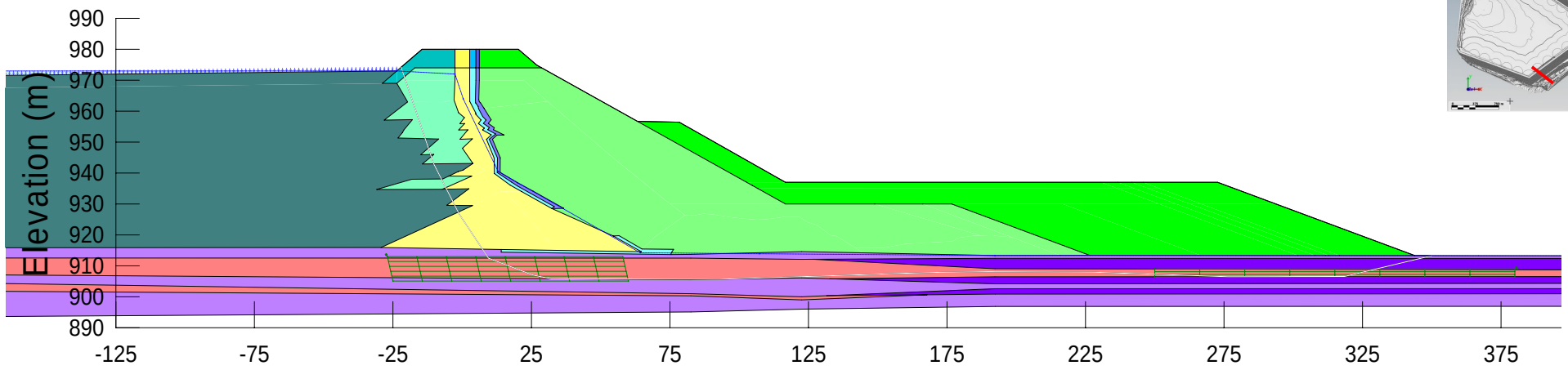
TITLE
STABILITY ANALYSIS (SOUTH EMBANKMENT)
SECTION 1+095 *(Old Stn. 1+100)*
POST-EARTHQUAKE

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-10

Stage 1 Construction - Upset Conditions (0 m beach, drains not functioning)

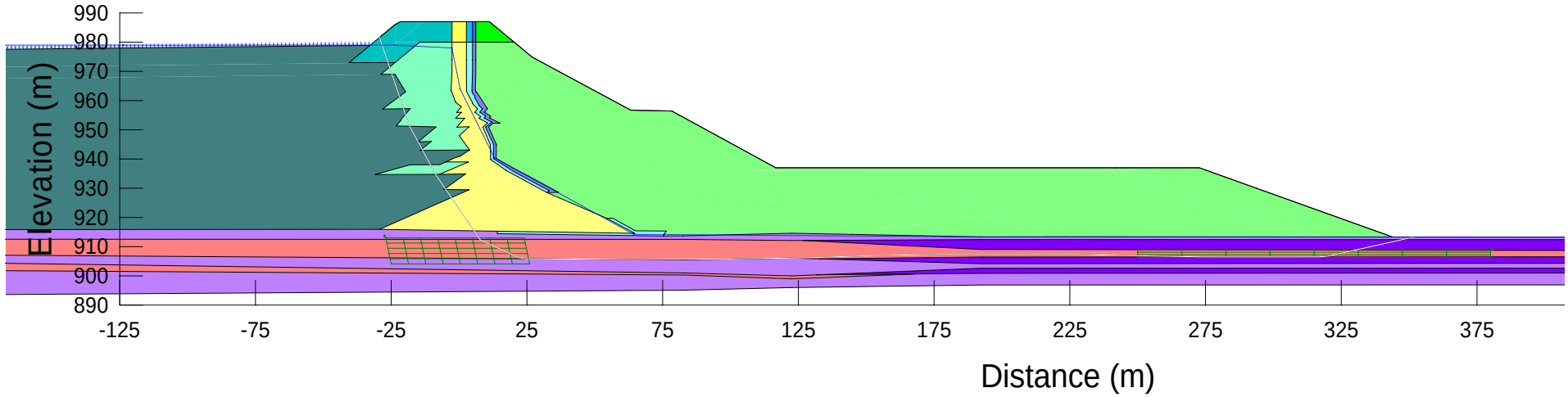
1.9





Stage 2 Construction - Upset Conditions (0 m beach, drains not functioning)

1.7



Piezometric Line

REFERENCES/NOTES

1. Partially consolidated foundation soils; B-bar applied.
2. Stage 1: crest el. 980 m, pond and tailings el. 973 m.
3. Stage 2: crest el. 987 m: pond and tailings el. 979 m.
4. Incremental construction material represented by darker shade.
5. Section incorporates the access ramp from the buttress to embankment crest at Corner 3.

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MOUNT POLLEY MINING CORPORATION

CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

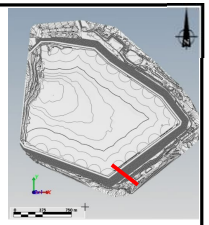
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

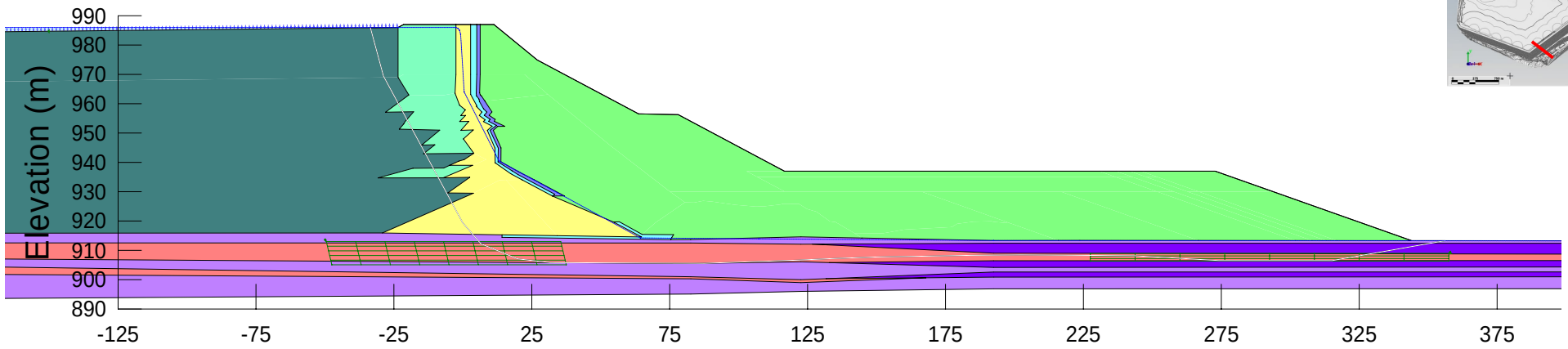
TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 1+845 *(Old Stn. 1+850)*
SHORT-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-11

Upset Conditions (0 m beach, drains not functioning)

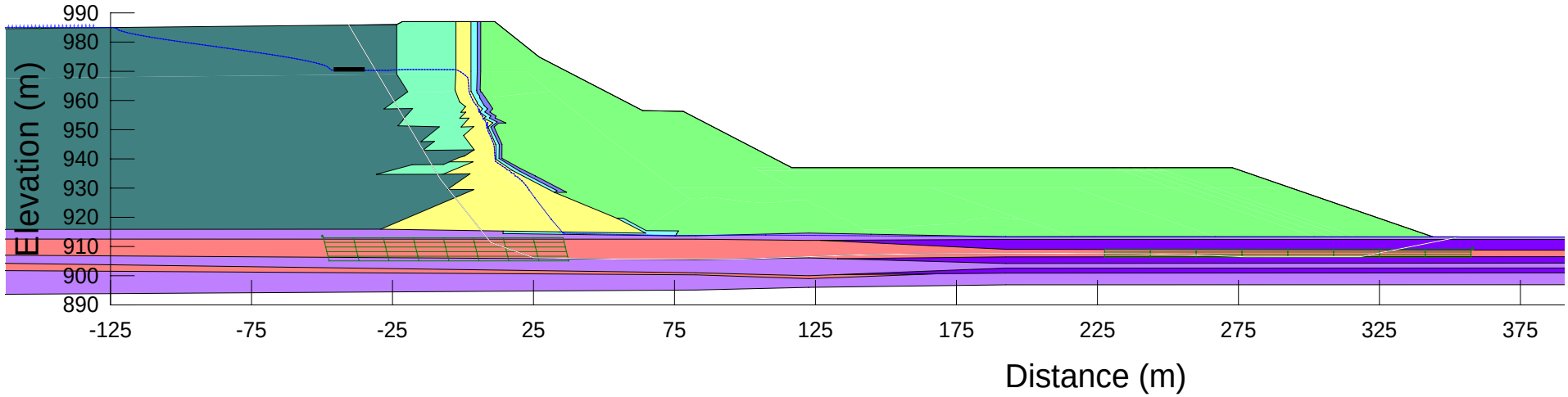
1.6





Normal Operating Conditions (100 m beach, drains functioning)

1.7



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Section incorporates the access ramp from the buttress to embankment crest at Corner 3.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

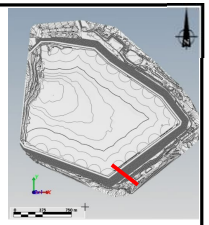
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

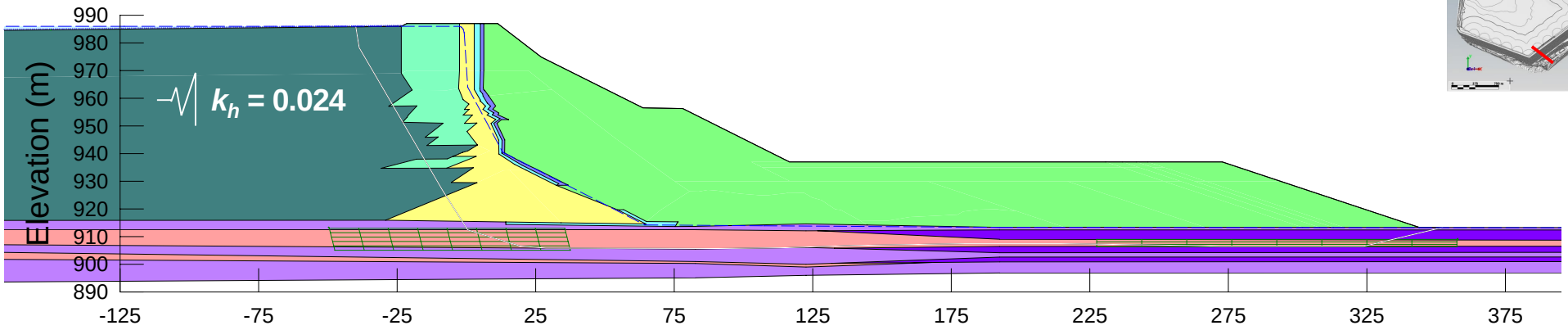
TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 1+845 *(Old Stn. 1+850)*
LONG-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-12

Upset Conditions (0 m beach, drains not functioning)

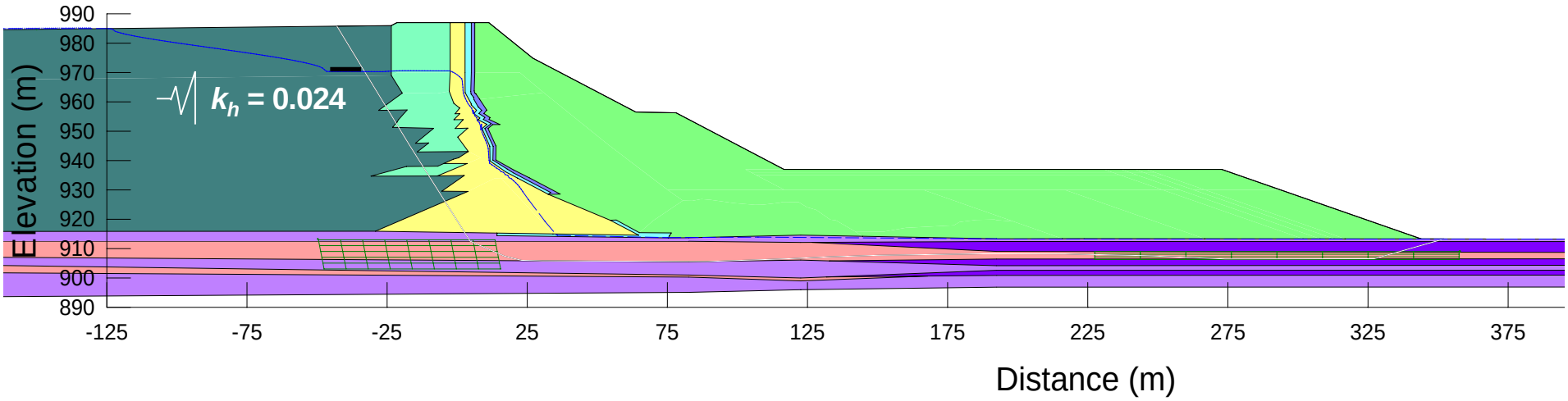
1.2





Normal Operating Conditions (100 m beach, drains functioning)

1.3



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 2,475-year AEP.
5. GLU shear strength reduced to 80%.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

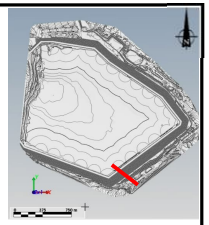
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

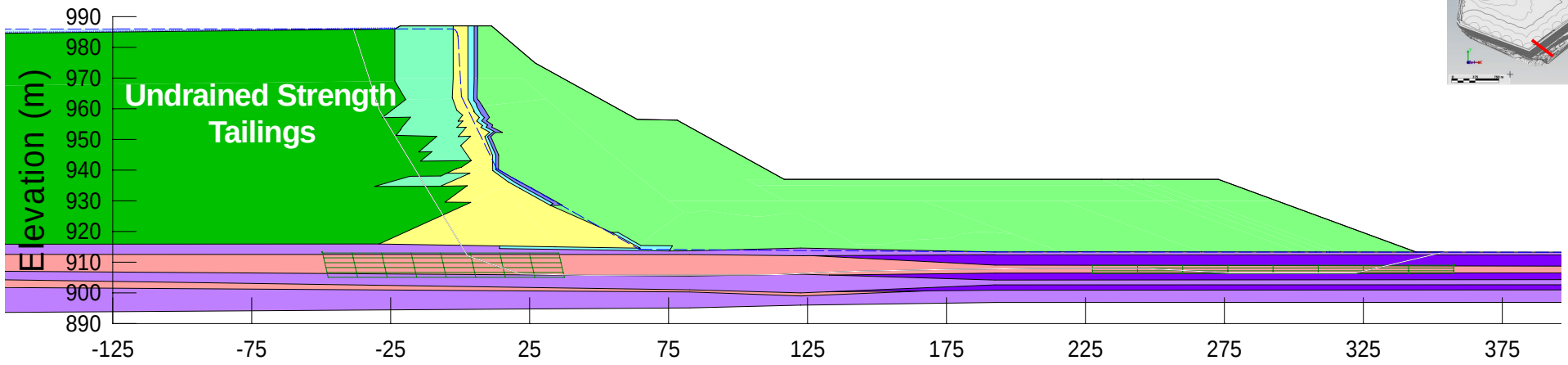
TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 1+845 *(Old Stn. 1+850)*
PSEUDO-STATIC LOADING

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-13

Upset Conditions (0 m beach, drains not functioning)

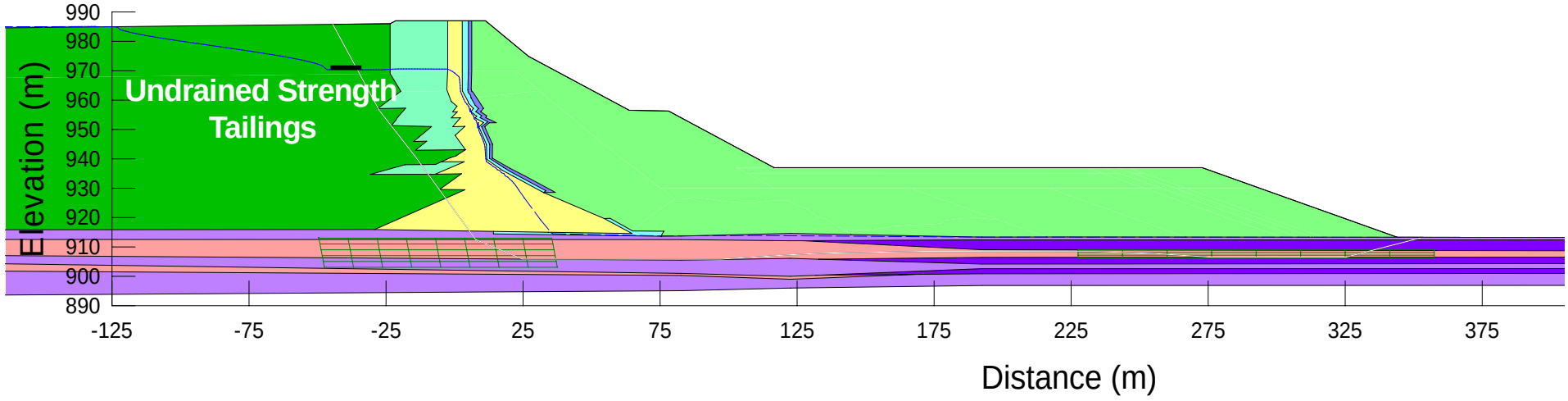
1.3





Normal Operating Conditions (100 m beach, drains functioning)

1.3



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. GLU shear strength reduced to 80%.
5. No seismic loading applied.
6. Section incorporates the access ramp from the buttress to embankment crest at Corner 3.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

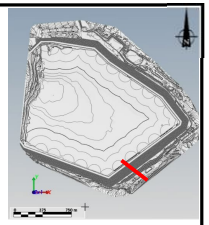
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

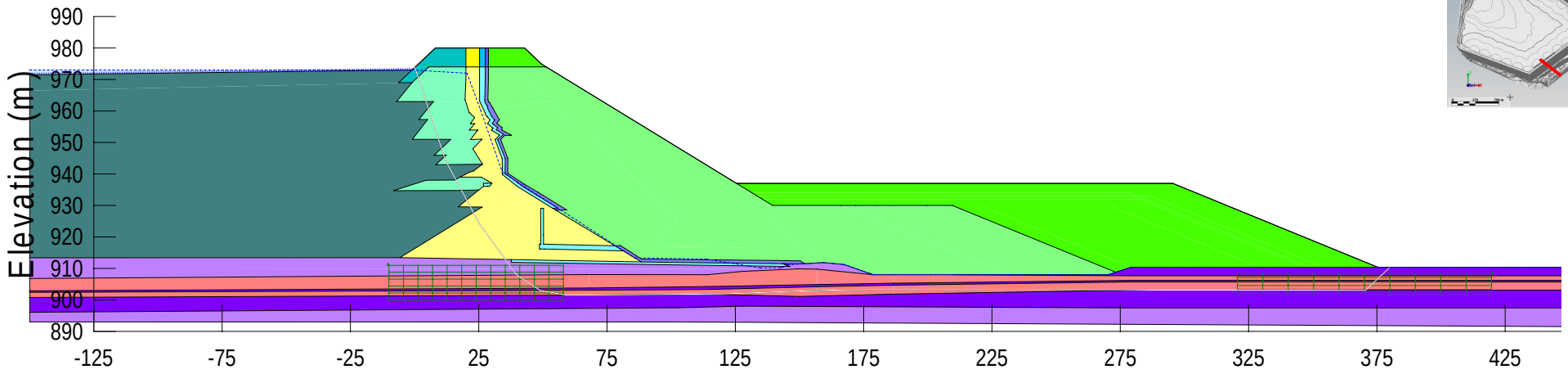
TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 1+845 *(Old Stn. 1+850)*
POST-EARTHQUAKE

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	**51200/51293**	**0**	**G-14**

Stage 1 Construction - Upset Conditions (0 m beach, drains not functioning)

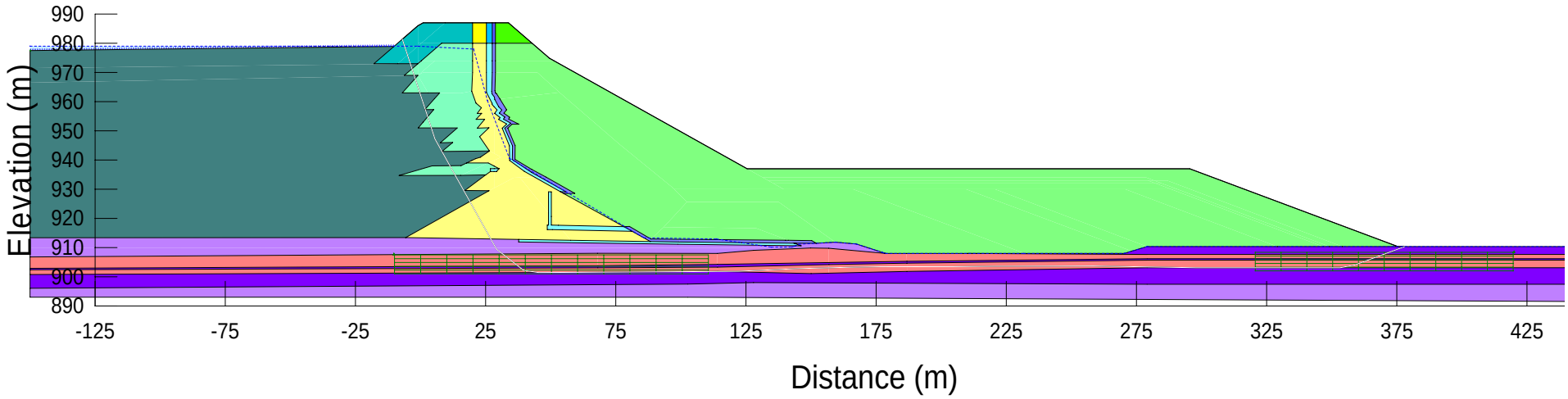
1.8





Stage 2 Construction - Upset Conditions (0 m beach, drains not functioning)

1.7



Piezometric Line

REFERENCES/NOTES

1. Partially consolidated foundation soils; B-bar applied.
2. Stage 1: crest el. 980 m, pond and tailings el. 973 m.
3. Stage 2: crest el. 987 m: pond and tailings el. 979 m.
4. Incremental construction material represented by darker shade.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

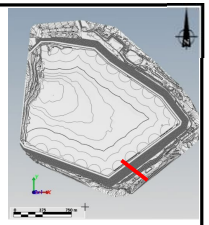
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

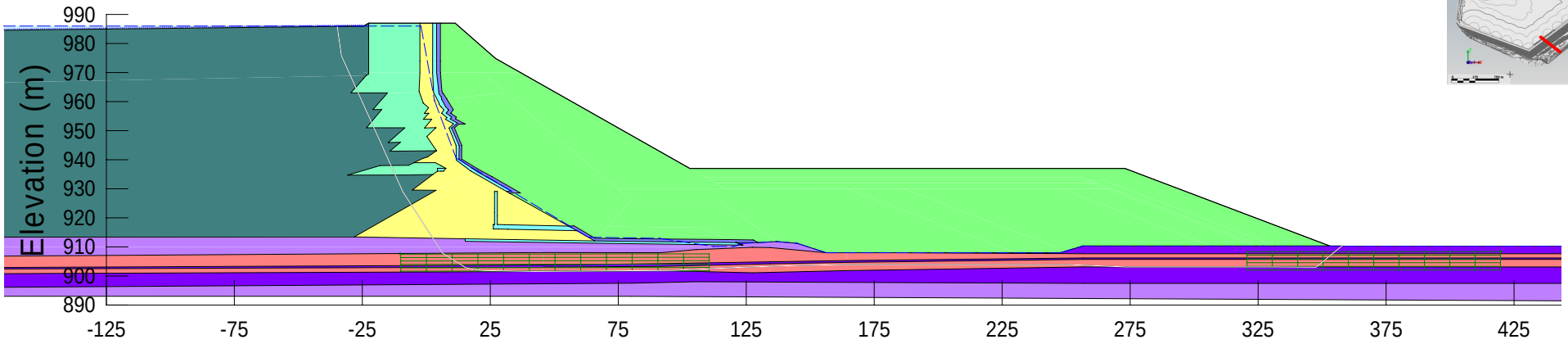
TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 2+055 *(Old Stn. 2+060)*
SHORT-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-15

Upset Conditions (0 m beach, drains not functioning)

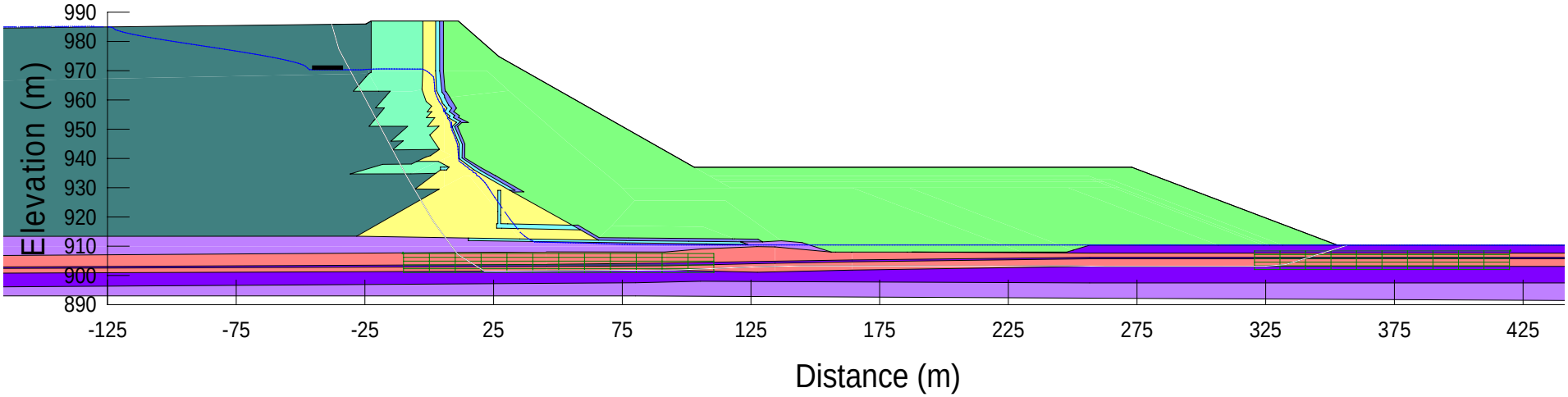
1.6





Normal Operating Conditions (100 m beach, drains functioning)

1.7



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.

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MOUNT POLLEY MINING CORPORATION

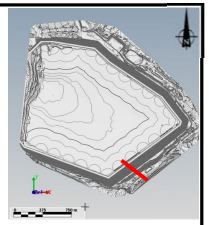
CONSULTANT

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

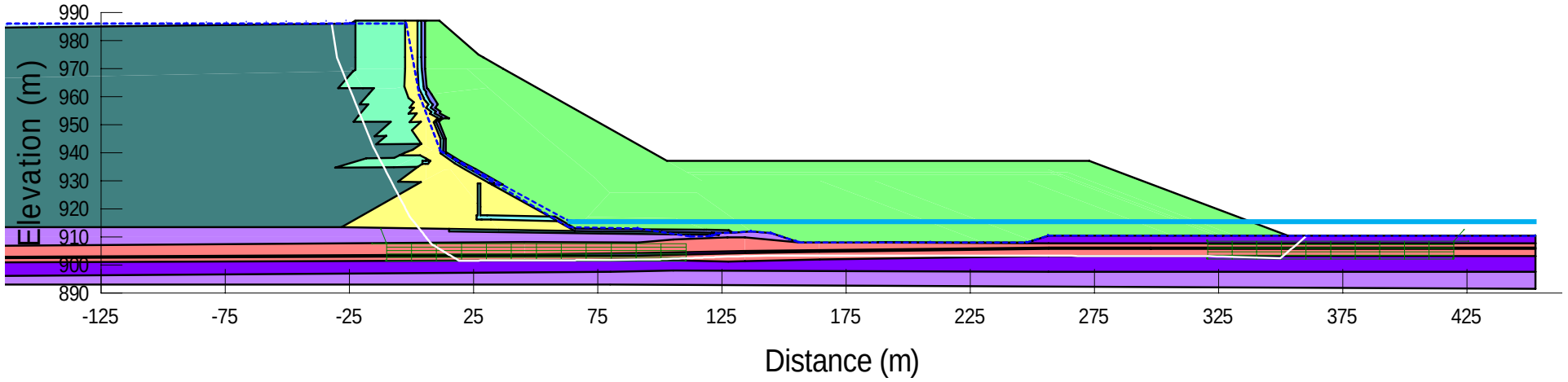
TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 2+055 *(Old Stn. 2+060)*
LONG-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	**51200/51293**	**0**	**G-16**



Upset Conditions (0 m beach, drains not functioning)

1.6



Piezometric Line #2

Piezometric Line #1

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning.
3. 0 m sub-aerial beach; pond el. 986 m.
4. Sensitivity analysis with artesian conditions (Piezometric Line 2) in the confined glaciofluvial layers based on piezometers A8 and VW15-15 (water pressure elevation 915 m).
5. Glaciolacustrine pre-consolidation pressure: 1,200 kPa.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

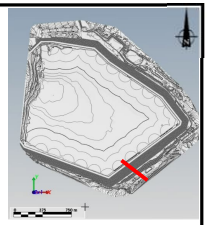
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

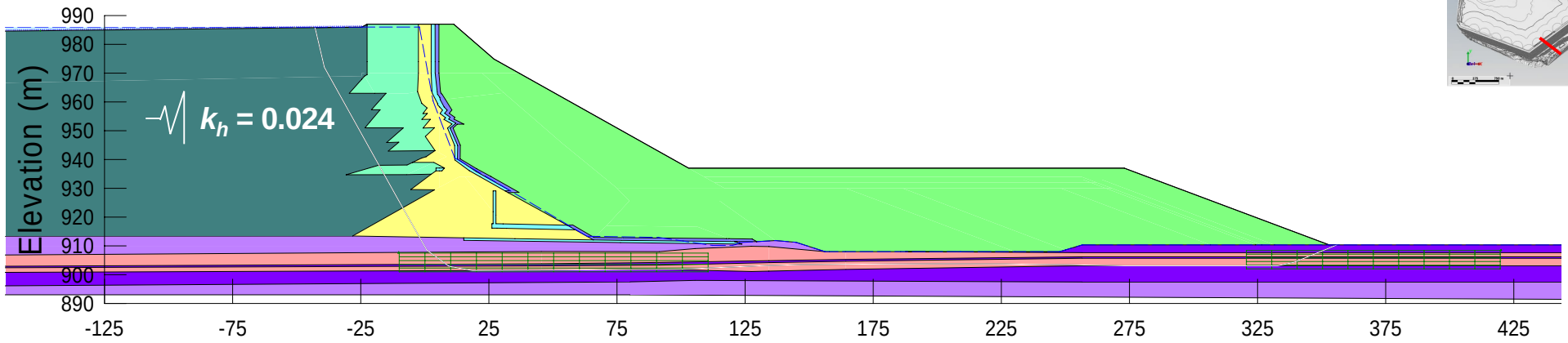
TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 2+055 *(Old Stn. 2+060)*
LONG-TERM (ARTESIAN CONDITIONS)

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-17

Upset Conditions (0 m beach, drains not functioning)

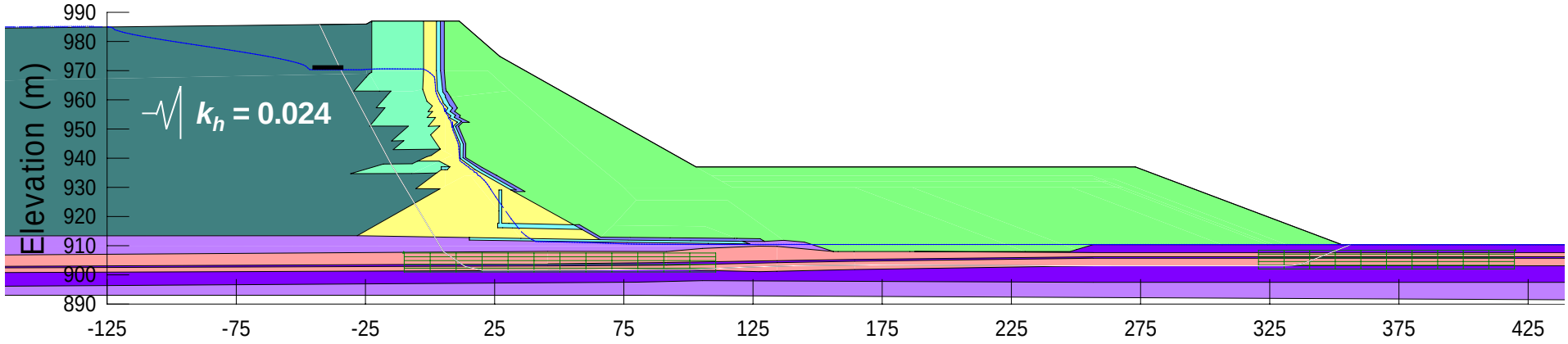
1.2





Normal Operating Conditions (100 m beach, drains functioning)

1.3



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 2,475-year AEP.
5. GLU shear strength reduced to 80%.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

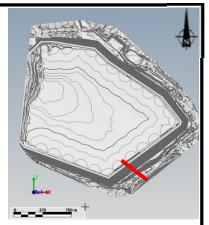
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

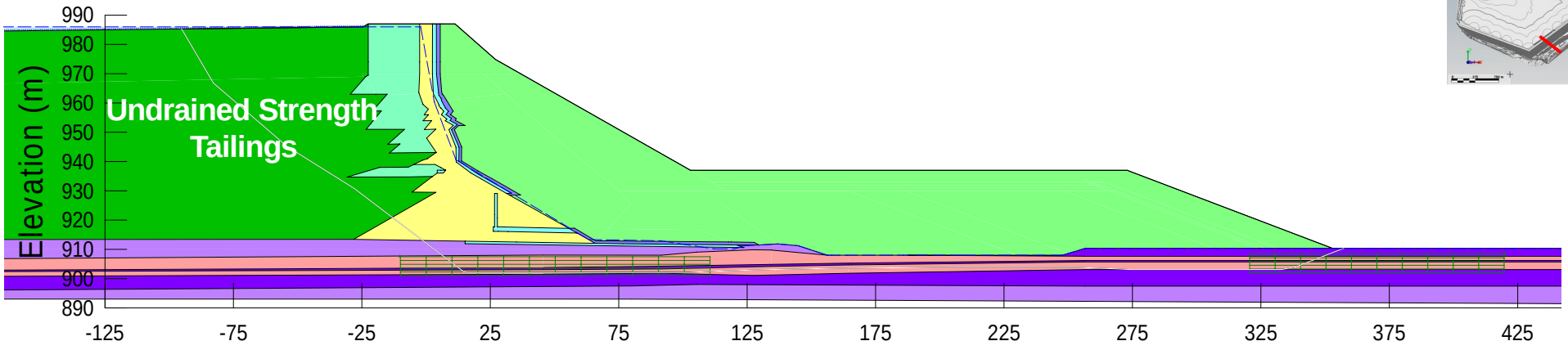
TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 2+055 *(Old Stn. 2+060)*
PSEUDO-STATIC LOADING

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-18

Upset Conditions (0 m beach, drains not functioning)

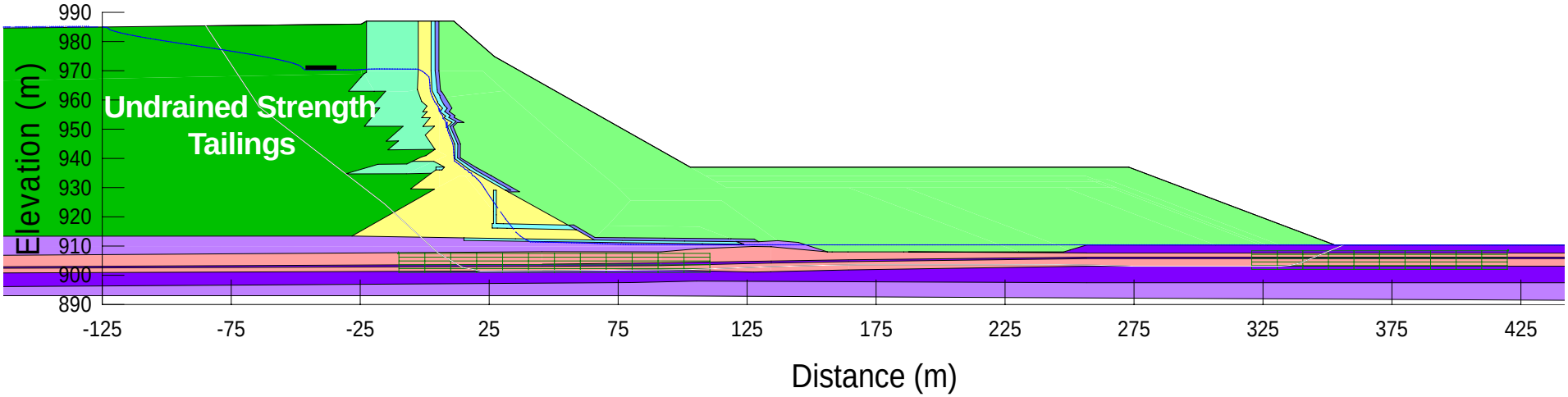
1.3





Normal Operating Conditions (100 m beach, drains functioning)

1.3



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. GLU shear strength reduced to 80%.
5. No seismic loading applied.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

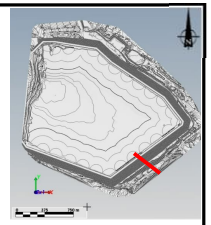
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

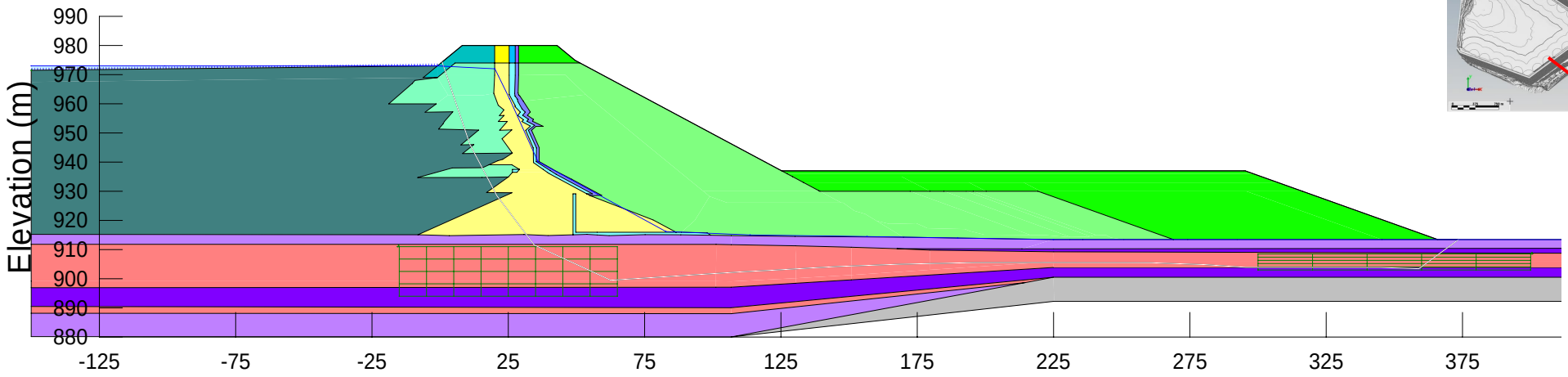
TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 2+055 *(Old Stn. 2+060)*
POST-EARTHQUAKE

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-19

Stage 1 Construction - Upset Conditions (0 m beach, drains not functioning)

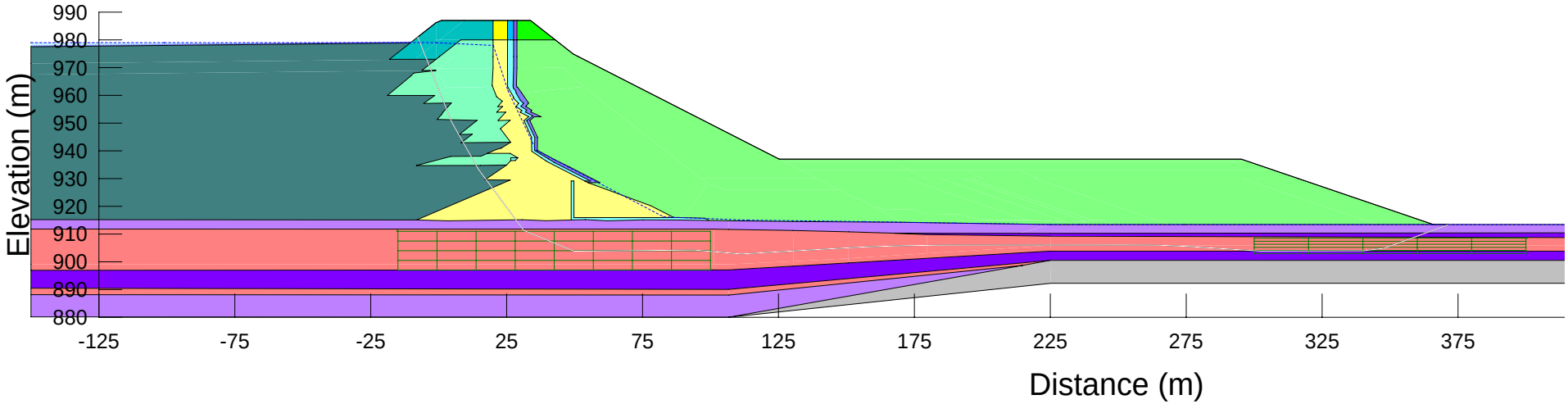
1.8





Stage 2 Construction - Upset Conditions (0 m beach, drains not functioning)

1.6



Piezometric Line

REFERENCES/NOTES

1. Partially consolidated foundation soils; B-bar applied.
2. Stage 1: crest el. 980 m, pond and tailings el. 973 m.
3. Stage 2: crest el. 987 m: pond and tailings el. 979 m.
4. Incremental construction material represented by darker shade.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

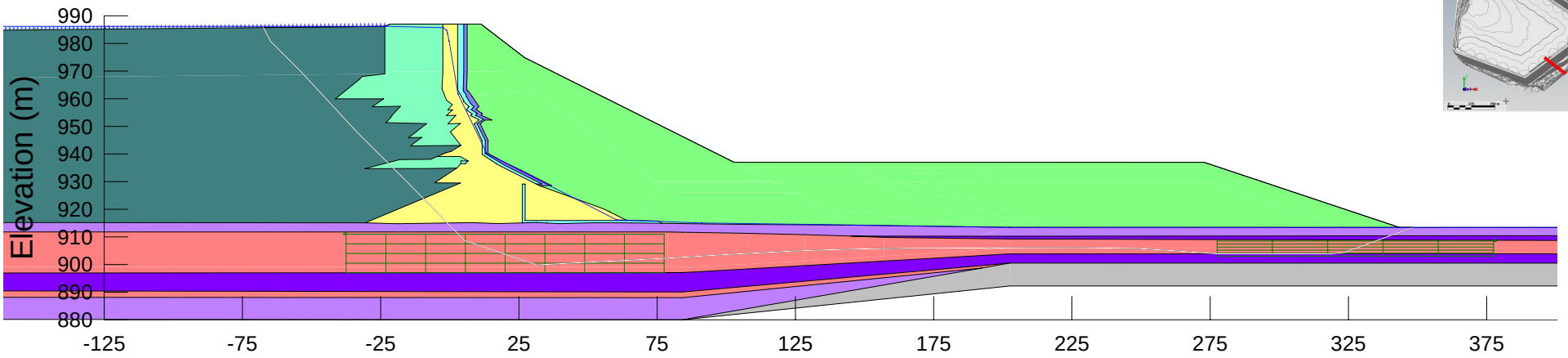
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

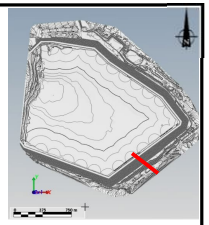
TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 2+235 *(Old Stn. 2+240)*
SHORT-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-20

1.6

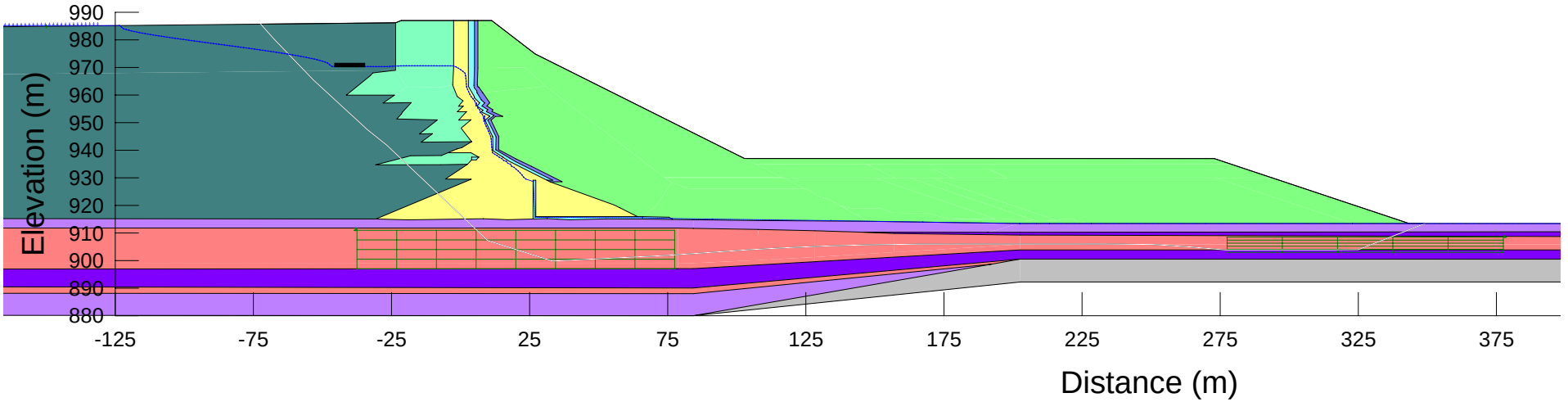
Upset Conditions (0 m beach, drains not functioning)





1.7

Normal Operating Conditions (100 m beach, drains functioning)



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.

CLIENT
MOUNT POLLEY MINING CORPORATION

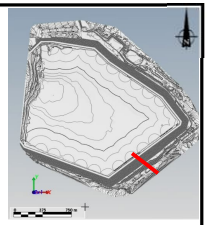
CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

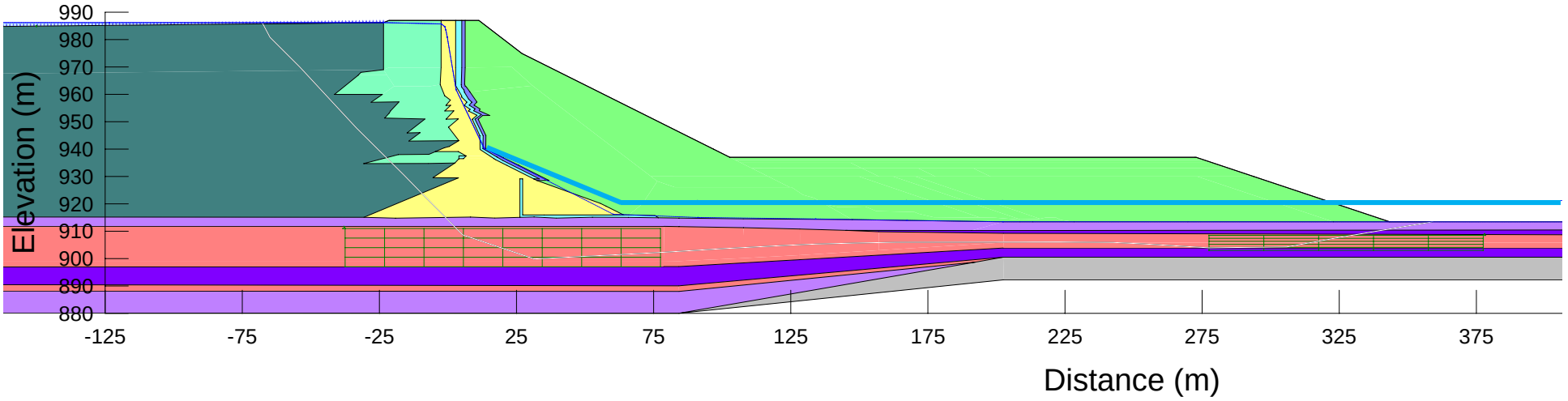
TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 2+235 *(Old Stn. 2+240)*
LONG-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-21



Upset Conditions (0 m beach, drains not functioning)

1.6



Piezometric Line #2

Piezometric Line #1

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning.
3. 0 m sub-aerial beach; pond el. 986 m.
4. Sensitivity analysis with artesian conditions (Piezometric Line 2) in the confined glaciofluvial layers based on piezometers B4 and VW15-14 (water pressure elevation 921 m) .
5. Glaciolacustrine pre-consolidation pressure: 1,200 kPa.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT
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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

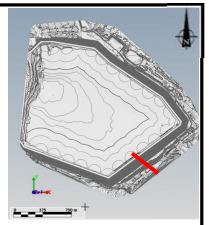
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

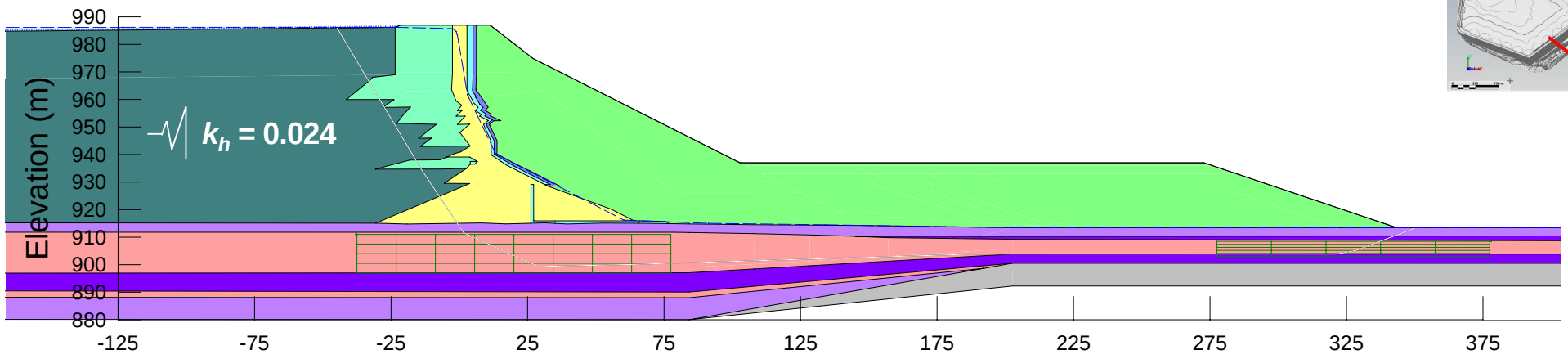
TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 2+235 *(Old Stn. 2+240)*
LONG-TERM (ARTESIAN CONDITIONS)

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-22

Upset Conditions (0 m beach, drains not functioning)

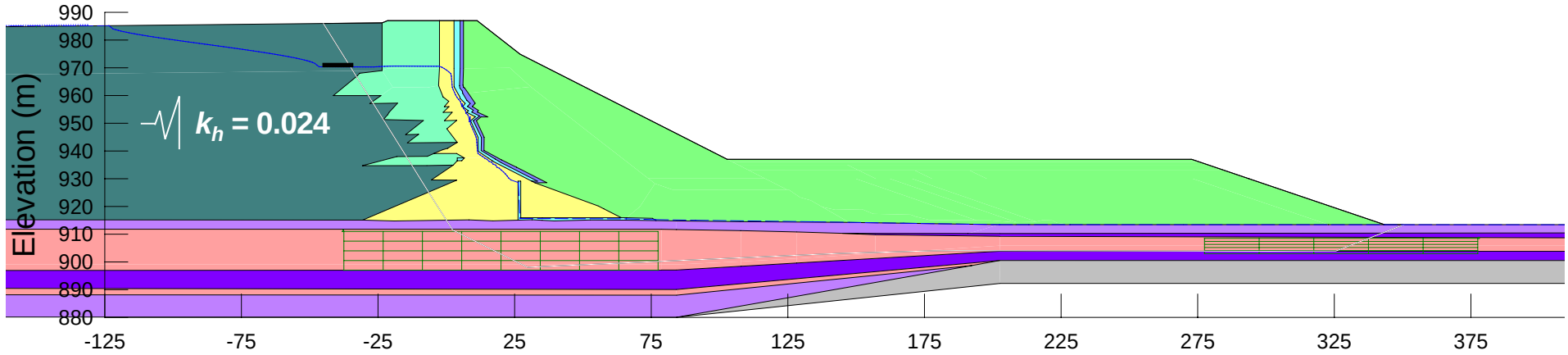
1.1





Normal Operating Conditions (100 m beach, drains functioning)

1.2



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 2,475-year AEP.
5. GLU shear strength reduced to 80%.

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MOUNT POLLEY MINING CORPORATION

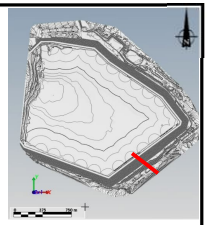
CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

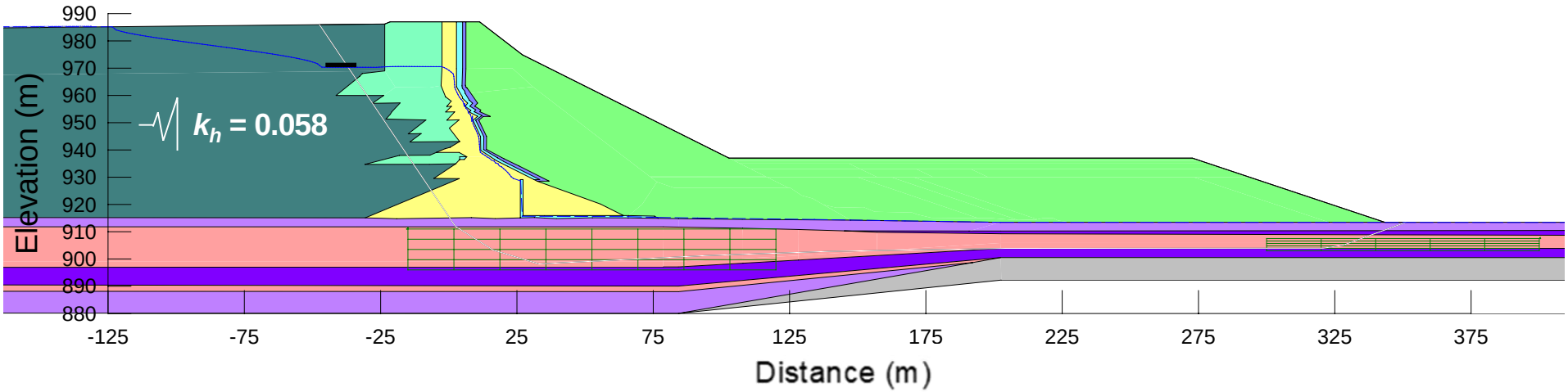
TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 2+235 *(Old Stn. 2+240)*
PSEUDO-STATIC LOADING

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-23



Normal Operating Conditions (100 m beach, drains functioning)

1.0



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain functioning.
3. 100 m sub-aerial beach; pond elevation at 985 m.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 10,000-year AEP.
5. GLU shear strength reduced to 80%.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

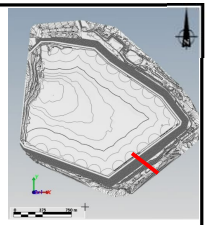
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

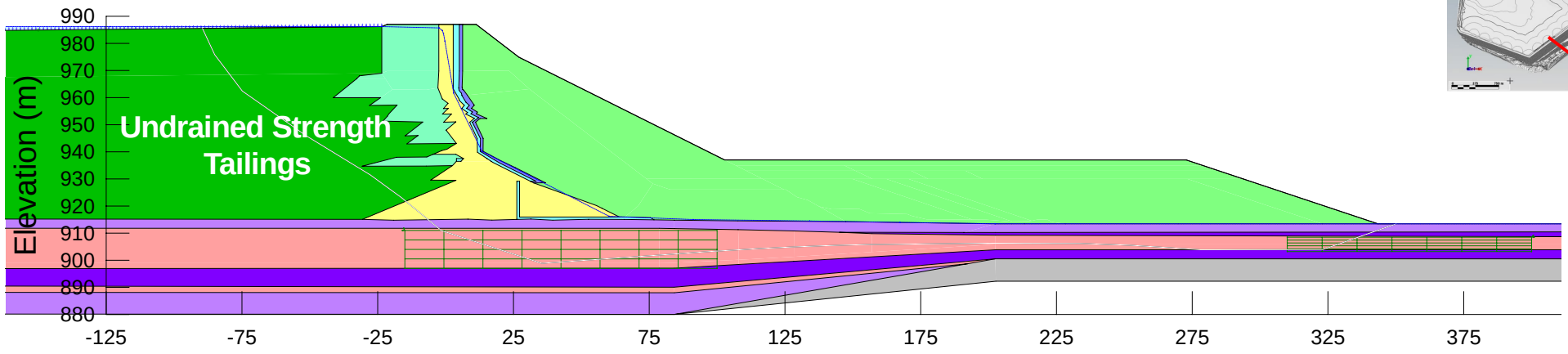
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STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 2+235 *(Old Stn. 2+240)*
PSEUDO-STATIC LOADING

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-24

Upset Conditions (0 m beach, drains not functioning)

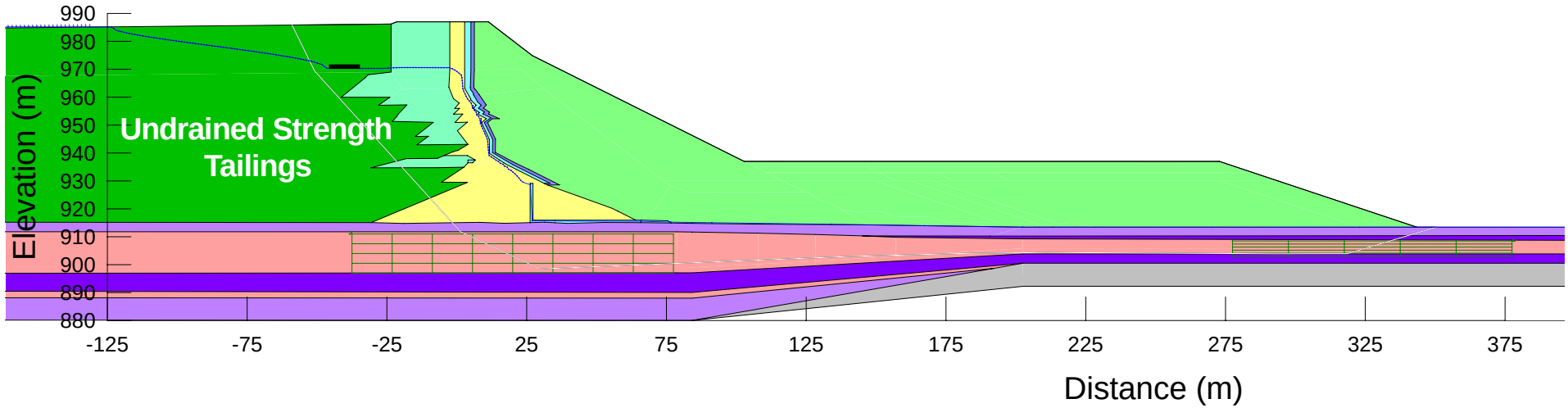
1.2





Normal Operating Conditions (100 m beach, drains functioning)

1.2



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. GLU shear strength reduced to 80%.
5. No seismic loading applied.

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MOUNT POLLEY MINING CORPORATION

CONSULTANT
wsp

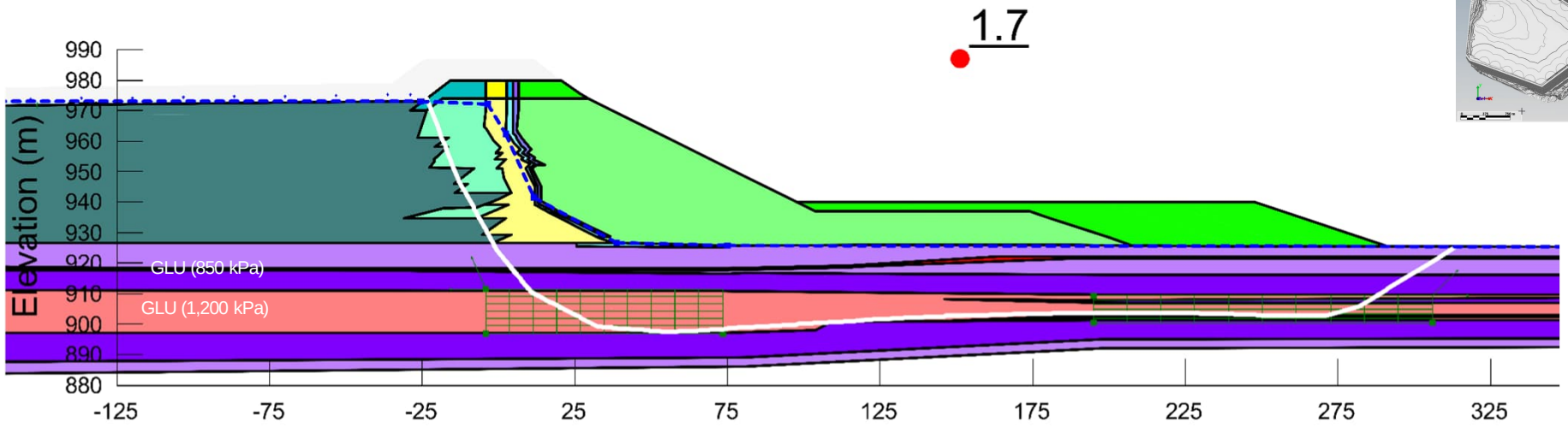
YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

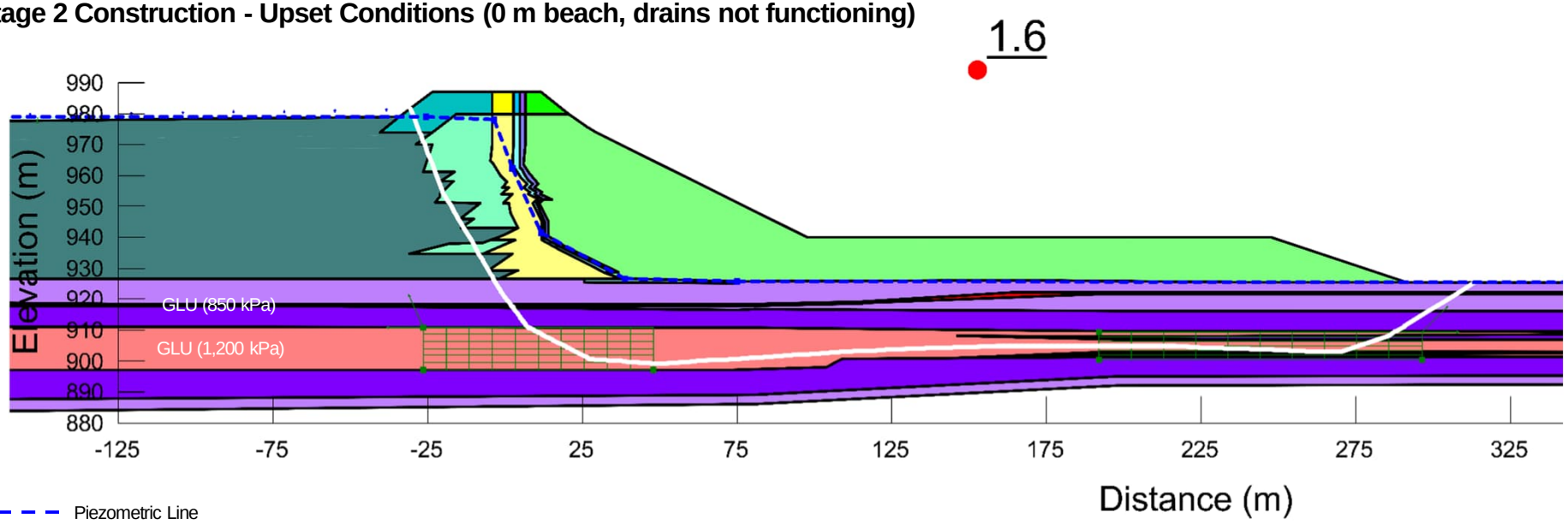
TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 2+235 *(Old Stn. 2+240)*
POST-EARTHQUAKE

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-25

Stage 1 Construction - Upset Conditions (0 m beach, drains not functioning)



Stage 2 Construction - Upset Conditions (0 m beach, drains not functioning)



Piezometric Line

REFERENCES/NOTES

1. Partially consolidated foundation soils; B-bar applied.
2. Stage 1: crest el. 980 m, pond and tailings el. 973 m.
3. Stage 2: crest el. 987 m: pond and tailings el. 979 m.
4. Incremental construction material represented by darker shade.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT

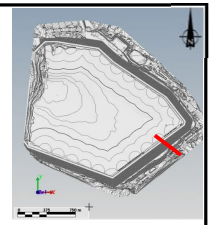
YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

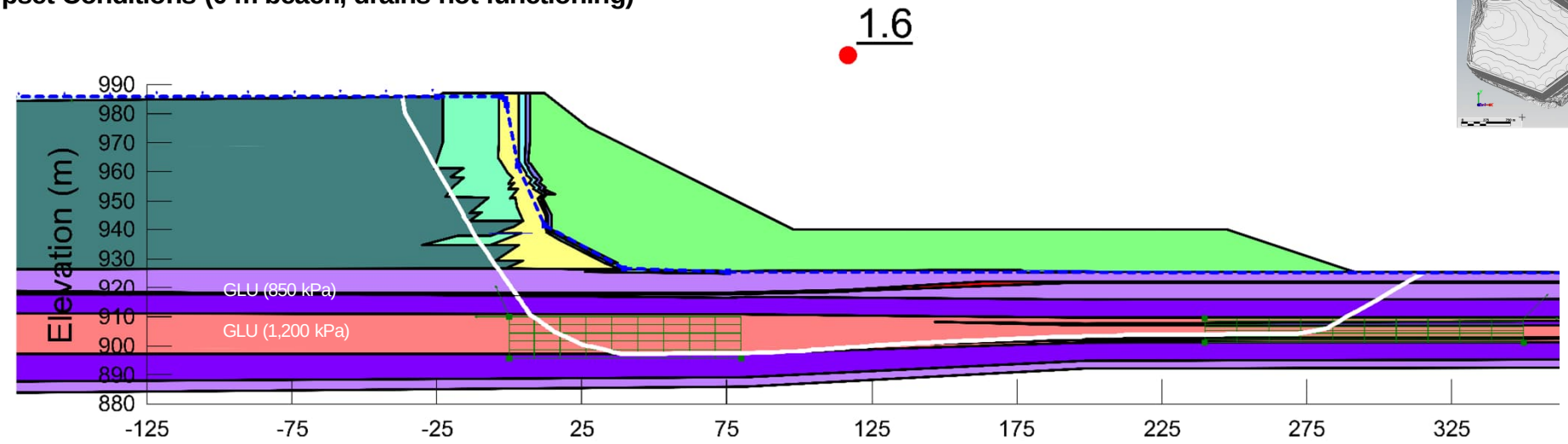
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 2+455 *(Old Stn. 2+460)*
SHORT-TERM

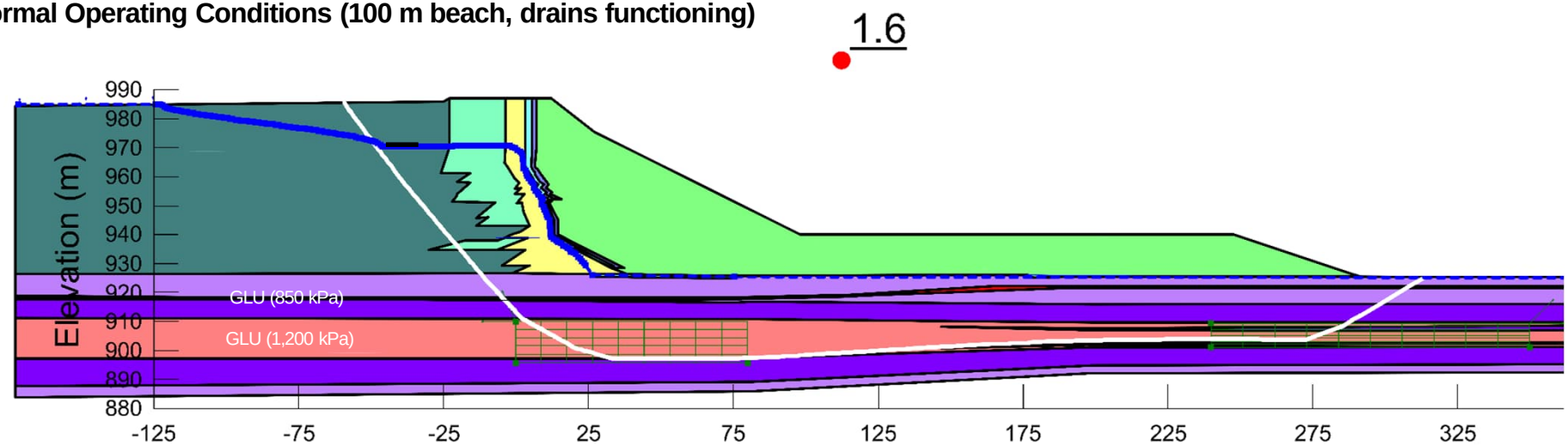
PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-26

Upset Conditions (0 m beach, drains not functioning)





Normal Operating Conditions (100 m beach, drains functioning)



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.

CLIENT
MOUNT POLLEY MINING CORPORATION

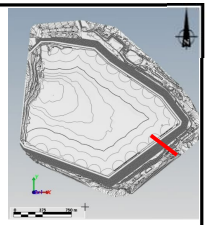
CONSULTANT

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

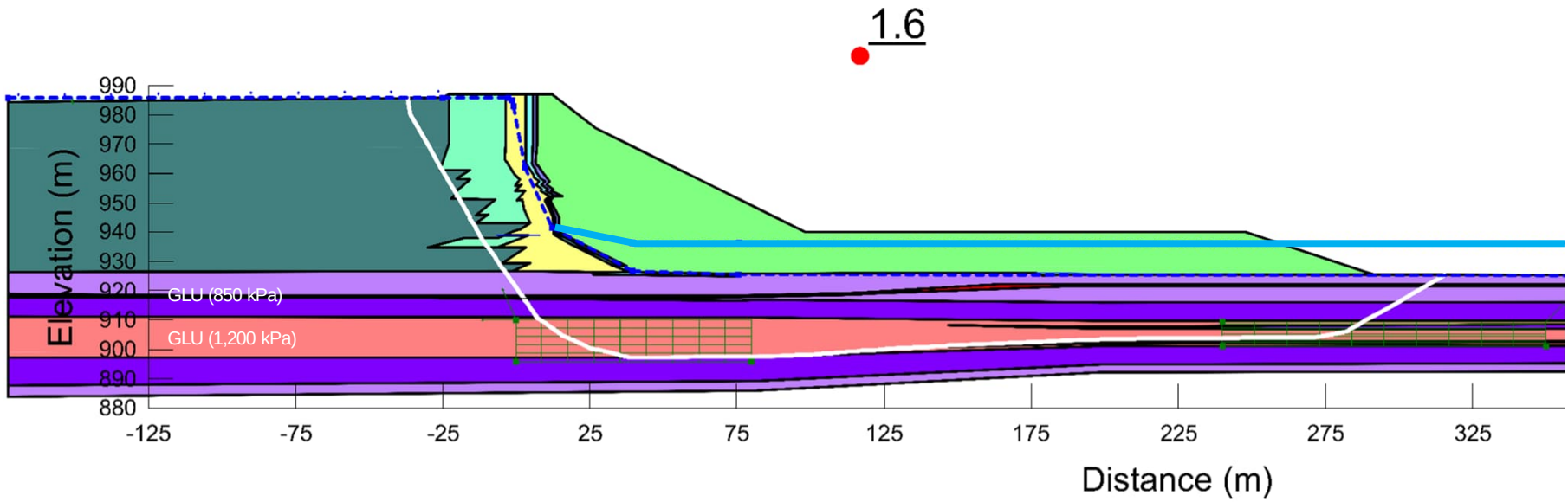
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 2+455 *(Old Stn. 2+460)*
LONG-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	**51200/51293**	**0**	**G-27**



Upset Conditions (0 m beach, drains not functioning)



Piezometric Line #2

Piezometric Line #1

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning.
3. 0 m sub-aerial beach; pond el. 986 m.
4. Sensitivity analysis with artesian conditions (Piezometric Line 2) in the confined glaciofluvial layers based on piezometers K1 and K2 (water pressure elevation 936 m)

CLIENT

MOUNT POLLEY MINING CORPORATION

CONSULTANT

wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

PROJECT

MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

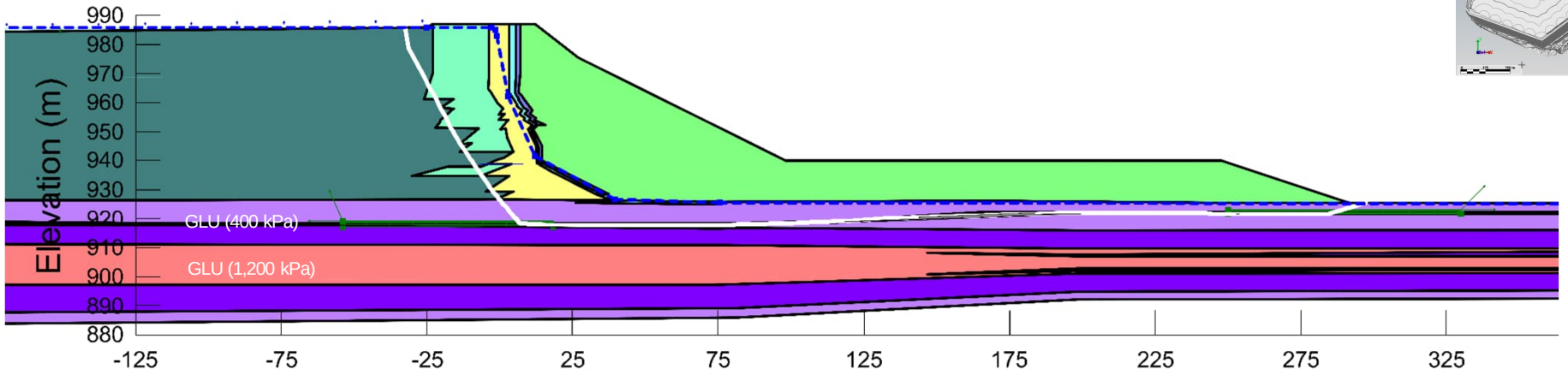
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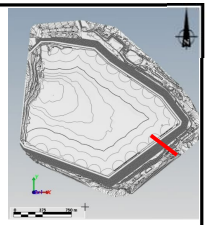
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 2+455 *(Old Stn. 2+460)*
LONG-TERM (ARTESIAN CONDITIONS)

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-28

Upset Conditions (0 m beach, drains not functioning)

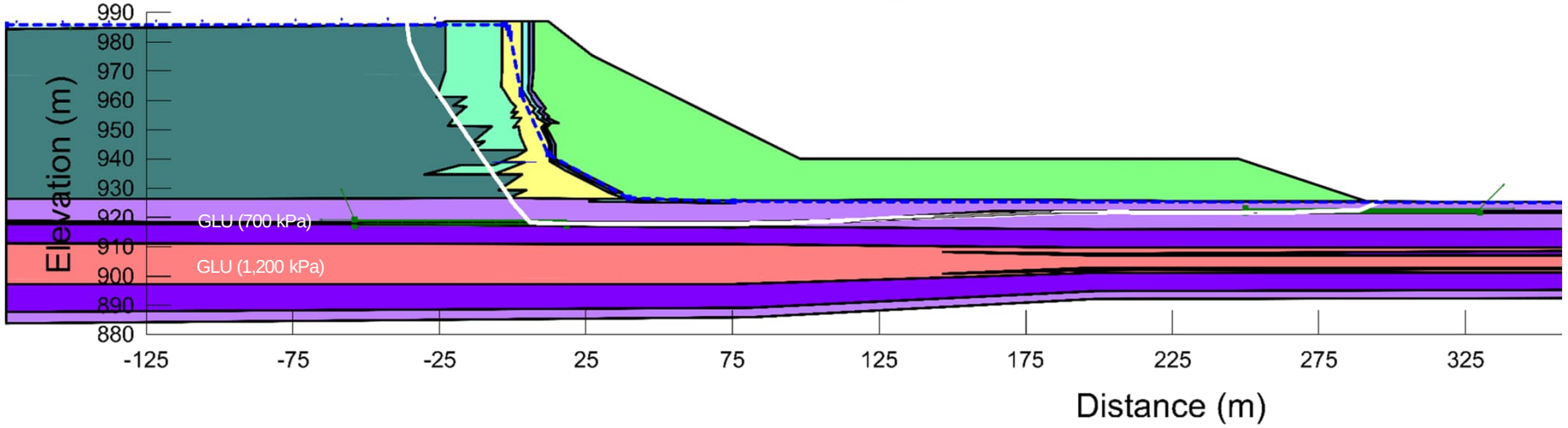
1.2





Upset Conditions (0 m beach, drains not functioning)

1.4



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning.
3. 0 m sub-aerial beach; pond el. 986 m.
4. Sensitivity GLU pre-consolidation pressure reduced to 400 kPa and 700 kPa.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

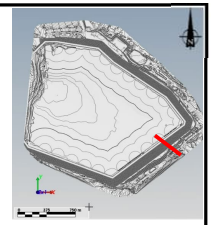
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

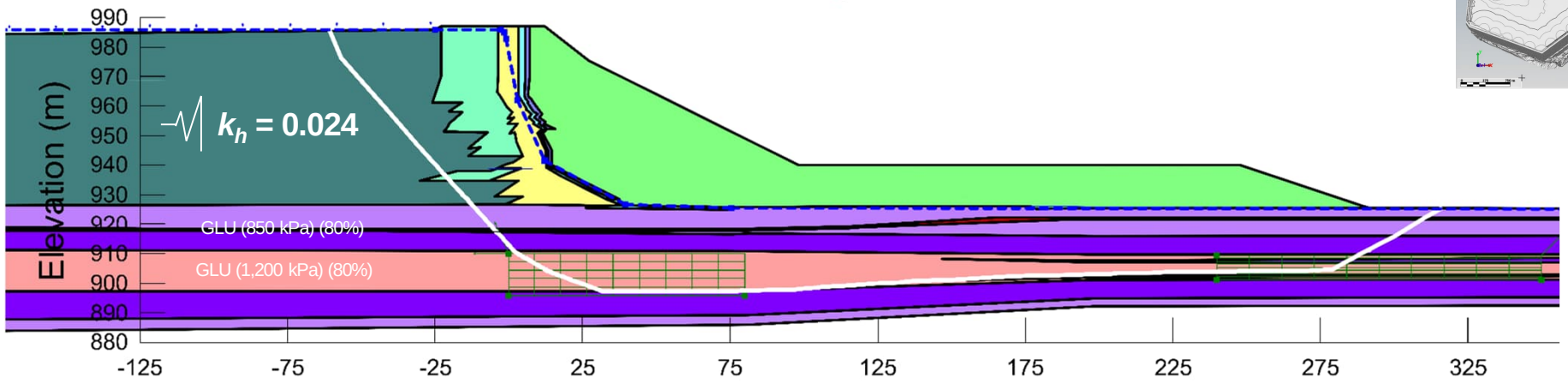
TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 2+455 *(Old Stn. 2+460)*
LONG-TERM (GLU SHEAR STRENGTH SENSITIVITY)

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-29

Upset Conditions (0 m beach, drains not functioning)

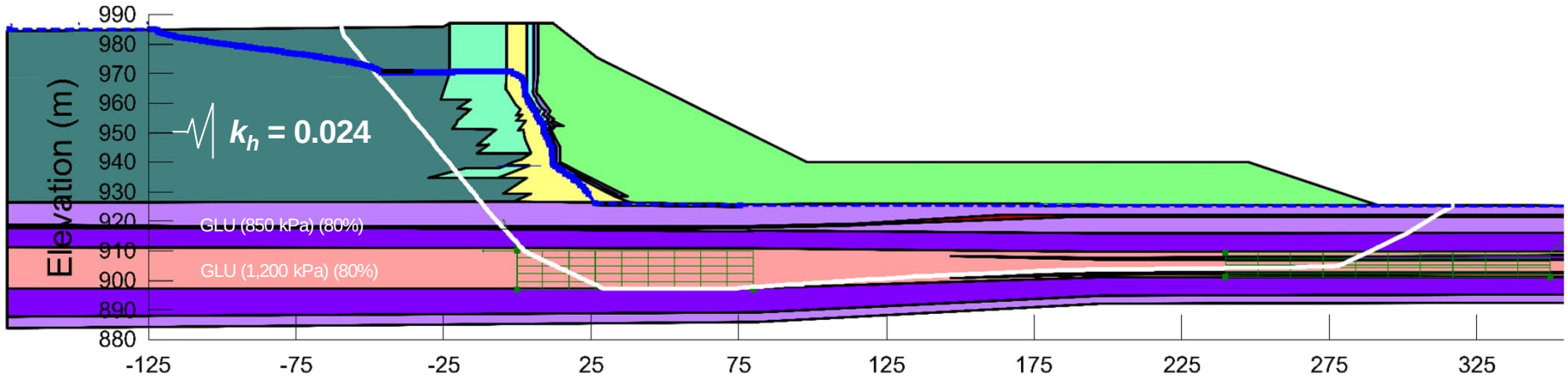
1.2





Normal Operating Conditions (100 m beach, drains functioning)

1.2



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 2,475-year AEP.
5. GLU shear strength reduced to 80%.

CLIENT
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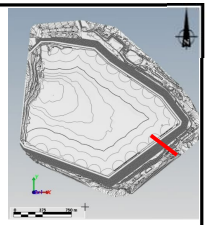
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PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

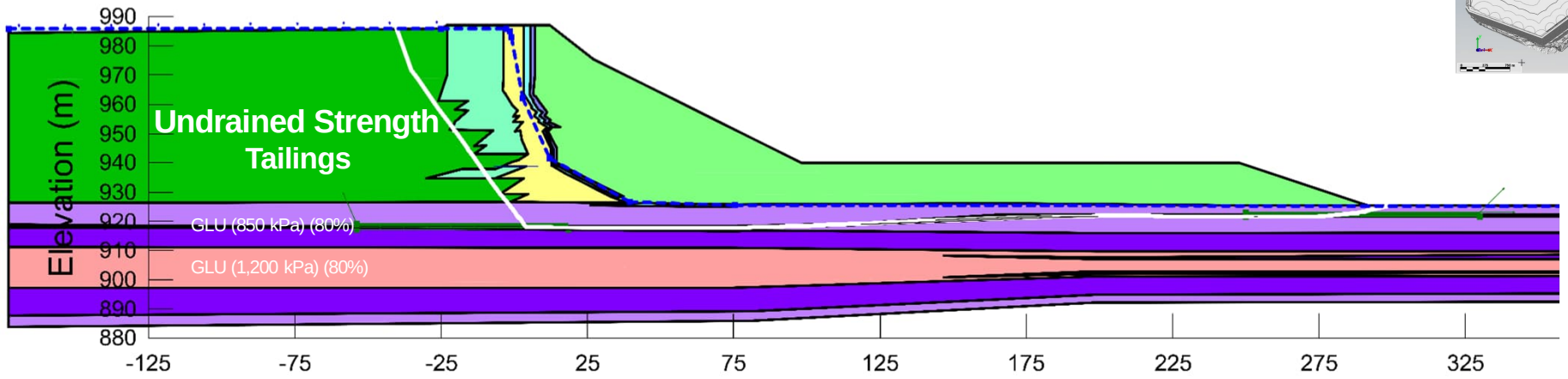
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 2+455 *(Old Stn. 2+460)*
PSEUDO-STATIC LOADING

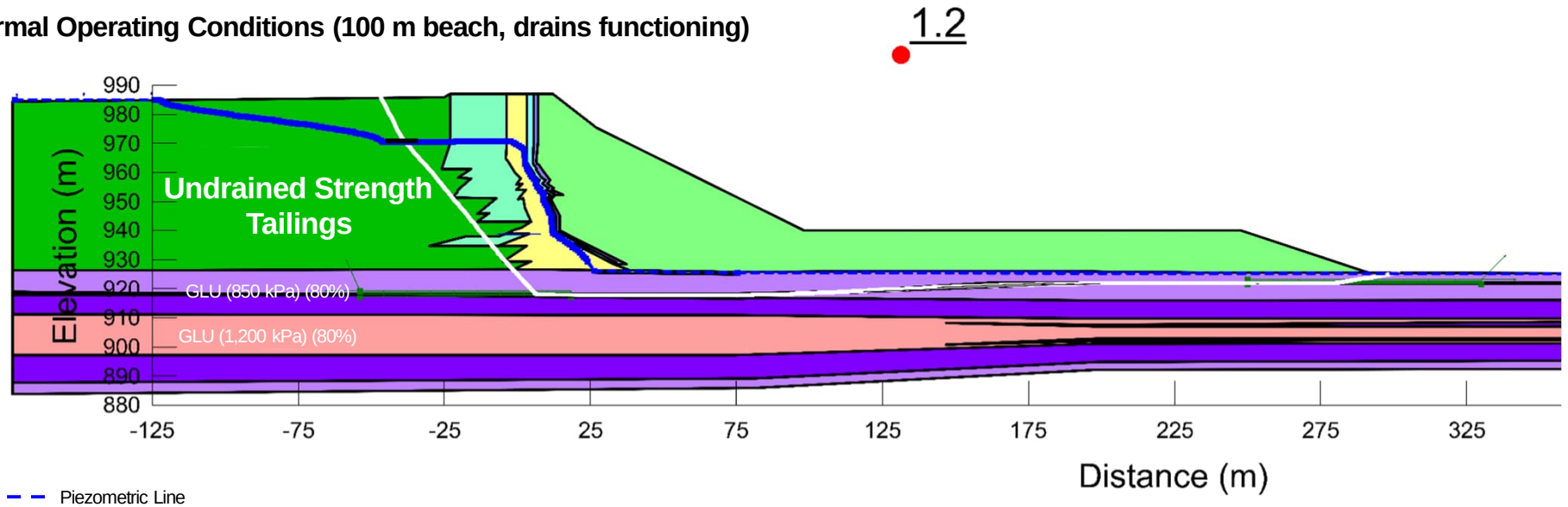
PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-30

Upset Conditions (0 m beach, drains not functioning)





Normal Operating Conditions (100 m beach, drains functioning)



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. GLU shear strength reduced to 80%.
5. No seismic loading applied.

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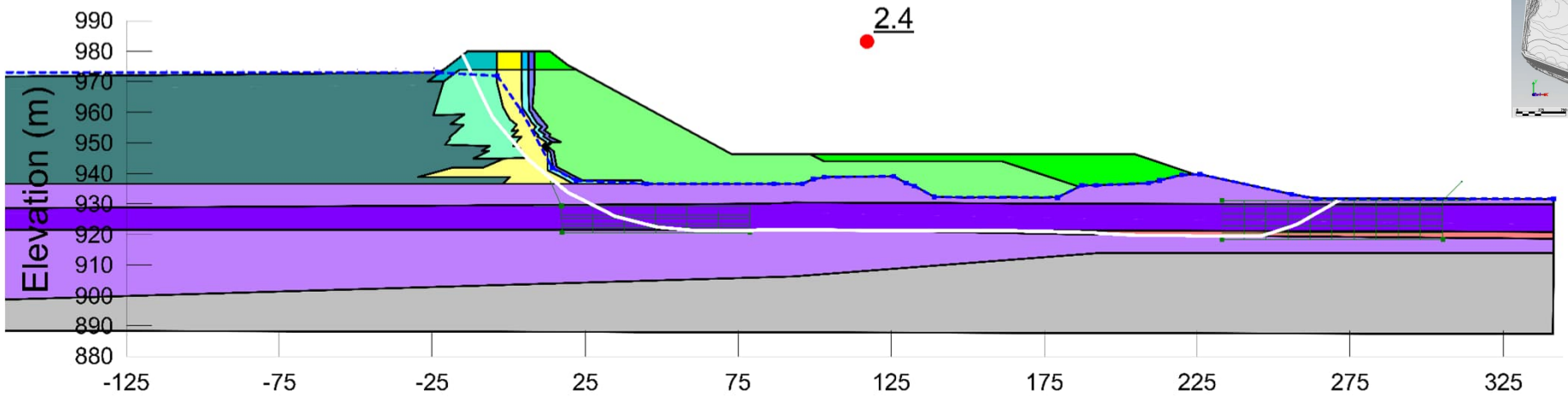
YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

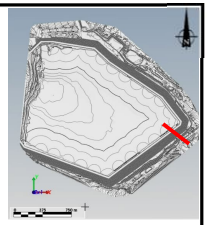
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 2+455 *(Old Stn. 2+460)*
POST-EARTHQUAKE

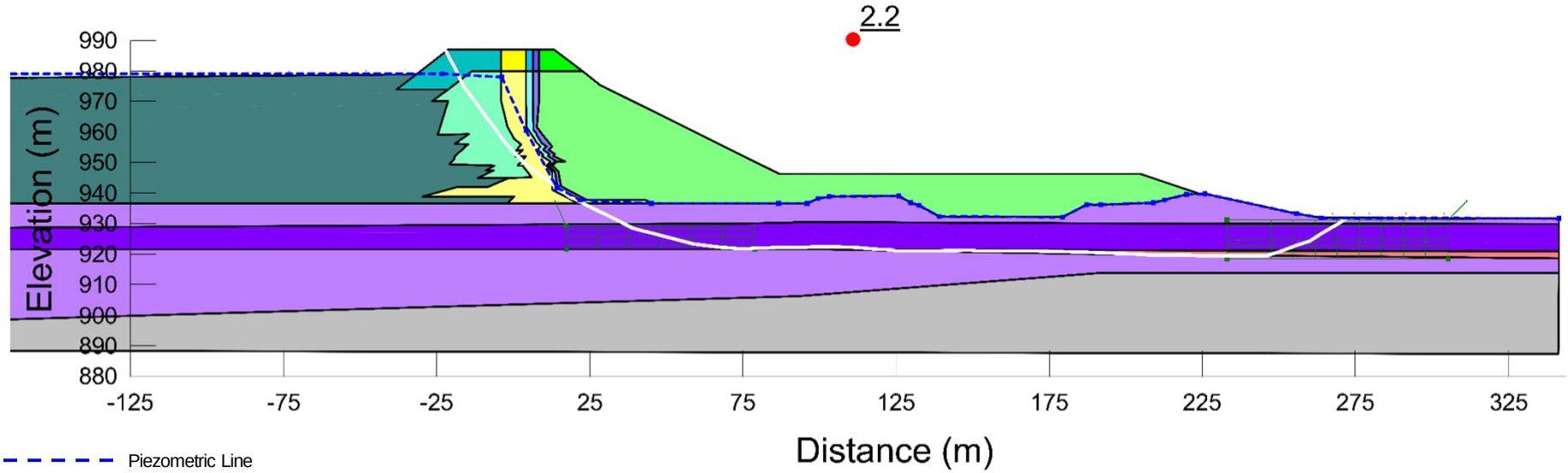
PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-31

Stage 1 Construction - Upset Conditions (0 m beach, drains not functioning)





Stage 2 Construction - Upset Conditions (0 m beach, drains not functioning)



Piezometric Line

REFERENCES/NOTES

1. Partially consolidated foundation soils; B-bar applied.
2. Stage 1: crest el. 980 m, pond and tailings el. 973 m.
3. Stage 2: crest el. 987 m: pond and tailings el. 979 m.
4. Incremental construction material represented by darker shade.

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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

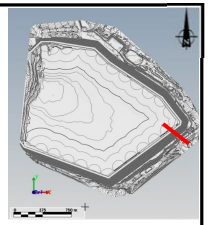
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

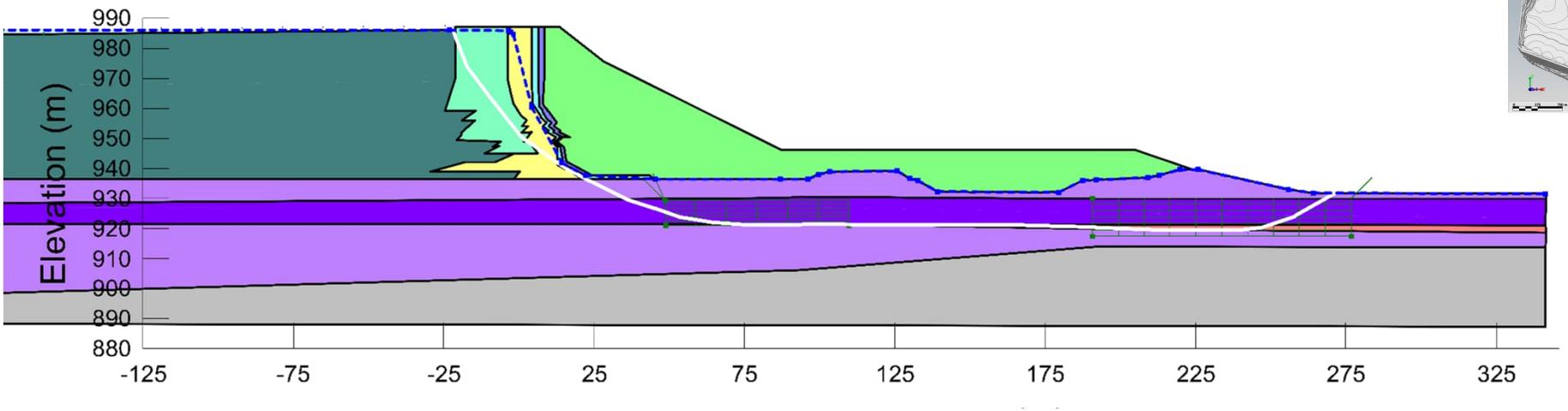
TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 2+695 *(Old Stn. 2+700)*
SHORT-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-32

Upset Conditions (0 m beach, drains not functioning)

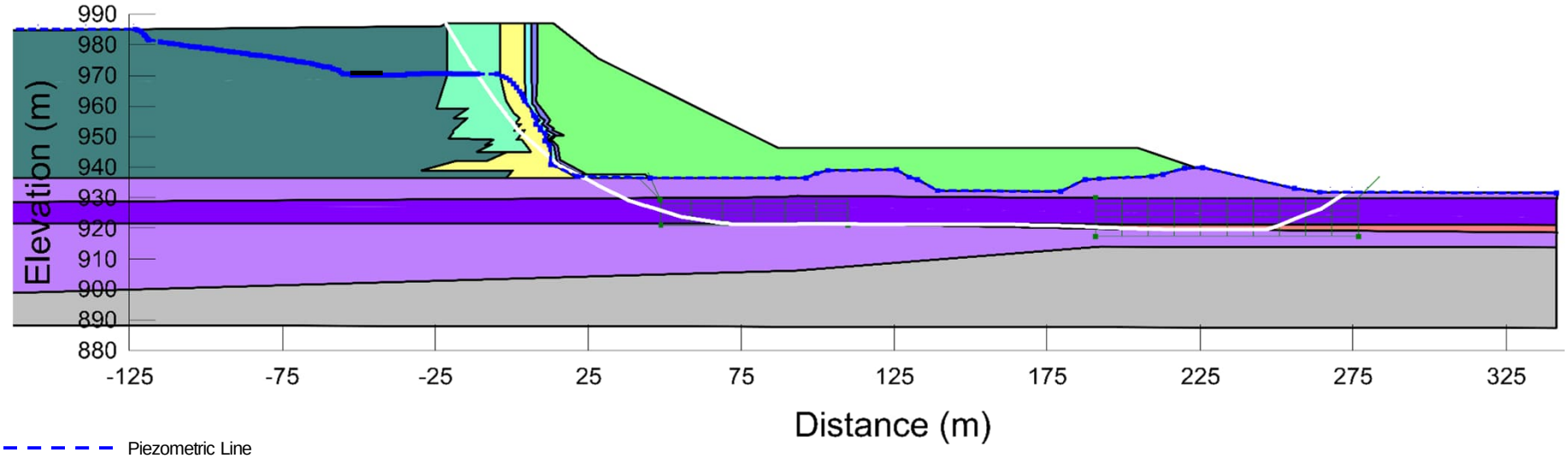
2.1





Normal Operating Conditions (100 m beach, drains functioning)

2.2



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.

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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

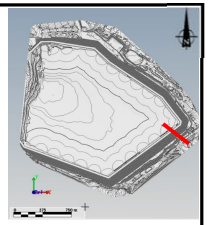
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

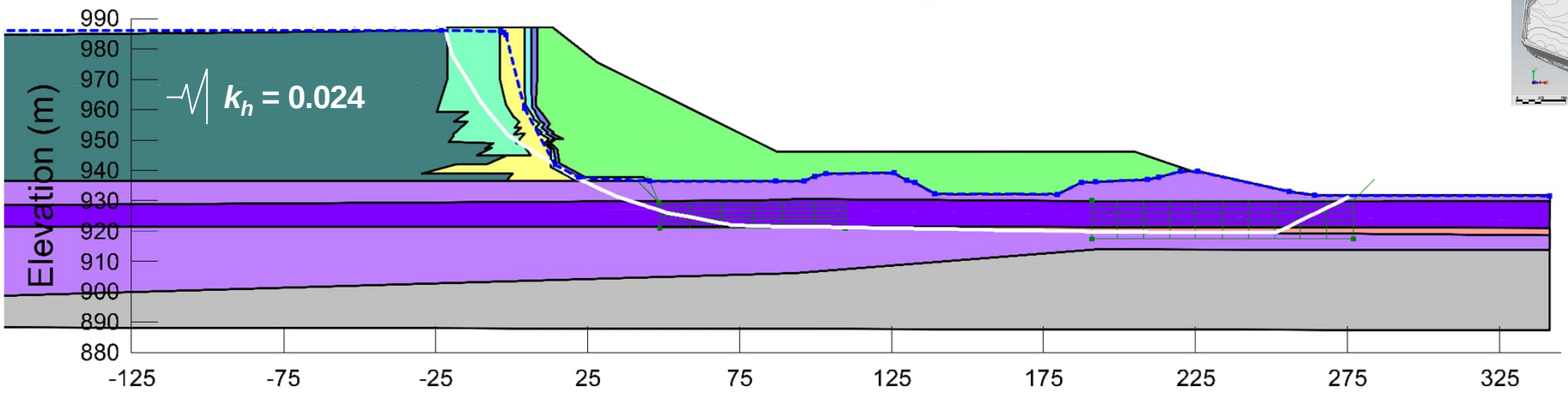
TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 2+695 *(Old Stn. 2+700)*
LONG-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-33

Upset Conditions (0 m beach, drains not functioning)

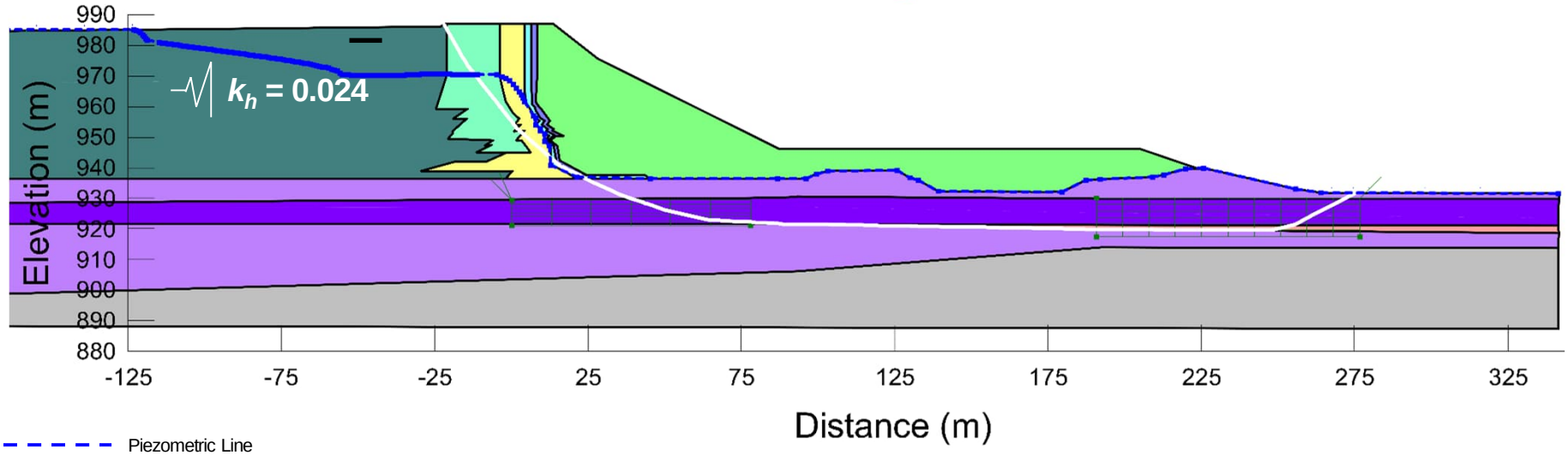
1.8





Normal Operating Conditions (100 m beach, drains functioning)

1.9



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 2,475-year AEP.
5. GLU shear strength reduced to 80%.

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CONSULTANT
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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

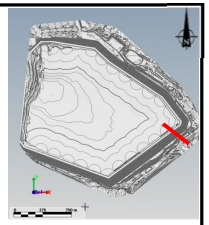
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

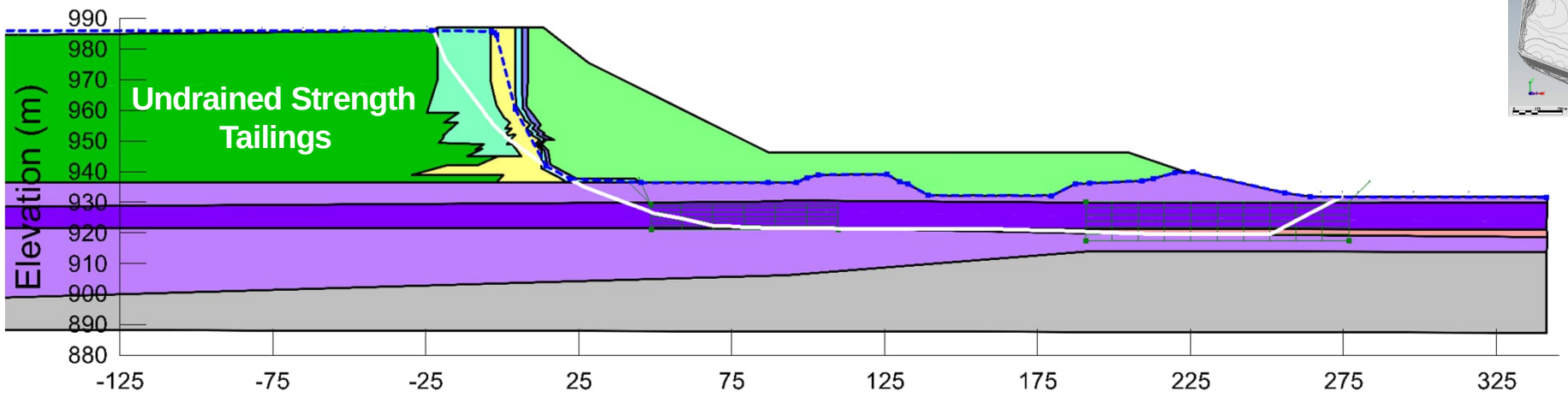
TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 2+695 *(Old Stn. 2+700)*
PSEUDO-STATIC LOADING

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-34

Upset Conditions (0 m beach, drains not functioning)

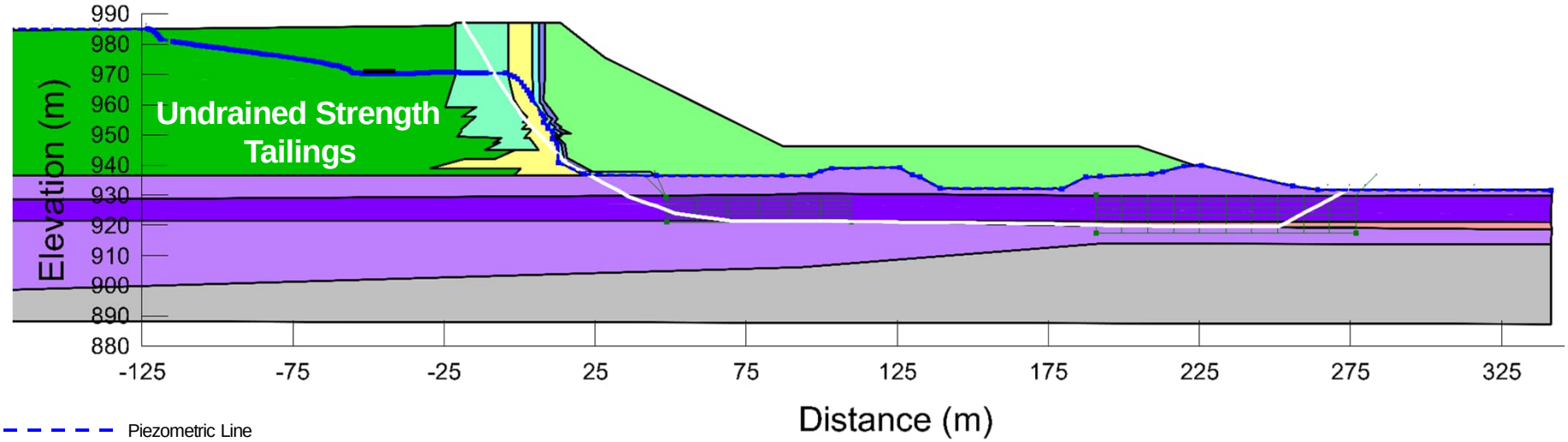
2.0





Normal Operating Conditions (100 m beach, drains functioning)

2.1



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. GLU shear strength reduced to 80%.
5. No seismic loading applied.

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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

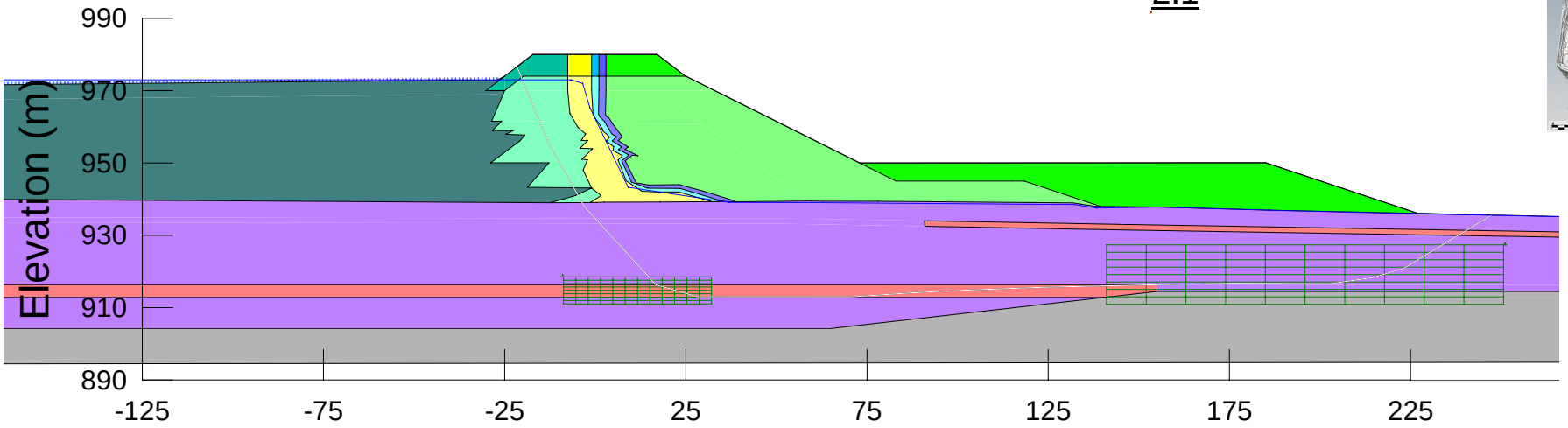
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

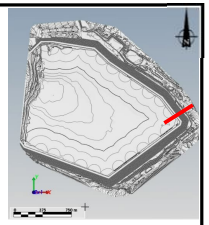
TITLE
STABILITY ANALYSIS (MAIN EMBANKMENT)
SECTION 2+695 *(Old Stn. 2+700)*
POST-EARTHQUAKE

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-35

Stage 1 Construction - Upset Conditions (0 m beach, drains not functioning)

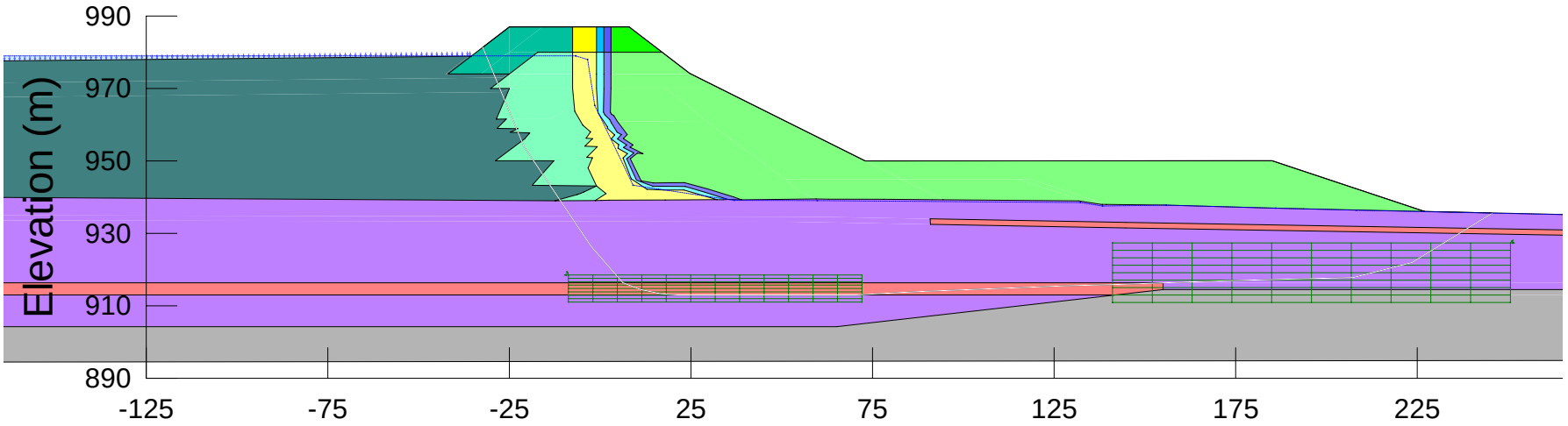
2.1





Stage 2 Construction - Upset Conditions (0 m beach, drains not functioning)

1.8



Distance (m)

Piezometric Line

REFERENCES/NOTES

1. Partially consolidated foundation soils; B-bar applied.
2. Stage 1: crest el. 980 m, pond and tailings el. 973 m.
3. Stage 2: crest el. 987 m: pond and tailings el. 979 m.
4. Incremental construction material represented by darker shade.

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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

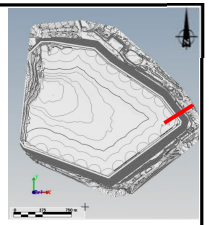
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

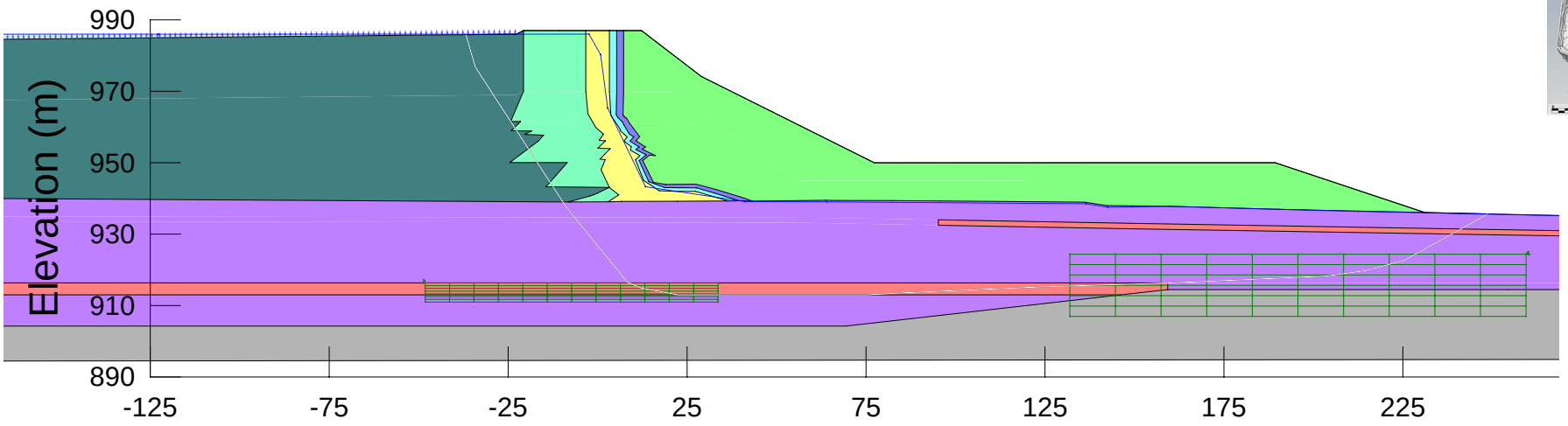
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 2+850 *(Old Stn. 2+850)*
SHORT-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	**51200/51293**	**0**	**G-36**

Upset Conditions (0 m beach, drains not functioning)

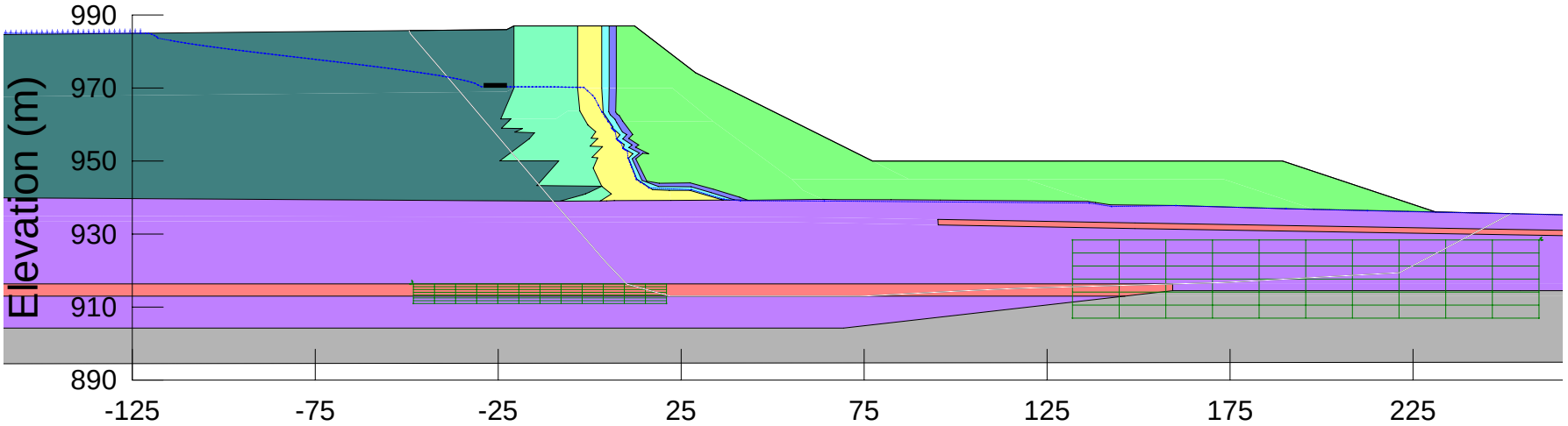
1.8





Normal Operating Conditions (100 m beach, drains functioning)

1.9



Piezometric Line

Distance (m)

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.

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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

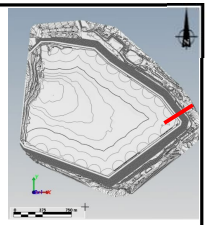
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

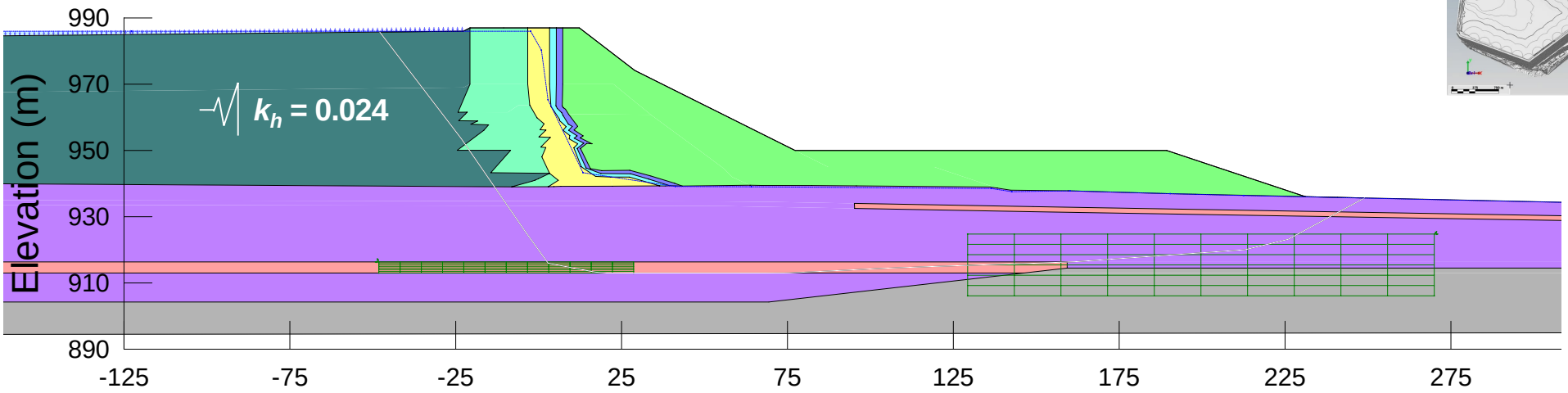
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 2+850 *(Old Stn. 2+850)*
LONG-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-37

Upset Conditions (0 m beach, drains not functioning)

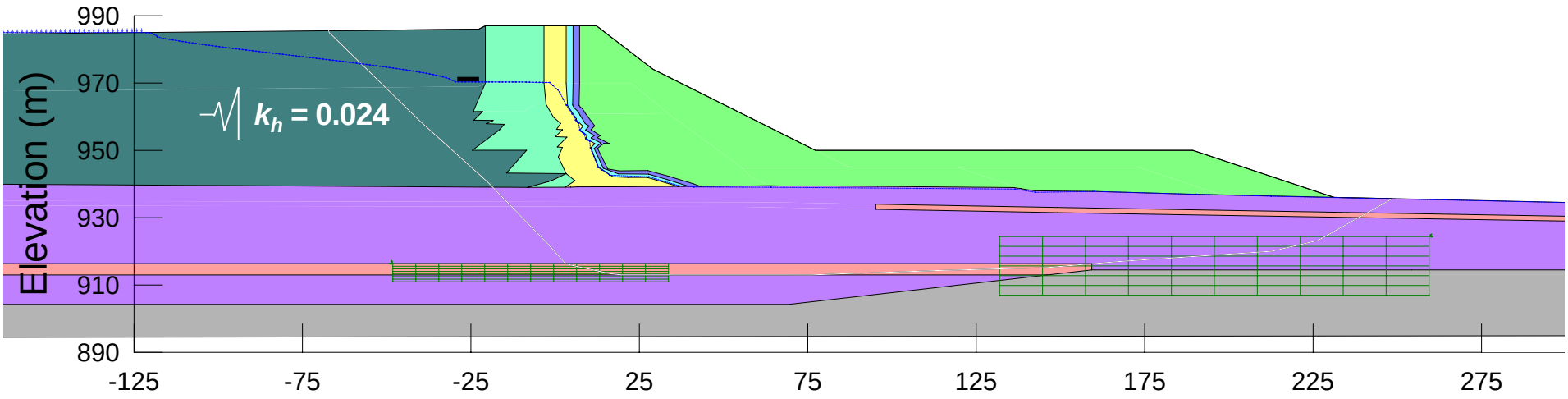
1.4





Normal Operating Conditions (100 m beach, drains functioning)

1.6



Piezometric Line

Distance (m)

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 2,475-year AEP.
5. GLU shear strength reduced to 80%.

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CONSULTANT

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

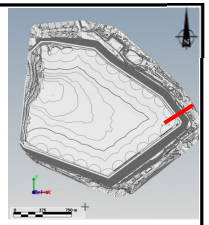
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

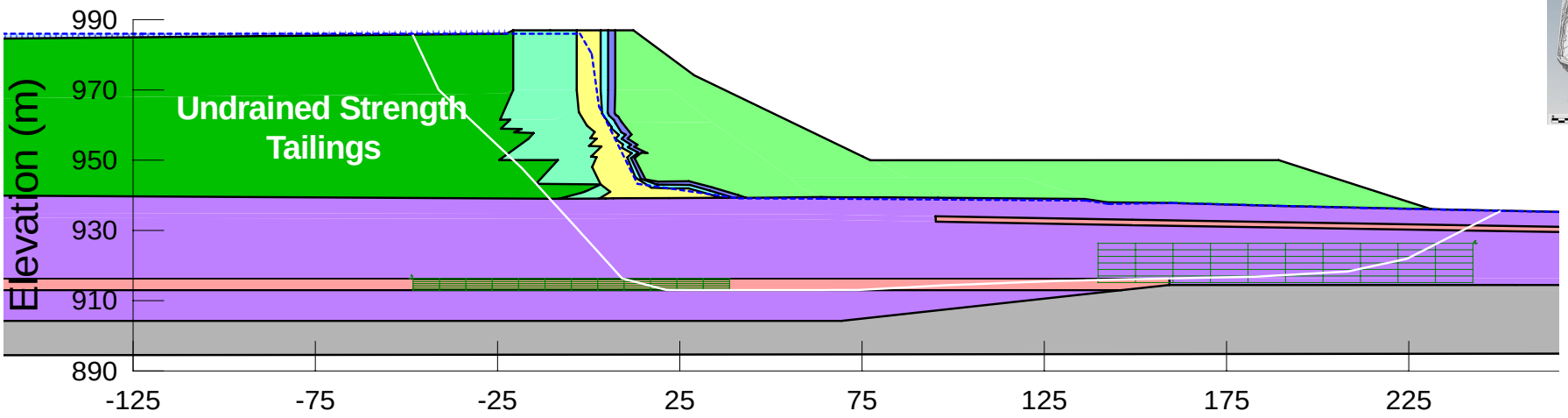
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 2+850 *(Old Stn. 2+850)*
PSEUDO-STATIC LOADING

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-38

Upset Conditions (0 m beach, drains not functioning)

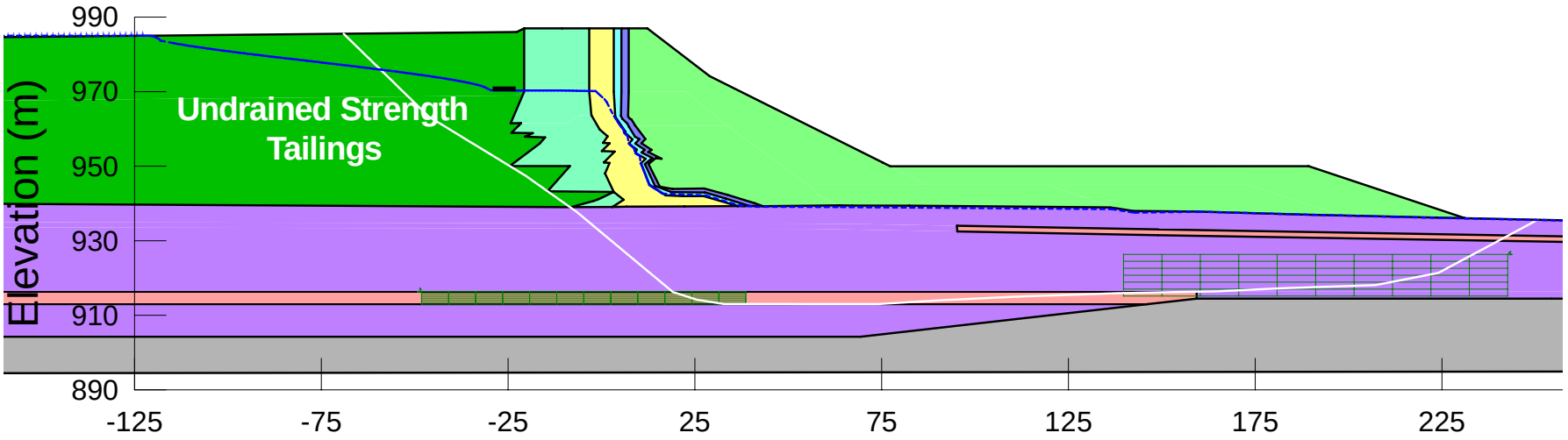
1.6





Normal Operating Conditions (100 m beach, drains functioning)

1.7



Piezometric Line

Distance (m)

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. GLU shear strength reduced to 80%.
5. No seismic loading applied.

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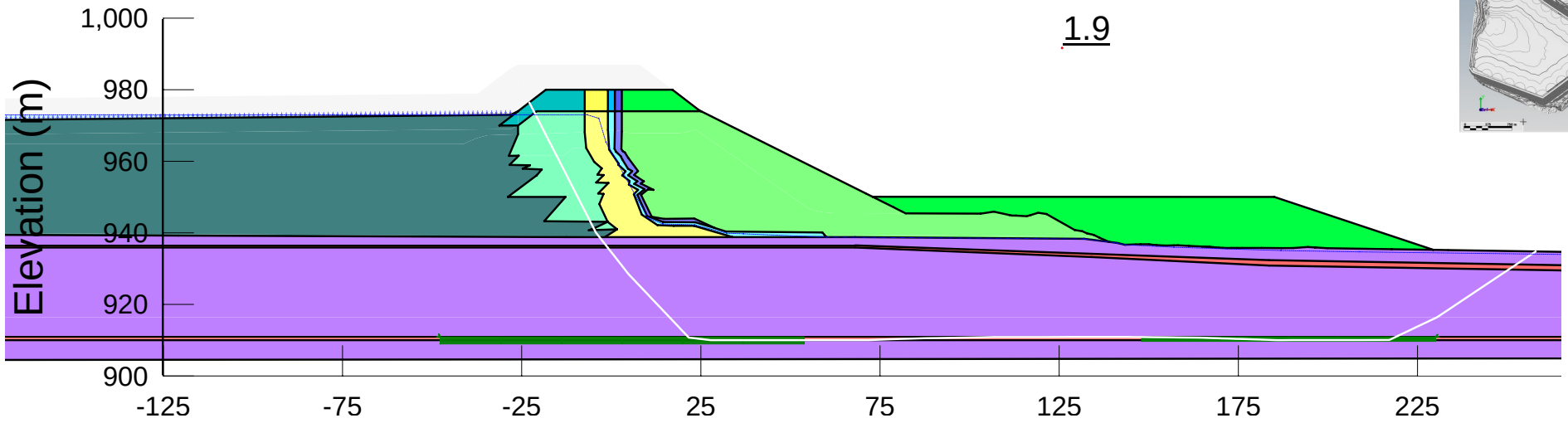
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PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

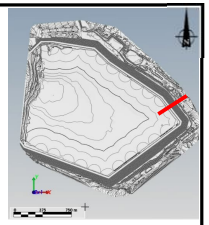
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 2+850 *(Old Stn. 2+850)*
POST-EARTHQUAKE

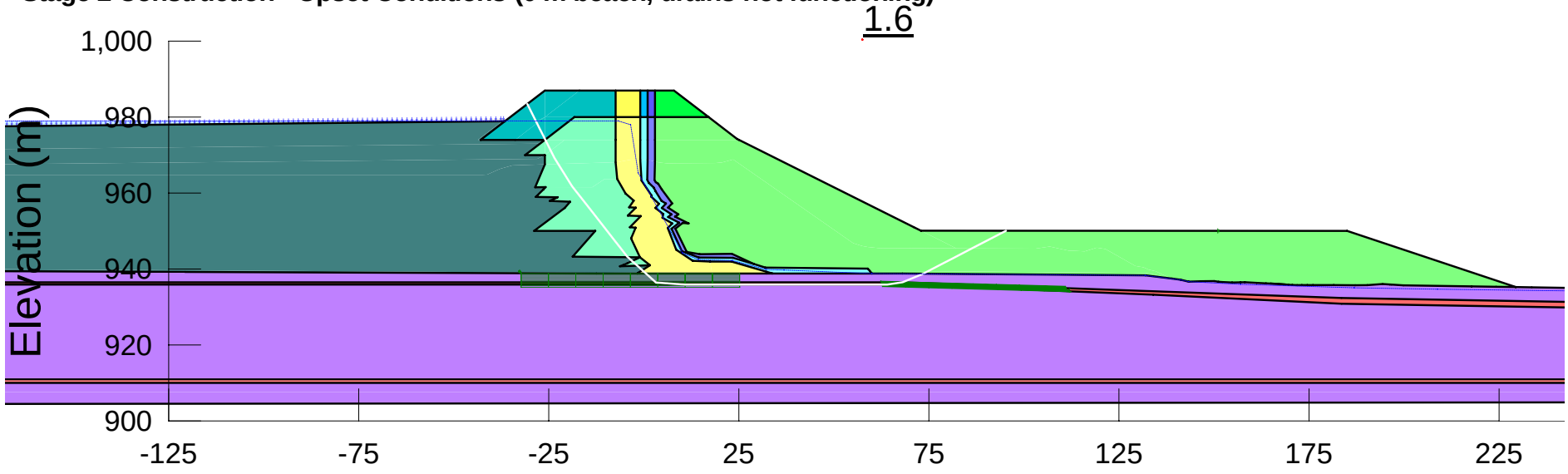
PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-39

Stage 1 Construction - Upset Conditions (0 m beach, drains not functioning)





Stage 2 Construction - Upset Conditions (0 m beach, drains not functioning)



Piezometric Line

REFERENCES/NOTES

1. Partially consolidated foundation soils; B-bar applied.
2. Stage 1: crest el. 980 m, pond and tailings el. 973 m.
3. Stage 2: crest el. 987 m: pond and tailings el. 979 m.
4. Incremental construction material represented by darker shade.

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MOUNT POLLEY MINING CORPORATION

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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

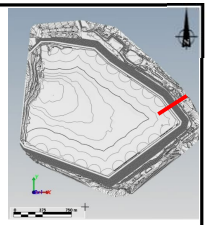
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

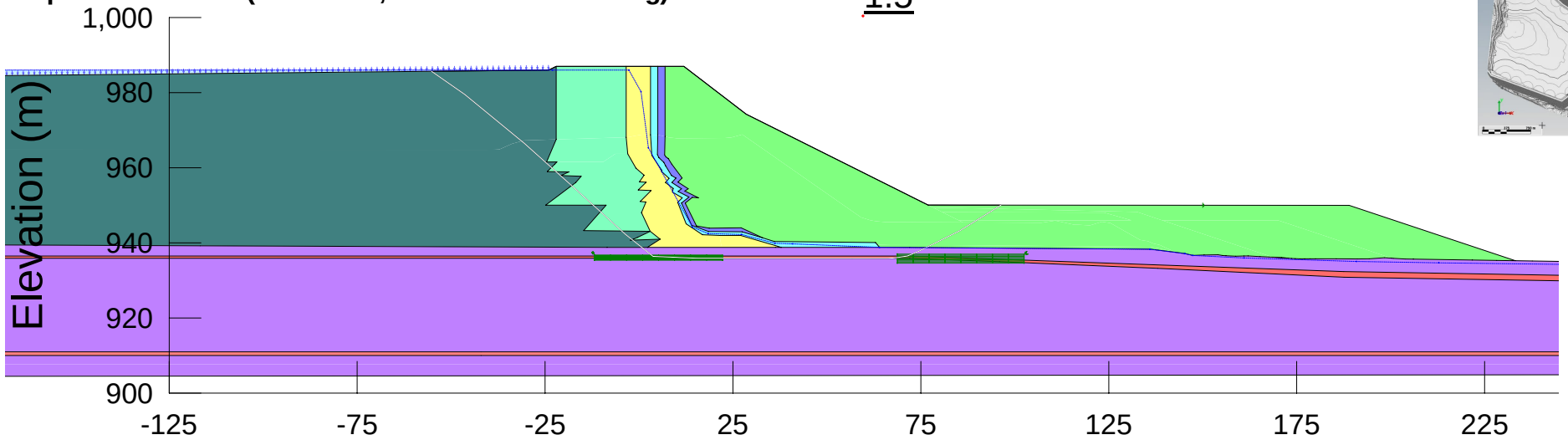
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 2+950 *(Old Stn. 2+950)*
SHORT-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-40

Upset Conditions (0 m beach, drains not functioning)

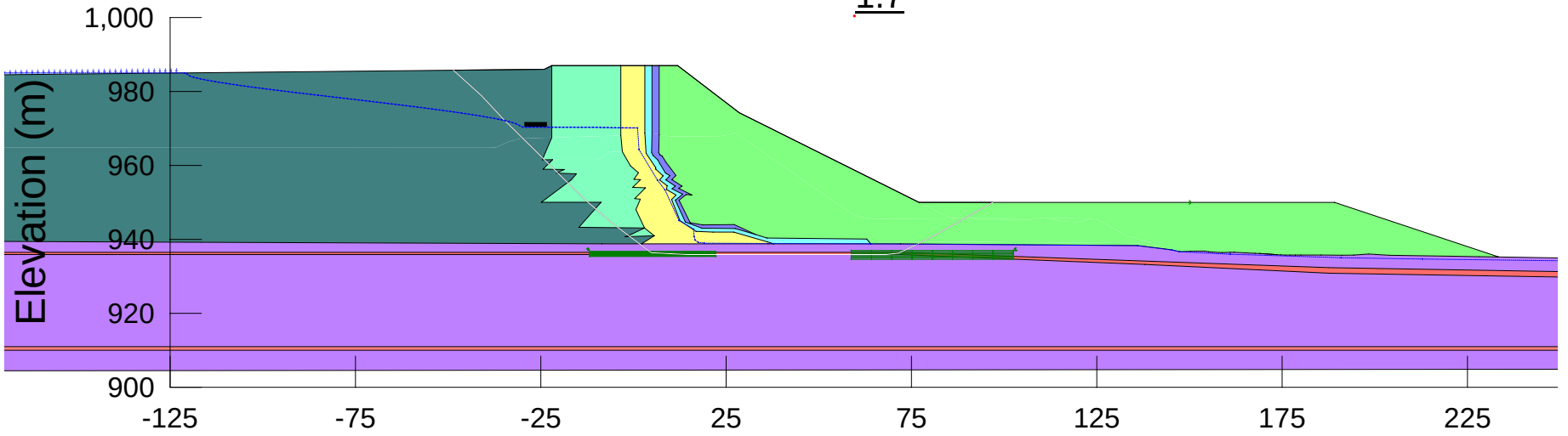
1.5





Normal Operating Conditions (100 m beach, drains functioning)

1.7



Piezometric Line

Distance (m)

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

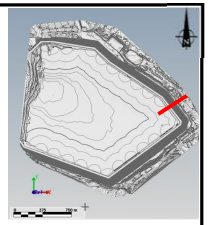
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

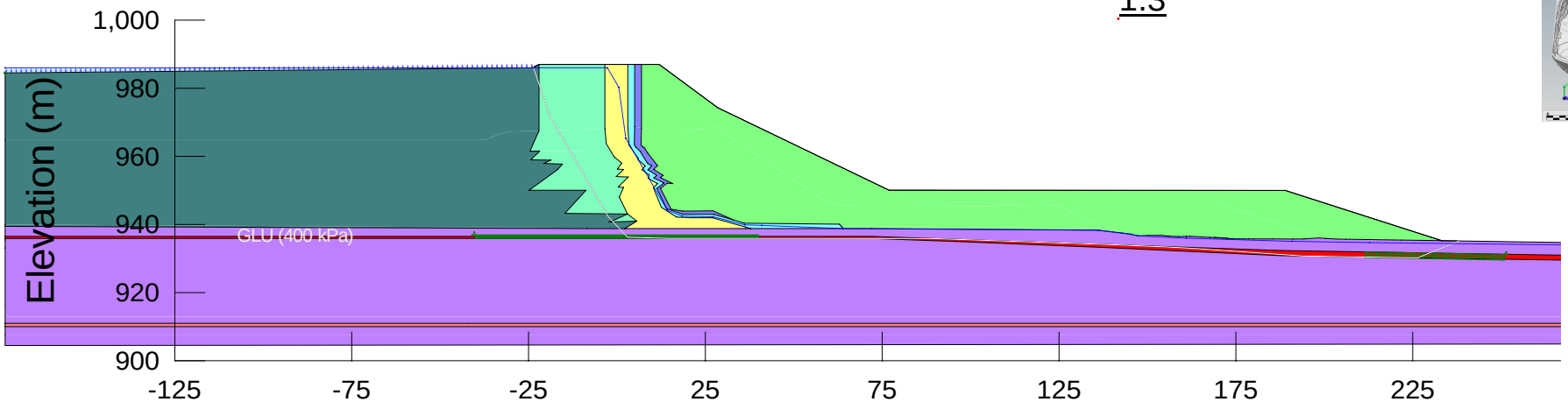
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 2+950 *(Old Stn. 2+950)*
LONG-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-41

Upset Conditions (0 m beach, drains not functioning)

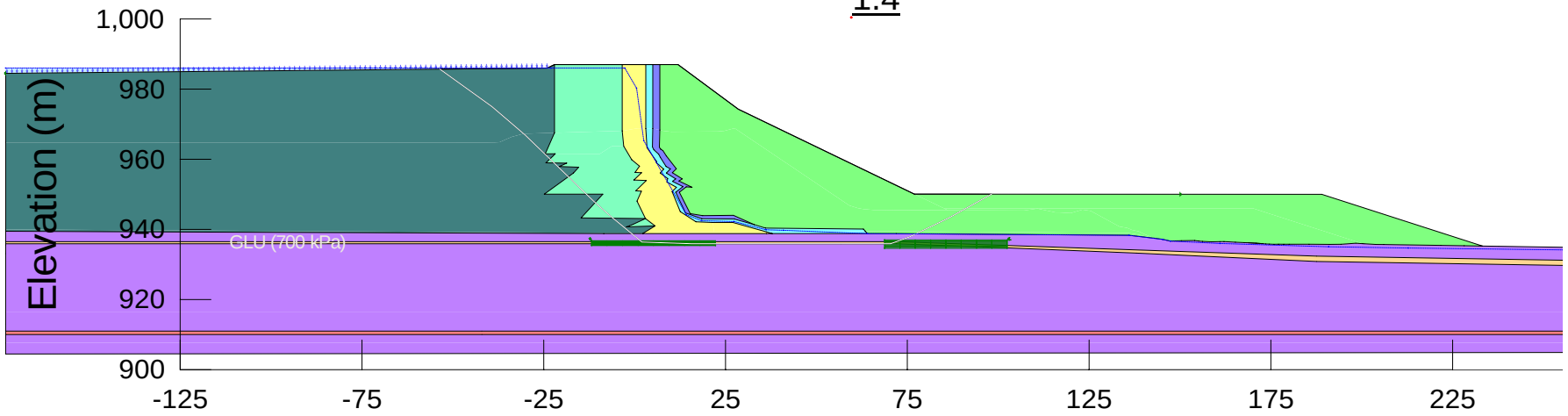
1.3





Upset Conditions (0 m beach, drains not functioning)

1.4



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach.
3. 0 m sub-aerial beach; pond el. 986 m.
4. Sensitivity GLU pre-consolidation pressure reduced to 400 kPa and 700 kPa.

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CONSULTANT

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

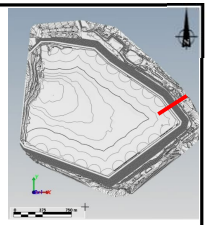
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

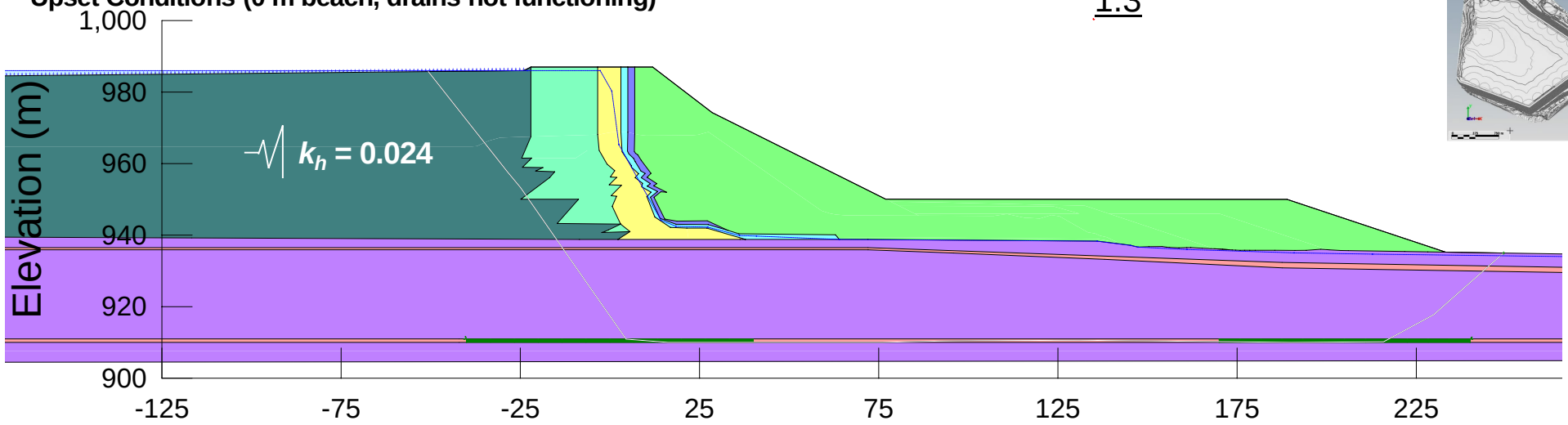
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 2+950 *(Old Stn. 2+950)*
LONG-TERM (GLU SHEAR STRENGTH SENSITIVITY)

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-42

Upset Conditions (0 m beach, drains not functioning)

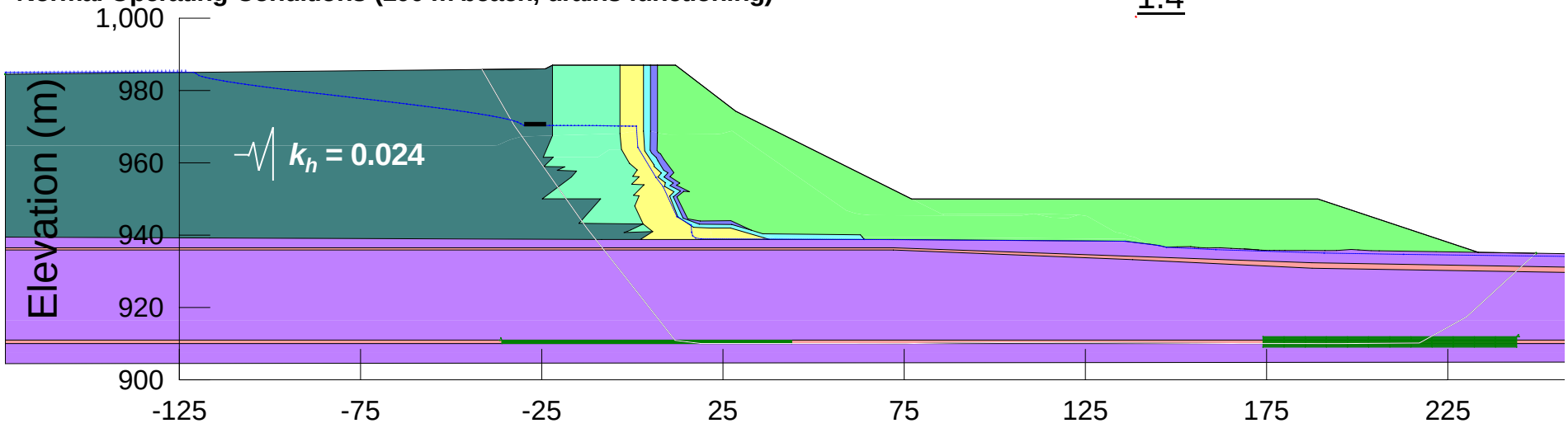
1.3





Normal Operating Conditions (100 m beach, drains functioning)

1.4



Distance (m)

Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 2,475-year AEP.
5. GLU shear strength reduced to 80%.

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MOUNT POLLEY MINING CORPORATION

CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

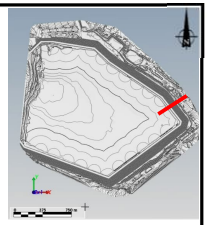
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

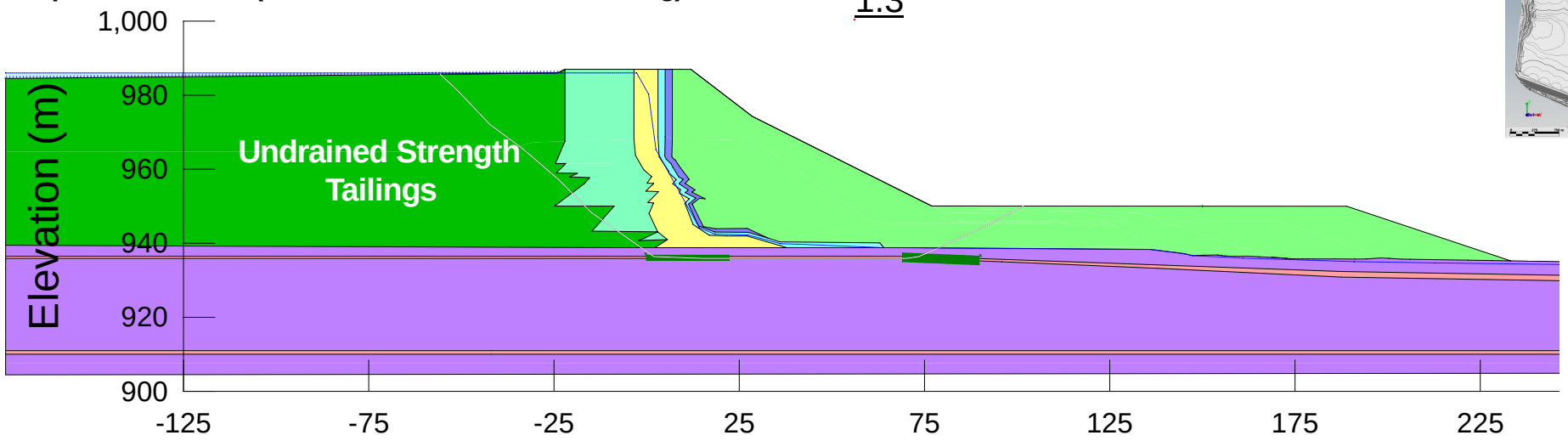
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 2+950 *(Old Stn. 2+950)*
PSEUDO-STATIC LOADING

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-43

Upset Conditions (0 m beach, drains not functioning)

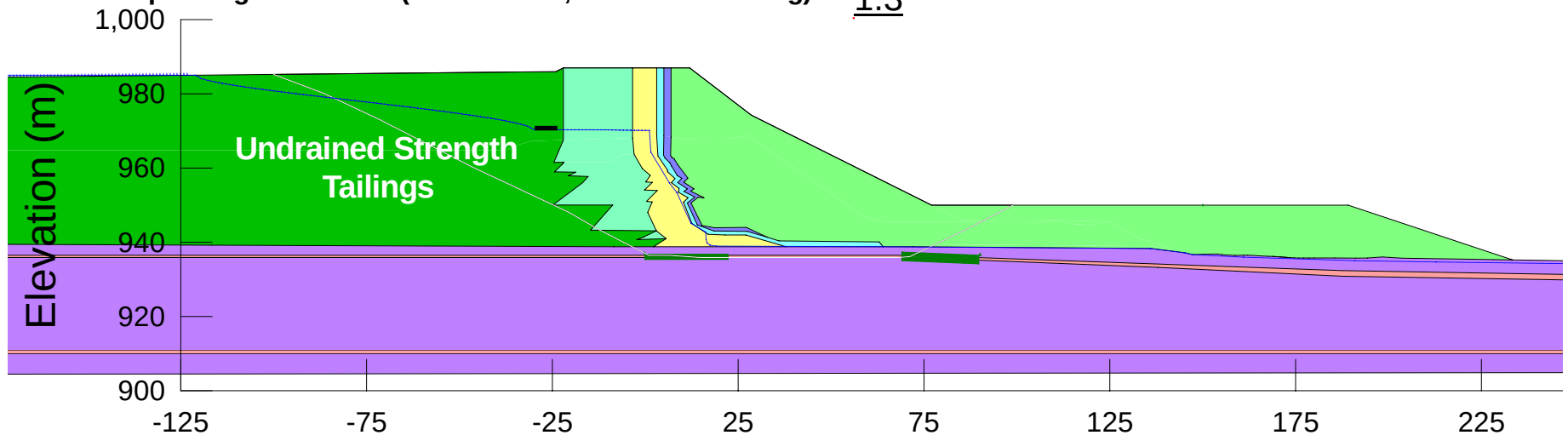
1.3





Normal Operating Conditions (100 m beach, drains functioning)

1.3



Distance (m)

Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. GLU shear strength reduced to 80%.
5. No seismic loading applied.

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CONSULTANT
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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

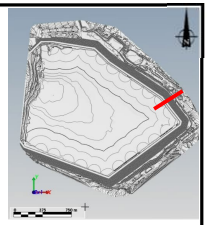
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

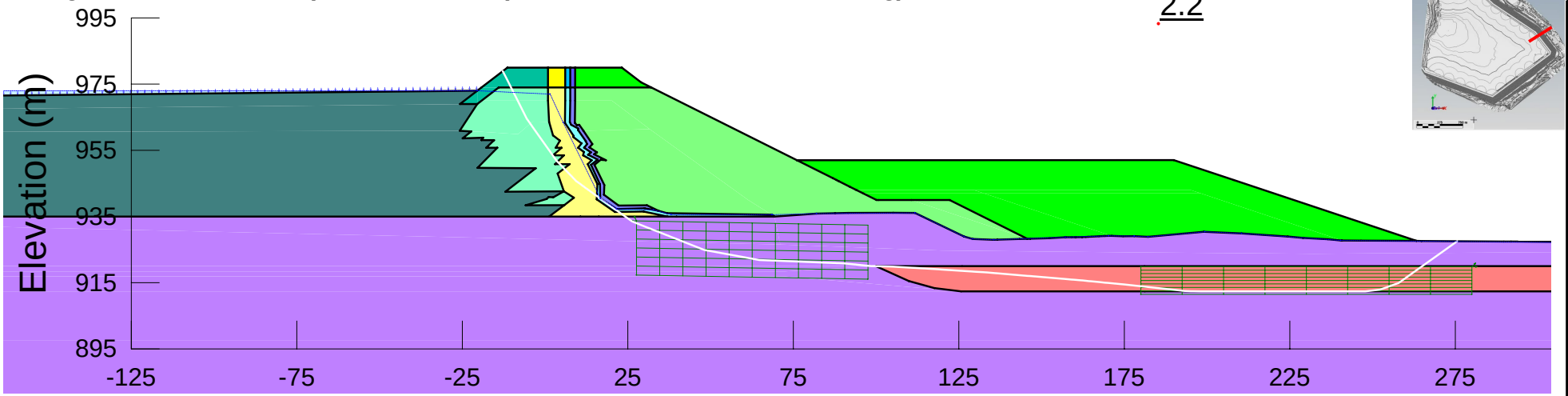
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 2+950 *(Old Stn. 2+950)*
POST-EARTHQUAKE

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-44

Stage 1 Construction - Upset Conditions (0 m beach, drains not functioning)

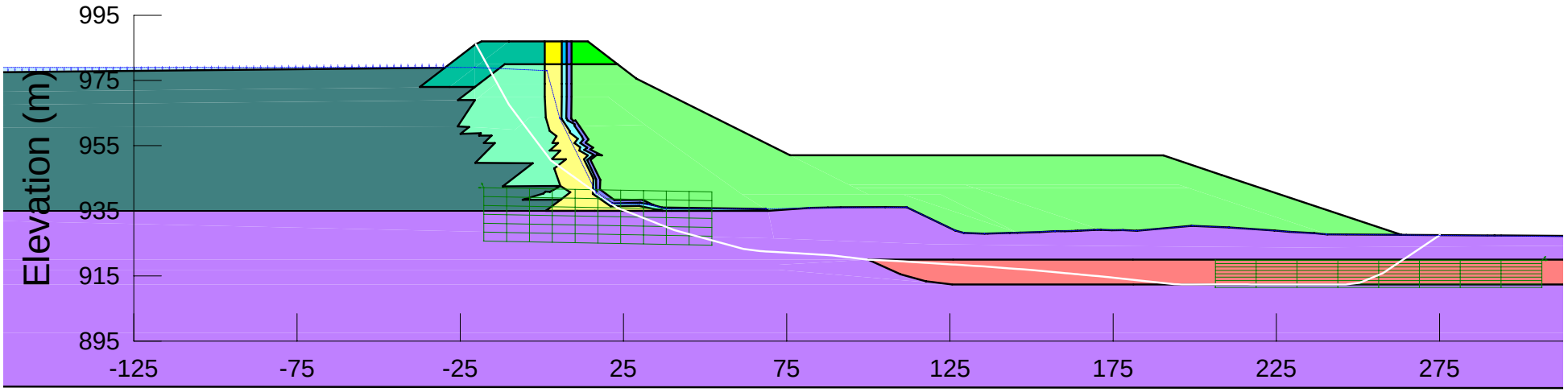
2.2





Stage 2 Construction - Upset Conditions (0 m beach, drains not functioning)

2.1



Piezometric Line

REFERENCES/NOTES

1. Partially consolidated foundation soils; B-bar applied.
2. Stage 1: crest el. 980 m, pond and tailings el. 973 m.
3. Stage 2: crest el. 987 m: pond and tailings el. 979 m.
4. Incremental construction material represented by darker shade.

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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

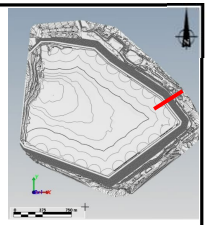
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

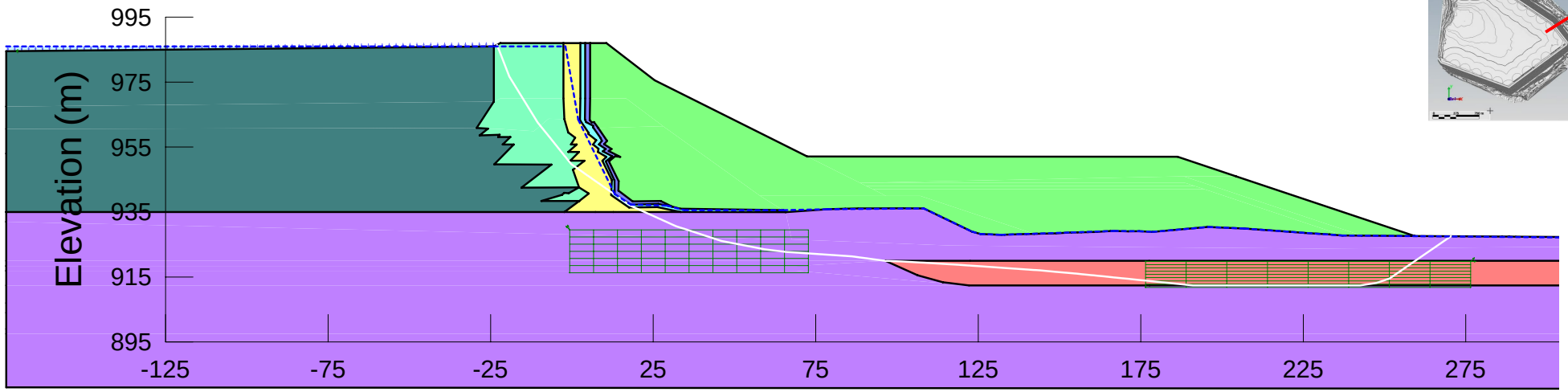
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+185 *(Old Stn. 3+190)*
SHORT-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-45

Upset Conditions (0 m beach, drains not functioning)

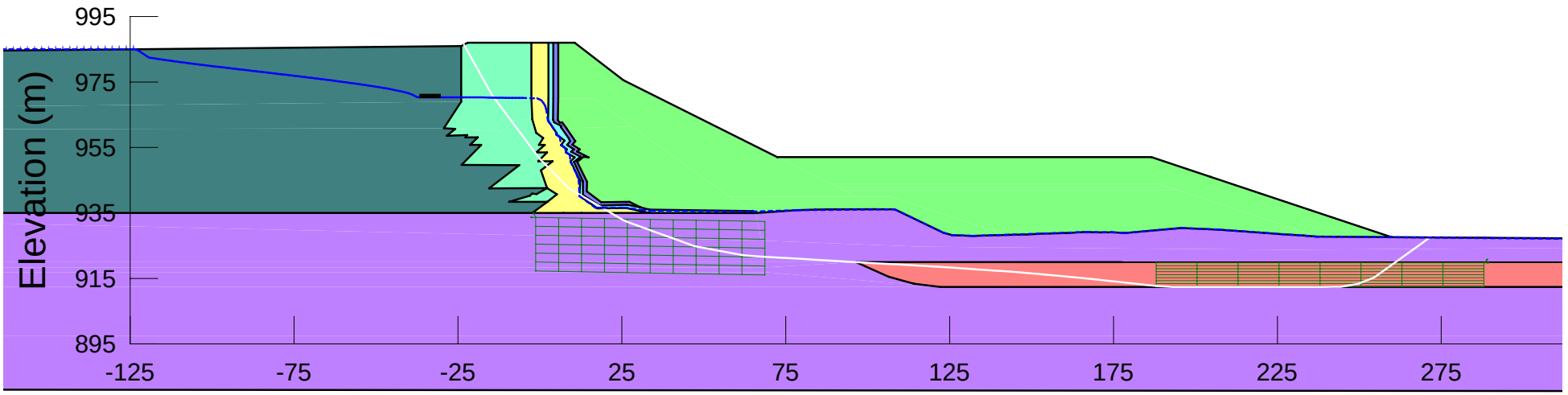
2.0





Normal Operating Conditions (100 m beach, drains functioning)

2.1



Distance (m)

Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.

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MOUNT POLLEY MINING CORPORATION

CONSULTANT

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

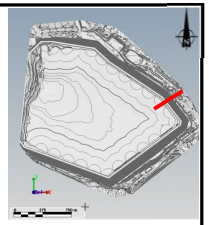
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

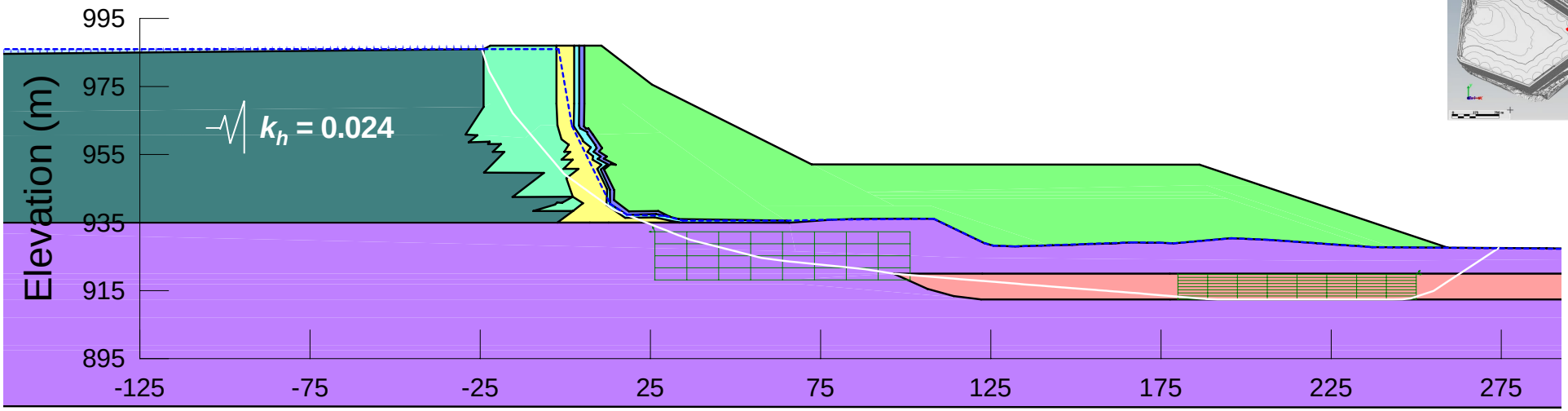
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+185 *(Old Stn. 3+190)*
LONG-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	**51200/51293**	**0**	**G-46**

Upset Conditions (0 m beach, drains not functioning)

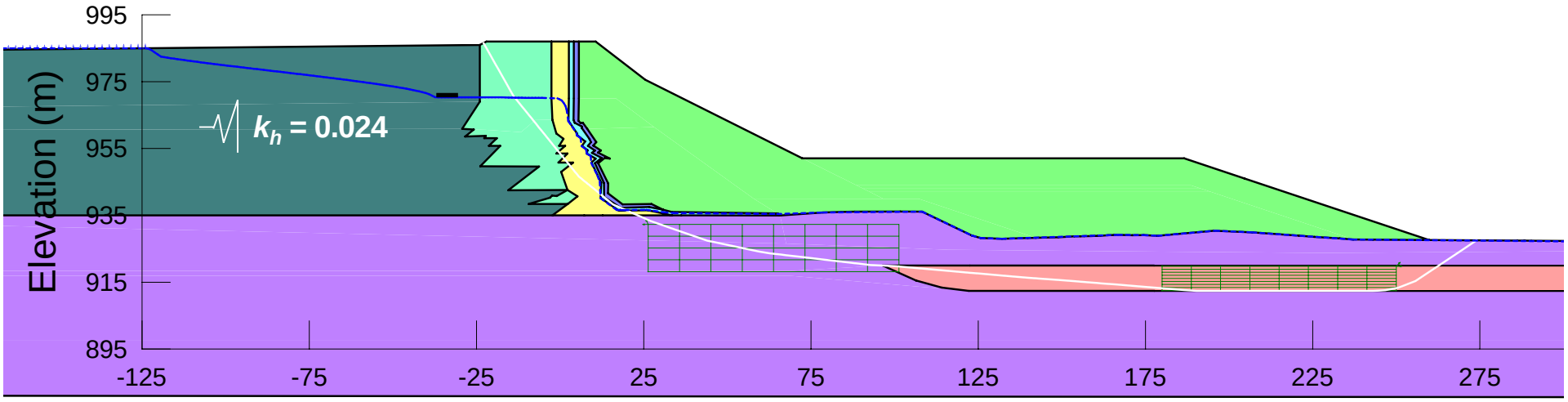
1.6





Normal Operating Conditions (100 m beach, drains functioning)

1.7



Distance (m)

Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 2,475-year AEP.
5. GLU shear strength reduced to 80%.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

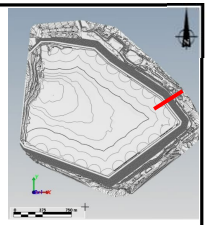
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

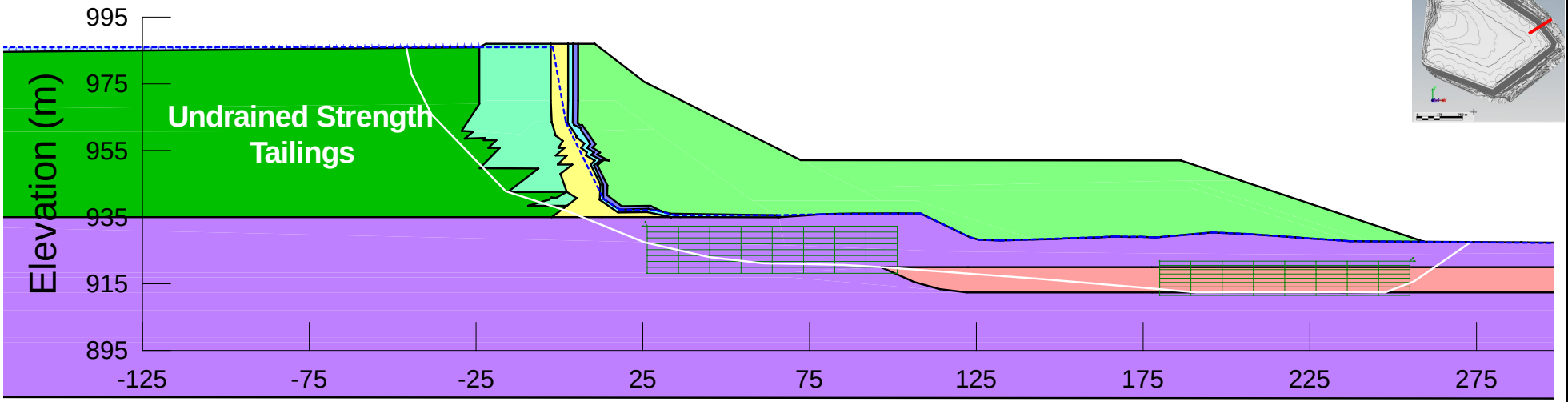
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+185 *(Old Stn. 3+190)*
PSEUDO-STATIC LOADING

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-47

Upset Conditions (0 m beach, drains not functioning)

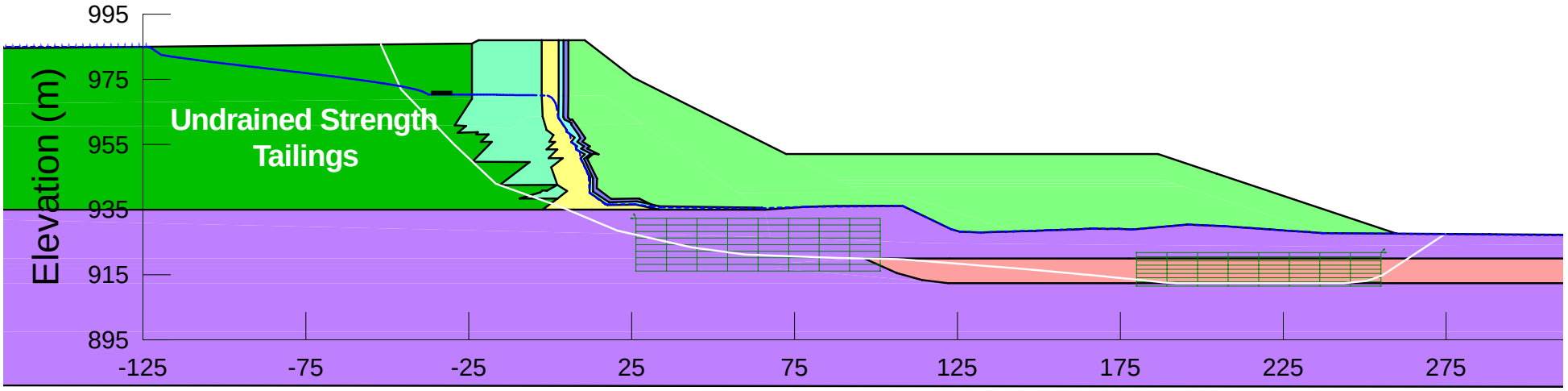
1.9





Normal Operating Conditions (100 m beach, drains functioning)

1.9



Distance (m)

Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. GLU shear strength reduced to 80%.
5. No seismic loading applied.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

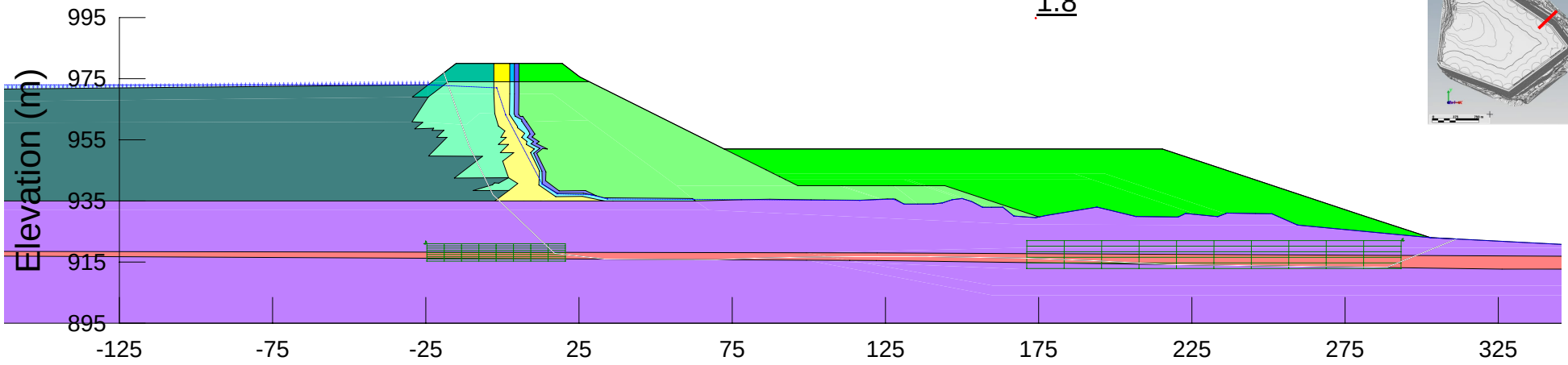
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

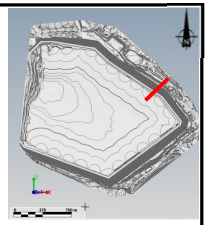
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+185 *(Old Stn. 3+190)*
POST-EARTHQUAKE

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-48

Stage 1 Construction - Upset Conditions (0 m beach, drains not functioning)

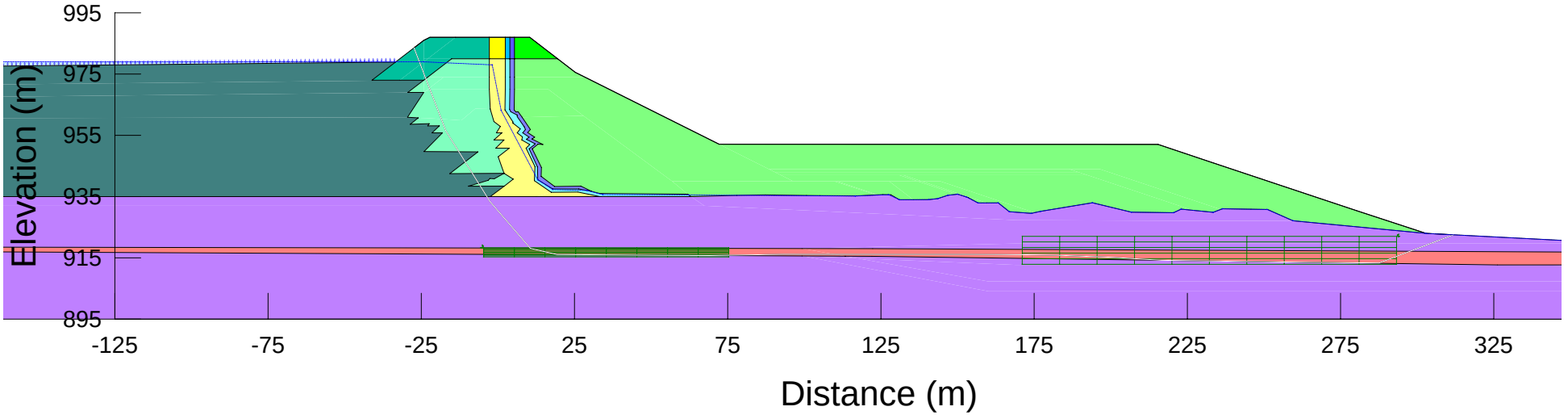
1.8





Stage 2 Construction - Upset Conditions (0 m beach, drains not functioning)

1.6



Piezometric Line

REFERENCES/NOTES

1. Partially consolidated foundation soils; B-bar applied.
2. Stage 1: crest el. 980 m, pond and tailings el. 973 m.
3. Stage 2: crest el. 987 m: pond and tailings el. 979 m.
4. Incremental construction material represented by darker shade.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

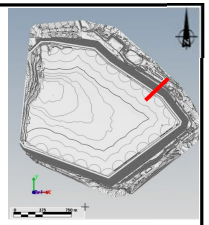
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

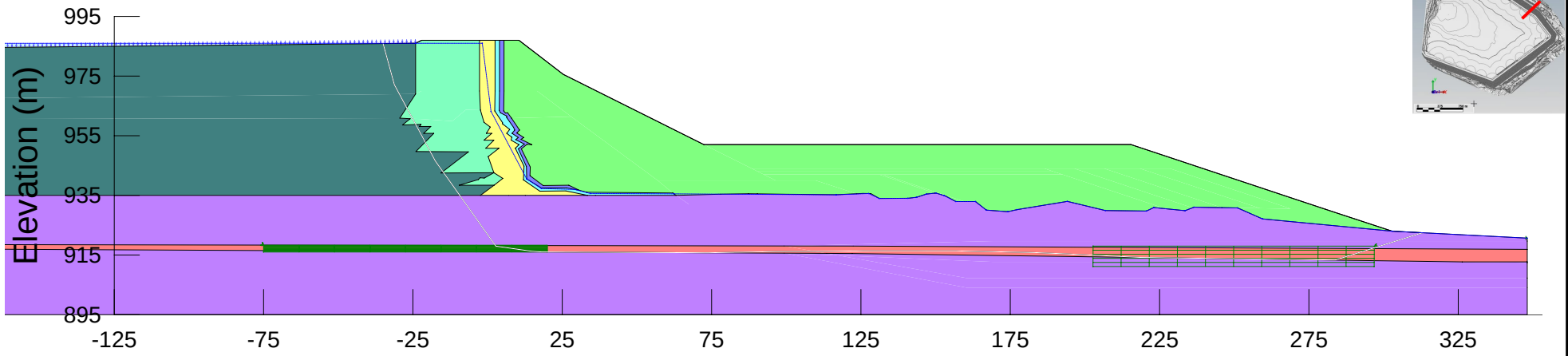
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+270 *(Old Stn. 3+275)*
SHORT-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-49

Upset Conditions (0 m beach, drains not functioning)

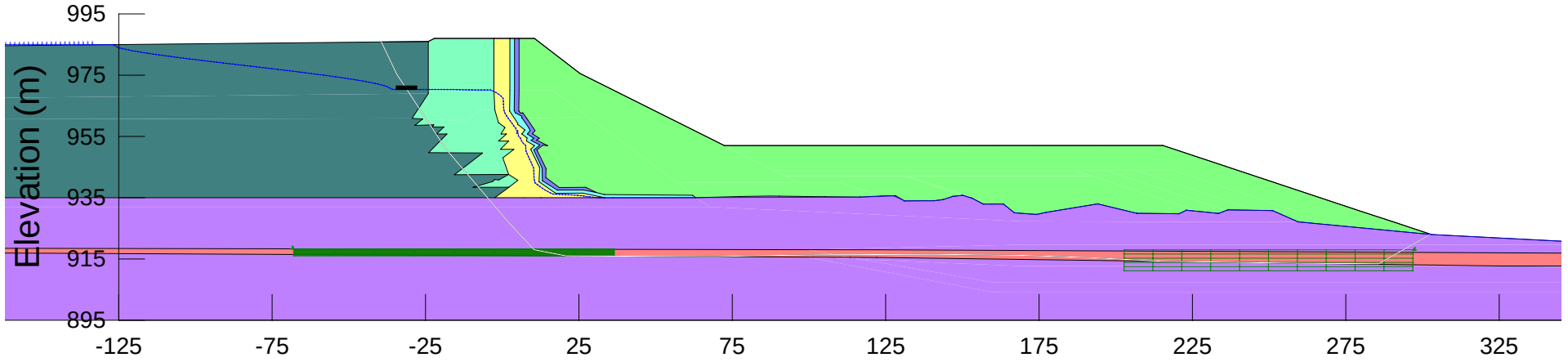
1.5





Normal Operating Conditions (100 m beach, drains functioning)

1.7



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

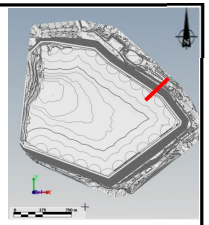
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

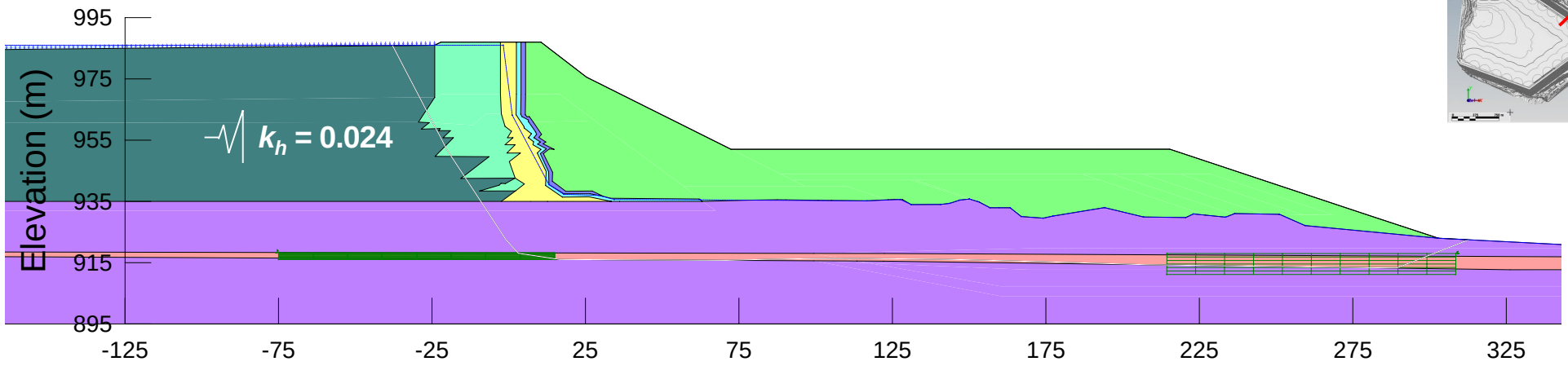
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+270 (Old Stn. 3+275)
LONG-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-50

Upset Conditions (0 m beach, drains not functioning)

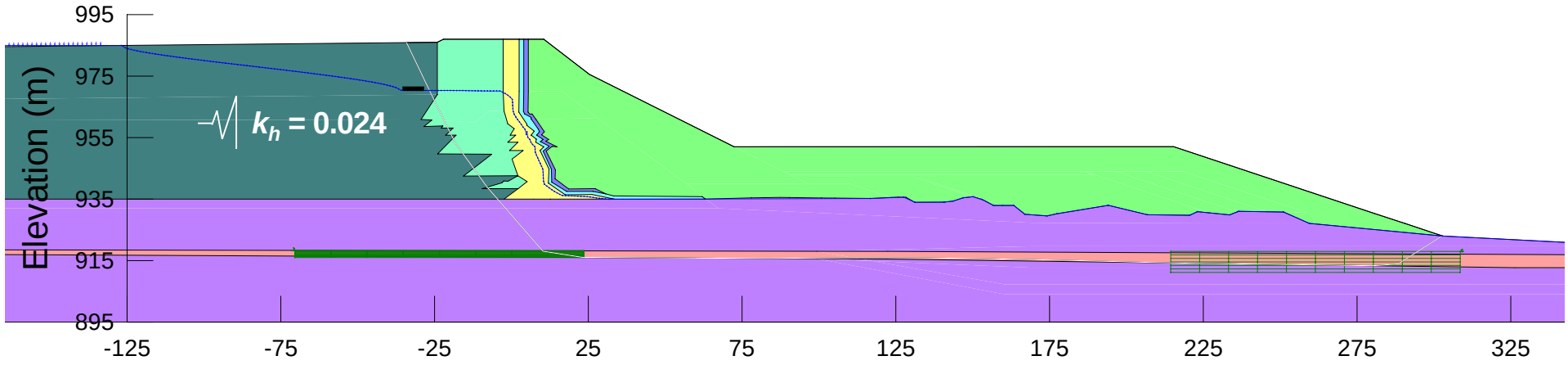
1.1





Normal Operating Conditions (100 m beach, drains functioning)

1.2



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 2,475-year AEP.
5. GLU shear strength reduced to 80%.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

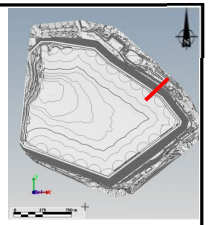
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

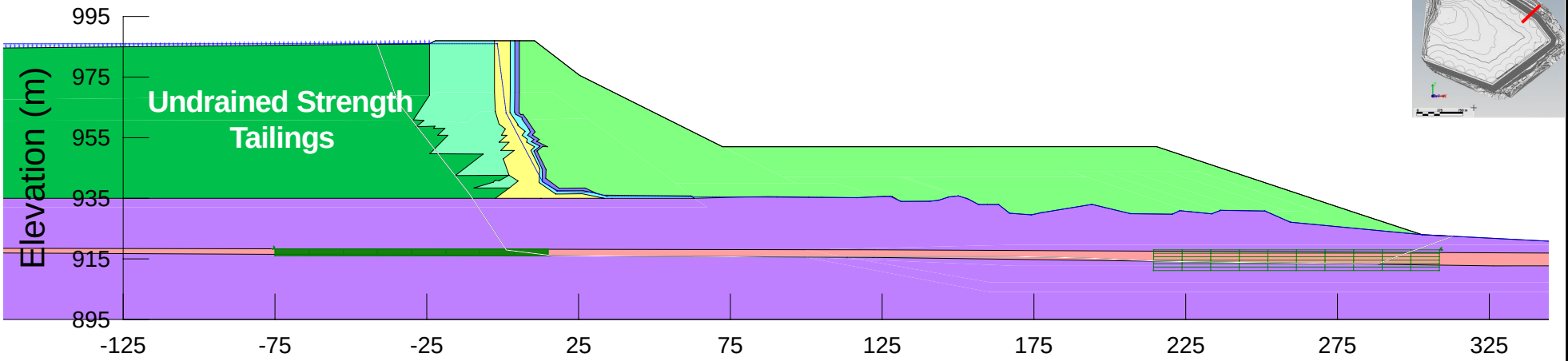
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+270 *(Old Stn. 3+275)*
PSEUDO-STATIC LOADING

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-51

Upset Conditions (0 m beach, drains not functioning)

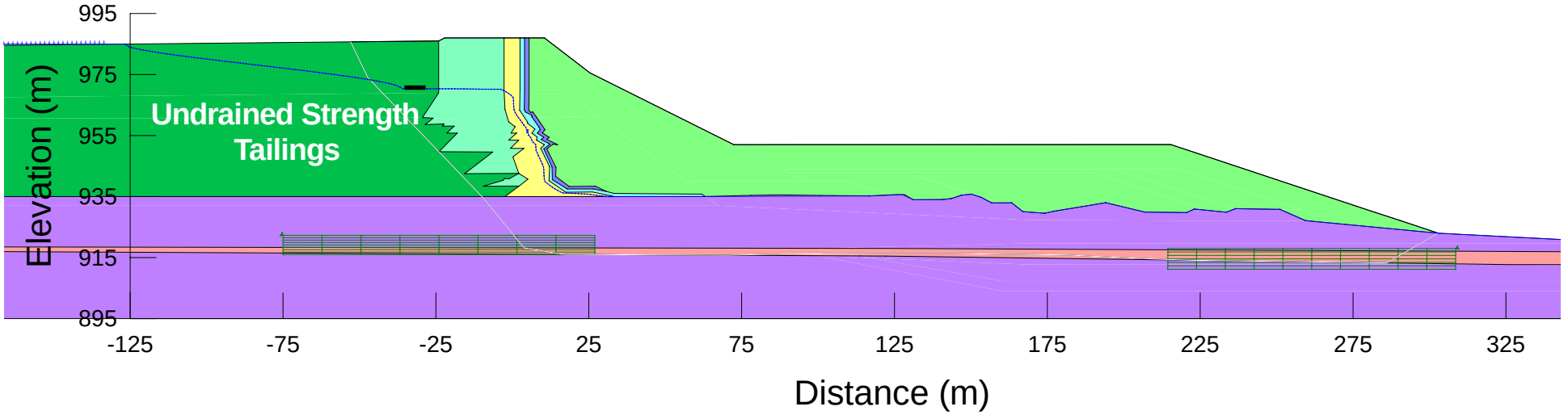
1.2





Normal Operating Conditions (100 m beach, drains functioning)

1.3



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. GLU shear strength reduced to 80%.
5. No seismic loading applied.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

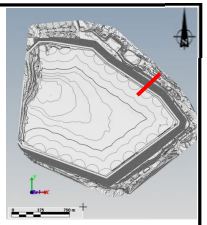
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

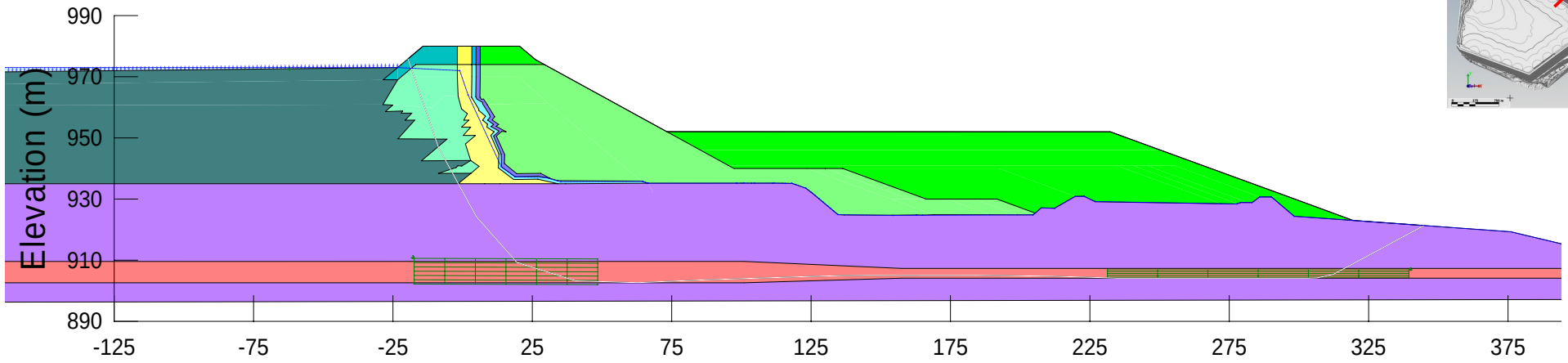
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+270 *(Old Stn. 3+275)*
POST-EARTHQUAKE

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-52

Stage 1 Construction - Upset Conditions (0 m beach, drains not functioning)

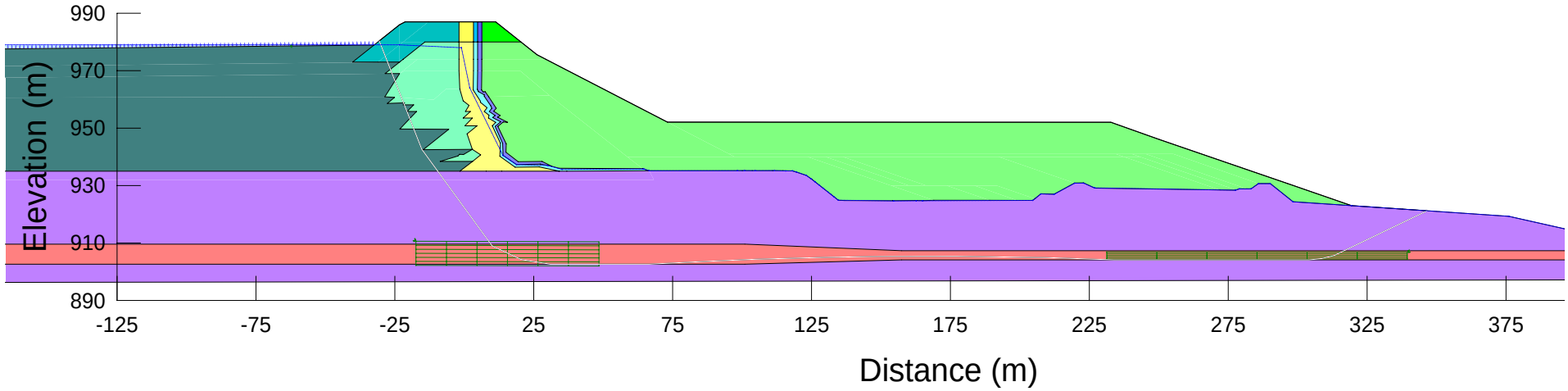
1.7





Stage 2 Construction - Upset Conditions (0 m beach, drains not functioning)

1.5



Piezometric Line

REFERENCES/NOTES

1. Partially consolidated foundation soils; B-bar applied.
2. Stage 1: crest el. 980 m, pond and tailings el. 973 m.
3. Stage 2: crest el. 987 m: pond and tailings el. 979 m.
4. Incremental construction material represented by darker shade.

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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

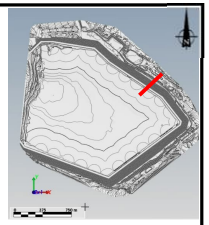
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

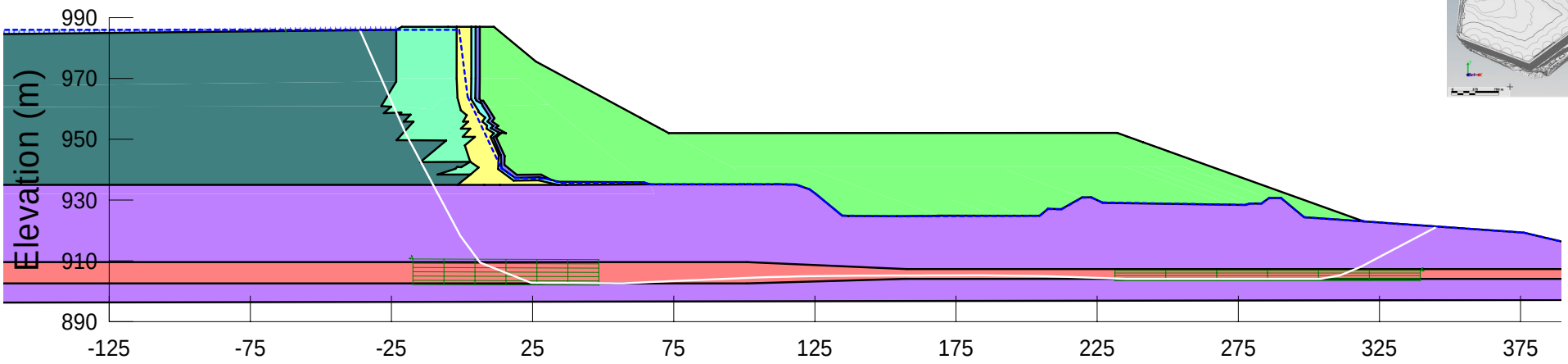
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+395 *(Old Stn. 3+400)*
SHORT-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-53

Upset Conditions (0 m beach, drains not functioning)

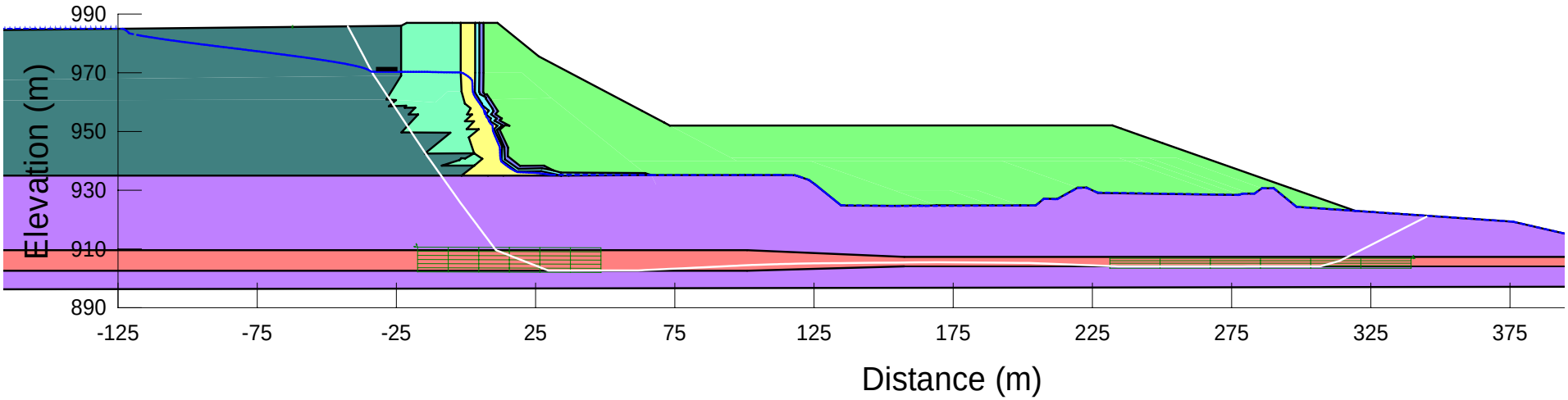
1.5





Normal Operating Conditions (100 m beach, drains functioning)

1.6



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.

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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

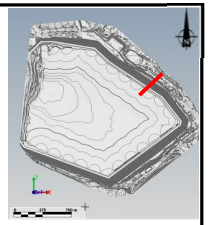
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

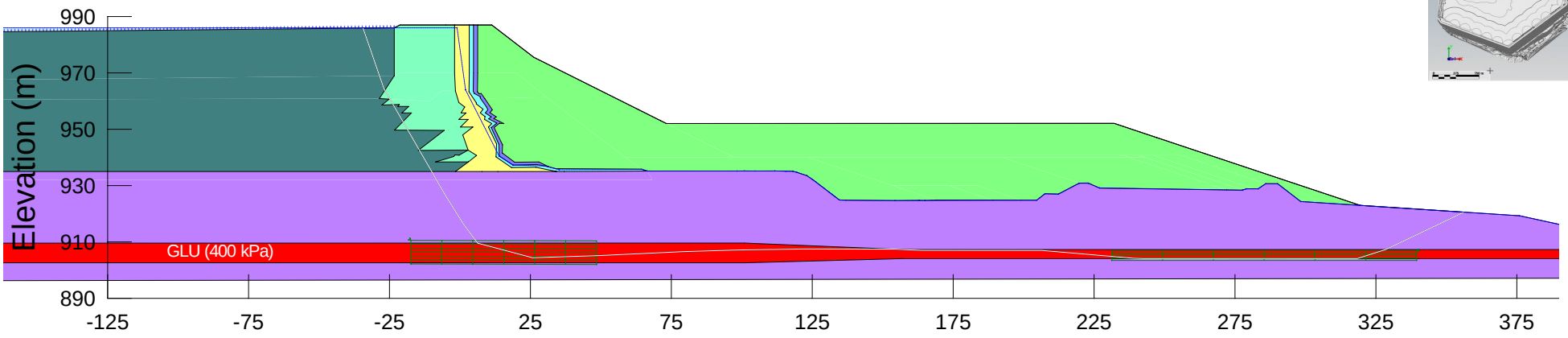
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+395 *(Old Stn. 3+400)*
LONG-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-54

Upset Conditions (0 m beach, drains not functioning)

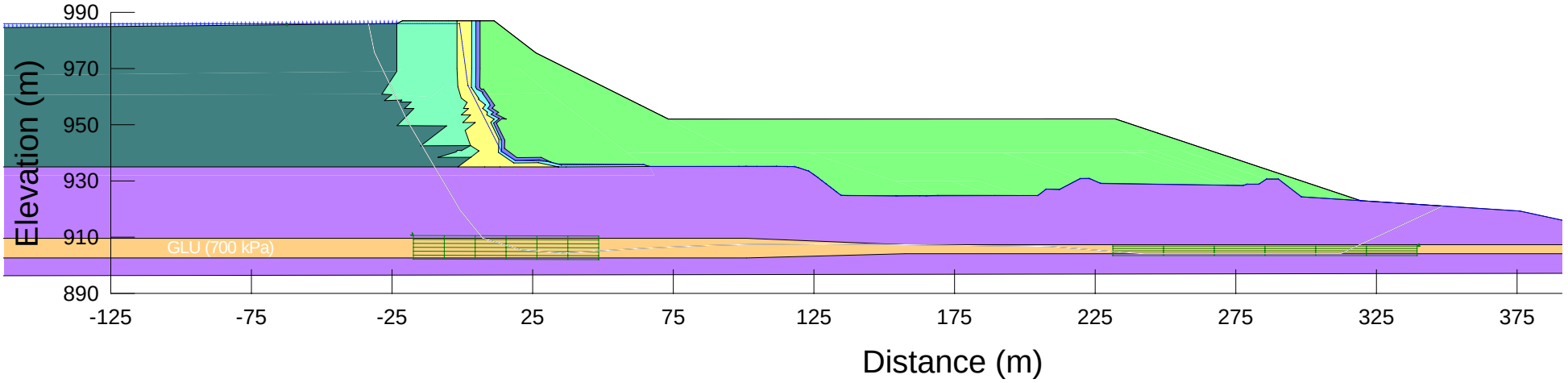
1.3





Upset Conditions (0 m beach, drains not functioning)

1.4



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning.
3. 0 m sub-aerial beach; pond el. 986 m.
4. Sensitivity GLU pre-consolidation pressure reduced to 400 kPa and 700 kPa.

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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

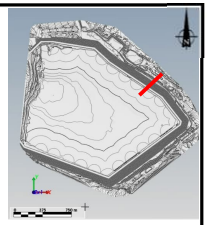
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

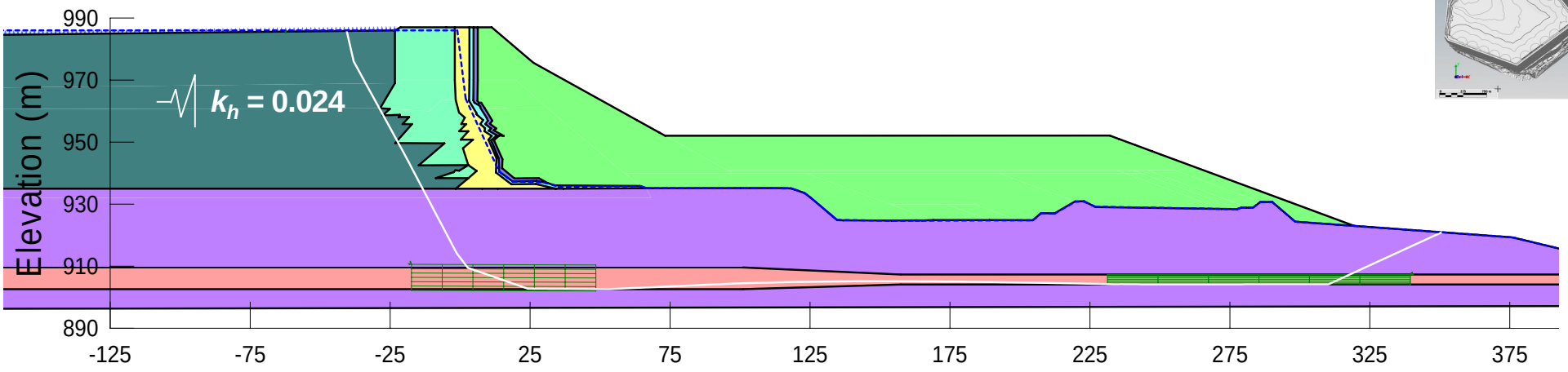
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+395 *(Old Stn. 3+400)*
LONG-TERM (GLU SHEAR STRENGTH SENSITIVITY)

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-55

Upset Conditions (0 m beach, drains not functioning)

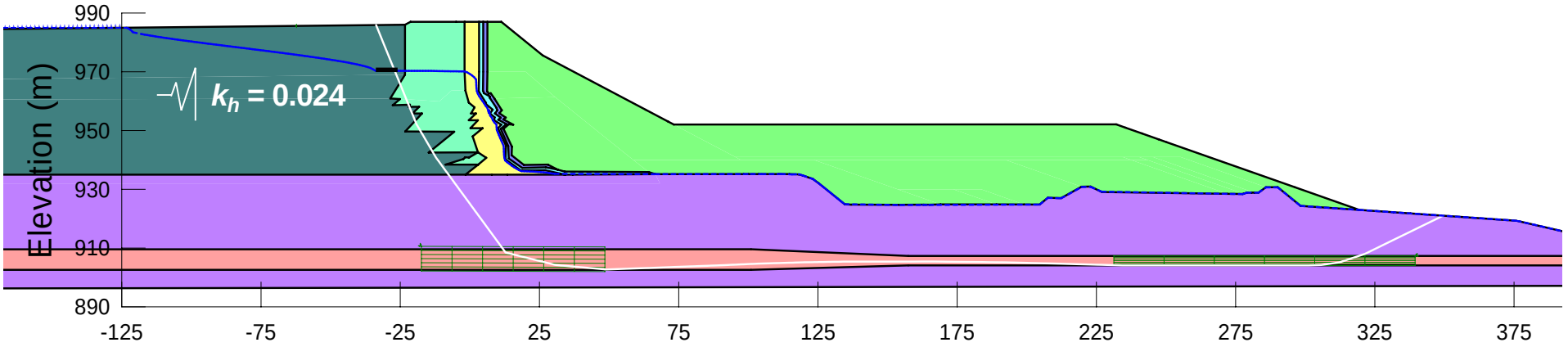
1.1





Normal Operating Conditions (100 m beach, drains functioning)

1.2



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 2,475-year AEP.
5. GLU shear strength reduced to 80%.

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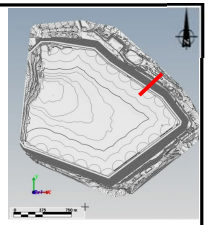
CONSULTANT
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PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

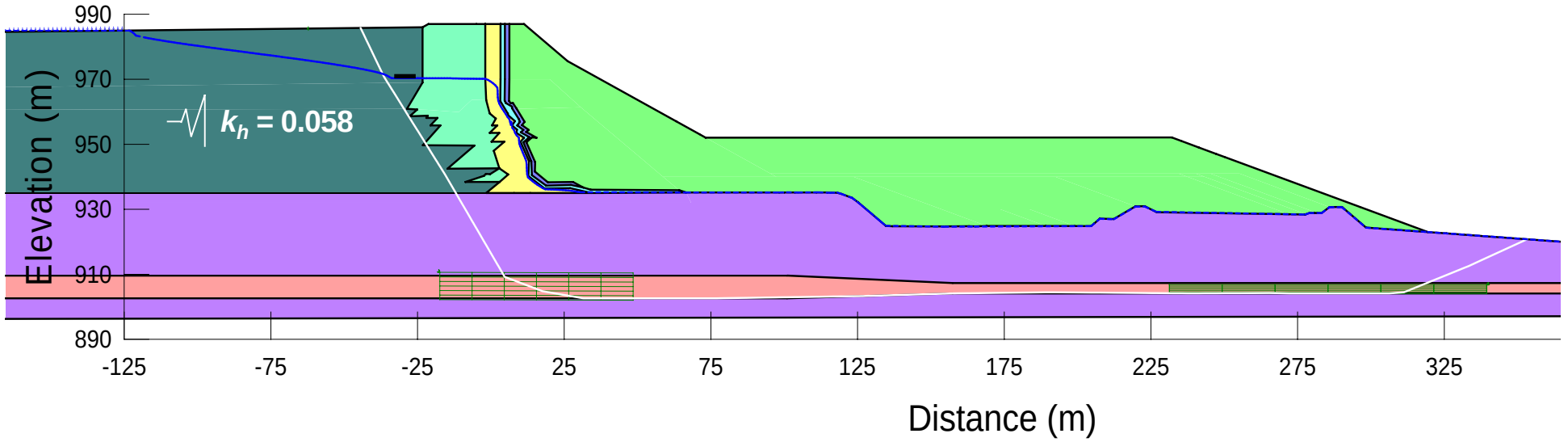
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+395 *(Old Stn. 3+400)*
PSEUDO-STATIC LOADING

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-56



Normal Operating Conditions (100 m beach, drains functioning)

1.0



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain functioning.
3. 100 m sub-aerial beach; pond elevation at 985 m.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 10,000-year AEP.
5. GLU shear strength reduced to 80%.

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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

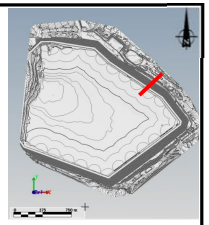
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

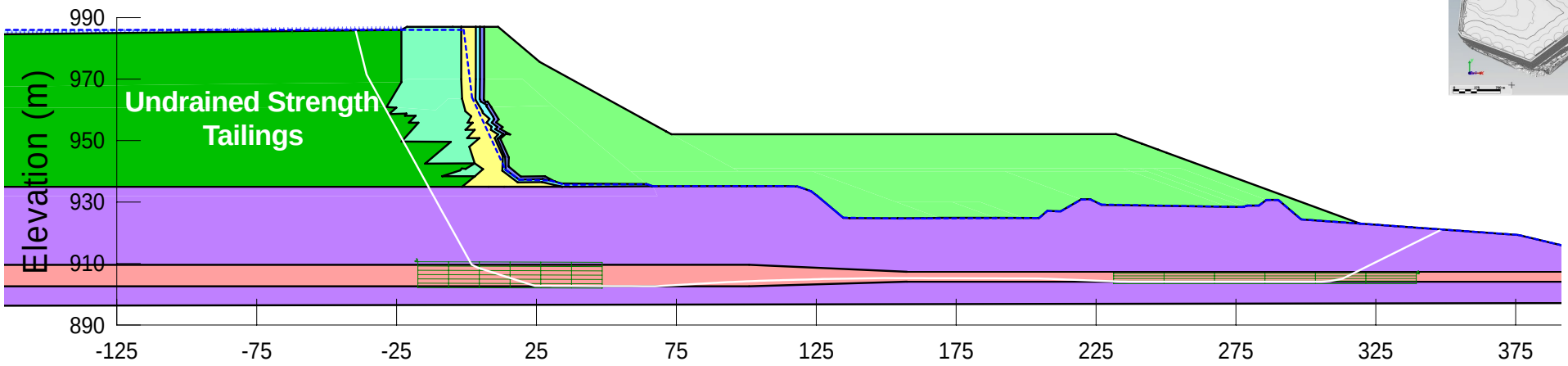
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+395 *(Old Stn. 3+400)*
PSEUDO-STATIC LOADING

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-57

Upset Conditions (0 m beach, drains not functioning)

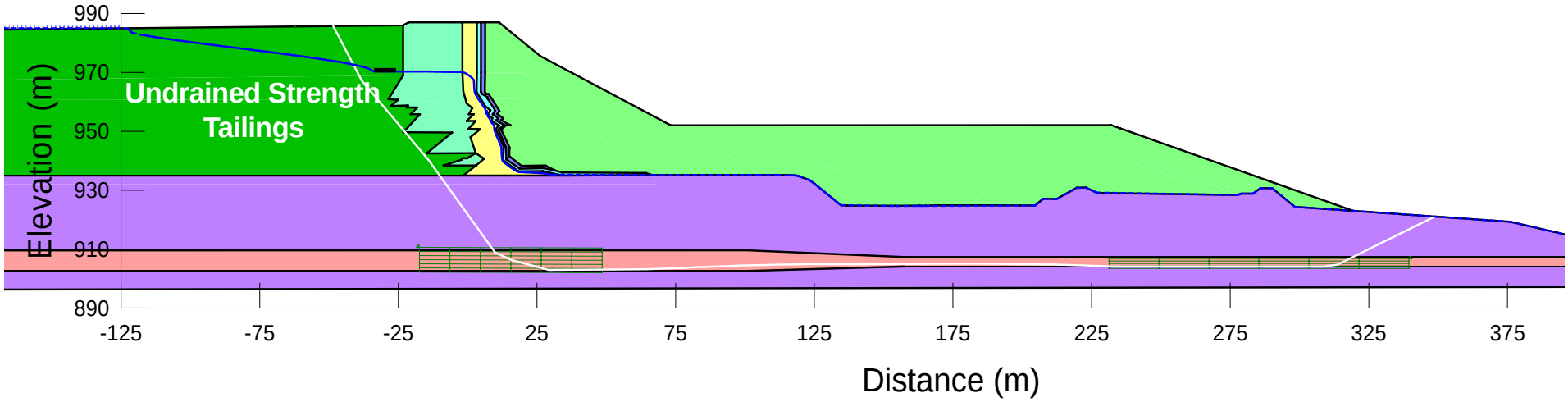
1.2





Normal Operating Conditions (100 m beach, drains functioning)

1.2



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. GLU shear strength reduced to 80%.
5. No seismic loading applied.

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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

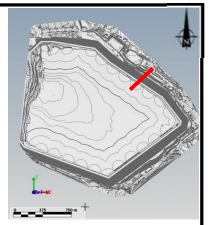
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

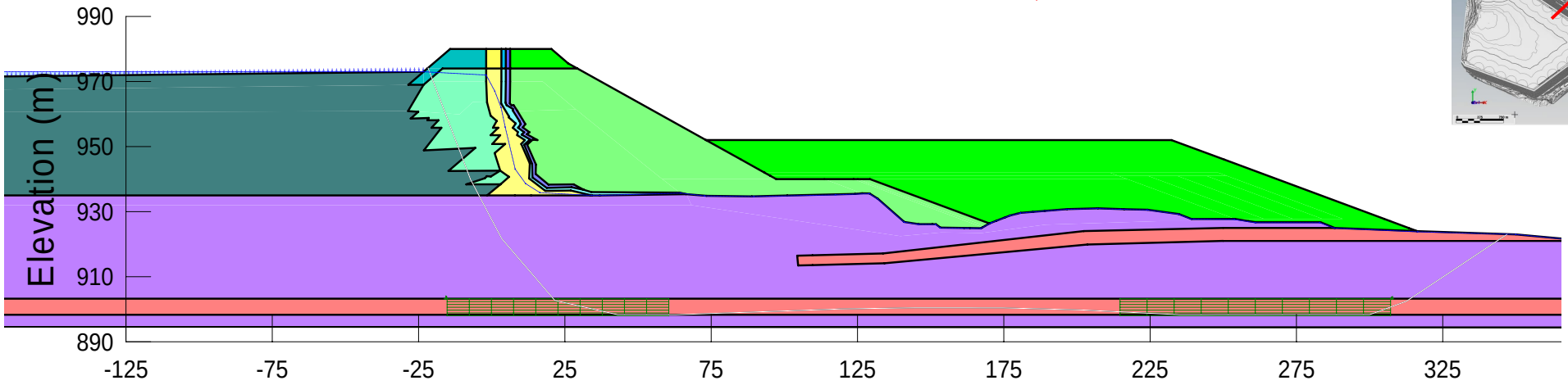
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+395 *(Old Stn. 3+400)*
POST-EARTHQUAKE

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-58

Stage 1 Construction - Upset Conditions (0 m beach, drains not functioning)

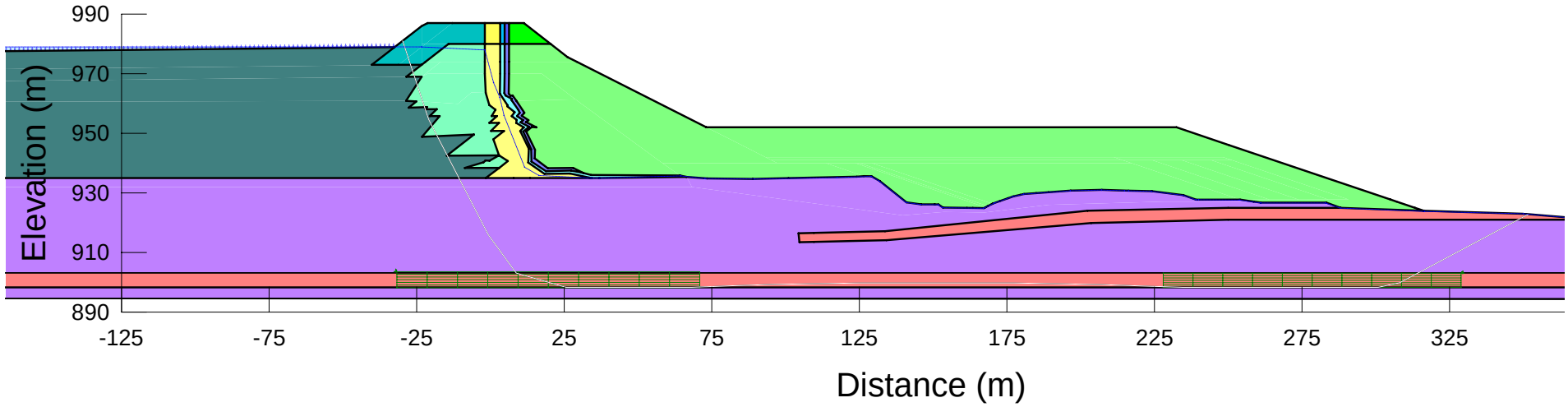
1.7





Stage 2 Construction - Upset Conditions (0 m beach, drains not functioning)

1.5



Piezometric Line

REFERENCES/NOTES

1. Partially consolidated foundation soils; B-bar applied.
2. Stage 1: crest el. 980 m, pond and tailings el. 973 m.
3. Stage 2: crest el. 987 m: pond and tailings el. 979 m.
4. Incremental construction material represented by darker shade.

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CONSULTANT
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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

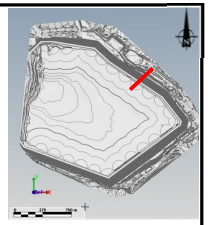
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

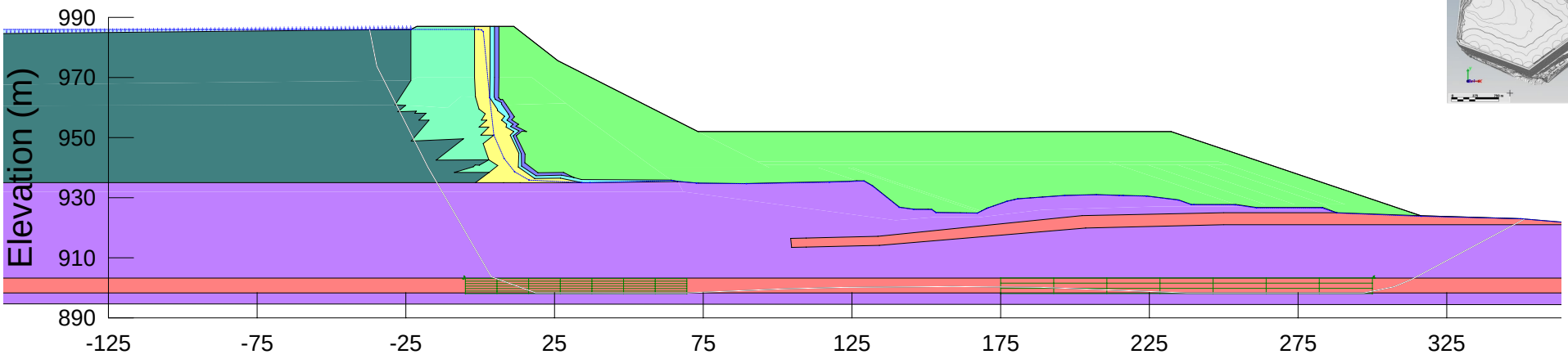
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+530 *(Old Stn. 3+535)*
SHORT-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-59

Upset Conditions (0 m beach, drains not functioning)

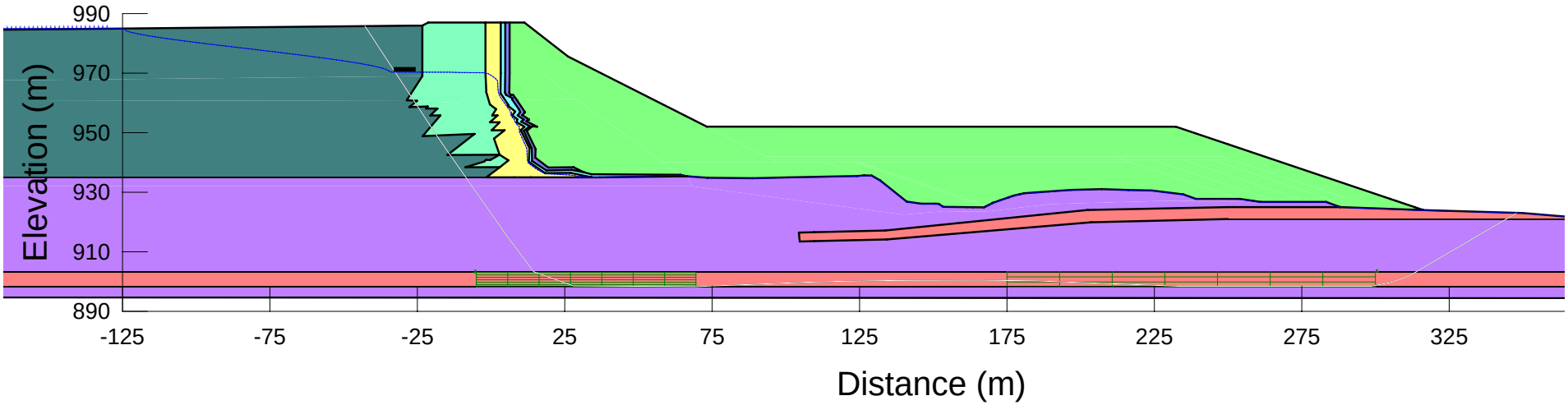
1.5





Normal Operating Conditions (100 m beach, drains functioning)

1.6



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.

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MOUNT POLLEY MINING CORPORATION

CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

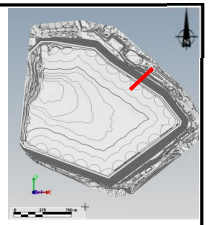
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

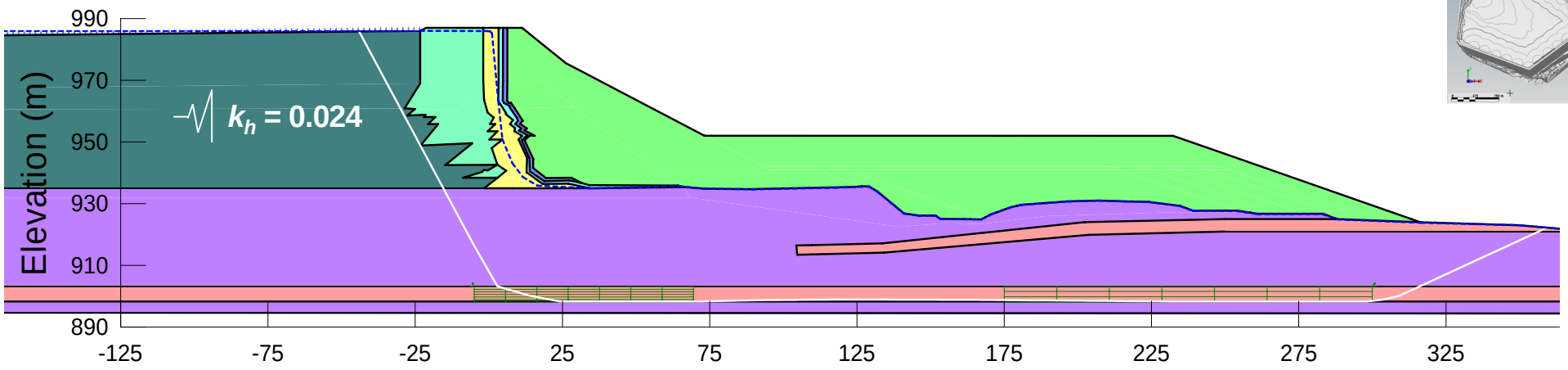
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+530 *(Old Stn. 3+535)*
LONG-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-60

Upset Conditions (0 m beach, drains not functioning)

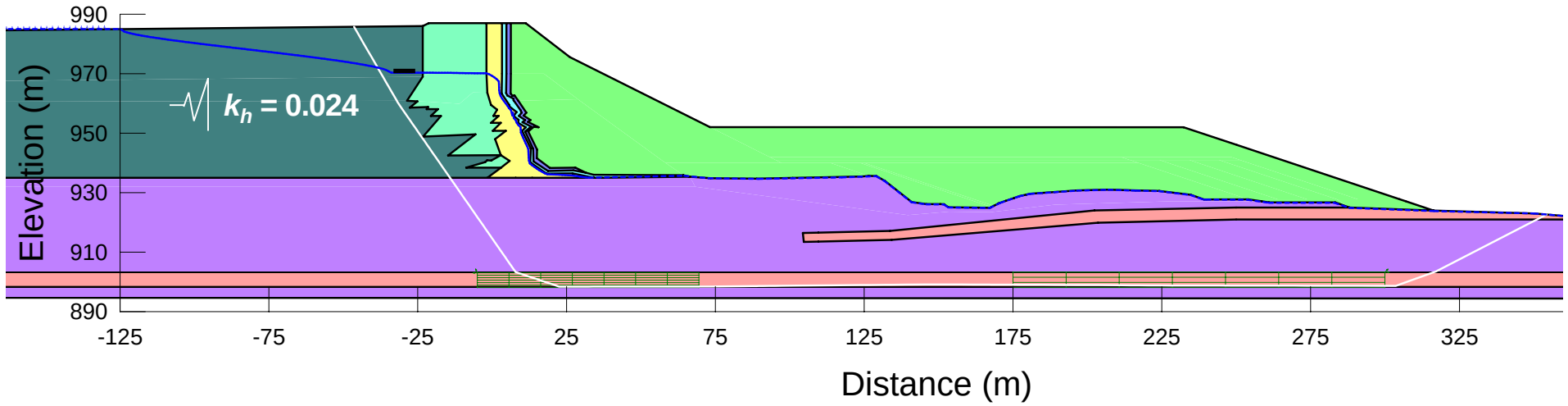
1.1





Normal Operating Conditions (100 m beach, drains functioning)

1.2



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 2,475-year AEP.
5. GLU shear strength reduced to 80%.

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MOUNT POLLEY MINING CORPORATION

CONSULTANT

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

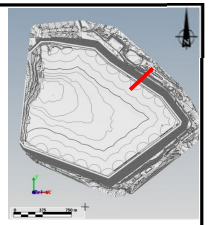
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

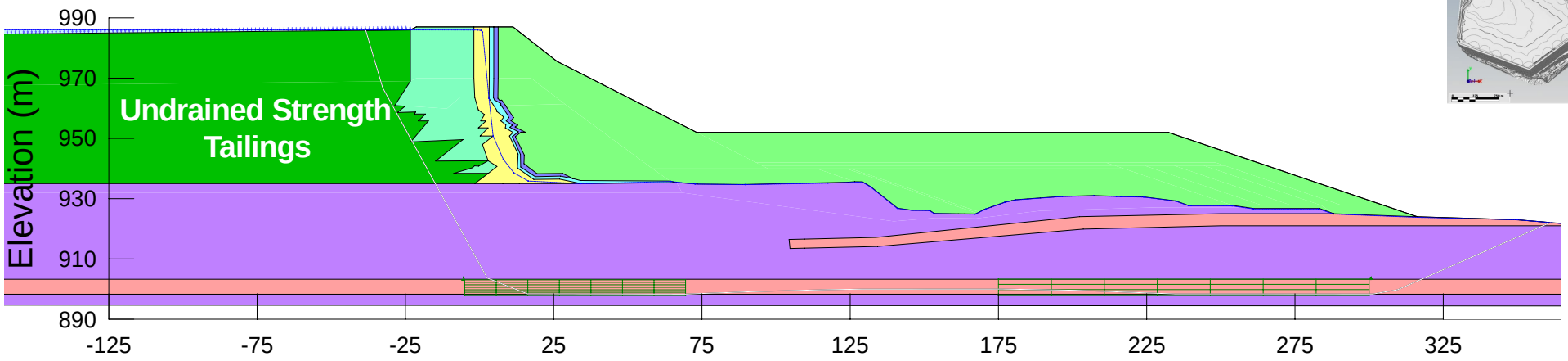
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+530 *(Old Stn. 3+535)*
PSEUDO-STATIC LOADING

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-61

Upset Conditions (0 m beach, drains not functioning)

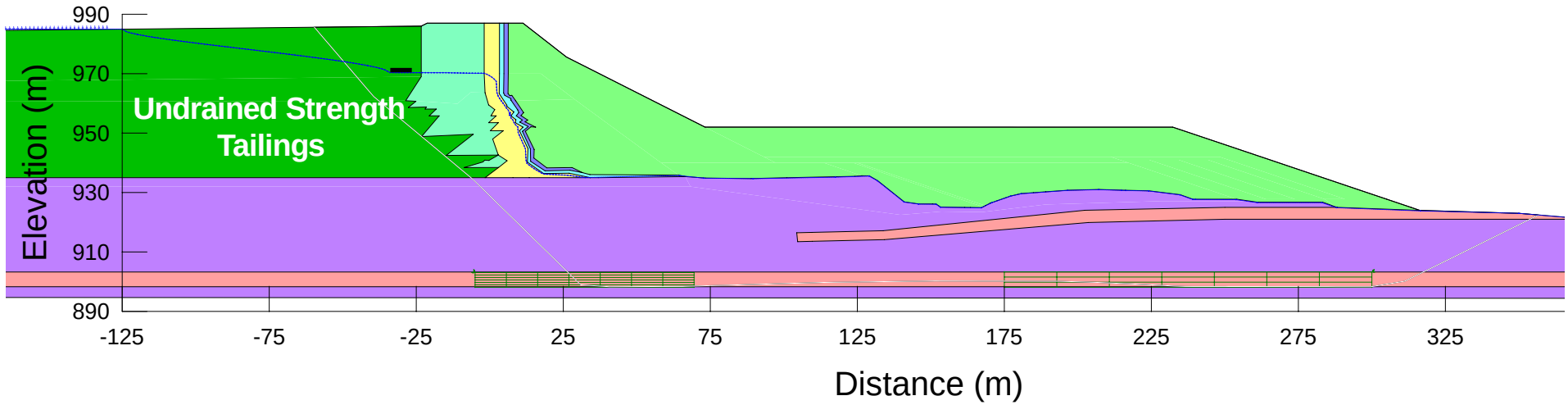
1.2





Normal Operating Conditions (100 m beach, drains functioning)

1.3



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. GLU shear strength reduced to 80%.
5. No seismic loading applied.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

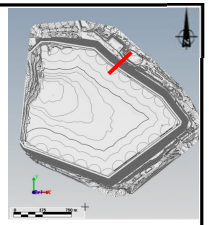
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

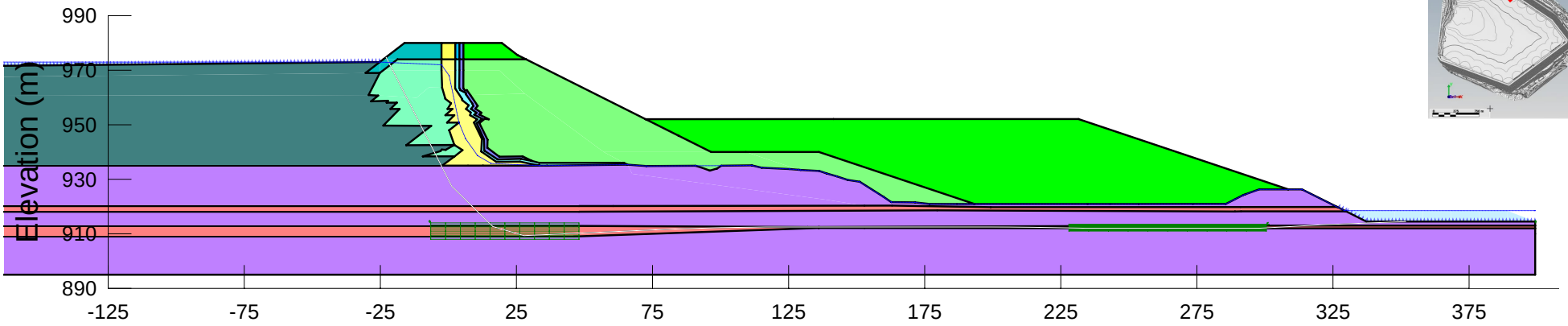
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+530 *(Old Stn. 3+535)*
POST-EARTHQUAKE

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-62

Stage 1 Construction - Upset Conditions (0 m beach, drains not functioning)

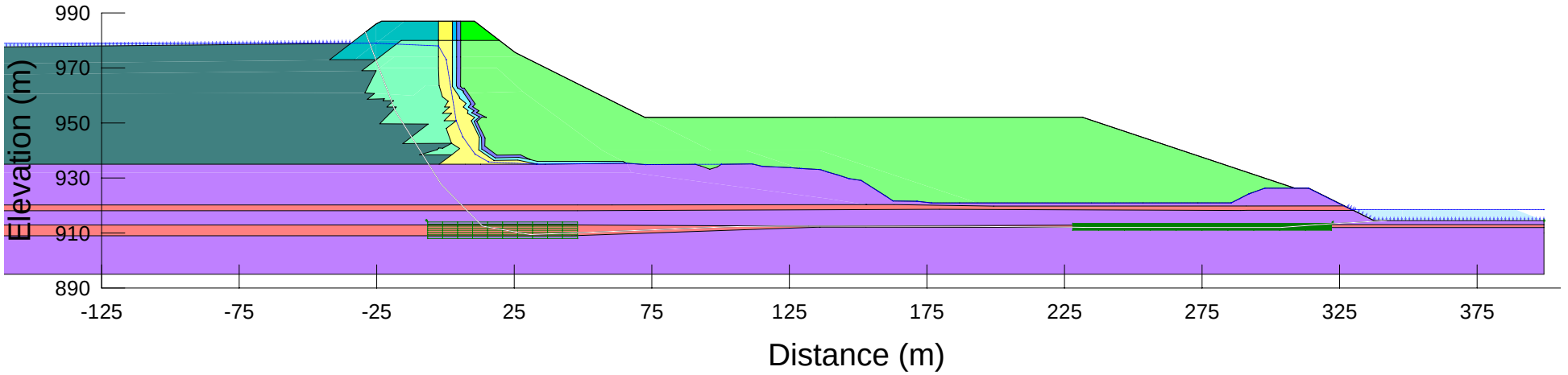
1.8





Stage 2 Construction - Upset Conditions (0 m beach, drains not functioning)

1.6



Piezometric Line

REFERENCES/NOTES

1. Partially consolidated foundation soils; B-bar applied.
2. Stage 1: crest el. 980 m, pond and tailings el. 973 m.
3. Stage 2: crest el. 987 m: pond and tailings el. 979 m.
4. Incremental construction material represented by darker shade.

CLIENT
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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

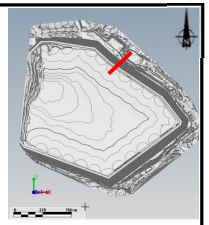
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

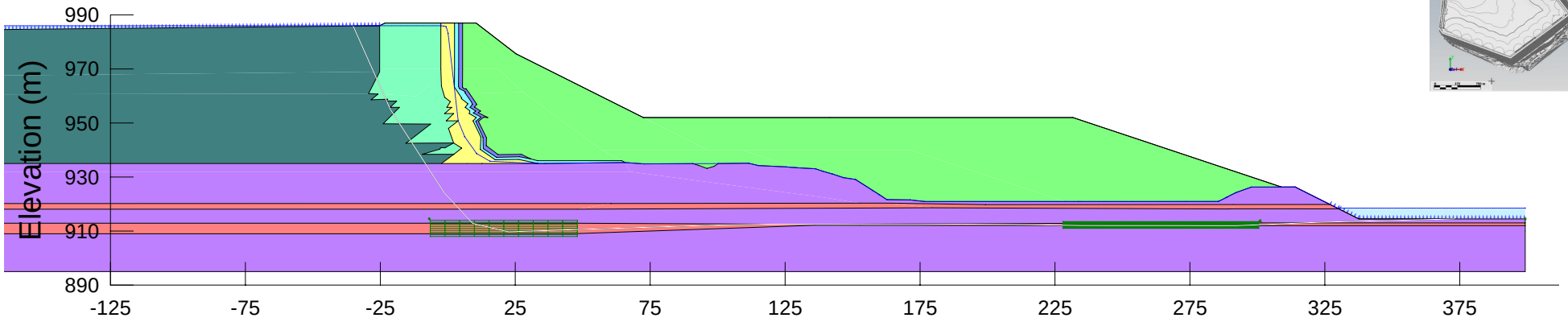
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+765 *(Old Stn. 3+770)*
SHORT-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	**51200/51293**	**0**	**G-63**

Upset Conditions (0 m beach, drains not functioning)

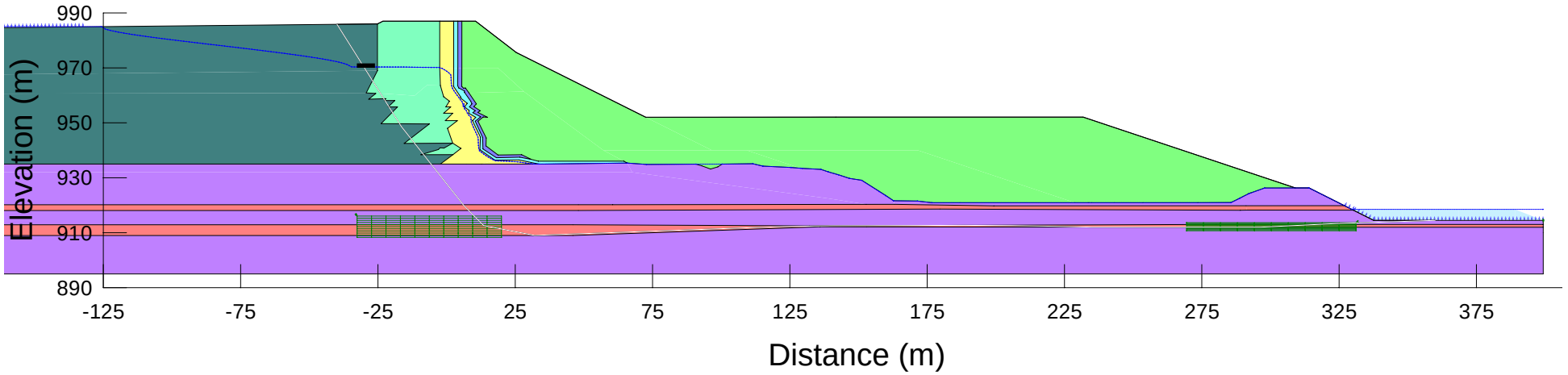
1.6





Normal Operating Conditions (100 m beach, drains functioning)

1.7



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.

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MOUNT POLLEY MINING CORPORATION

CONSULTANT

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

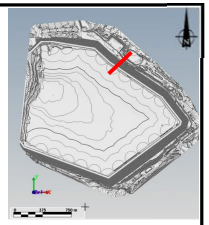
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

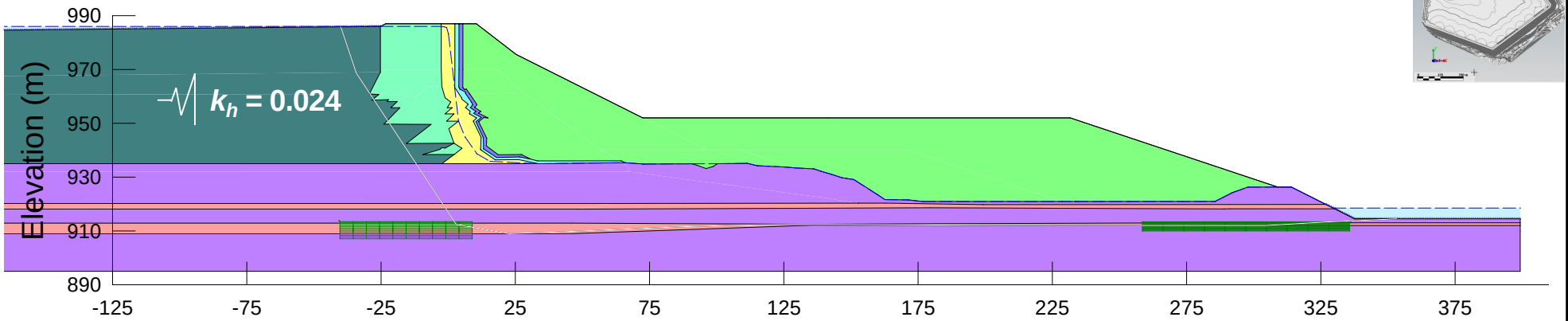
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+765 *(Old Stn. 3+770)*
LONG-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	**51200/51293**	**0**	**G-64**

Upset Conditions (0 m beach, drains not functioning)

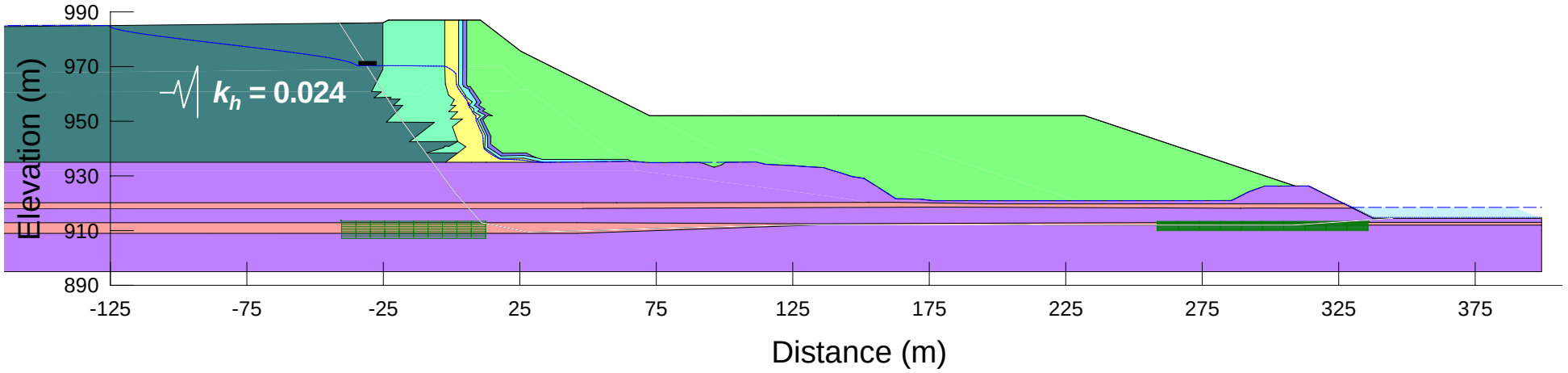
1.1





Normal Operating Conditions (100 m beach, drains functioning)

1.2



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 2,475-year AEP.
5. GLU shear strength reduced to 80%.

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CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

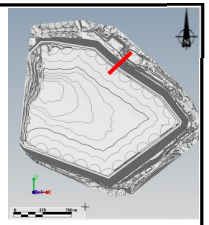
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

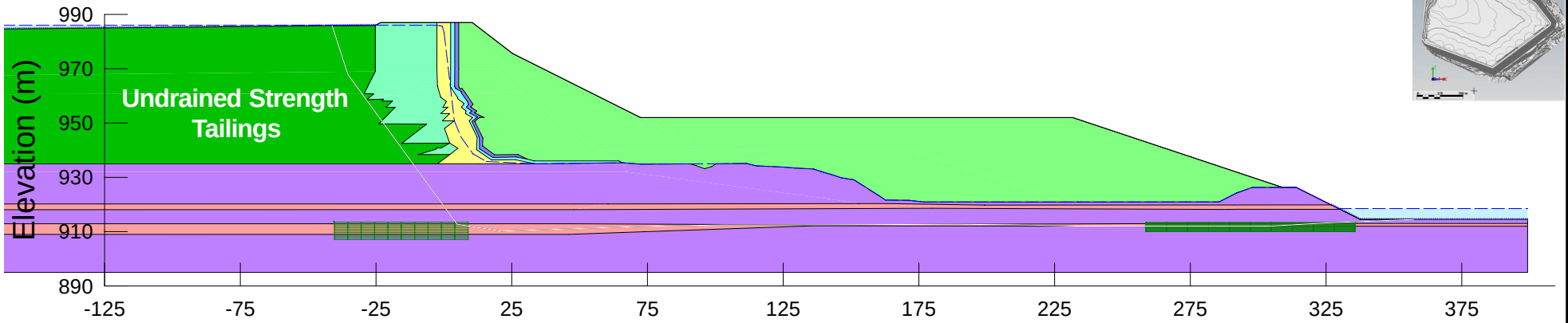
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+765 *(Old Stn. 3+770)*
PSEUDO-STATIC LOADING

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-65

Upset Conditions (0 m beach, drains not functioning)

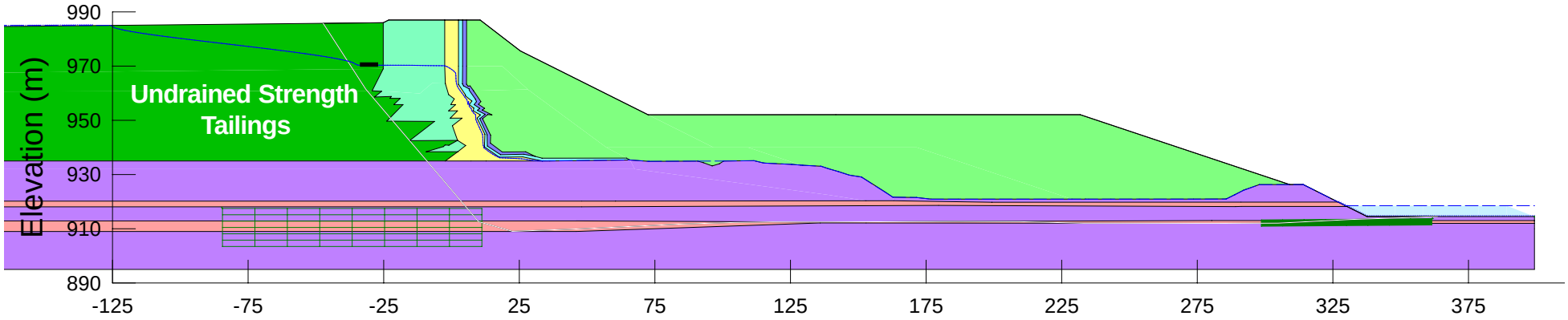
1.2





Normal Operating Conditions (100 m beach, drains functioning)

1.3



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. GLU shear strength reduced to 80%.
5. No seismic loading applied.

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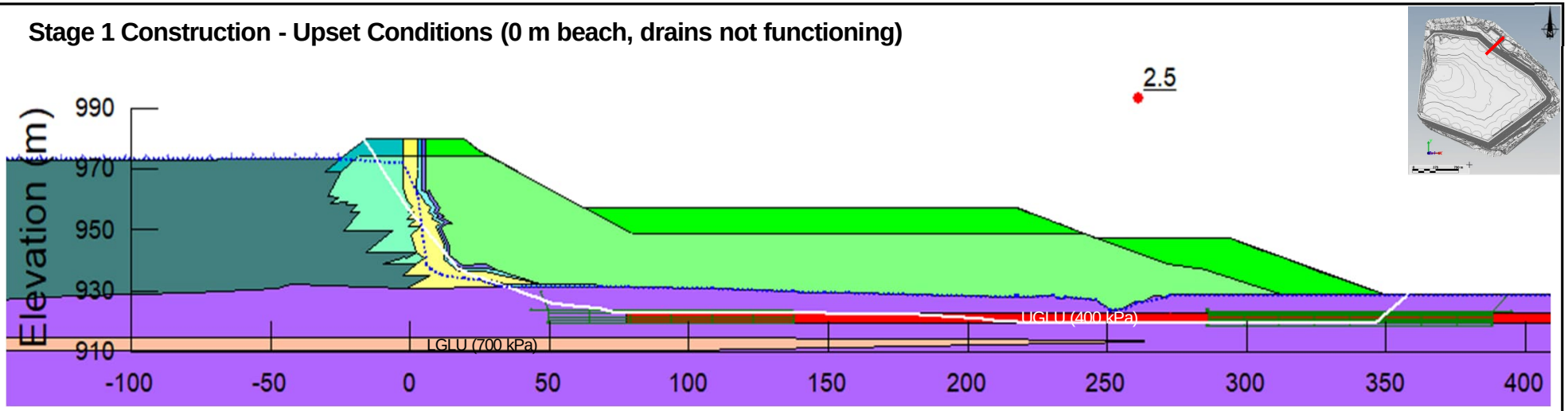
YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

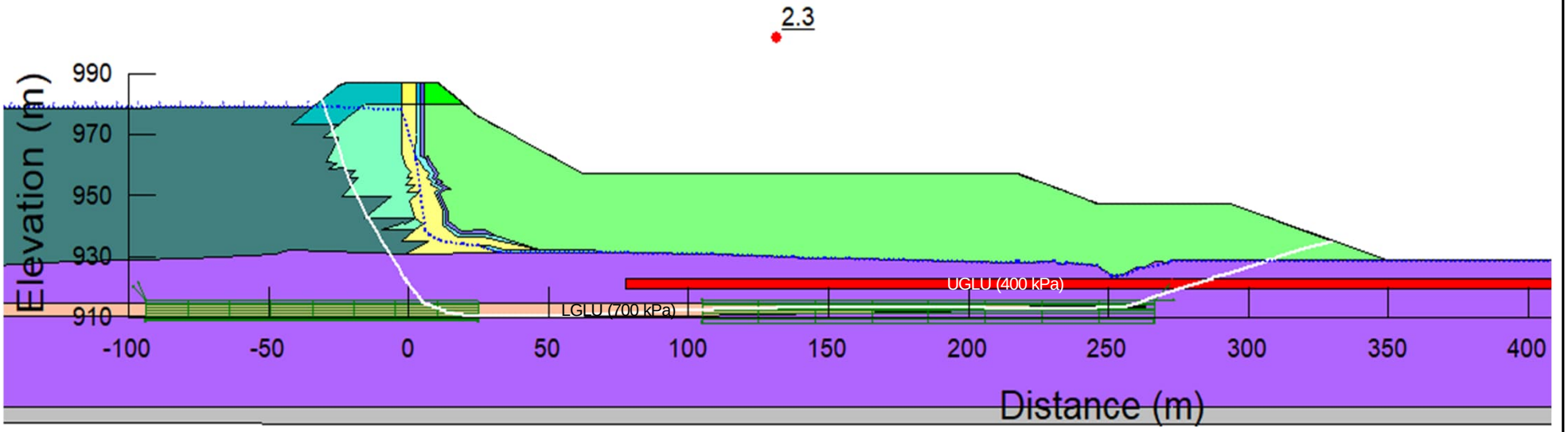
TITLE
STABILITY ANALYSIS (PERIMETER EMBANKMENT)
SECTION 3+765 *(Old Stn. 3+770)*
POST-EARTHQUAKE

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-66

Stage 1 Construction - Upset Conditions (0 m beach, drains not functioning)



Stage 2 Construction - Upset Conditions (0 m beach, drains not functioning)



Piezometric Line

REFERENCES/NOTES

1. Partially consolidated foundation soils; B-bar applied.
2. Stage 1: crest el. 980 m, pond and tailings el. 973 m.
3. Stage 2: crest el. 987 m: pond and tailings el. 979 m.
4. Incremental construction material represented by darker shade.

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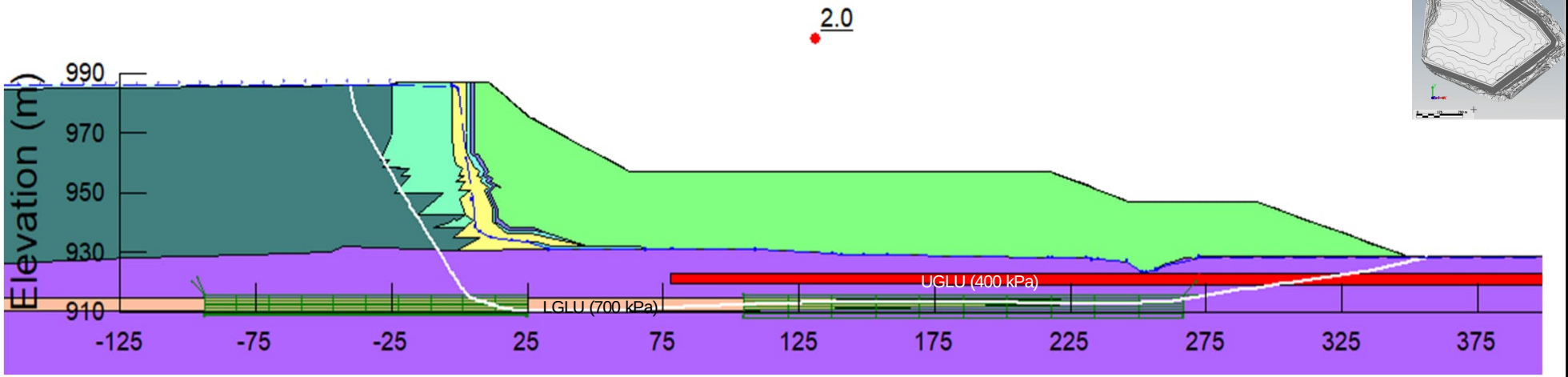
YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

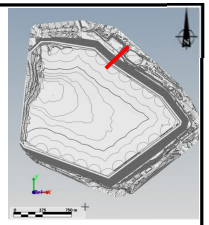
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+000 *(Old Stn. 20+005)*
SHORT-TERM

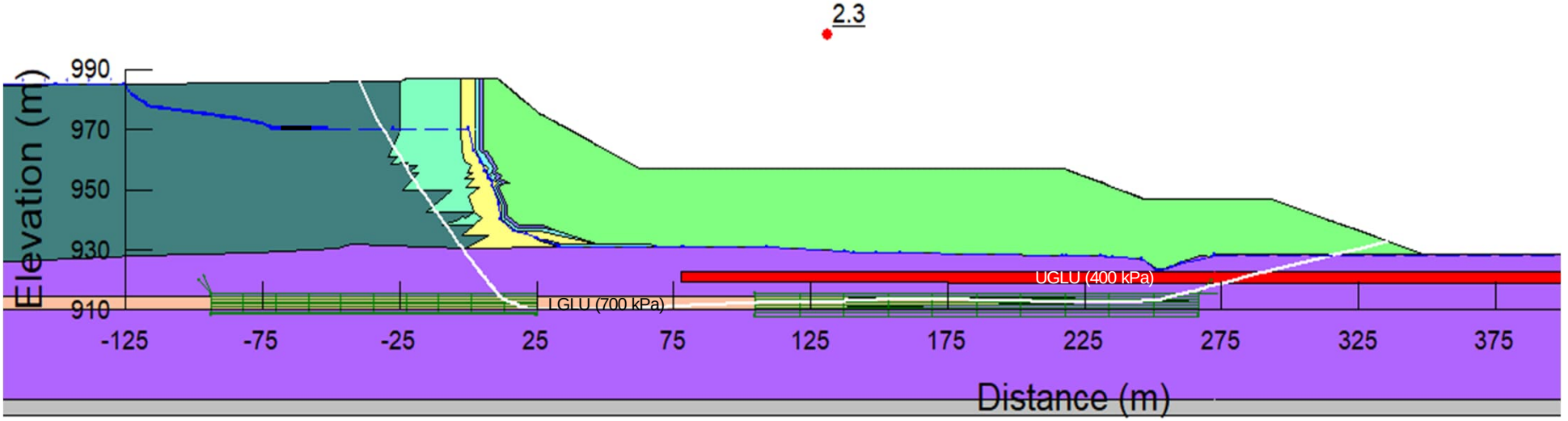
PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-67

Upset Conditions (0 m beach, drains not functioning)





Normal Operating Conditions (100 m beach, drains functioning)



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.

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MOUNT POLLEY MINING CORPORATION

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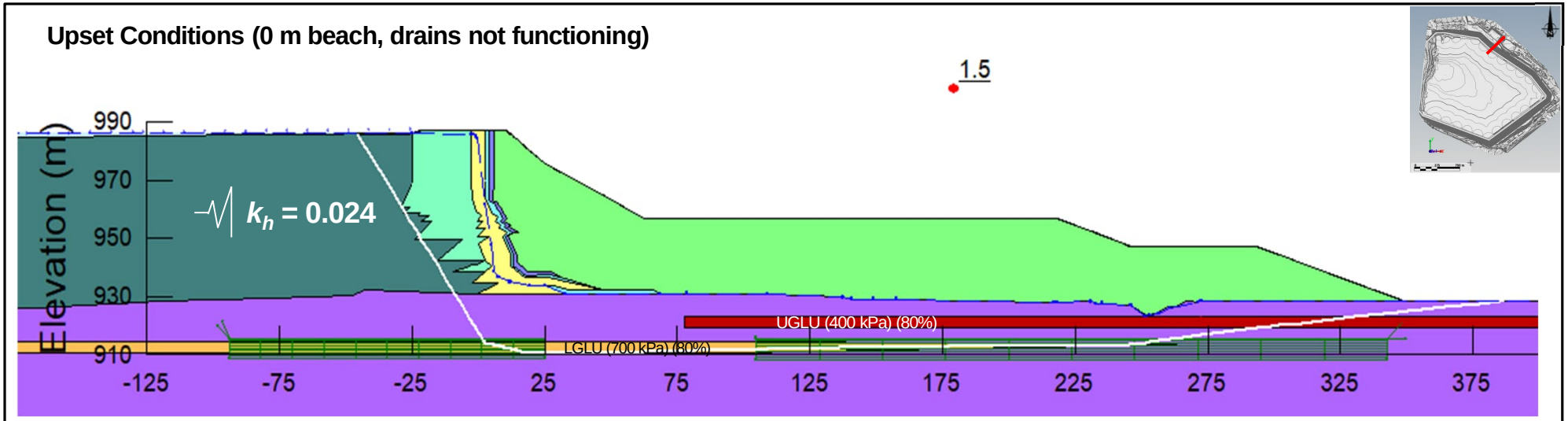
YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

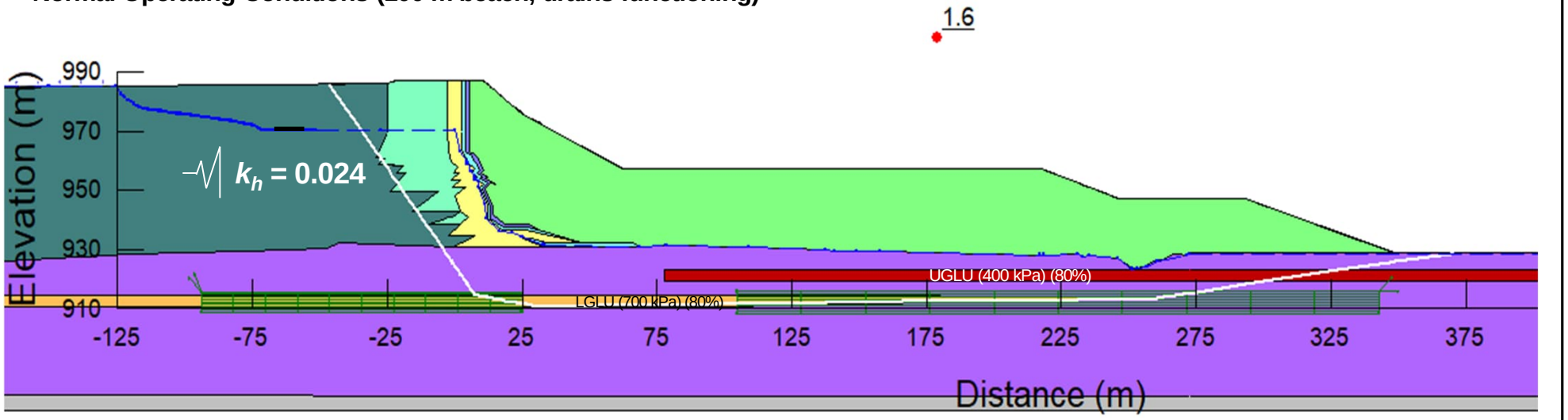
TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+000 *(Old Stn. 20+005)*
LONG-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-68

Upset Conditions (0 m beach, drains not functioning)



Normal Operating Conditions (100 m beach, drains functioning)



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 2,475-year AEP.
5. GLU shear strength reduced to 80%.

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MOUNT POLLEY MINING CORPORATION

CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

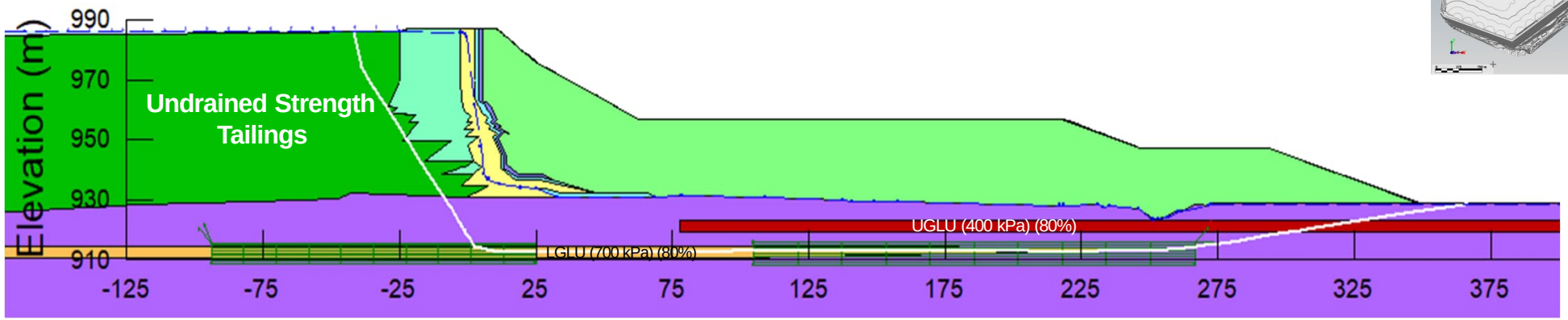
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

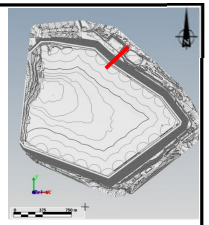
TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+000 *(Old Stn. 20+005)*
PSEUDO-STATIC LOADING

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-69

Upset Conditions (0 m beach, drains not functioning)

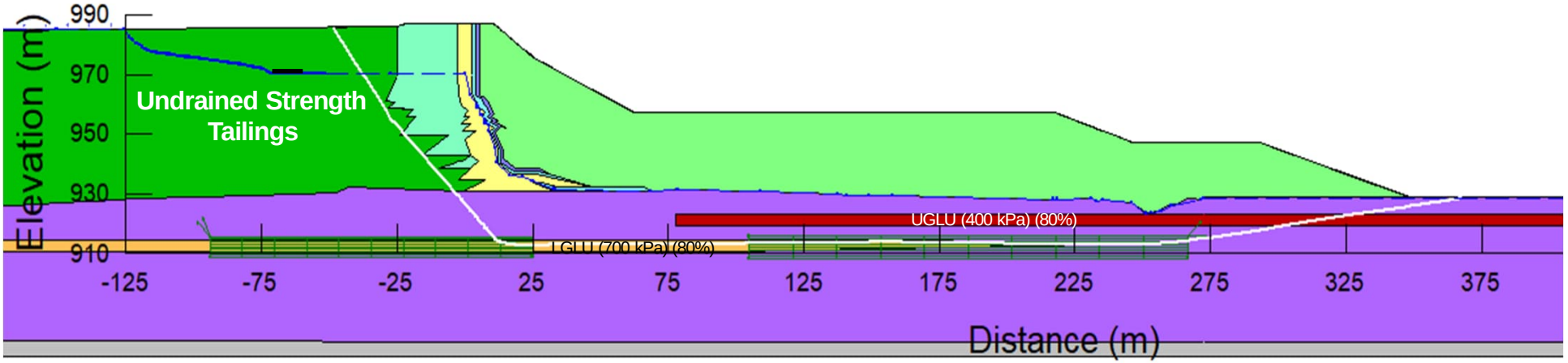
1.6





Normal Operating Conditions (100 m beach, drains functioning)

1.7



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. GLU shear strength reduced to 80%.
5. No seismic loading applied.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

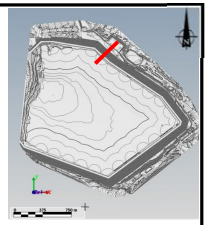
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

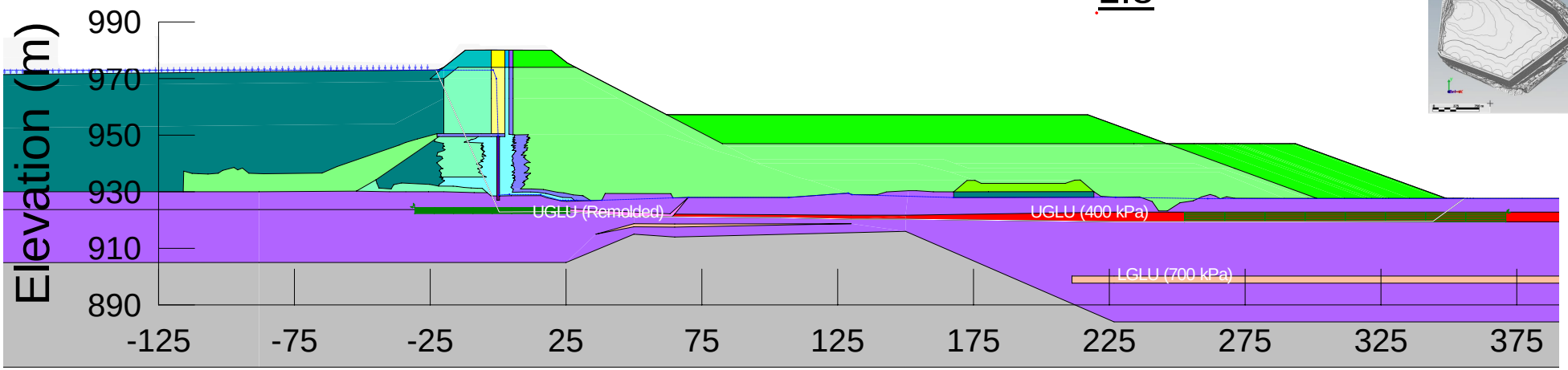
TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+000 *(Old Stn. 20+005)*
POST-EARTHQUAKE

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-70

Stage 1 Construction - Upset Conditions (0 m beach, drains not functioning)

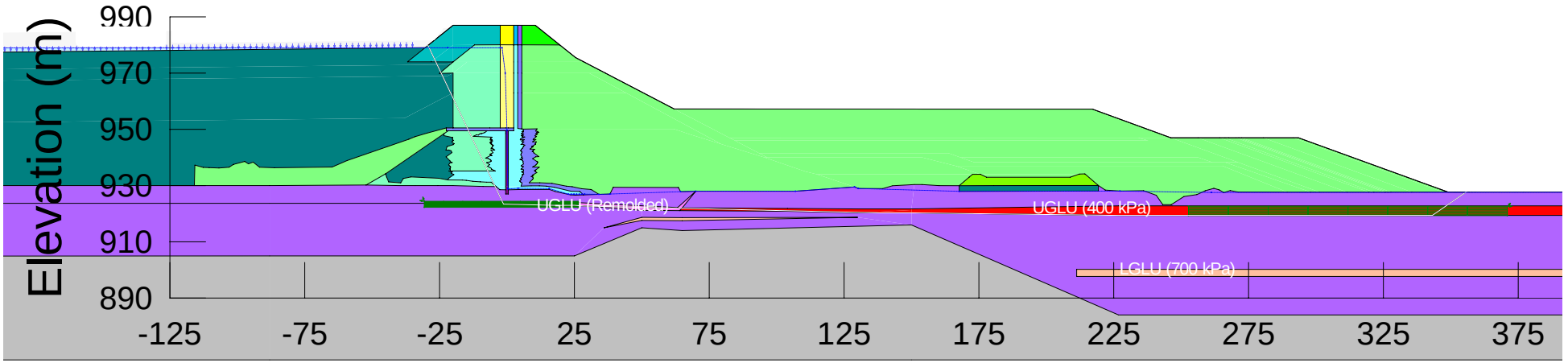
1.8





Stage 2 Construction - Upset Conditions (0 m beach, drains not functioning)

1.6



Distance (m)

Piezometric Line

REFERENCES/NOTES

1. Partially consolidated foundation soils; B-bar applied.
2. Stage 1: crest el. 980 m, pond and tailings el. 973 m.
3. Stage 2: crest el. 987 m: pond and tailings el. 979 m.
4. Incremental construction material represented by darker shade.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

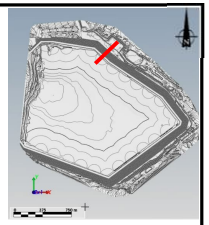
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

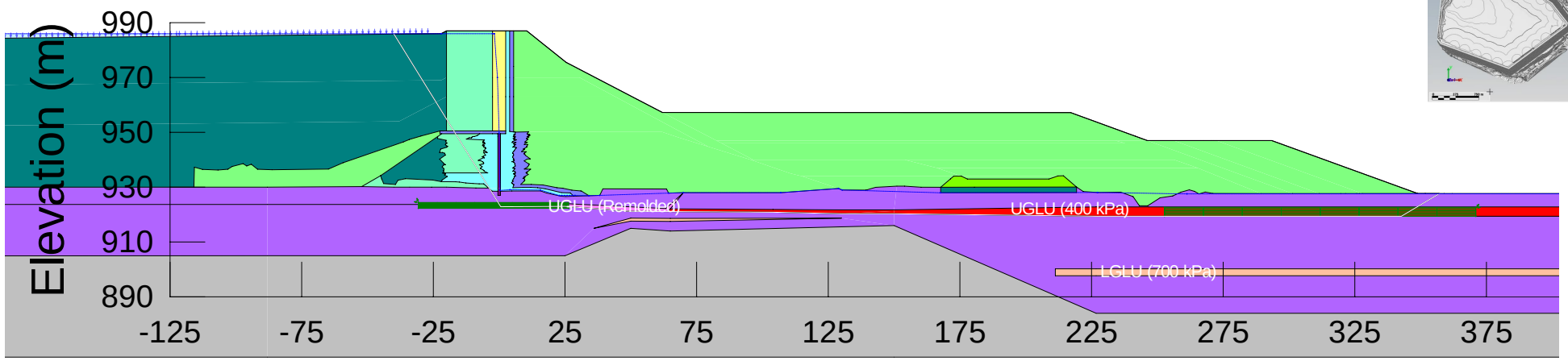
TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+175 *(Old Stn. 20+180)*
SHORT-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	**51200/51293**	**0**	**G-71**

Upset Conditions (0 m beach, drains not functioning)

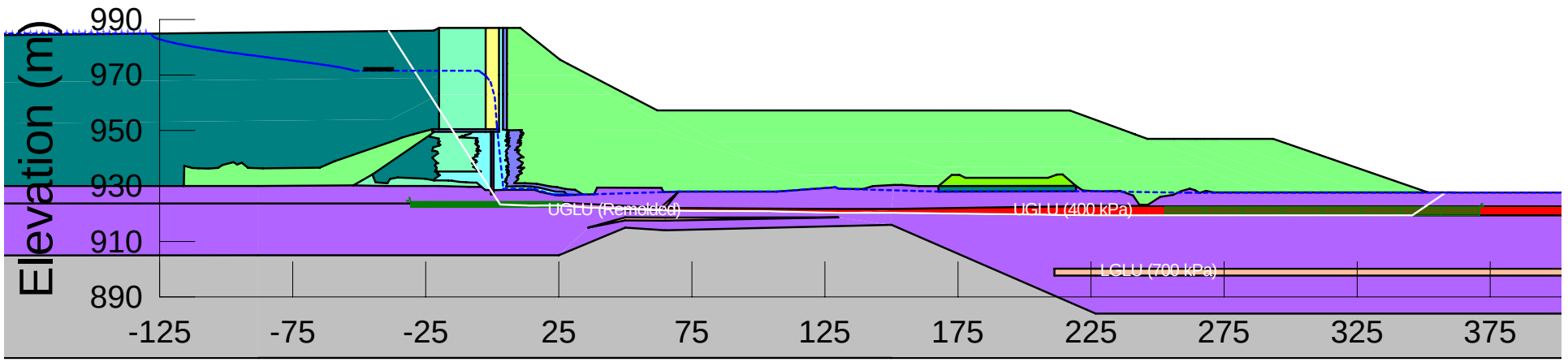
1.5





Normal Operating Conditions (100 m beach, drains functioning)

1.7



Distance (m)

Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

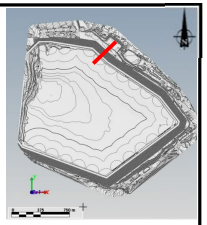
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

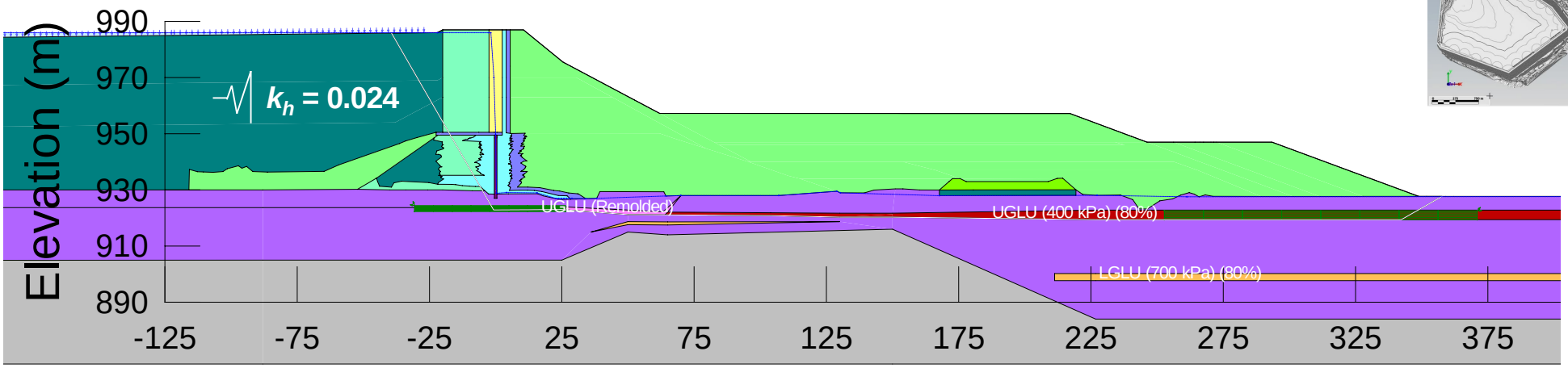
TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+175 *(Old Stn. 20+180)*
LONG-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-72

Upset Conditions (0 m beach, drains not functioning)

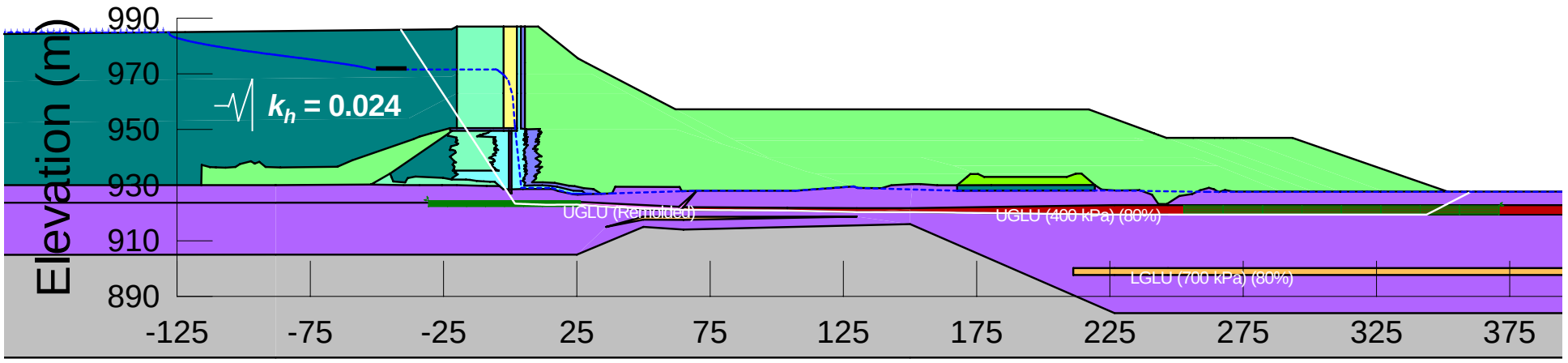
1.1





Normal Operating Conditions (100 m beach, drains functioning)

1.2



Distance (m)

Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 2,475-year AEP.
5. GLU shear strength reduced to 80%.

CLIENT
MOUNT POLLEY MINING CORPORATION

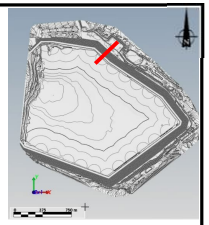
CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

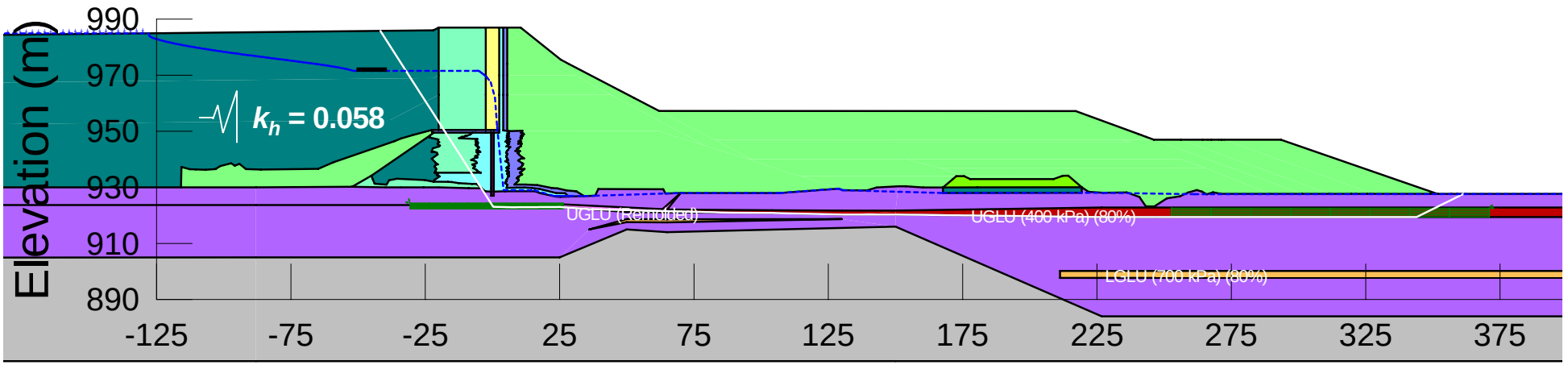
TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+175 *(Old Stn. 20+180)*
PSEUDO-STATIC LOADING

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-73



Normal Operating Conditions (100 m beach, drains functioning)

1.0



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain functioning.
3. 100 m sub-aerial beach; pond elevation at 985 m.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 10,000-year AEP.
5. GLU shear strength reduced to 80%.

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT
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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

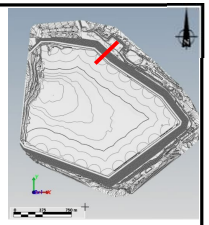
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

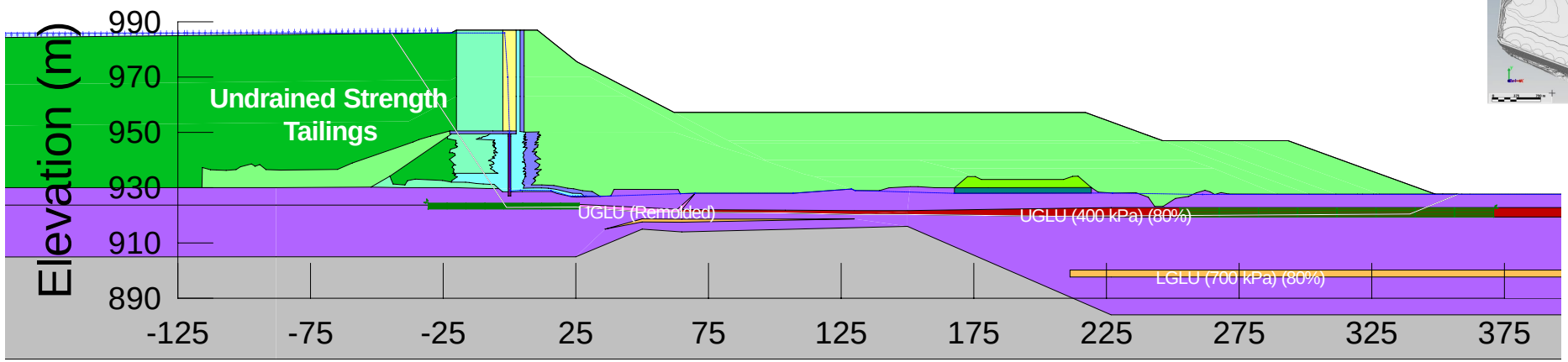
TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+175 *(Old Stn. 20+180)*
PSEUDO-STATIC LOADING

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-74

Upset Conditions (0 m beach, drains not functioning)

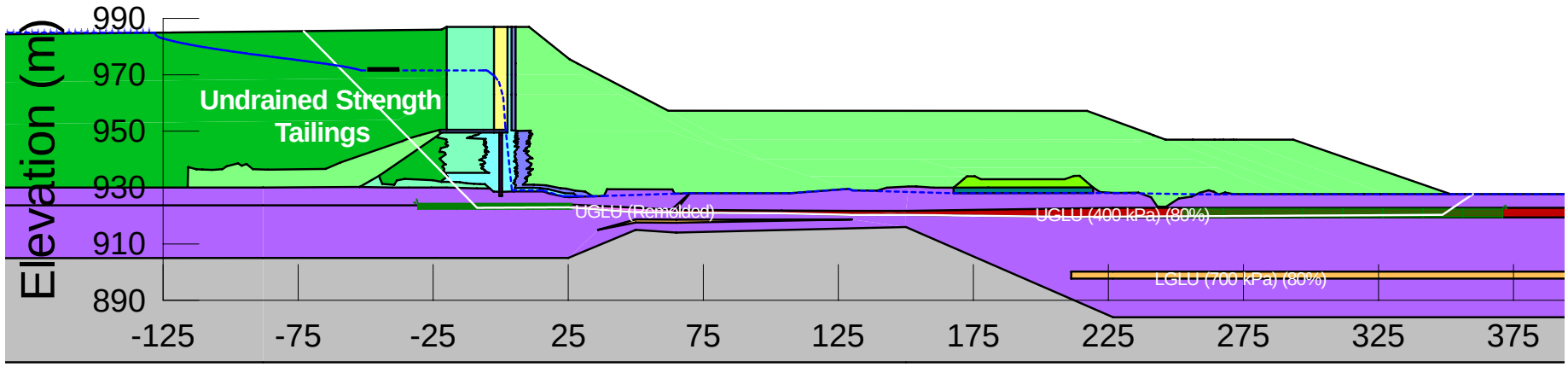
1.3





Normal Operating Conditions (100 m beach, drains functioning)

1.4



Distance (m)

Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. GLU shear strength reduced to 80%.
5. No seismic loading applied.

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CONSULTANT
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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

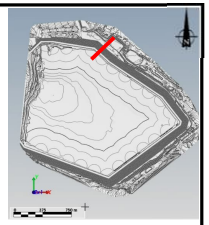
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

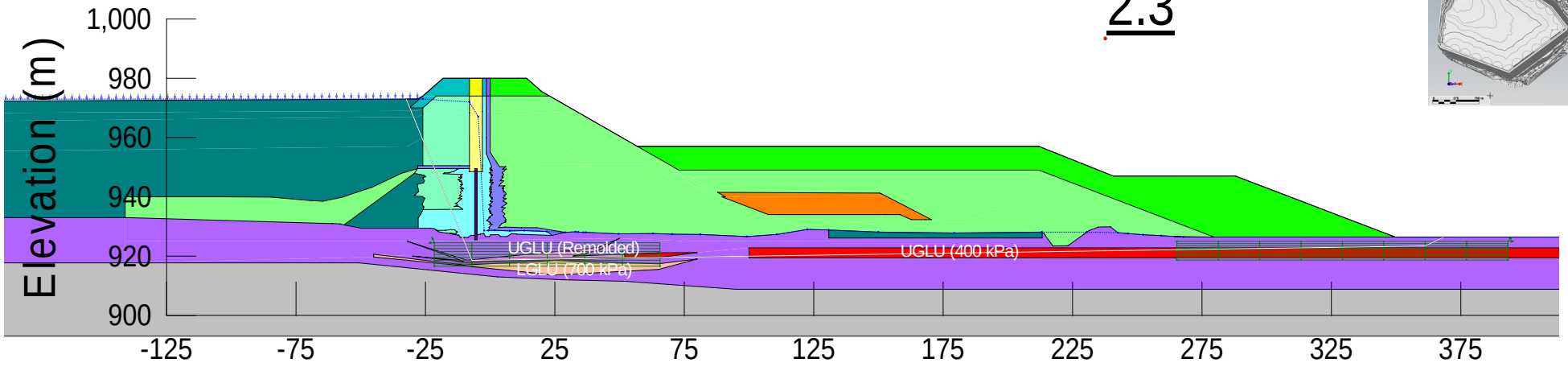
TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+175 *(Old Stn. 20+180)*
POST-EARTHQUAKE

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-75

Stage 1 Construction - Upset Conditions (0 m beach, drains not functioning)

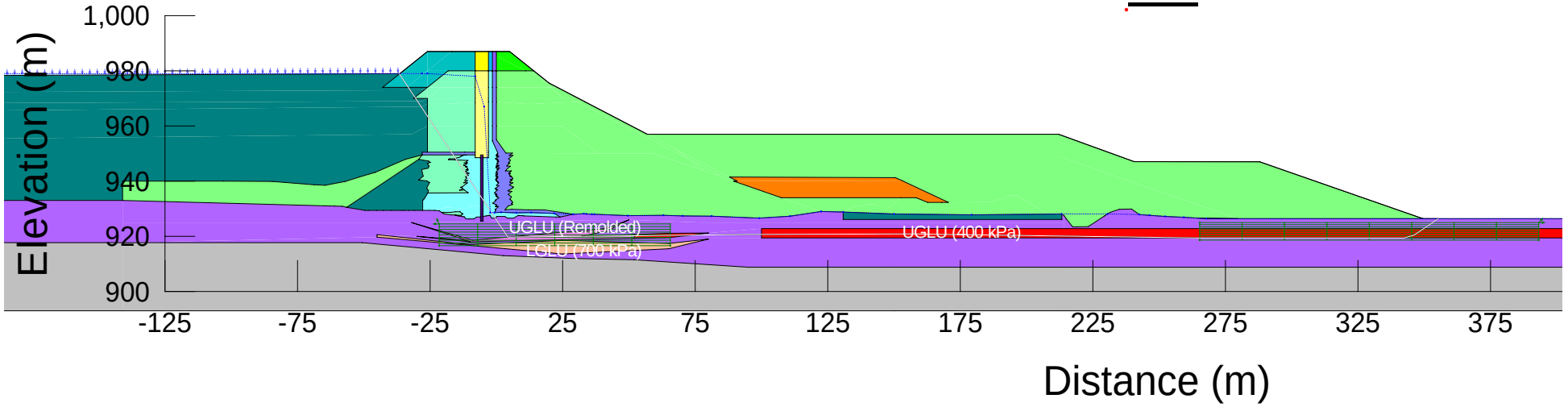
2.3





Stage 2 Construction - Upset Conditions (0 m beach, drains not functioning)

1.9



Piezometric Line

REFERENCES/NOTES

1. Partially consolidated foundation soils; B-bar applied.
2. Stage 1: crest el. 980 m, pond and tailings el. 973 m.
3. Stage 2: crest el. 987 m: pond and tailings el. 979 m.
4. Incremental construction material represented by darker shade.

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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

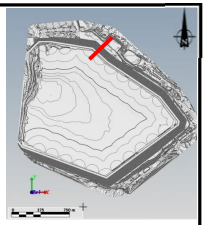
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

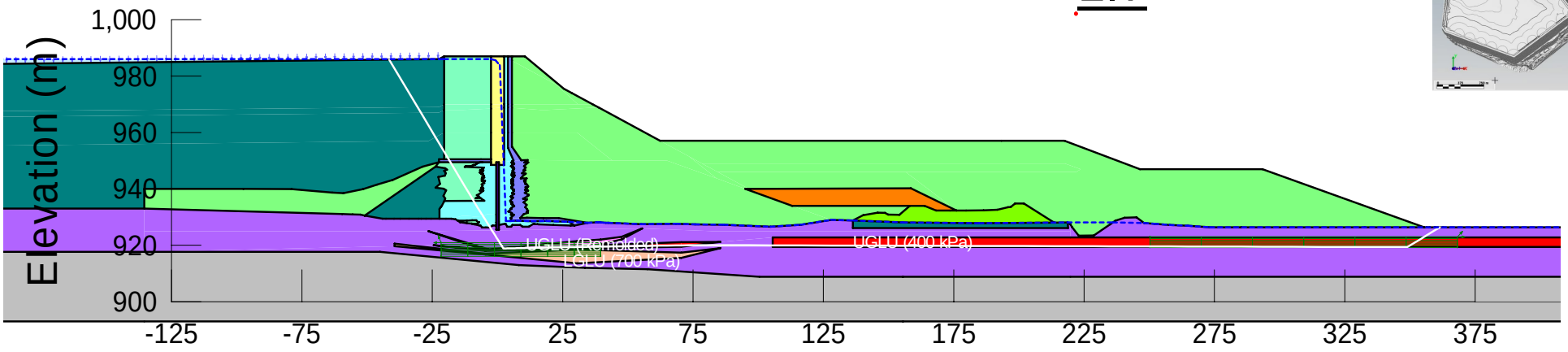
TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+255 *(Old Stn. 20+265)*
SHORT-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-76

Upset Conditions (0 m beach, drains not functioning)

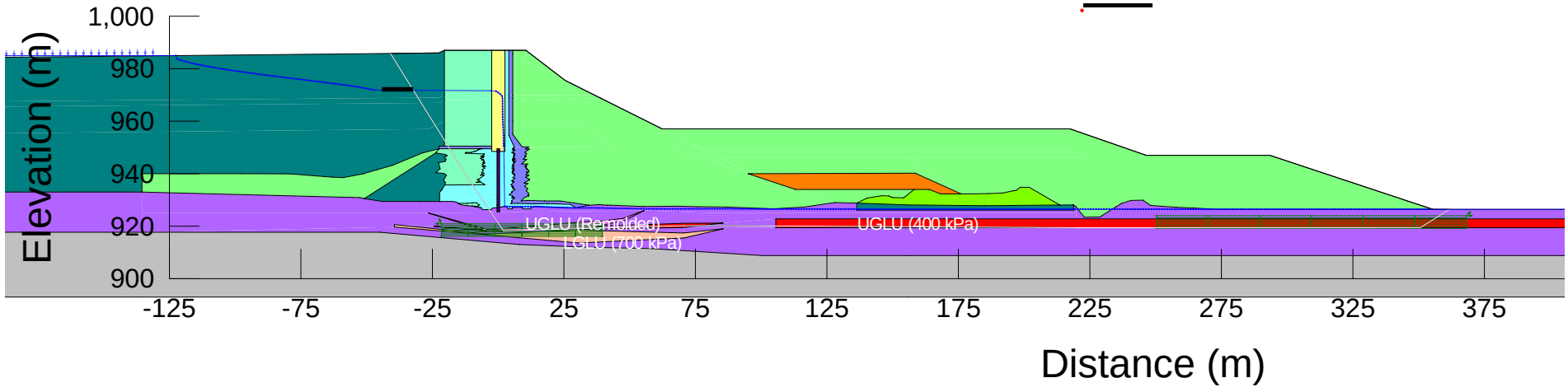
1.7





Normal Operating Conditions (100 m beach, drains functioning)

1.9



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.

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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

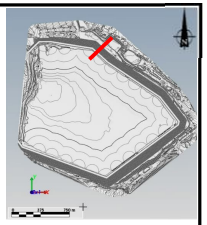
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

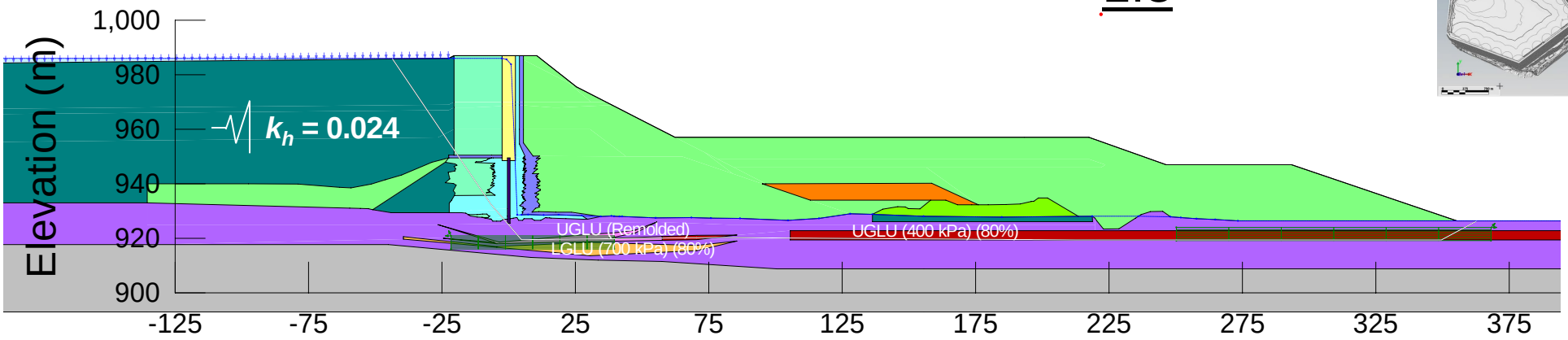
TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+255 *(Old Stn. 20+265)*
LONG-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-77

Upset Conditions (0 m beach, drains not functioning)

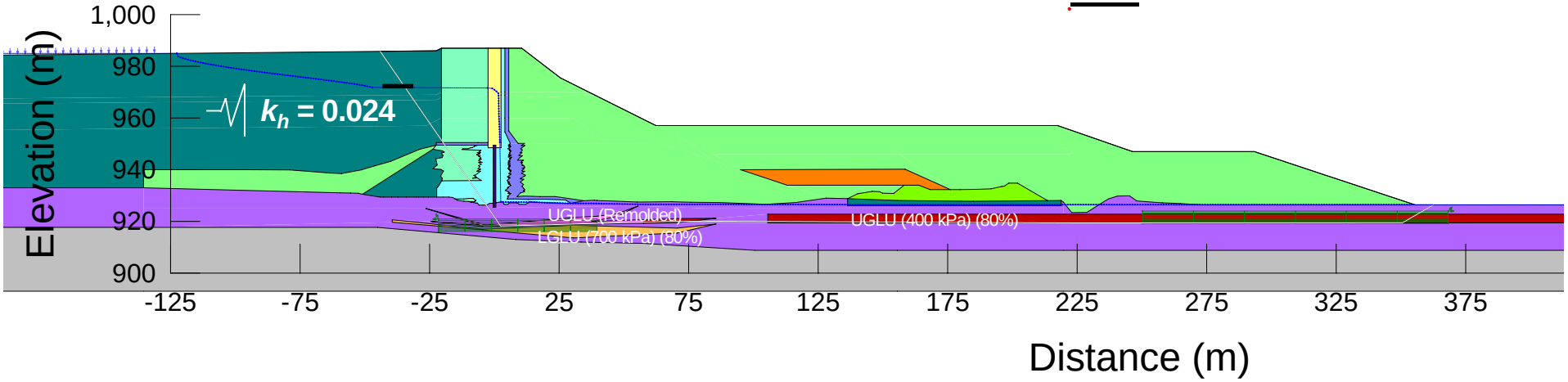
1.3





Normal Operating Conditions (100 m beach, drains functioning)

1.4



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 2,475-year AEP.
5. GLU shear strength reduced to 80%.

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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

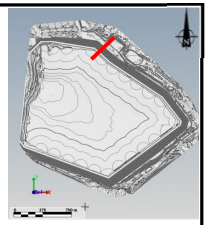
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

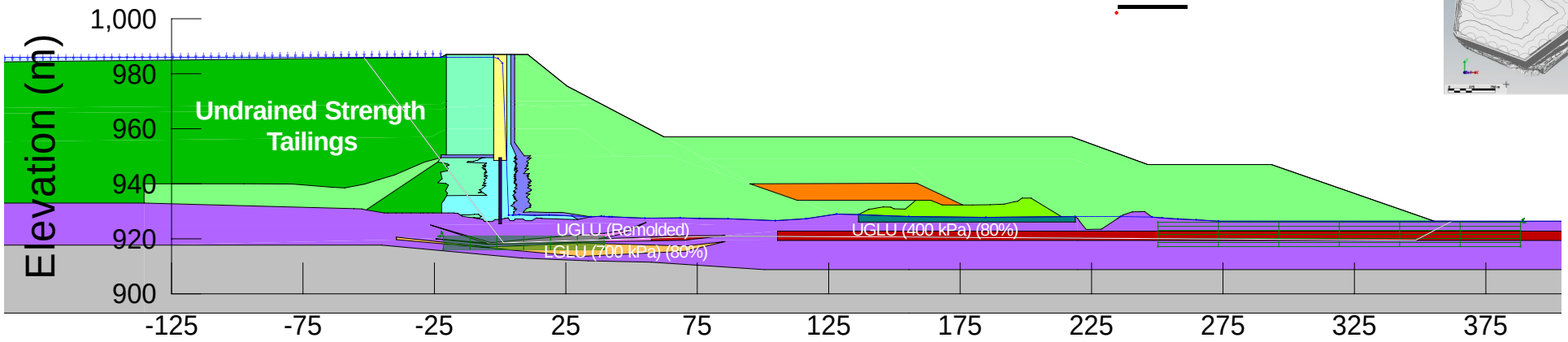
TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+255 *(Old Stn. 20+265)*
PSEUDO-STATIC LOADING

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-78

Upset Conditions (0 m beach, drains not functioning)

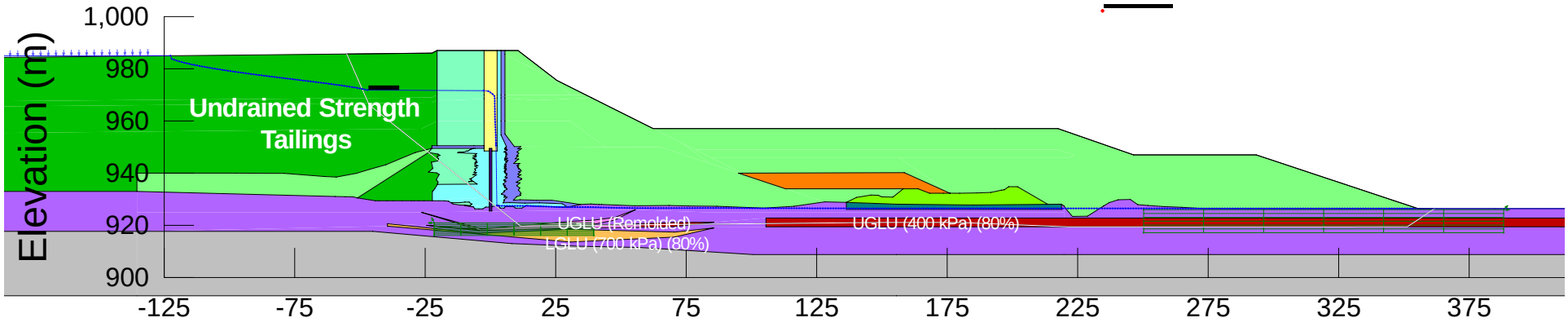
1.4





Normal Operating Conditions (100 m beach, drains functioning)

1.7



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. GLU shear strength reduced to 80%.
5. No seismic loading applied.

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MOUNT POLLEY MINING CORPORATION

CONSULTANT

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

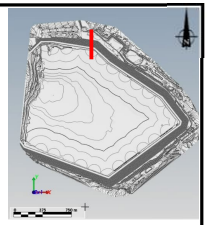
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

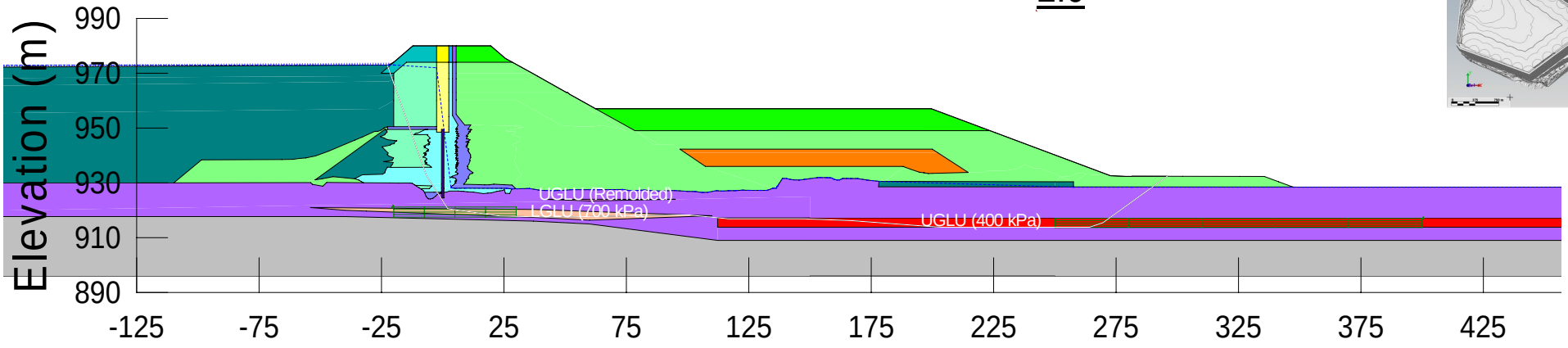
TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+255 *(Old Stn. 20+265)*
POST-EARTHQUAKE

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-79

Stage 1 Construction - Upset Conditions (0 m beach, drains not functioning)

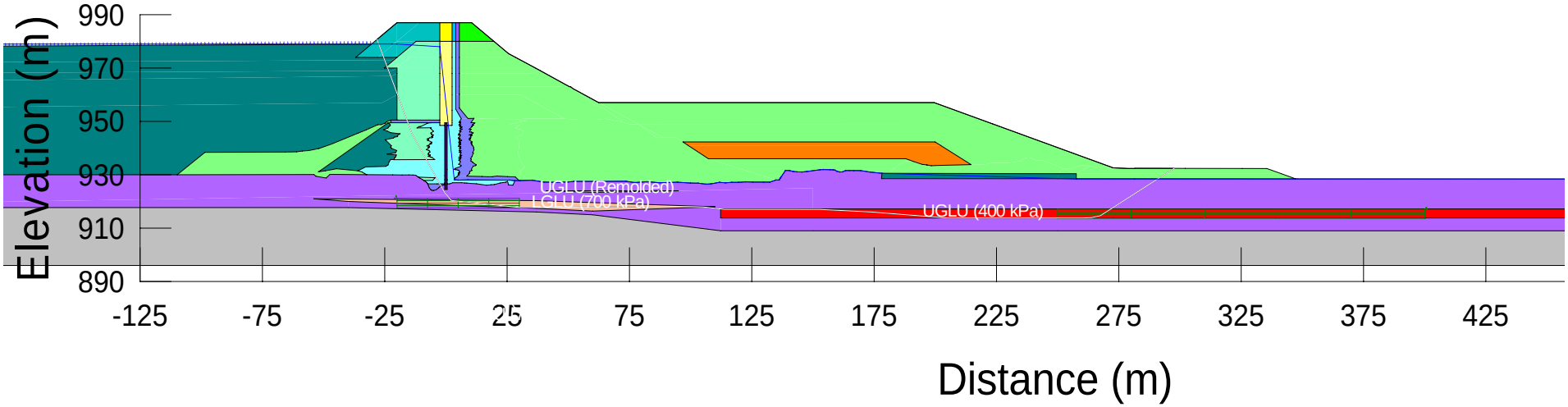
2.0





Stage 2 Construction - Upset Conditions (0 m beach, drains not functioning)

1.7



Piezometric Line

REFERENCES/NOTES

1. Partially consolidated foundation soils; B-bar applied.
2. Stage 1: crest el. 980 m, pond and tailings el. 973 m.
3. Stage 2: crest el. 987 m: pond and tailings el. 979 m.
4. Incremental construction material represented by darker shade.

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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

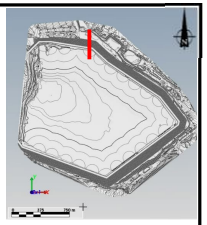
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

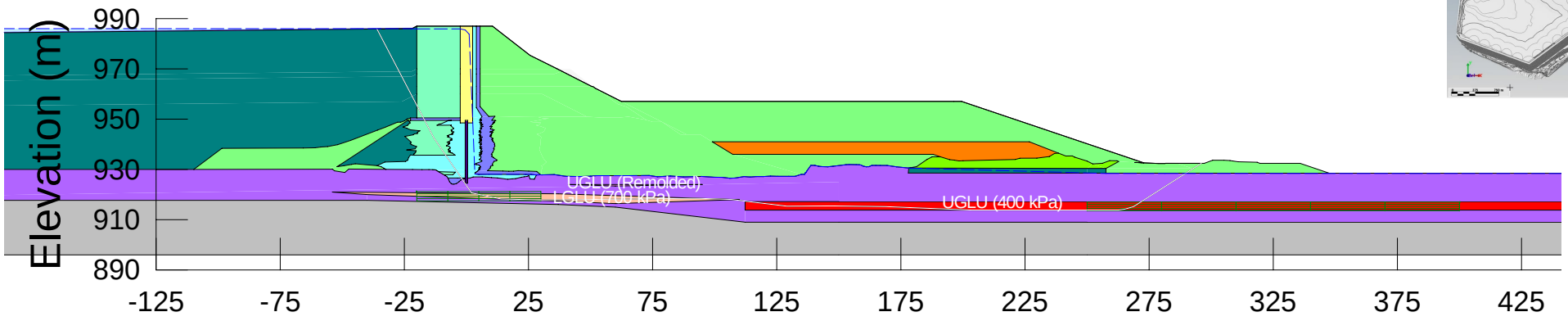
TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+285 *(Old Stn. 20+295)*
SHORT-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	**51200/51293**	**0**	**G-80**

Upset Conditions (0 m beach, drains not functioning)

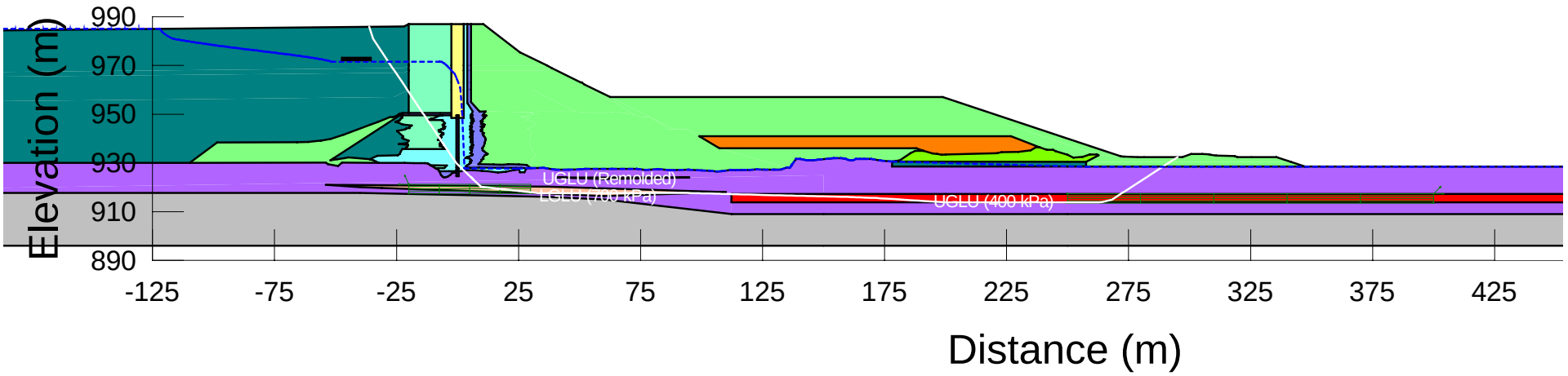
1.6





Normal Operating Conditions (100 m beach, drains functioning)

1.9



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.

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CONSULTANT
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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

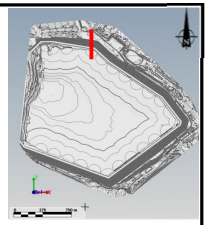
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

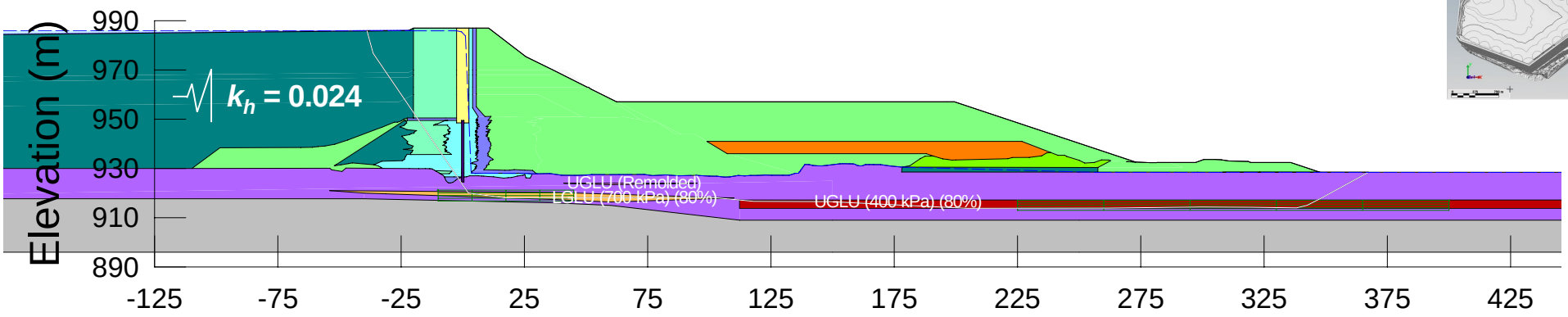
TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+285 *(Old Stn. 20+295)*
LONG-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-81

Upset Conditions (0 m beach, drains not functioning)

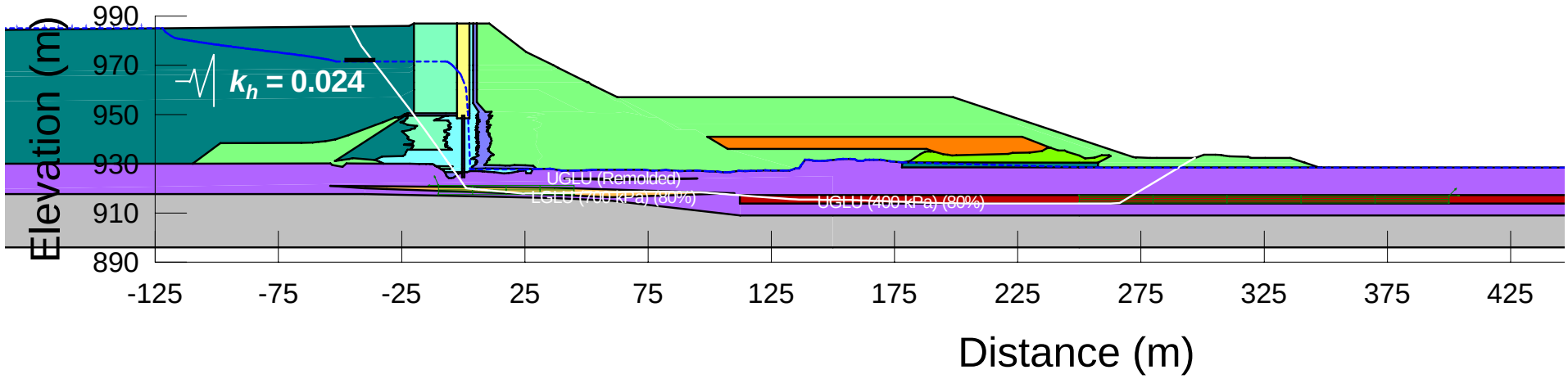
1.2





Normal Operating Conditions (100 m beach, drains functioning)

1.3



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 2,475-year AEP.
5. GLU shear strength reduced to 80%.

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MOUNT POLLEY MINING CORPORATION

CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

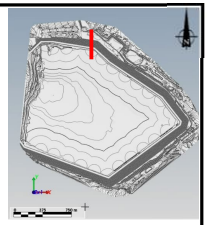
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

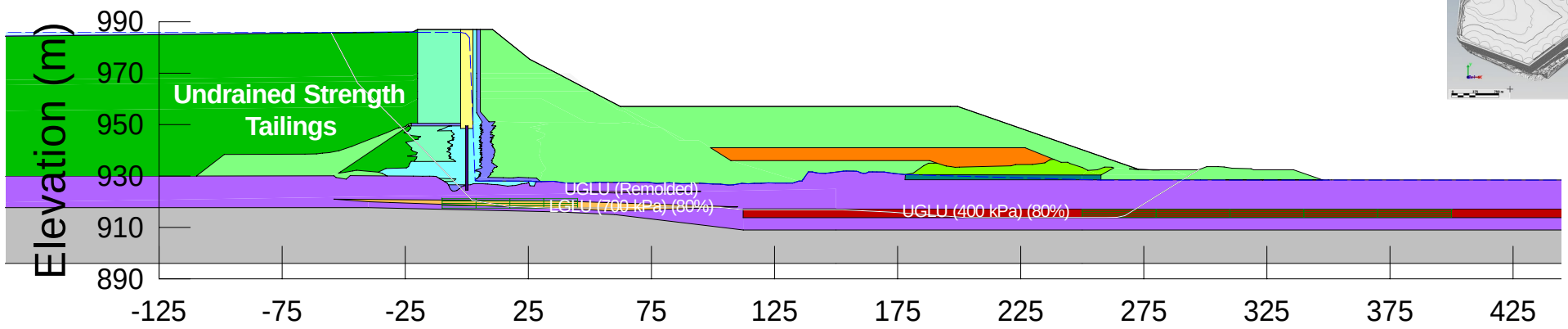
TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+285 *(Old Stn. 20+295)*
PSEUDO-STATIC LOADING

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-82

Upset Conditions (0 m beach, drains not functioning)

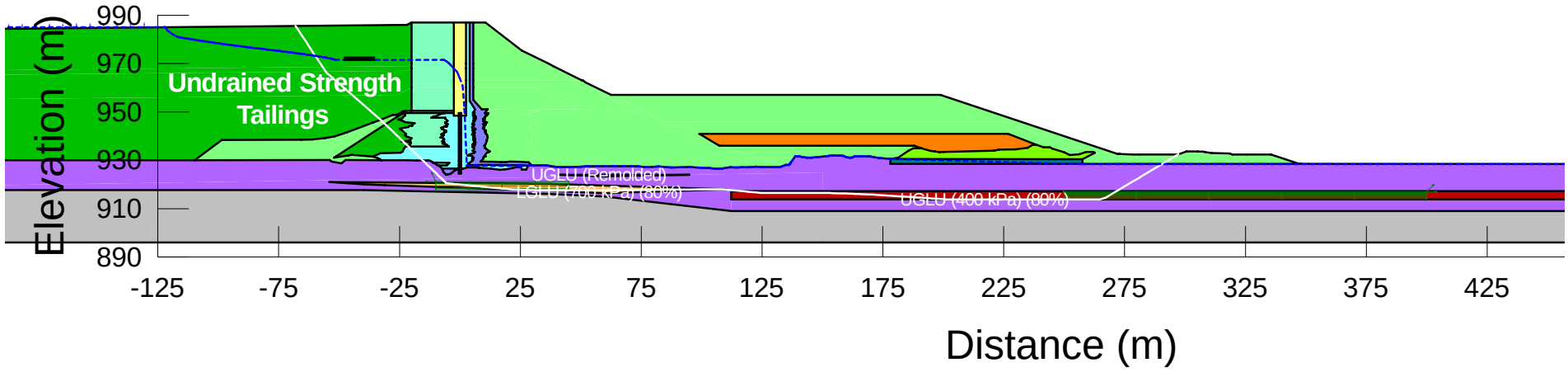
1.4





Normal Operating Conditions (100 m beach, drains functioning)

1.4



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. GLU shear strength reduced to 80%.
5. No seismic loading applied.

CLIENT
MOUNT POLLEY MINING CORPORATION

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wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

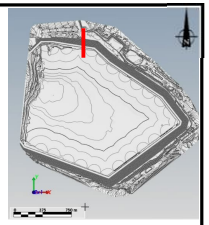
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

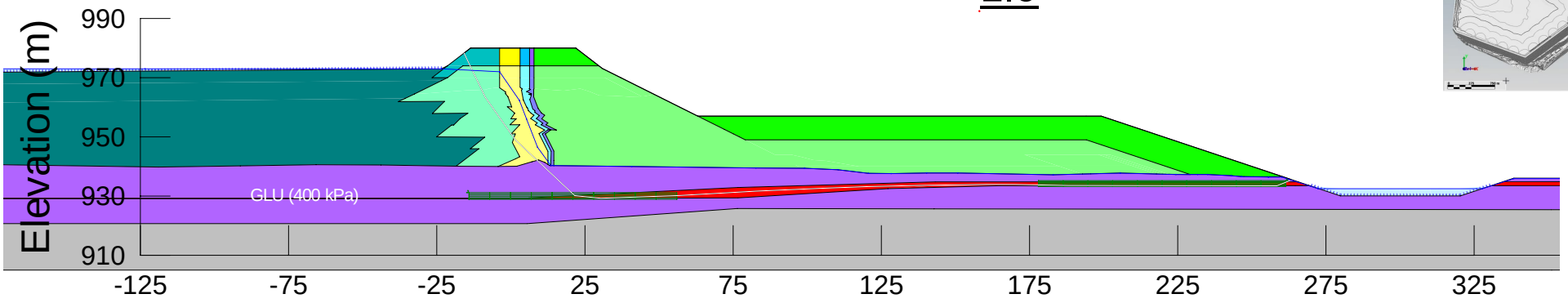
TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+285 *(Old Stn. 20+295)*
POST-EARTHQUAKE

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-83

Stage 1 Construction - Upset Conditions (0 m beach, drains not functioning)

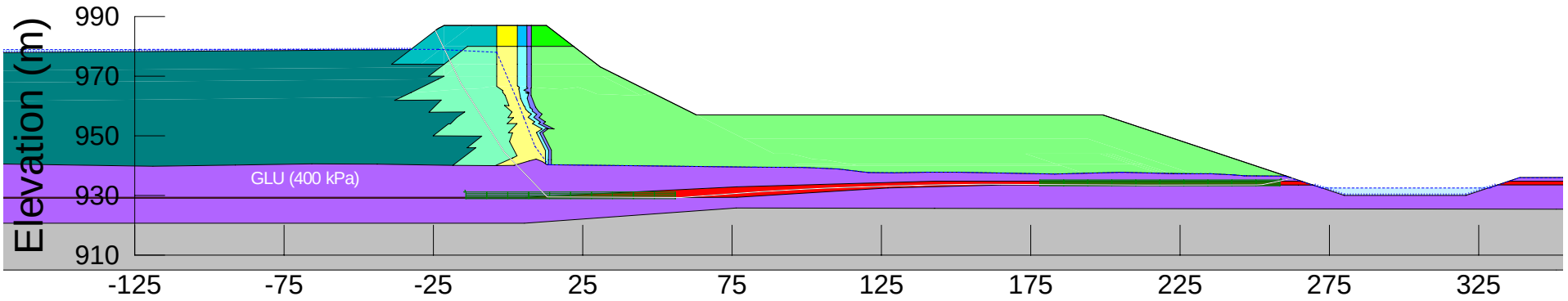
1.9





Stage 2 Construction - Upset Conditions (0 m beach, drains not functioning)

1.6



Distance (m)

Piezometric Line

REFERENCES/NOTES

1. Partially consolidated foundation soils; B-bar applied.
2. Stage 1: crest el. 980 m, pond and tailings el. 973 m.
3. Stage 2: crest el. 987 m: pond and tailings el. 979 m.
4. Incremental construction material represented by darker shade.
5. Existing conditions and geometry of the CCS were considered (October 2023 survey).

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

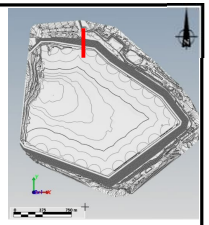
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

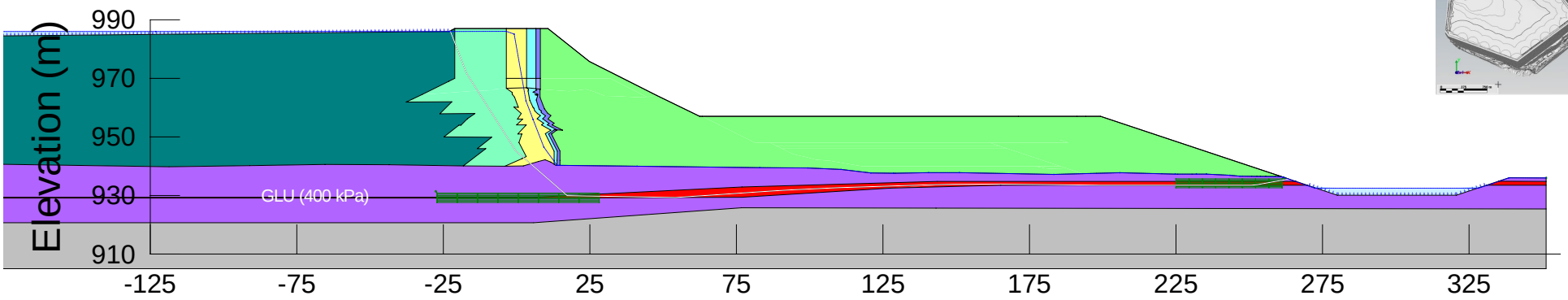
TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+410 (Old Stn. 20+420)
SHORT-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-84

Upset Conditions (0 m beach, drains not functioning)

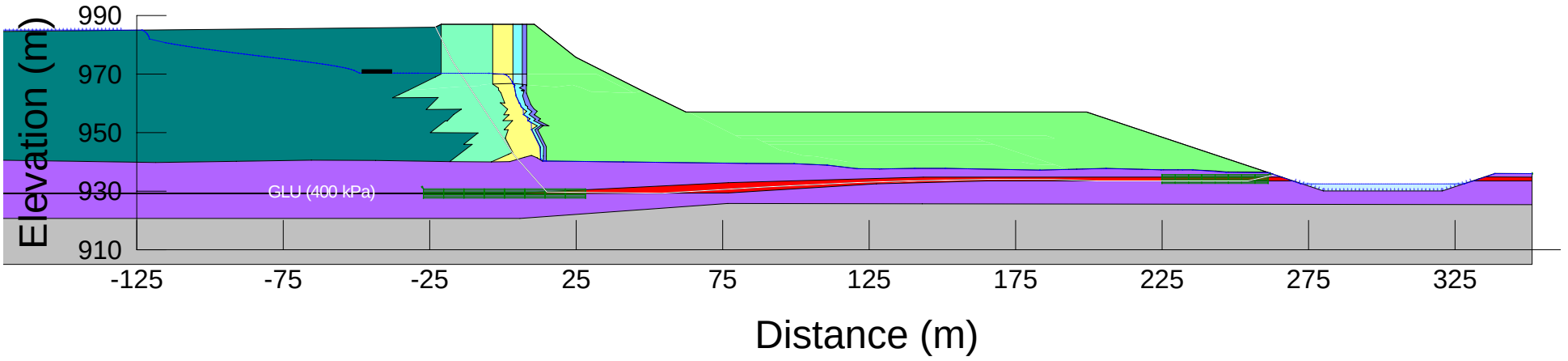
1.5





Normal Operating Conditions (100 m beach, drains functioning)

1.7



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Existing conditions and geometry of the CCS were considered (October 2023 survey).

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MOUNT POLLEY MINING CORPORATION

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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

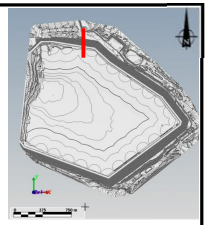
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

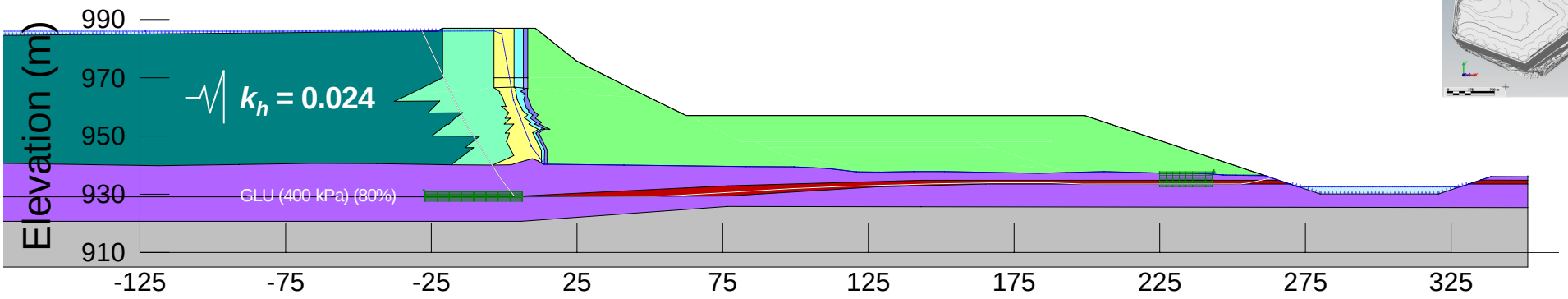
TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+410 (Old Stn. 20+420)
LONG-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-85

Upset Conditions (0 m beach, drains not functioning)

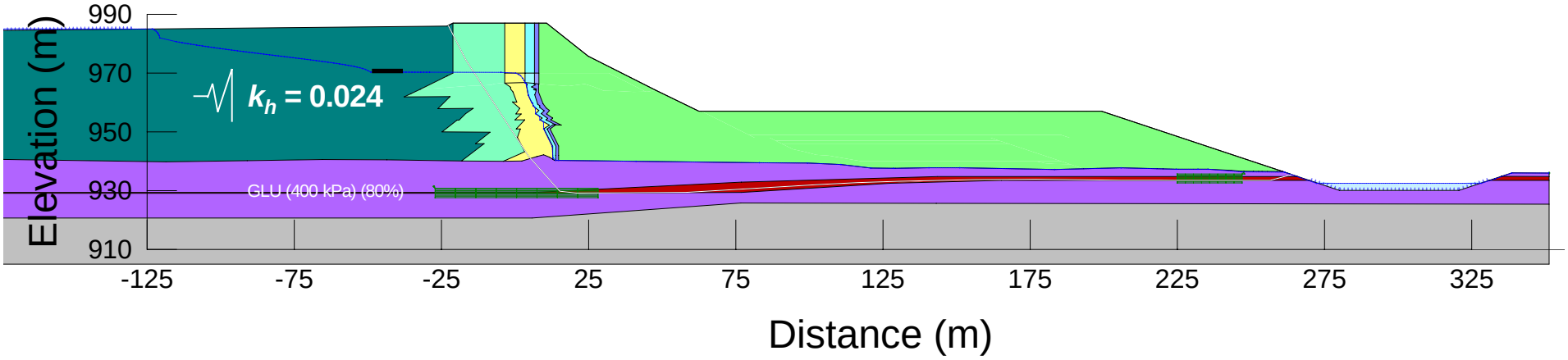
1.1





Normal Operating Conditions (100 m beach, drains functioning)

1.3



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 2,475-year AEP.
5. GLU shear strength reduced to 80%.
6. Existing conditions and geometry of the CCS were considered (October 2023 survey).

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CONSULTANT
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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

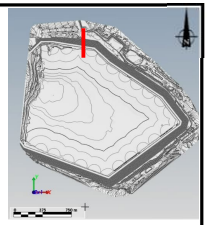
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

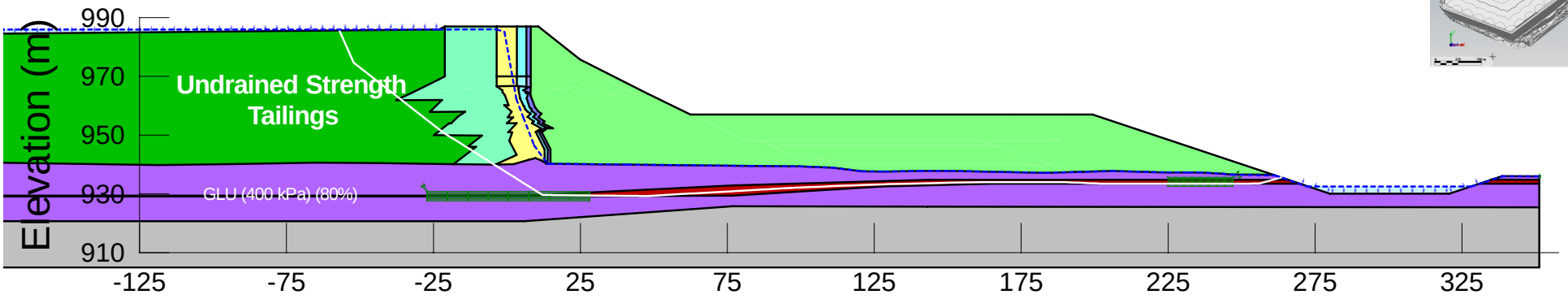
TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+410 (Old Stn. 20+420)
PSEUDO-STATIC LOADING

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-86

Upset Conditions (0 m beach, drains not functioning)

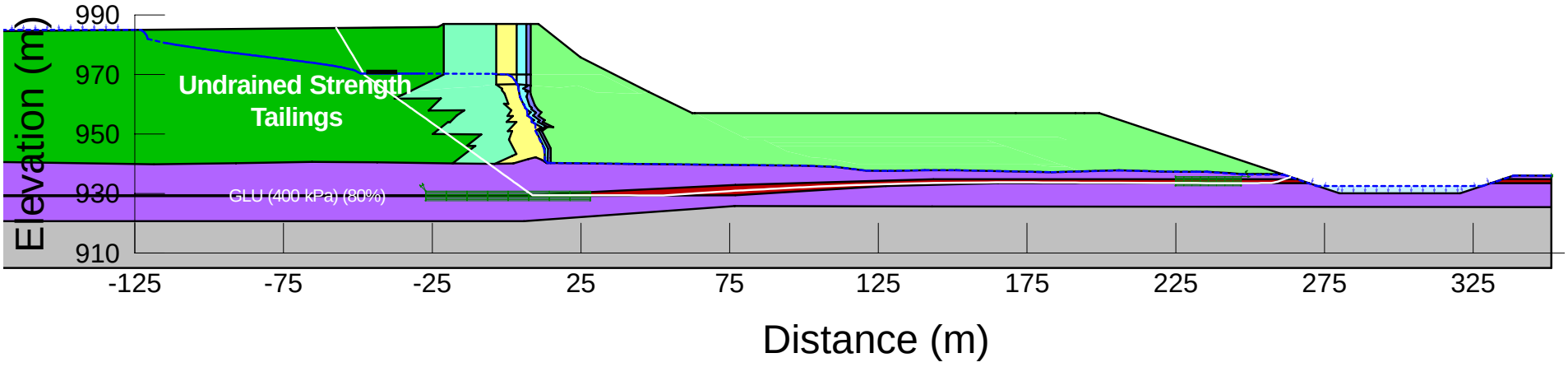
1.3





Normal Operating Conditions (100 m beach, drains functioning)

1.3



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. GLU shear strength reduced to 80%.
5. No seismic loading applied.
6. Existing conditions and geometry of the CCS were considered (October 2023 survey).

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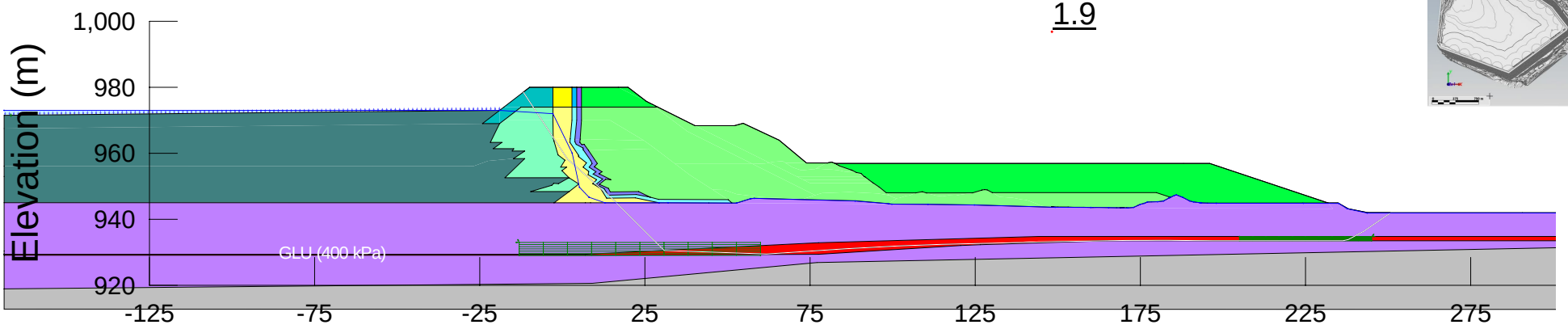
YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

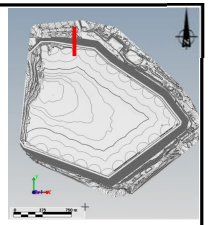
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+410 (Old Stn. 20+420)
POST-EARTHQUAKE

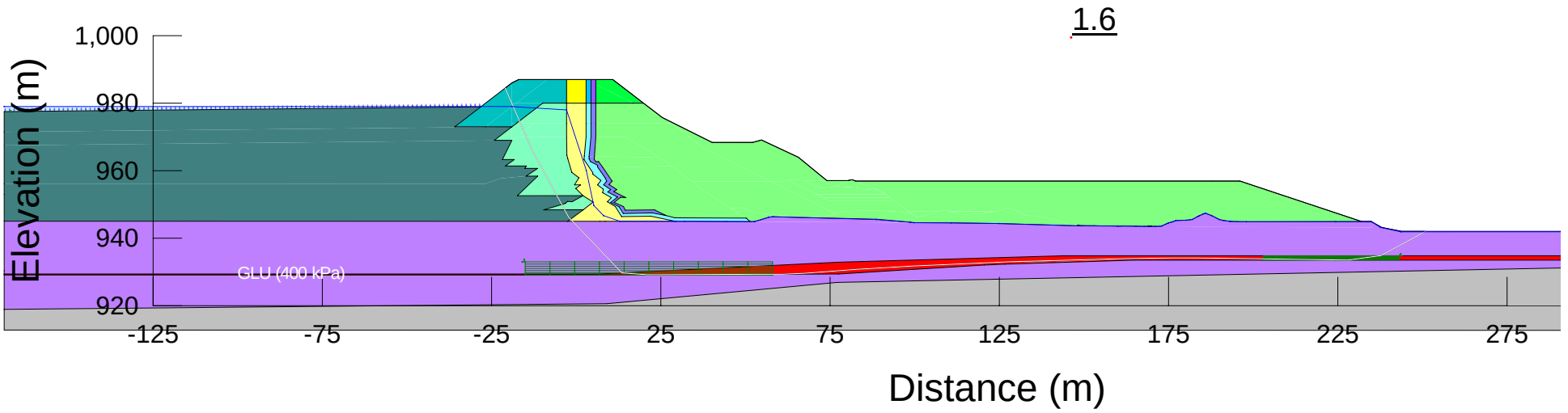
PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-87

Stage 1 Construction - Upset Conditions (0 m beach, drains not functioning)





Stage 2 Construction - Upset Conditions (0 m beach, drains not functioning)



Piezometric Line

REFERENCES/NOTES

1. Partially consolidated foundation soils; B-bar applied.
2. Stage 1: crest el. 980 m, pond and tailings el. 973 m.
3. Stage 2: crest el. 987 m: pond and tailings el. 979 m.
4. Incremental construction material represented by darker shade.

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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

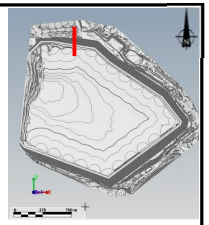
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

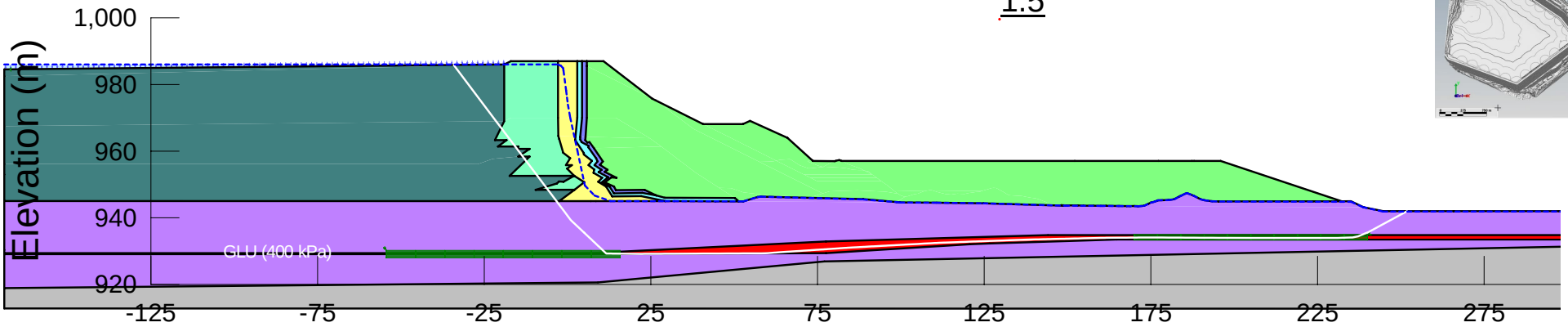
TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+540 (Old Stn. 4+525)
SHORT-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-88

Upset Conditions (0 m beach, drains not functioning)

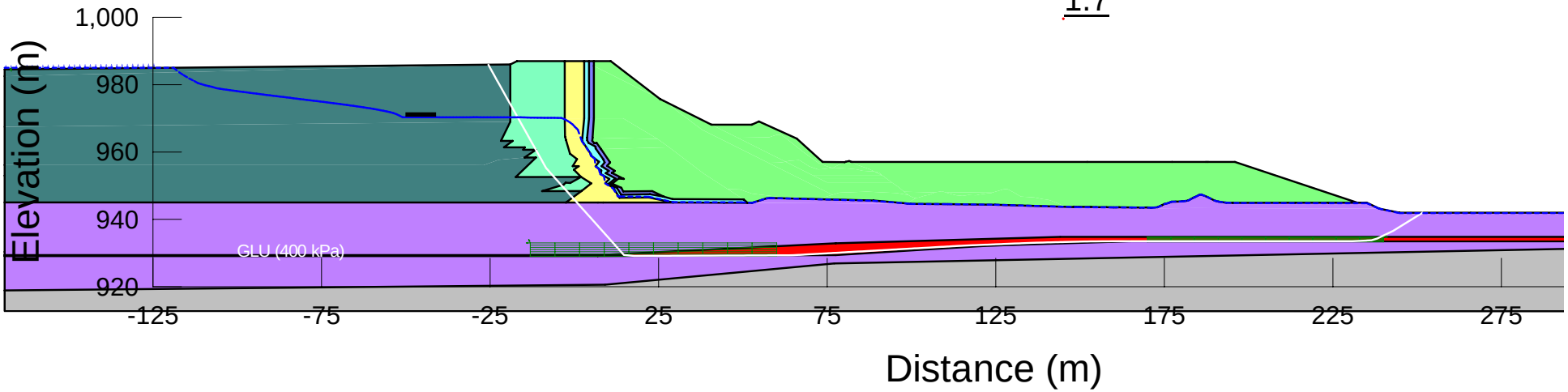
1.5





Normal Operating Conditions (100 m beach, drains functioning)

1.7



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.

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CONSULTANT
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YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

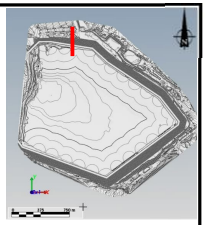
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

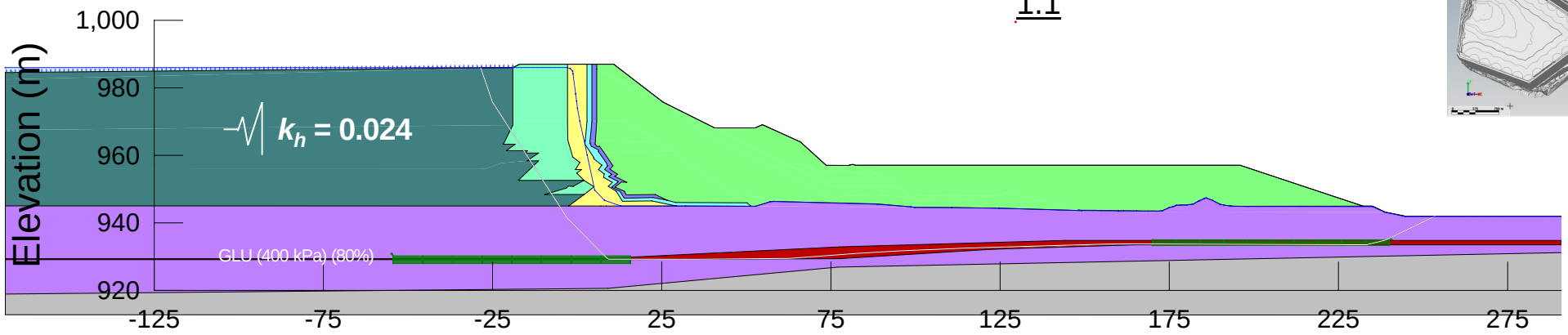
TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+540 (Old Stn. 4+525)
LONG-TERM

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-89

Upset Conditions (0 m beach, drains not functioning)

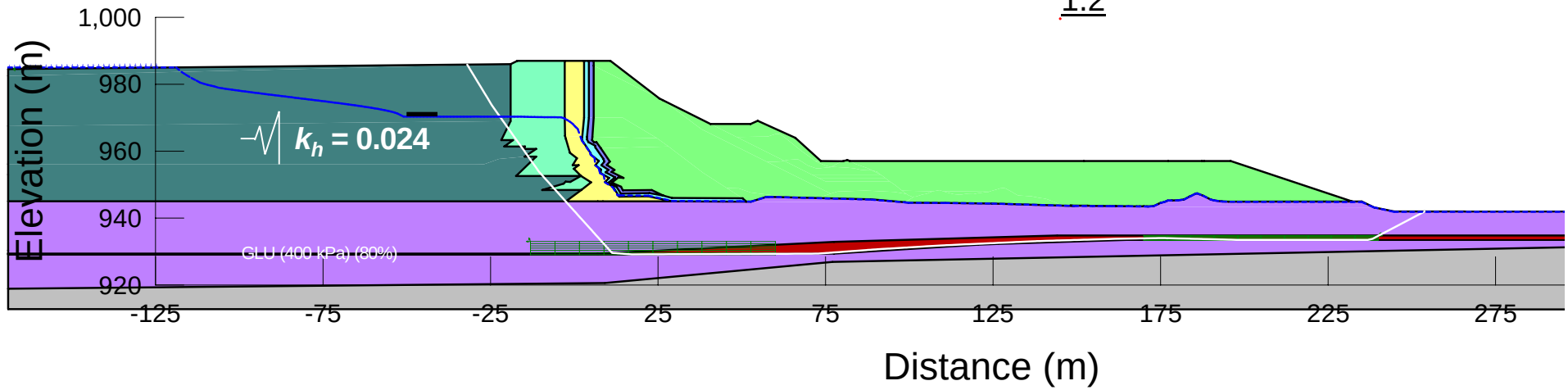
1.1





Normal Operating Conditions (100 m beach, drains functioning)

1.2



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. Pseudo-static loading equal to 0.5 PGA of earthquake event with a 1 in 2,475-year AEP.
5. GLU shear strength reduced to 80%.

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CONSULTANT
wsp

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

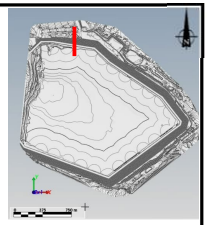
PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

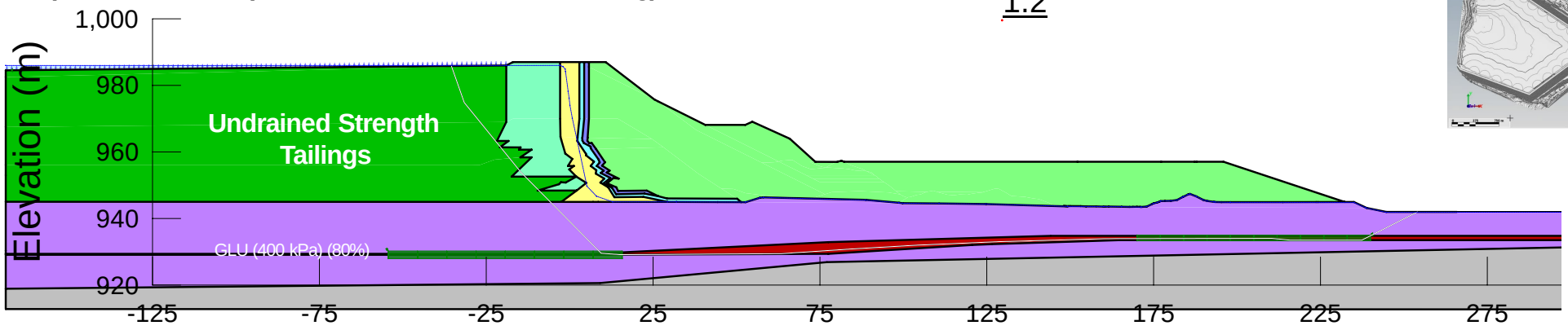
TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+540 (Old Stn. 4+525)
PSEUDO-STATIC LOADING

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-90

Upset Conditions (0 m beach, drains not functioning)

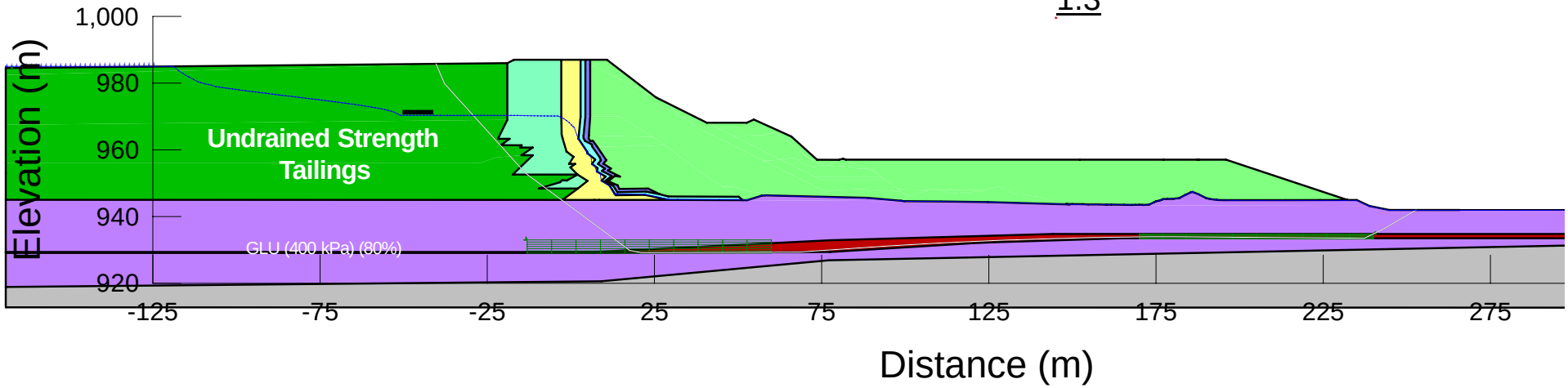
1.2





Normal Operating Conditions (100 m beach, drains functioning)

1.3



Piezometric Line

REFERENCES/NOTES

1. Consolidated foundation soils; no B-bar applied.
2. Upstream drain not functioning for 0 m beach and functioning for 100 m beach.
3. 0 m and 100 m sub-aerial beaches; pond elevations at 986 m and 985 m, respectively.
4. GLU shear strength reduced to 80%.
5. No seismic loading applied.

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MOUNT POLLEY MINING CORPORATION

CONSULTANT

YYYY-MM-DD	2025-07-02
PREPARED	YJ
DESIGNED	RG
REVIEWED	SB
APPROVED	GP

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

TITLE
STABILITY ANALYSIS (CORNER 1)
SECTION 4+540 (Old Stn. 4+525)
POST-EARTHQUAKE

PROJECT NO.	PHASE	REV.	FIGURE
CA0047730.8440	51200/51293	0	G-91

APPENDIX H

Stress-Deformation Models

TECHNICAL MEMORANDUM

DATE July 17, 2025 **Reference No.** CA0047730.8440-033-TM-Rev1-51293

TO Matt O'Leary
Mount Polley Mining Corporation

FROM Andrés Torres and Germán Pizarro **EMAIL andres.torres@wsp.com; german.pizarro@wsp.com**

STRESS-DEFORMATION ANALYSES OF THE ELEVATION 987 M TAILINGS STORAGE FACILITY AT MOUNT POLLEY MINE

1.0 INTRODUCTION

Mount Polley Mining Corporation (MPMC) has retained WSP Canada Inc. (WSP) to complete a detailed design to raise the tailings storage facility (TSF) at the Mount Polley Mine. The design to support raising the TSF from its currently permitted elevation of 974 m to a crest elevation of 987 m is presented in WSP (2025a). The design crest elevation of 987 m enables the TSF to contain the current life of mine tailings.

This memorandum summarizes the results of stress-deformation analyses carried out on two (2) sections of the TSF to support the detailed design for the raise of the TSF to elevation 987 m. The analyses were based on two-dimensional finite difference models developed using the commercially available computer code FLAC Version 8.1 (Itasca 2019). The objectives of the analyses are:

- assess the stability of the embankments at the end of construction up to elevation 987 m
- evaluate the seismic stability, and potential level and pattern of deformation under the 2,475-year earthquake load

The analyses were carried out for eleven (11) acceleration-time histories from crustal and subduction interface earthquake events and matched to the 2,475-year ground motion spectrum. The design earthquake ground motions are presented in WSP (2023).

This document includes the analysis procedure, characterization of the foundation and embankment materials, and the static and seismic deformation analyses results. This memorandum should be read in conjunction with the TSF detailed design report (WSP 2025a) and the most recent TSF site characterization report (WSP 2025b).

2.0 BACKGROUND

The Mount Polley Mine is a copper and gold mine operated by MPMC, a subsidiary of Imperial Metals Corporation. The site is located approximately 56 km northeast of Williams Lake, British Columbia, between Polley Lake and Bootjack Lake. The TSF is located about 3 km southeast of the mill and includes one embankment that is approximately 4.8 km in length. The embankment is subdivided into three sections: Main Embankment, Perimeter Embankment, and South Embankment. The embankment has incorporated a staged expansion design utilizing modified centerline and centerline construction methods. The general zoning of the TSF embankment includes the following:

- upstream fill comprising tailings sand and select fill
- low permeability till core
- filter zone
- transition zone
- rockfill

Rockfill forms the downstream wedge of the embankment and the downstream buttress.

The Mount Polley Mine began production in 1997 and operated until October 2001 when operations were suspended for economic reasons. In March 2005, the mine restarted and was in operation up to the time of the TSF breach in August 2014. The embankment crest was near elevation 968 m at the time.

In 2015, the Freshet Embankment was constructed to elevation 950 m through the breach area to allow the capture and temporary storage of the 2015 and 2016 freshet flows. The construction of buttresses along the Perimeter and Main embankments was completed in October 2016 (Golder 2015a, 2017a).

The June 23, 2016, amendment of the Mines Act Permit M-200 authorized the return to full operations at the mine, including construction of the TSF design to elevation 970 m (Golder 2015b) and deposition of tailings. Construction to raise the Freshet Embankment at Corner 1 to elevation 970 m started in June 2016. By September 2018, construction of the Perimeter Embankment at Corner 1 had been completed to elevation 968 m (Golder 2019). The raise of the Freshet Embankment is referred to as the Perimeter Embankment at Corner 1.

Mining operations at the Mount Polley Mine were halted between May 2019 and Q4 2021 for economic reasons. In June 2022, the mill had restarted operations and tailings deposition resumed into the TSF. Construction to raise the embankment to elevation 970 m was restarted in July 2022 and was generally completed by the end of 2023. In preparation for a raise above elevation 970 m, widening and re-sloping the downstream slope of the embankment to 2H:1V was started in 2024. The maximum height of the Main Embankment is about 57 m, Perimeter Embankment about 42 m, and South Embankment about 32 m.

Results of limit equilibrium analyses carried out for the TSF detailed design to elevation 987 m indicated that all sections analysed had a factor of safety (FoS) equal or above 1.5 for static conditions and a FoS equal or above 1.0 for pseudo-static conditions and met the design criteria (WSP 2025a). In this study, stress-deformation analyses were carried out to further confirm the static and seismic stability of the embankments including the potential for strain weakening of the glaciolacustrine units.

3.0 PROCEDURE

In general, the stress-deformation analyses included the following:

- selection of the TSF sections to be analysed
- characterization of the materials behaviour under static and seismic conditions
- selection of constitutive models to reproduce the characteristic behaviour of the materials
- development of finite difference models for the selected sections of the TSF
- simulation of the staged construction of the embankments up to elevation 987 m
- calculation of the factor of safety at the end of construction at elevation 987 m
- simulation of the design earthquake motion
- evaluation of the seismic stability of the embankments
- calculation of the factor of safety for post-seismic conditions

Each aspect of the procedure is described in the following sections.

4.0 EMBANKMENT SECTIONS

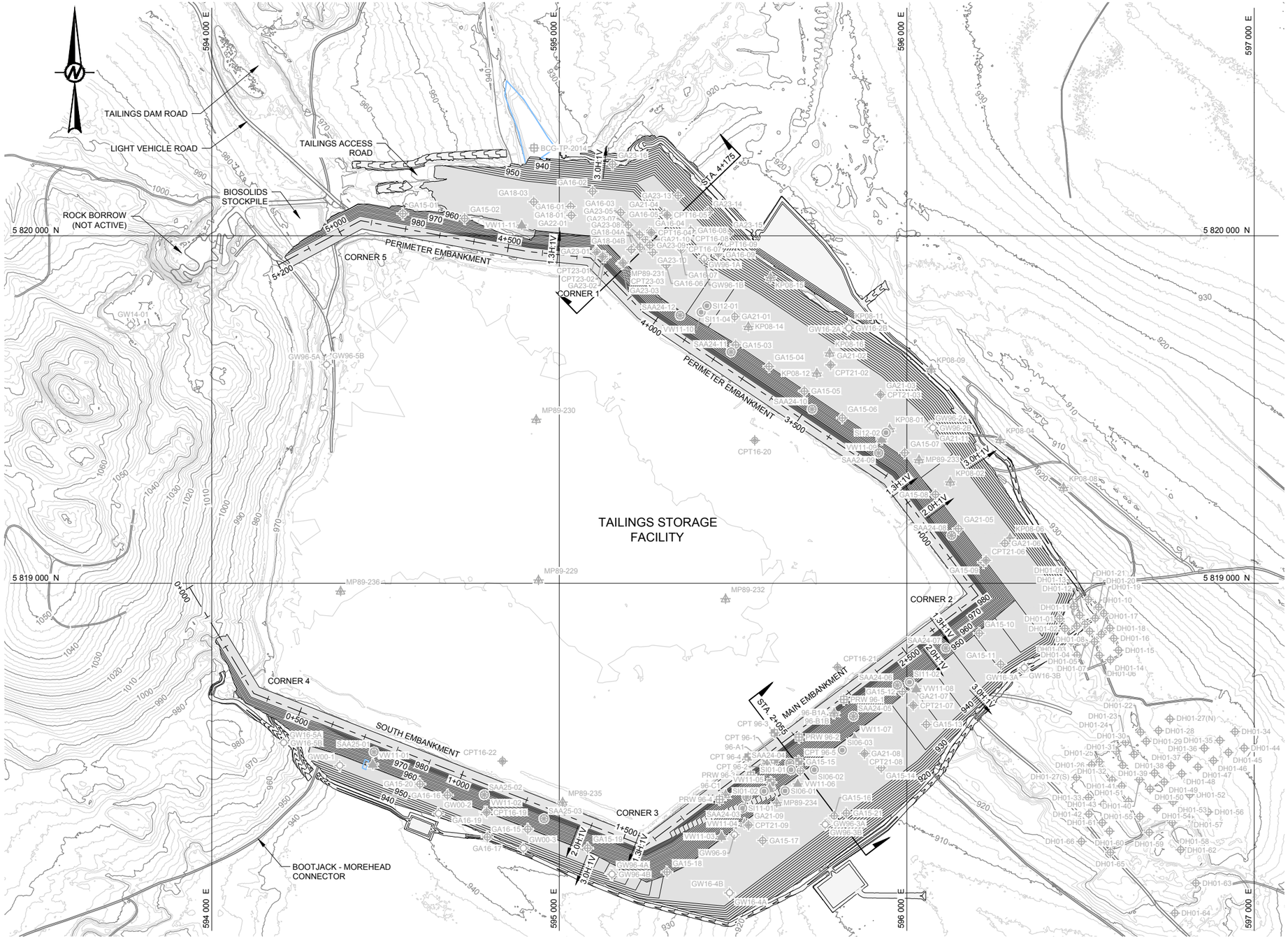
Glaciolacustrine deposits have been identified along the Main and Perimeter embankments.

The overconsolidated glaciolacustrine deposits at the Perimeter Embankment at Corner 1 are identified as semi-continuous and have the lowest preconsolidation stress in the area of the TSF (WSP 2025b). Along the rest of the Perimeter Embankment foundation, overconsolidated glaciolacustrine deposits are not continuous and have been characterized having a higher preconsolidation stress.

A semi-continuous layer of glaciolacustrine soil is present along the length of the Main Embankment foundation. The glaciolacustrine deposit at the Main Embankment has been characterized having a higher preconsolidation stress in the area of the TSF.

A layer of low plasticity silty clay interpreted to have deposited in a glaciolacustrine environment was identified directly above bedrock near Stn. 1+095 at the South Embankment; however, the geotechnical testing completed on the material showed that it is not representative of the intermediate or high plasticity glaciolacustrine units found at the Main and Perimeter embankments, including at Corner 1 (WSP 2025b).

The stress-deformation analyses were carried out on sections at Sta. 2+055 of the Main Embankment and Sta. 4+175 of the Perimeter Embankment at Corner 1. The section at the Main Embankment represents the tallest section of the facility and includes the semi-continuous layer of glaciolacustrine soil in the foundation. The section at the Perimeter Embankment includes the portion of the foundation that failed in 2014 and has the glaciolacustrine deposit with the lower preconsolidation stress. These sections generally correspond to those controlling the design of the buttress at each embankment based on limit equilibrium analyses. The general layout of the TSF and location of the sections is presented in Figure 1. The geometry of the sections are shown in Figure 2, and the approximate construction sequence and groundwater conditions are presented in Table 1 and Attachment 1. The geometry of the sections and the construction sequence are based on construction record reports for the Main Embankment (AMEC 2014, Golder 2017a) and the Perimeter Embankment at Corner 1 (Golder 2015a, 2017b, 2018, 2019), and the detailed design report of the TSF raise to elevation 987 m (WSP 2025a). The response of piezometers installed in the glaciolacustrine unit at the Perimeter Embankment at Corner 1 indicate that excess pore water pressure generated during construction of the Freshet Embankment dissipated after about one year (WSP 2025b). Based on this, it was assumed in the model that if less than a year passed between construction stages then full dissipation of excess pore water pressure in the glaciolacustrine unit had not occurred (reference Table 1).



LEGEND

- TAILINGS STORAGE FACILITY (TSF) EMBANKMENT CENTRELINE (4+400)
- GROUND CONTOURS (SEE REFERENCE 1)
- TSF EL. 987 m EMBANKMENT RAISE AND BUTTRESS DESIGN CONTOURS
- TSF EL. 987 m WATER MANAGEMENT DESIGN CONTOURS (SEE NOTE 6)
- SITE ACCESS ROADS (SEE REFERENCE 2)
- SAA25-03 — SONIC DRILLING, SAA AND PIEZOMETER INSTALLATION PERIMETER, MAIN, AND SOUTH EMBANKMENT (WSP, 2025)
- GA23-16 — SONIC DRILLING, SI AND PIEZOMETER INSTALLATION PERIMETER EMBANKMENT AT CORNER 1 (WSP, 2023)
- CPT23-03 — CPT - PERIMETER EMBANKMENT AT CORNER 1 (WSP, 2023)
- GA22-01 — SONIC DRILLING, PIEZOMETER INSTALLATION - CORNER 1 EMBANKMENT (WSP GOLDER, 2022)
- GA21-10 — SONIC DRILLING, SI AND PIEZOMETER INSTALLATION - CORNER 1, PERIMETER AND MAIN EMBANKMENT (GOLDER, 2021)
- CPT21-09 — CPT - PERIMETER AND MAIN EMBANKMENT (GOLDER, 2021)
- GA18-01 — SONIC DRILLING, SI AND PIEZOMETER INSTALLATION - CORNER 1 (GOLDER, 2018)
- GA16-01 — SONIC DRILLING, SI AND PIEZOMETER INSTALLATION - CORNER 1 AND SOUTH EMBANKMENT (GOLDER, 2016)
- CPT16-04 — CPT - TAILINGS, CORNER 1 AND SOUTH EMBANKMENT (GOLDER, 2016)
- GW16-2A — SONIC DRILLING, MONITORING WELL INSTALLATION (GOLDER, 2016)
- GA15-01 — SONIC DRILLING, SI AND PIEZOMETER INSTALLATION (GOLDER, 2015)
- BGC-TP-2014 — TEST PIT (BGC / GOLDER, 2014)
- SI12-01 — ODEX, SI INSTALLATION - PERIMETER EMBANKMENT (AMEC, 2012)
- VW11-01 — SONIC DRILLING, PIEZOMETER INSTALLATION (AMEC, 2011)
- SI11-01 — SONIC DRILLING, SI INSTALLATION (AMEC, 2011)
- KP08-01 — SONIC DRILLING, SPT, BORROW PROGRAM (KP, 2008)
- SI06-01 — ODEX, SPT, SI INSTALLATION - MAIN EMBANKMENT (KP, 2006)
- SI01-01 — ODEX, SPT - MAIN EMBANKMENT (KP, 2001)
- DH01-01 — DRILLING, BORROW PROGRAM (KP, 2001)
- GW00-01 — ODEX, SPT, MONITORING WELL INSTALLATION - SOUTH EMBANKMENT (KP, 2000)
- CPT 96-1 — CPT - MAIN EMBANKMENT (KP / CONETEC, 1996)
- 96-A1 — SOLID/HOLLOW STEM AUGER, SPT, PIEZOMETER INSTALLATION - MAIN EMBANKMENT (KP / R.E. GRAHAM ENG., 1996)
- PRW96-01 — SOLID STEM AUGER, PRESSURE RELIEF WELL - MAIN EMBANKMENT (KP, 1996)
- GW96-1 — AIR ROTARY, SPT, MONITORING WELL INSTALLATION (KP, 1996)
- MP89-230 — CONDEMNATION BOREHOLES, PIEZOMETER INSTALLATION (KP, 1989)
- 2+055 — DEFORMATION MODEL CROSS-SECTION LOCATION

0 200 400
1:6,000 METRES

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NOTES

1. ALL UNITS ARE IN METRES UNLESS NOTED OTHERWISE.
2. COORDINATES AND ELEVATIONS ARE SHOWN IN TAILINGS GRID.
3. CONTOUR INTERVAL SHOWN AT 10 m MAJOR AND 2 m MINOR.
4. THE FORENSIC INVESTIGATION BOREHOLES NEAR CORNER 1 (FROM 2014) ARE NOT SHOWN ON THE FIGURE FOR CLARITY.
5. TEST PIT INVESTIGATIONS ARE NOT SHOWN ON THE FIGURE FOR CLARITY.
6. THE TSF EL. 987 m DOWNSTREAM WATER MANAGEMENT INFRASTRUCTURE HAS BEEN INCLUDED FOR REFERENCE ONLY. FOR FURTHER DETAILS, REFER TO DOCUMENT CA0047730.8440-007-TM-REV0-31153.

REFERENCES

1. OCTOBER 2023 TOPOGRAPHY PROVIDED BY MPMC, SURVEYED: 30 OCTOBER 2023; RECEIVED: 01 FEBRUARY 2024; FILE NAME: 231030-TSF Lidar Contor 0.1.dxf".
2. SITE FEATURES PROVIDED BY MPMC, RECEIVED: 5 SEPTEMBER 2014; FILE NAME: "MtPolley2013-Pln.dwg".

CLIENT
MOUNT POLLEY MINING CORPORATION

CONSULTANT
wsp

YYYY-MM-DD	2025-07-11
DESIGNED	Y. JANI
PREPARED	J. HOPSON
REVIEWED	G. PIZARRO-SALA
APPROVED	A. TORRES GUERRERO

PROJECT
MOUNT POLLEY MINE TAILINGS STORAGE FACILITY
ELEVATION 987 m EMBANKMENT RAISE DESIGN

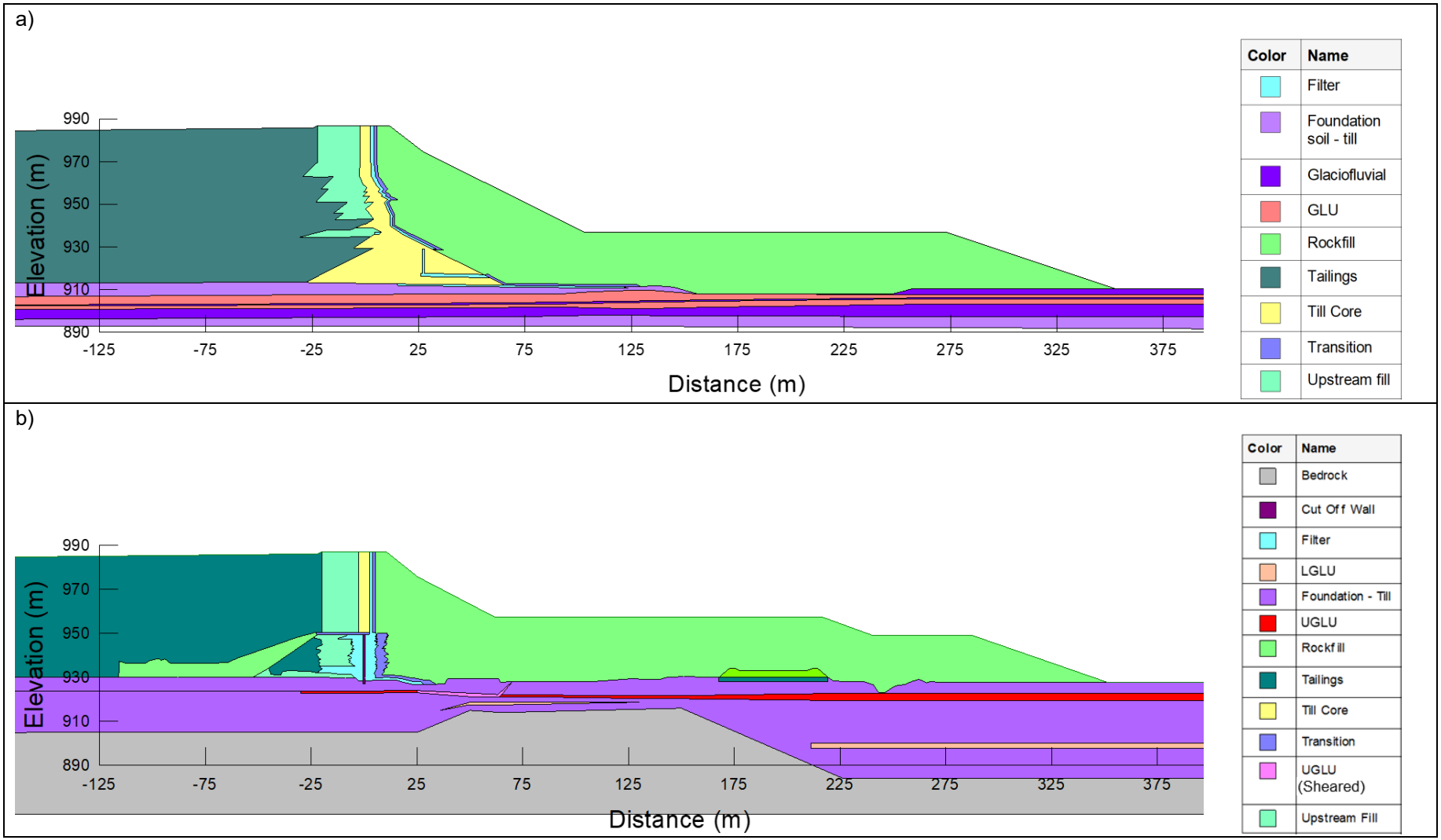
TITLE
DEFORMATION MODEL CROSS-SECTION LOCATIONS

PROJECT NO.	PHASE/TASK/DOC.	REV.	FIGURE
CA0047730.8440	51200/51293/004	0	1

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Note: GLU = glaciolacustrine unit; UGLU = upper glaciolacustrine unit; LGLU = lower glaciolacustrine unit.

Figure 2: Sections in Limit Equilibrium Analyses a) Main Embankment – Sta. 2+055, and b) Perimeter Embankment at Corner 1 – Sta. 4+175.

Table 1: Approximate Construction Sequence of the Main Embankment and Perimeter Embankment at Corner 1

Construction Stage	Main Embankment – Sta. 2+055				Perimeter Embankment at Corner 1 – Sta. 4+175			
	Elevation (m)				Elevation (m)			
	Embankment	Buttress[a]	Tailings	Water Table[b]	Embankment	Buttress[a]	Tailings	Water Table[b]
1	934	-	929	917	950	-	-	928
2	941	-	940	919	960[c]	937	947	947
3	945	917	943	920	966	942	957	950
4	948	917	946	943	968	942	962	950
5	951	917	951	943	970[c]	942	969	950
6	958	917	957	943	970	949	969	950
7	962	917	961	943	974	949	973	970
8	964	917	963	943	974	957	973	970
9	969	926	968	943	987	957	986	970
10	969	930	968	943	-	-	-	-
11	974	930	973	970	-	-	-	-
12	974	937	973	970	-	-	-	-
13	987	937	986	970	-	-	-	-

Notes:

(a) Maximum elevation of the buttress.

(b) Water table elevation immediately upstream of the till core. A 100 m long tailings beach was assumed between the embankment and the TSF pond.

(c) Full dissipation of excess pore water pressure not expected before the beginning of the following construction stage.

5.0 MATERIAL CHARACTERIZATION

This section summarizes the geotechnical characterization of the materials for numerical modelling purposes. The TSF site characterization report (WSP 2025b) presents in detail the results of geotechnical testing and interpretation of geotechnical parameters.

The stratigraphic sequence identified in the area of the TSF can be generalized in order of increasing depth as follows:

- embankment materials and tailings
- till
  - glaciolacustrine sub-units
  - glaciofluvial sub-units
- bedrock

At the Perimeter Embankment at Corner 1, two distinct glaciolacustrine units have been identified and characterized separately. The location of the units is shown in Figure 2.

5.1 Foundation Characterization

5.1.1 Bedrock

Generally, consists of weathered volcaniclastic conglomerate, volcanic debris, or completely weathered bedrock. Results of a downhole seismic test carried out in borehole GA15-10 indicate that the time-averaged shear-wave velocity in the upper 30 m (V_{s30}) of bedrock is about 850 m/s (WSP 2023). The small strain shear stiffness (G_{max}) of the bedrock was estimated as:

$$G_{max} = \rho_b \cdot (V_s)^2 \qquad \textbf{Equation 1}$$

Where ρ_b is the bulk density and V_s is the shear wave velocity, considered equal to the V_{s30}. The static and dynamic shear modulus were calculated as $0.95G_{max}$.

5.1.2 Foundation Till

The foundation till is generally a mixture of gravel, sand, and low plasticity fines ranging from silt to silty clay. The material is generally cohesive with a consistency from firm to hard. Collected samples showed an average fines content of 51% and an average plasticity index of 11 (WSP 2025b). An effective friction angle was estimated from triaxial tests performed on undisturbed samples at about 34 degrees (BC MEM 2015). Results from pressuremeter testing indicate that the friction angle from the upper till at Corner 1 ranges between 36 and 48 degrees, with an average of about 40 degrees (IEEIRP 2015).

The average shear wave velocity measured in downhole seismic tests is about 500 m/s (WSP Golder 2022). The small strain shear stiffness (G_{max}) was calculated using Equation 1 and the static shear modulus was estimated as $0.5G_{max}$.

The shear stress-strain behaviour of the foundation till was characterized using the shear modulus reduction curves presented by Vucetic and Dobry (1991) for a plasticity index of 15.

5.1.3 Glaciofluvial Unit

The glaciofluvial unit is generally gravelly sandy silt to silty sand with trace gravel, and an estimated compactness ranging from compact to very dense. Samples tested showed an average fines content of 63% and the fines were generally non-plastic to low plasticity (note that samples selected for testing are typically bias towards samples with higher fines content with some plasticity). Shear strength results indicate a peak friction angle of about 35 degrees (WSP 2025b). The shear stress-strain behaviour of the glaciofluvial unit was assumed to be equal to that of the foundation till.

5.1.4 Glaciolacustrine Units

Glaciolacustrine units were identified along the Main and Perimeter embankments. Two distinct glaciolacustrine deposits have been identified at Corner 1 and are referred to as the upper glaciolacustrine unit (UGLU) and lower glaciolacustrine unit (LGLU). The UGLU was identified as the soil layer through which the 2014 undrained failure developed and was the focus of subsequent forensic investigations (IEEIRP 2015, KCB 2015a,b). The shear strength of the glaciolacustrine units, except for the UGLU that sheared during the failure in 2014, were characterized based on their preconsolidation stress.

The glaciolacustrine unit at the Main Embankment is generally low to intermediate plasticity silty clay, with trace to some sand, and a consistency ranging from very stiff to hard. Glaciolacustrine samples collected from the Main Embankment showed an average plasticity index of 17.

The UGLU at Corner 1 generally consists of intermediate to high plasticity silty clay to clay, with trace to some sand, and a consistency ranging from firm to stiff. UGLU samples showed an average plasticity index of 26.

The LGLU at Corner 1 generally consists of low to intermediate plasticity silty clay, with trace to some sand. LGLU samples showed an average plasticity index of 14.

Results from laboratory and field testing showed different degrees of overconsolidation of the glaciolacustrine units. Table 2 summarizes the vertical effective preconsolidation stress estimated for each unit (WSP 2025b).

Table 2: Vertical Effective Preconsolidation Stress of Glaciolacustrine Units from the Main Embankment and Perimeter Embankment at Corner 1

Location	Soil Unit	Vertical Effective Preconsolidation Stress (kPa)
Main Embankment	Glaciolacustrine Unit	1,200
Perimeter Embankment at Corner 1	Upper Glaciolacustrine Unit (UGLU)	400
	Lower Glaciolacustrine Unit (LGLU)	700

The overconsolidation ratio (OCR) of the glaciolacustrine units was calculated as follows:

$$OCR = \frac{\sigma'_{vp}}{\sigma'_{vc}} \qquad \textbf{Equation 2}$$

Where σ'_{vp} is the vertical effective preconsolidation stress and σ'_{vc} is the current vertical effective vertical stress.

The peak undrained shear strength ($S_{u\text{-}peak}$) of the glaciolacustrine units was characterized using the SHANSEP (Stress History and Normalized Soil Engineering Properties) method proposed by Ladd and Foott (1974). Results of simple shear tests carried out on undisturbed glaciolacustrine samples from the Main and Perimeter embankments yielded the following expression for estimating the peak undrained strength ratio ($S_{u\text{-}peak}/\sigma'_{vc}$) (WSP 2025b):

$$\frac{S_{u-peak}}{\sigma'_{vc}} = 0.22 \cdot OCR^{0.71} \qquad \textbf{Equation 3}$$

Undisturbed UGLU specimens from Corner 1 exhibited a propensity for strain-weakening on shearing during simple shear tests, with an estimated sensitivity of 2 to 3. A post-peak reduction in undrained shear strength was observed at shear strains in excess of 5%, and full weakening was attained at shear strains in excess of 60% (KCB 2015a,b). Figure 3 shows the characteristic strain-weakening function considered for the glaciolacustrine units. Plastic shear strains refer to shear strains accumulated once the peak undrained shear strength is fully mobilized.

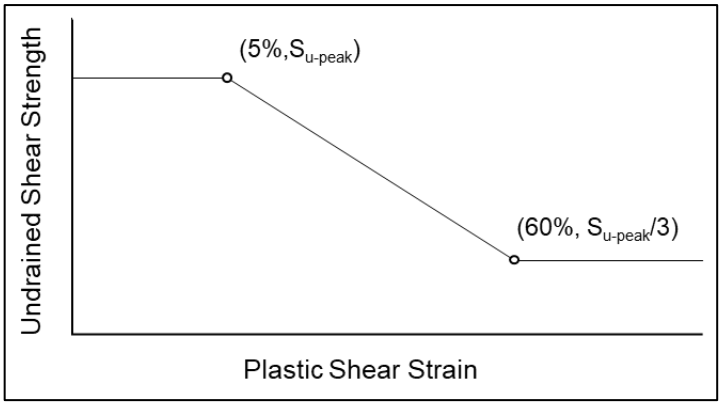


Figure 3: Glaciolacustrine Units Strain-Weakening Function

The UGLU drained peak friction angle was determined as 22 degrees (KCB 2015a,b). Drained shear strength parameters were considered for the portions of the glaciolacustrine units with overconsolidation ratios greater than 3.

The undrained shear strength of the UGLU that sheared during the failure in 2014 was modelled constant and equal to 22 kPa, which corresponds to the average minus one standard deviation of the measured remoulded undrained shear strength values from field vane tests and cone penetration tests (CPTs) as part of the forensic investigation in 2014 (WSP 2025b). Since then, the embankment was repaired and constructed to elevation 970 m (approximately 42 m high) over the area of the UGLU that sheared. Potential strength gains from reconsolidation of the UGLU that sheared in 2014 have not been included in the characterization.

Shear wave velocity, V_s, of the UGLU and LGLU at Corner 1 was measured during geotechnical investigations with seismic CPTs (BC MEM 2015). Measured V_s ranged between 120 m/s and 350 m/s. A characteristic shear wave velocity of 230 m/s was considered for the glaciolacustrine units. The small strain shear stiffness (G_{max}) was calculated using Equation 1 and the static shear modulus was assumed to be $G_{max}/8$.

The undrained cyclic strength of the glaciolacustrine units were evaluated by means of cyclic direct simple shear (CDSS) tests carried out on undisturbed samples from the Main Embankment and Perimeter Embankment at Corner 1 (WSP 2025b). The CDSS test results suggest relatively low potential for cyclic softening in the glaciolacustrine under the 2,475-year earthquake load.

The shear stress-strain behaviour of the glaciolacustrine units was characterized using the shear modulus reduction curves presented by Vucetic and Dobry (1991) for the average plasticity index of 15.

5.2 Embankment Materials and Tailings Characterization

Embankment materials were characterized based on the available data from construction monitoring (Golder 2015a, AMEC 2014) and from typical values published in literature.

Shear strength of the rockfill and transition materials was characterized by the average peak friction angle presented by Leps (1970). The peak friction angle, ϕ, of the rockfill and transition is given by:

$$\boldsymbol{\phi = 45.7 - 2.8 \cdot ln\left(\frac{\sigma'_h}{P_a}\right) < 55\ degrees} \qquad \textbf{Equation 4}$$

Where σ'_h is the horizontal effective stress and P_a is the atmospheric pressure.

The shear strength of the till core was measured on the triaxial apparatus on reconstituted specimens of till (KP 1995, BC MEM 2015). The friction angle considered for the till core was 33 degrees.

The friction angles adopted for the filter, upstream fill, and tailings were 30, 32, and 25 degrees, respectively. These values are consistent with the friction angles used in the limit equilibrium analysis carried out for the elevation 970 m and 987 m detailed TSF designs (Golder 2015b, WSP 2025a).

The small strain shear stiffness (G_{max}) and static shear modulus (G_{stat}) of the embankment materials and tailings were estimated based on the compaction effort or expected density, from the Mount Polley TSF construction record reports and from typical values obtained from literature (Byrne et al. 1987).

The average elastic modulus (E_0) of the cut-off wall material, estimated from the mix design (Golder 2016), was used to estimate the small strain shear stiffness of the cut-off wall at Corner 1 using:

$$\boldsymbol{G_{max} = \frac{E_0}{(2(1+\nu))}} \qquad \textbf{Equation 5}$$

Where ν is the Poisson ratio, assumed for the cut-off wall equal to 0.25.

6.0 CONSTITUTIVE MODELS

For the simulation of the staged construction of the embankments, the elastic-perfectly plastic Mohr-Coulomb model was used to simulate the non-linear behaviour of the tailings, embankment soils, and foundation soils non-susceptible to strain-weakening (i.e., glaciolacustrine units with OCR greater than 3, UGLU that sheared in 2014, till and glaciofluvial soils). The strain-softening constitutive model was used to simulate the behaviour of the glaciolacustrine units with overconsolidation ratios less or equal to 3 (OCR ≤ 3). The strain-softening constitutive model is based on the elastic-perfectly plastic Mohr-Coulomb model and allows the definition of the strength parameters (e.g., cohesion) as piecewise-linear functions of a softening parameter measuring the plastic shear strain. The elastic-perfectly plastic Mohr-Coulomb model was used to simulate the non-linear behaviour of the UGLU that sheared during the failure in 2014 and glaciolacustrine units with overconsolidation ratios greater than 3 (OCR > 3). The behaviour of the bedrock and cut-off wall was simulated with the linear elastic model. Table 3 presents the summary of the constitutive models and parameters used for the simulation of the staged construction of the embankments.

The dynamic mechanical response of both the bedrock and cut-off wall was simulated as linear elastic (see Table 4). The dynamic behaviour of the glaciolacustrine unit that sheared during the failure in 2014 and glaciolacustrine units with overconsolidation ratios greater than 3 were modelled by complementing the linear elastic-perfectly plastic constitutive model with a hysteretic damping model. The seismic response of the glaciolacustrine units with overconsolidation ratios less or equal to 3 was numerically simulated by complementing the strain softening model with a hysteretic damping model. A sigmoidal fitting function was used to represent the characteristic shear stress-strain behaviour of the materials. Table 5 shows a summary of the model parameters used for these materials.

The dynamic response of the foundation till, glaciofluvial, and till core was numerically modelled as non-linear, Mohr-Coulomb materials using the constitutive model UBC Hysteretic. In this model, the non-linear response is obtained by modifying the initial tangent shear moduli, that equals the small strain shear modulus ($G_{t\text{-}ini}=G_{max}$), in accordance with a hyperbolic law that depends on the shear strain level. Under cyclic loading, damping is estimated by the hysteretic loops formed by the stress-strain curves. The model input parameters are summarized in Table 6.

The dynamic response of the rockfill, filter, transition, upstream fill, and tailings was numerically modelled using the constitutive model UBCSAND developed to simulate earthquake loading and liquefaction. UBCSAND is an elasto-plastic effective stress model with the mechanical behaviour of the soil skeleton and pore water fully coupled. In UBCSAND, plastic shear induces a change in the soil skeleton volume and, if the pores are filled with water, a change in pore water pressure and effective stress occurs. Details of UBC Hysteretic and UBCSAND models can be found in Naesgaard (2011). The model input parameters are summarized in Table 7.

Table 3: Summary of the Constitutive Models and Parameters Used in the Simulation of the Staged Construction of the Embankments

Description	Constitutive Model	ρ_b (t/m^3)	Shear Strength Parameters		Elastic Parameters[1]			
			c (kPa)	ϕ (°)	$k_{G\text{-}stat}$	n	$k_{B\text{-}stat}$	m
Embankment Materials and Tailings								
Rockfill	Mohr-Coulomb	2.2	0	Equation 4	120	0.4	8/3$k_{G\text{-}stat}$	0.4
Transition		2.0						
Upstream Fill		2.0		32				
Filter		2.0		30				
Till Core		2.1		33	131	0.5		0.5
Tailings		1.7		25	94			
Cut-off Wall	Elastic	2.2	-		$G_{stat} = 1.3 \times 10^6$		$B_{stat} = 5/3G_{stat}$	
Foundation Materials								
GLU (OCR≤3)[2]	Strain-Softening	2.0[3]	S_u [4]	0	$G_{stat} = 1.3 \times 10^4$		$B_{stat} = 8/3G_{stat}$	
GLU (OCR>3)[2]	Mohr-Coulomb		0	22				
UGLU that sheared in 2014		1.8	22	0				
Till / Glaciofluvial		2.2	0	34	$G_{stat} = 2.8 \times 10^5$		$B_{stat} = 8/3G_{stat}$	
Bedrock	Elastic	2.3	-		$G_{stat} = 1.6 \times 10^6$		$B_{stat} = 8/3G_{stat}$	

Note:

(1) The static elastic shear modulus (G_{stat}) and static elastic bulk modulus (B_{stat}) were calculated using the corresponding number (k) and exponent (n or m), mean effective stress, p'=(σ'$_1$+σ'$_2$+σ'$_3$)/3; and atmospheric pressure, P_a=100 kPa; for example: $G_{stat} = k_{G-stat} \cdot P_a \cdot \left(\frac{p'}{P_a}\right)^n$.

(2) GLU refers to the GLU from the Main Embankment, and UGLU and LGLU from the Perimeter Embankment at Corner 1.

(3) Except for the UGLU from the Perimeter Embankment at Corner 1 where 1.8 t/m^3 was used.

(4) S_u was calculated using Equation 2, Equation 3, and the strain-weakening function (see Figure 5).

Nomenclature: bulk density (ρ_b), cohesion (c), angle of internal friction (ϕ), static shear modulus number ($k_{G\text{-}stat}$), static shear modulus exponent (n), static bulk modulus number ($k_{B\text{-}stat}$), and static bulk modulus exponent (m).

Table 4: Parameters of the Linear Elastic Constitutive Model for the Seismic Analysis

Description	G_{dyn} (kPa)	B_{dyn} (kPa)
Bedrock	1.6×10^6	G_{dyn}
Cut-off Wall	1.3×10^6	G_{dyn}

Nomenclature: dynamic shear modulus (G_{dyn}) and dynamic bulk modulus (B_{dyn}).

Table 5: Parameters of the Mohr-Coulomb and Strain-Softening Model for the Seismic Analysis

Description	Constitutive Model	G_{max} (kPa)	B_{max} (kPa)	c (kPa)	ϕ (°)	a	b	x_0
GLU (OCR≤3)	Strain-Softening	1.1×10^5	G_{max}	S_u(1)	0	1.015	-0.52	-1.2
GLU (OCR>3)	Mohr-Coulomb		(2)	0	22			
UGLU that sheared in 2014				22	0			

Note:

(1) S_u calculated using Equation 2, Equation 3, and the strain-weakening function (see Figure 5).

(2) B_{max} was calculated as $Bmax=2G_{max}(1+\nu)/(3(1-\nu))$, where ν is the Poisson ratio equal to 0.49.

Nomenclature: small strain shear stiffness (G_{max}), small strain bulk stiffness (B_{max}), cohesion (c), angle of internal friction (ϕ), and hysteretic parameters (a, b and x_0; Itasca 2019).

Table 6: Parameters of the UBC Hysteretic Model for the Seismic Analysis

Description	hgmax (kPa)	hbulk (kPa)	hfric (°)	hn	hrf	hdfac	hrm	hmodf1
Till / Glaciofluvial	5.5×10^5	hgmax	34	2	0.75	1	1.5	0.8
Till Core	(1)	hgmax	33	2	1	1	1	0.8

Note:

(1) hgmax was calculated as $\mathrm{hgmax} = k_g \cdot P_a \cdot \left(\frac{p\prime}{P_a}\right)^{n_g}$, where k_g=977, n_g=0.5, P_a=100, and p'=(σ'1+σ'2+σ'3)/3.

Nomenclature: maximum shear modulus (hgmax), maximum bulk modulus (hbulk), cohesion (hcoh), angle of internal friction (hfric), and hysteretic parameters (hn, hrf, hdfac, hrm, hmodf1).

Table 7: Parameters of the UBCSAND Model for the Seismic Analysis

Description	K_{ge}	K_b	n_e	m_e	K_{gp}	n_p	ϕ_{pt} (°)	ϕ (°)	R_f
Tailings	867	607	0.5	0.5	267	0.4	33	34	0.81
Filter	979	685	0.5	0.5	488	0.4	33	34	0.76
Transition									
Upstream Fill									
Rockfill	6416	4491	0.4	0	353	0.5	40	Equation 4	0.95

Nomenclature: elastic shear modulus number (K_{ge}), elastic bulk modulus number (K_b), elastic shear modulus exponent (n_e), elastic bulk modulus exponent (m_e), plastic shear modulus number (K_{gp}), plastic shear modulus exponent (n_p), peak friction angle (ϕ), friction angle at phase transformation (ϕ_{cv}) and constant that modifies the hyperbola (R_f).

7.0 STATIC ANALYSIS

The static analysis was carried out to further confirm the stability of the embankments at the end of construction to elevation 987 m. The following sections describe the finite difference models, simulation of the staged construction of the embankments and the analysis results.

7.1 Finite Difference Models

Two-dimensional (2D) finite difference models were developed for the selected sections of the TSF using the commercially available computer code FLAC Version 8.1 (Itasca 2019).

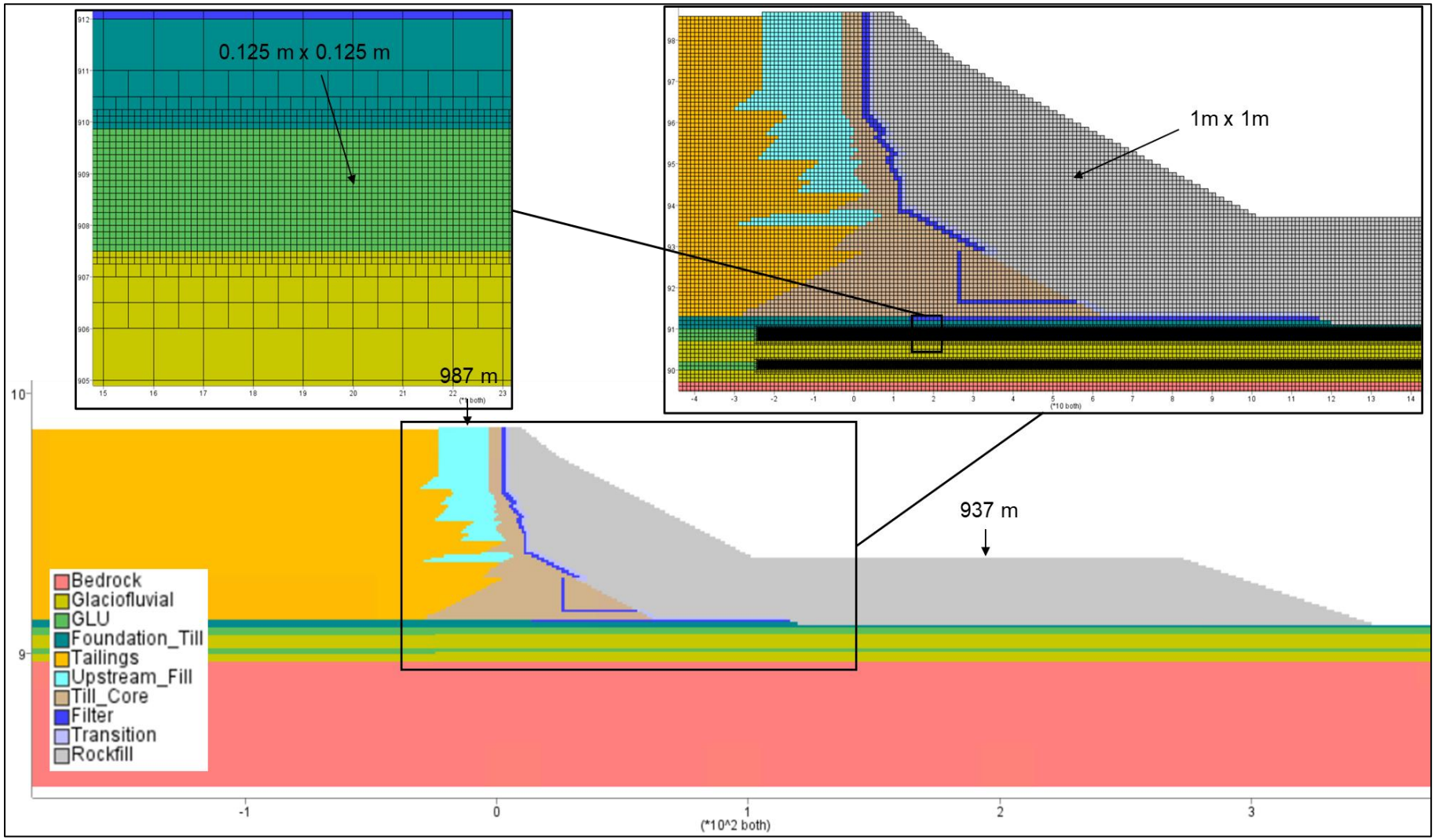
The finite difference mesh developed for the sections at Sta. 2+055 of the Main Embankment and Sta. 4+175 of the Perimeter Embankment at Corner 1 are shown in Figure 4 and Figure 5, respectively. The meshes extend vertically from about elevation 845 m to the embankment crest design elevation of 987 m. Horizontally, the meshes extend far enough from the embankments to avoid boundary effects. The mesh size is 1 m by 1 m at the centre of the model, increasing to about 4 m by 4 m to the far ends. Numerical models with strongly non-linear behaviour, such as the strain-weakening behaviour exhibited by the glaciolacustrine units (GLUs), are particularly sensitive to mesh sizing. Furthermore, results of three-dimensional (3D) deformation analyses of the Perimeter Embankment performed by Zabolotnii (2020) suggest that strain localization in a shear band with a thickness not exceeding 12 cm to 13 cm was requisite for the initiation of the breach at the Mount Polley TSF in 2014. Hence, the mesh size in the GLU at the Main Embankment and UGLU at the Perimeter Embankment was refined to 0.125 m by 0.125 m.

7.2 Simulation of the Staged Construction of the Embankments

The staged construction of the embankments was simulated by sequentially activating horizontal layers of materials, each 1 m thick, following the construction sequence presented in Table 1. After activating each layer, the model was run to equilibrium and material properties updated according to the new stress state. If a tailings layer was activated, the pond level was raised to maintain a 100 m beach upstream of the embankment, and the pore pressures updated. Hydrostatic conditions were assumed below the water table.

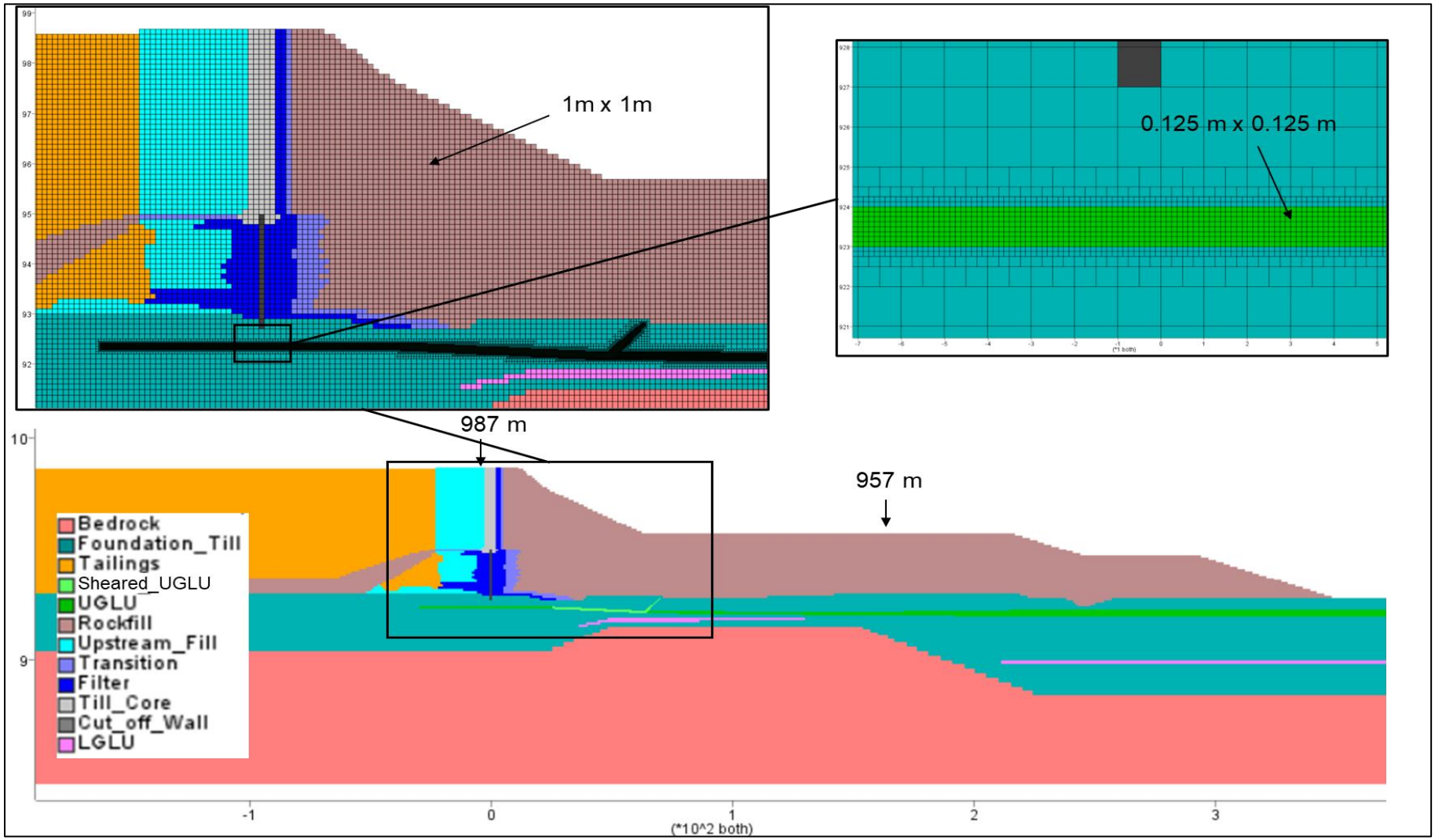
The consolidation-induced hardening of the GLU was modelled by adjusting the undrained strength of the GLU based on the existing stress state. This adjustment was only applied at the end of construction stages where complete dissipation of excess pore water pressure was expected before the beginning of the following stage (see Table 1). Plastic shear strains accumulated in previous construction stages were carried over to the following stages (i.e., GLU was assumed not to heal once the peak undrained shear strength was fully mobilized).

For the simulation of the staged construction of the embankments, the bottom boundary of the 2D numerical models were considered fixed in both vertical and horizontal directions, while the lateral boundaries were considered fixed only in the horizontal directions (i.e., on vertical rollers).



Note: Axes unit is metres.

Figure 4: Finite Difference Mesh of Main Embankment Section at Sta. 2+055



Note: Axes unit is metres.

Figure 5: Finite Difference Mesh of Perimeter Embankment Section at Sta. 4+175

7.3 Analysis Results

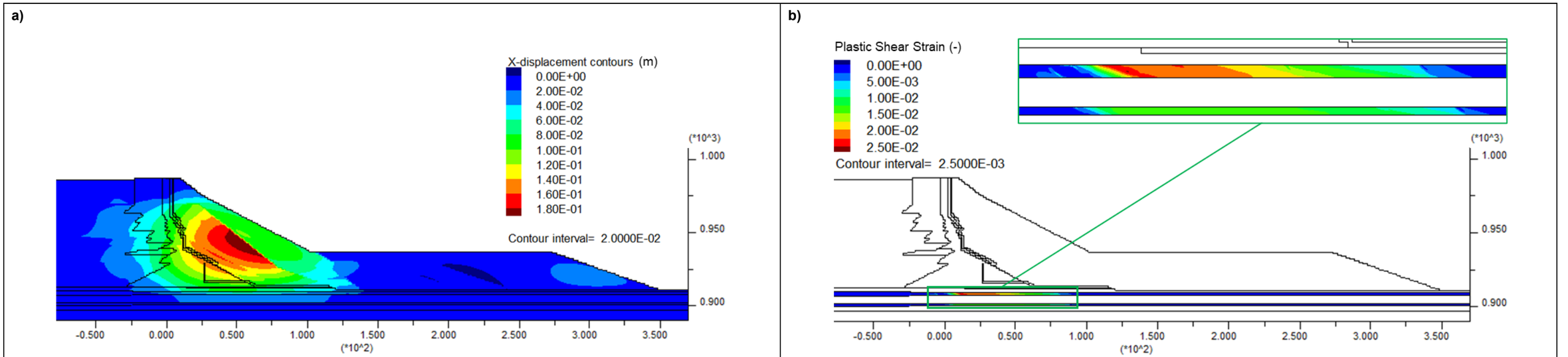
This section presents the results of the static analysis carried out on sections at Sta. 2+055 of the Main Embankment (see Figure 6) and Sta. 4+175 of the Perimeter Embankment (see Figure 7). Contours of horizontal displacements are presented to evaluate potential deformation mechanisms. Contours of accumulated plastic shear strains at the end of construction are presented to evaluate the potential for strain-weakening in the GLU. Plastic shear strains greater than zero but less than 5% indicate that the peak undrained shear strength was fully mobilized. Plastic shear strains greater than 5% indicate post-peak conditions and initiation of weakening. Plastic shear strains greater than 60% indicate that full weakening was attained (see Figure 3). For clarity, plastic shear strains accumulated in the UGLU that sheared in 2014 are not presented in Figure 7. The UGLU that sheared in 2014 was modelled as fully weakened. The factor of safety (FoS) of the embankments was computed at the end of construction using the strength reduction method.

7.3.1 Main Embankment – Sta. 2+055

Contours of predicted horizontal displacement in the Main Embankment (see Figure 6a) show a limited, block type downstream movement of the embankment associated with shear strains accumulated in the GLU during construction. Predicted plastic shear strains accumulated in the GLU below the downstream slope of the Main Embankment are generally less than 2.5% (see Figure 6b), indicating that the peak undrained shear strength is fully mobilized but the weakening process is not initiated. The peak undrained shear strength is not fully mobilized (i.e. zero plastic shear strain) in the GLU below the downstream buttress. The FoS computed for the section at Sta. 2+055 of the Main Embankment is about 1.8, and corresponds to a block-type slip surface through the deeper GLU, as shown in Figure 6c. These results indicate that this section meets the long-term factor of safety design criteria under the analysed conditions.

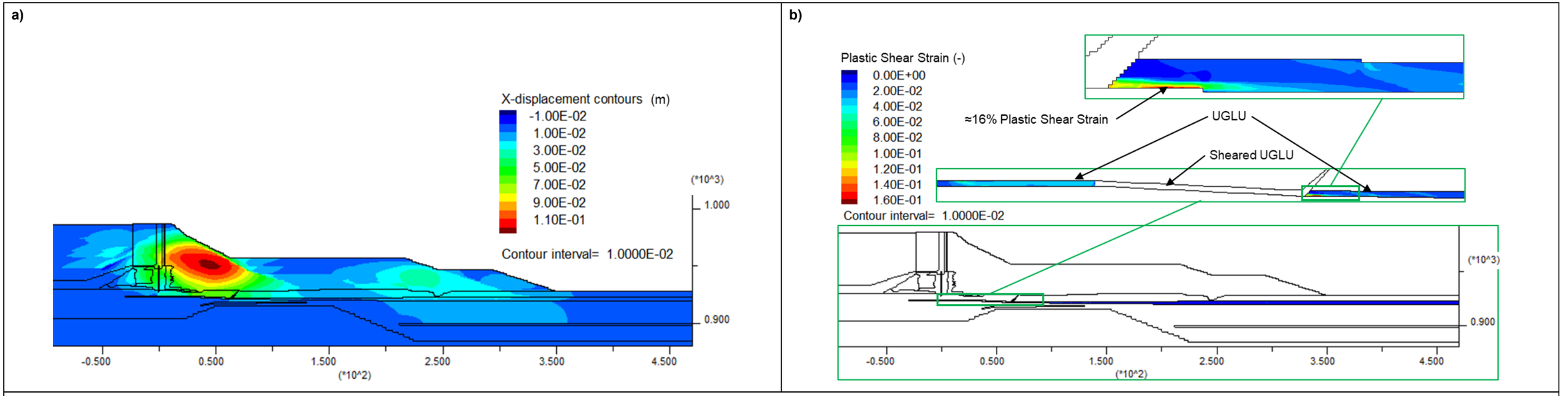
7.3.2 Perimeter Embankment at Corner 1 – Sta. 4+175

Contours of predicted horizontal displacement in the Perimeter Embankment at Corner 1 (see Figure 7a) show a limited, block type downstream movement of the embankment associated with shear strains accumulated in the UGLU, including the UGLU that sheared during the failure in 2014, during construction. A relatively small shear band (about 3 m long) with a maximum plastic shear strain of about 16% is predicted to develop immediately downstream of the UGLU zone that sheared in 2014. However, the predicted level of strain-weakening is relatively low (about 13% strength reduction in a 3 m long shear band). The peak undrained shear strength is not fully mobilized (i.e. zero plastic shear strain) in most of the UGLU below the downstream buttress. The FoS computed for the section at Sta. 4+175 is about 1.7, and corresponds to a block-type slip surface through the UGLU, as shown in Figure 7c. The static analysis results indicate that this section meets the long-term factor of safety design criteria under the analysed conditions.



Note: Axes unit is metres.

Figure 6: Static Analysis Results for the Main Embankment – Section 2+055 at the End of Construction to Elevation 987 m: a) Contours of Predicted Horizontal Displacement, b) Contours of Predicted Plastic Shear Strain in the Glaciolacustrine Units, c) Predicted Factor of Safety



Note: Axes unit is metres.

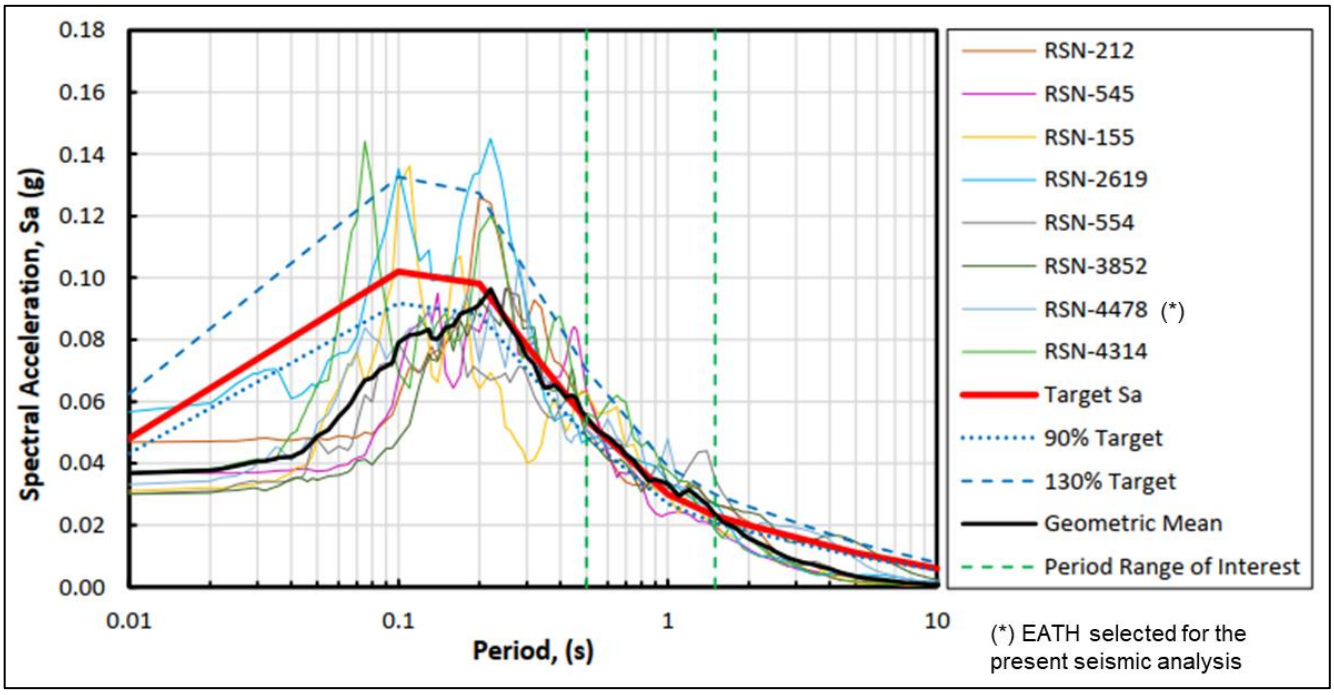
Figure 7: Static Analysis Results for the Perimeter Embankment at Corner 1 – Section 4+175 at the End of Construction to Elevation 987 m: a) Contours of Predicted Horizontal Displacement, b) Contours of Predicted Plastic Shear Strain in the Upper Glaciolacustrine Unit, c) Predicted Factor of Safety

8.0 EARTHQUAKE GROUND MOTIONS

WSP (2023) carried out a site-specific probabilistic seismic hazard analysis (PSHA) for the Mount Polley TSF site. In this section, only a summary of the results is presented.

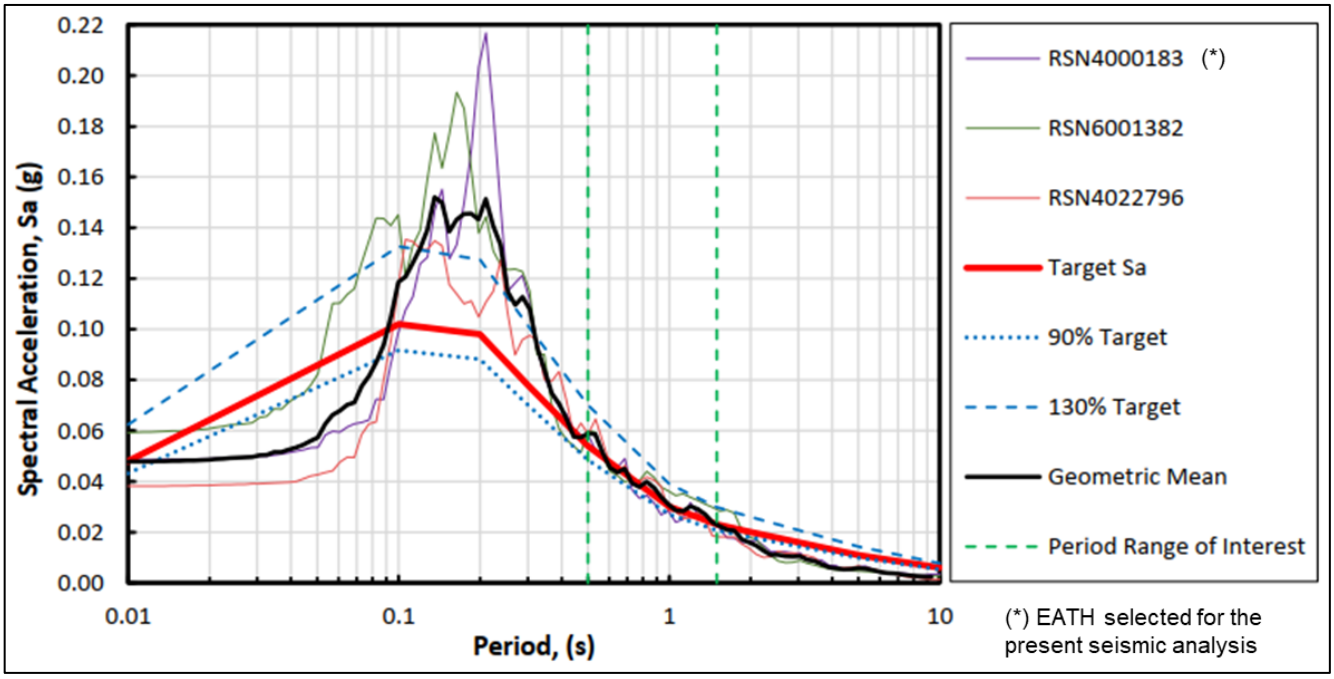
Earthquake ground motions were reported as 5%-damped, mean uniform hazard acceleration response spectra at annual exceedance probabilities (AEPs) of 1/1,000, 1/2,475, 1/5,000, and 1/10,000 for the site-specific average shear wave velocity in the 30 m below ground surface (V_{s30}) of 849 m/s. Deaggregation results show that both, near-field, moderate-magnitude earthquakes, and far-field subduction interface earthquakes contribute to the site seismic hazard. The shallow crustal earthquakes sources are dominated by moderate-magnitude earthquakes (**M**6.0 to **M**6.5) close to the site (i.e. <60 km) at all AEPs. The contribution to hazard at the site from Cascadia subduction zone sources is from large earthquakes (**M**8+) at 450 km to 550 km from these at all AEPs and spectral periods of interest. Eleven two-horizontal-component earthquake acceleration time histories (EATHs; 22 records) were developed using amplitude scaling to the site-specific 1/2,475 AEP uniform hazard acceleration response spectrum within the period range of interest of 0.5 to 1.5 seconds. These 22 EATHs were developed with eight two-component (16) records from crustal earthquakes and three two-component (6) subduction interface earthquake records. Figure 8 and Figure 9 show the response spectra of one component of the individual scaled EATHs compared with the target spectrum for both crustal and subduction interface motion, respectively.

Following the design criteria (WSP 2025a), earthquake ground motions with a return period of 2,475 years were selected for seismic analysis of the Mount Polley TSF site.



Source: WSP 2023.

Figure 8: Target Acceleration Response Spectrum and Response Spectra of Individual Crustal Earthquake Acceleration Time Histories



Source: WSP 2023.

Figure 9: Target Acceleration Response Spectrum and Response Spectra of Individual Subduction Interface Earthquake Acceleration Time Histories

9.0 SEISMIC ANALYSIS

The seismic analysis was carried out to further confirm the stability of the embankments under the 2,475-year earthquake loading. The following sections describe the finite difference models, simulation of the design earthquake, and the analysis results.

9.1 Finite Difference Models

The size of the elements used in the finite difference model have an impact on the solution time of the seismic analysis. The smaller the elements, the greater the solution time due to the increased number of elements and the reduced timestep. The finite difference models developed for the static analysis considered 0.125 m by 0.125 m elements for the GLU at the Main Embankment and UGLU at the Perimeter Embankment at Corner 1. The utilization of such element size for the seismic analysis leads to impractical solution times. Hence, the element size in the GLU was increased to 0.5 m by 0.5 m to perform the seismic analysis. The rationale behind this modification is presented in the following paragraphs.

The selection of the elements size used for the GLU in the static analysis is based on the results of the 3D deformation analyses that suggest that strain localization in a shear band with a thickness not exceeding 12 cm to 13 cm was requisite for the initiation of the breach at the Mount Polley TSF in 2014 (Zabolotnii 2020). A level of conservatism is introduced in a 2D deformation analysis when adopting the same element size for the GLU since the 3D stability effects are not included.

The finite difference model developed for the Perimeter Embankment at Corner 1 in Section 7.1 was modified to evaluate the mesh size sensitivity and the degree of conservatism incorporated when using different element sizes for the UGLU. The model was adjusted to represent the geometry, groundwater conditions, and construction sequence of the embankment up to when it failed in 2014 at an approximate crest elevation of 969 m. The staged construction was simulated using different element sizes for the UGLU from 0.125 m to 1 m. Figure 10 shows a summary of the analysis results. An element size of 0.5 m still adds a degree of conservatism to the solution while allowing for reasonable solution times for the seismic analysis.

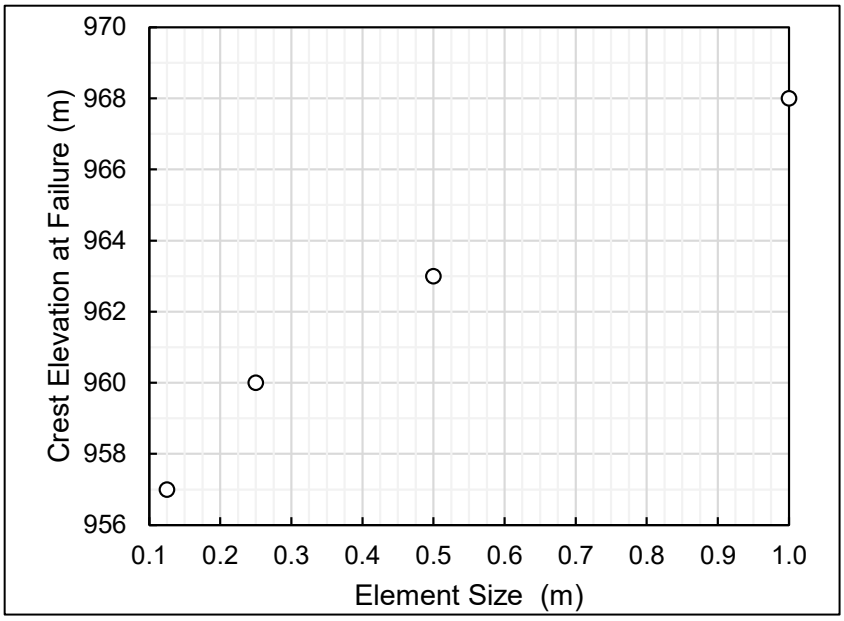


Figure 10: Mesh Sensitivity of the Modified Perimeter Embankment at Corner 1 Finite Difference Model

9.2 Conditions Prior to Application of Seismic Loading

The pre-seismic stress conditions in the embankments and foundation were estimated by simulating the staged construction of the embankments up to elevation 987 m, using 0.5 m by 0.5 m elements in the GLU. The assumed groundwater conditions include a 100 m tailings beach upstream of the embankment, as shown in Figure 11 and Figure 12. Hydrostatic conditions were assumed below the water table.

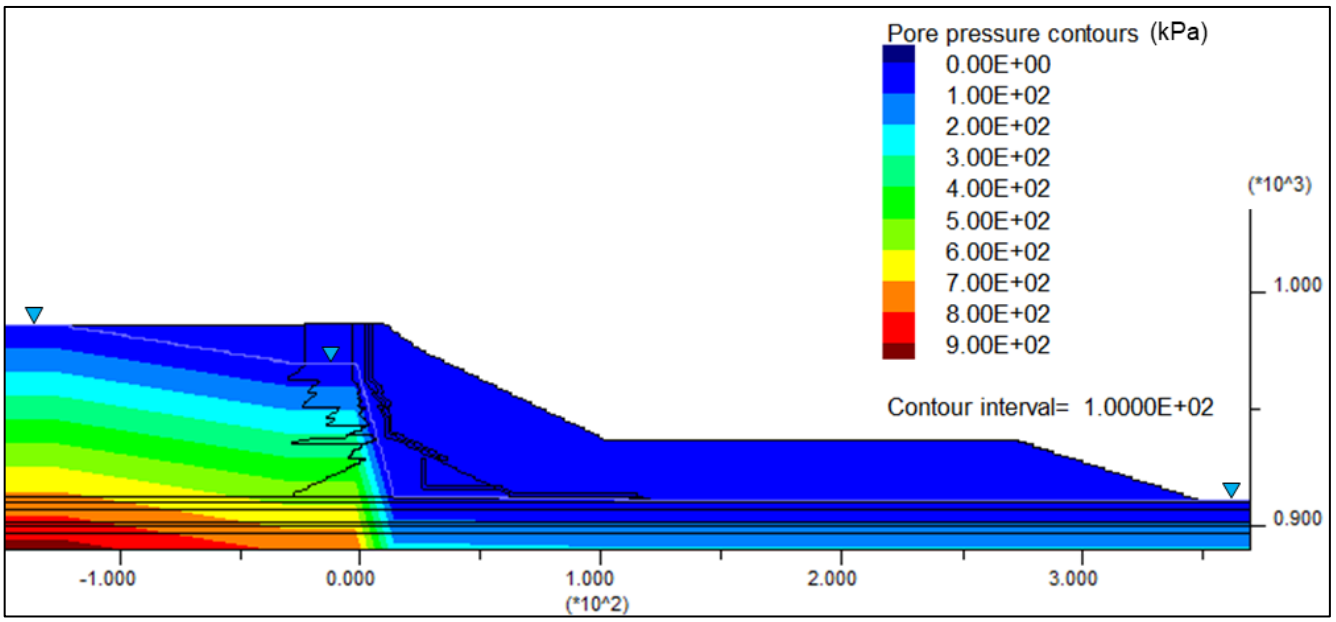


Figure 11: Assumed Pre-Seismic Groundwater Conditions, Section 2+055 – Main Embankment

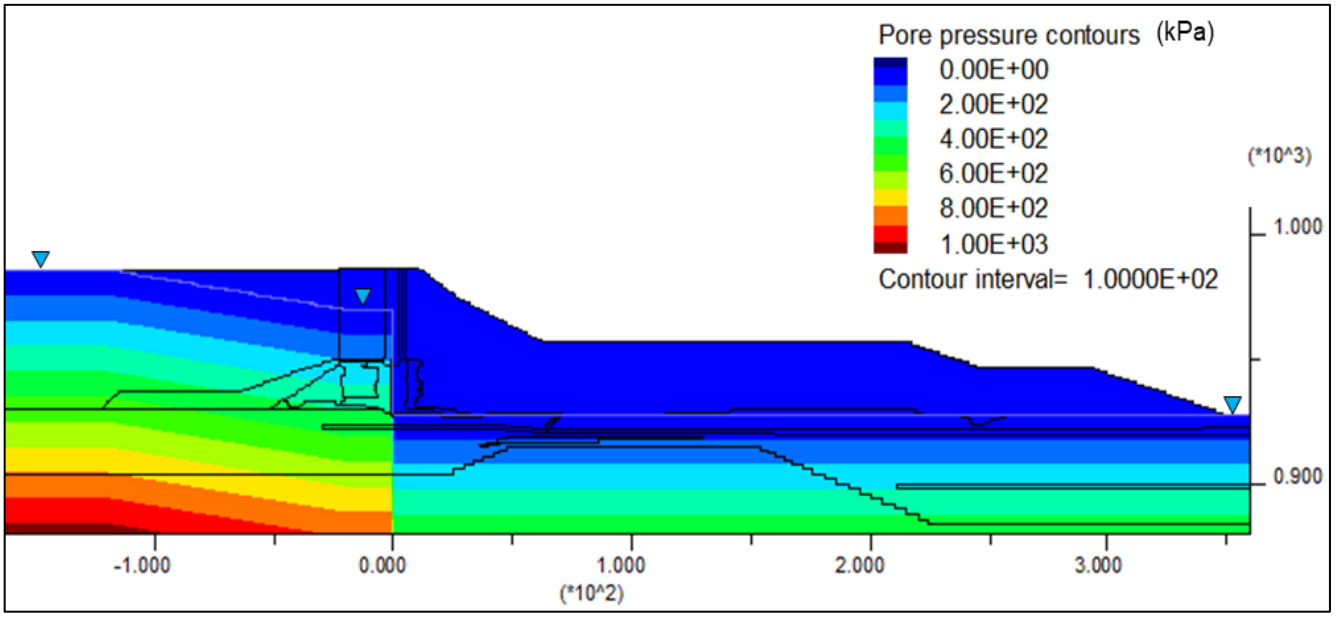


Figure 12: Assumed Pre-Seismic Groundwater Conditions, Section 4+175 – Perimeter Embankment at Corner 1

9.3 Simulation of the Design Earthquake

The response of the embankments to the design earthquake was simulated by using the earthquake acceleration time histories (EATHs) with a return period of 2,475 years as input ground motions at the base of the models. The polarity (sign) of each input ground motion was inverted and the analysis repeated to assess the effect of earthquake directionality on the embankment's seismic response. Direct polarity (DP) refers to the earthquake acting in one direction and reverse polarity (RP) to the opposite direction.

For the simulation of the design earthquake loading, the bottom boundaries of the model were assigned as quiet (flexible base) and the lateral boundaries as free-field.

9.4 Analysis Results

The following sections present the results of the seismic analysis carried out on sections at Sta. 2+055 of the Main Embankment (Figure 13 and Figure 14) and Sta. 4+175 of the Perimeter Embankment at Corner 1 (Figure 15 and Figure 16).

Predicted displacement-time histories at selected points of the embankment are presented to assess the stability of the embankments at the end of earthquake shaking. Contours of predicted horizontal and vertical seismic displacements at the end of earthquake shaking are presented to evaluate potential deformation mechanisms. Contours of accumulated plastic shear strains during seismic loading are presented to evaluate the potential for strain-weakening in the GLU. Contours of excess pore water pressure ratio are presented to identify where liquefaction was predicted. The excess pore water pressure ratio, $r_u = \Delta u/\sigma'_{v0}$, is defined as the ratio between the excess pore water pressure (Δu) developed during cyclic loading and the initial vertical effective stress (σ'_{v0}). Full liquefaction occurs when the excess pore water pressure developed during cyclic loading is equal to the initial vertical effective stress ($r_u = 100\%$). However, r_u values greater than about 70% are typically high enough to induce significant soil softening and weakening. Zones where r_u exceeds 70% are referred herein as liquefied even though full liquefaction was not reached.

For ease of presentation, only the displacement-time histories of EATHs that resulted in the maximum horizontal displacement at the downstream edge of the crest (P2 in Figure 13 and Figure 15) were highlighted for each seismic source. Similarly, contours plots of displacements, plastic shear strains, and excess pore water pressure ratio are presented only for the one EATH that resulted in the maximum horizontal displacement at the downstream edge of the crest. Attachment 2 presents the results obtained using all EATHs with both polarities.

9.4.1 Predicted Main and Perimeter Embankment Deformations

The displacement-time histories show that the movement of both sections analysed stop at the end of earthquake shaking, indicating that the embankment in both analysed sections is stable at the end of the earthquake design ground motions (see Figure 13 and Figure 15).

The maximum permanent horizontal and vertical displacement predicted in the embankments and buttresses is less than 6 cm. The serviceability of the embankment is not expected to be affected by this level of displacements.

9.4.2 GLU Plastic Shear Strains and Potential Strength Weakening

Main Embankment – Section 2+055

Predicted plastic shear strains accumulated during earthquake shaking are less than 1% in the GLU (seismic only) (see Figure 14c). The maximum plastic shear strains predicted in the GLU were about 2.5% at the end of construction of the Main Embankment up to elevation 987 m (see Figure 6b). The predicted total plastic shear strains (static plus seismic) are less than 3.5%. Hence, the weakening process is not expected to be initiated in the GLU at the Main Embankment during the earthquake design ground motions. The peak undrained shear strength is not fully mobilized (i.e., zero plastic shear strain) in the GLU below the downstream buttress.

Perimeter Embankment at Corner 1 – Section 4+175

Predicted plastic shear strain during earthquake shaking is less than 1% in the UGLU (see Figure 16c), which corresponds to less than 1% strength reduction (seismic only) in the shear band where the weakening process was initiated during the construction of the embankment up to elevation 987 m (see Figure 7b). This level of strain-weakening is not expected to have a significant impact on the seismic stability of the embankment at Corner 1.

Predicted plastic shear strain during earthquake shaking is less than 0.5% in the UGLU below the downstream slope of the buttress. The static analysis did not predict development of plastic shear strains at this location during construction of the embankment up to elevation 987 m. Hence, initiation of the weakening process is not expected in the UGLU below the downstream slope of the buttress during the earthquake design ground motions. The peak undrained shear strength is not fully mobilized (i.e., zero plastic shear strain) in the rest of the GLU below the downstream buttress.

9.4.3 Predicted Excess Pore Water Pressure Ratio

The tailings below the water table, down to about elevation 960 m, were predicted to fully liquefy (r_u > 70%) by the end of the subduction interface SN4000183_EW_DP motion, for both sections analysed. The excess pore water pressure predicted in the upstream fill is less than 60% and is not expected to liquefy.

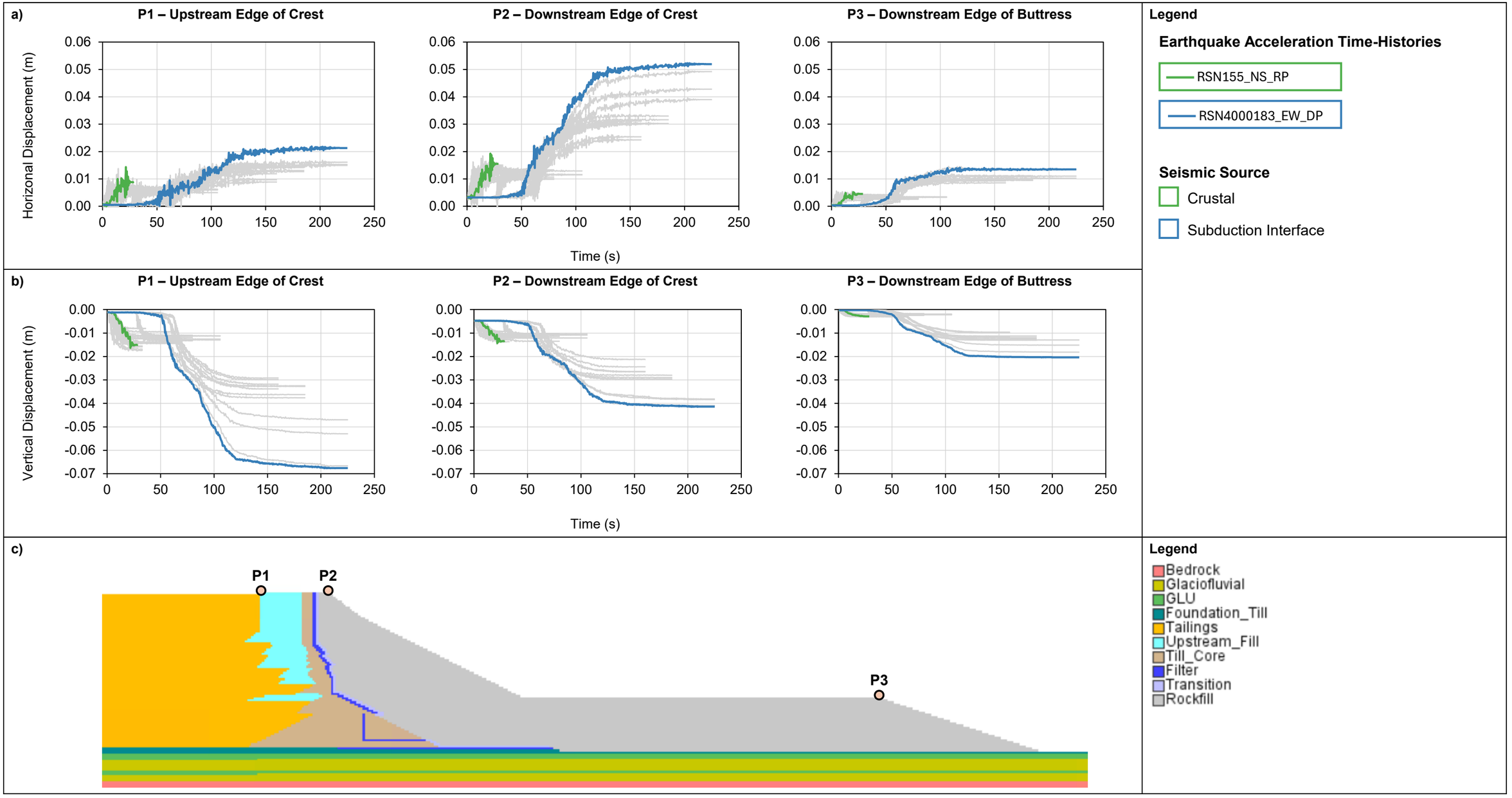
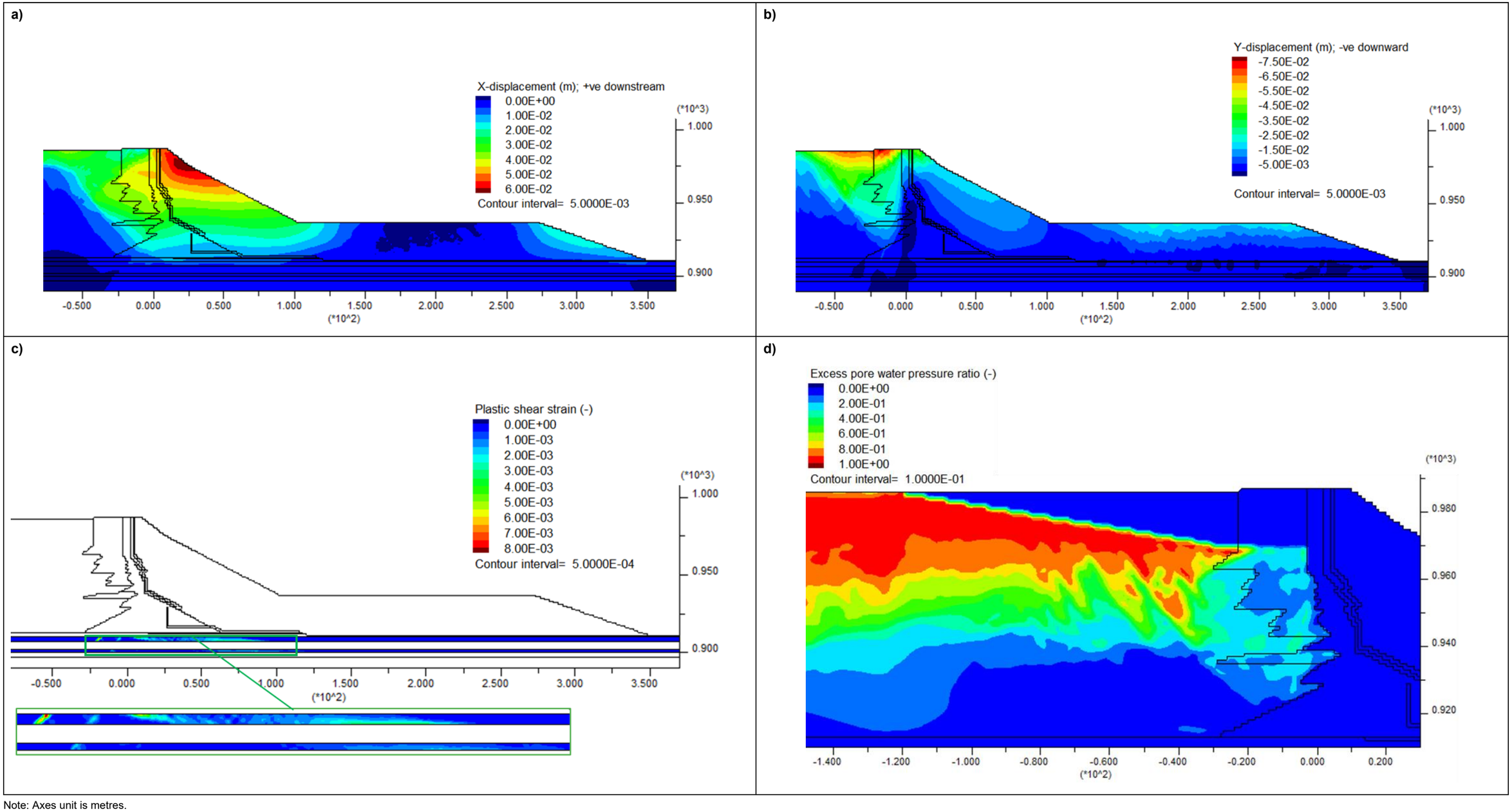


Figure 13: Seismic Analysis Results for the Main Embankment – Section 2+055: a) Horizontal Displacement-Time Histories, b) Vertical Displacement-Time Histories, and c) Selected Points Location



Note: Axes unit is metres.

Figure 14: Seismic Analysis Results for the Main Embankment – Section 2+055 at the End of the Subduction Interface EATH RSN4000183EW with Direct Polarity: a) Contours of Horizonal Permanent Seismic Displacement, b) Contours of Vertical Permanent Seismic Displacement, c) Contours of Permanent Seismic Plastic Shear Strains, and d) Contours of Excess Pore Water Pressure Ratio (r_u)

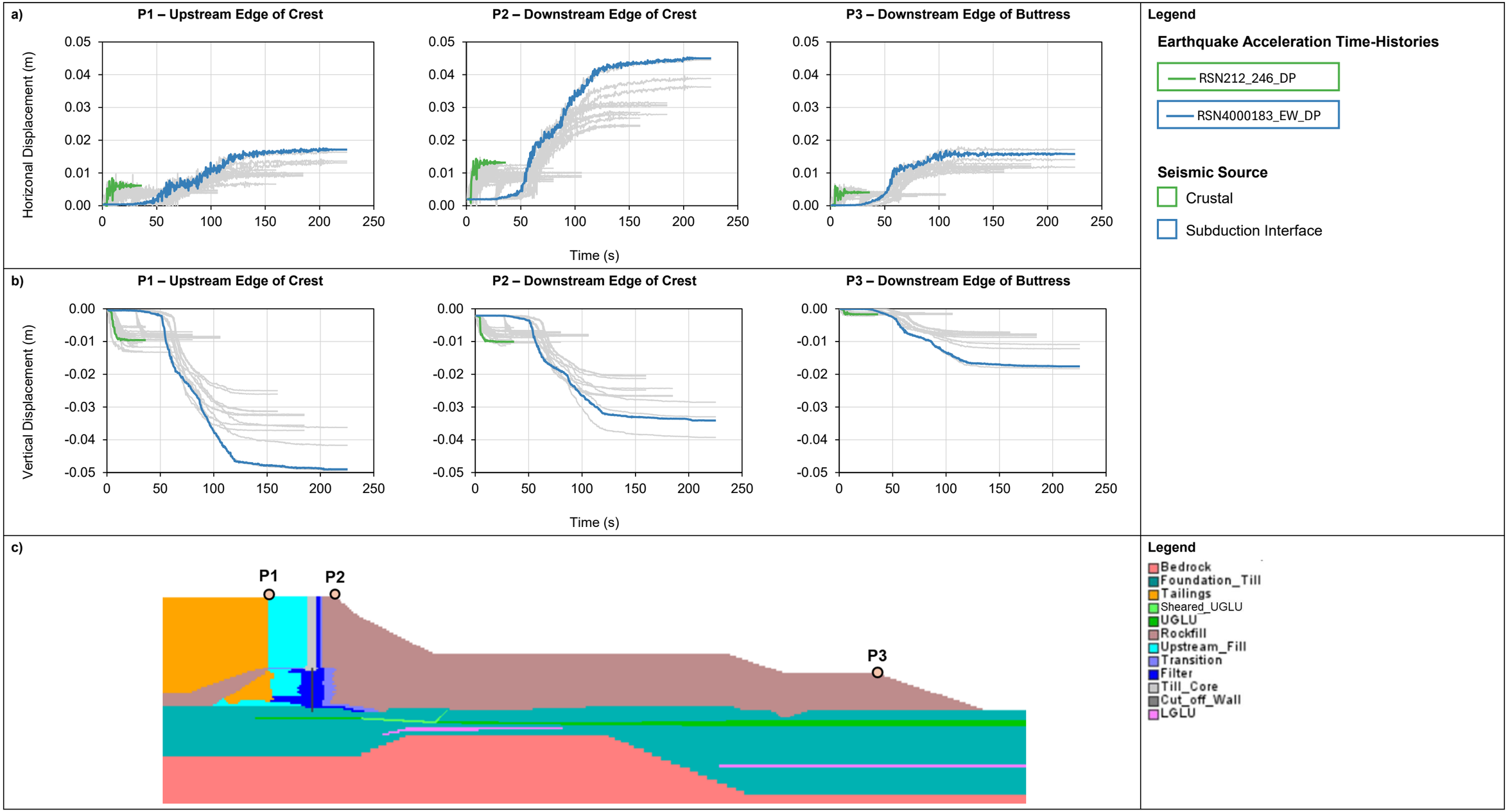
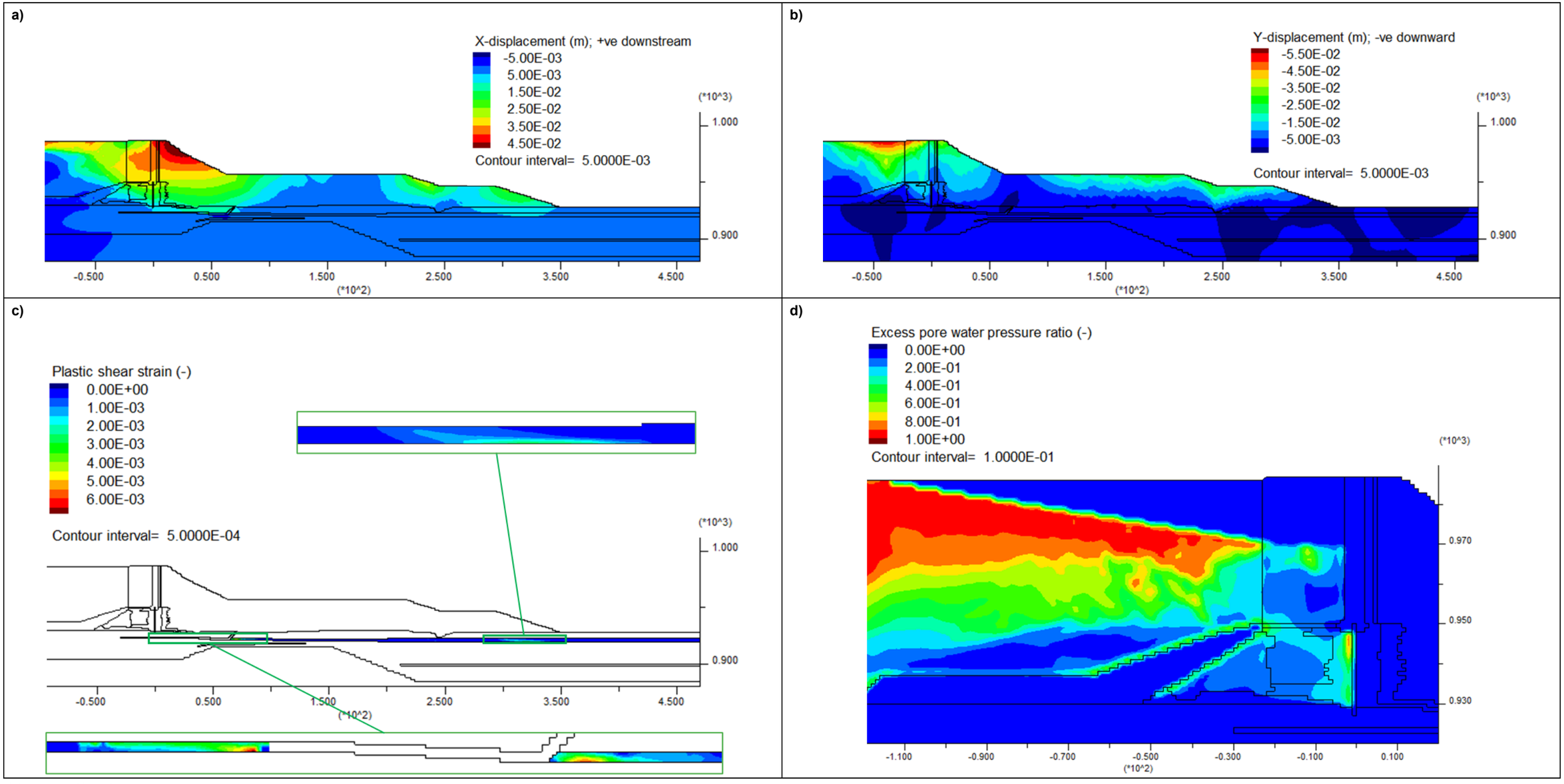


Figure 15: Seismic Analysis Results for the Perimeter Embankment at Corner 1 – Section 4+175: a) Horizontal Displacement-Time Histories, b) Vertical Displacement-Time Histories, and c) Selected Points Location



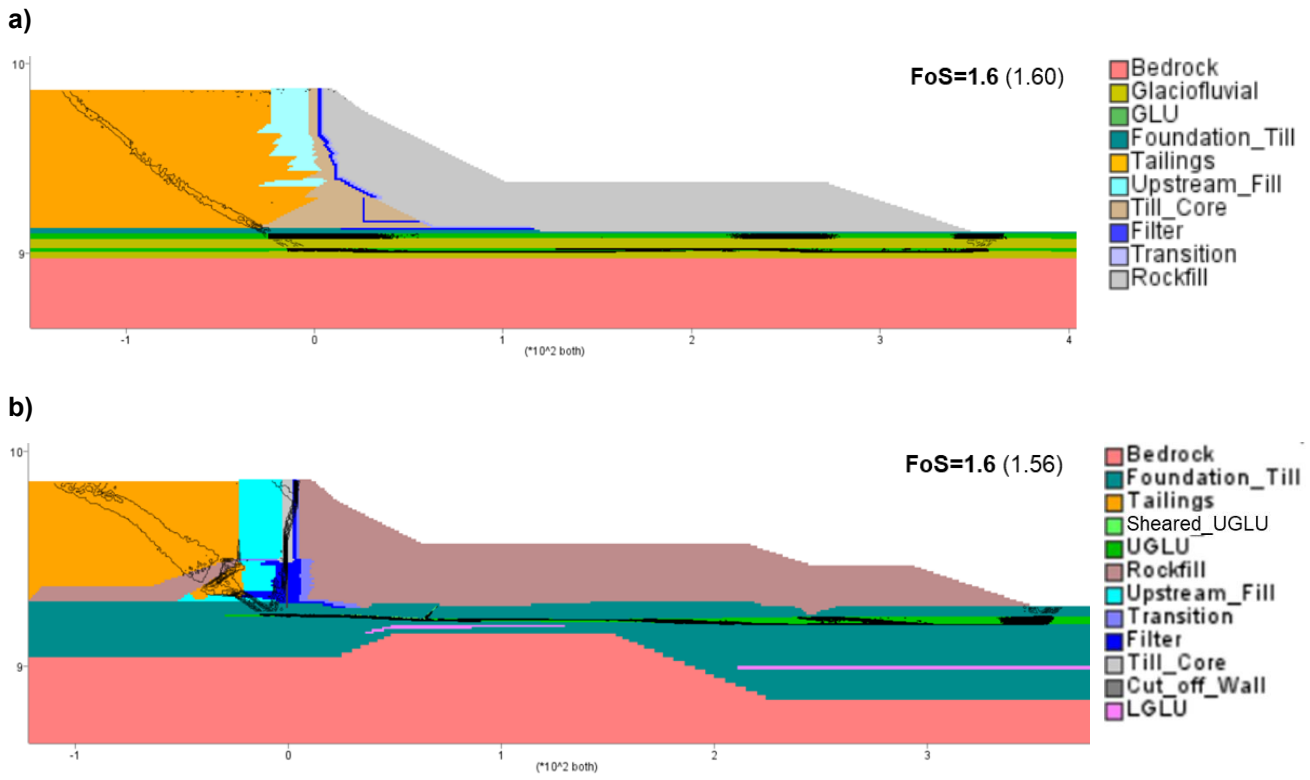
Note: Axes unit is metres.

Figure 16: Seismic Analysis Results for the Perimeter Embankment at Corner 1 – Section 4+175 at the End of the Subduction Interface EATH RSN4000183EW with Direct Polarity: a) Contours of Horizonal Permanent Seismic Displacement, b) Contours of Vertical Permanent Seismic Displacement, c) Contours of Permanent Seismic Plastic Shear Strains, and d) Contours of Excess Pore Water Pressure Ratio (r_u)

10.0 POST-SEISMIC ANALYSIS

The post-seismic stability of the sections at Sta. 2+055 of the Main Embankment and Sta. 4+175 of the Perimeter Embankment at Corner 1 was assessed by assigning the liquefied undrained strength ($S_{u\text{-}liq}$) to all the tailings below the water table. Then, the model was run to equilibrium and the FoS was computed using the strength reduction method. The tailings $S_{u\text{-}liq}$ was calculated using the liquefied undrained strength ratio ($S_{u\text{-}liq}/\sigma_{v0}'$) of 0.1 (WSP 2025a), where σ_{v0}' is the initial effective vertical stress.

The computed FoS for post-seismic loading conditions is 1.6 for the sections at Sta. 2+055 of the Main Embankment and Sta. 4+175 of the Perimeter Embankment at Corner 1, as shown in Figure 17.



Note: Axes unit is metres.

Figure 17: Predicted Factor of Safety for Post-Seismic Conditions: a) Main Embankment – Section 2+055, and b) Perimeter Embankment at Corner 1 – Section 4+175

11.0 CONCLUSIONS

Stress-deformation analyses were carried out on sections at Sta. 2+055 of the Main Embankment and Sta. 4+175 of the Perimeter Embankment at Corner 1 to support the detailed design for the raise of the TSF from elevation 974 m to 987 m. The analyses were performed to further confirm the stability of the embankments at the end of construction up to elevation 987 m (static analysis) and under the 2,475-year earthquake load (seismic analysis). Eleven two-horizontal-component earthquake acceleration time histories were used as input ground motions in the seismic analysis. The conclusions of the analyses are presented in the following sections.

11.1 Static Analysis

- Sections at Sta. 2+055 of the Main Embankment and Sta. 4+175 of the Perimeter Embankment at Corner 1 are predicted to be stable at the end of construction up to elevation 987 m under the analysed conditions.
- The factor of safety computed at the end of construction is about 1.8 for section 2+055 of the Main Embankment and about 1.7 for section 4+175 of the Perimeter Embankment at Corner 1.
- Strain-weakening is not predicted in the GLU at section 2+055 of the Main Embankment during construction up to elevation 987 m.
- Assuming a constant 22 kPa undrained shear strength for the UGLU that sheared during the failure in 2014 (i.e., no inclusion of potential strength gains from reconsolidation), a shear band about 3 m long with a maximum plastic shear strain of about 16% is predicted to develop below the downstream slope at section 4+175 of the Perimeter Embankment at Corner 1. However, the predicted degree of strain-weakening is relatively low (about 13% strength reduction in a 3 m long shear band) and does not have a significant impact on the stability of the elevation 987 m embankment.

11.2 Seismic Analysis

- Sections at Sta. 2+055 of the Main Embankment and Sta. 4+175 of the Perimeter Embankment at Corner 1 are predicted to be stable under the action of the 2,475-year earthquake ground motion.
- The maximum permanent horizontal and vertical displacement in the downstream direction is less than 6 cm in the embankments and buttresses of both analysed sections under the action of the 2,475-year earthquake ground motion. The serviceability of the embankment is not expected to be affected by this level of displacement.
- Strain-weakening is not predicted in the GLU at section 2+055 of the Main Embankment under the action of the 2,475-year earthquake ground motion.
- Assuming a constant 22 kPa undrained shear strength for the UGLU that sheared during the failure in 2014 (i.e., no inclusion of potential strength gains from reconsolidation), a relatively low level of strain-weakening (less than 1% strength reduction during seismic loading) is predicted in the UGLU under the downstream slope at section 4+175 of the Perimeter Embankment at Corner 1, during the 2,475-year earthquake ground motion. This degree of weakening is not expected to have a significant impact on the seismic stability of the embankment.

11.3 Post-Seismic Analysis

- Sections at Sta. 2+055 of the Main Embankment and Sta. 4+175 of the Perimeter Embankment at Corner 1 are predicted to be stable under post-seismic conditions. The computed factor of safety is 1.6 for both analysed sections.

12.0 CLOSING

We trust the above meets your present requirements. If you have any questions or comments, please contact the undersigned.

WSP Canada Inc.



Andrés Torres, P.Eng.
Principal Geotechnical Engineer



Germán Pizarro, P.Eng.
Principal Geotechnical Engineer

AT/GP/ah/anr

Attachments: Attachment 1: Model Construction Sequence
Attachment 2: Seismic Analyses Results

https://wsponline.sharepoint.com/sites/gld-10023g/2025 deliverables1/ca0047730.8440 deliverables/002_issued/033-tm-51293-numerical model report 987/rev1/ca0047730.8440-033-tm-rev1-51293-numerical model report 987 17jul_25.docx

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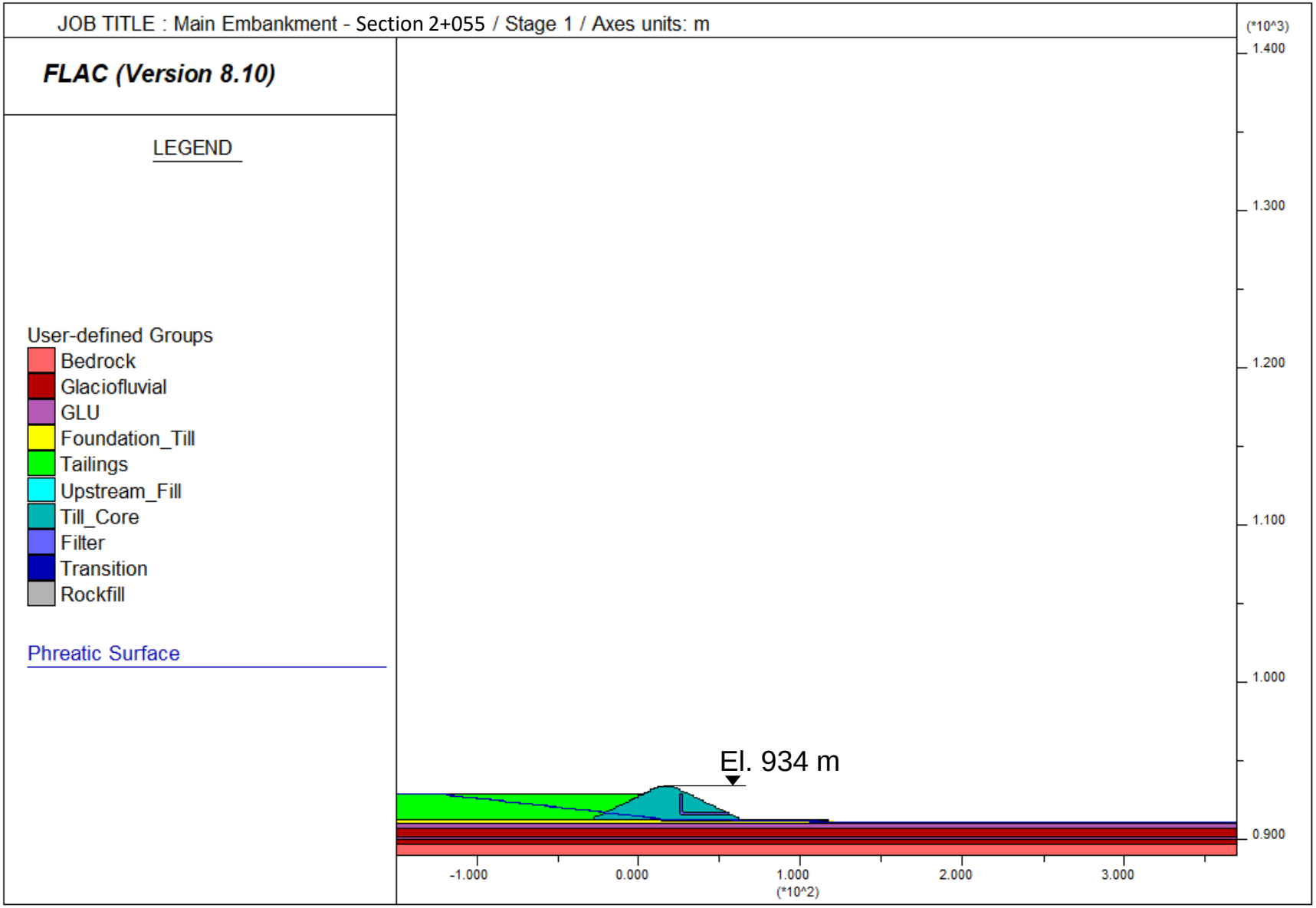
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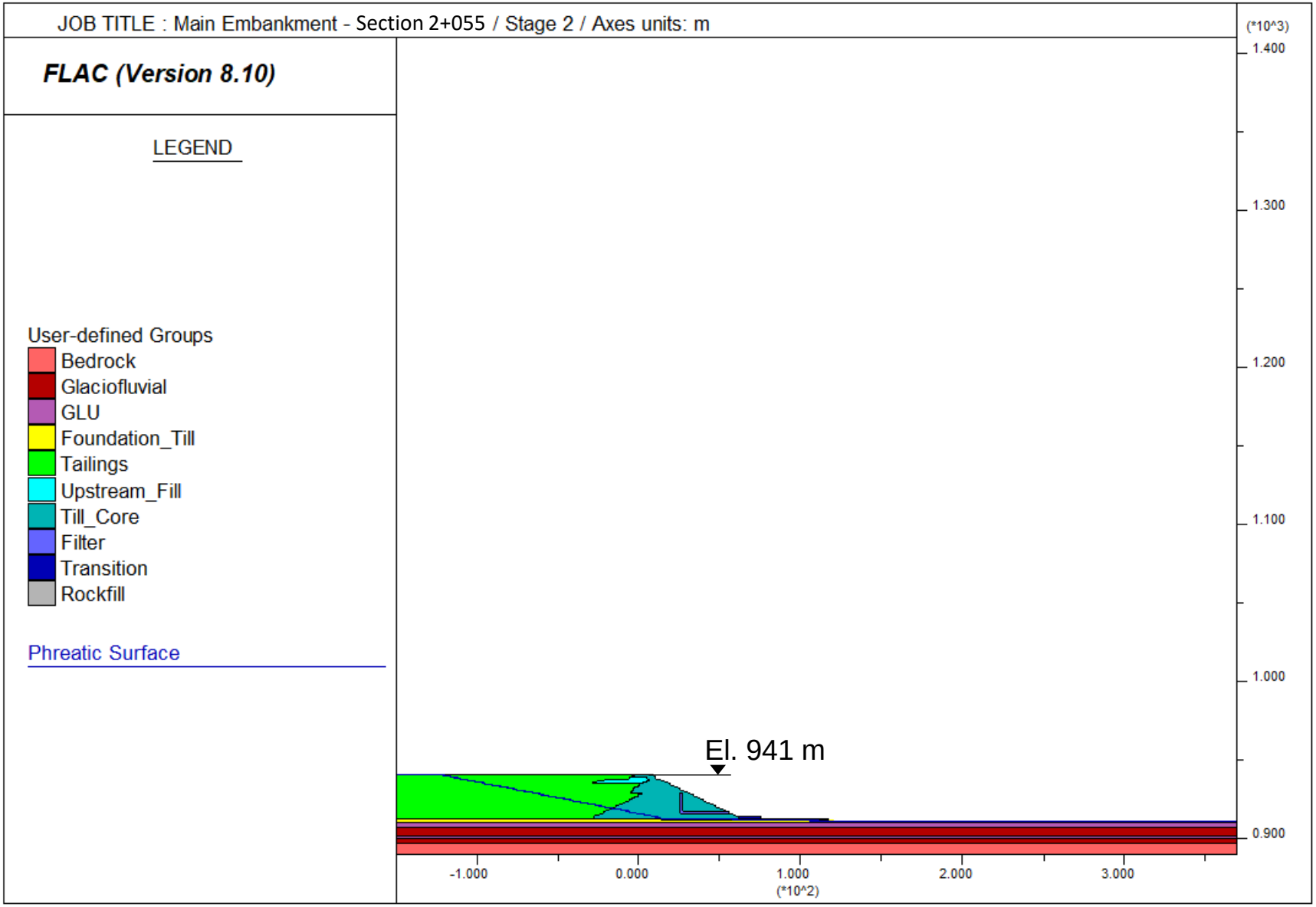
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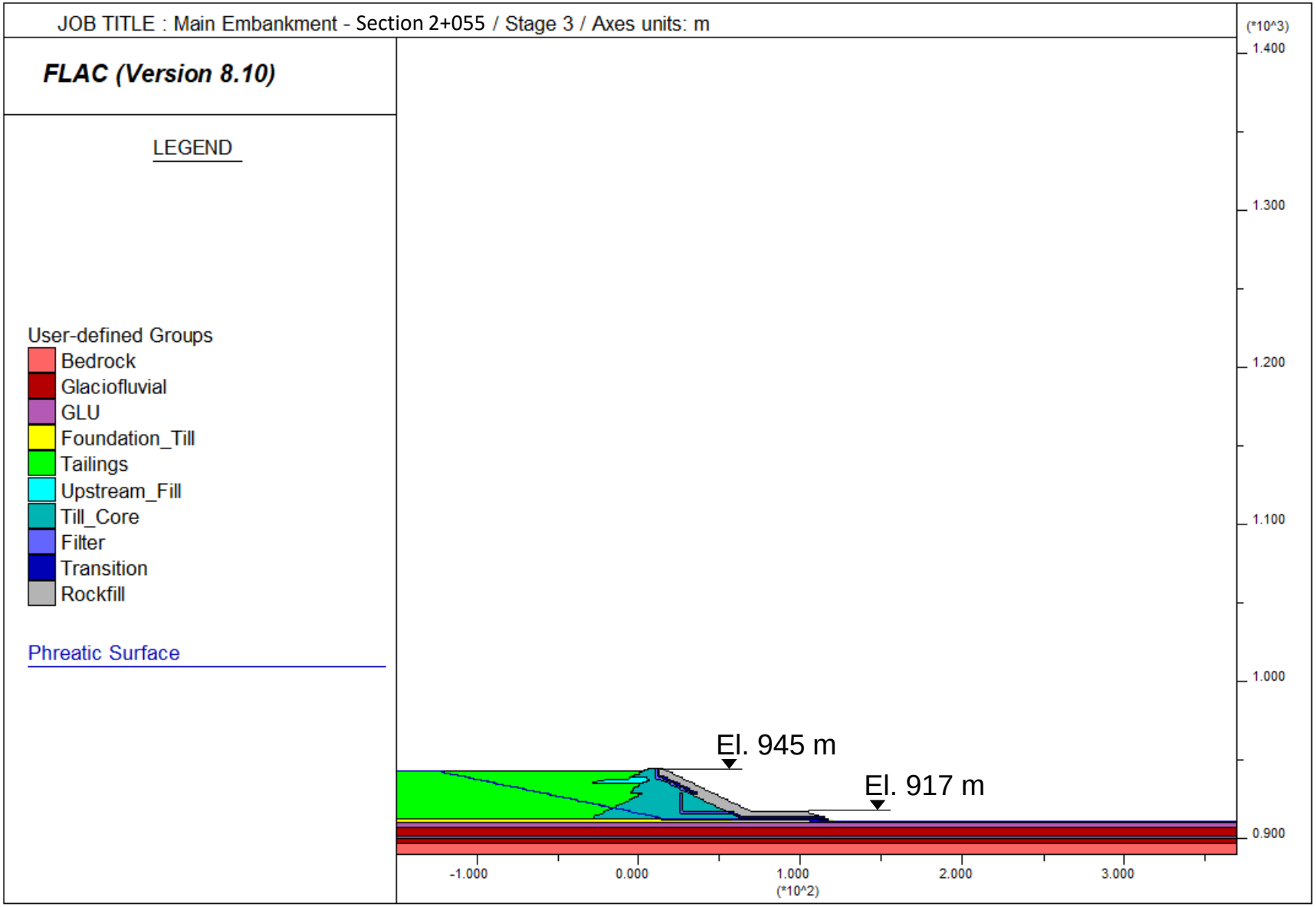
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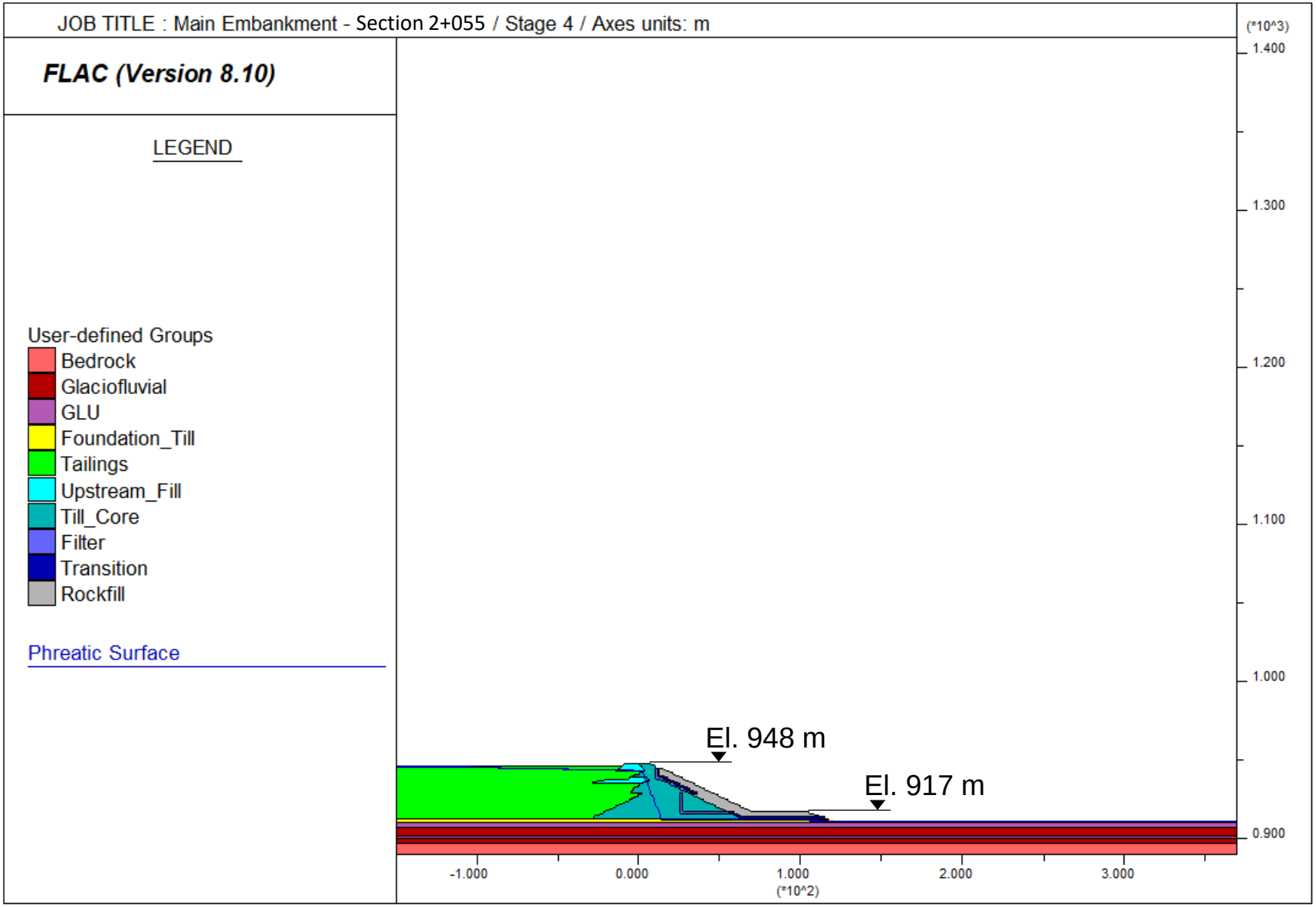
Model Construction Sequence

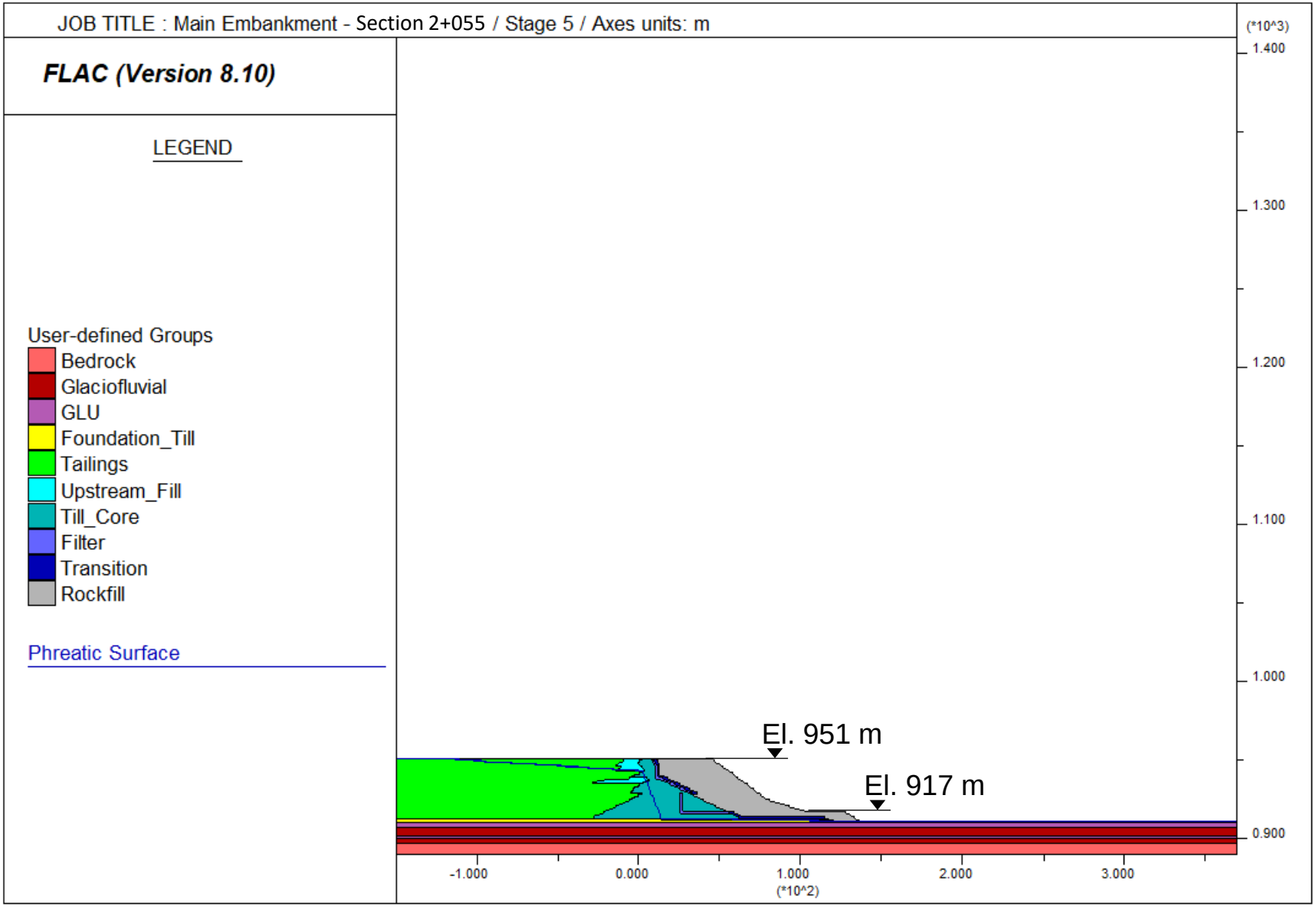
Main Embankment - Section 2+055

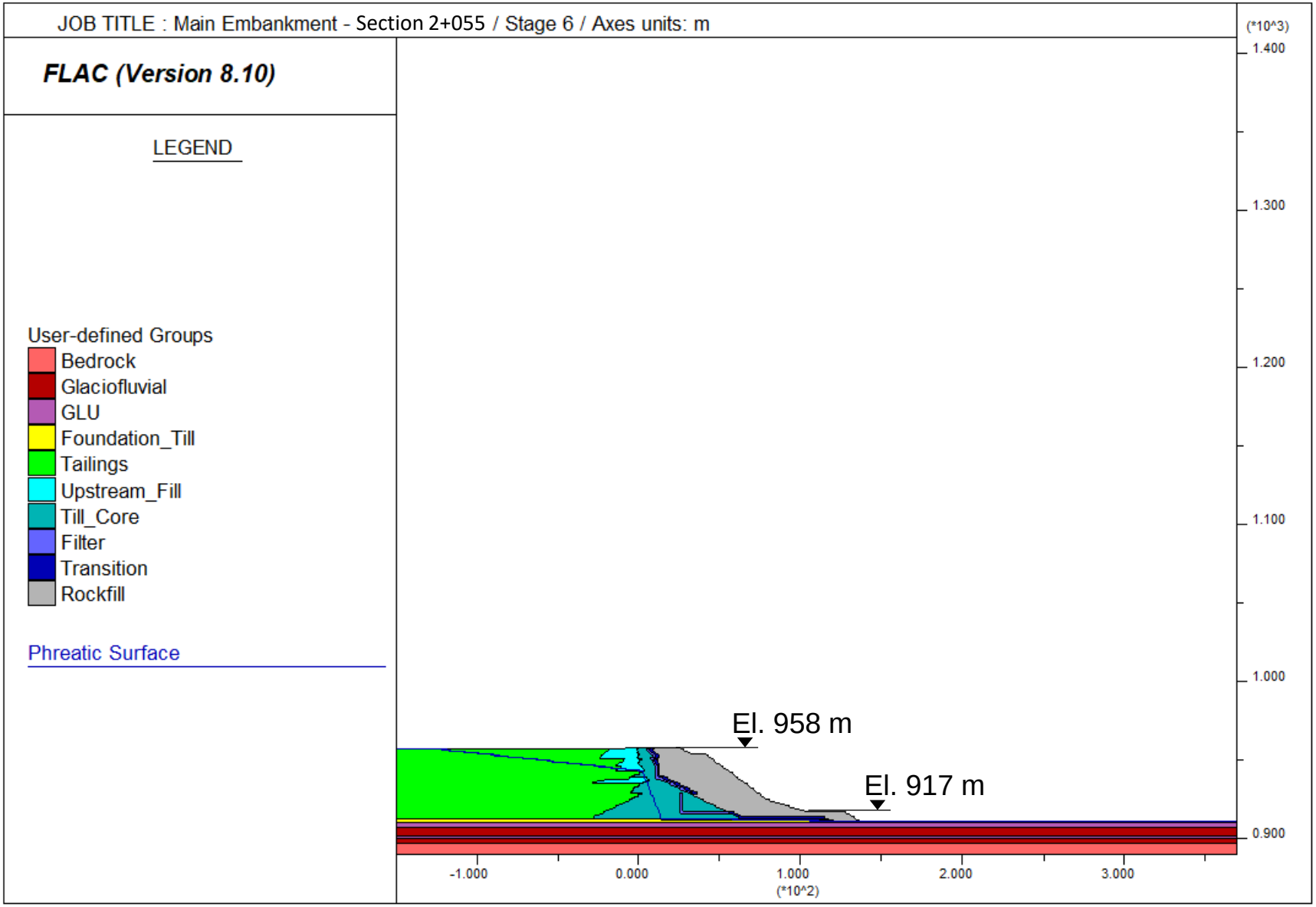

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Glaciofluvial
GLU
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Tailings
Upstream_Fill
Till_Core
Filter
Transition
Rockfill
Phreatic Surface
El. 934 m
(*10^3)
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1.300
1.200
1.100
1.000
0.900
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0.000
1.000
2.000
3.000
(*10^2)

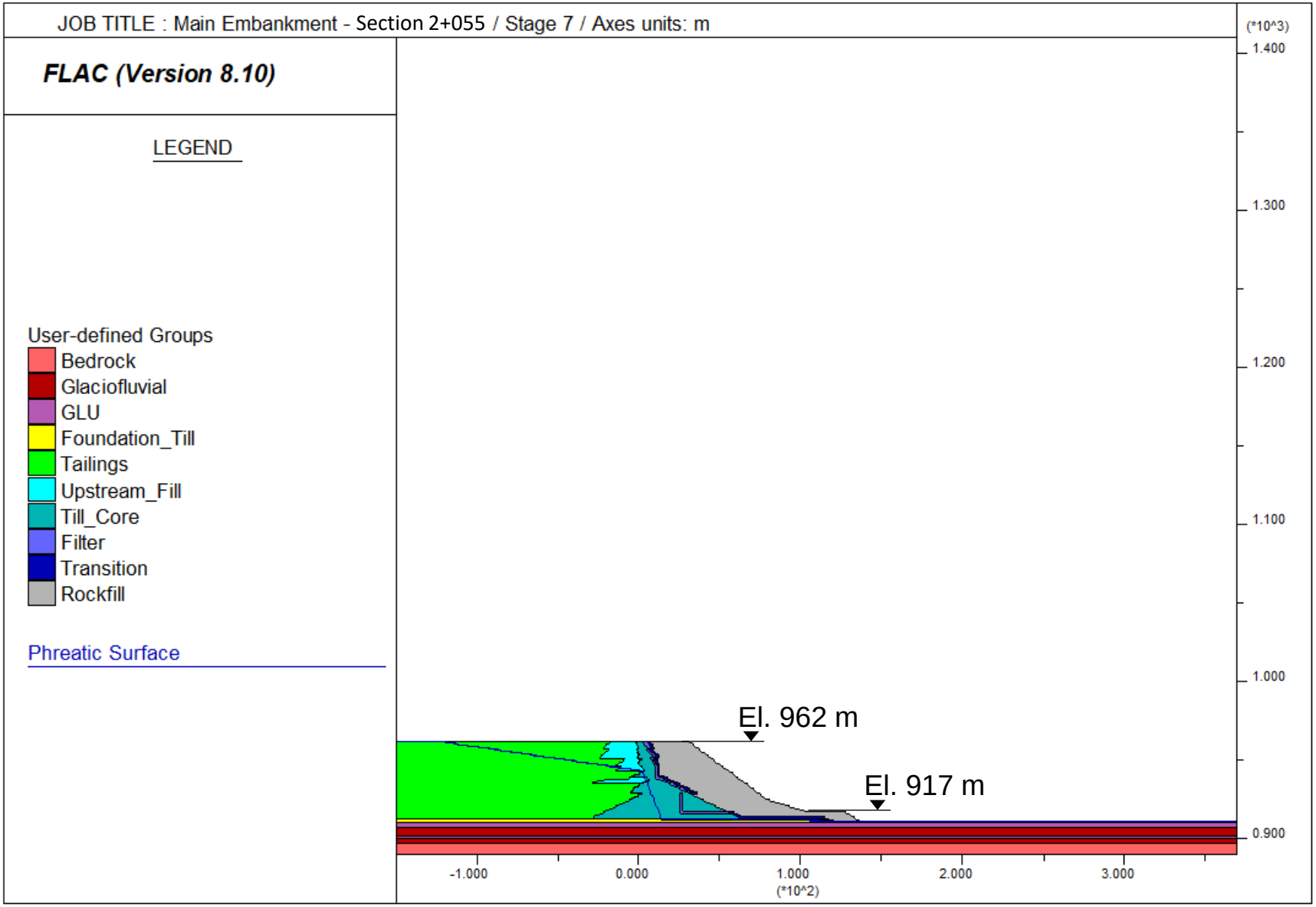

JOB TITLE : Main Embankment - Section 2+055 / Stage 2 / Axes units: m
FLAC (Version 8.10)
LEGEND
User-defined Groups
Bedrock
Glaciofluvial
GLU
Foundation_Till
Tailings
Upstream_Fill
Till_Core
Filter
Transition
Rockfill
Phreatic Surface
El. 941 m
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-1.000
0.000
1.000
2.000
3.000
(*10^2)

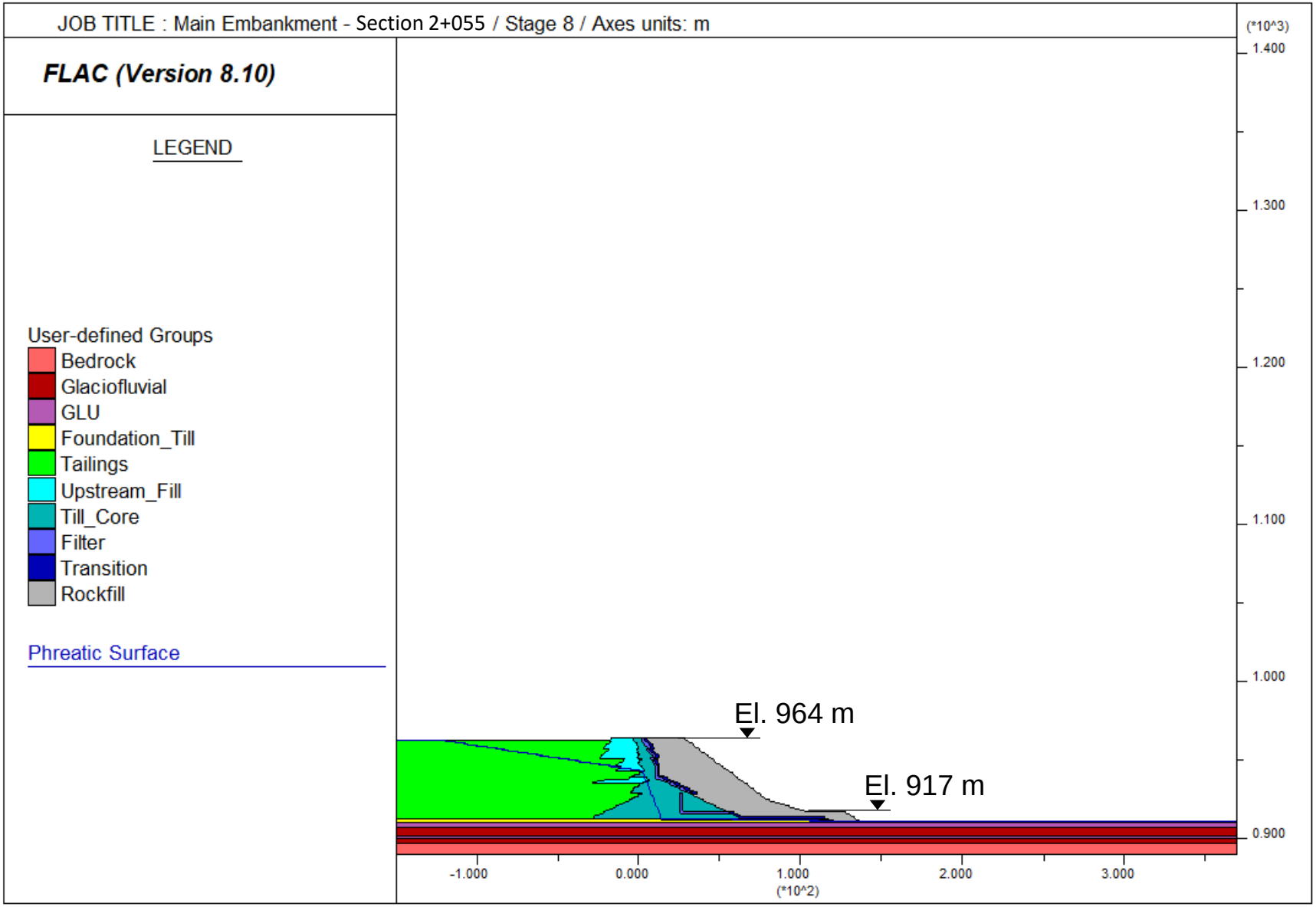

JOB TITLE : Main Embankment - Section 2+055 / Stage 3 / Axes units: m
FLAC (Version 8.10)
LEGEND
User-defined Groups
Bedrock
Glaciofluvial
GLU
Foundation_Till
Tailings
Upstream_Fill
Till_Core
Filter
Transition
Rockfill
Phreatic Surface
El. 945 m
El. 917 m
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-1.000
0.000
1.000
2.000
3.000
(*10^2)

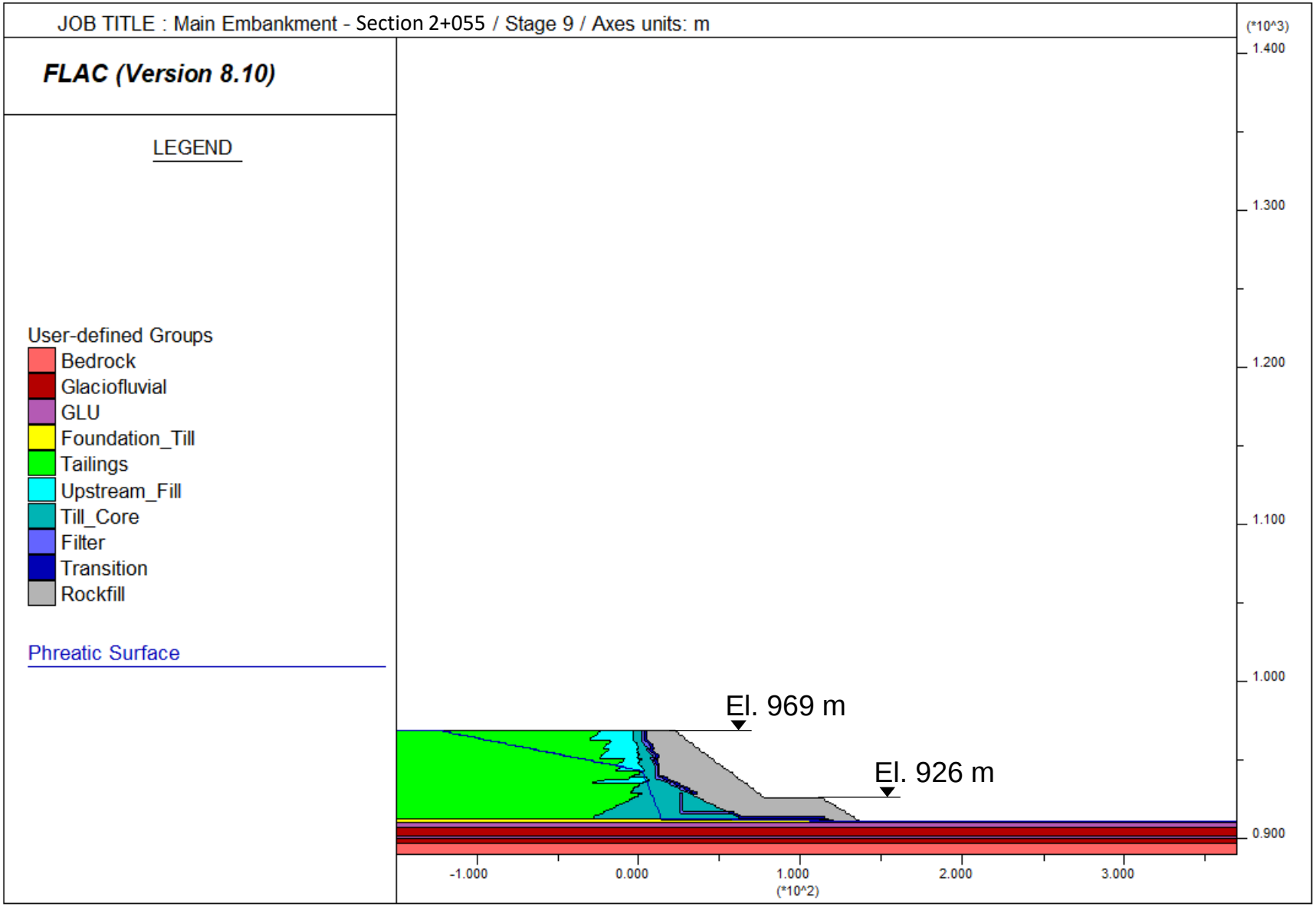

JOB TITLE : Main Embankment - Section 2+055 / Stage 4 / Axes units: m
FLAC (Version 8.10)
LEGEND
User-defined Groups
Bedrock
Glaciofluvial
GLU
Foundation_Till
Tailings
Upstream_Fill
Till_Core
Filter
Transition
Rockfill
Phreatic Surface
El. 948 m
El. 917 m
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-1.000
0.000
1.000
2.000
3.000
(*10^2)

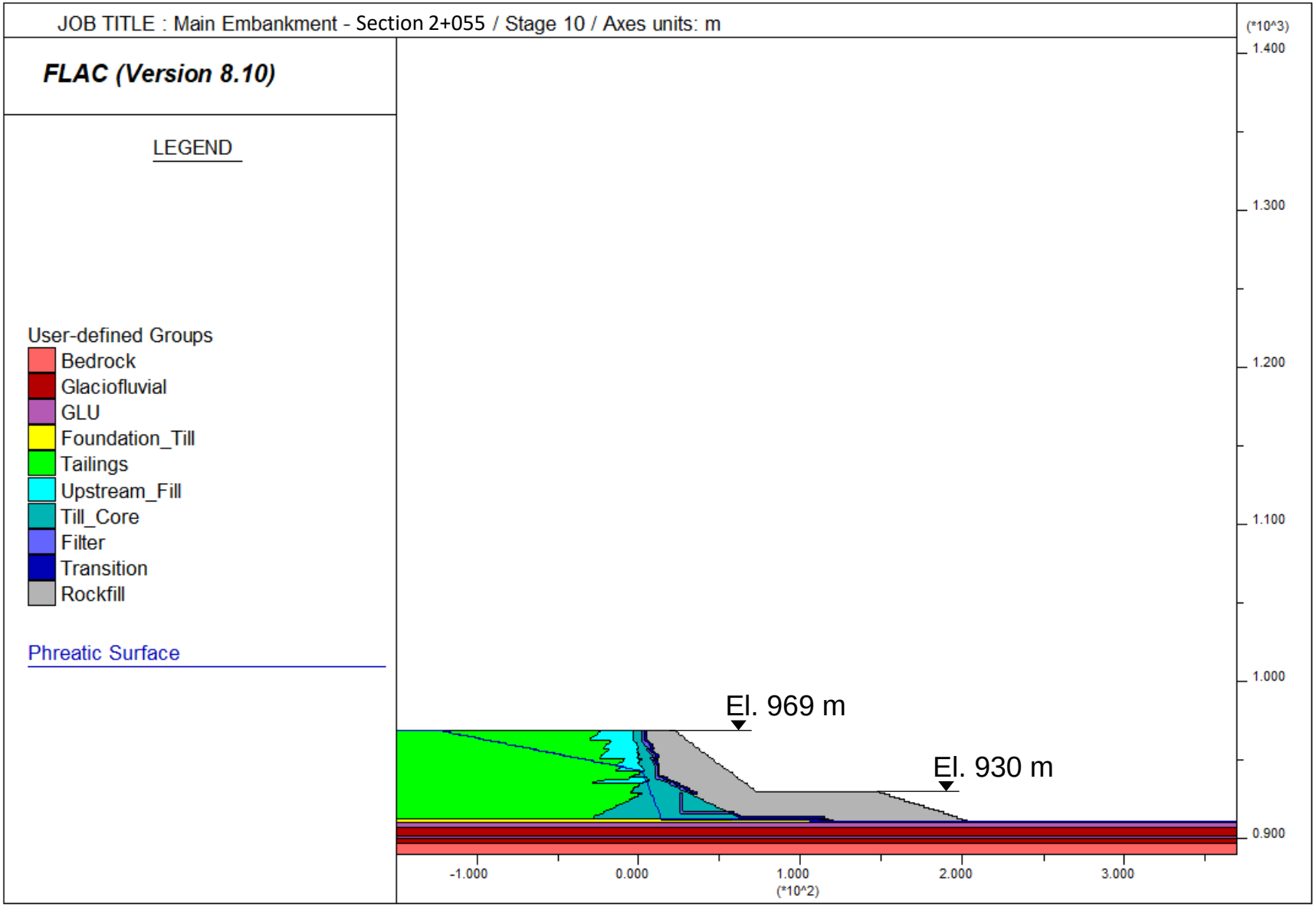

JOB TITLE : Main Embankment - Section 2+055 / Stage 5 / Axes units: m
FLAC (Version 8.10)
LEGEND
User-defined Groups
Bedrock
Glaciofluvial
GLU
Foundation_Till
Tailings
Upstream_Fill
Till_Core
Filter
Transition
Rockfill
Phreatic Surface
El. 951 m
El. 917 m
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-1.000
0.000
1.000
2.000
3.000
(*10^2)

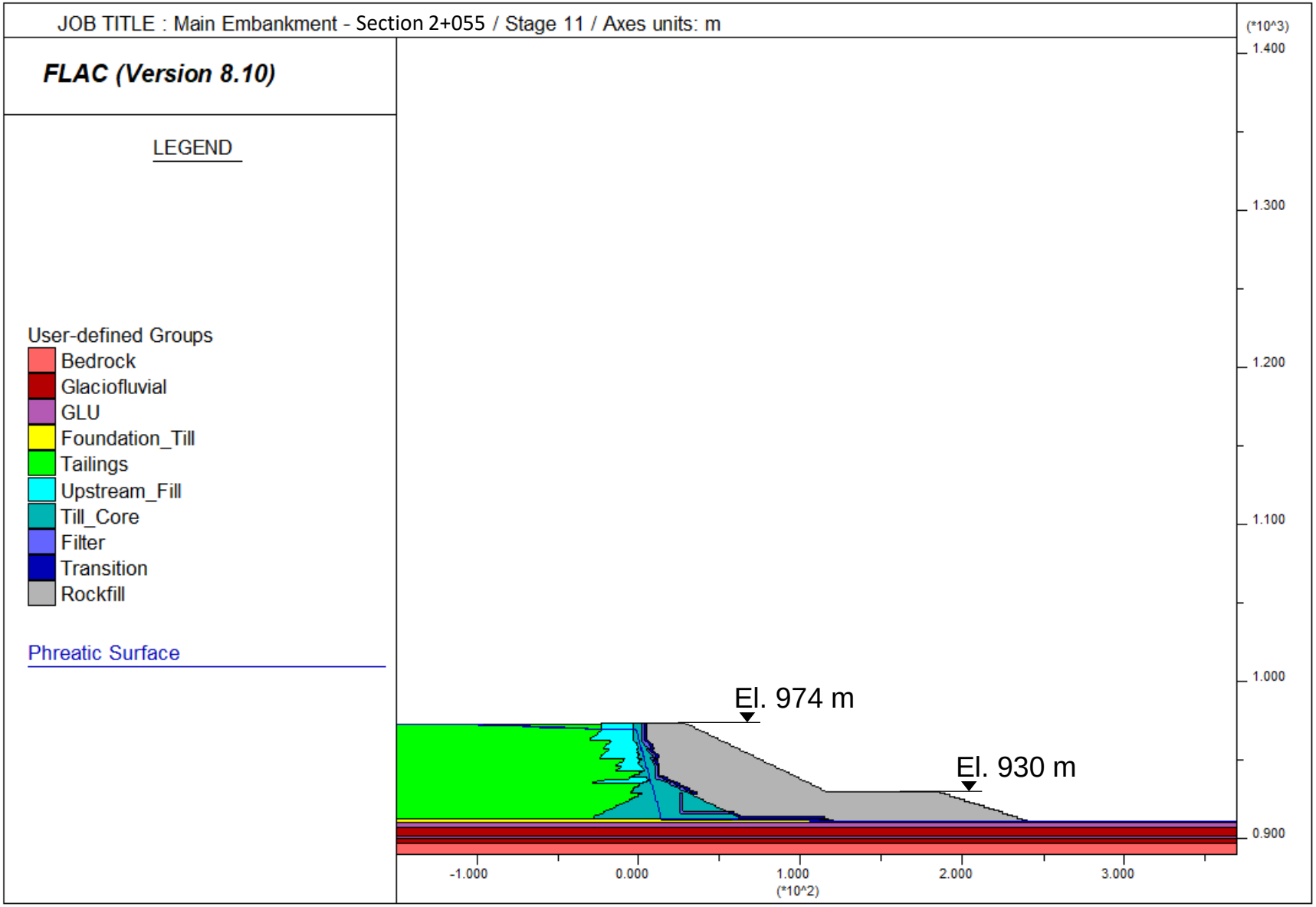

JOB TITLE : Main Embankment - Section 2+055 / Stage 6 / Axes units: m
FLAC (Version 8.10)
LEGEND
User-defined Groups
Bedrock
Glaciofluvial
GLU
Foundation_Till
Tailings
Upstream_Fill
Till_Core
Filter
Transition
Rockfill
Phreatic Surface
El. 958 m
El. 917 m
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-1.000
0.000
1.000
2.000
3.000
(*10^2)

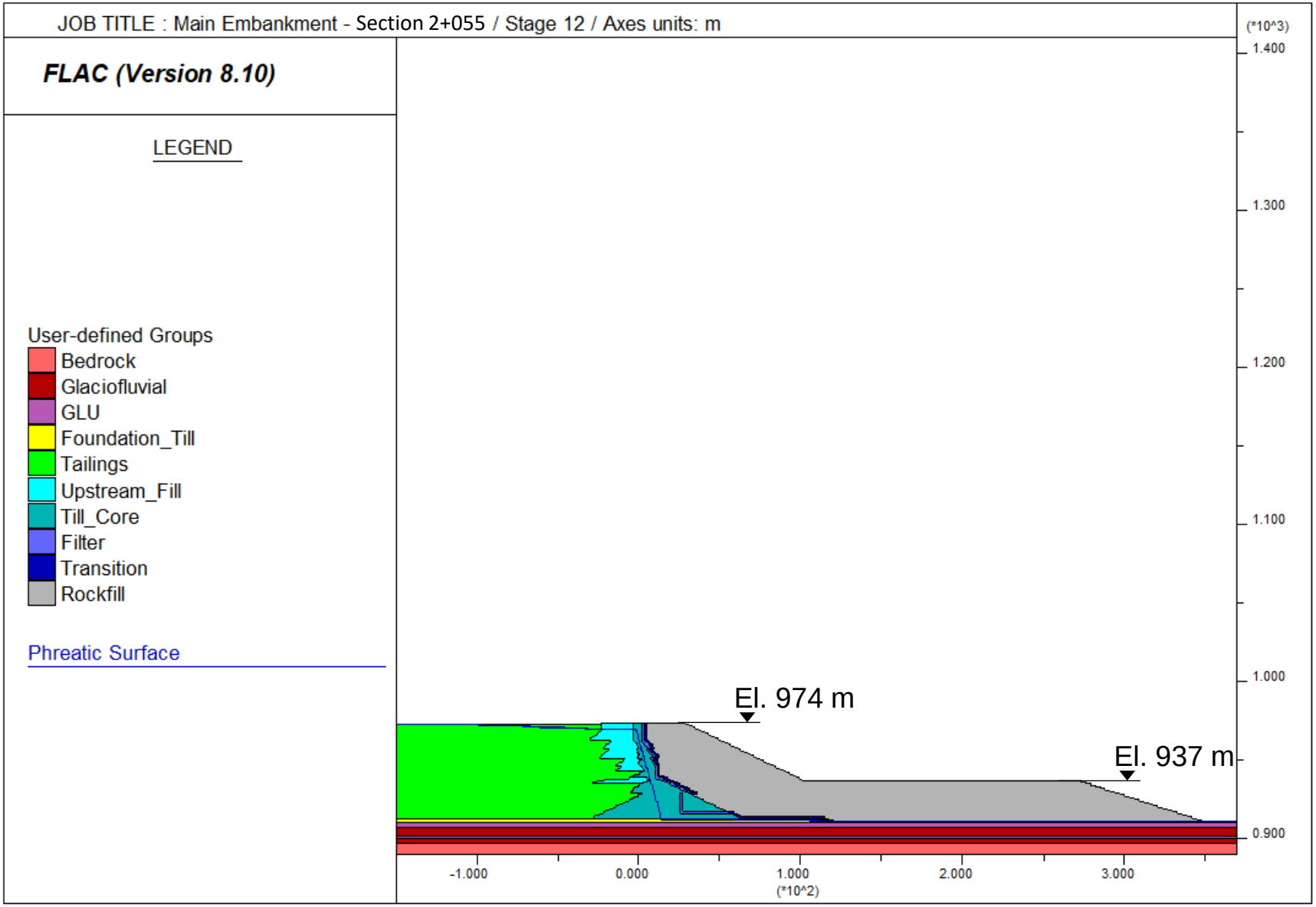

JOB TITLE : Main Embankment - Section 2+055 / Stage 7 / Axes units: m
FLAC (Version 8.10)
LEGEND
User-defined Groups
Bedrock
Glaciofluvial
GLU
Foundation_Till
Tailings
Upstream_Fill
Till_Core
Filter
Transition
Rockfill
Phreatic Surface
El. 962 m
El. 917 m
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-1.000
0.000
1.000
2.000
3.000
(*10^2)

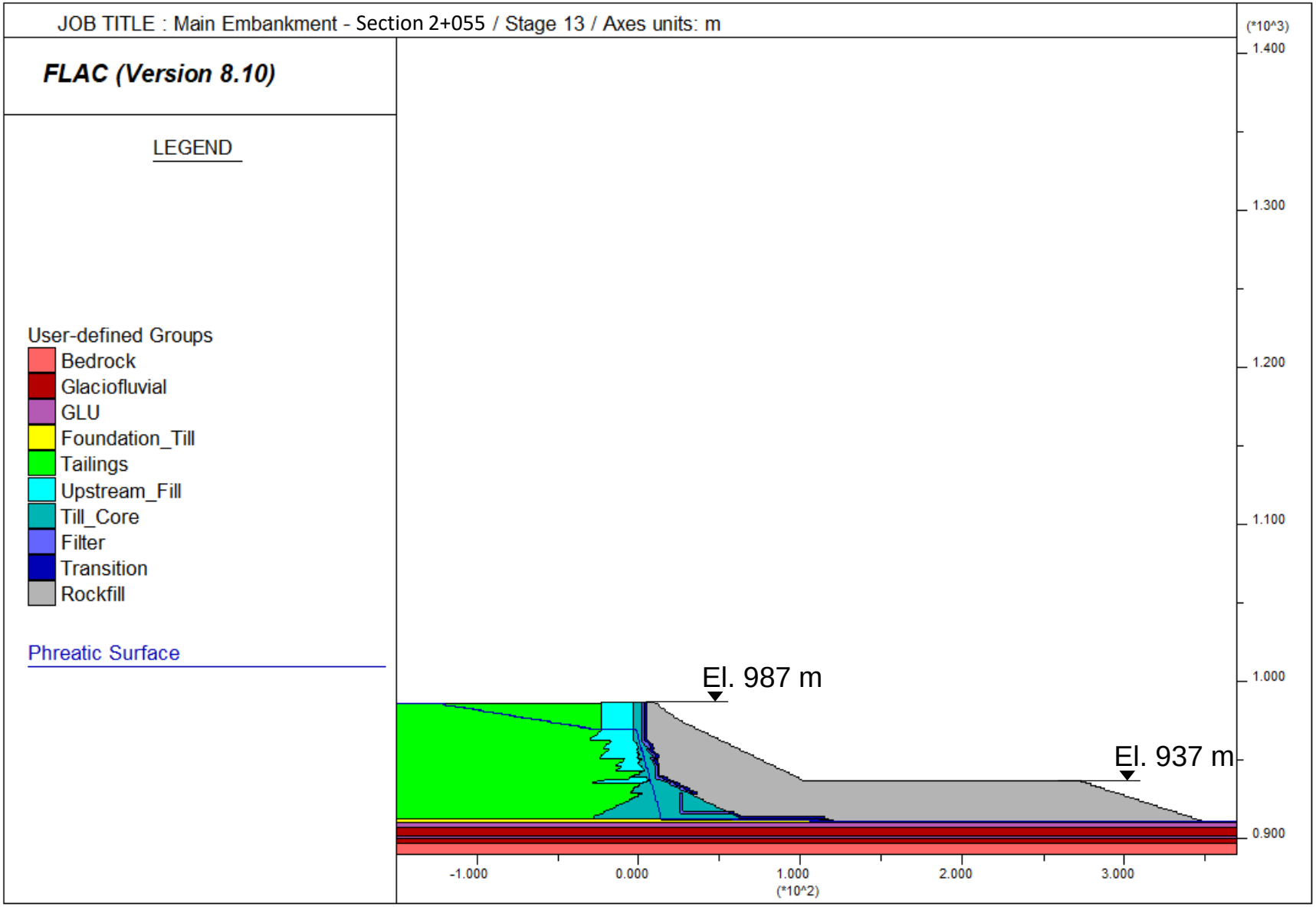

JOB TITLE : Main Embankment - Section 2+055 / Stage 8 / Axes units: m
FLAC (Version 8.10)
LEGEND
User-defined Groups
Bedrock
Glaciofluvial
GLU
Foundation_Till
Tailings
Upstream_Fill
Till_Core
Filter
Transition
Rockfill
Phreatic Surface
El. 964 m
El. 917 m
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-1.000
0.000
1.000
2.000
3.000
(*10^2)


JOB TITLE : Main Embankment - Section 2+055 / Stage 9 / Axes units: m
FLAC (Version 8.10)
LEGEND
User-defined Groups
Bedrock
Glaciofluvial
GLU
Foundation_Till
Tailings
Upstream_Fill
Till_Core
Filter
Transition
Rockfill
Phreatic Surface
El. 969 m
El. 926 m
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-1.000
0.000
1.000
2.000
3.000
(*10^2)

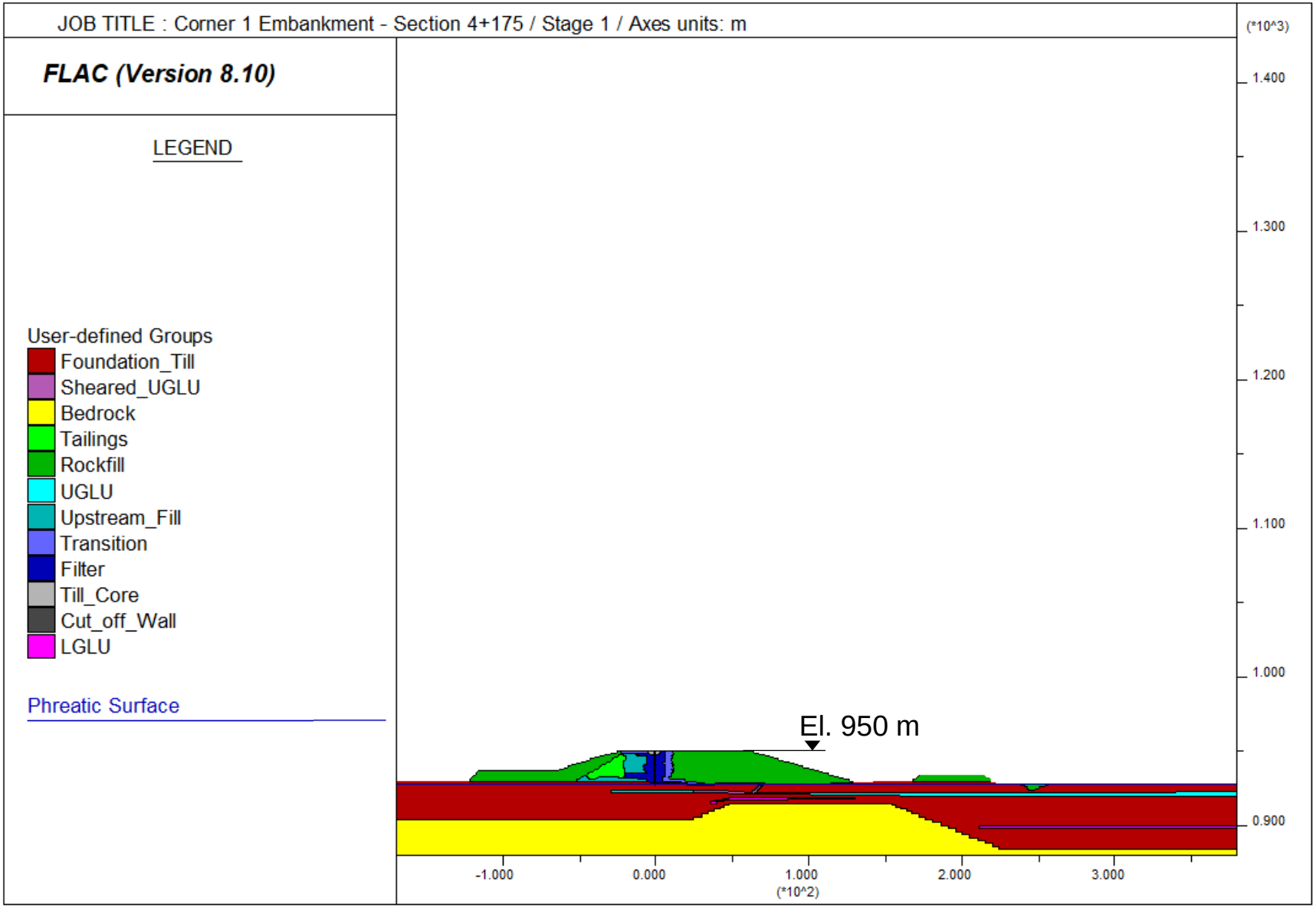

JOB TITLE : Main Embankment - Section 2+055 / Stage 10 / Axes units: m
FLAC (Version 8.10)
LEGEND
User-defined Groups
Bedrock
Glaciofluvial
GLU
Foundation_Till
Tailings
Upstream_Fill
Till_Core
Filter
Transition
Rockfill
Phreatic Surface
El. 969 m
El. 930 m
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-1.000
0.000
1.000
2.000
3.000
(*10^2)

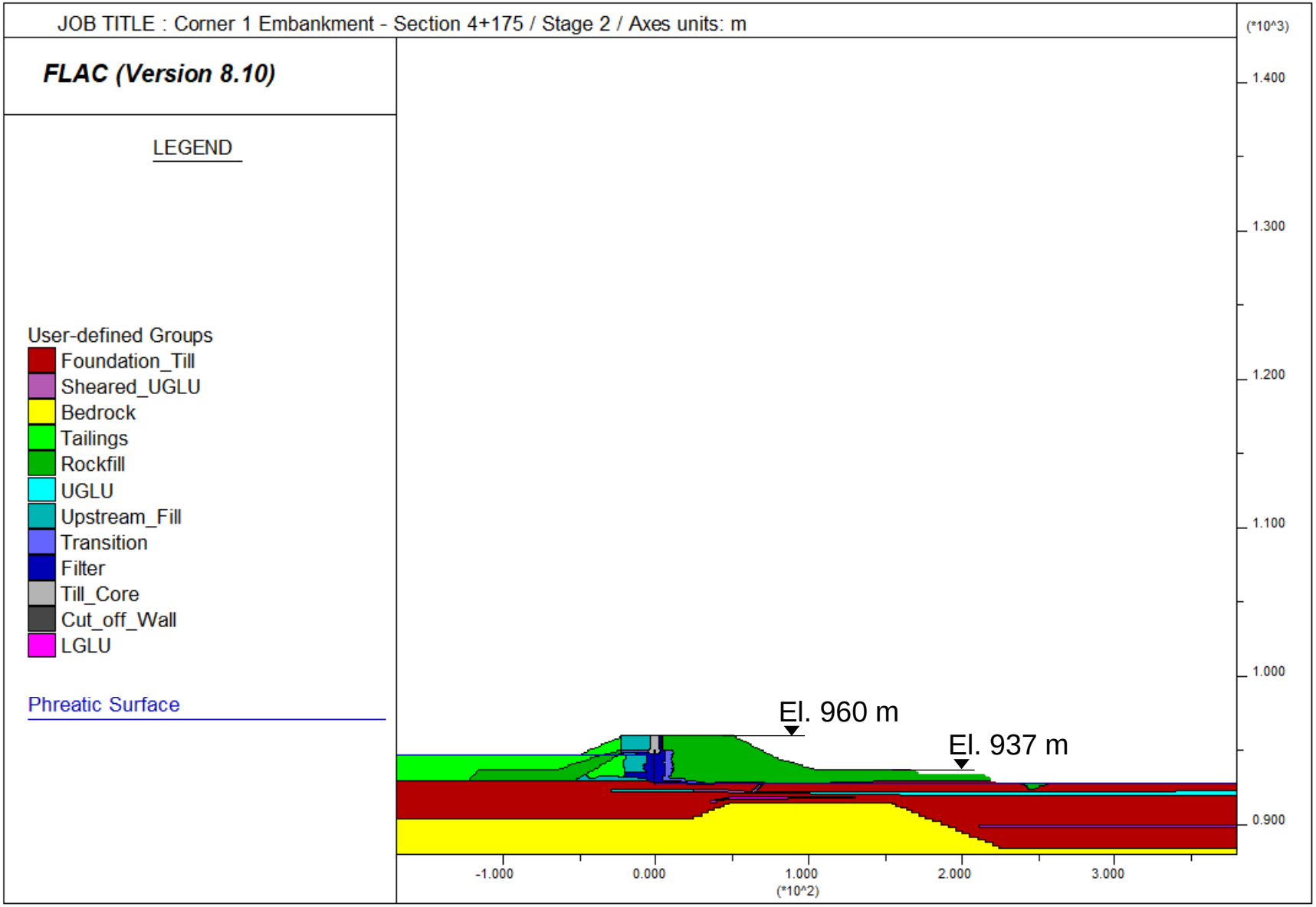

JOB TITLE : Main Embankment - Section 2+055 / Stage 11 / Axes units: m
FLAC (Version 8.10)
LEGEND
User-defined Groups
Bedrock
Glaciofluvial
GLU
Foundation_Till
Tailings
Upstream_Fill
Till_Core
Filter
Transition
Rockfill
Phreatic Surface
El. 974 m
El. 930 m
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-1.000
0.000
1.000
2.000
3.000
(*10^2)

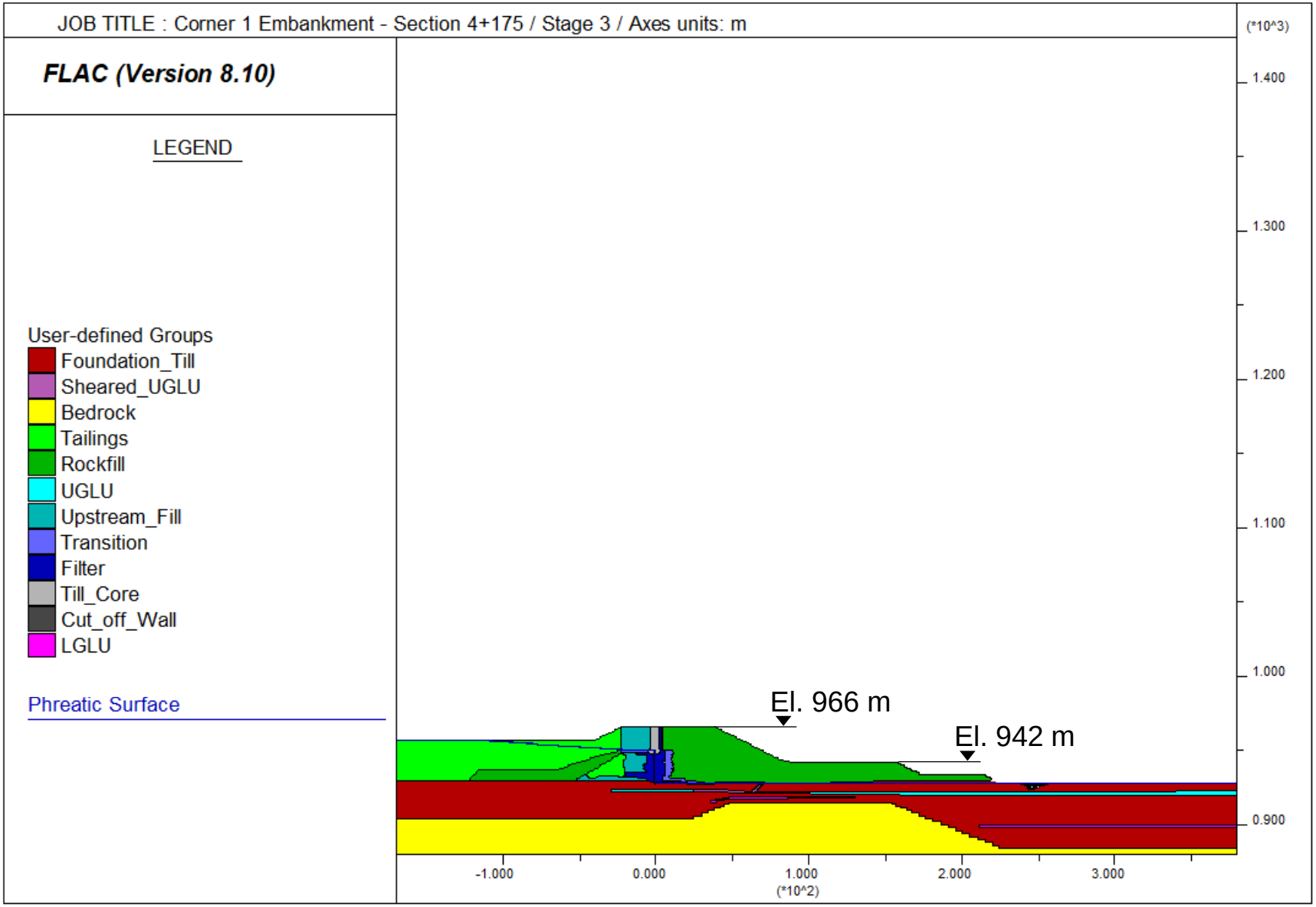

JOB TITLE : Main Embankment - Section 2+055 / Stage 12 / Axes units: m
FLAC (Version 8.10)
LEGEND
User-defined Groups
Bedrock
Glaciofluvial
GLU
Foundation_Till
Tailings
Upstream_Fill
Till_Core
Filter
Transition
Rockfill
Phreatic Surface
El. 974 m
El. 937 m
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-1.000
0.000
1.000
2.000
3.000
(*10^2)

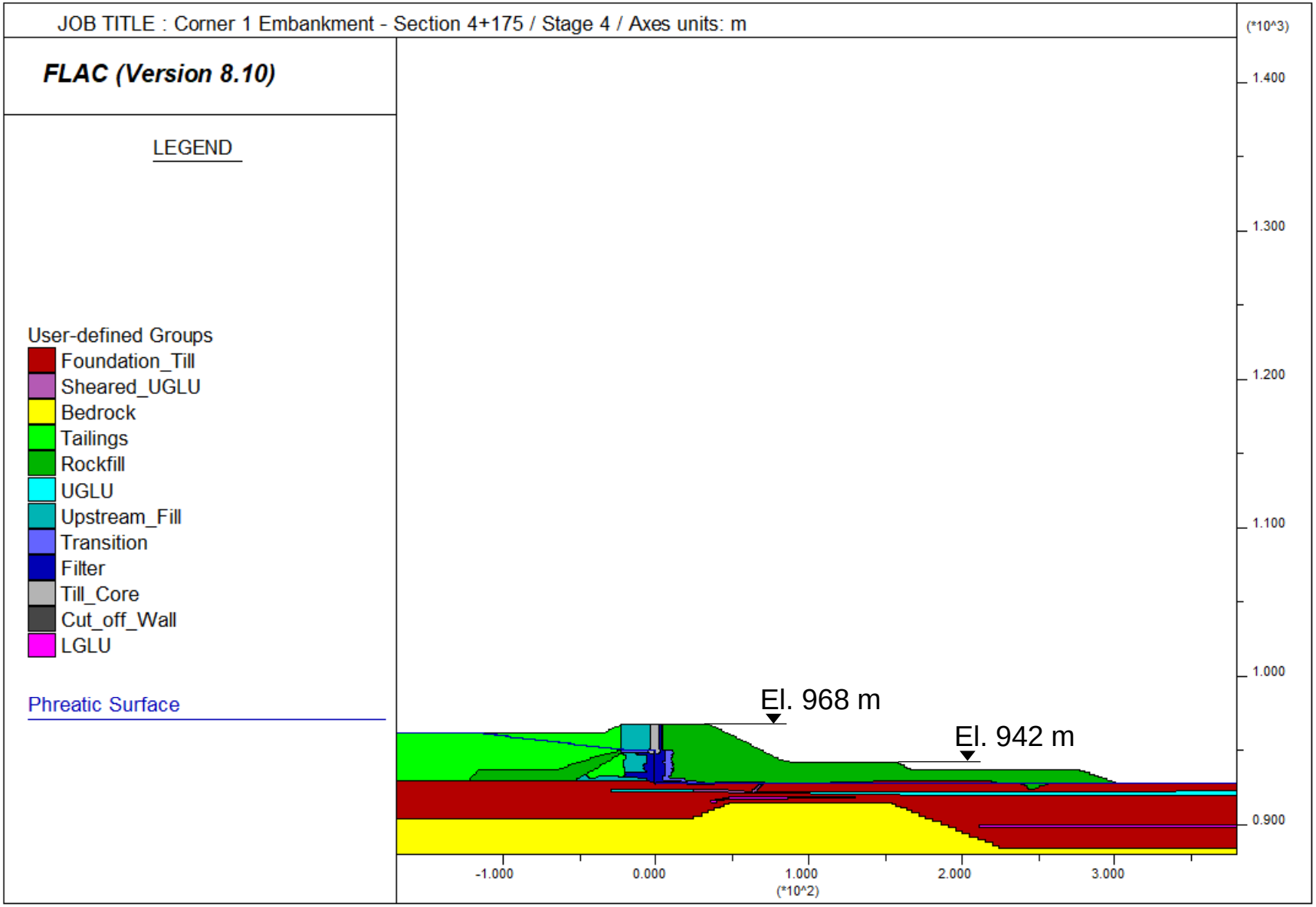

JOB TITLE : Main Embankment - Section 2+055 / Stage 13 / Axes units: m
FLAC (Version 8.10)
LEGEND
User-defined Groups
Bedrock
Glaciofluvial
GLU
Foundation_Till
Tailings
Upstream_Fill
Till_Core
Filter
Transition
Rockfill
Phreatic Surface
El. 987 m
El. 937 m
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-1.000
0.000
1.000
2.000
3.000
(*10^2)

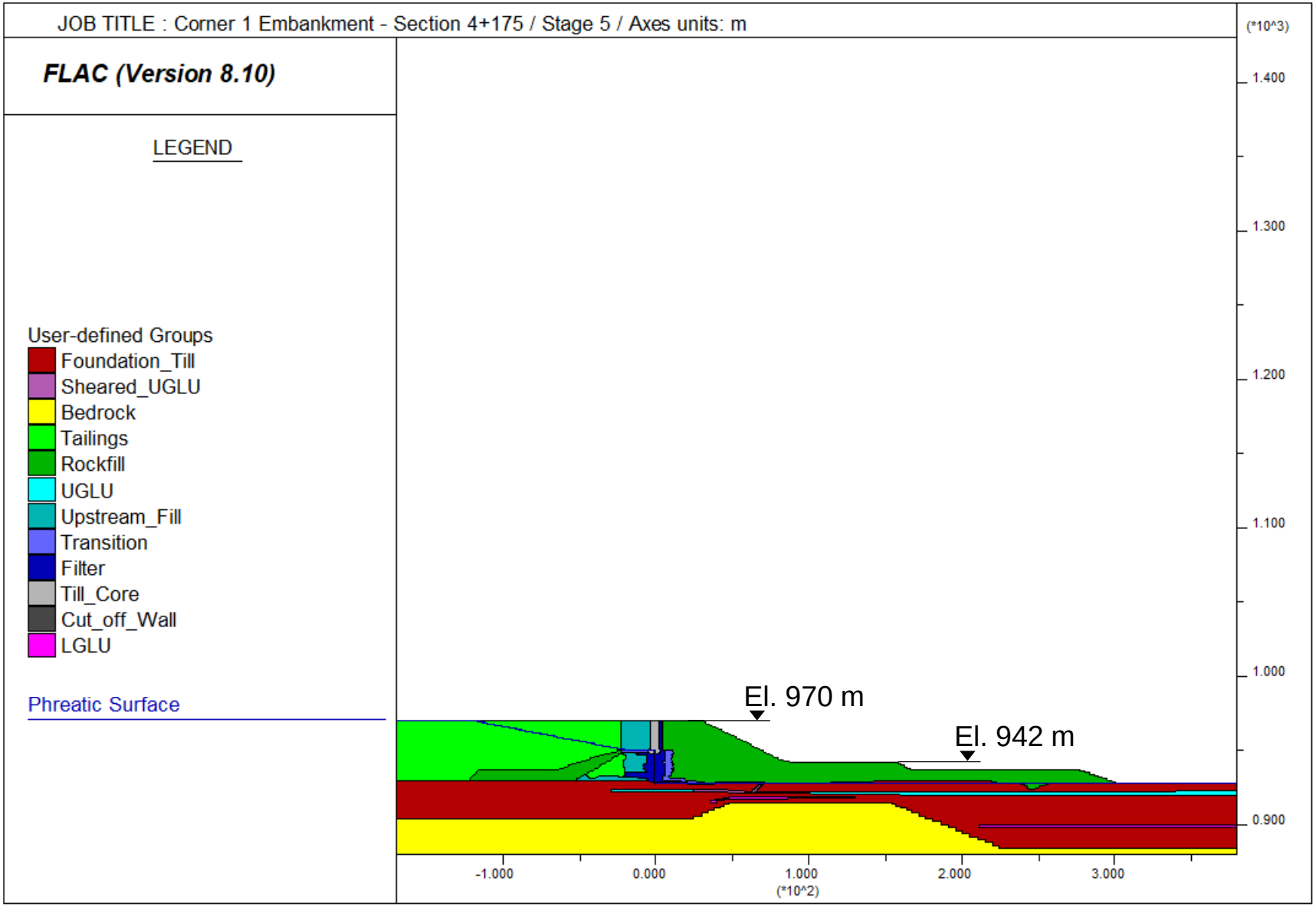
Perimeter Embankment at Corner 1 - Section 4+175

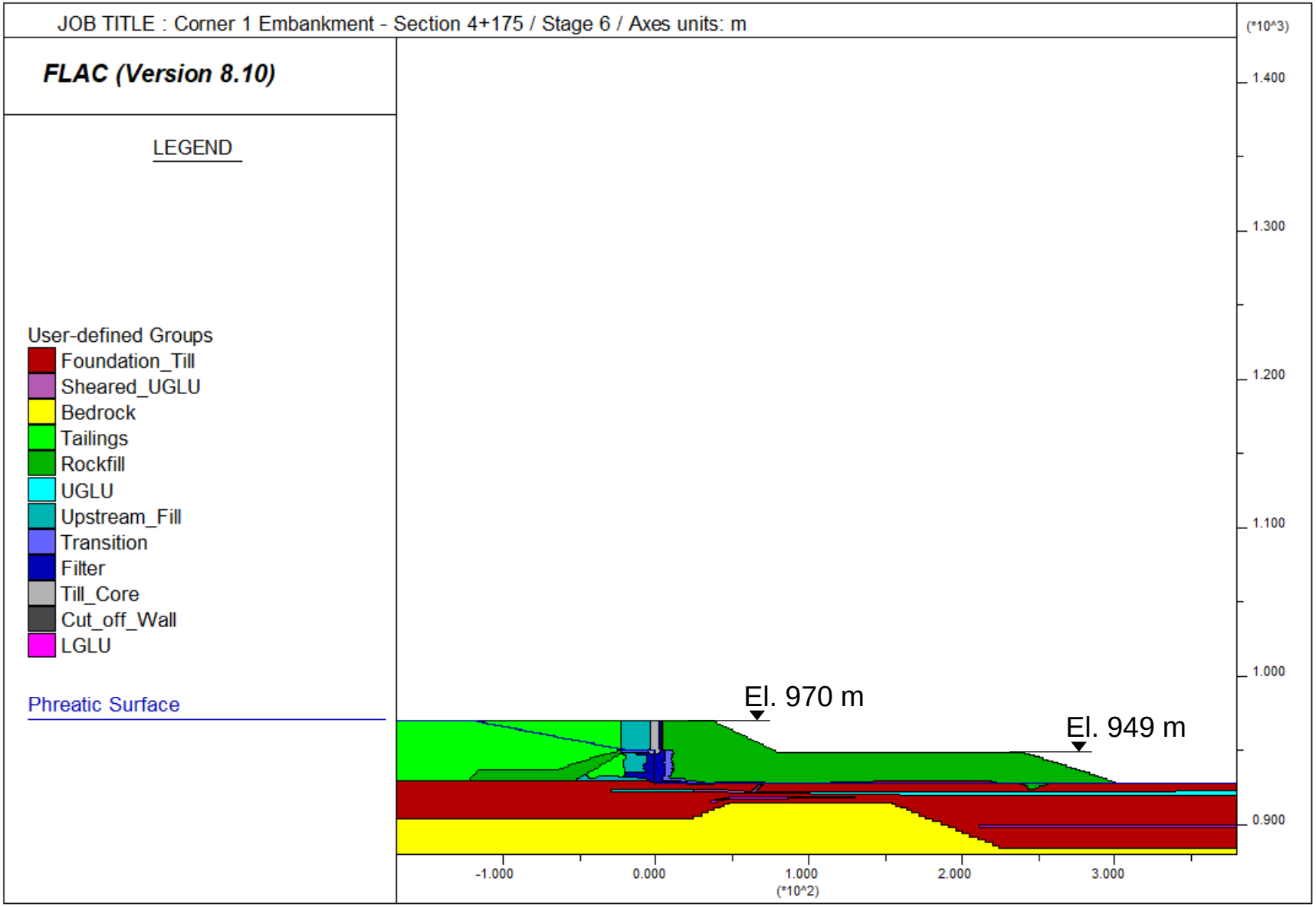

JOB TITLE : Corner 1 Embankment - Section 4+175 / Stage 1 / Axes units: m
FLAC (Version 8.10)
LEGEND
User-defined Groups
Foundation_Till
Sheared_UGLU
Bedrock
Tailings
Rockfill
UGLU
Upstream_Fill
Transition
Filter
Till_Core
Cut_off_Wall
LGLU
Phreatic Surface
El. 950 m
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-1.000
0.000
1.000
2.000
3.000
(*10^2)

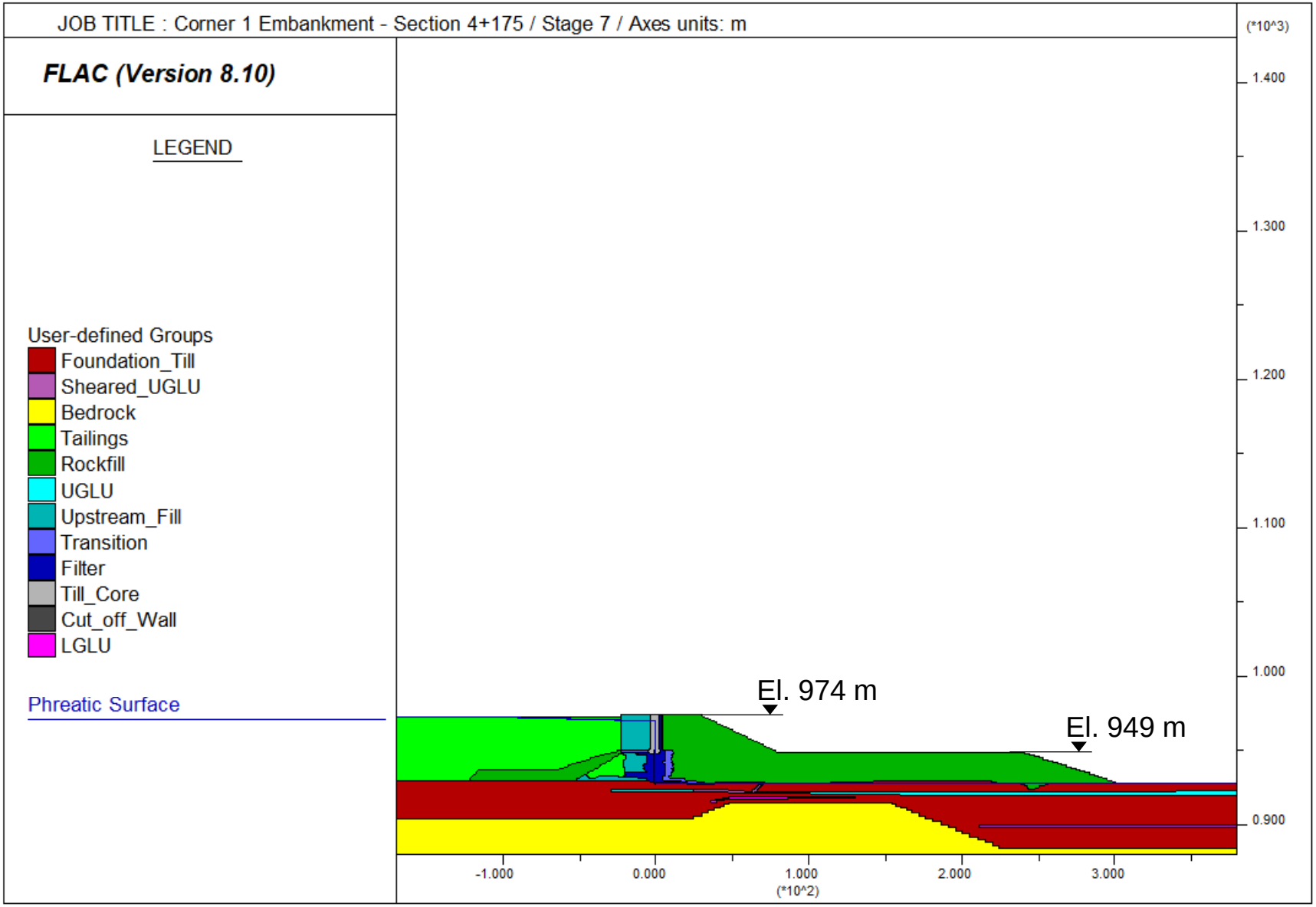

JOB TITLE : Corner 1 Embankment - Section 4+175 / Stage 2 / Axes units: m
FLAC (Version 8.10)
LEGEND
User-defined Groups
Foundation_Till
Sheared_UGLU
Bedrock
Tailings
Rockfill
UGLU
Upstream_Fill
Transition
Filter
Till_Core
Cut_off_Wall
LGLU
Phreatic Surface
El. 960 m
El. 937 m
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-1.000
0.000
1.000
2.000
3.000
(*10^2)

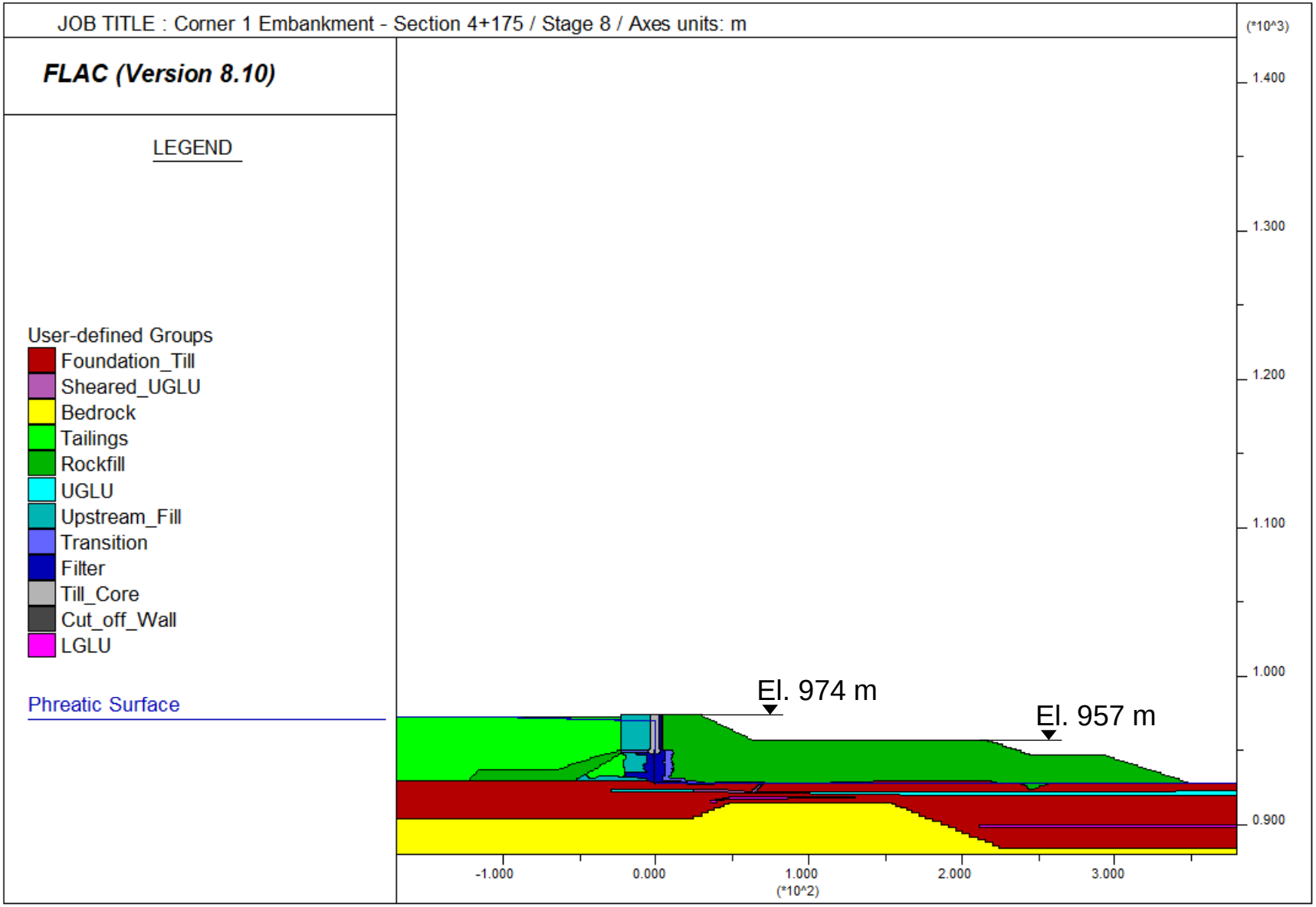

JOB TITLE : Corner 1 Embankment - Section 4+175 / Stage 3 / Axes units: m
FLAC (Version 8.10)
LEGEND
User-defined Groups
Foundation_Till
Sheared_UGLU
Bedrock
Tailings
Rockfill
UGLU
Upstream_Fill
Transition
Filter
Till_Core
Cut_off_Wall
LGLU
Phreatic Surface
El. 966 m
El. 942 m
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-1.000
0.000
1.000
2.000
3.000
(*10^2)

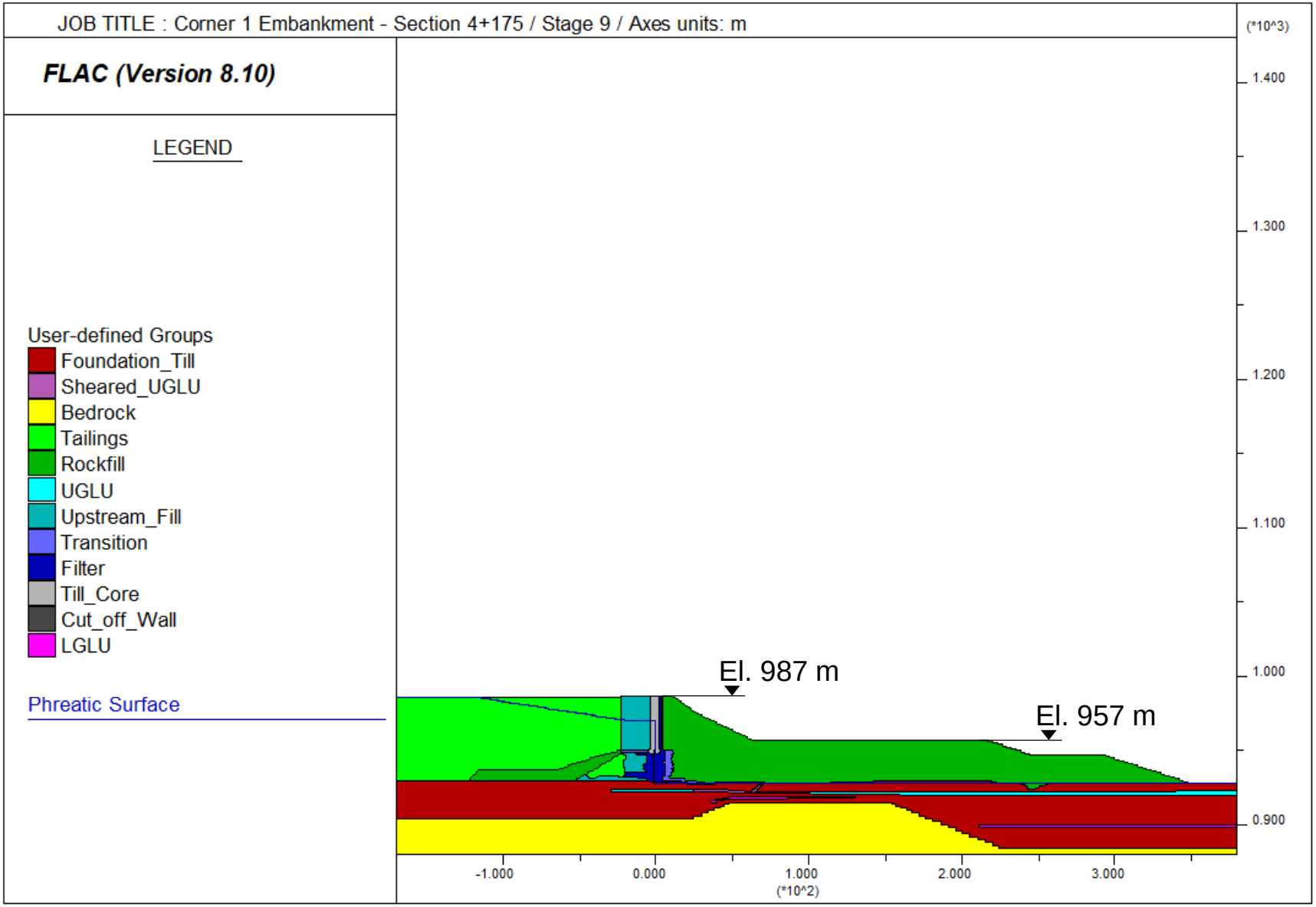

JOB TITLE : Corner 1 Embankment - Section 4+175 / Stage 4 / Axes units: m
FLAC (Version 8.10)
LEGEND
User-defined Groups
Foundation_Till
Sheared_UGLU
Bedrock
Tailings
Rockfill
UGLU
Upstream_Fill
Transition
Filter
Till_Core
Cut_off_Wall
LGLU
Phreatic Surface
El. 968 m
El. 942 m
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-1.000
0.000
1.000
2.000
3.000
(*10^2)


JOB TITLE : Corner 1 Embankment - Section 4+175 / Stage 5 / Axes units: m
FLAC (Version 8.10)
LEGEND
User-defined Groups
Foundation_Till
Sheared_UGLU
Bedrock
Tailings
Rockfill
UGLU
Upstream_Fill
Transition
Filter
Till_Core
Cut_off_Wall
LGLU
Phreatic Surface
El. 970 m
El. 942 m
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-1.000
0.000
1.000
2.000
3.000
(*10^2)


JOB TITLE : Corner 1 Embankment - Section 4+175 / Stage 6 / Axes units: m
FLAC (Version 8.10)
LEGEND
User-defined Groups
Foundation_Till
Sheared_UGLU
Bedrock
Tailings
Rockfill
UGLU
Upstream_Fill
Transition
Filter
Till_Core
Cut_off_Wall
LGLU
Phreatic Surface
El. 970 m
El. 949 m
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-1.000
0.000
1.000
2.000
3.000
(*10^2)


JOB TITLE : Corner 1 Embankment - Section 4+175 / Stage 7 / Axes units: m
FLAC (Version 8.10)
LEGEND
User-defined Groups
Foundation_Till
Sheared_UGLU
Bedrock
Tailings
Rockfill
UGLU
Upstream_Fill
Transition
Filter
Till_Core
Cut_off_Wall
LGLU
Phreatic Surface
El. 974 m
El. 949 m
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-1.000
0.000
1.000
2.000
3.000
(*10^2)


JOB TITLE : Corner 1 Embankment - Section 4+175 / Stage 8 / Axes units: m
FLAC (Version 8.10)
LEGEND
User-defined Groups
Foundation_Till
Sheared_UGLU
Bedrock
Tailings
Rockfill
UGLU
Upstream_Fill
Transition
Filter
Till_Core
Cut_off_Wall
LGLU
Phreatic Surface
El. 974 m
El. 957 m
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-1.000
0.000
1.000
2.000
3.000
(*10^2)


JOB TITLE : Corner 1 Embankment - Section 4+175 / Stage 9 / Axes units: m
FLAC (Version 8.10)
LEGEND
User-defined Groups
Foundation_Till
Sheared_UGLU
Bedrock
Tailings
Rockfill
UGLU
Upstream_Fill
Transition
Filter
Till_Core
Cut_off_Wall
LGLU
Phreatic Surface
El. 987 m
El. 957 m
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-1.000
0.000
1.000
2.000
3.000
(*10^2)

ATTACHMENT 2

Seismic Analyses Results

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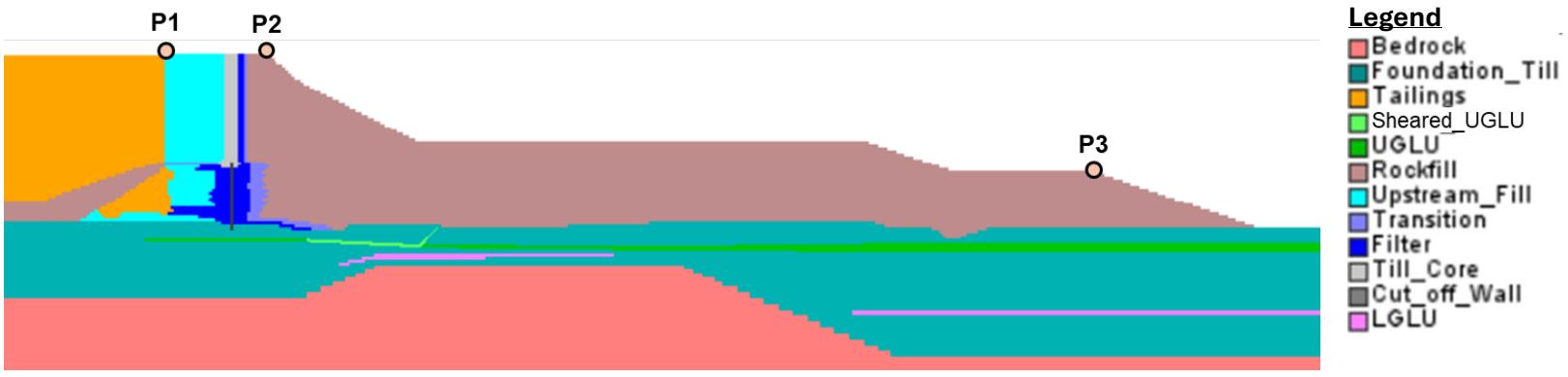
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▪ RSN4022796, Subduction Interface Motion	441
▪ RSN6001382, Subduction Interface Motion	465

Main Embankment – Section 2+055



Record Sequence Number (RSN)	Component	Polarity	Seismic Source	Permanent Seismic Displacement (m)					
				Horizontal			Vertical		
				P1	P2	P3	P1	P2	P3
155	EW	RP	Crustal	0.006	0.012	0.004	-0.013	-0.011	-0.003
155	EW	DP	Crustal	0.005	0.012	0.004	-0.014	-0.012	-0.002
155	NS	RP	Crustal	0.009	0.016	0.005	-0.015	-0.013	-0.003
155	NS	DP	Crustal	0.008	0.015	0.004	-0.016	-0.014	-0.003
212	246	RP	Crustal	0.006	0.012	0.003	-0.012	-0.013	-0.003
212	246	DP	Crustal	0.007	0.014	0.004	-0.012	-0.012	-0.002
212	156	RP	Crustal	0.005	0.009	0.002	-0.008	-0.009	-0.002
212	156	DP	Crustal	0.005	0.009	0.002	-0.008	-0.009	-0.002
357	90	RP	Crustal	0.005	0.011	0.003	-0.009	-0.011	-0.003
357	90	DP	Crustal	0.004	0.010	0.003	-0.011	-0.010	-0.003
357	0	RP	Crustal	0.006	0.012	0.004	-0.012	-0.011	-0.002
357	0	DP	Crustal	0.006	0.013	0.004	-0.014	-0.011	-0.002
554	90	RP	Crustal	0.006	0.012	0.003	-0.012	-0.010	-0.002
554	90	DP	Crustal	0.006	0.011	0.003	-0.012	-0.011	-0.002
554	0	RP	Crustal	0.005	0.011	0.003	-0.012	-0.010	-0.002
554	0	DP	Crustal	0.006	0.010	0.003	-0.011	-0.010	-0.002
2619	E	RP	Crustal	0.005	0.013	0.003	-0.013	-0.013	-0.002
2619	E	DP	Crustal	0.005	0.011	0.003	-0.012	-0.011	-0.002
2619	N	RP	Crustal	0.004	0.010	0.003	-0.011	-0.011	-0.002
2619	N	DP	Crustal	0.004	0.010	0.003	-0.011	-0.010	-0.002
3852	E	RP	Crustal	0.006	0.012	0.003	-0.011	-0.012	-0.002
3852	E	DP	Crustal	0.006	0.012	0.003	-0.011	-0.010	-0.002
3852	N	RP	Crustal	0.005	0.012	0.003	-0.013	-0.011	-0.002
3852	N	DP	Crustal	0.006	0.013	0.003	-0.013	-0.011	-0.002
4314	90	RP	Crustal	0.007	0.015	0.004	-0.017	-0.014	-0.003
4314	90	DP	Crustal	0.006	0.015	0.004	-0.017	-0.013	-0.003
4314	0	RP	Crustal	0.006	0.014	0.004	-0.015	-0.012	-0.002
4314	0	DP	Crustal	0.006	0.013	0.004	-0.016	-0.012	-0.003
4478	E	RP	Crustal	0.007	0.013	0.003	-0.012	-0.010	-0.002
4478	E	DP	Crustal	0.006	0.012	0.003	-0.011	-0.011	-0.002
4478	N	RP	Crustal	0.006	0.013	0.004	-0.014	-0.012	-0.003
4478	N	DP	Crustal	0.007	0.013	0.004	-0.014	-0.012	-0.002
4000183	EW	RP	Subduction Interface	0.015	0.049	0.013	-0.067	-0.041	-0.018
4000183	EW	DP	Subduction Interface	0.021	0.052	0.013	-0.068	-0.041	-0.020
4000183	NS	RP	Subduction Interface	0.016	0.043	0.011	-0.047	-0.038	-0.013
4000183	NS	DP	Subduction Interface	0.015	0.039	0.010	-0.053	-0.038	-0.015
4022796	NS2	RP	Subduction Interface	0.014	0.033	0.010	-0.038	-0.029	-0.013
4022796	NS2	DP	Subduction Interface	0.013	0.032	0.009	-0.036	-0.030	-0.013
4022796	EW2	RP	Subduction Interface	0.014	0.030	0.011	-0.033	-0.030	-0.011
4022796	EW2	DP	Subduction Interface	0.013	0.030	0.011	-0.033	-0.028	-0.012
6001382	HLN	RP	Subduction Interface	0.012	0.030	0.009	-0.032	-0.026	-0.012
6001382	HLN	DP	Subduction Interface	0.015	0.031	0.010	-0.034	-0.027	-0.013
6001382	HLE	RP	Subduction Interface	0.009	0.025	0.010	-0.030	-0.024	-0.010
6001382	HLE	DP	Subduction Interface	0.010	0.024	0.009	-0.029	-0.021	-0.010

Perimeter Embankment at Corner 1 – Section 4+175

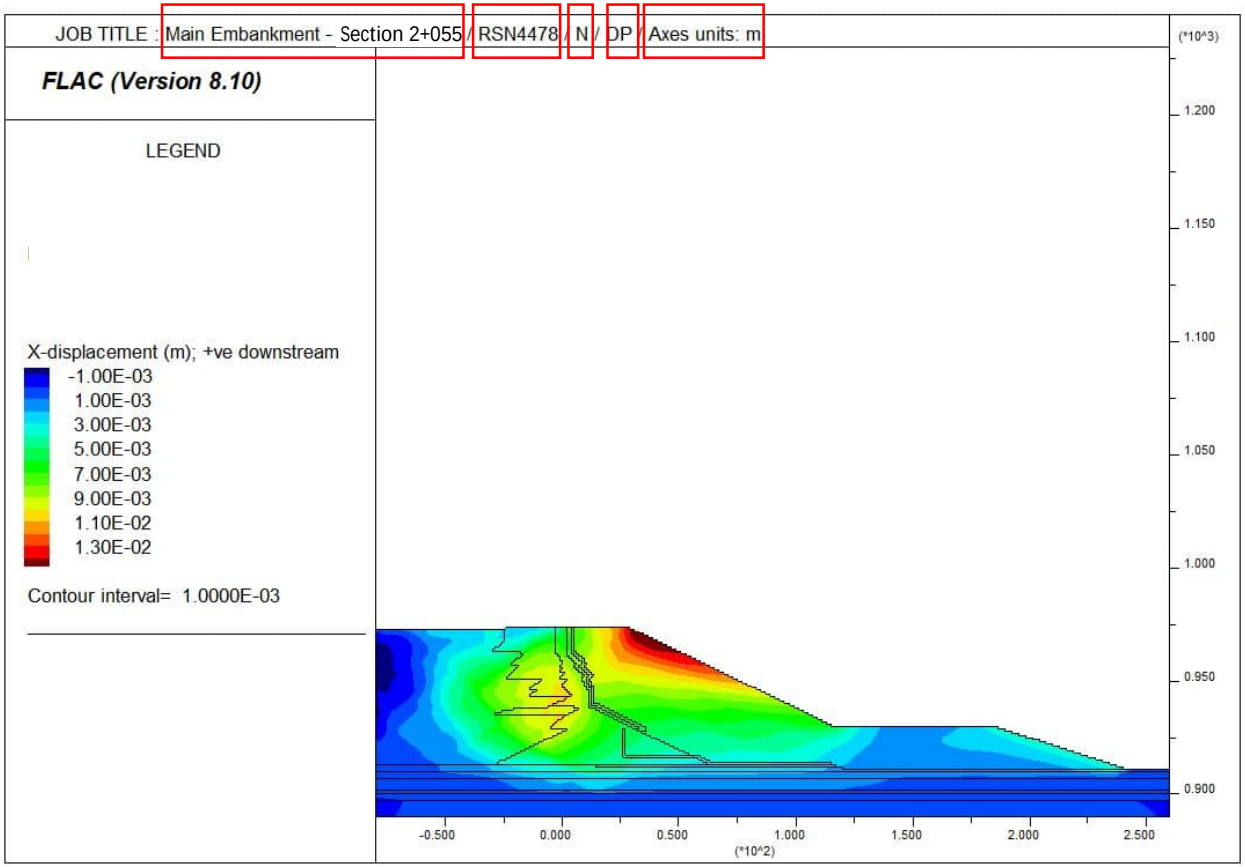


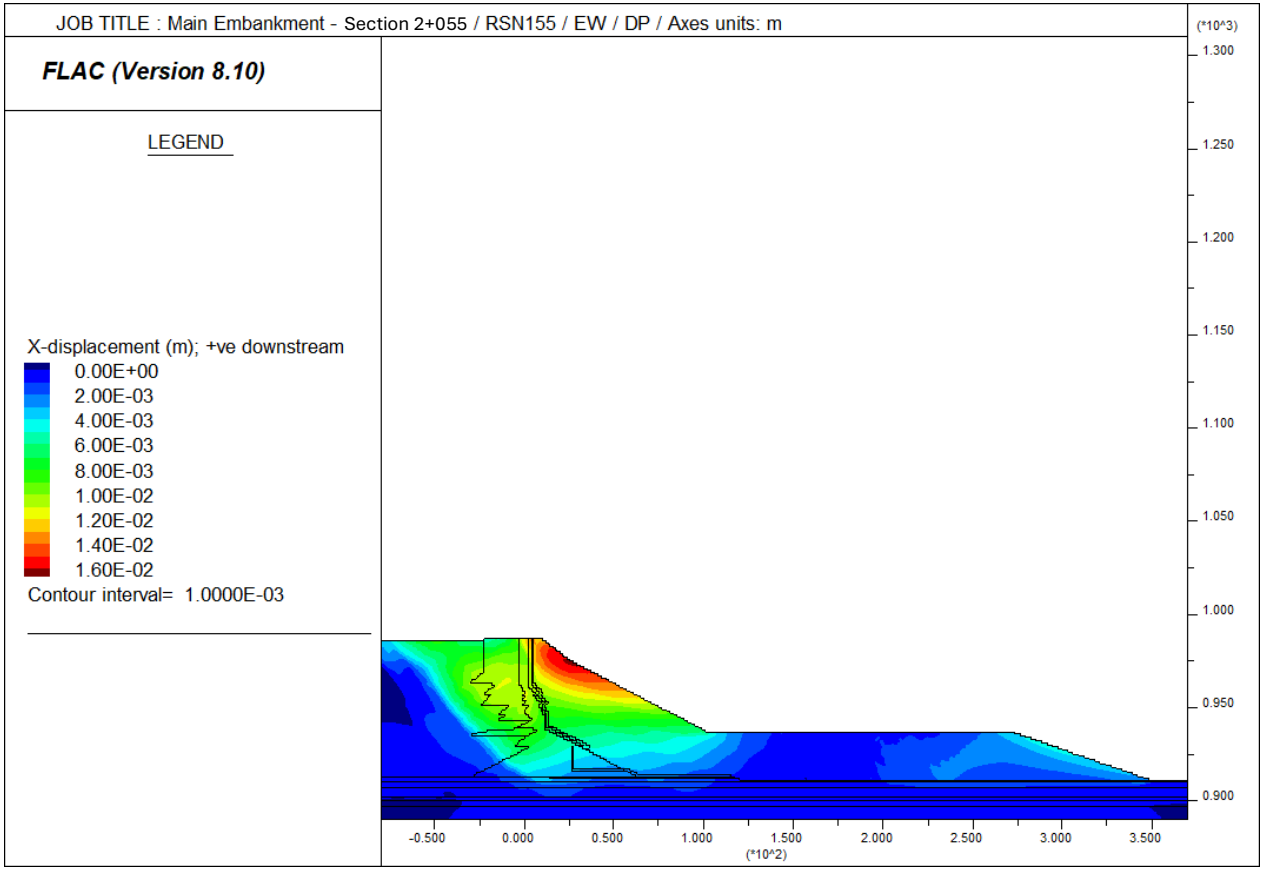
Record Sequence Number (RSN)	Component	Polarity	Seismic Source	Permanent Seismic Displacement (m)					
				Horizontal			Vertical		
				P1	P2	P3	P1	P2	P3
155	EW	RP	Crustal	0.005	0.010	0.004	-0.010	-0.009	-0.002
155	EW	DP	Crustal	0.004	0.010	0.004	-0.011	-0.009	-0.002
155	NS	RP	Crustal	0.005	0.013	0.005	-0.012	-0.011	-0.002
155	NS	DP	Crustal	0.006	0.012	0.005	-0.011	-0.011	-0.002
212	246	RP	Crustal	0.002	0.008	0.004	-0.008	-0.008	-0.002
212	246	DP	Crustal	0.003	0.013	0.004	-0.010	-0.010	-0.002
212	156	RP	Crustal	0.006	0.008	0.002	-0.006	-0.007	-0.001
212	156	DP	Crustal	0.004	0.006	0.002	-0.005	-0.006	-0.001
357	90	RP	Crustal	0.004	0.007	0.003	-0.007	-0.007	-0.002
357	90	DP	Crustal	0.004	0.008	0.003	-0.007	-0.007	-0.002
357	0	RP	Crustal	0.003	0.010	0.004	-0.009	-0.009	-0.002
357	0	DP	Crustal	0.003	0.010	0.004	-0.010	-0.009	-0.002
554	90	RP	Crustal	0.005	0.009	0.003	-0.008	-0.008	-0.001
554	90	DP	Crustal	0.004	0.009	0.003	-0.008	-0.008	-0.001
554	0	RP	Crustal	0.004	0.009	0.003	-0.009	-0.008	-0.001
554	0	DP	Crustal	0.004	0.009	0.003	-0.009	-0.008	-0.001
2619	E	RP	Crustal	0.003	0.011	0.003	-0.009	-0.010	-0.001
2619	E	DP	Crustal	0.005	0.007	0.003	-0.008	-0.007	-0.002
2619	N	RP	Crustal	0.004	0.008	0.003	-0.008	-0.008	-0.001
2619	N	DP	Crustal	0.003	0.008	0.003	-0.007	-0.007	-0.001
3852	E	RP	Crustal	0.004	0.009	0.004	-0.009	-0.008	-0.001
3852	E	DP	Crustal	0.004	0.010	0.003	-0.009	-0.008	-0.001
3852	N	RP	Crustal	0.005	0.009	0.003	-0.008	-0.008	-0.002
3852	N	DP	Crustal	0.004	0.010	0.003	-0.008	-0.008	-0.002
4314	90	RP	Crustal	0.005	0.013	0.005	-0.013	-0.011	-0.002
4314	90	DP	Crustal	0.005	0.012	0.005	-0.013	-0.011	-0.002
4314	0	RP	Crustal	0.005	0.011	0.005	-0.010	-0.009	-0.002
4314	0	DP	Crustal	0.005	0.011	0.004	-0.010	-0.009	-0.002
4478	E	RP	Crustal	0.004	0.009	0.003	-0.009	-0.008	-0.002
4478	E	DP	Crustal	0.004	0.009	0.003	-0.008	-0.008	-0.002
4478	N	RP	Crustal	0.005	0.010	0.004	-0.012	-0.010	-0.002
4478	N	DP	Crustal	0.004	0.012	0.004	-0.013	-0.010	-0.002
4000183	EW	RP	Subduction Interface	0.017	0.045	0.017	-0.049	-0.039	-0.018
4000183	EW	DP	Subduction Interface	0.016	0.045	0.016	-0.049	-0.034	-0.018
4000183	NS	RP	Subduction Interface	0.014	0.039	0.012	-0.036	-0.033	-0.011
4000183	NS	DP	Subduction Interface	0.013	0.036	0.014	-0.042	-0.029	-0.012
4022796	NS2	RP	Subduction Interface	0.009	0.031	0.012	-0.037	-0.027	-0.008
4022796	NS2	DP	Subduction Interface	0.010	0.031	0.013	-0.036	-0.026	-0.008
4022796	EW2	RP	Subduction Interface	0.009	0.028	0.012	-0.032	-0.024	-0.009
4022796	EW2	DP	Subduction Interface	0.010	0.030	0.012	-0.033	-0.027	-0.008
6001382	HLN	RP	Subduction Interface	0.009	0.028	0.011	-0.031	-0.025	-0.007
6001382	HLN	DP	Subduction Interface	0.009	0.027	0.011	-0.031	-0.021	-0.008
6001382	HLE	RP	Subduction Interface	0.011	0.025	0.010	-0.026	-0.020	-0.007
6001382	HLE	DP	Subduction Interface	0.007	0.024	0.010	-0.025	-0.020	-0.007

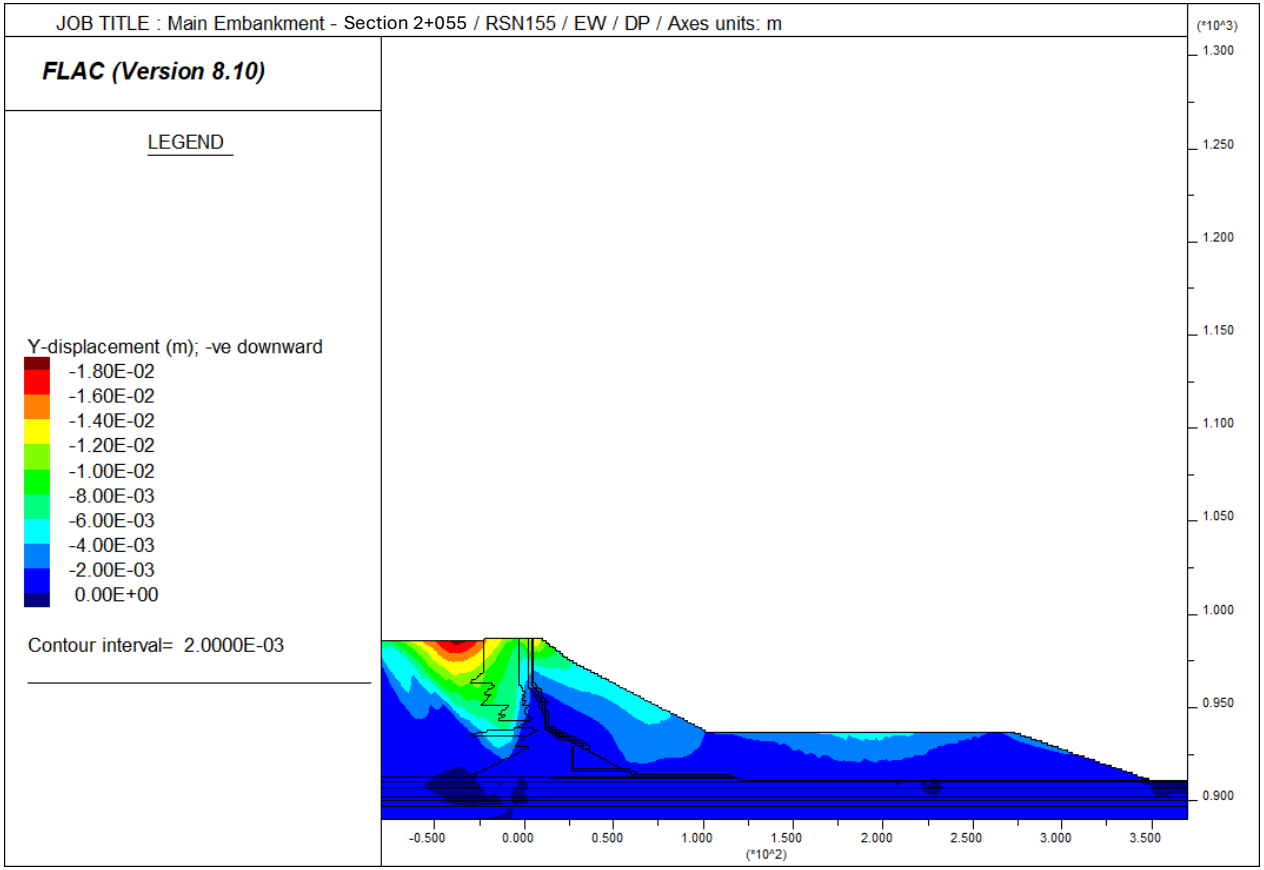
Attachment Structure

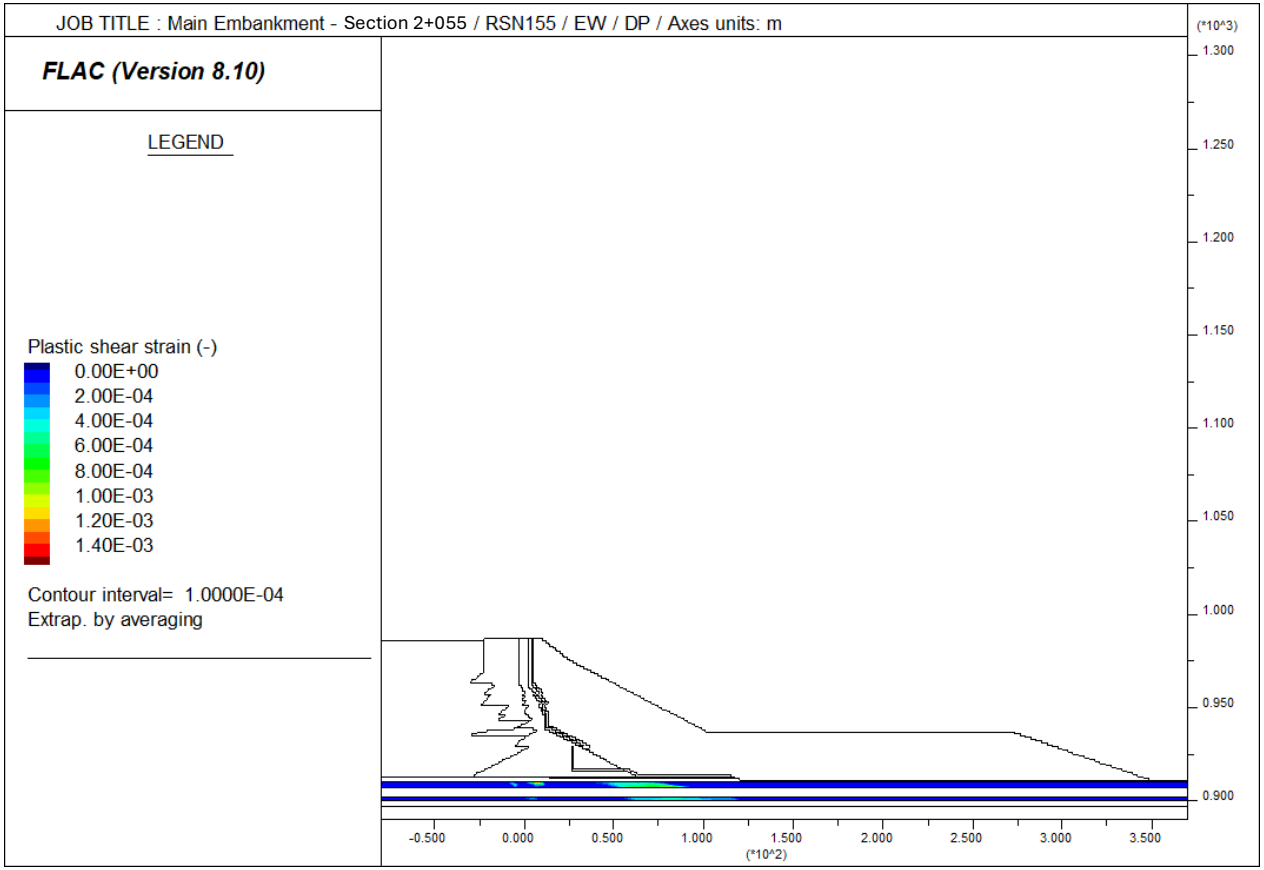
1. Embankment – Section:
   - Main Embankment
   - Perimeter Embankment at Corner 1
2. Record Sequence Number
3. Component earthquake motion
4. Polarity:
   - Direct Polarity (DP)
   - Reverse Polarity (RP)
5. Axes units

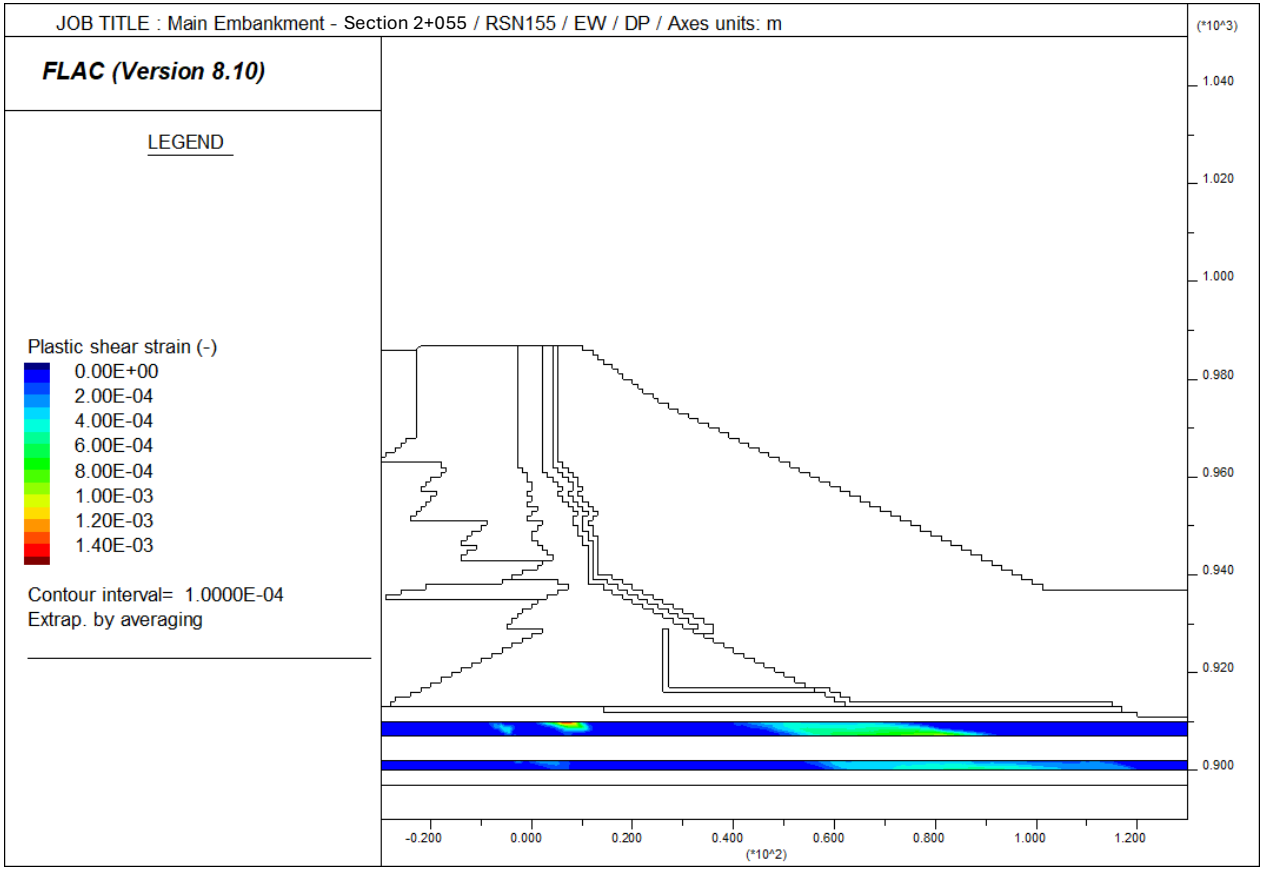
Example:

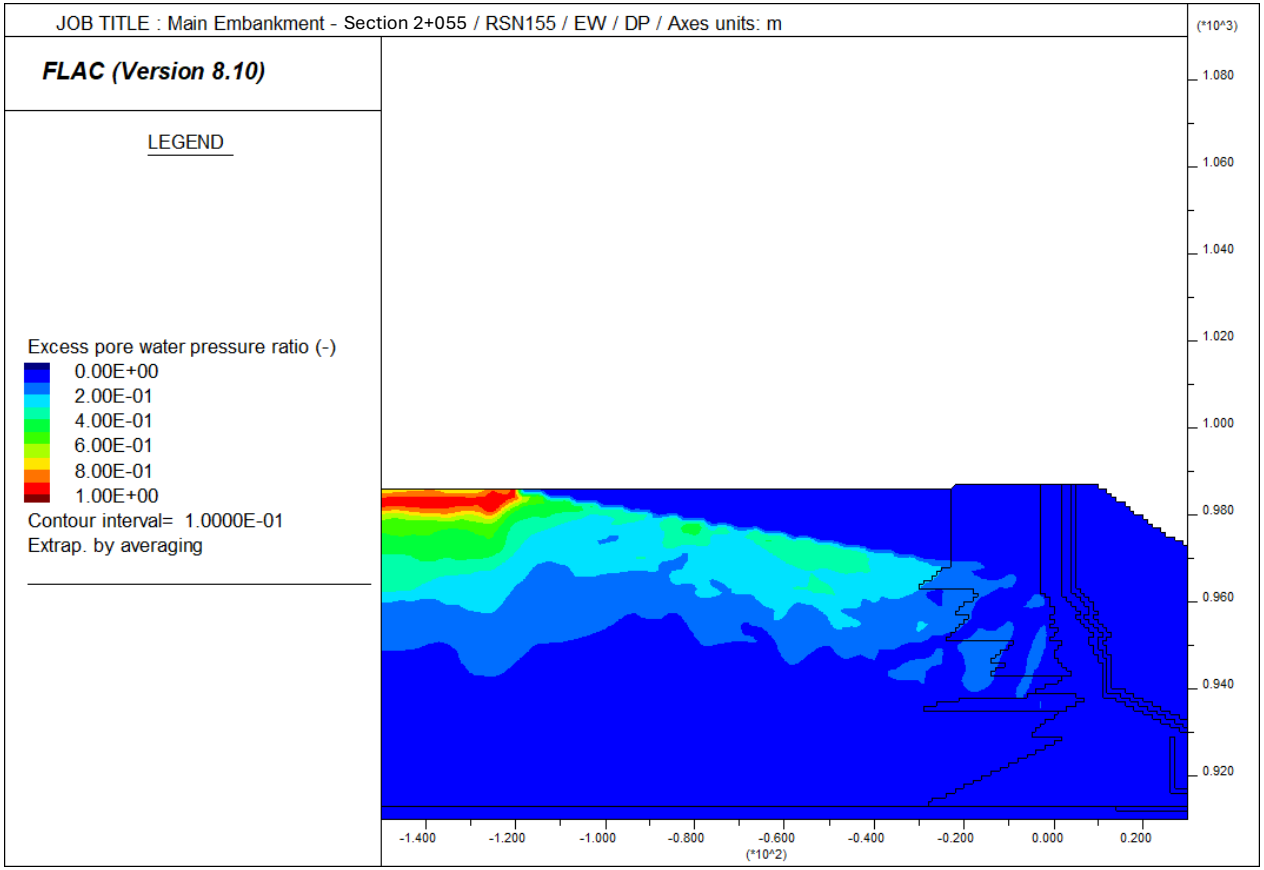


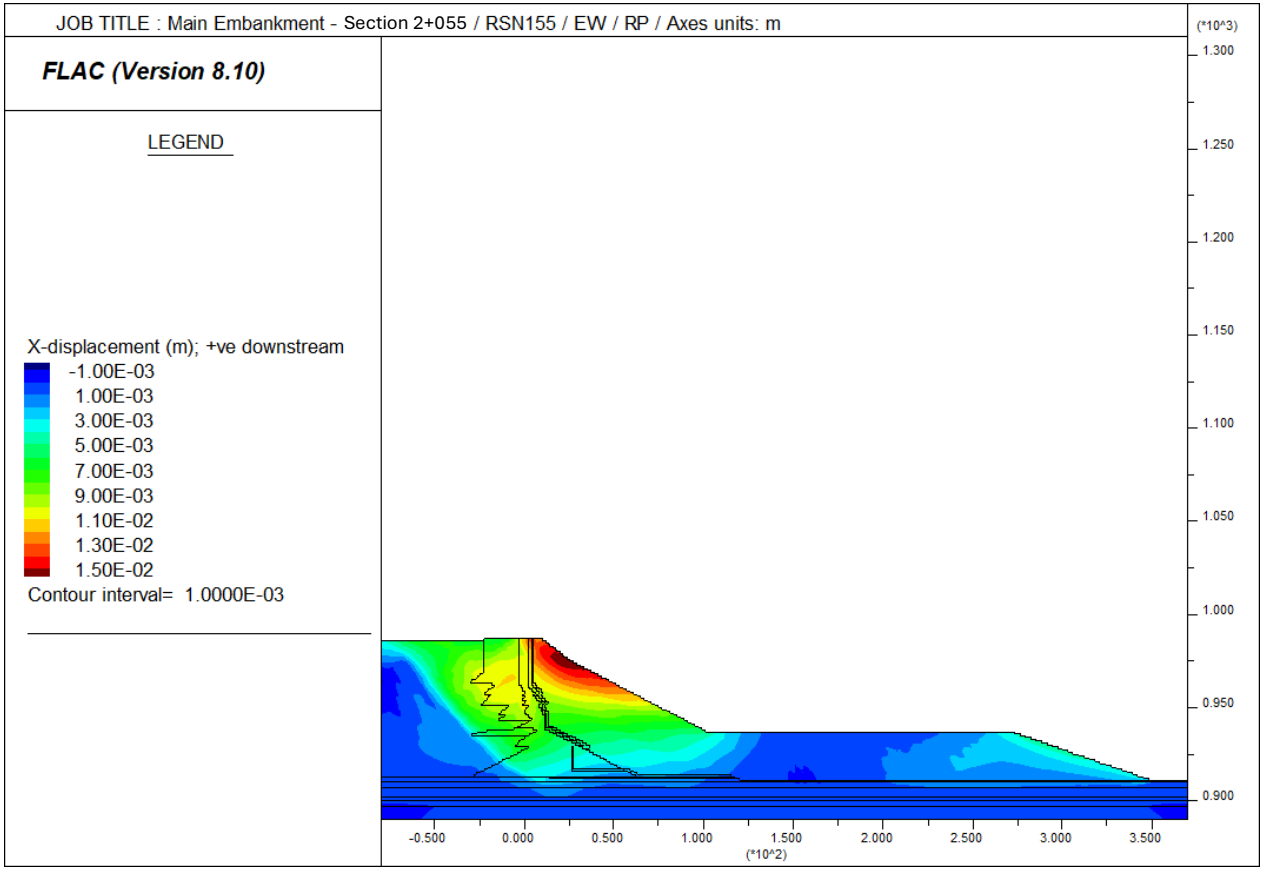

JOB TITLE : Main Embankment - Section 2+055 / RSN155 / EW / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
1.60E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

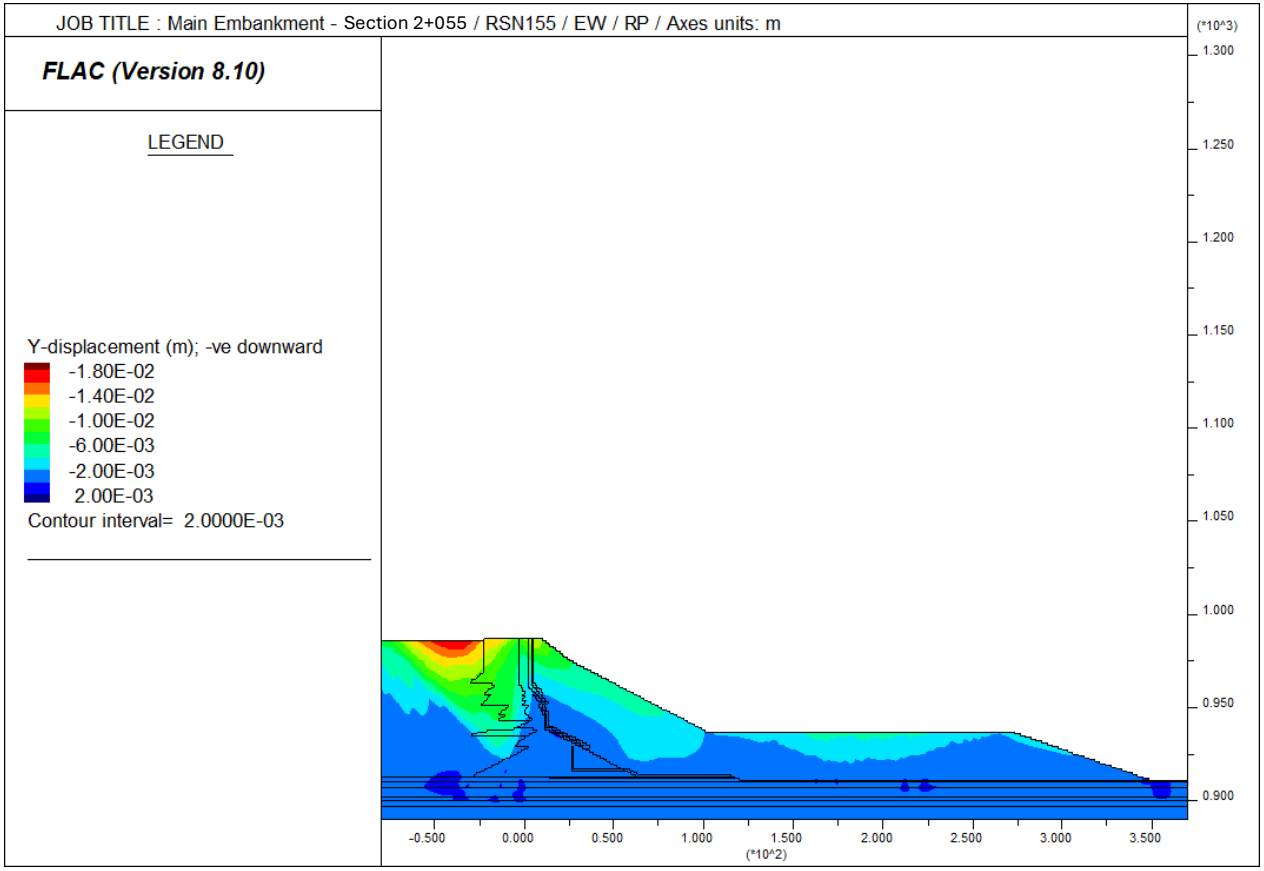

JOB TITLE : Main Embankment - Section 2+055 / RSN155 / EW / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.80E-02
-1.60E-02
-1.40E-02
-1.20E-02
-1.00E-02
-8.00E-03
-6.00E-03
-4.00E-03
-2.00E-03
0.00E+00
Contour interval= 2.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

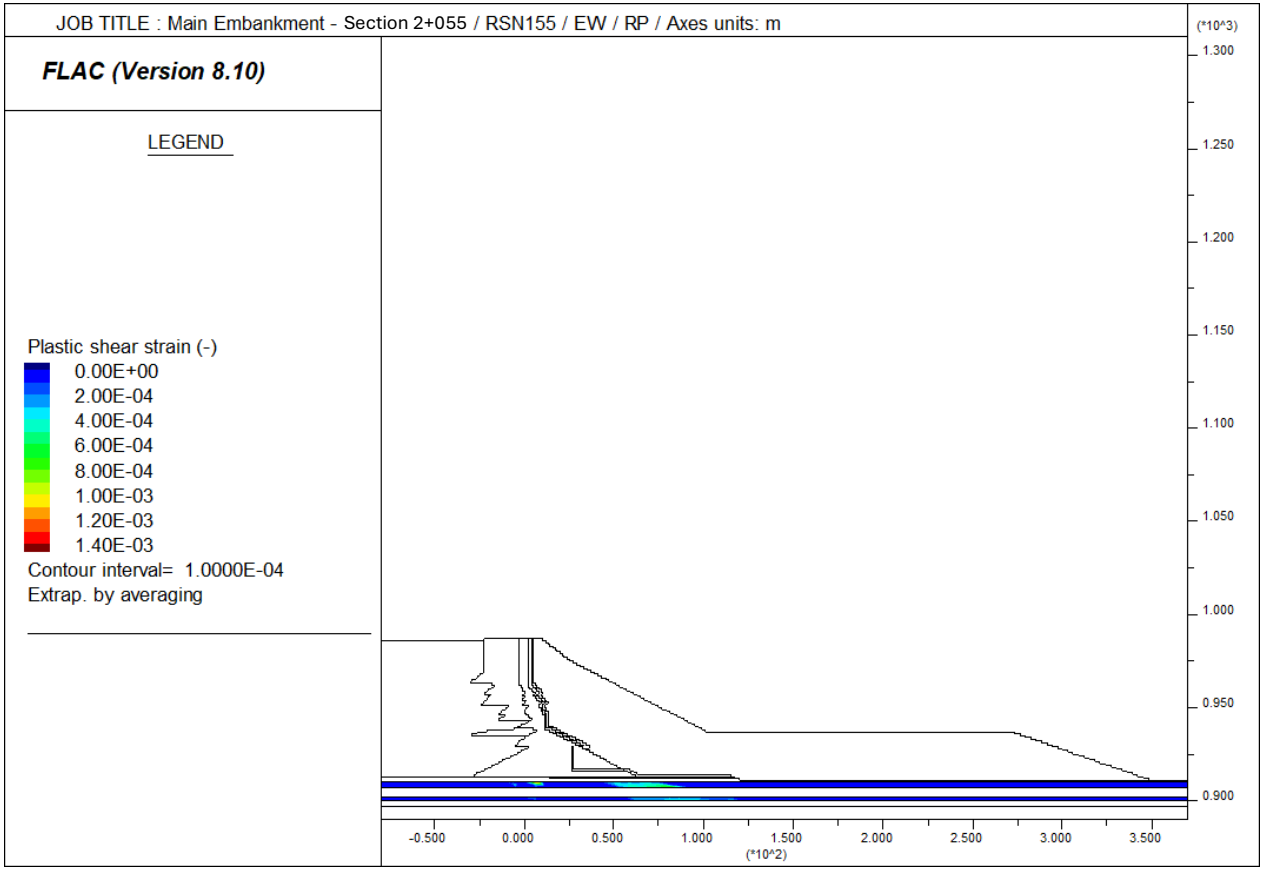

JOB TITLE : Main Embankment - Section 2+055 / RSN155 / EW / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

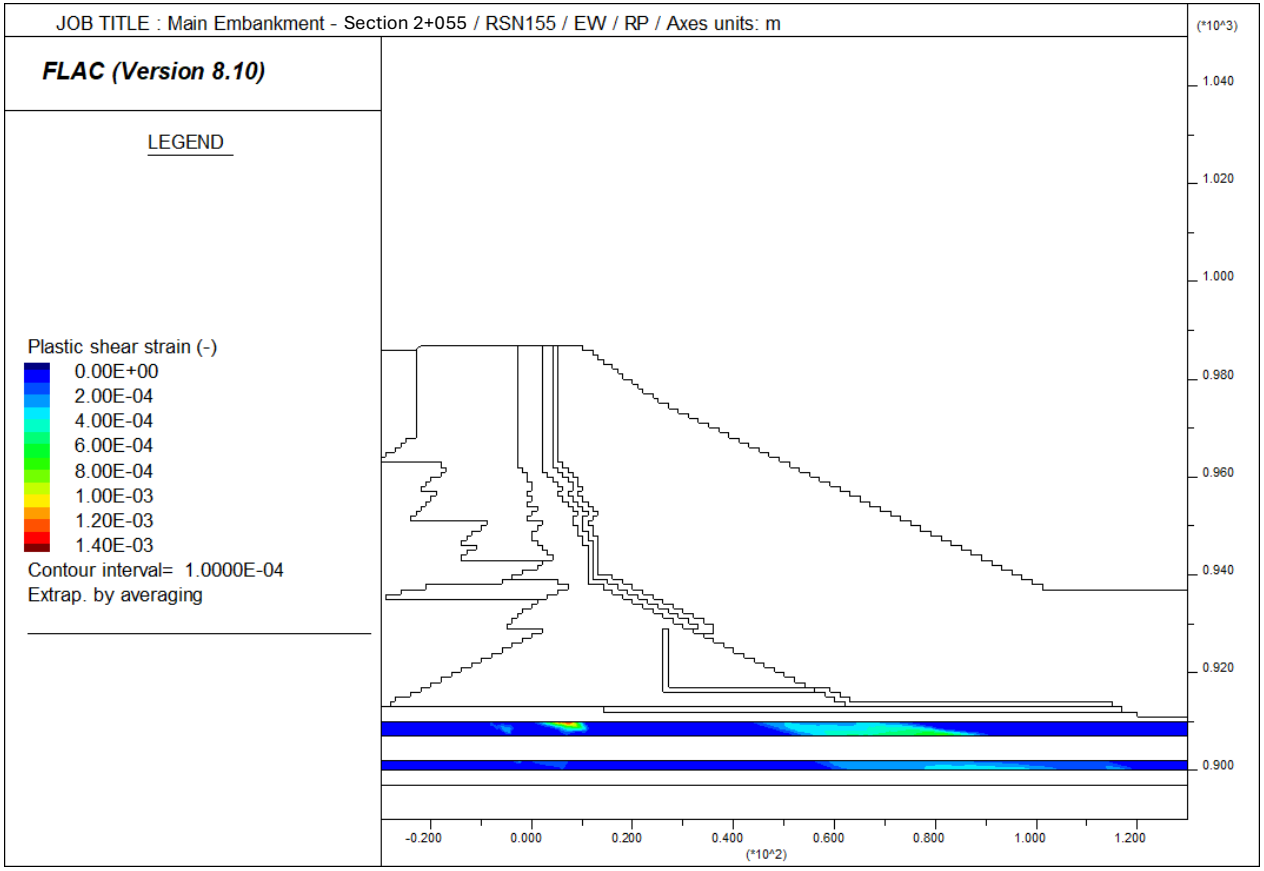

JOB TITLE : Main Embankment - Section 2+055 / RSN155 / EW / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

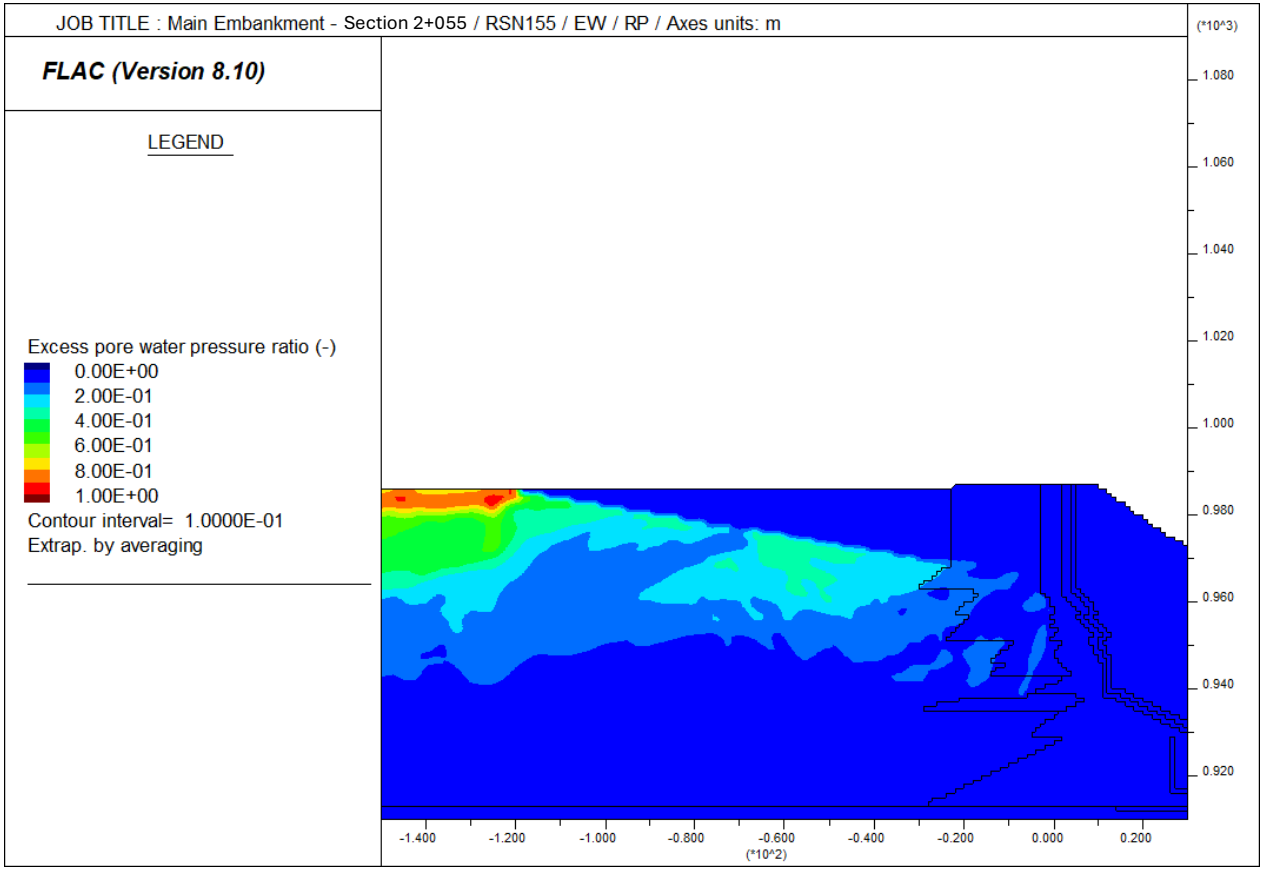

JOB TITLE : Main Embankment - Section 2+055 / RSN155 / EW / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

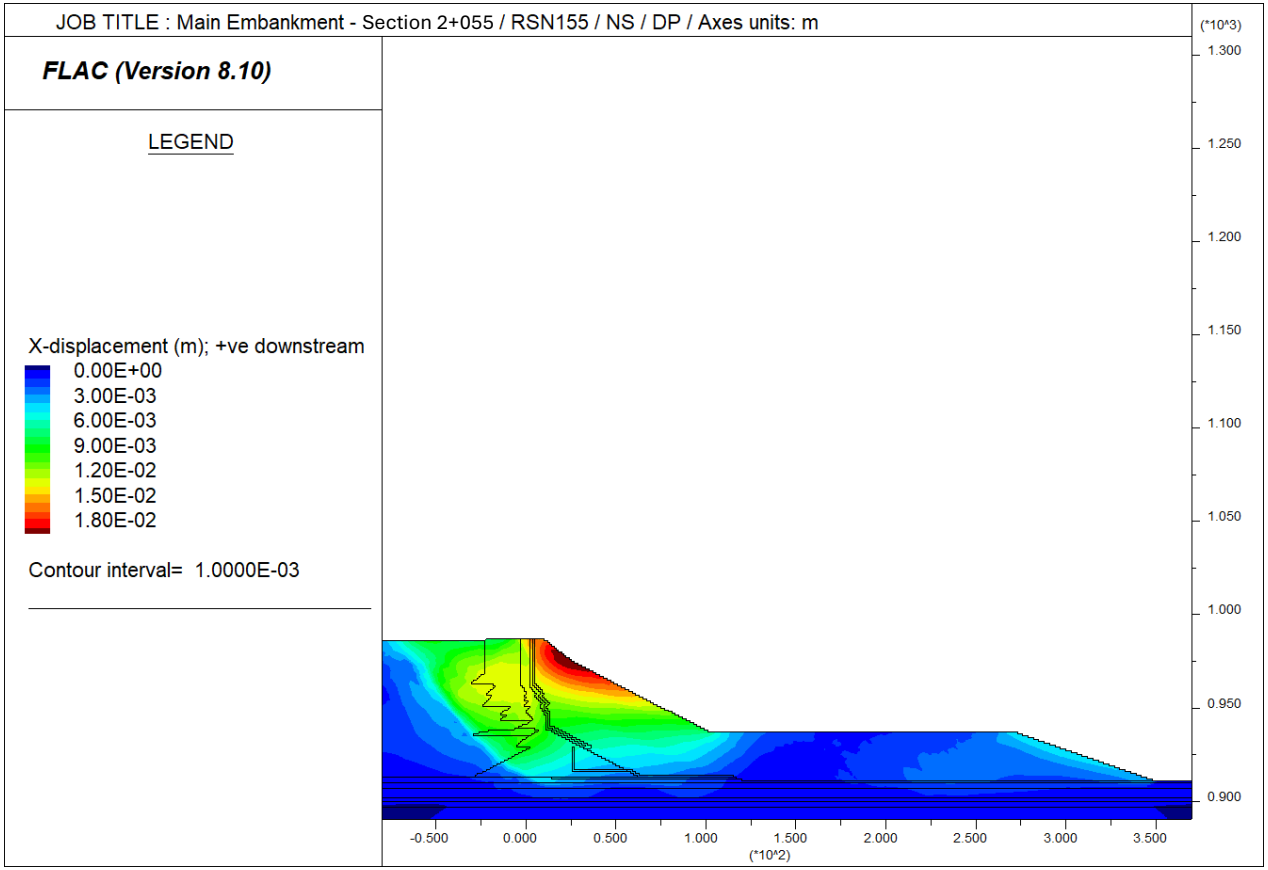

JOB TITLE : Main Embankment - Section 2+055 / RSN155 / EW / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
-1.00E-03
1.00E-03
3.00E-03
5.00E-03
7.00E-03
9.00E-03
1.10E-02
1.30E-02
1.50E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

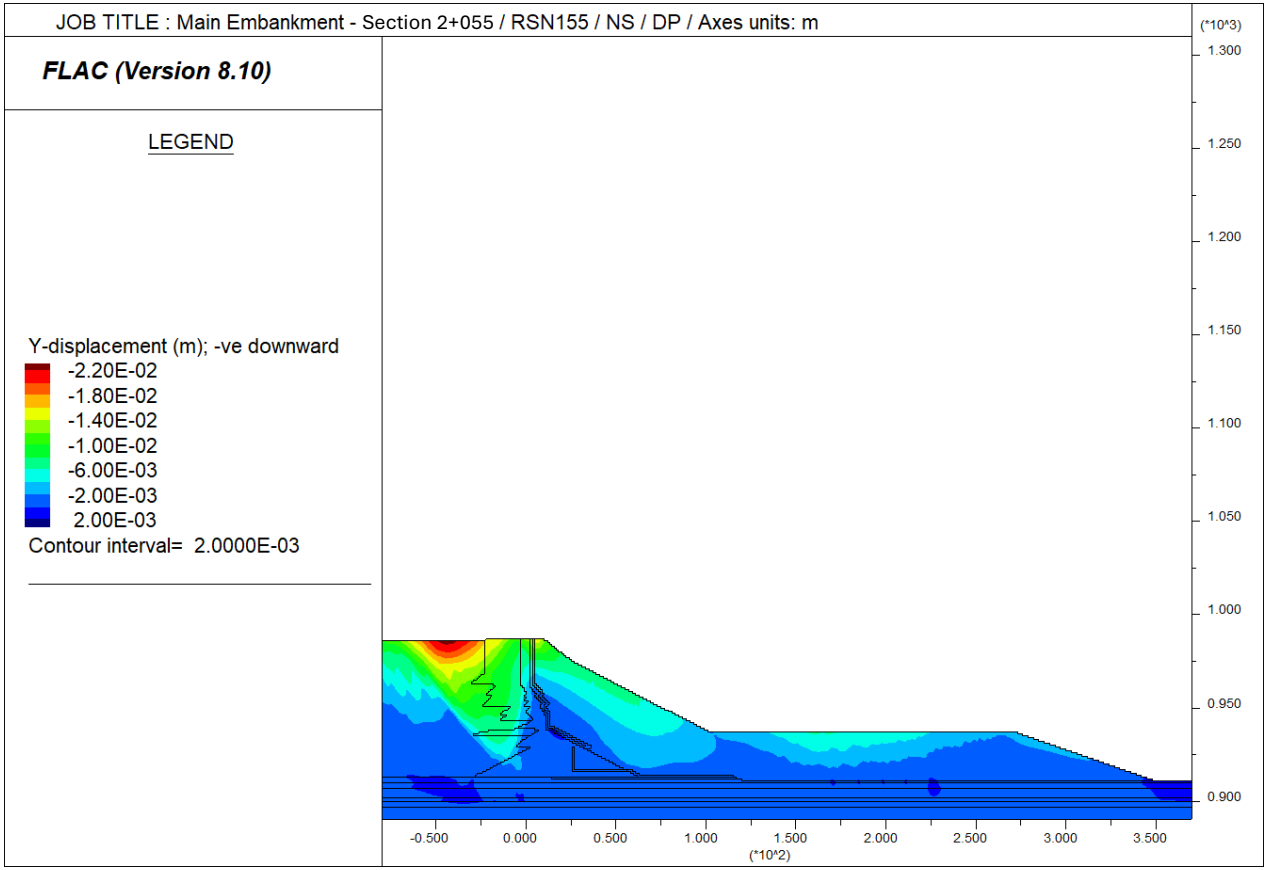

JOB TITLE : Main Embankment - Section 2+055 / RSN155 / EW / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.80E-02
-1.40E-02
-1.00E-02
-6.00E-03
-2.00E-03
2.00E-03
Contour interval= 2.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

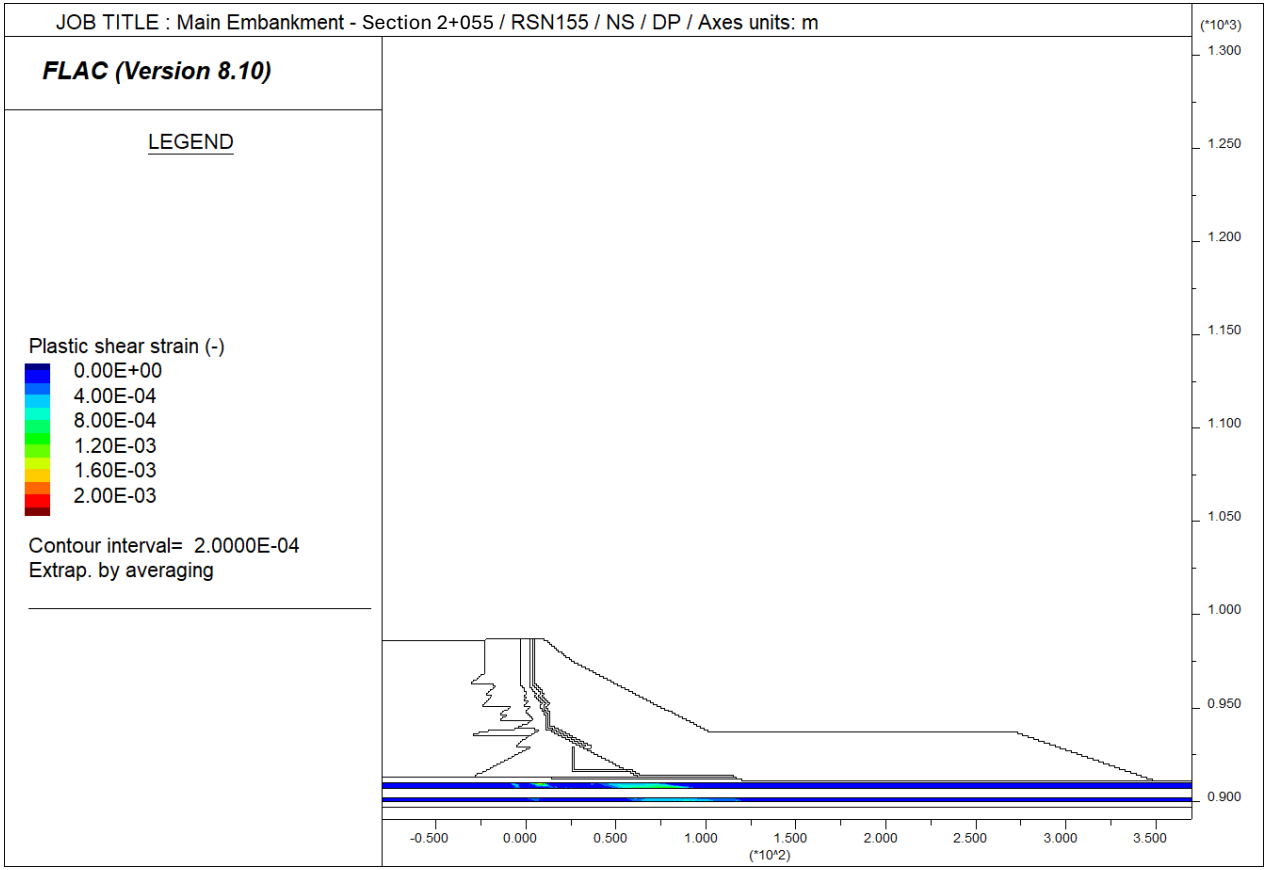

JOB TITLE : Main Embankment - Section 2+055 / RSN155 / EW / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

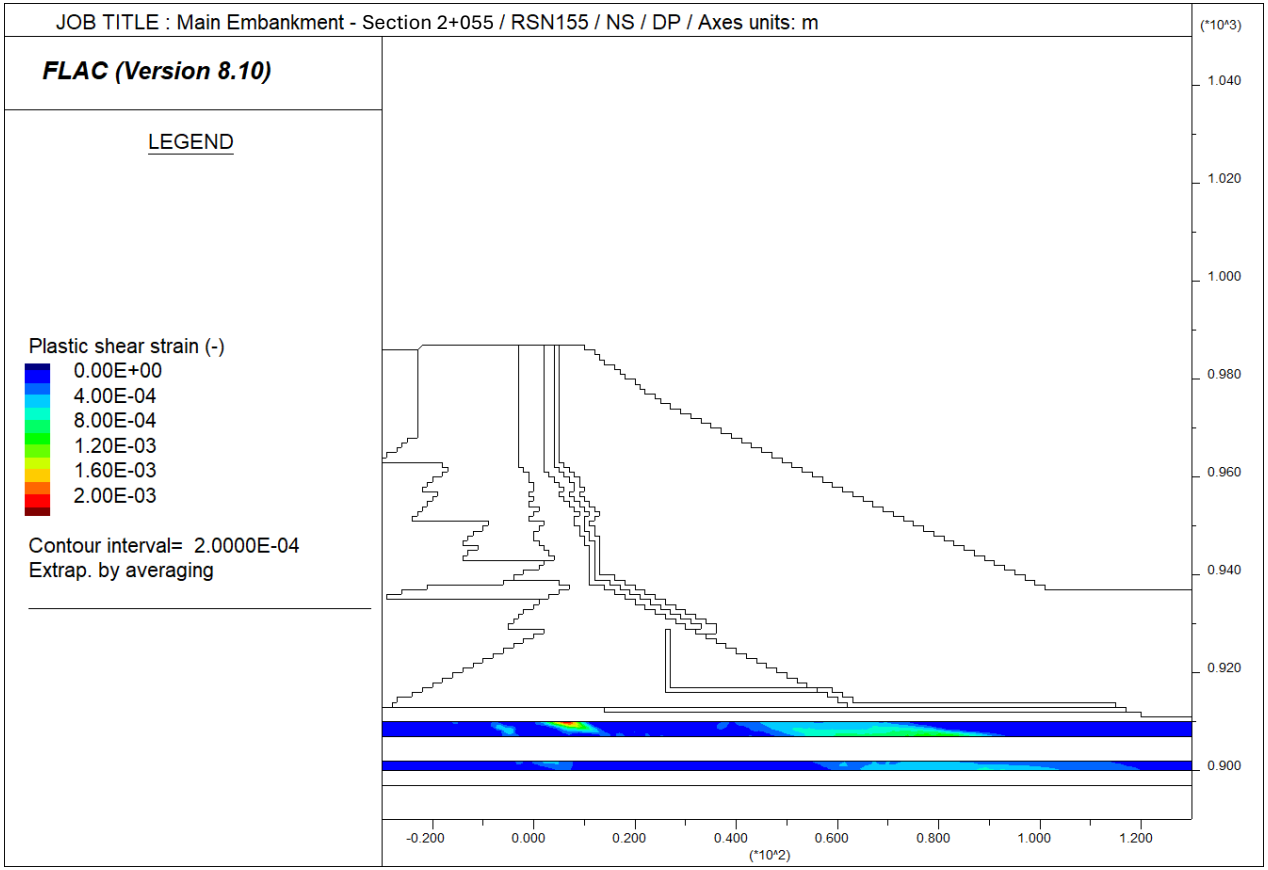

JOB TITLE : Main Embankment - Section 2+055 / RSN155 / EW / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

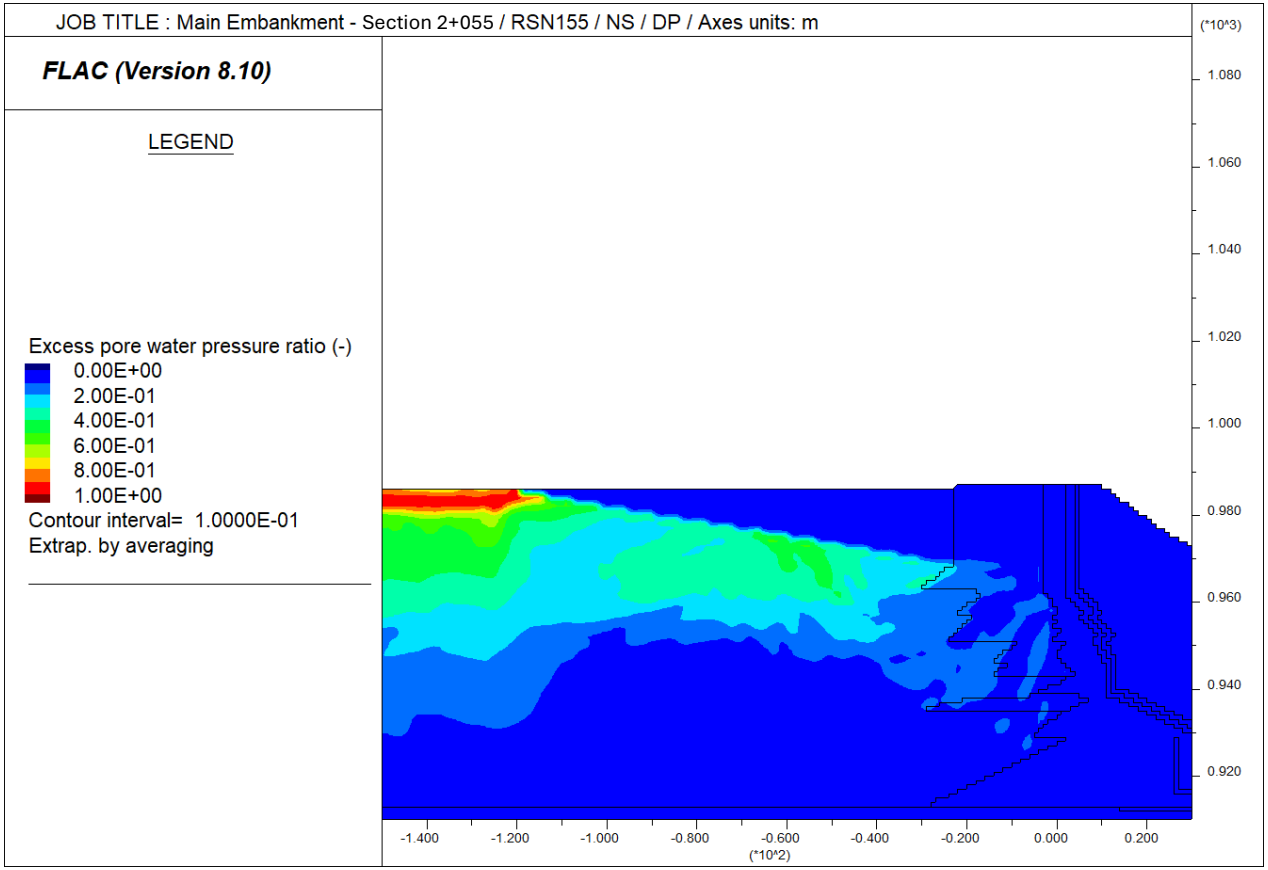

JOB TITLE : Main Embankment - Section 2+055 / RSN155 / EW / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

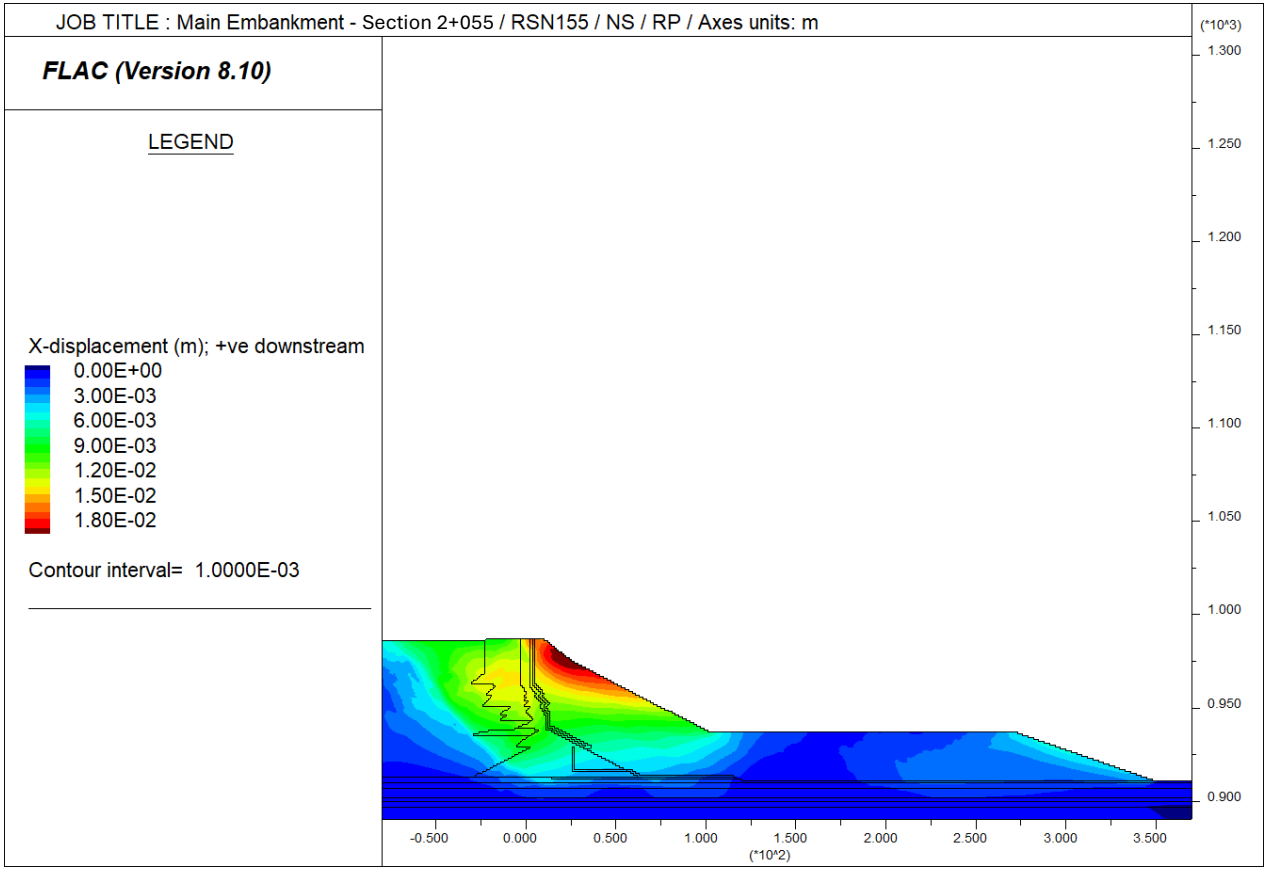

JOB TITLE : Main Embankment - Section 2+055 / RSN155 / NS / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
3.00E-03
6.00E-03
9.00E-03
1.20E-02
1.50E-02
1.80E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

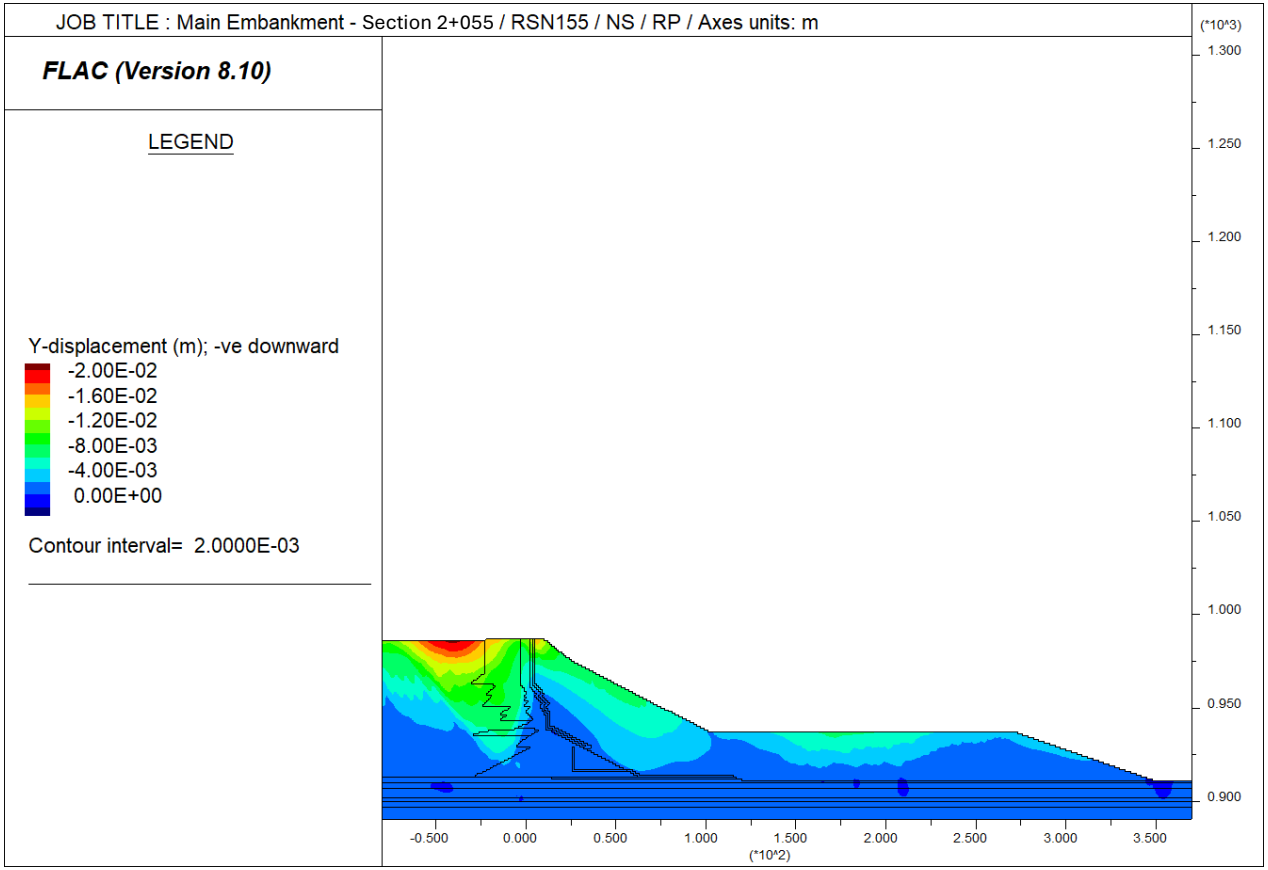

JOB TITLE : Main Embankment - Section 2+055 / RSN155 / NS / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-2.20E-02
-1.80E-02
-1.40E-02
-1.00E-02
-6.00E-03
-2.00E-03
2.00E-03
Contour interval= 2.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

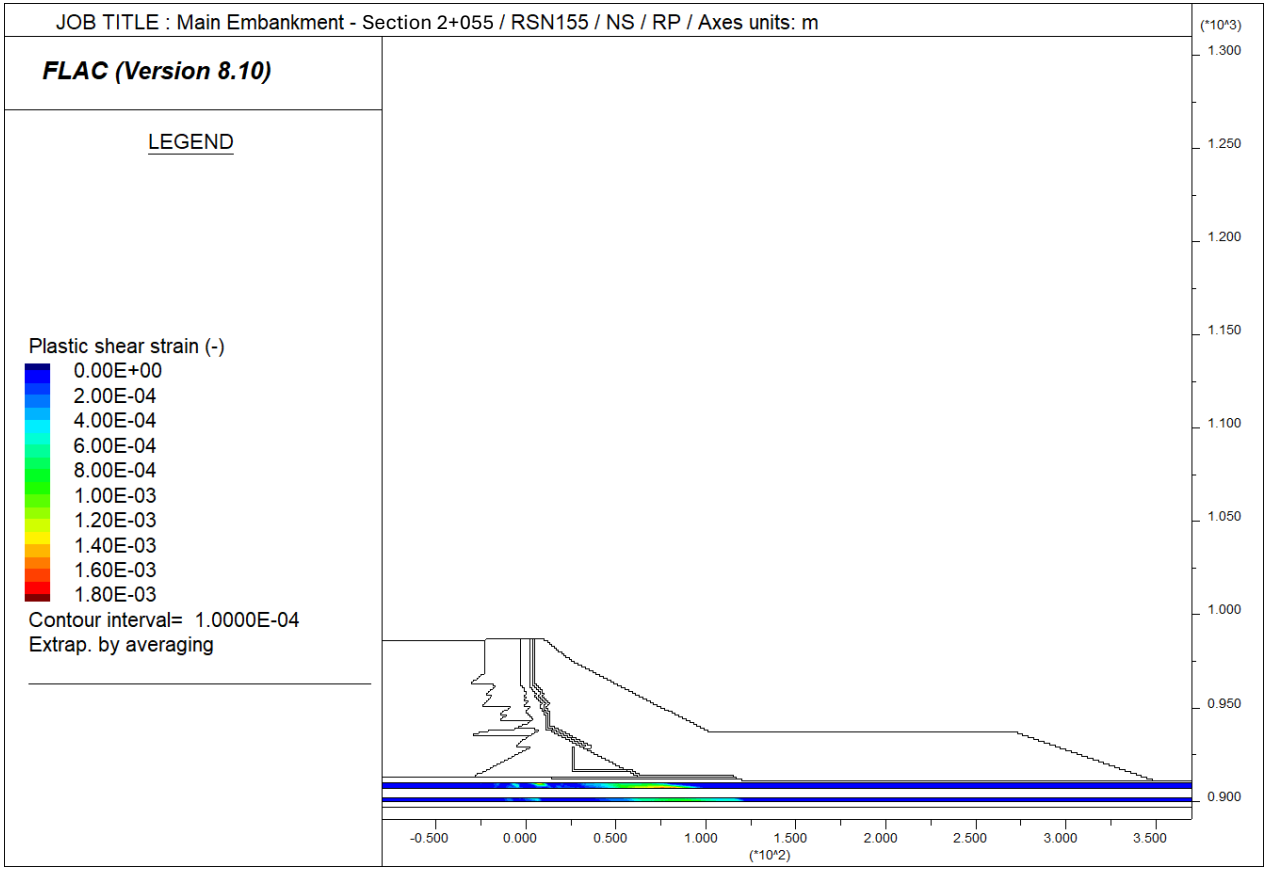

JOB TITLE : Main Embankment - Section 2+055 / RSN155 / NS / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-04
8.00E-04
1.20E-03
1.60E-03
2.00E-03
Contour interval= 2.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

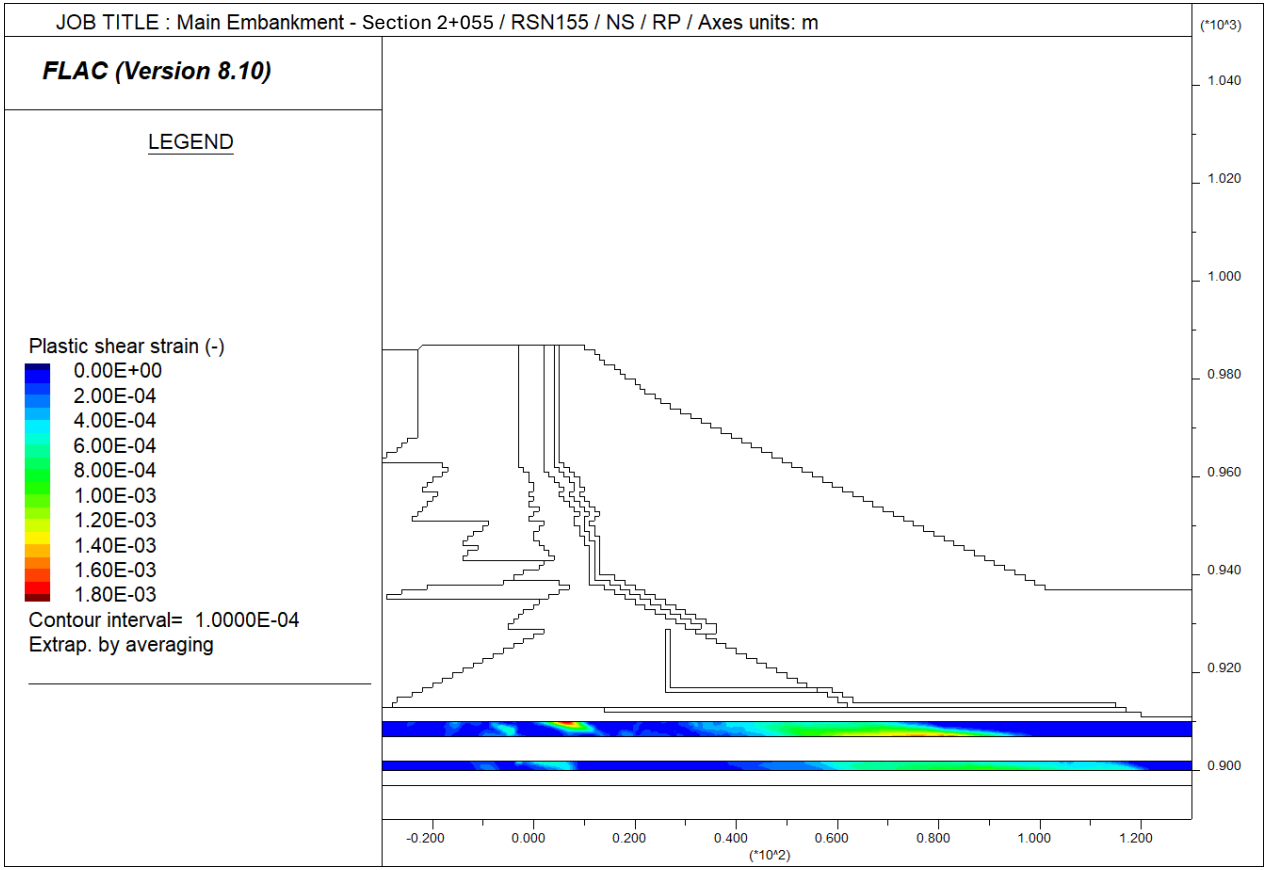

JOB TITLE : Main Embankment - Section 2+055 / RSN155 / NS / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-04
8.00E-04
1.20E-03
1.60E-03
2.00E-03
Contour interval= 2.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

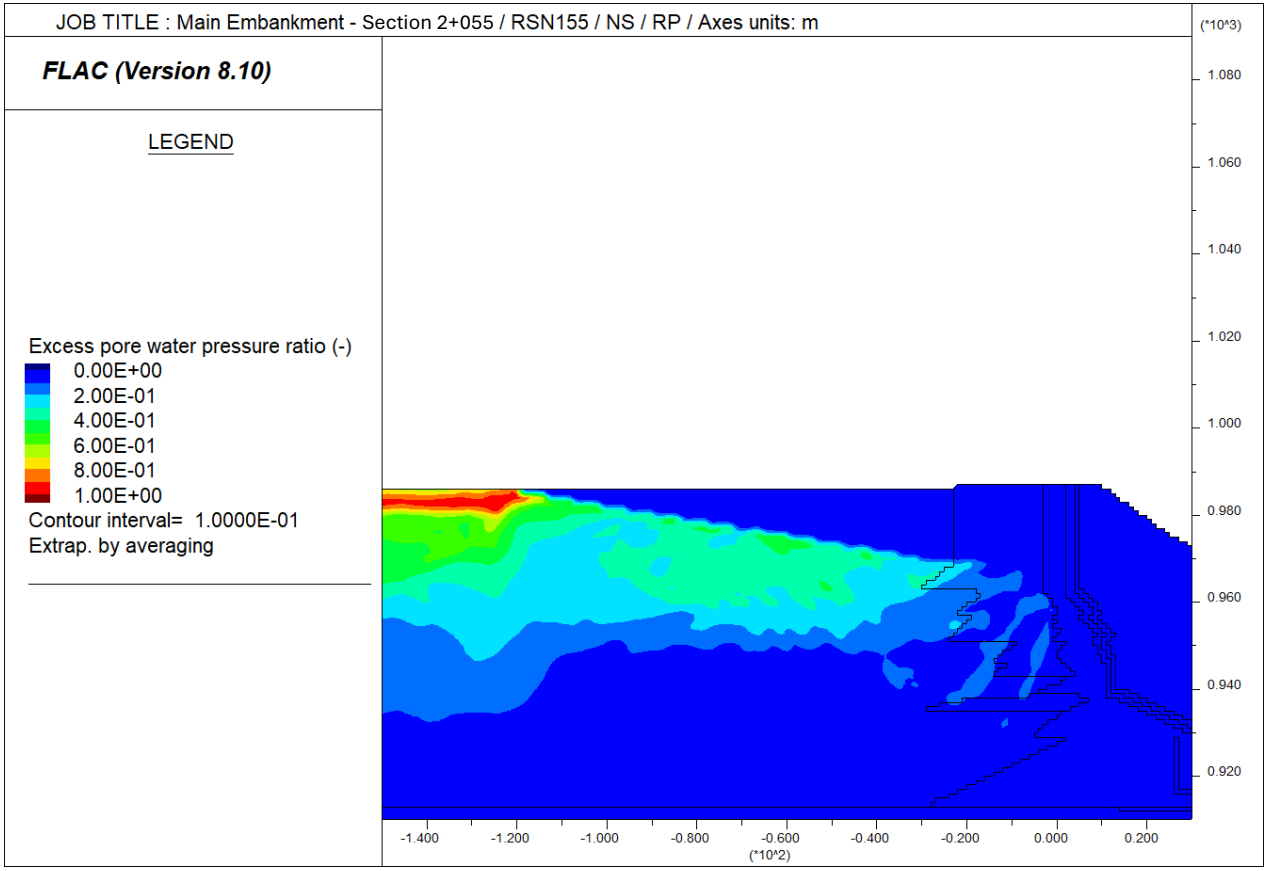

JOB TITLE : Main Embankment - Section 2+055 / RSN155 / NS / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

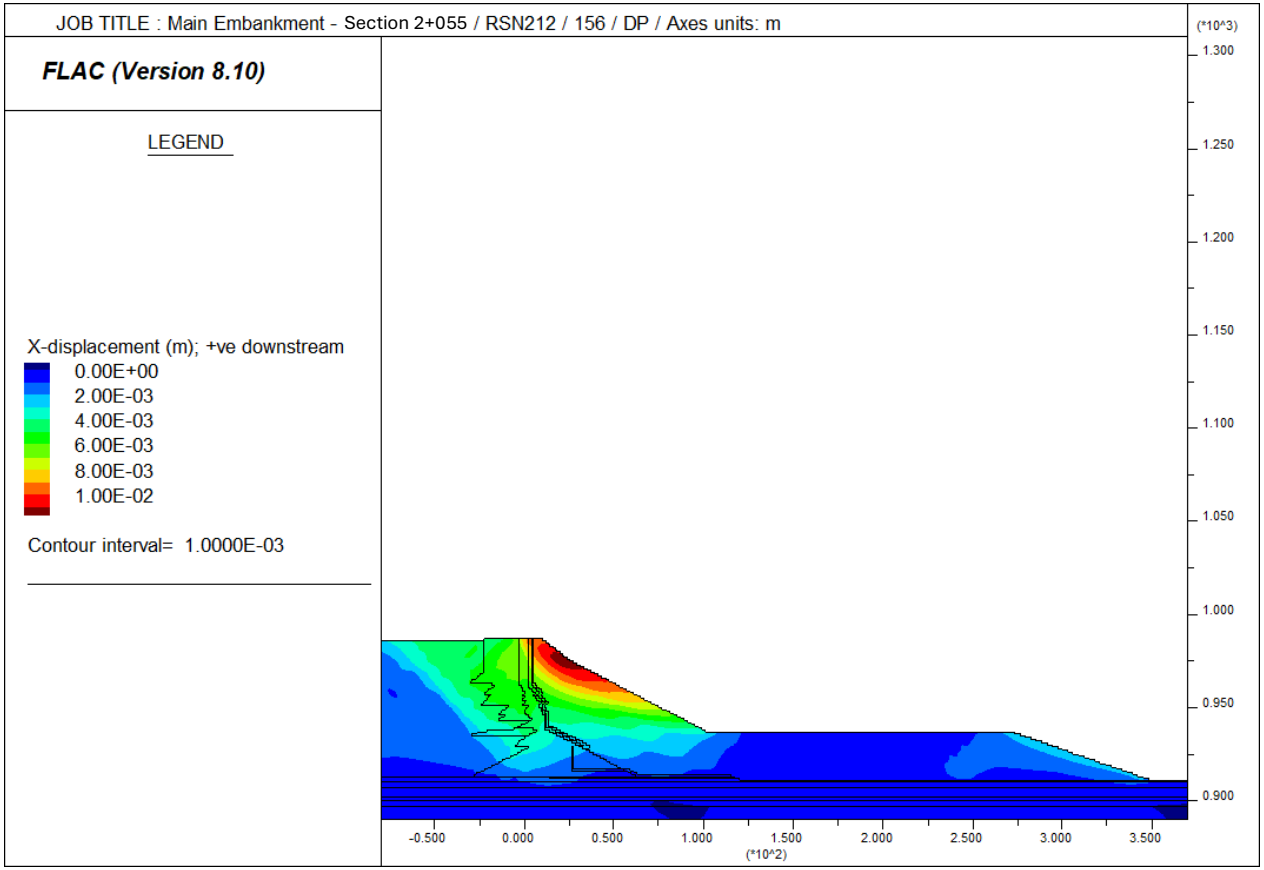

JOB TITLE : Main Embankment - Section 2+055 / RSN155 / NS / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
3.00E-03
6.00E-03
9.00E-03
1.20E-02
1.50E-02
1.80E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

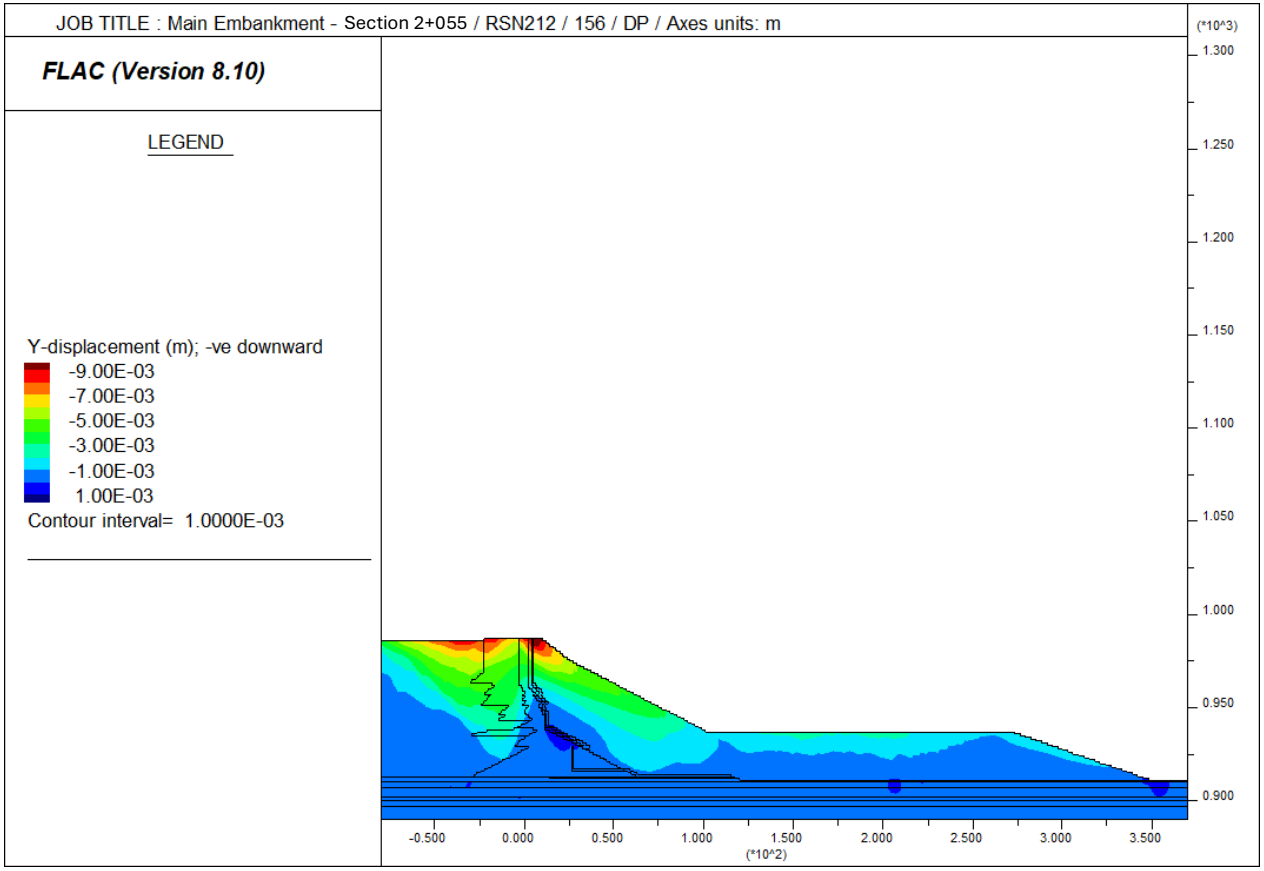

JOB TITLE : Main Embankment - Section 2+055 / RSN155 / NS / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-2.00E-02
-1.60E-02
-1.20E-02
-8.00E-03
-4.00E-03
0.00E+00
Contour interval= 2.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

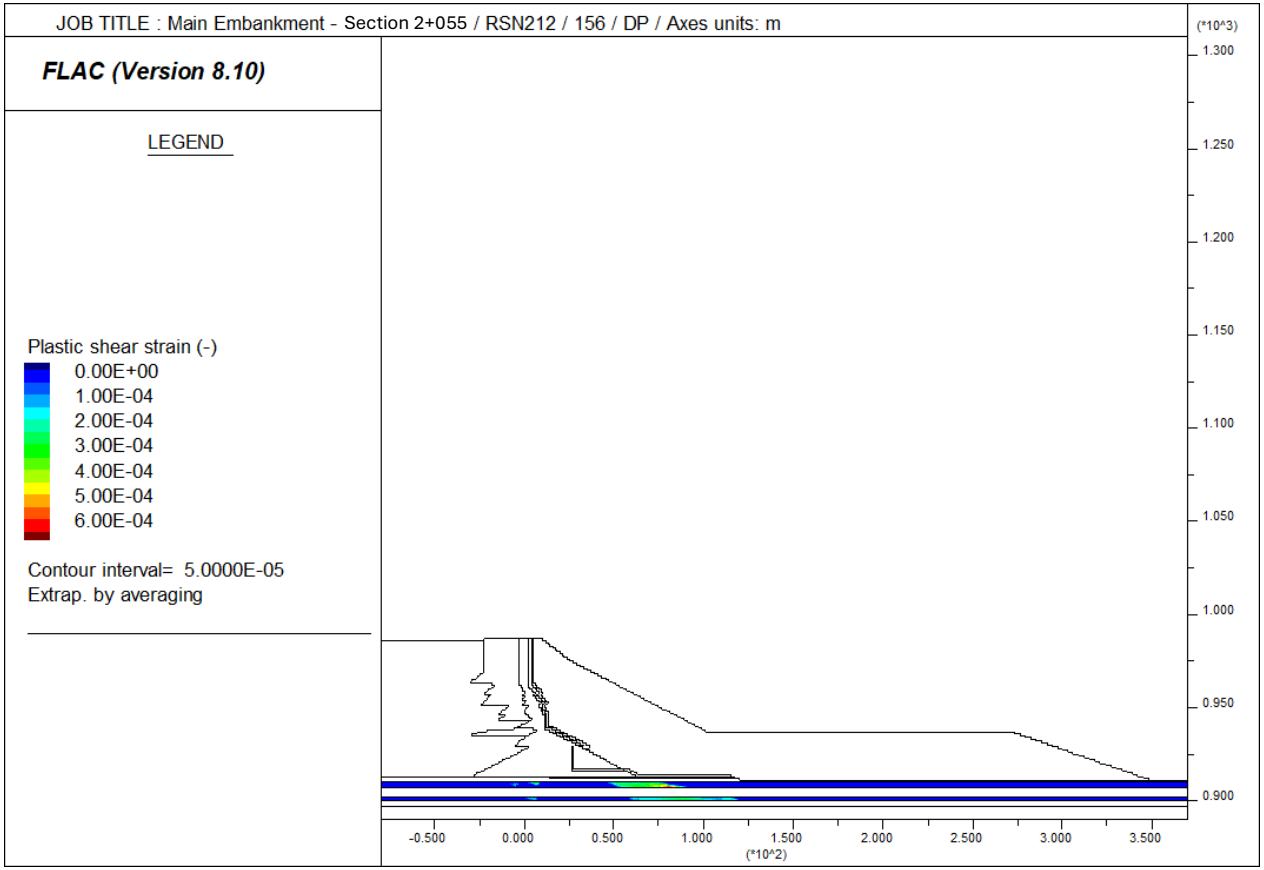

JOB TITLE : Main Embankment - Section 2+055 / RSN155 / NS / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
1.80E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

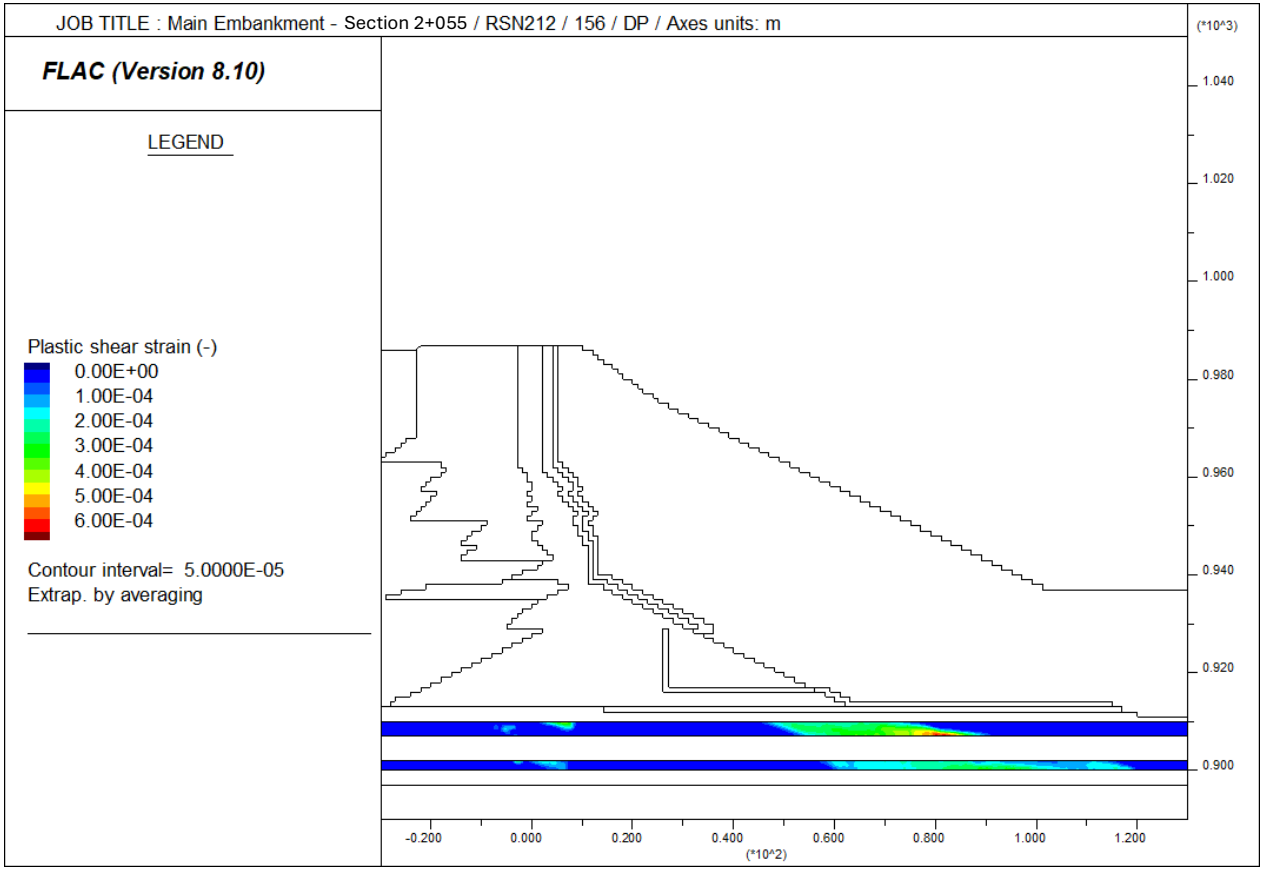

JOB TITLE : Main Embankment - Section 2+055 / RSN155 / NS / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
1.80E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

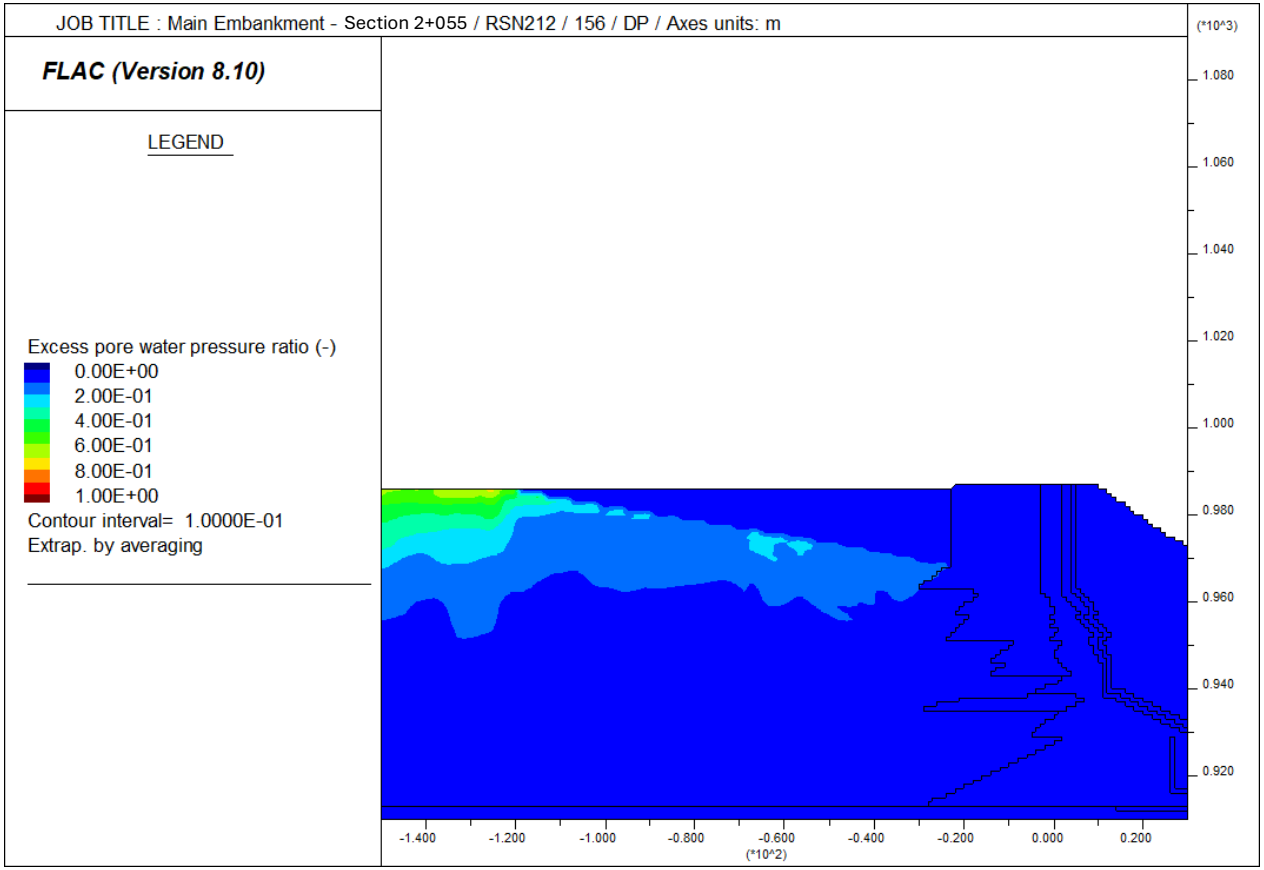

JOB TITLE : Main Embankment - Section 2+055 / RSN155 / NS / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

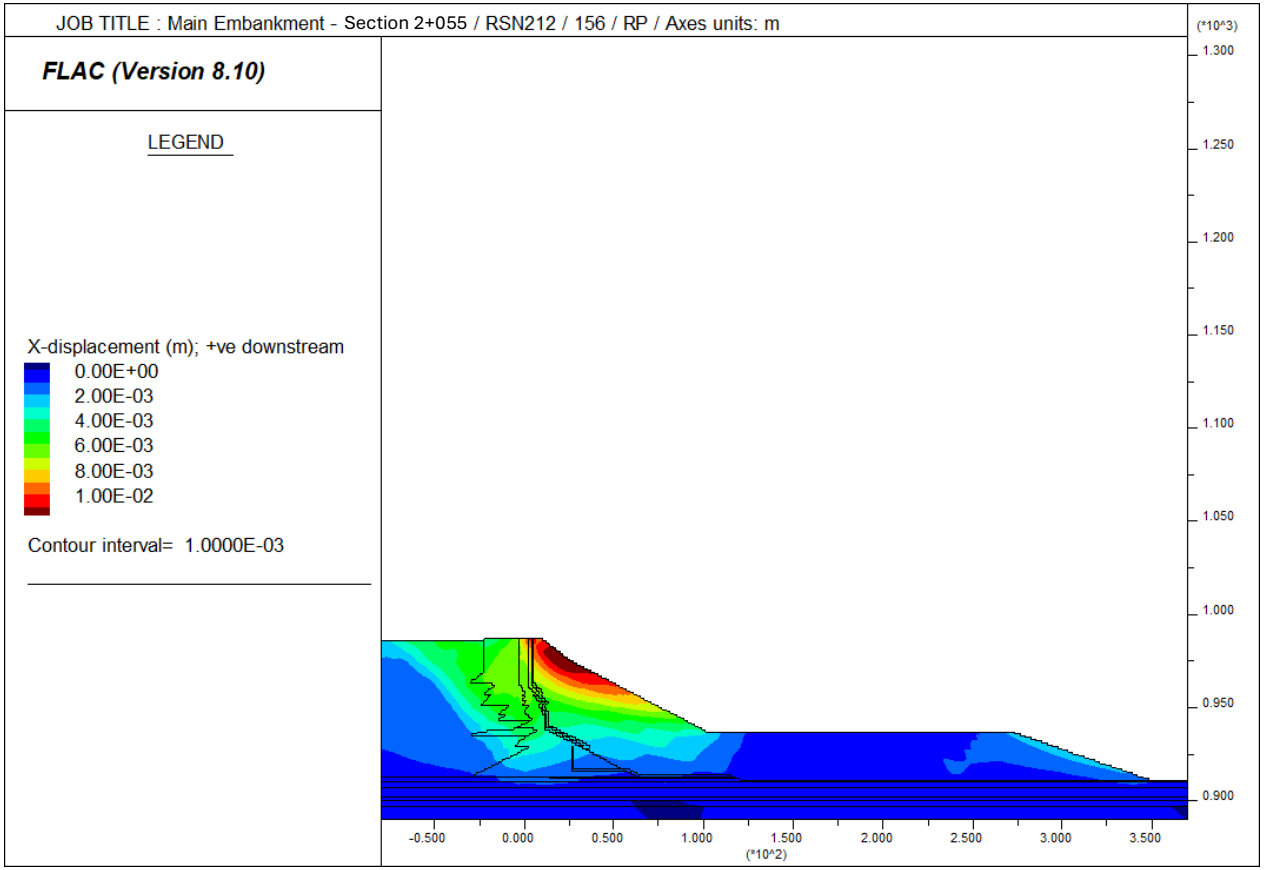

JOB TITLE : Main Embankment - Section 2+055 / RSN212 / 156 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

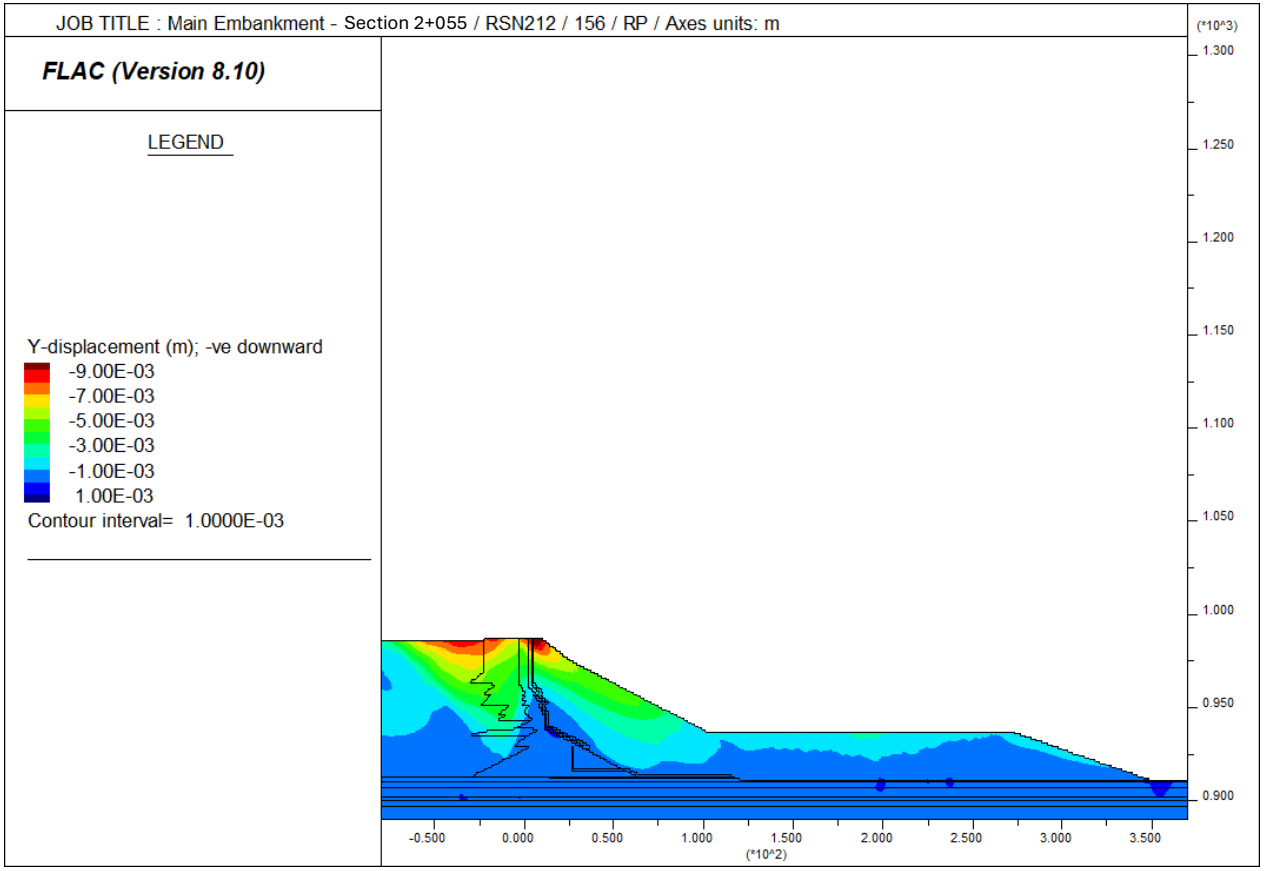

JOB TITLE : Main Embankment - Section 2+055 / RSN212 / 156 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

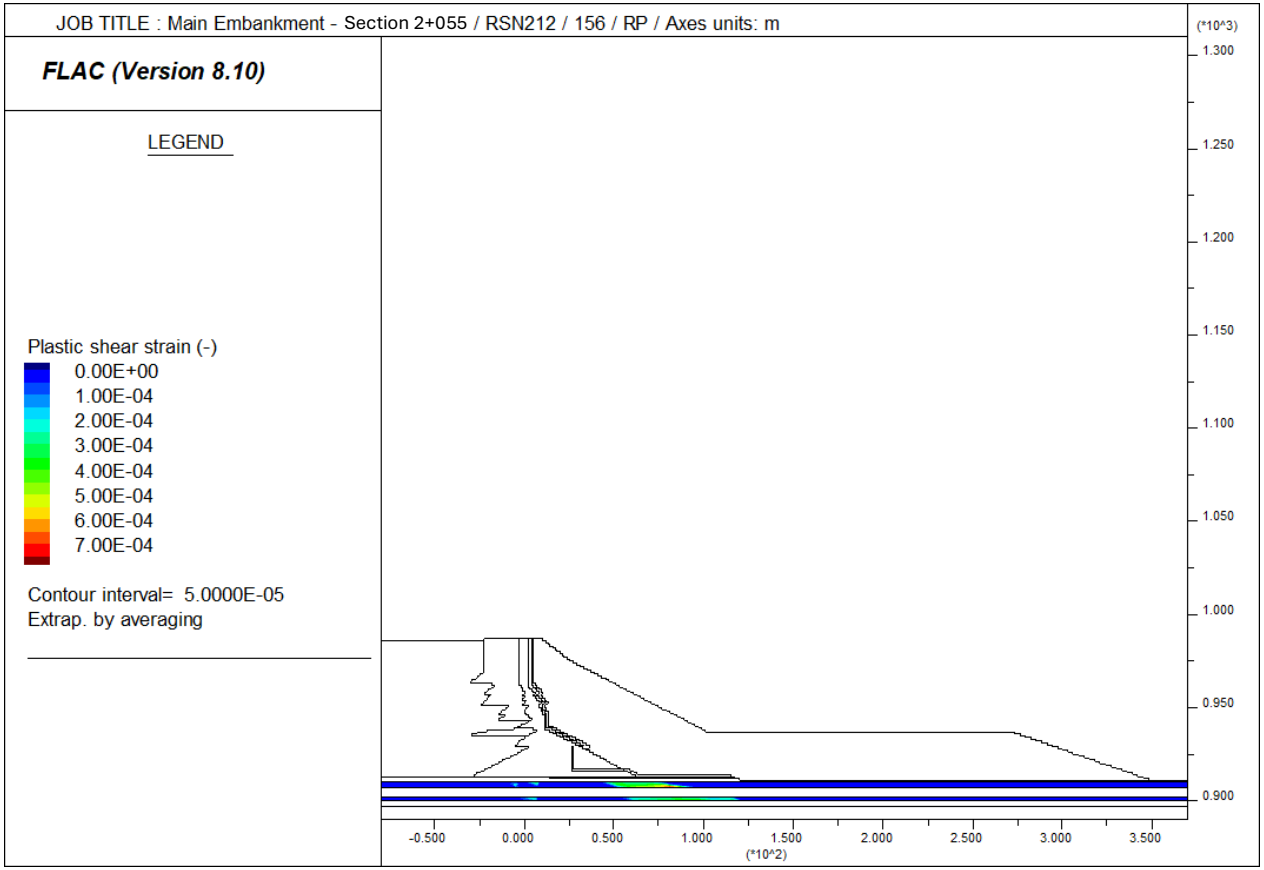

JOB TITLE : Main Embankment - Section 2+055 / RSN212 / 156 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

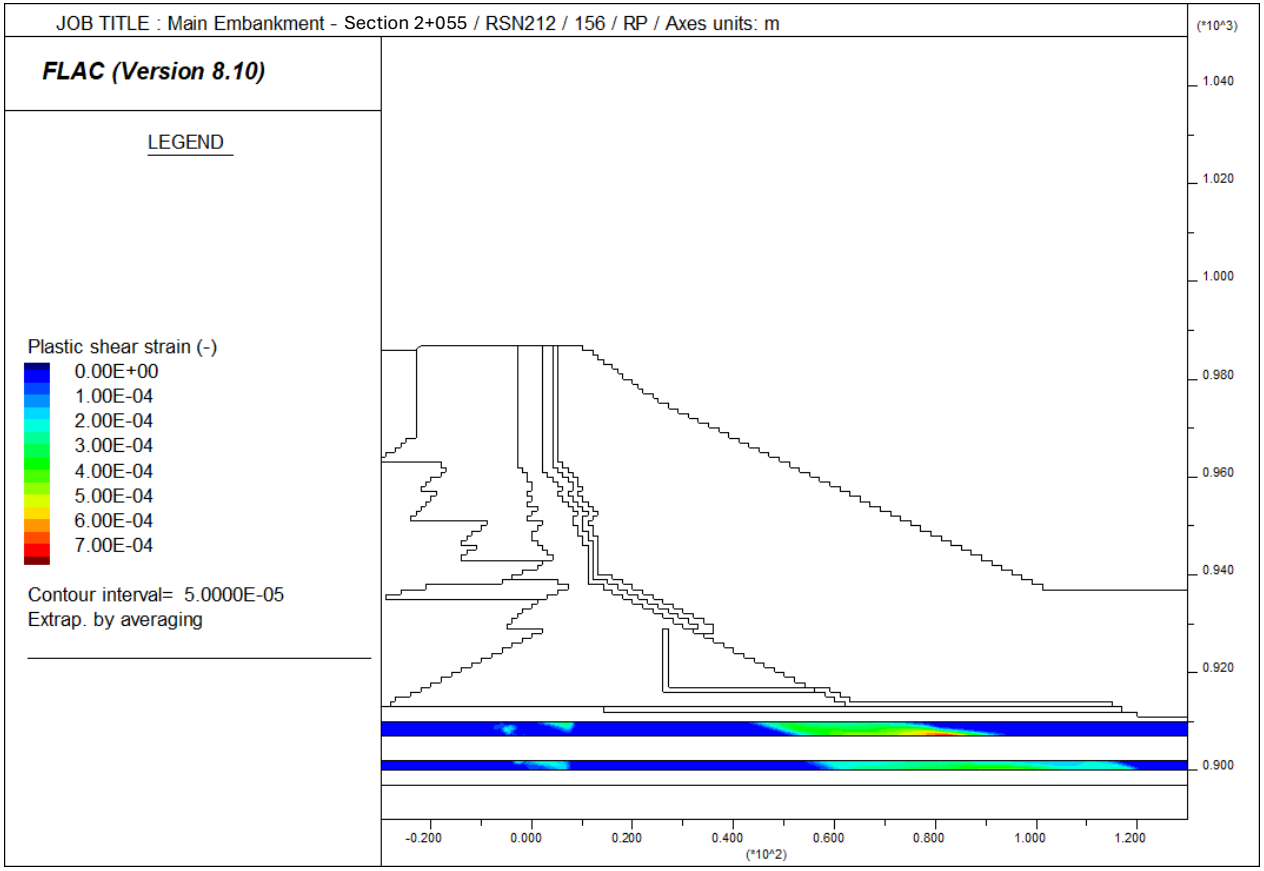

JOB TITLE : Main Embankment - Section 2+055 / RSN212 / 156 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

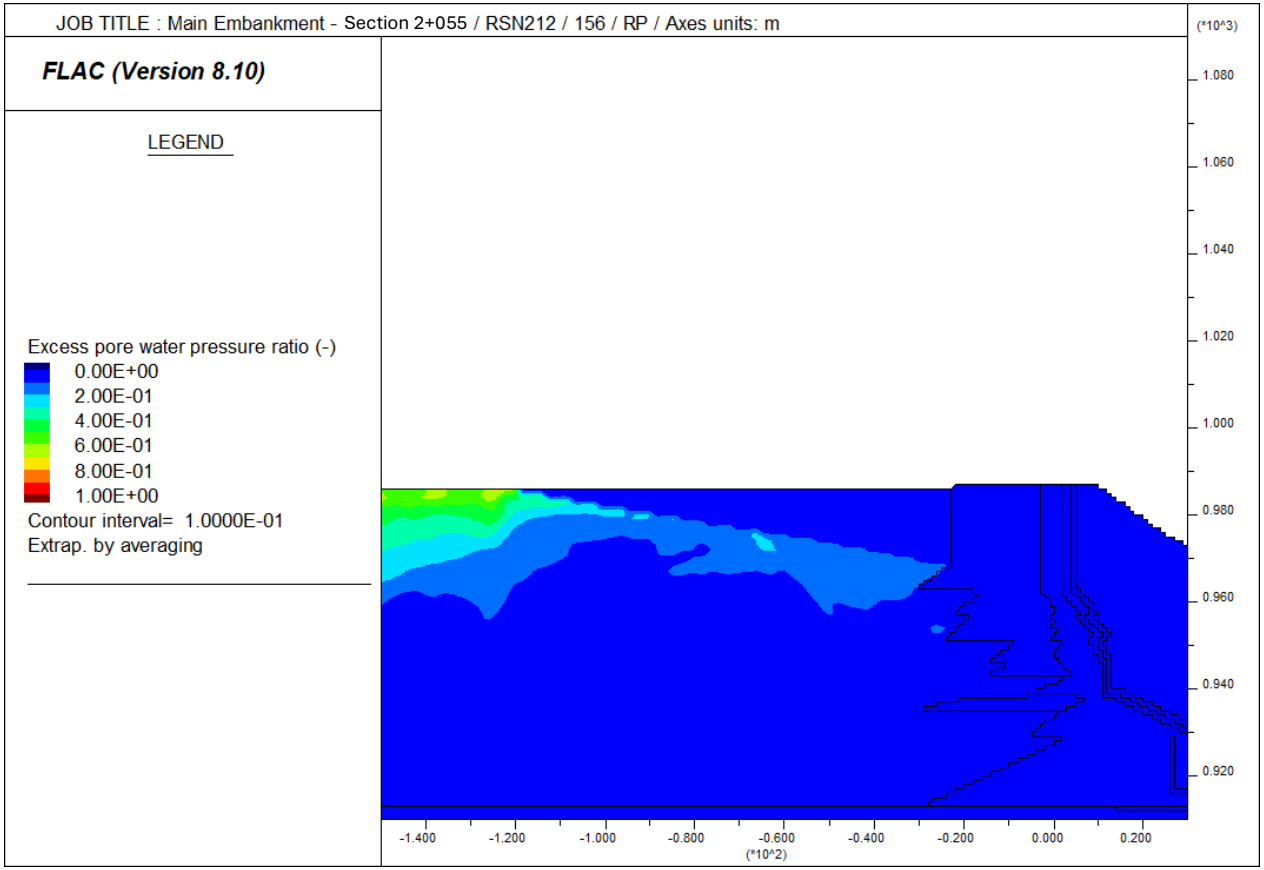

JOB TITLE : Main Embankment - Section 2+055 / RSN212 / 156 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

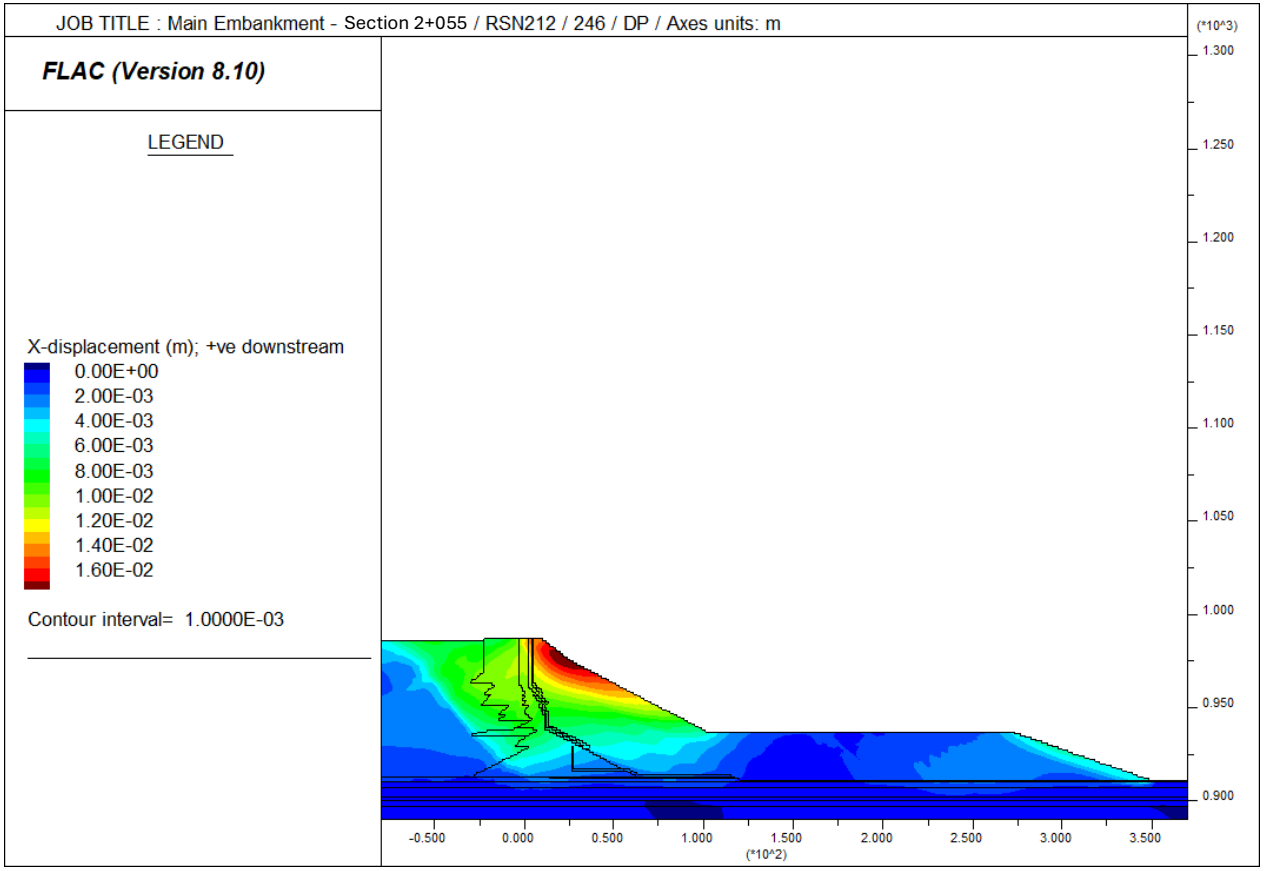

JOB TITLE : Main Embankment - Section 2+055 / RSN212 / 156 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

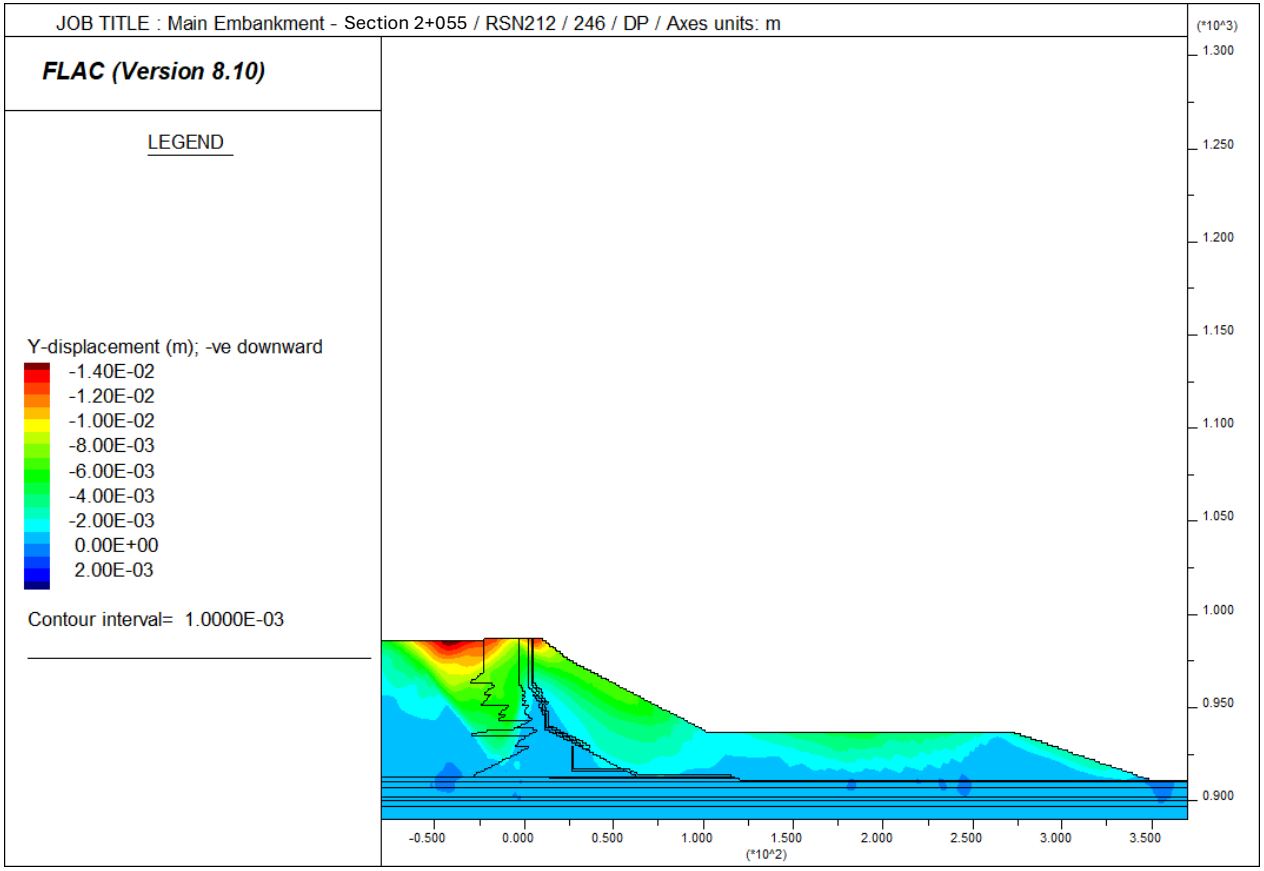

JOB TITLE : Main Embankment - Section 2+055 / RSN212 / 156 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

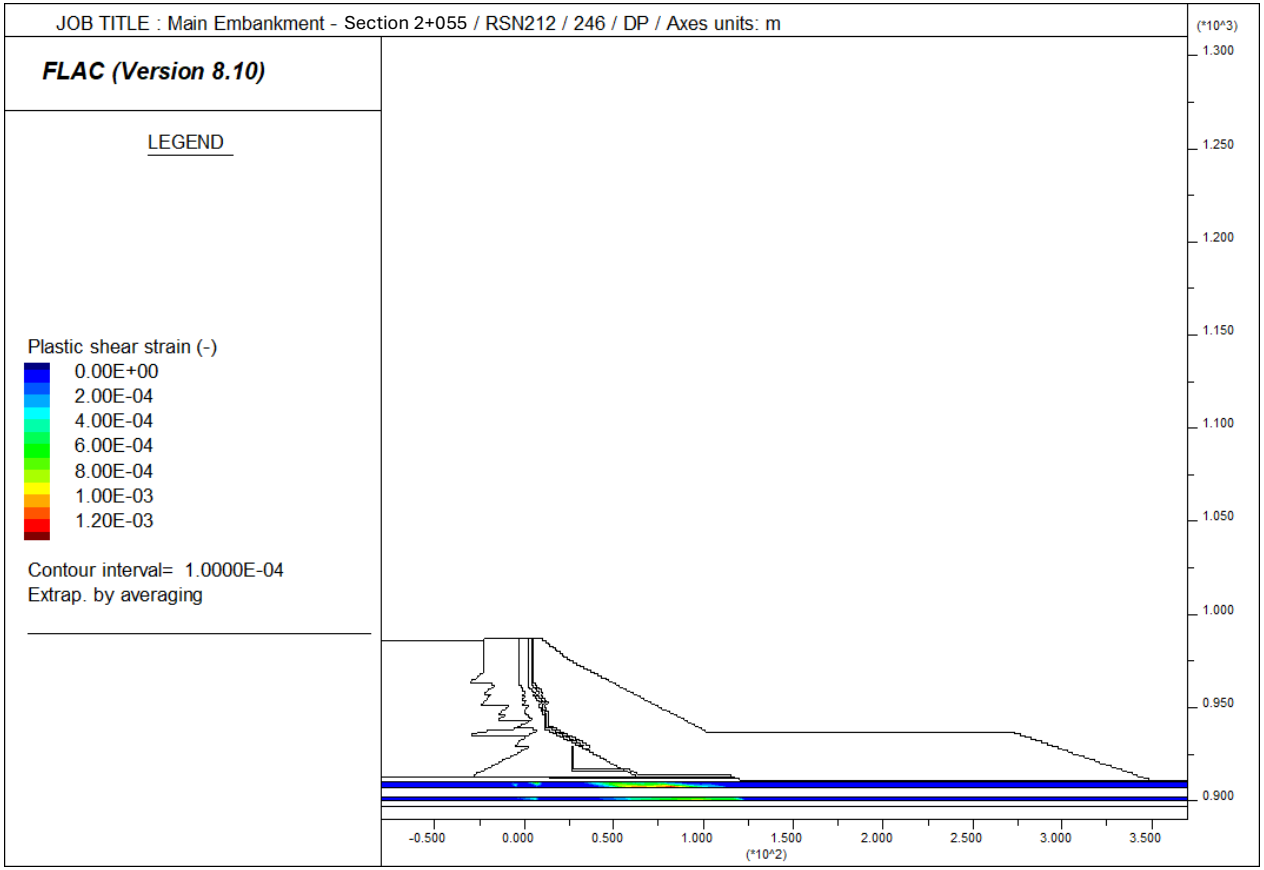

JOB TITLE : Main Embankment - Section 2+055 / RSN212 / 156 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
7.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

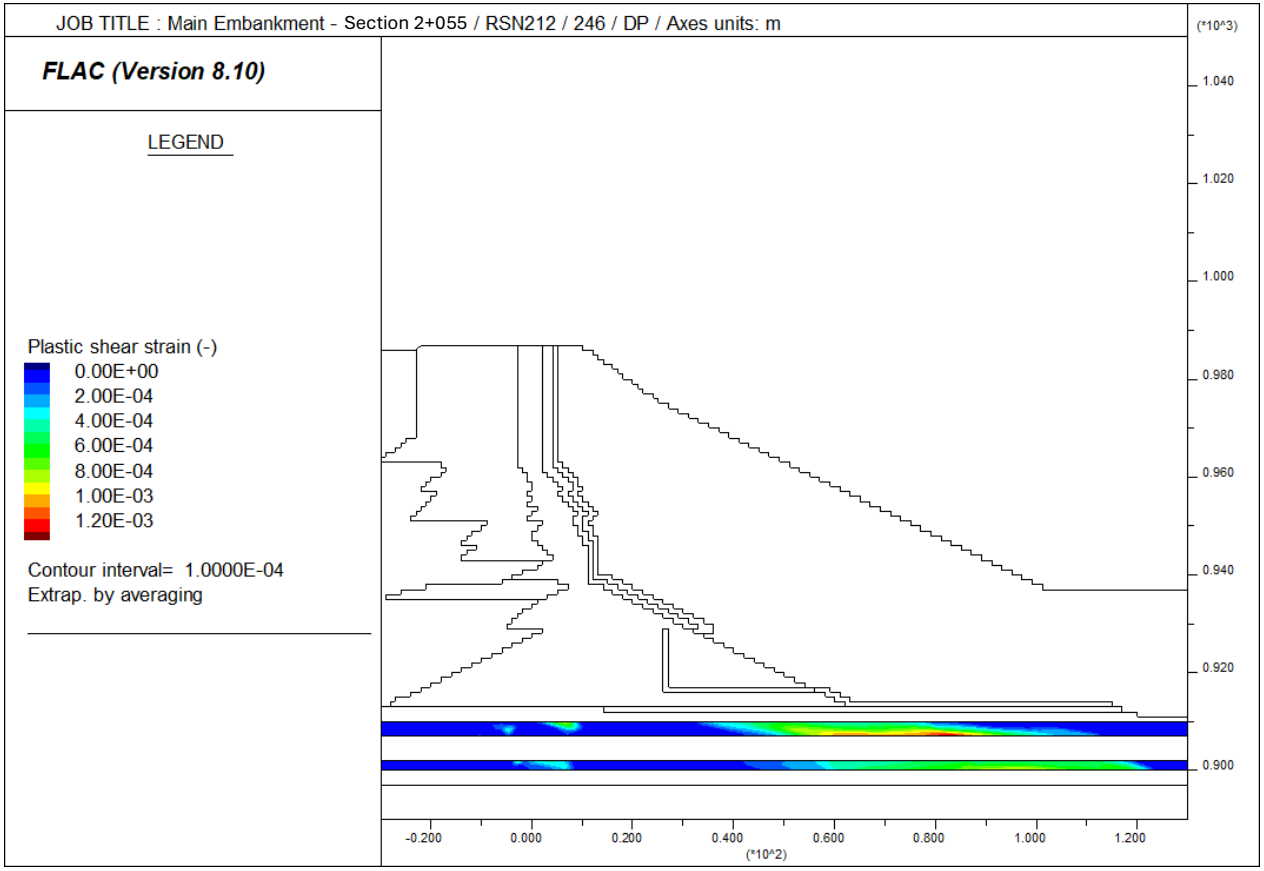

JOB TITLE : Main Embankment - Section 2+055 / RSN212 / 156 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
7.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

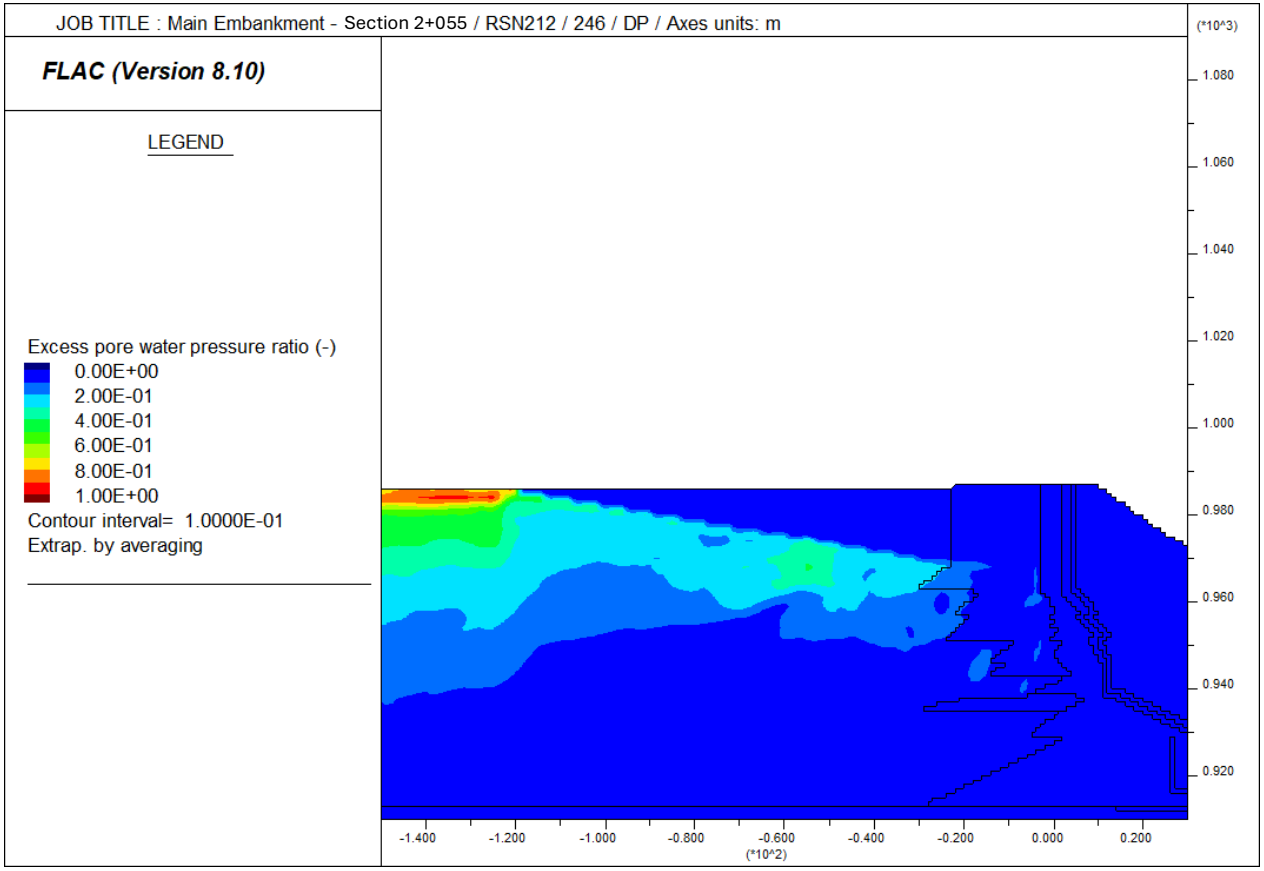

JOB TITLE : Main Embankment - Section 2+055 / RSN212 / 156 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

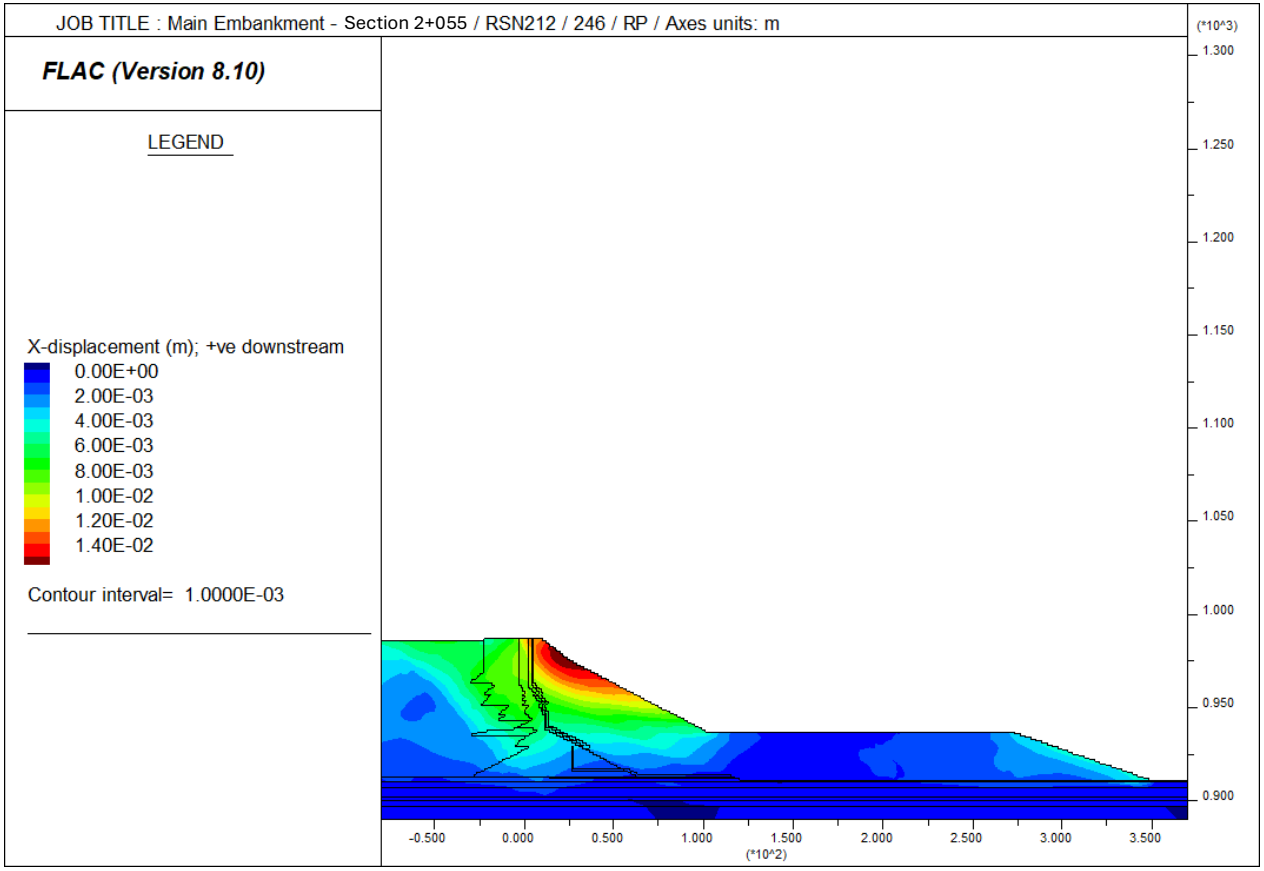

JOB TITLE : Main Embankment - Section 2+055 / RSN212 / 246 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
1.60E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

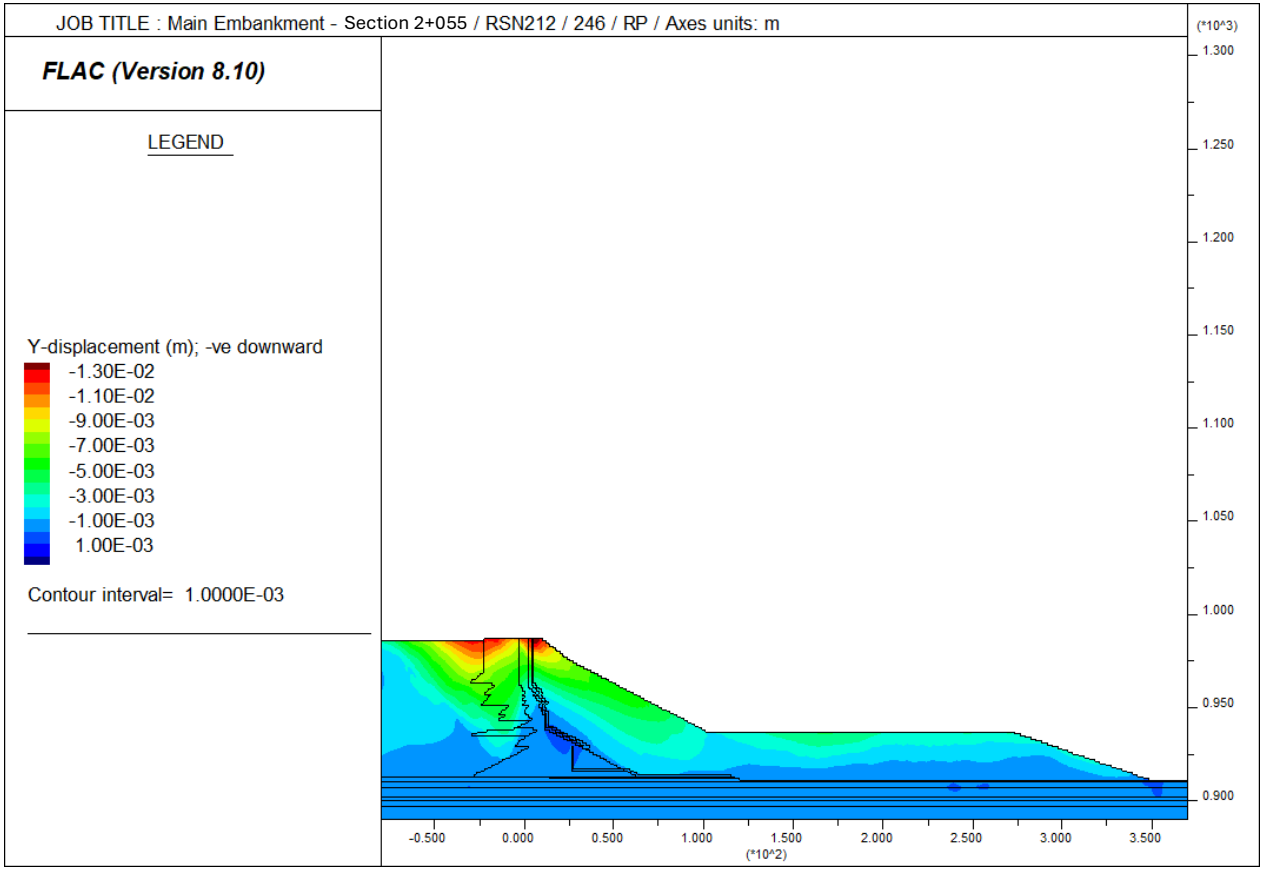

JOB TITLE : Main Embankment - Section 2+055 / RSN212 / 246 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.40E-02
-1.20E-02
-1.00E-02
-8.00E-03
-6.00E-03
-4.00E-03
-2.00E-03
0.00E+00
2.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

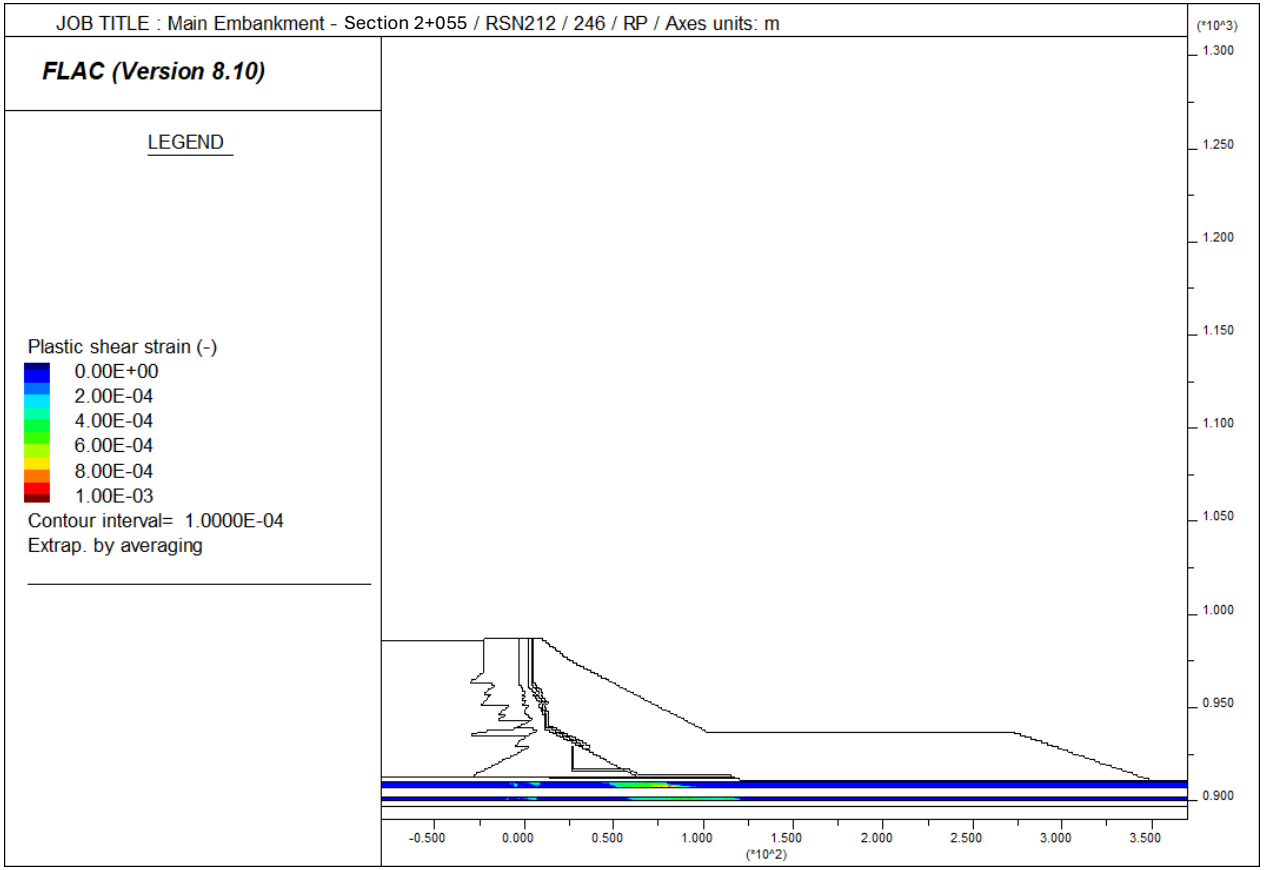

JOB TITLE : Main Embankment - Section 2+055 / RSN212 / 246 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

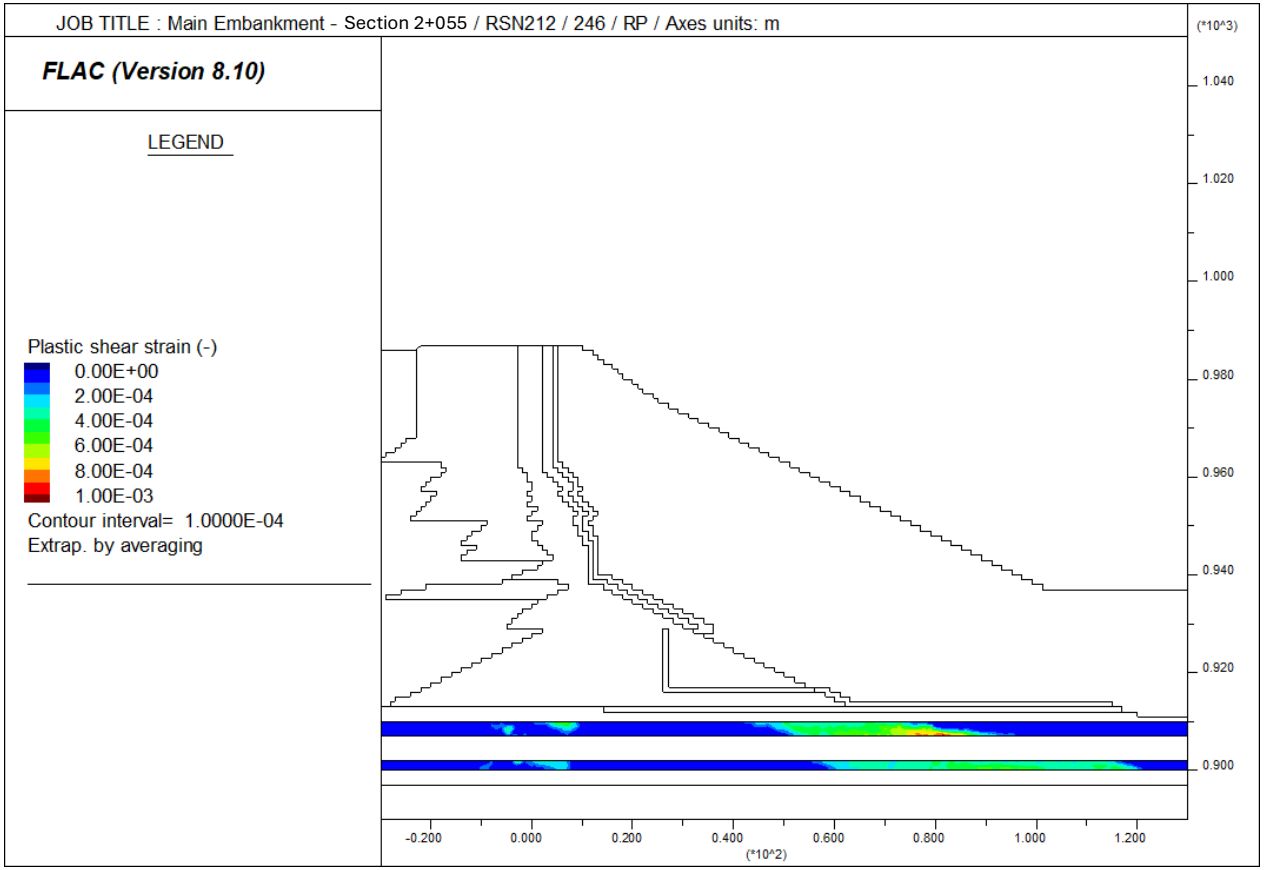

JOB TITLE : Main Embankment - Section 2+055 / RSN212 / 246 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

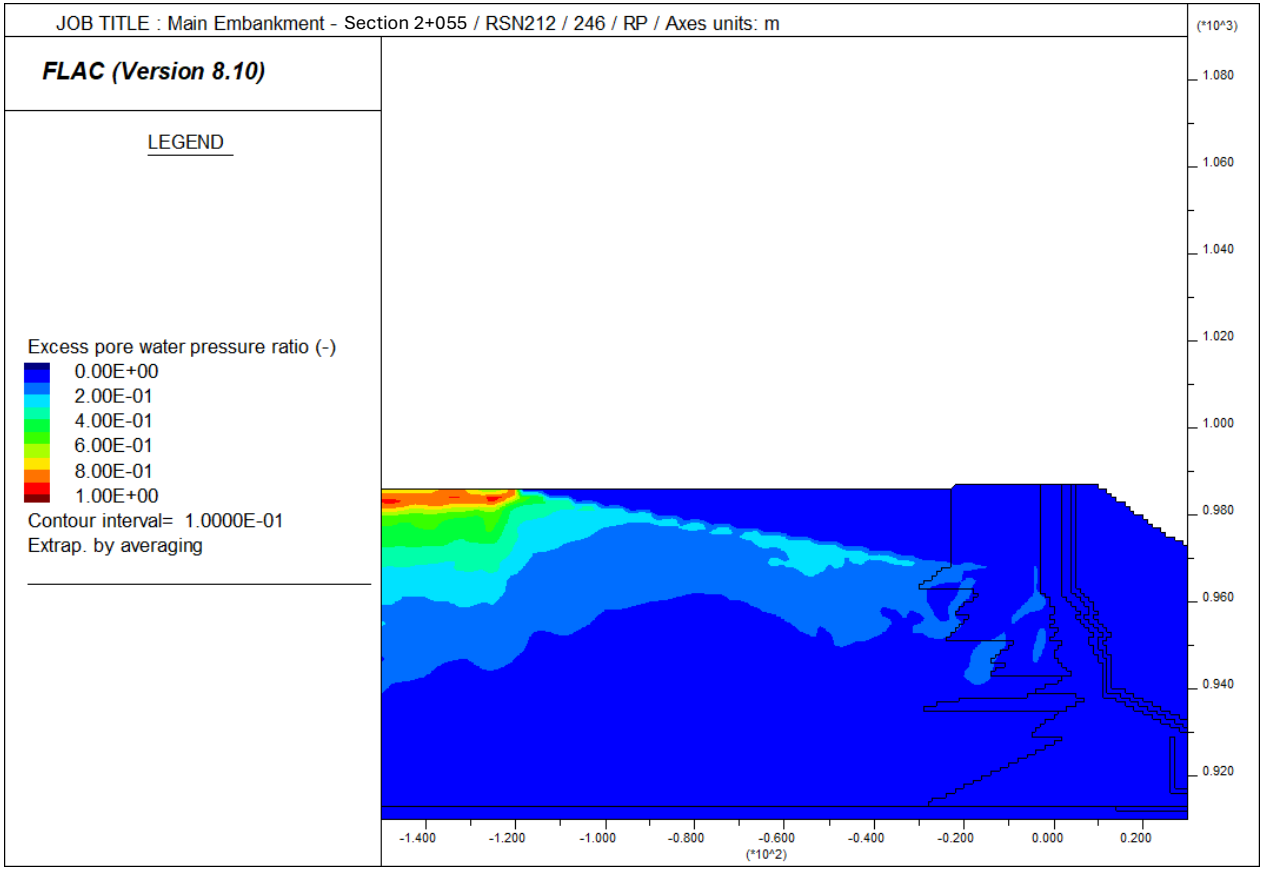

JOB TITLE : Main Embankment - Section 2+055 / RSN212 / 246 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

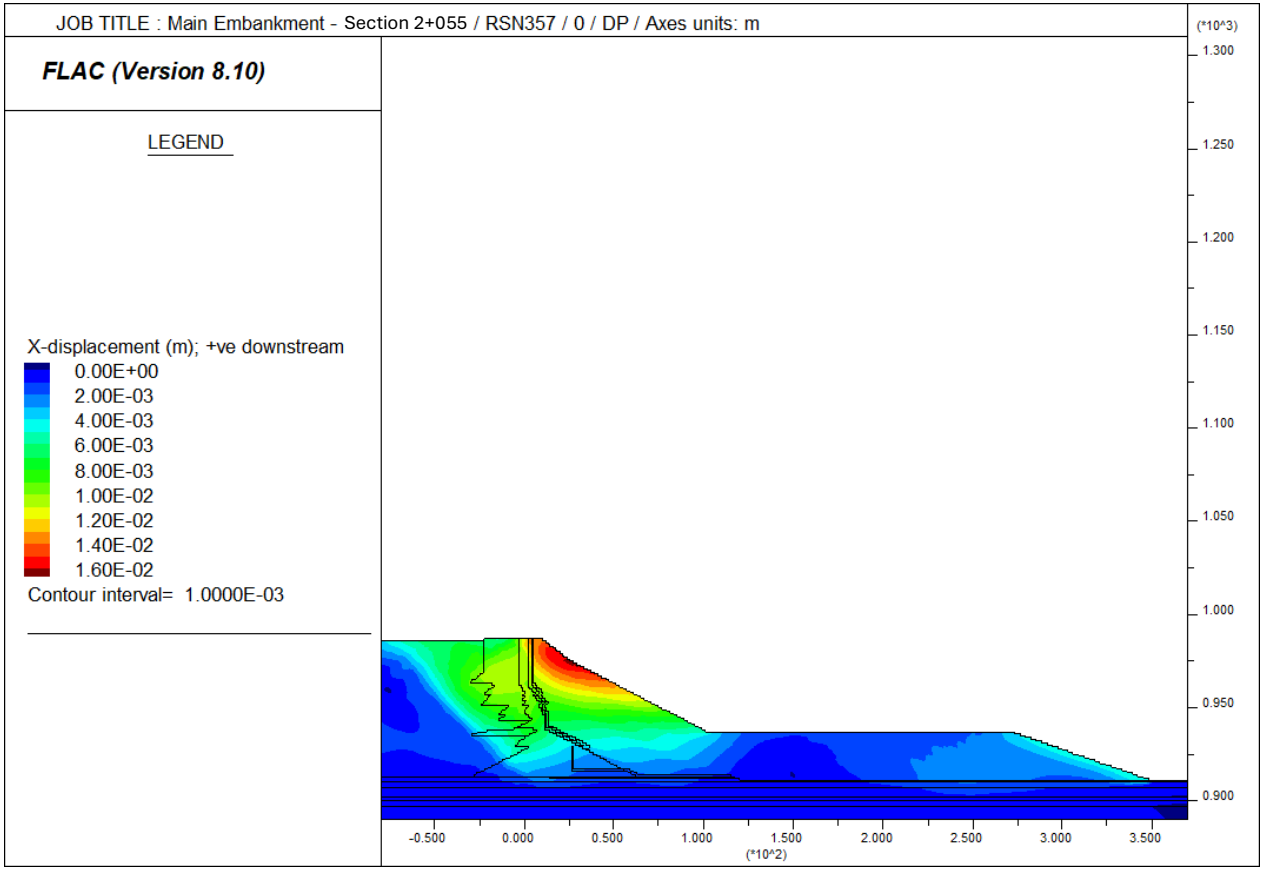

JOB TITLE : Main Embankment - Section 2+055 / RSN212 / 246 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

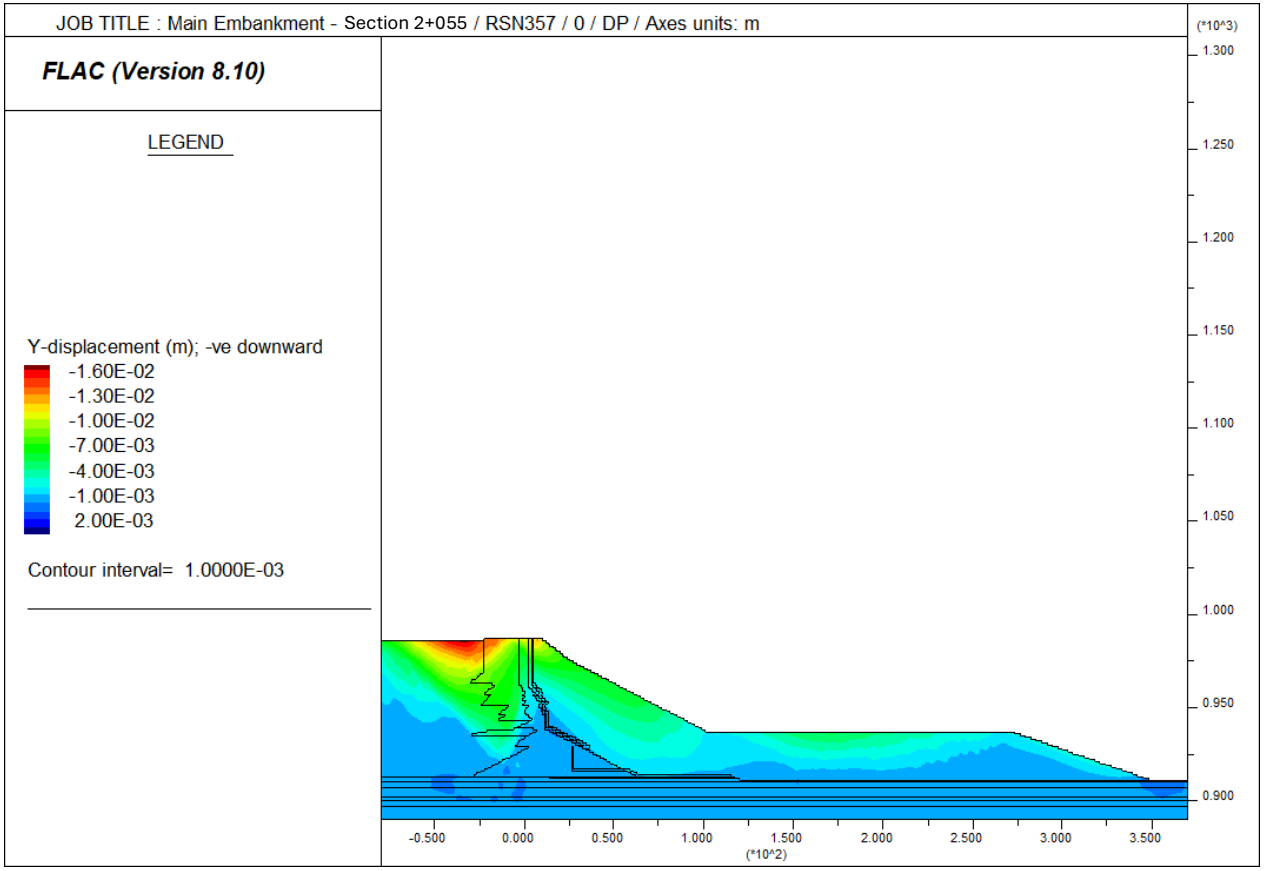

JOB TITLE : Main Embankment - Section 2+055 / RSN212 / 246 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.30E-02
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

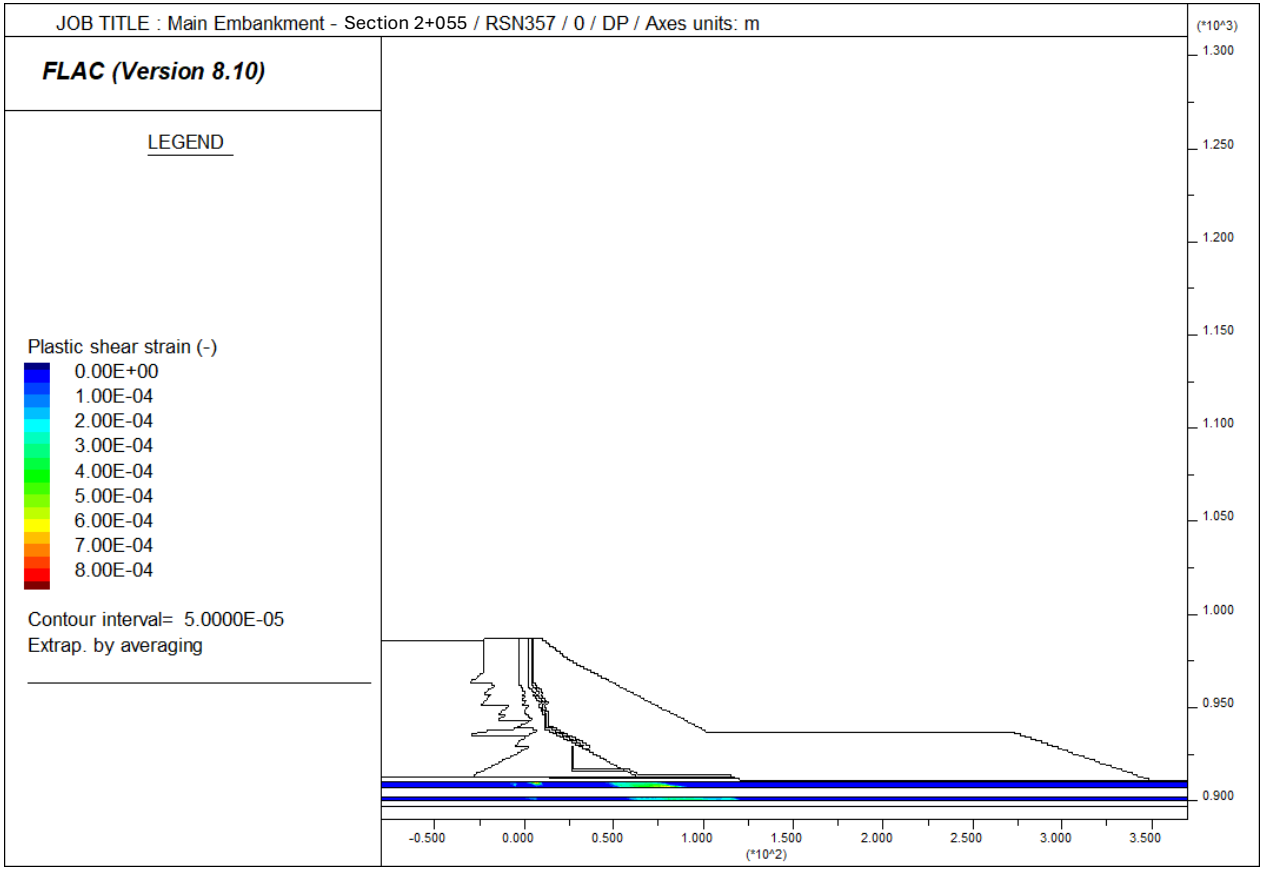

JOB TITLE : Main Embankment - Section 2+055 / RSN212 / 246 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

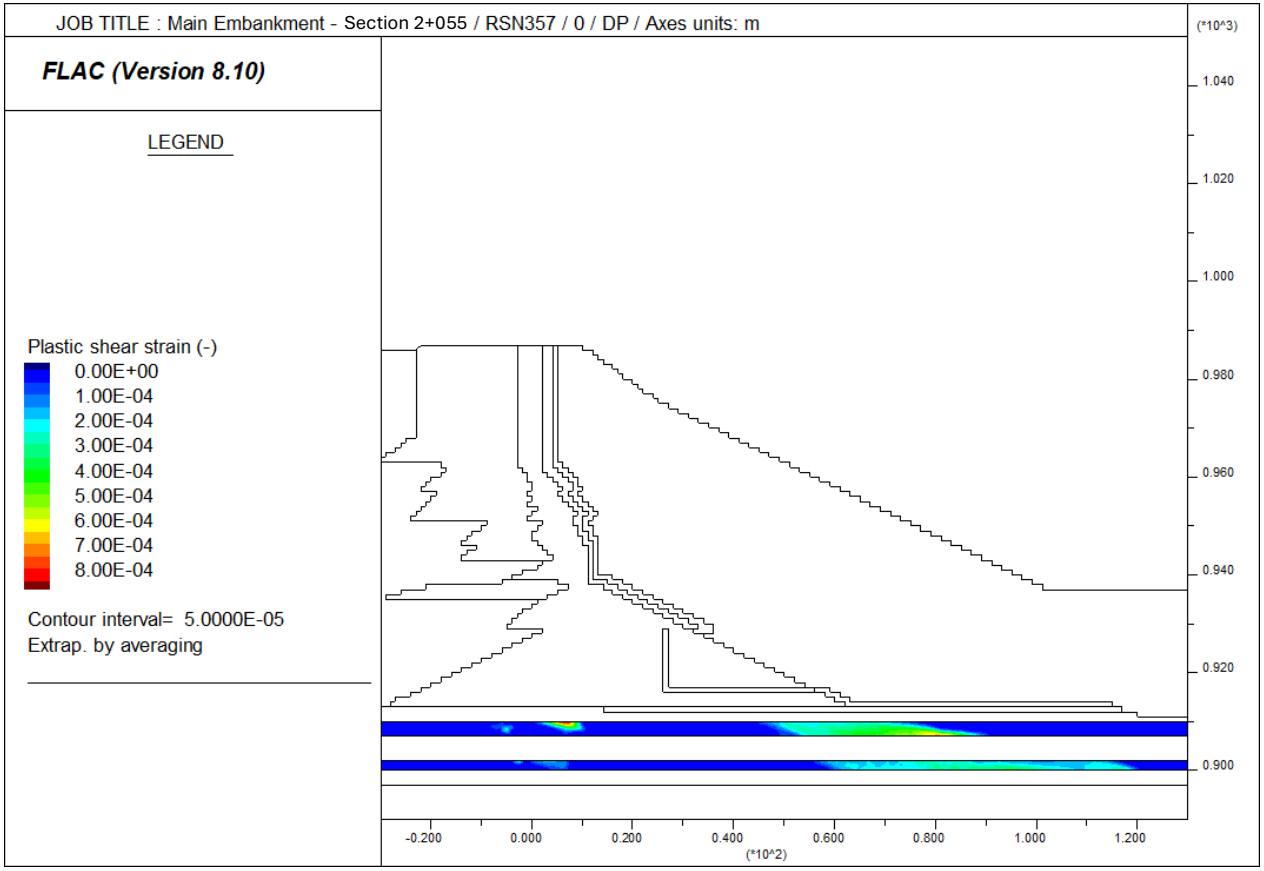

JOB TITLE : Main Embankment - Section 2+055 / RSN212 / 246 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

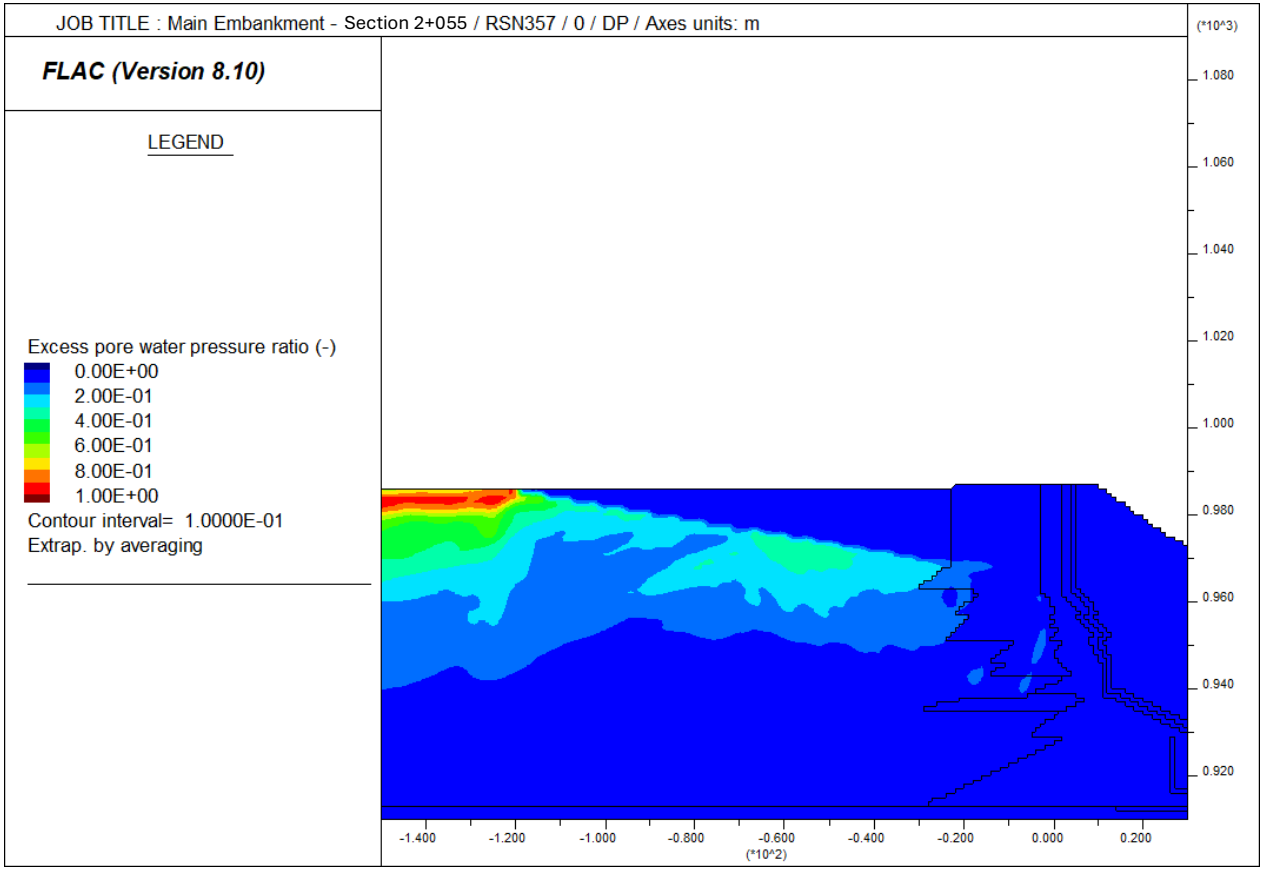

JOB TITLE : Main Embankment - Section 2+055 / RSN212 / 246 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

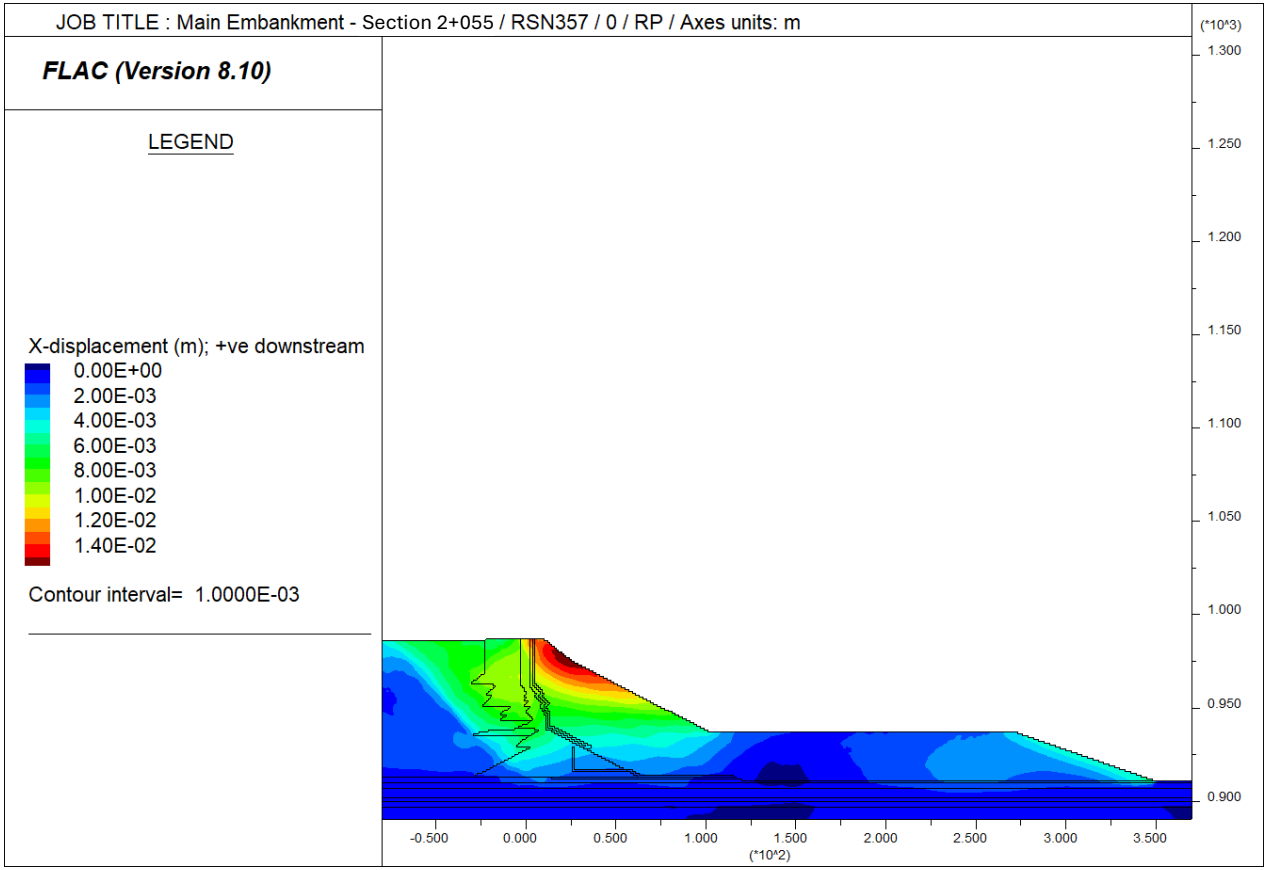

JOB TITLE : Main Embankment - Section 2+055 / RSN357 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
1.60E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

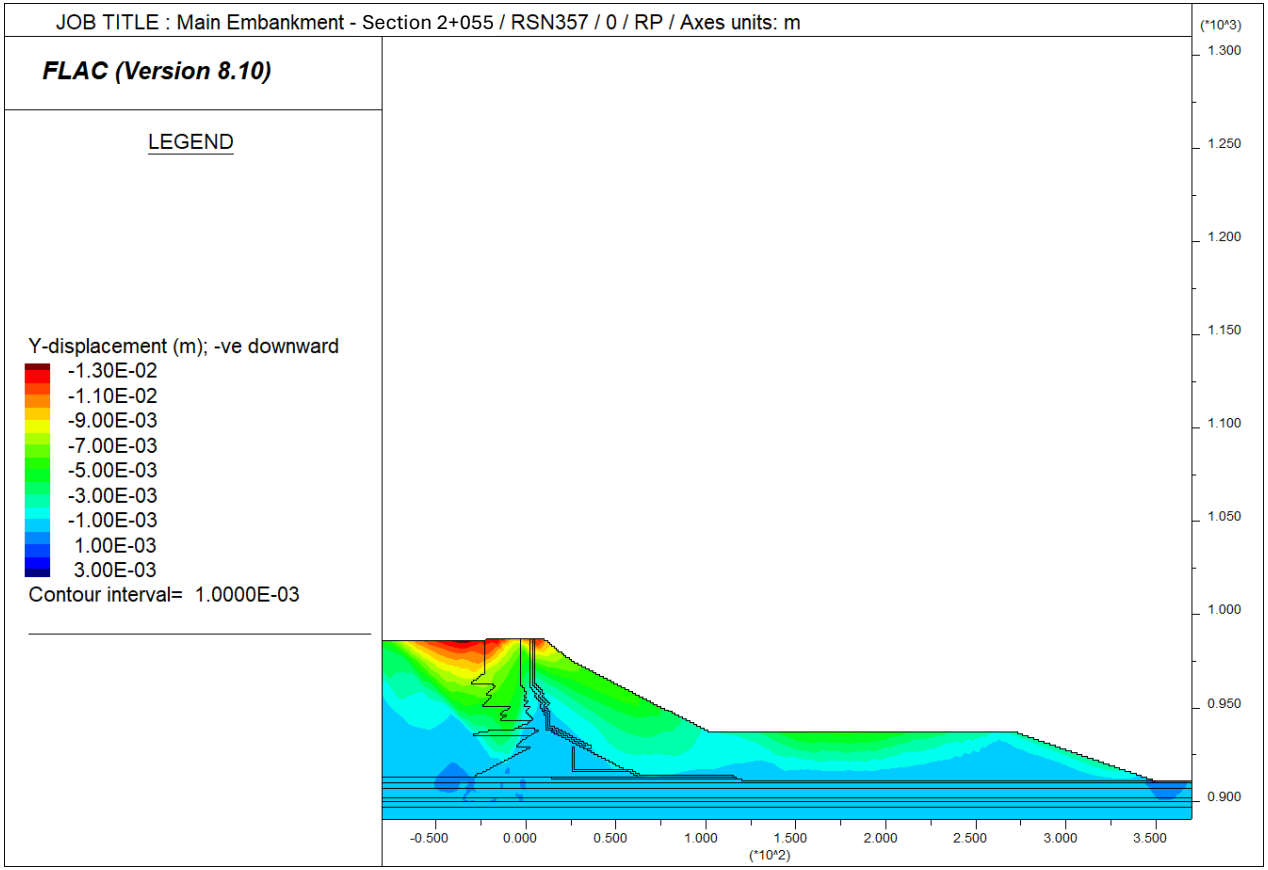

JOB TITLE : Main Embankment - Section 2+055 / RSN357 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.60E-02
-1.30E-02
-1.00E-02
-7.00E-03
-4.00E-03
-1.00E-03
2.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

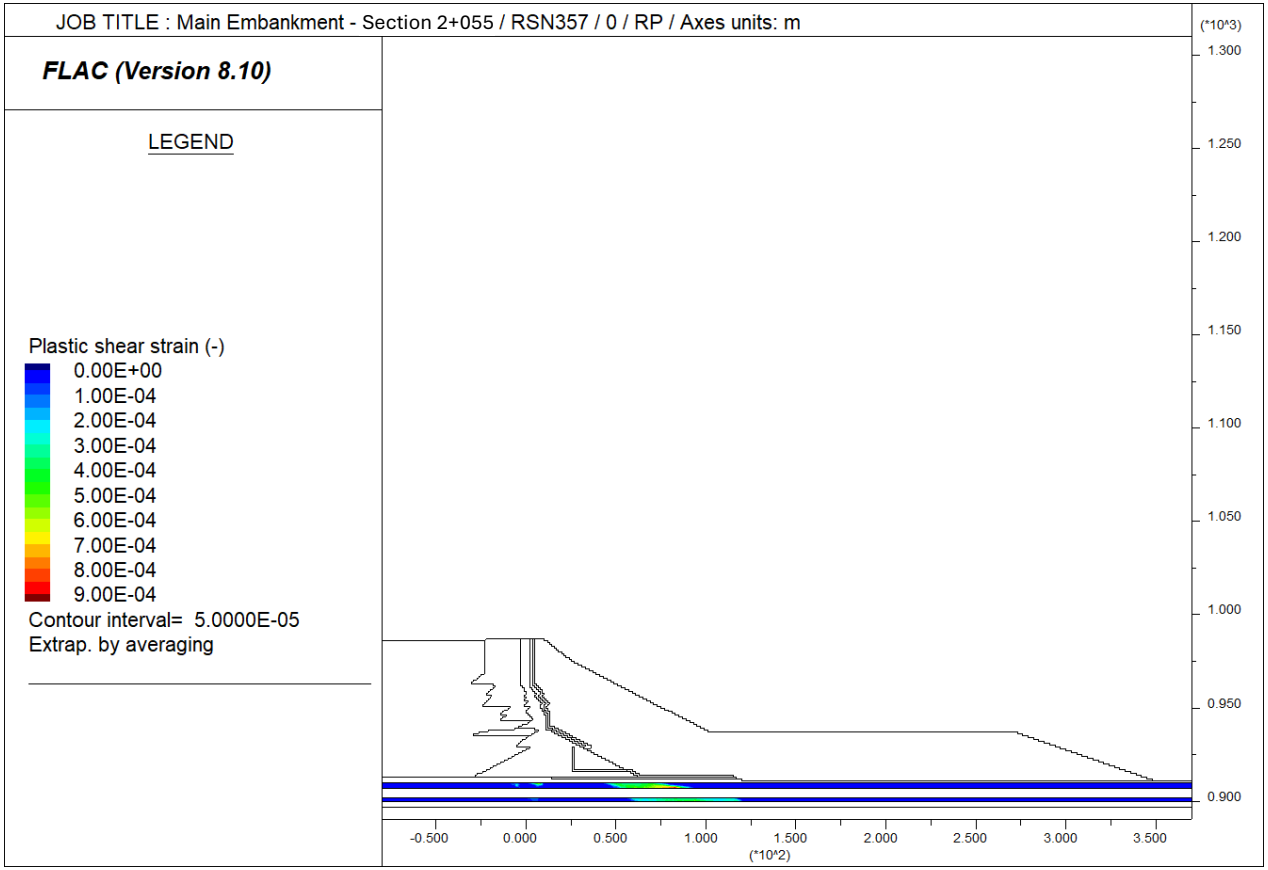

JOB TITLE : Main Embankment - Section 2+055 / RSN357 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
7.00E-04
8.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

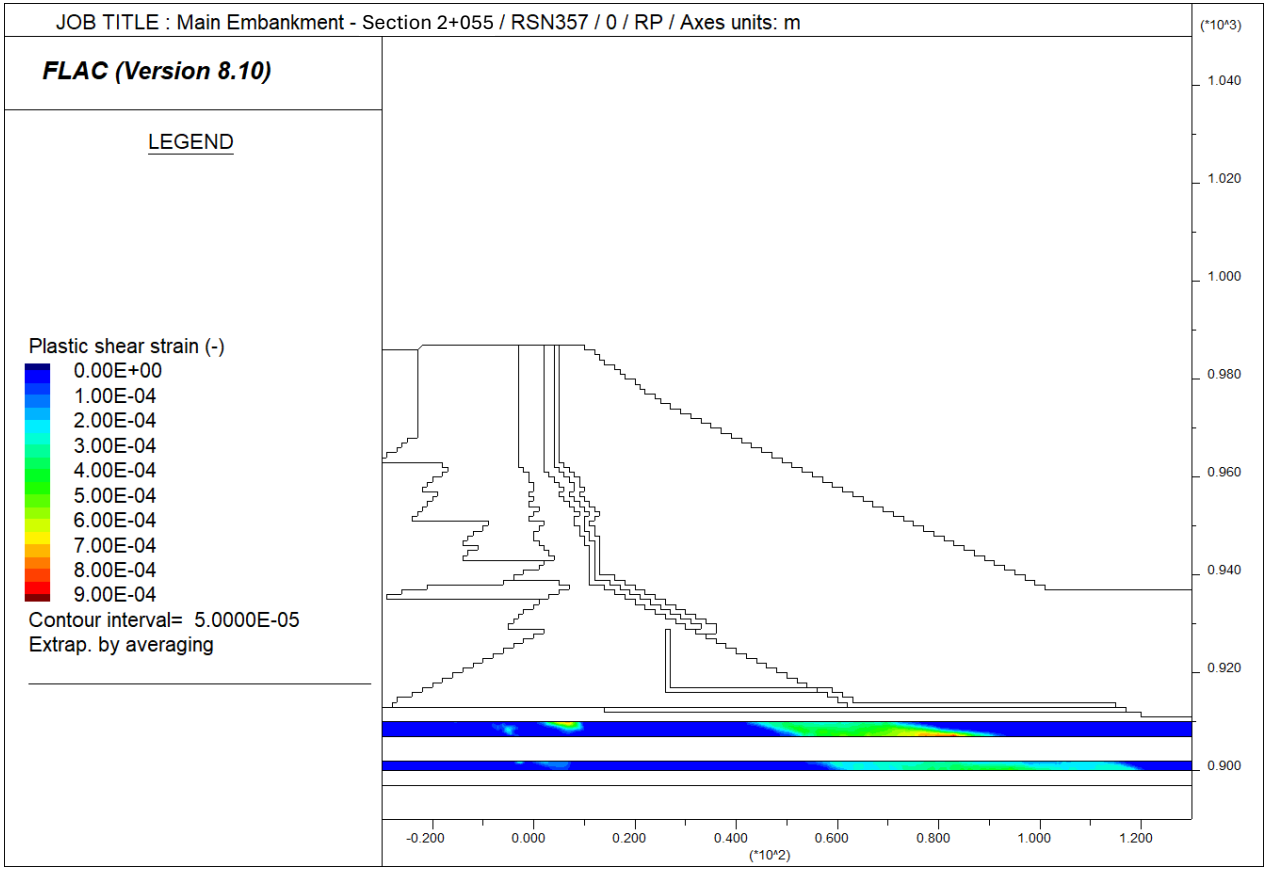

JOB TITLE : Main Embankment - Section 2+055 / RSN357 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
7.00E-04
8.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

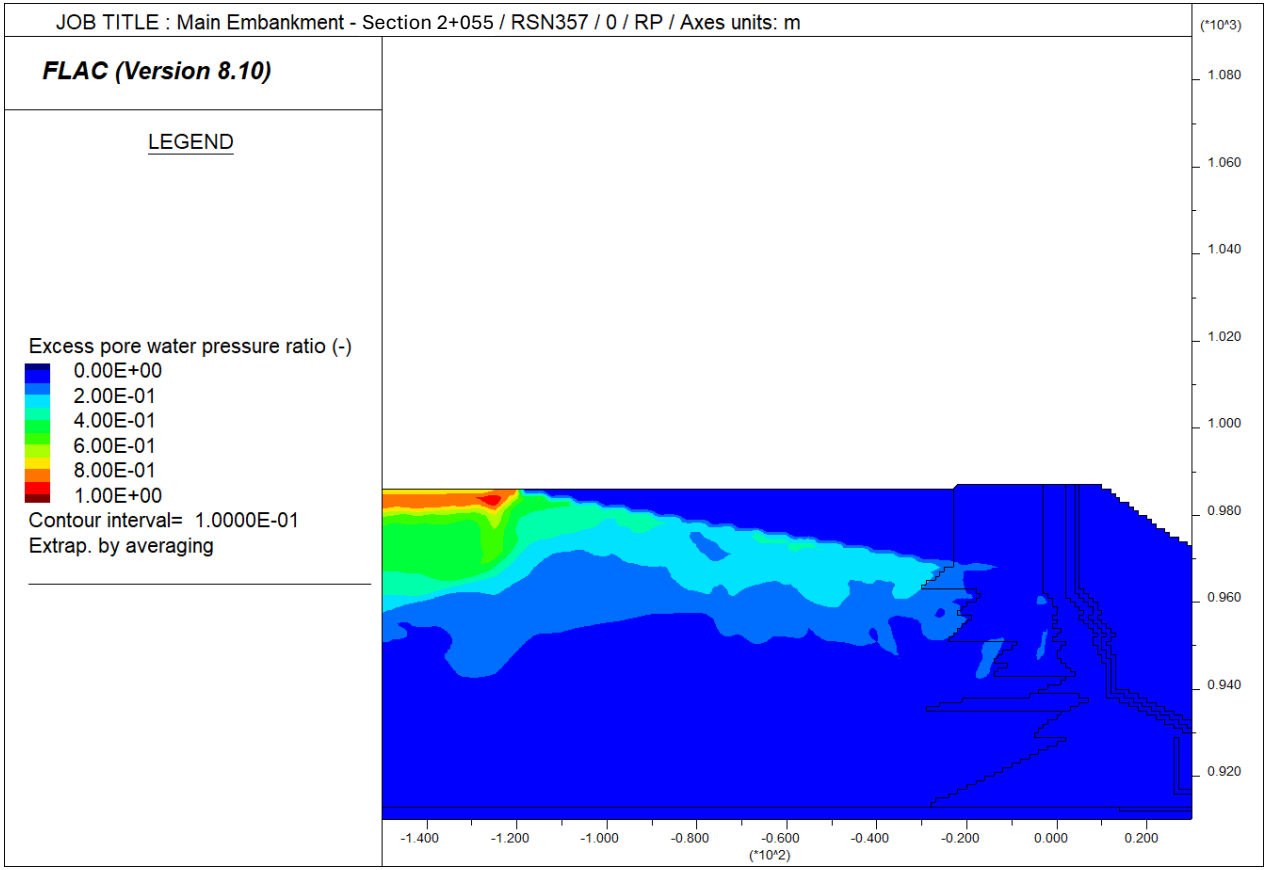

JOB TITLE : Main Embankment - Section 2+055 / RSN357 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

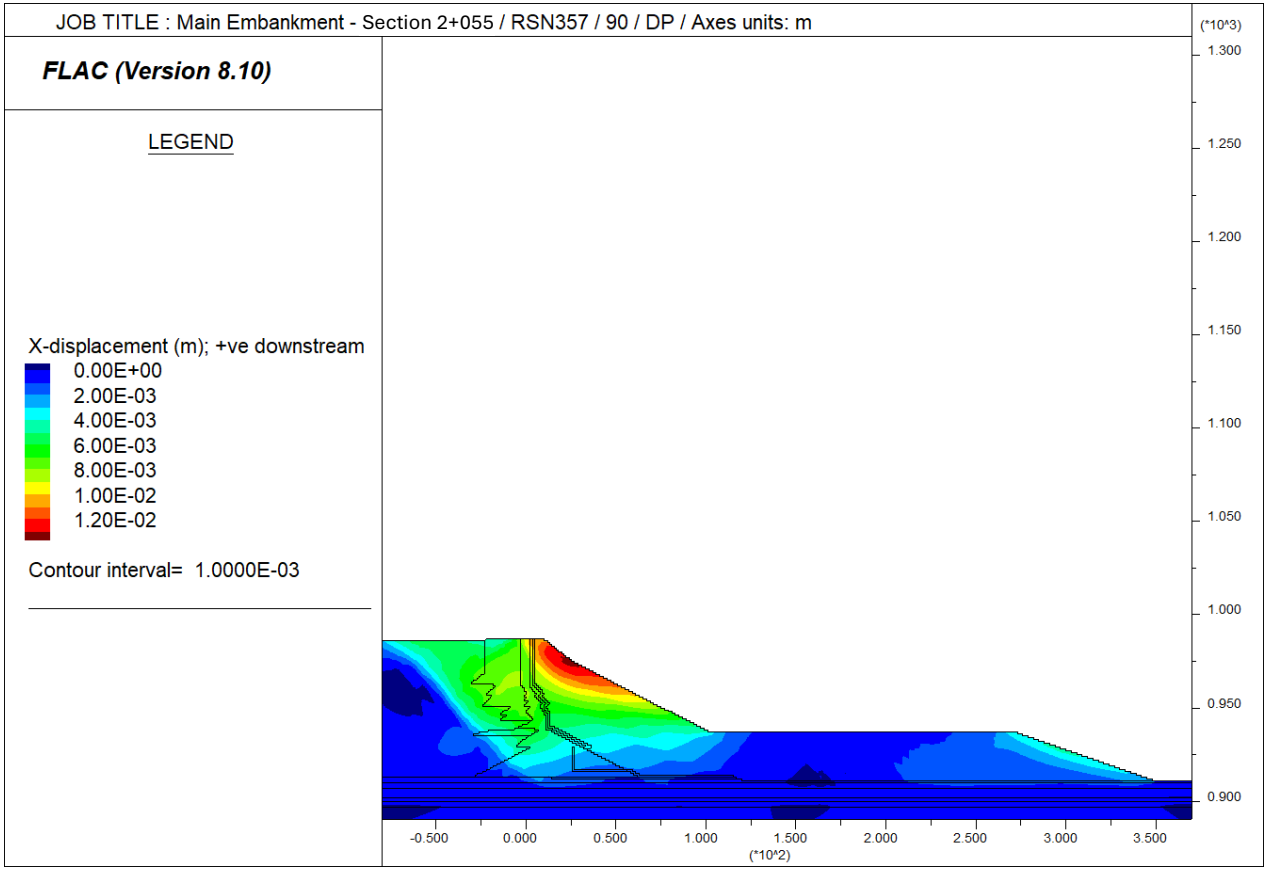

JOB TITLE : Main Embankment - Section 2+055 / RSN357 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

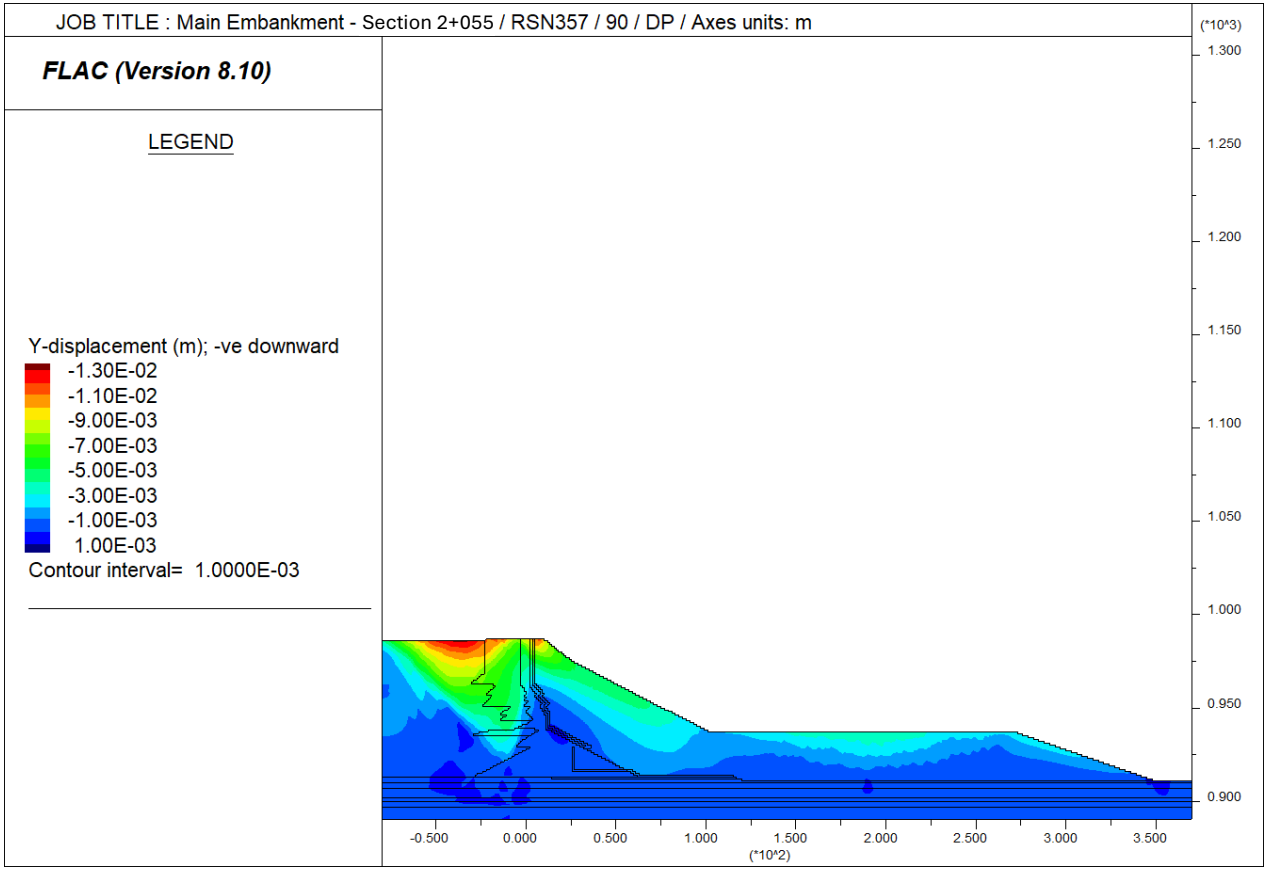

JOB TITLE : Main Embankment - Section 2+055 / RSN357 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.30E-02
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
3.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

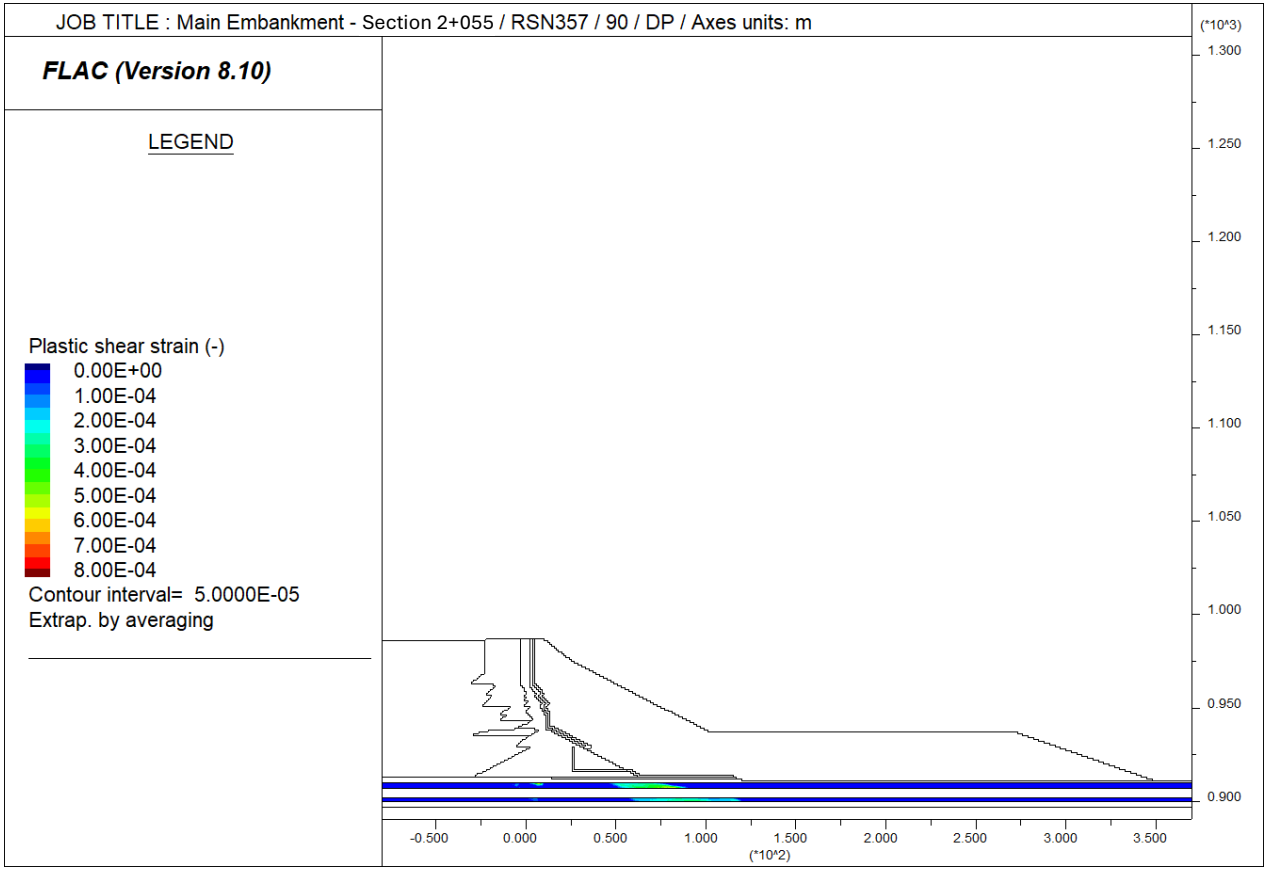

JOB TITLE : Main Embankment - Section 2+055 / RSN357 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
7.00E-04
8.00E-04
9.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

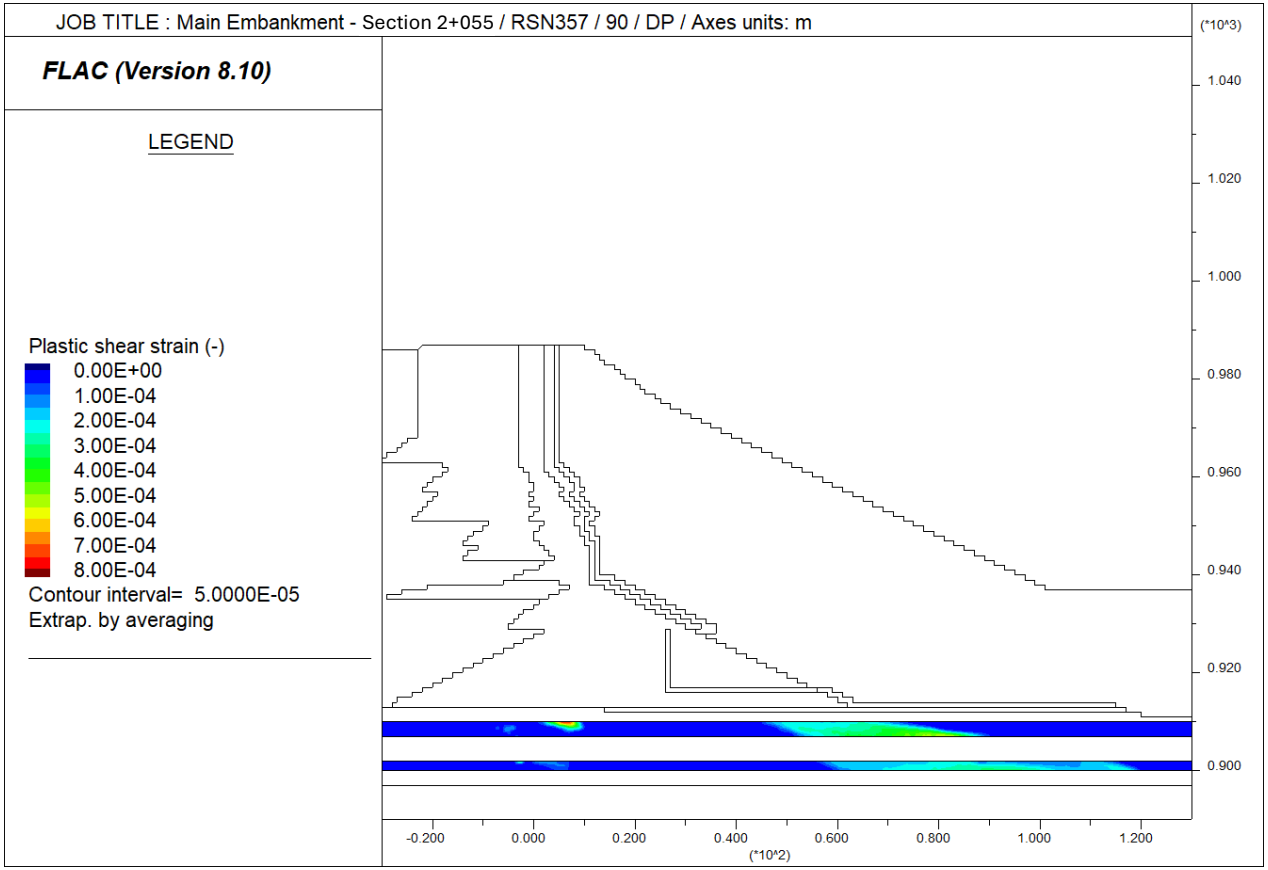

JOB TITLE : Main Embankment - Section 2+055 / RSN357 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
7.00E-04
8.00E-04
9.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

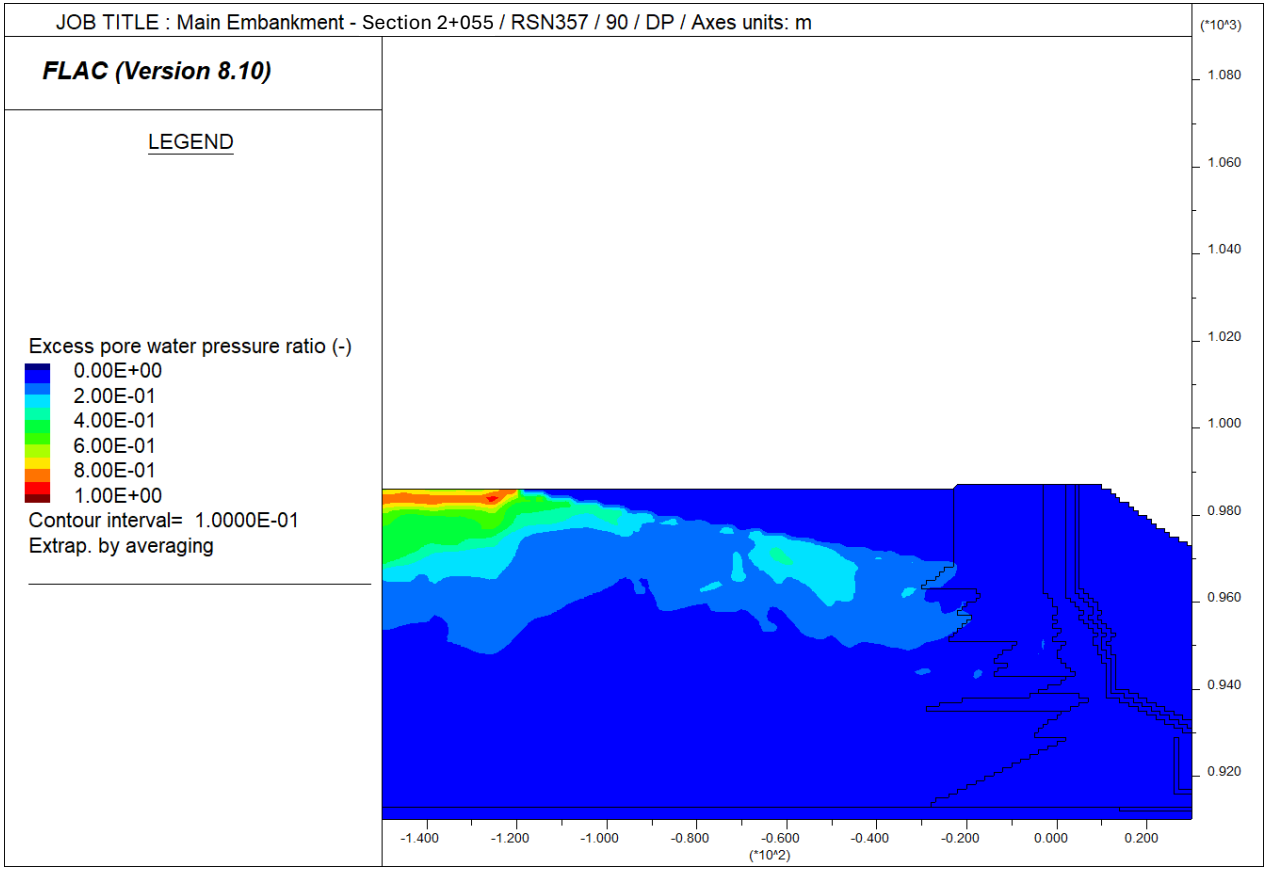

JOB TITLE : Main Embankment - Section 2+055 / RSN357 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

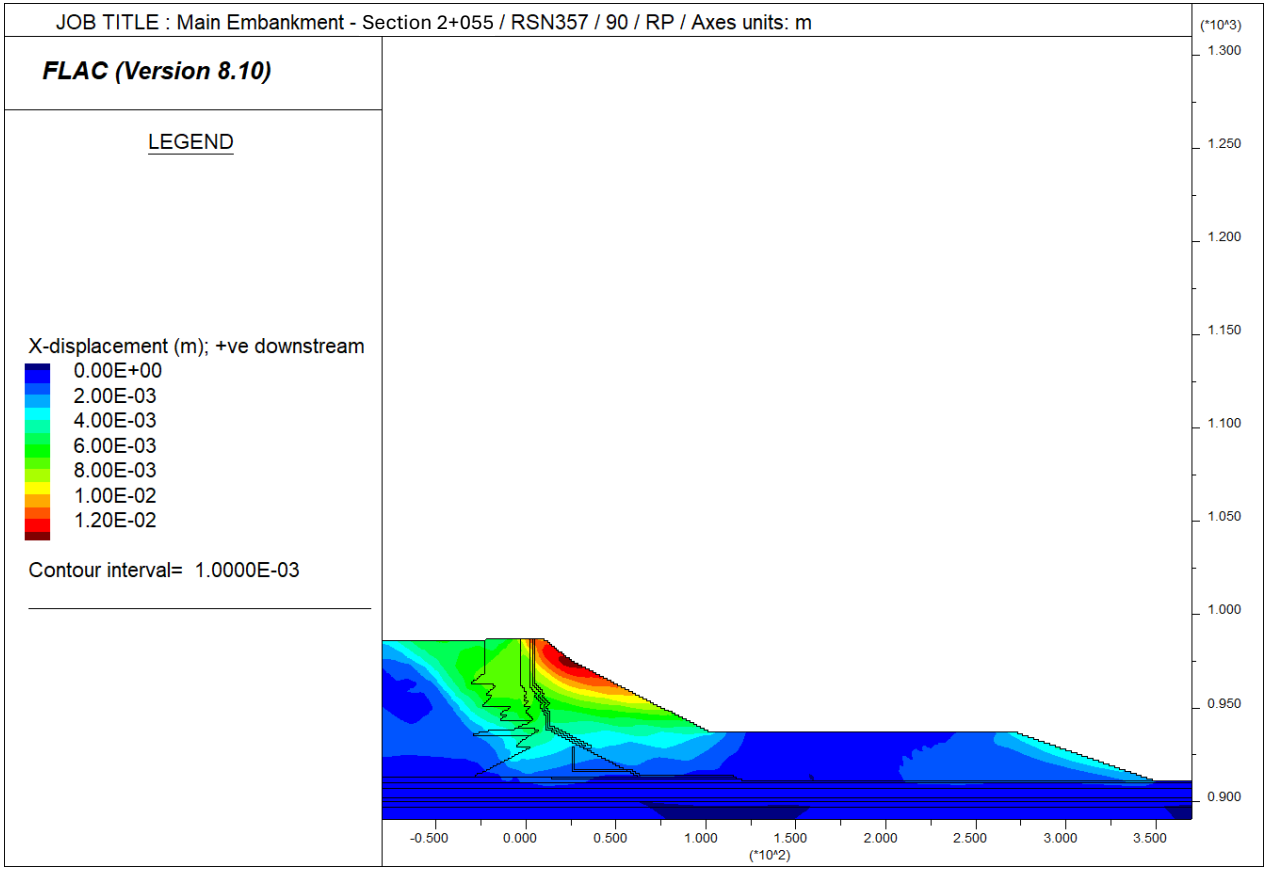

JOB TITLE : Main Embankment - Section 2+055 / RSN357 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

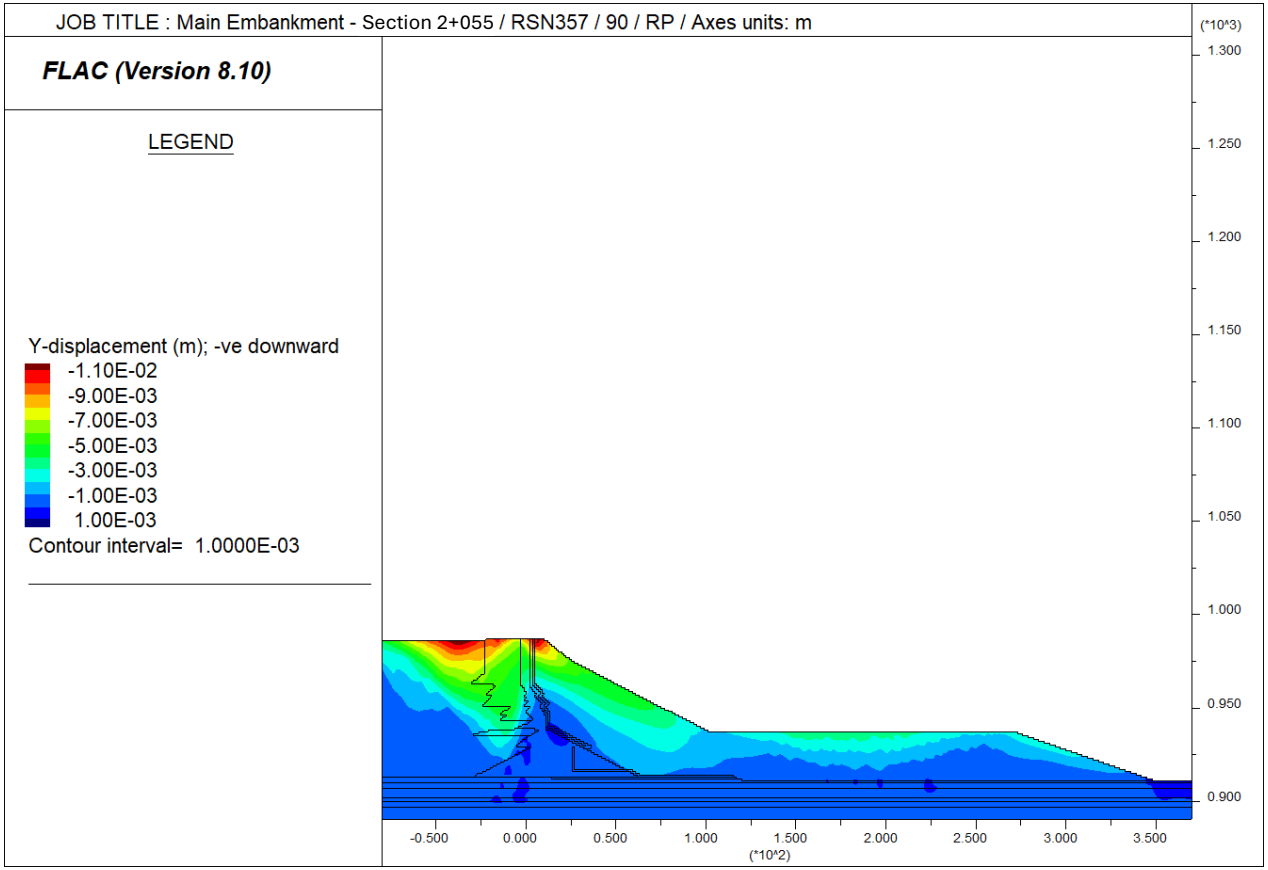

JOB TITLE : Main Embankment - Section 2+055 / RSN357 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.30E-02
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

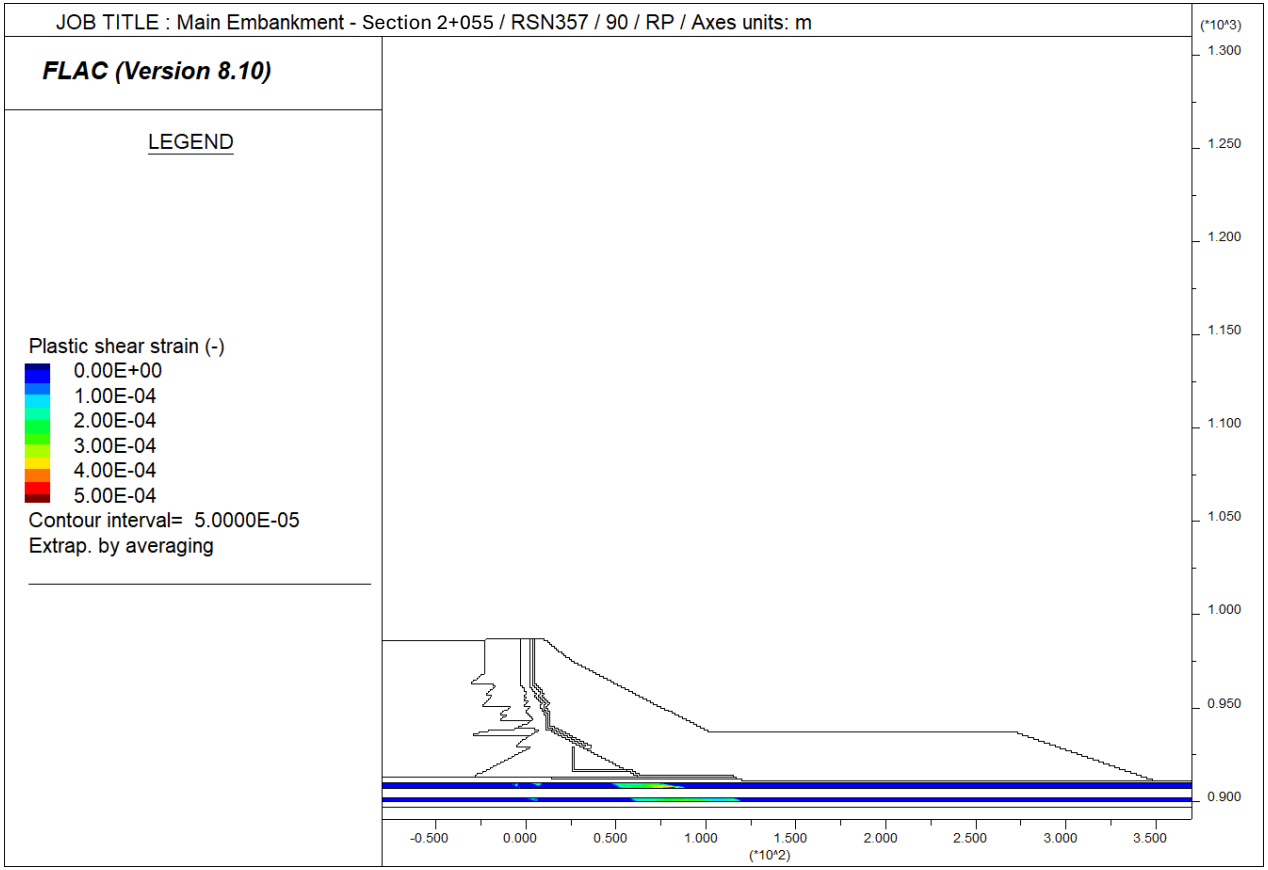

JOB TITLE : Main Embankment - Section 2+055 / RSN357 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
7.00E-04
8.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

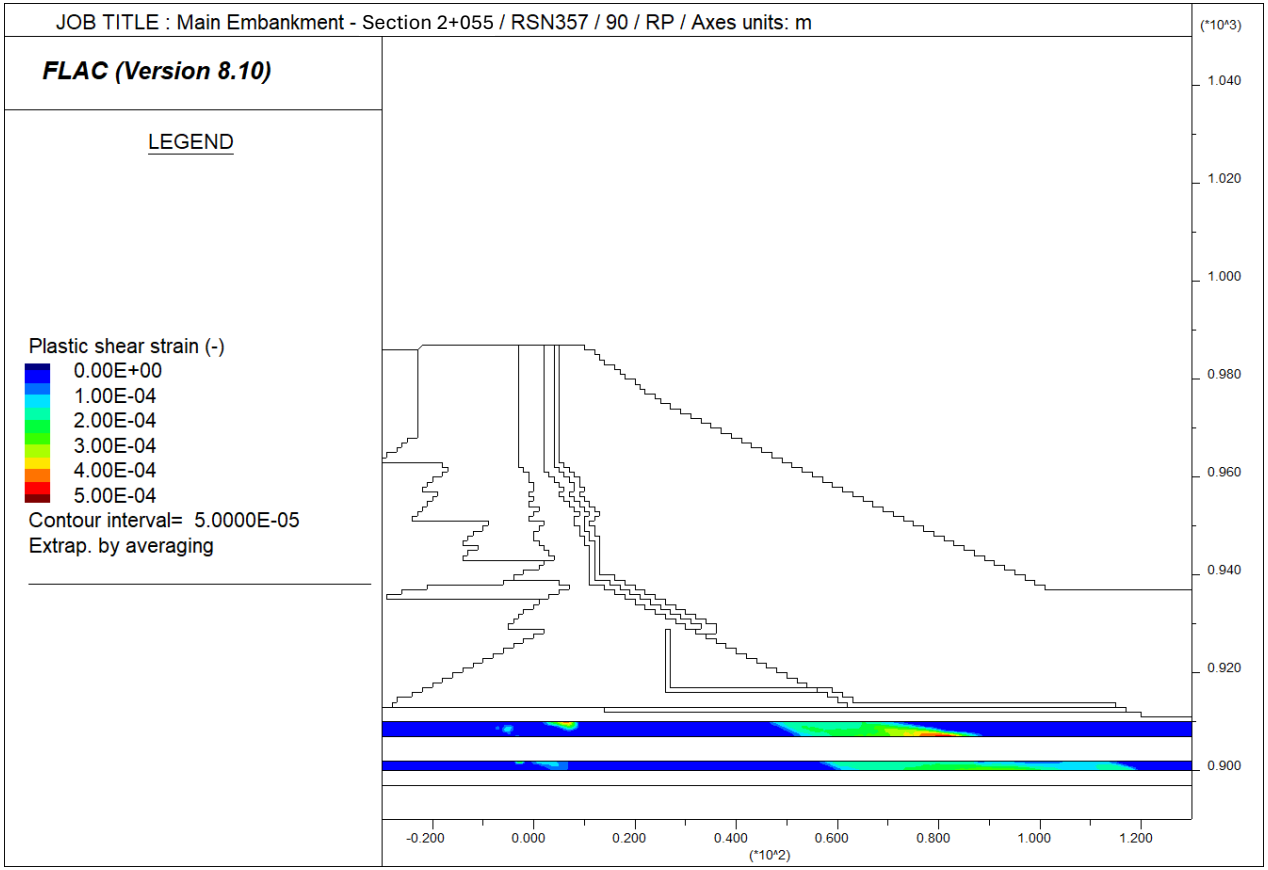

JOB TITLE : Main Embankment - Section 2+055 / RSN357 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
7.00E-04
8.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

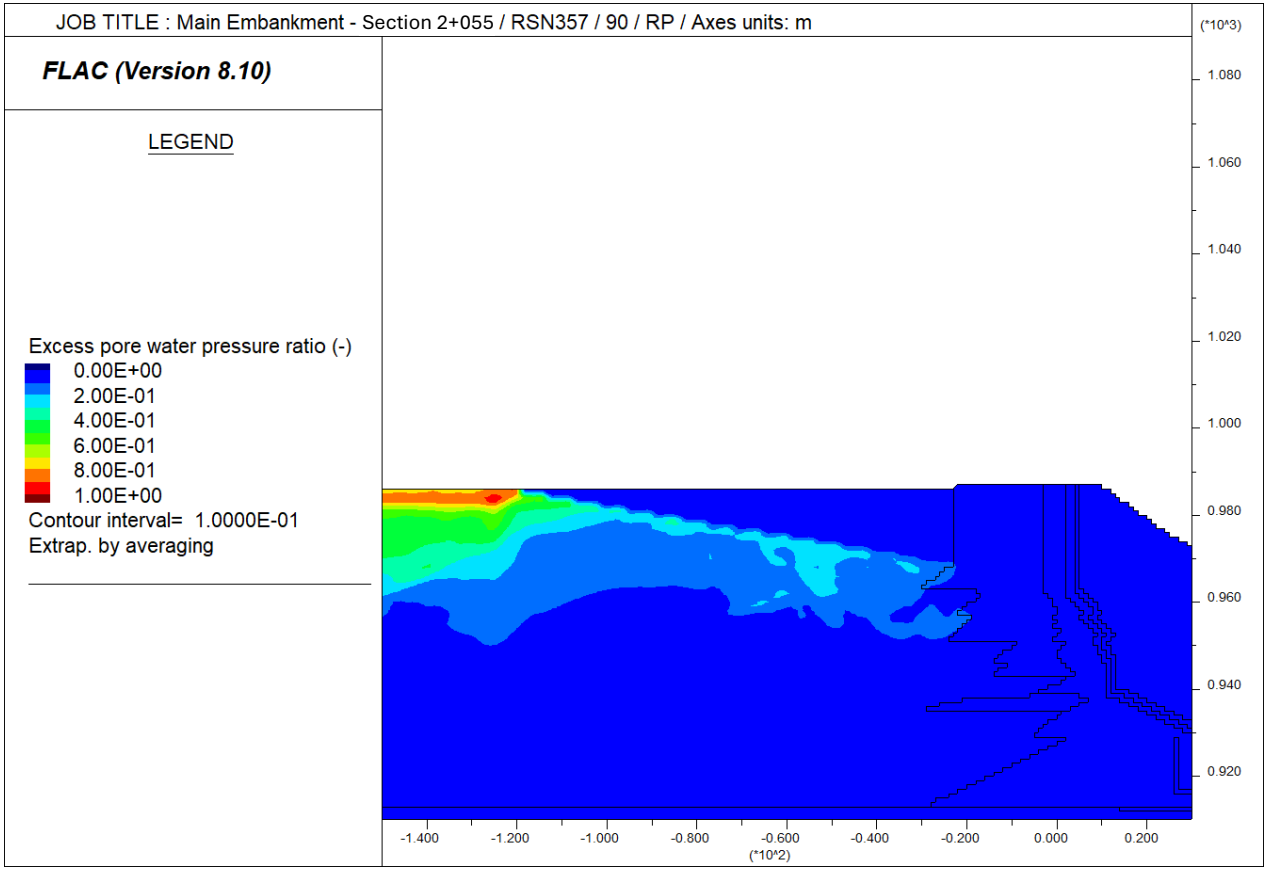

JOB TITLE : Main Embankment - Section 2+055 / RSN357 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

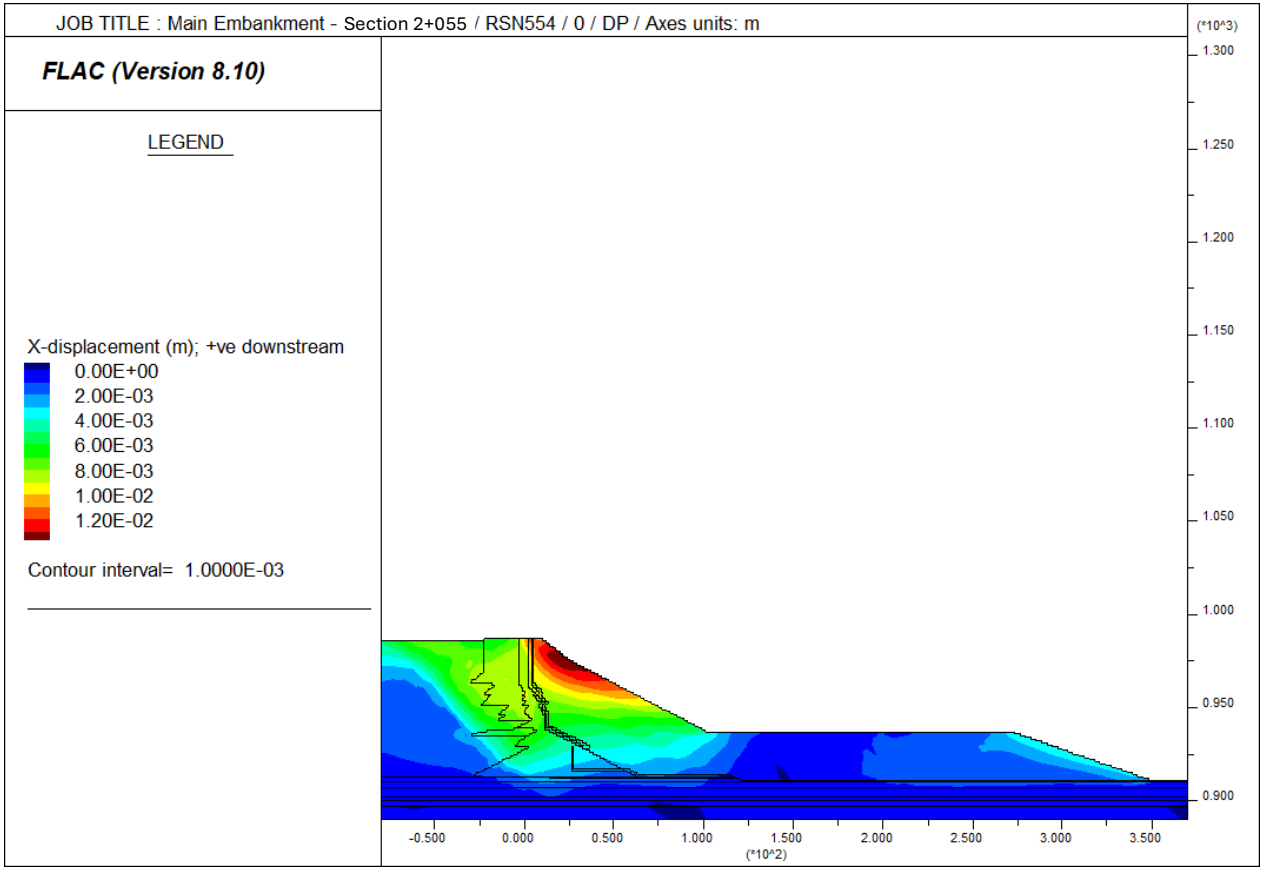

JOB TITLE : Main Embankment - Section 2+055 / RSN357 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

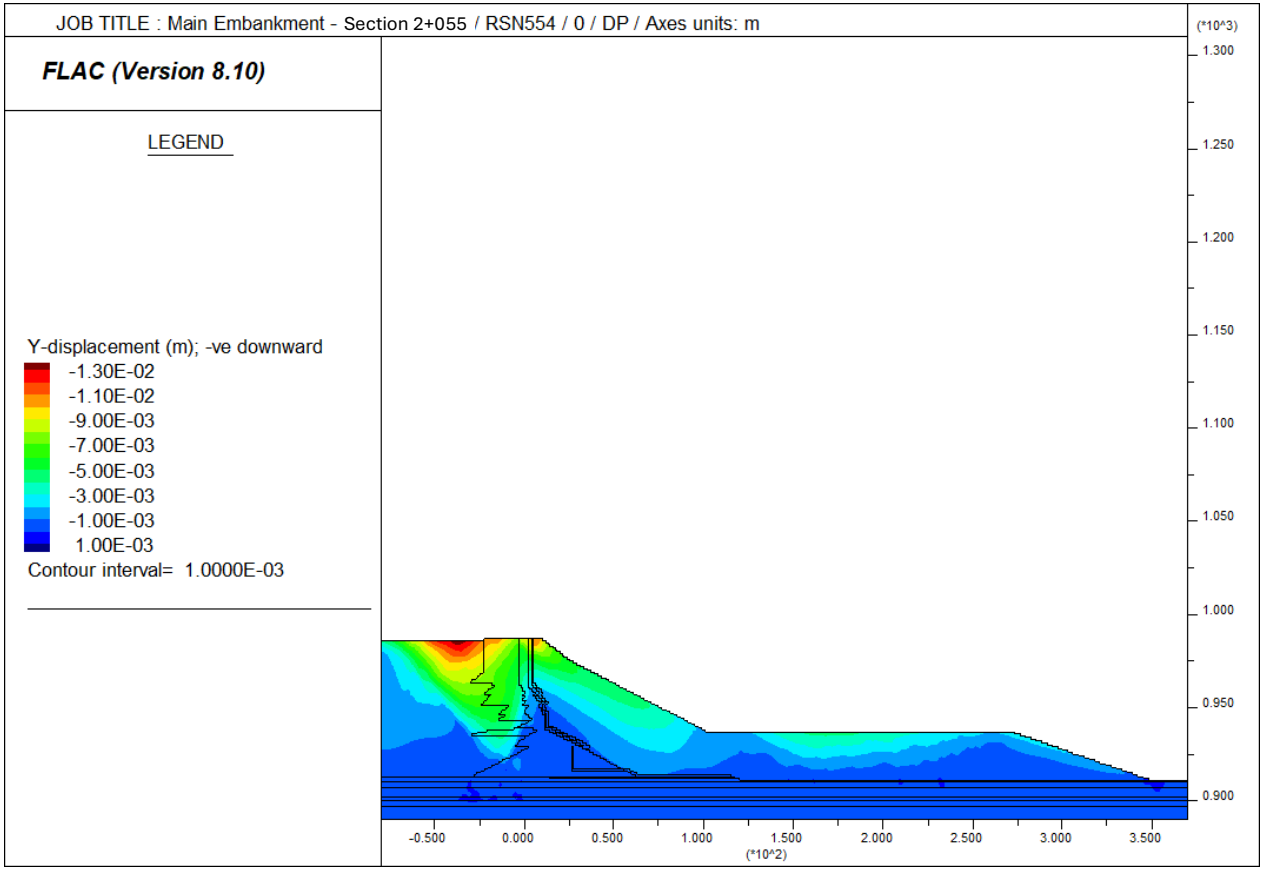

JOB TITLE : Main Embankment - Section 2+055 / RSN357 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

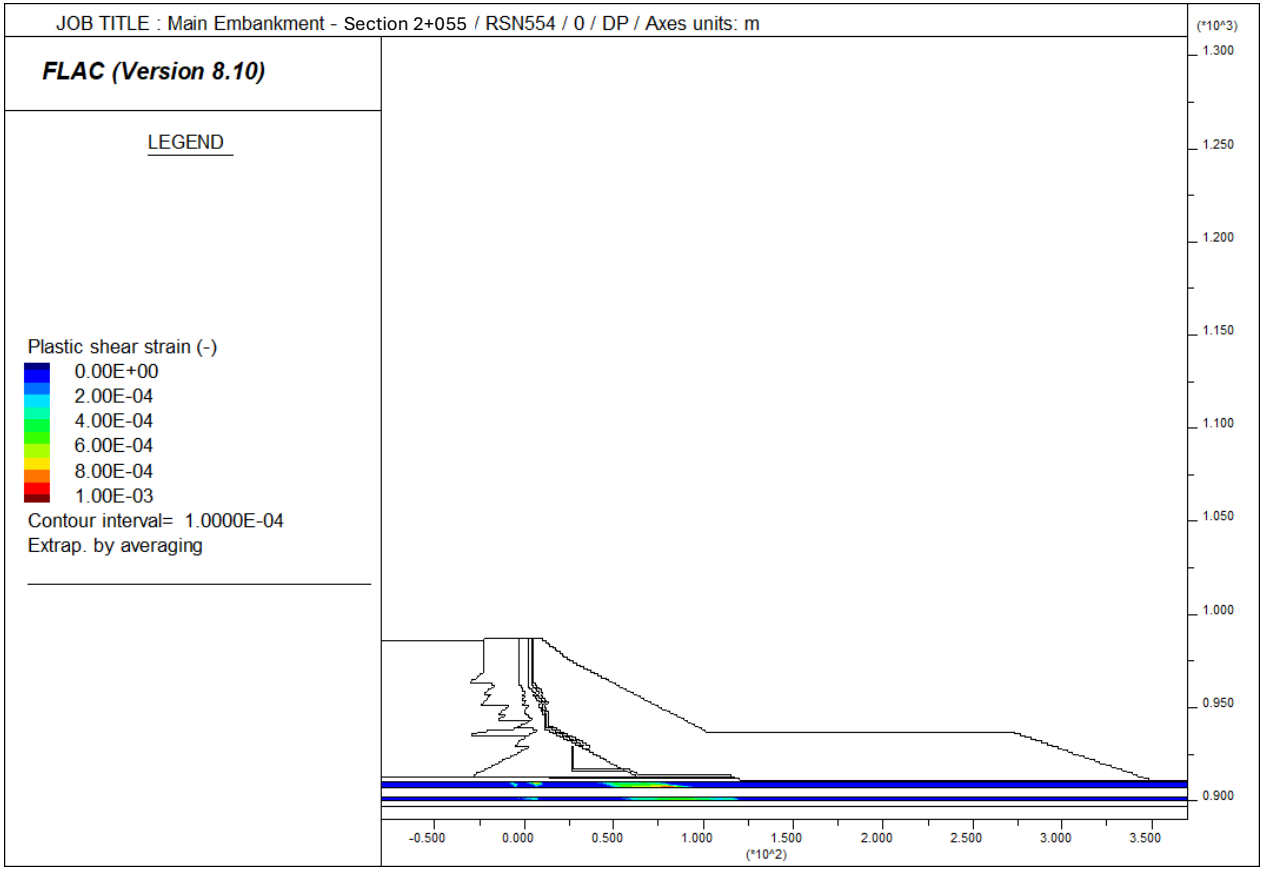

JOB TITLE : Main Embankment - Section 2+055 / RSN357 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

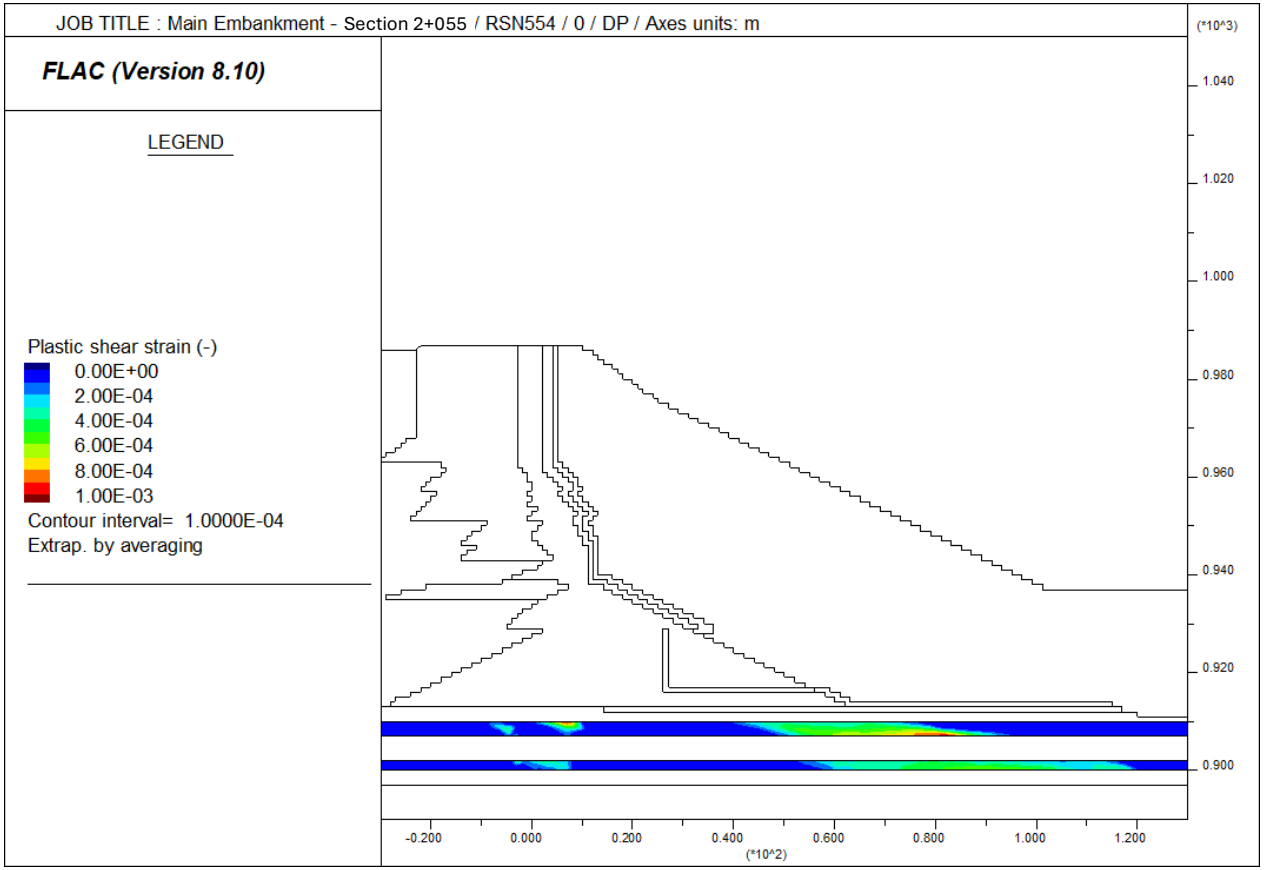

JOB TITLE : Main Embankment - Section 2+055 / RSN357 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

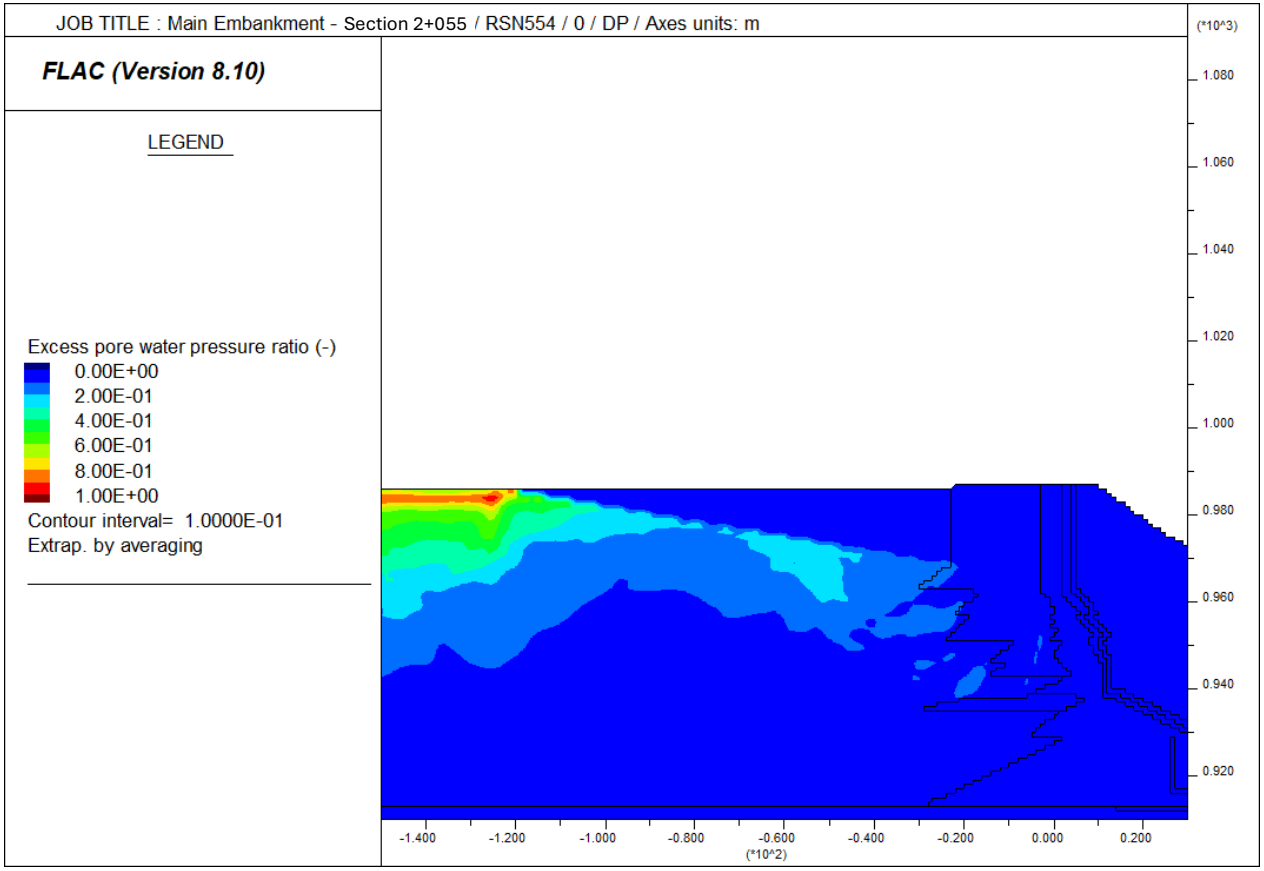

JOB TITLE : Main Embankment - Section 2+055 / RSN357 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

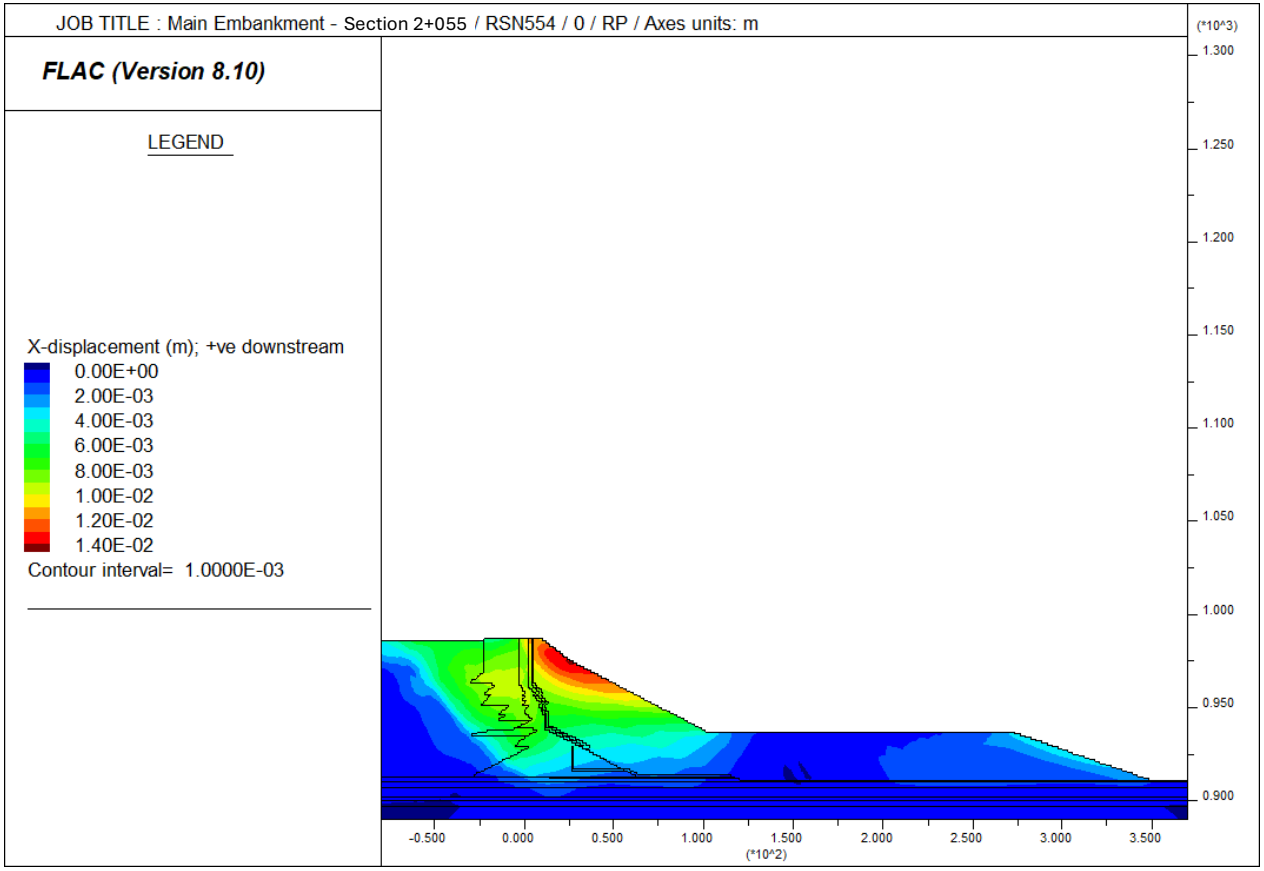

JOB TITLE : Main Embankment - Section 2+055 / RSN554 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

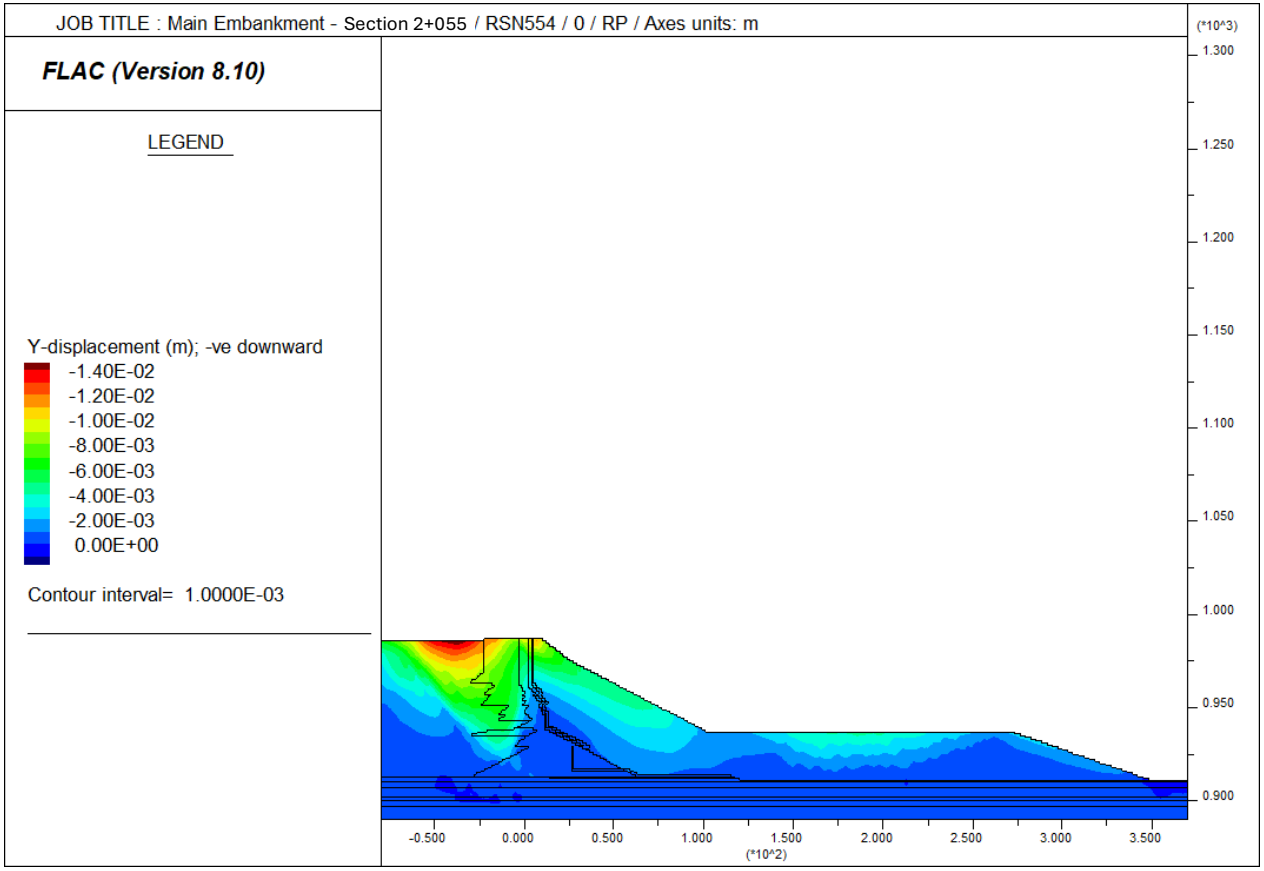

JOB TITLE : Main Embankment - Section 2+055 / RSN554 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.30E-02
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

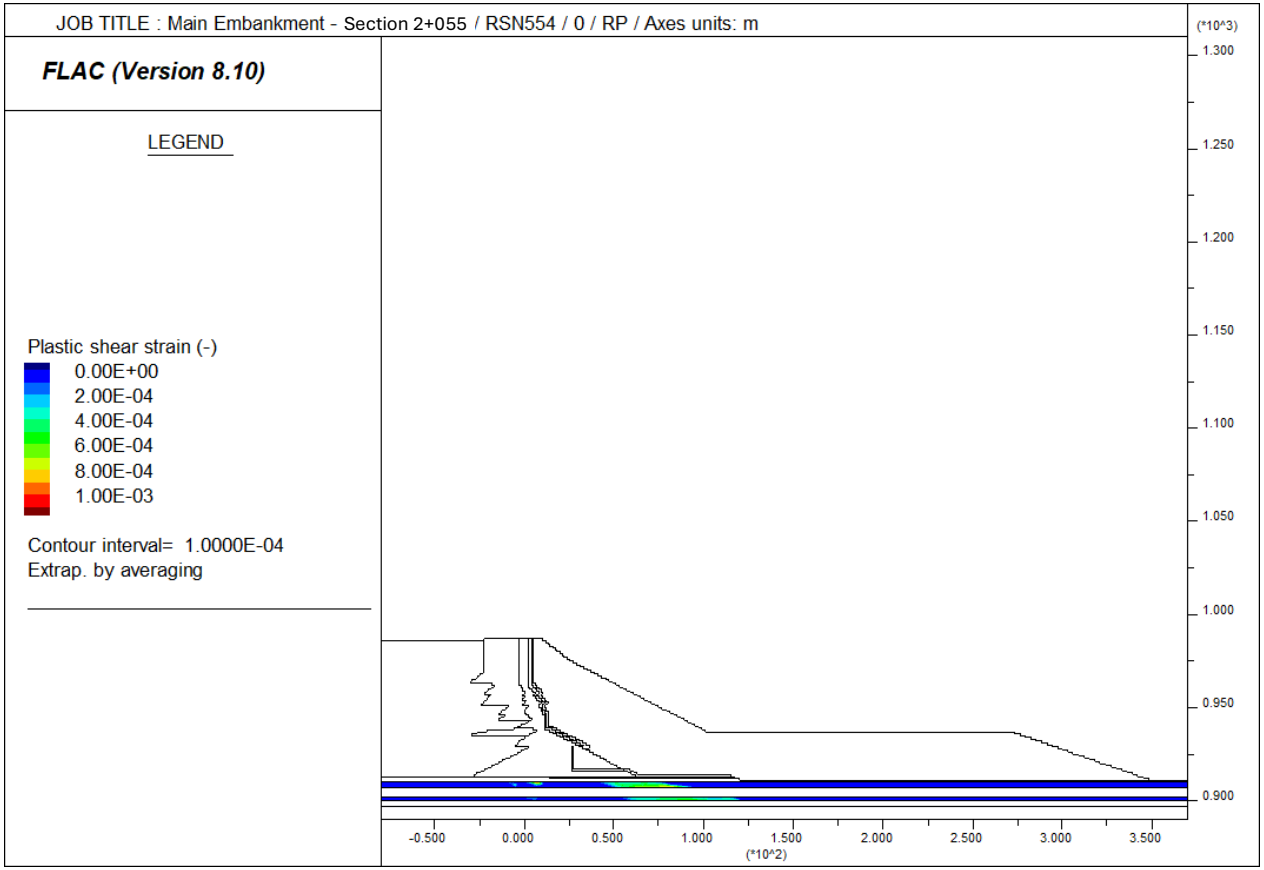

JOB TITLE : Main Embankment - Section 2+055 / RSN554 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

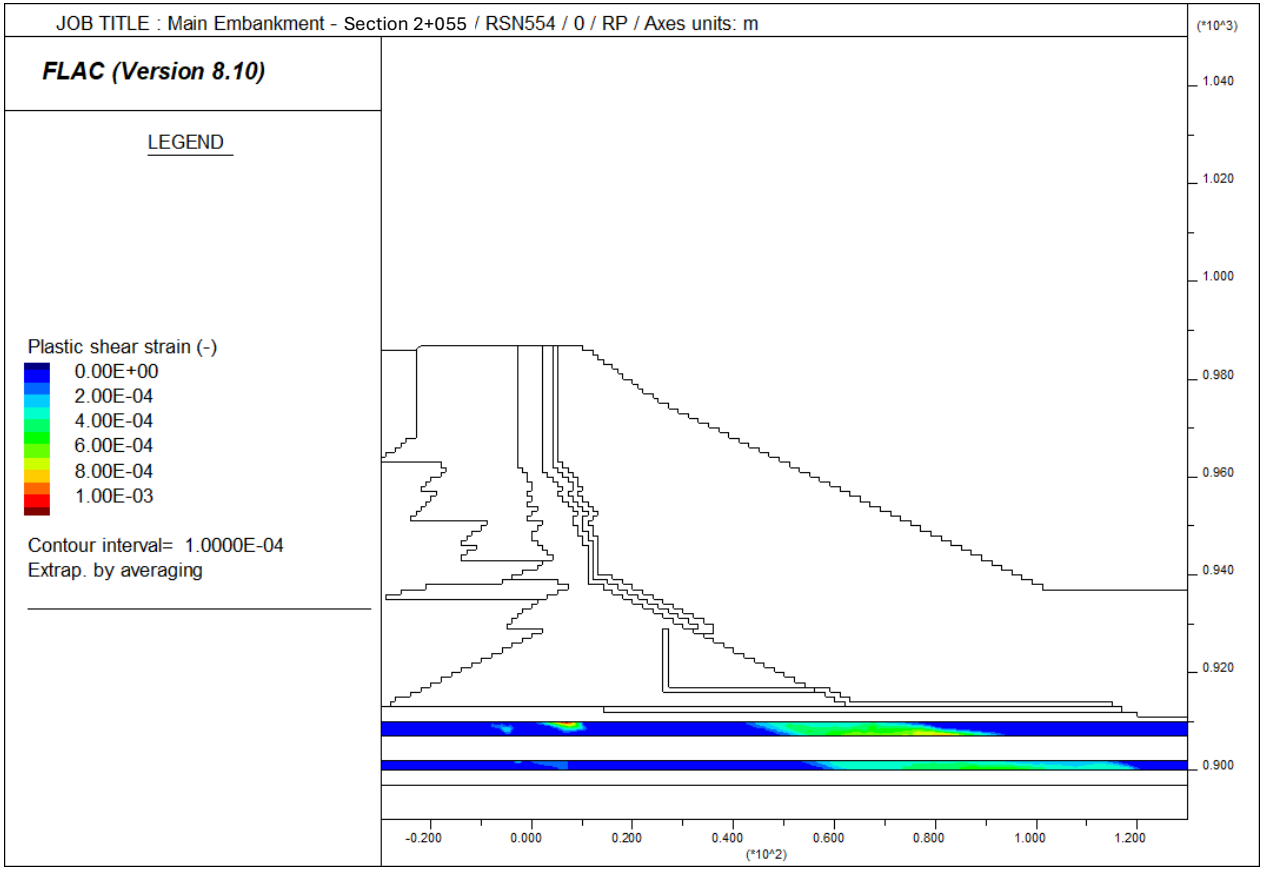

JOB TITLE : Main Embankment - Section 2+055 / RSN554 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

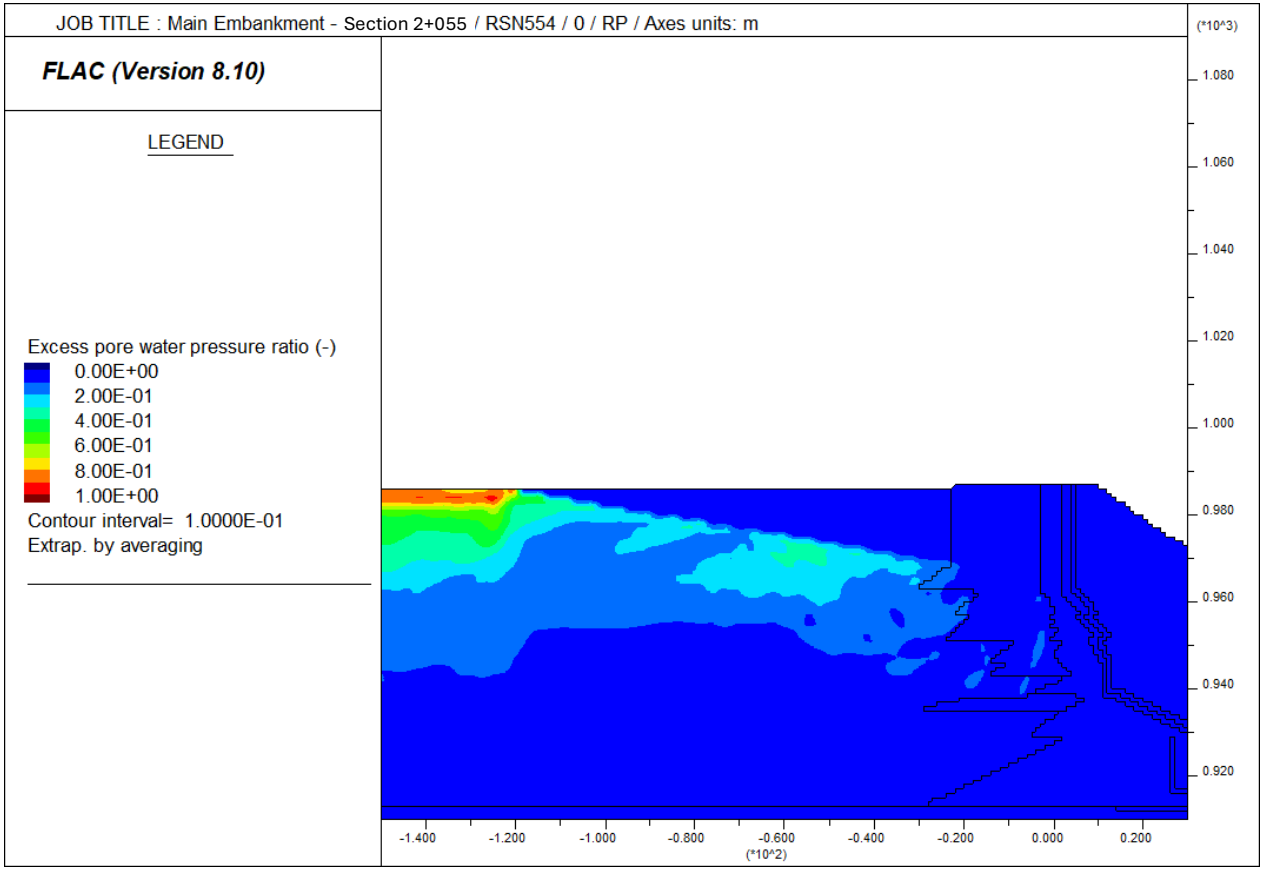

JOB TITLE : Main Embankment - Section 2+055 / RSN554 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

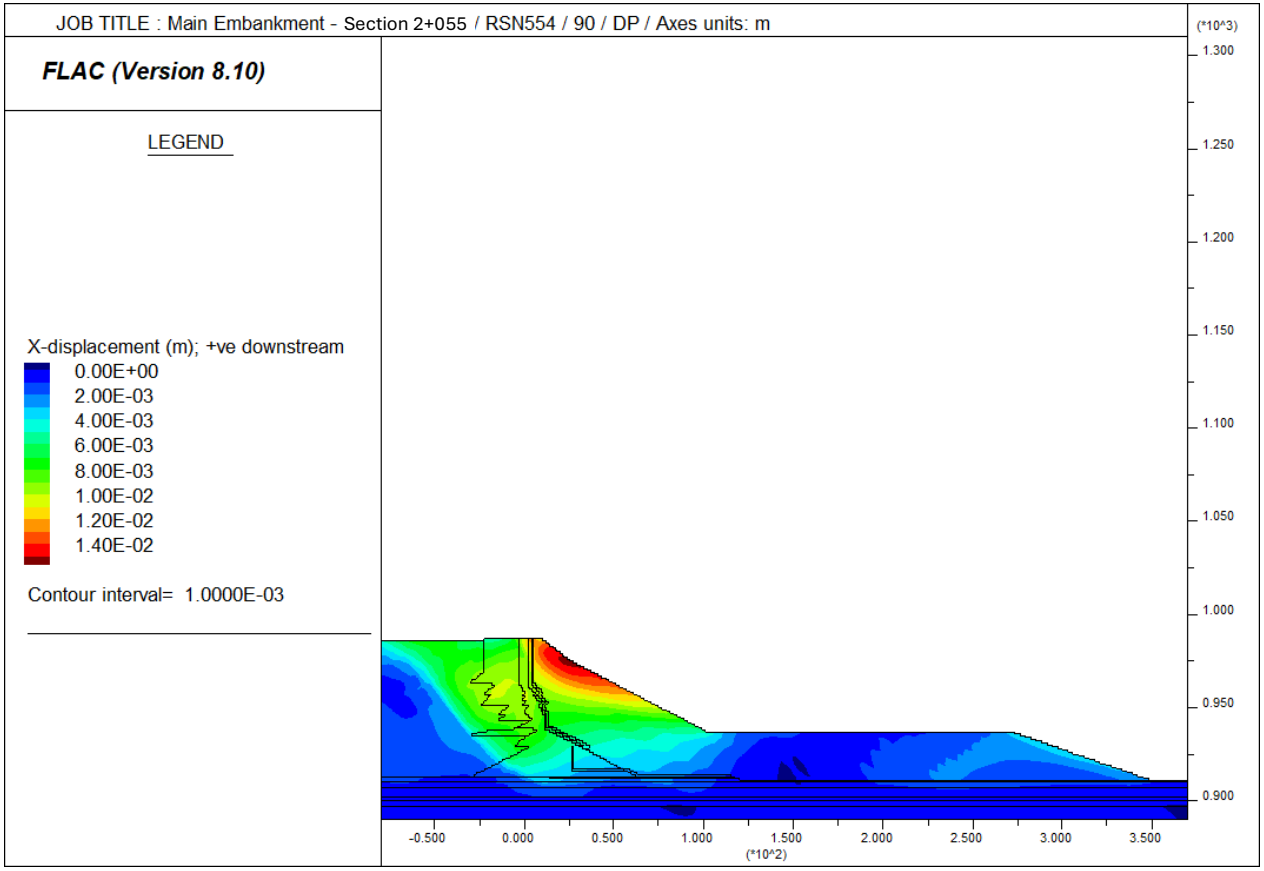

JOB TITLE : Main Embankment - Section 2+055 / RSN554 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

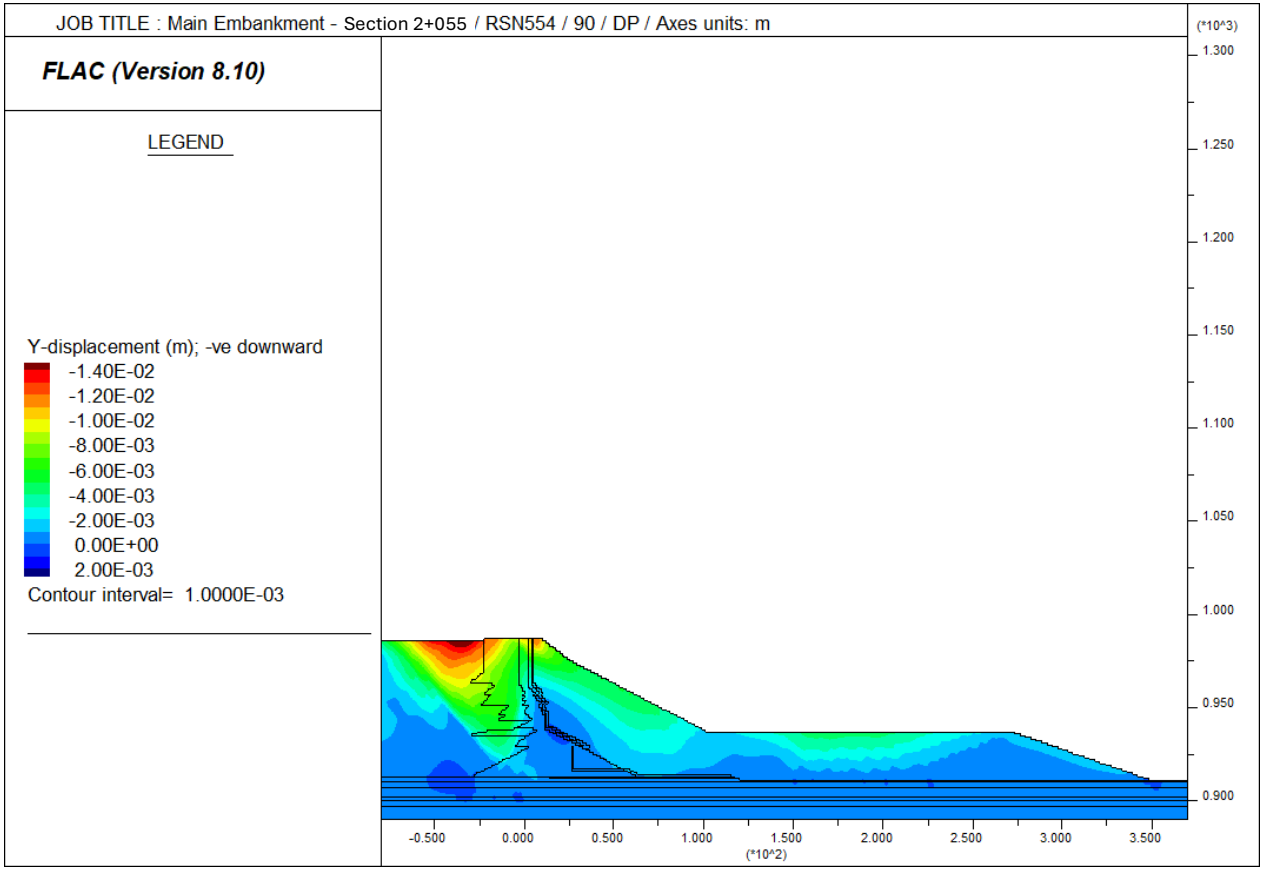

JOB TITLE : Main Embankment - Section 2+055 / RSN554 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.40E-02
-1.20E-02
-1.00E-02
-8.00E-03
-6.00E-03
-4.00E-03
-2.00E-03
0.00E+00
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

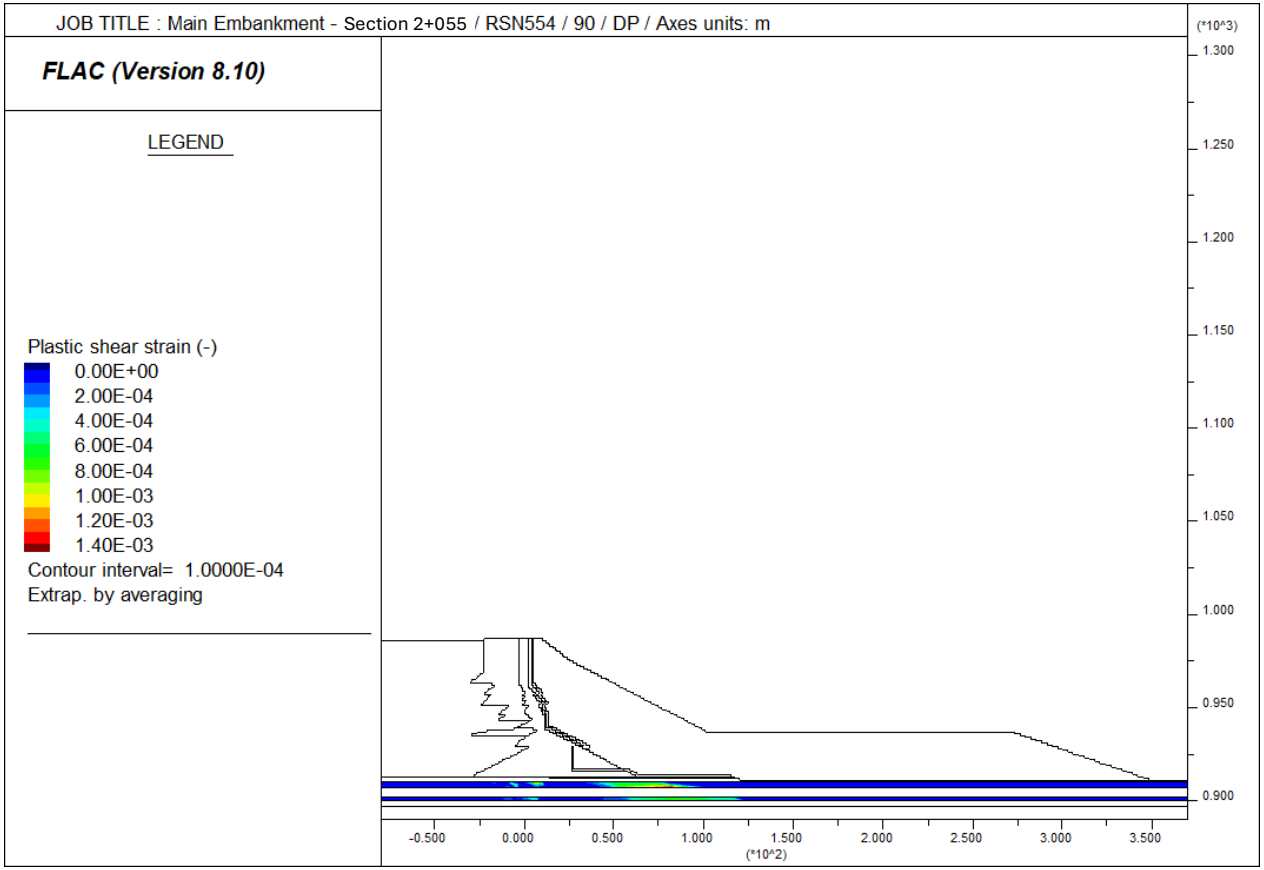

JOB TITLE : Main Embankment - Section 2+055 / RSN554 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

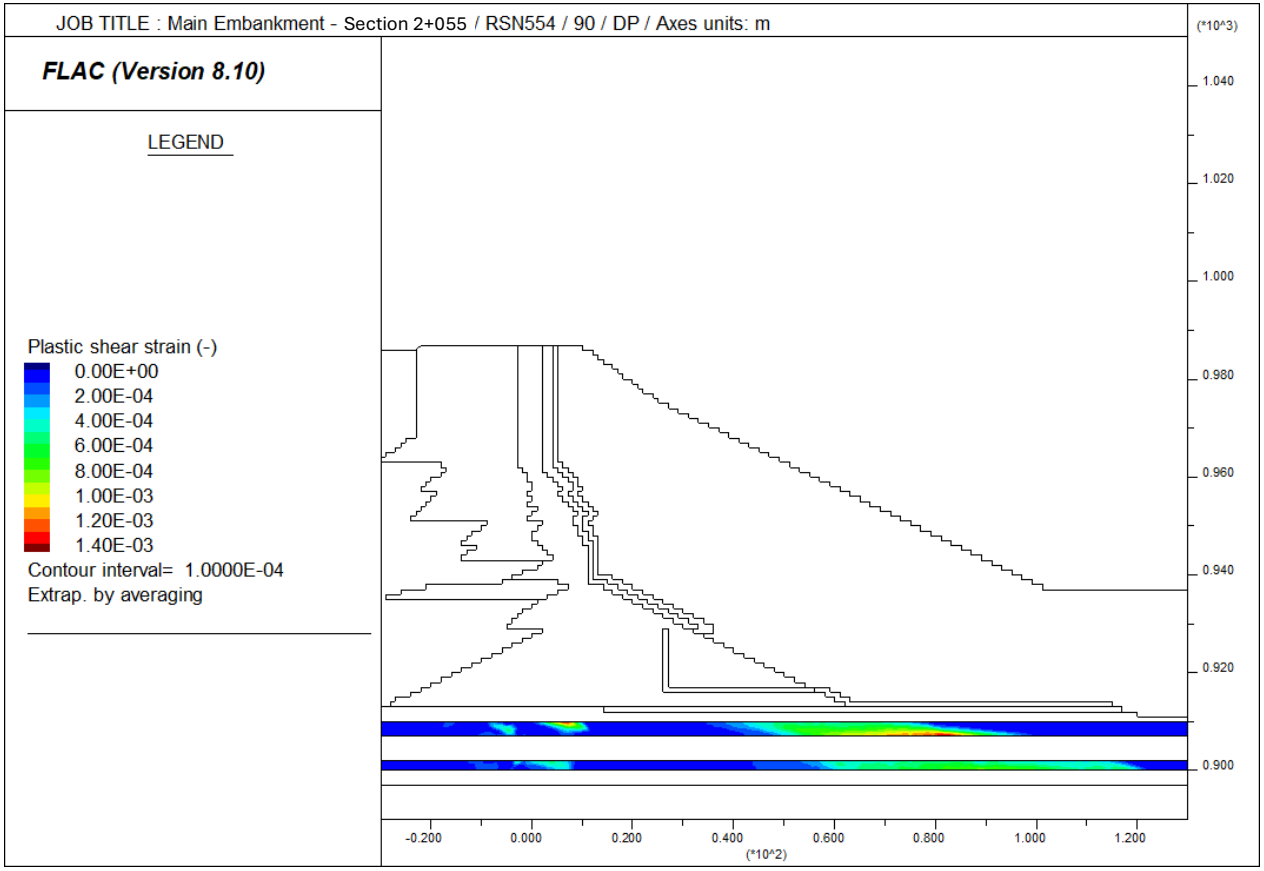

JOB TITLE : Main Embankment - Section 2+055 / RSN554 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

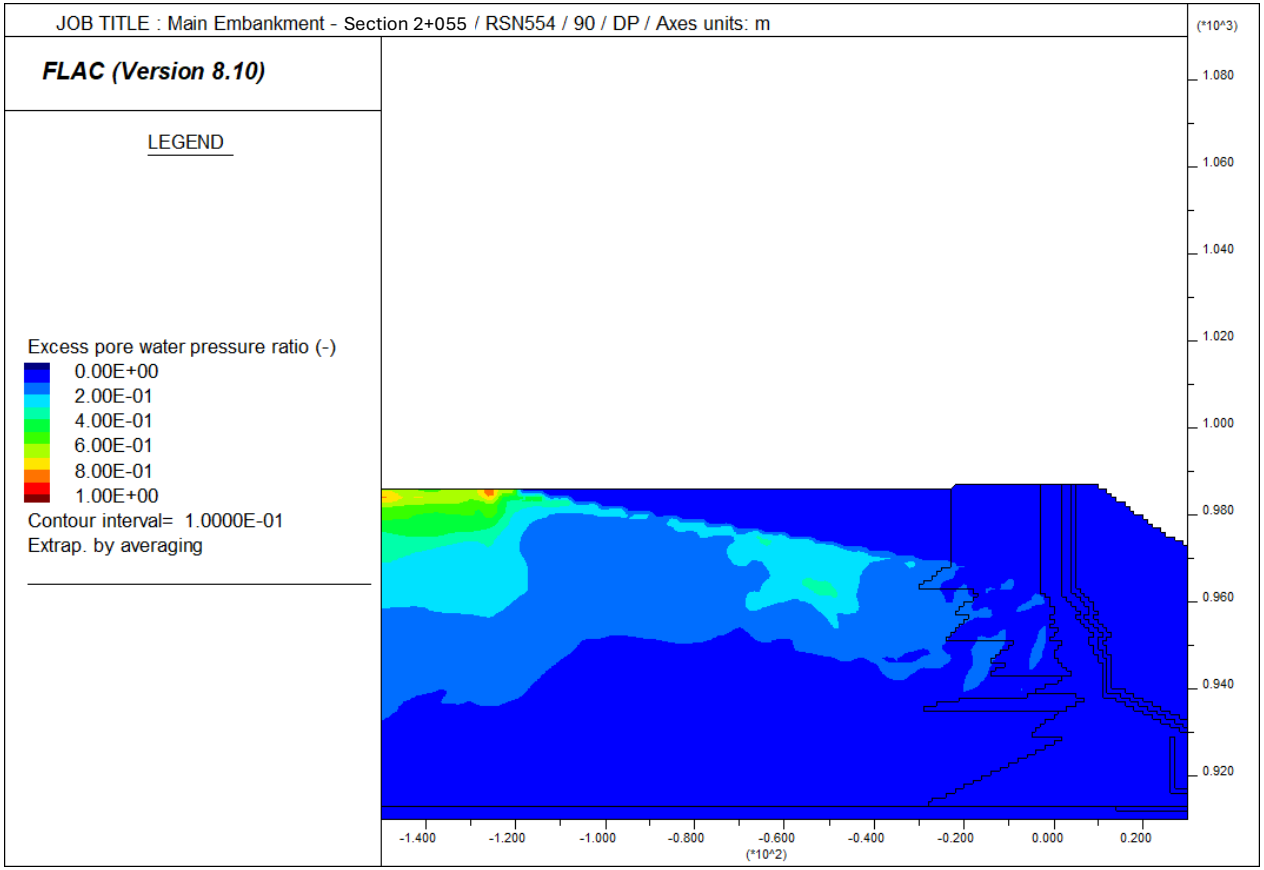

JOB TITLE : Main Embankment - Section 2+055 / RSN554 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

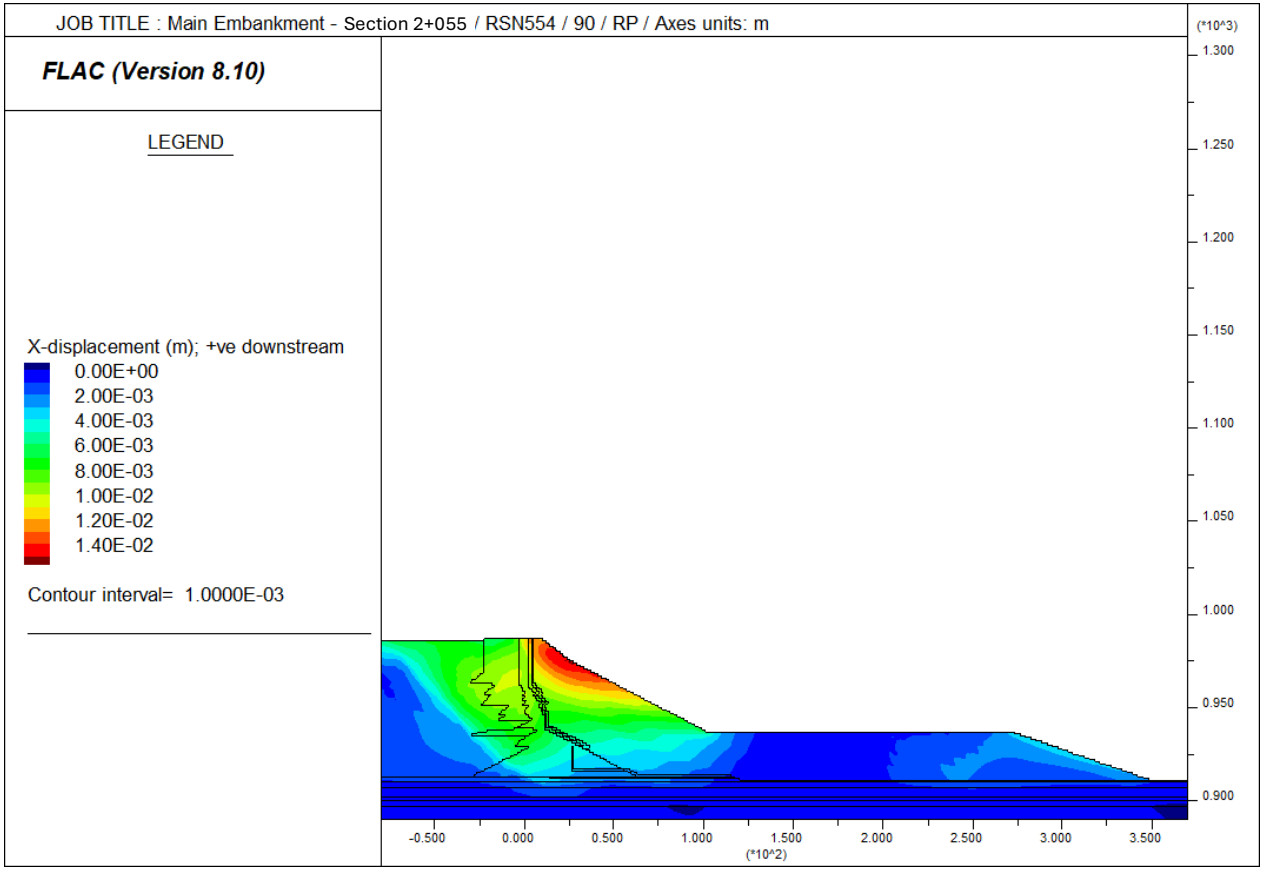

JOB TITLE : Main Embankment - Section 2+055 / RSN554 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

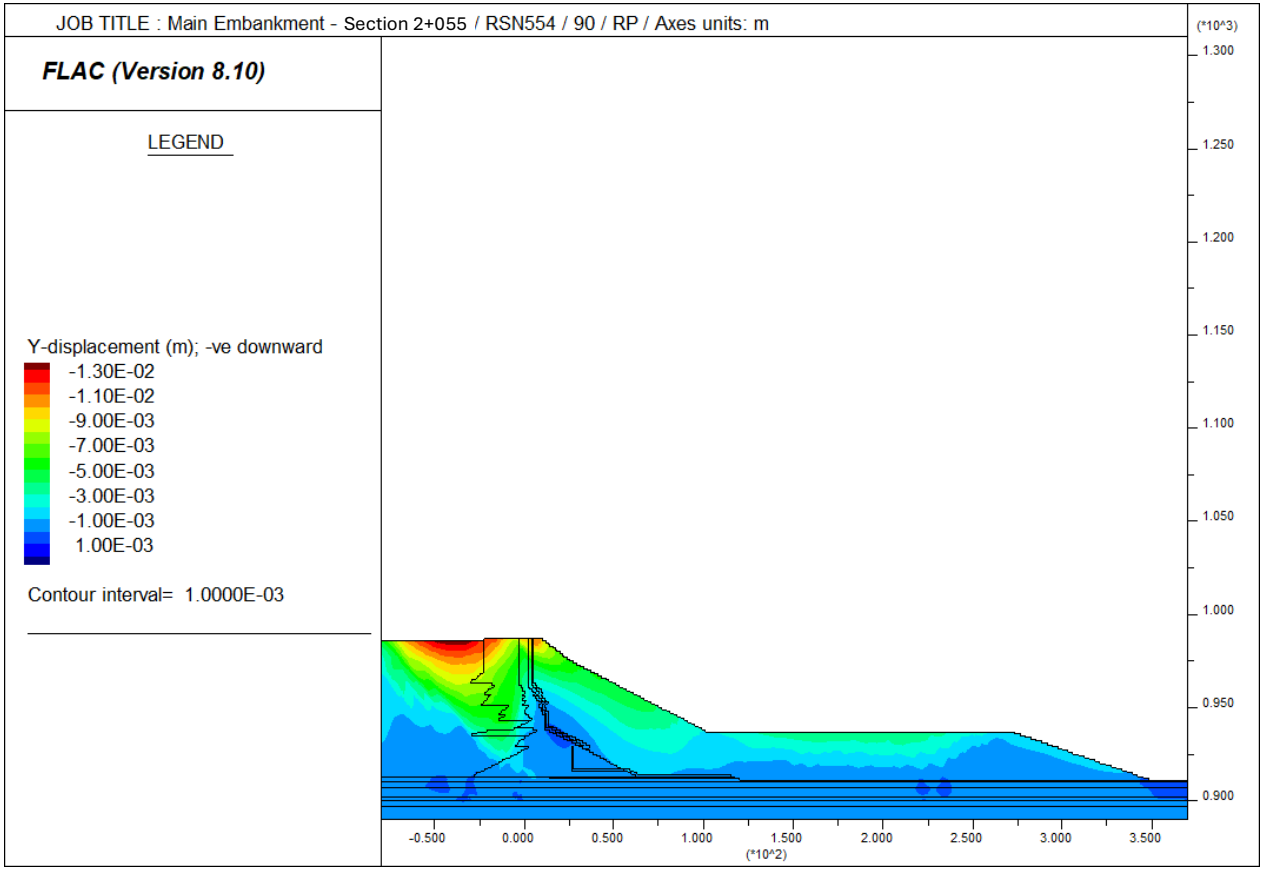

JOB TITLE : Main Embankment - Section 2+055 / RSN554 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.40E-02
-1.20E-02
-1.00E-02
-8.00E-03
-6.00E-03
-4.00E-03
-2.00E-03
0.00E+00
2.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

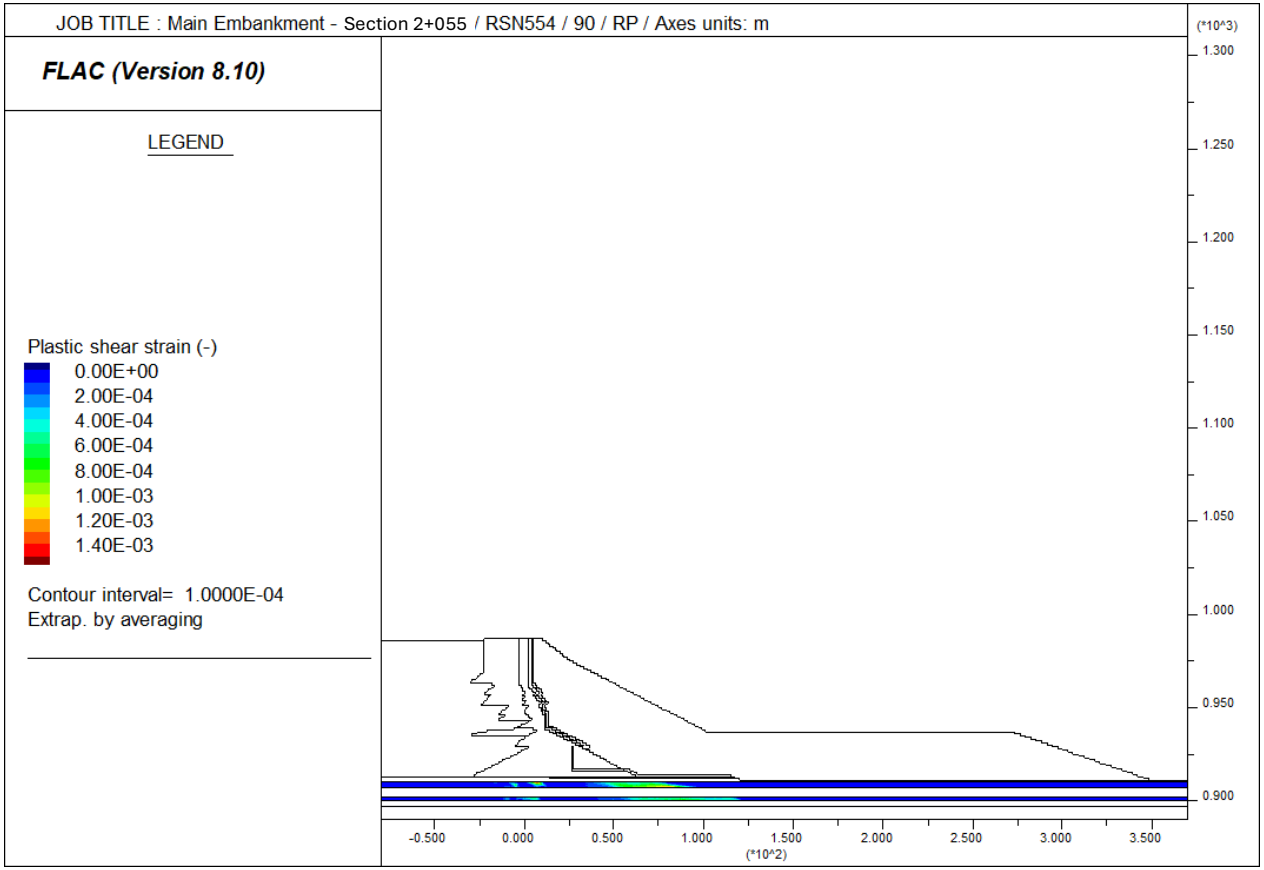

JOB TITLE : Main Embankment - Section 2+055 / RSN554 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

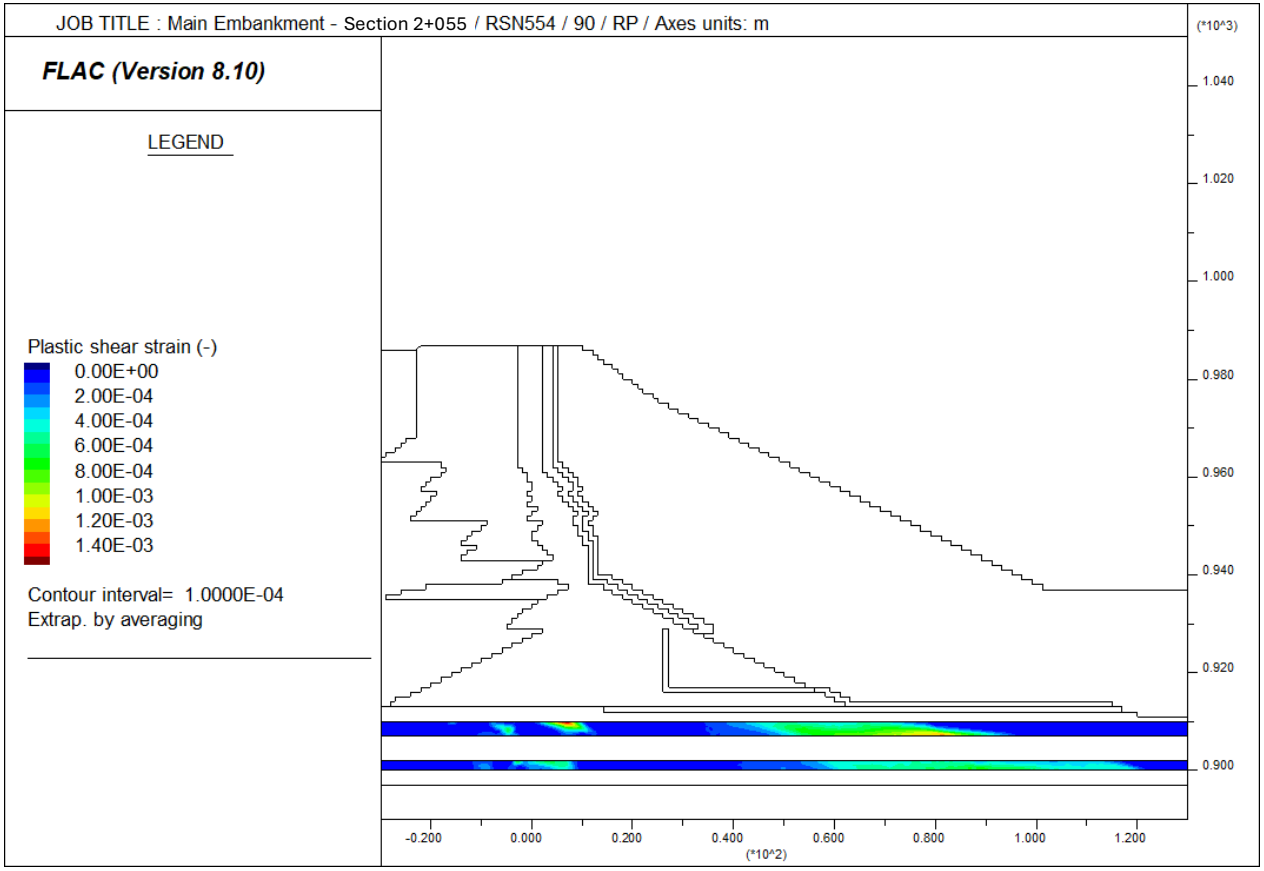

JOB TITLE : Main Embankment - Section 2+055 / RSN554 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

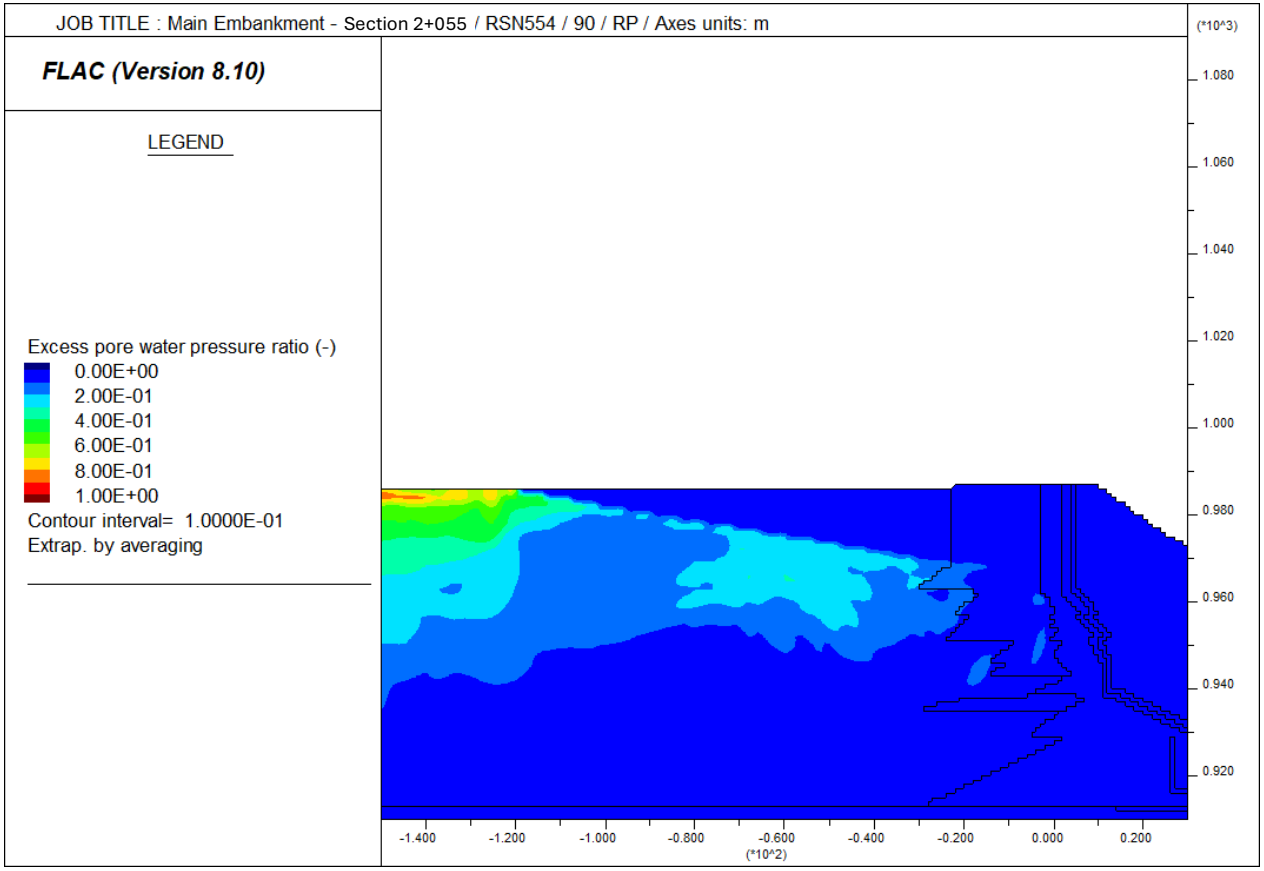

JOB TITLE : Main Embankment - Section 2+055 / RSN554 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

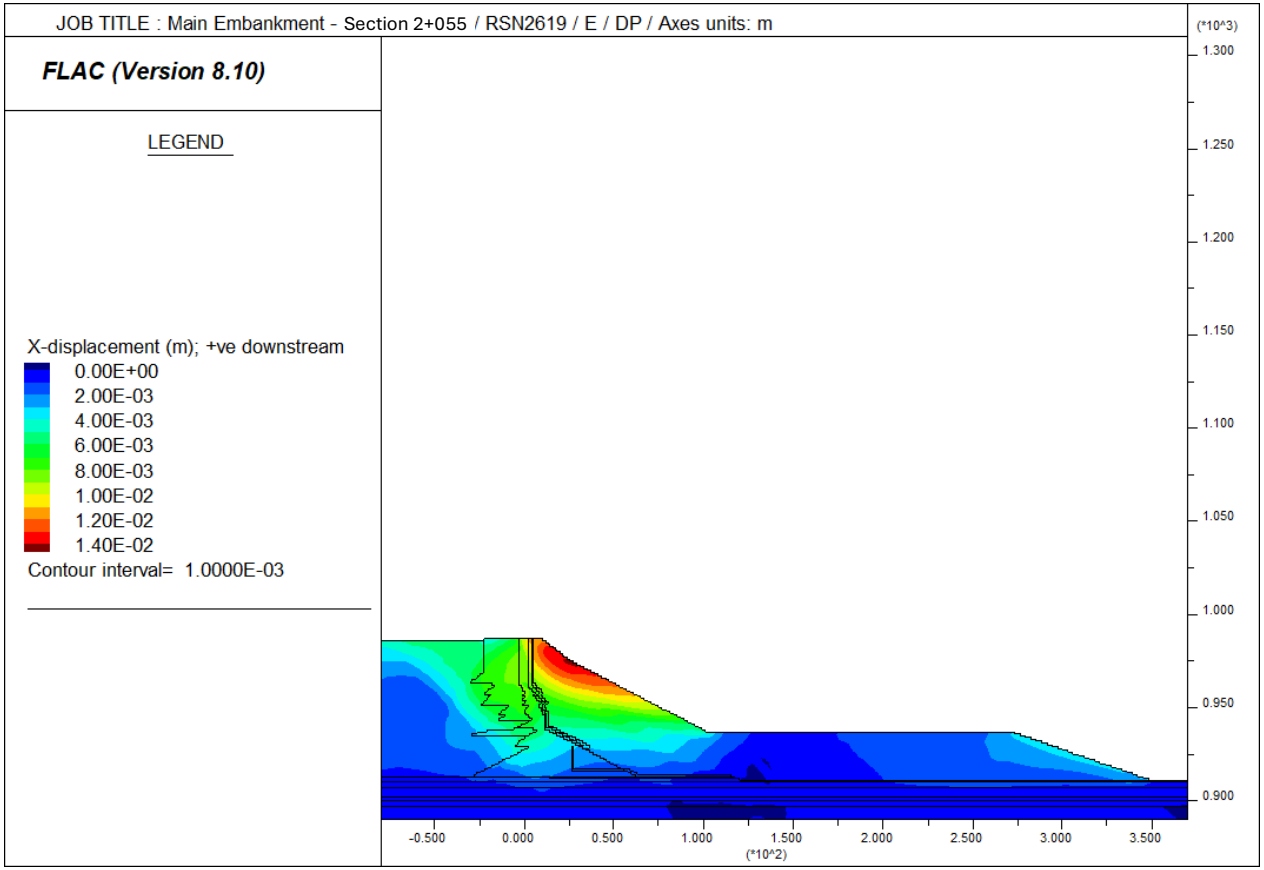

JOB TITLE : Main Embankment - Section 2+055 / RSN554 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

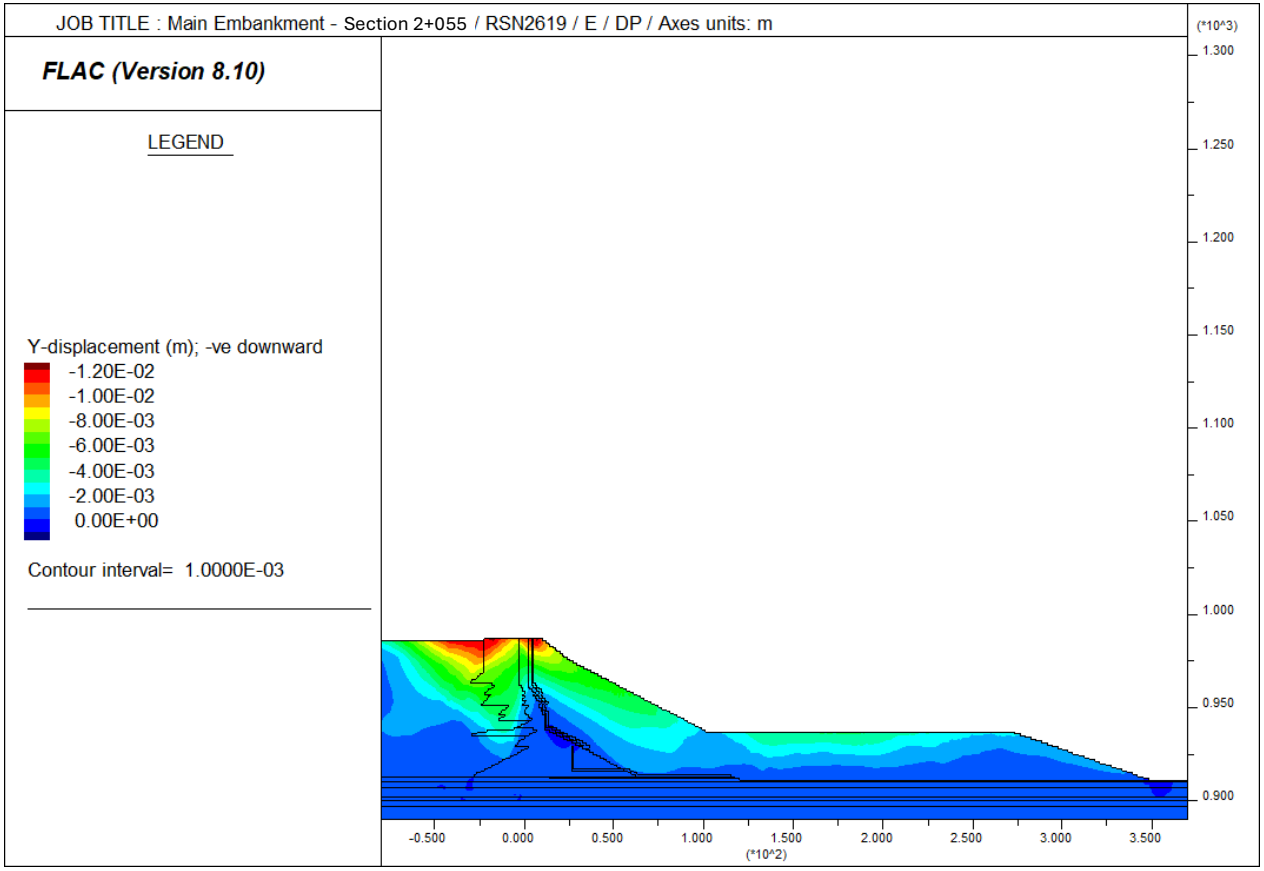

JOB TITLE : Main Embankment - Section 2+055 / RSN554 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.30E-02
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

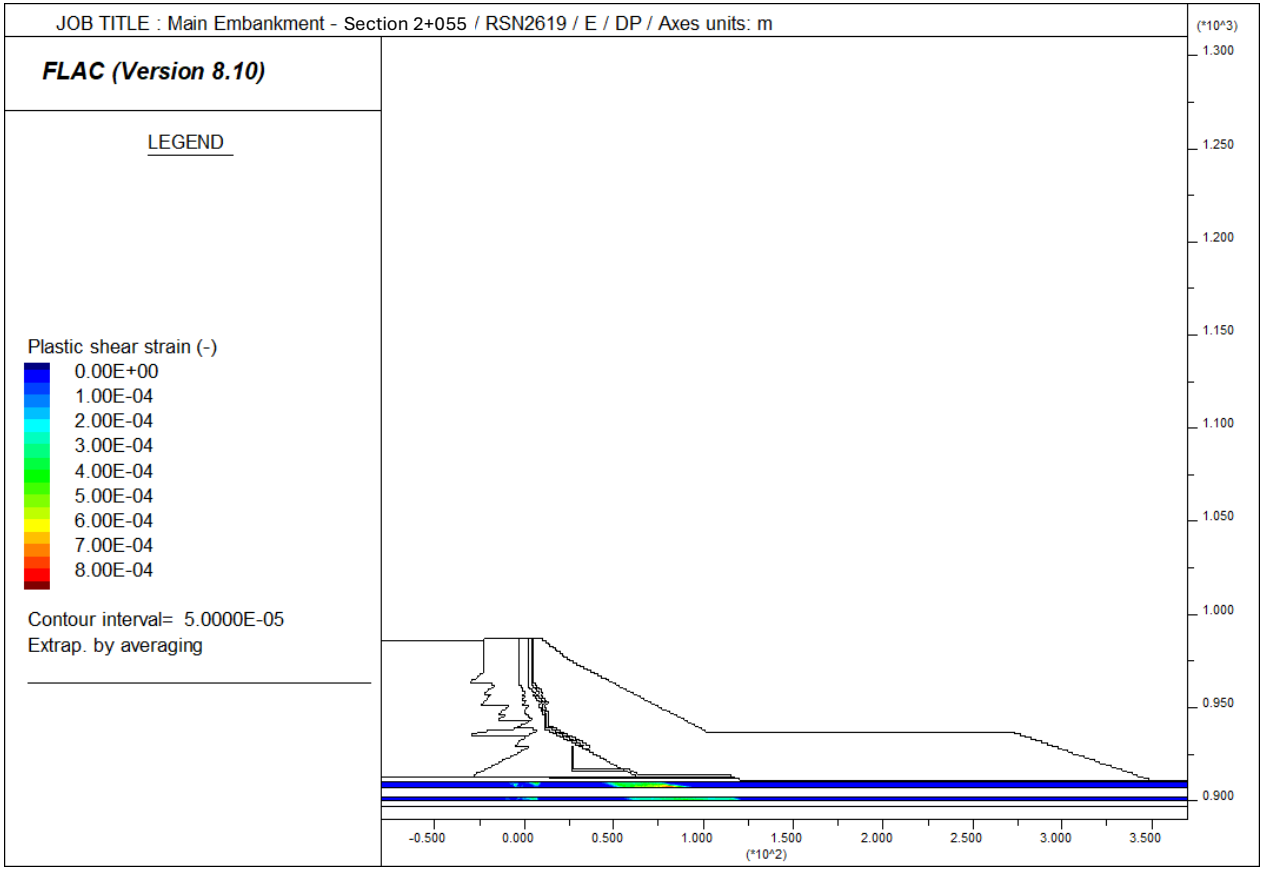

JOB TITLE : Main Embankment - Section 2+055 / RSN554 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

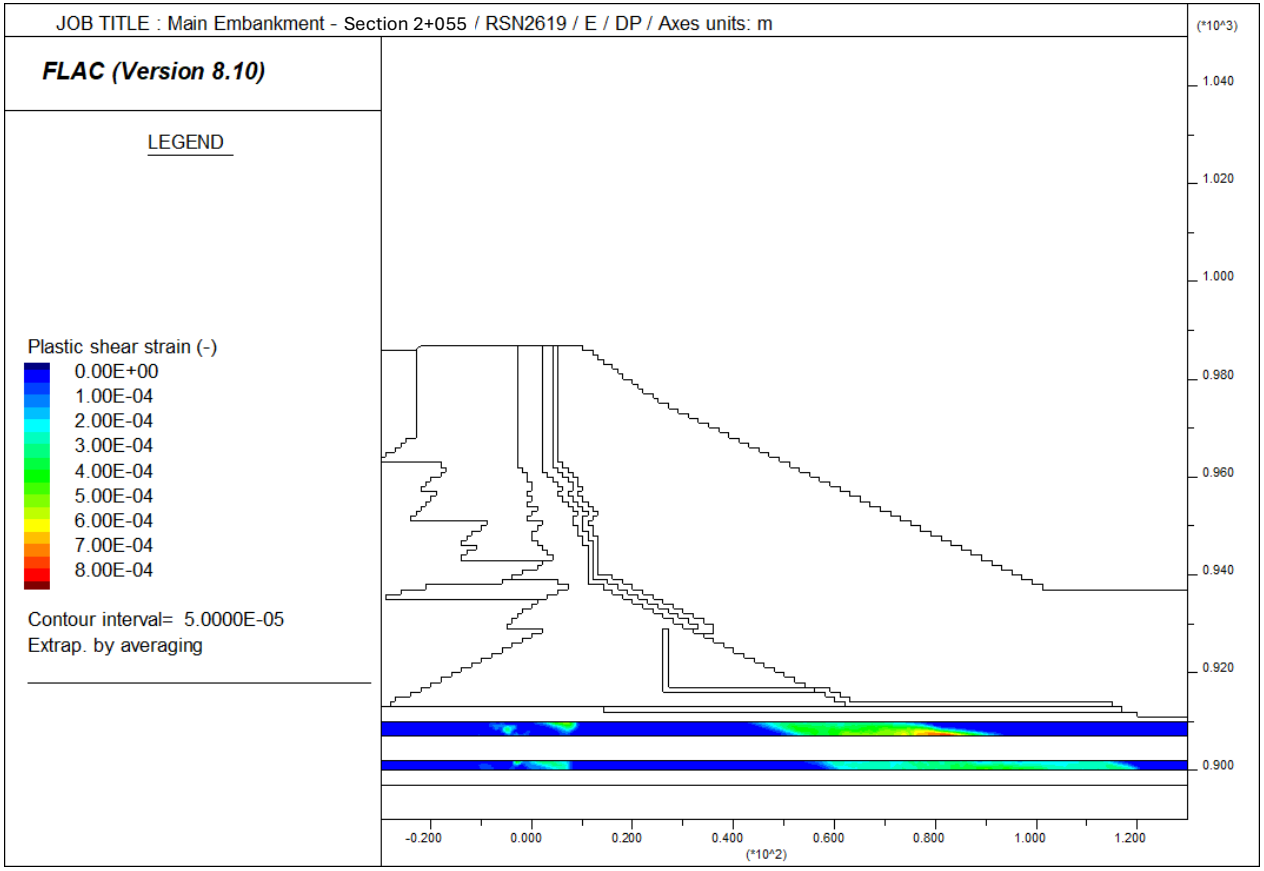

JOB TITLE : Main Embankment - Section 2+055 / RSN554 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

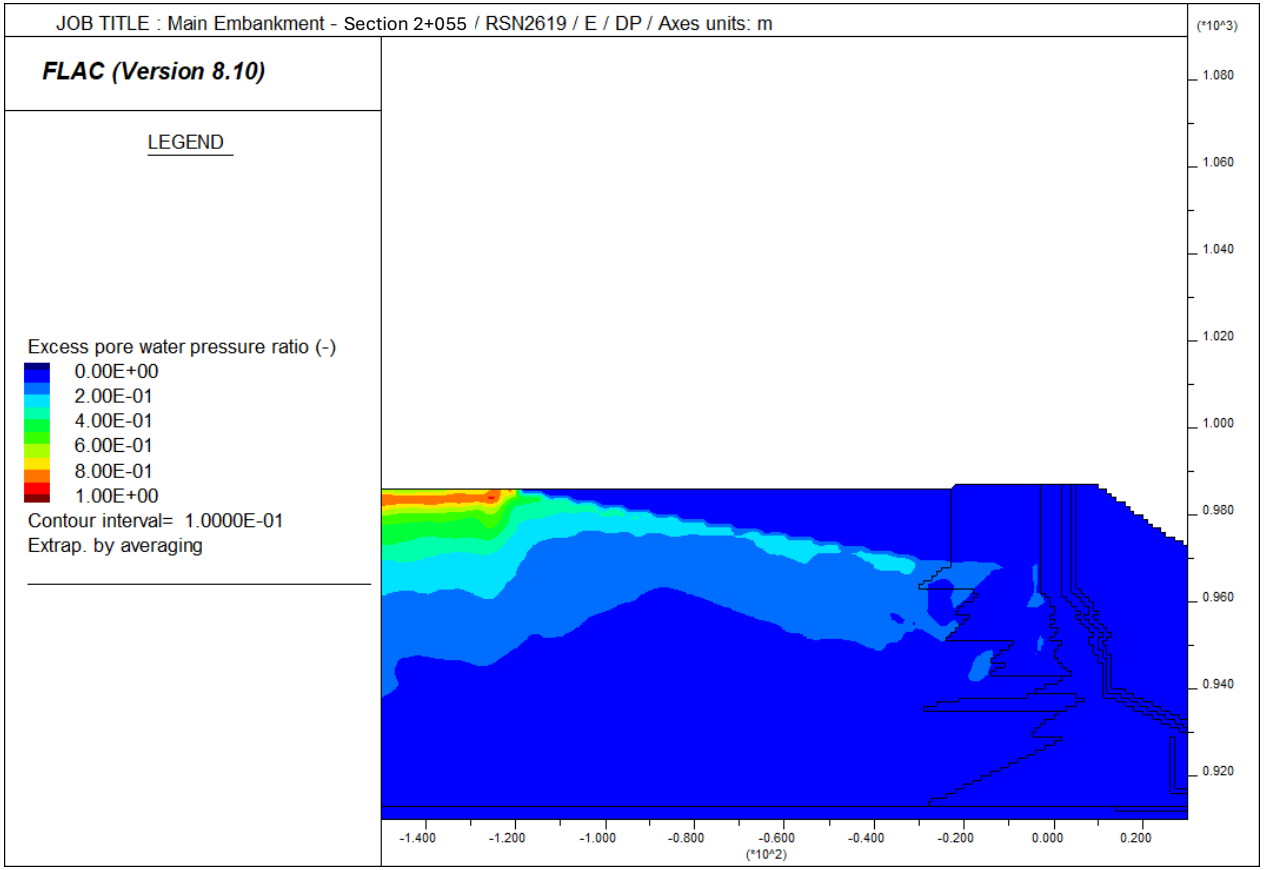

JOB TITLE : Main Embankment - Section 2+055 / RSN554 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

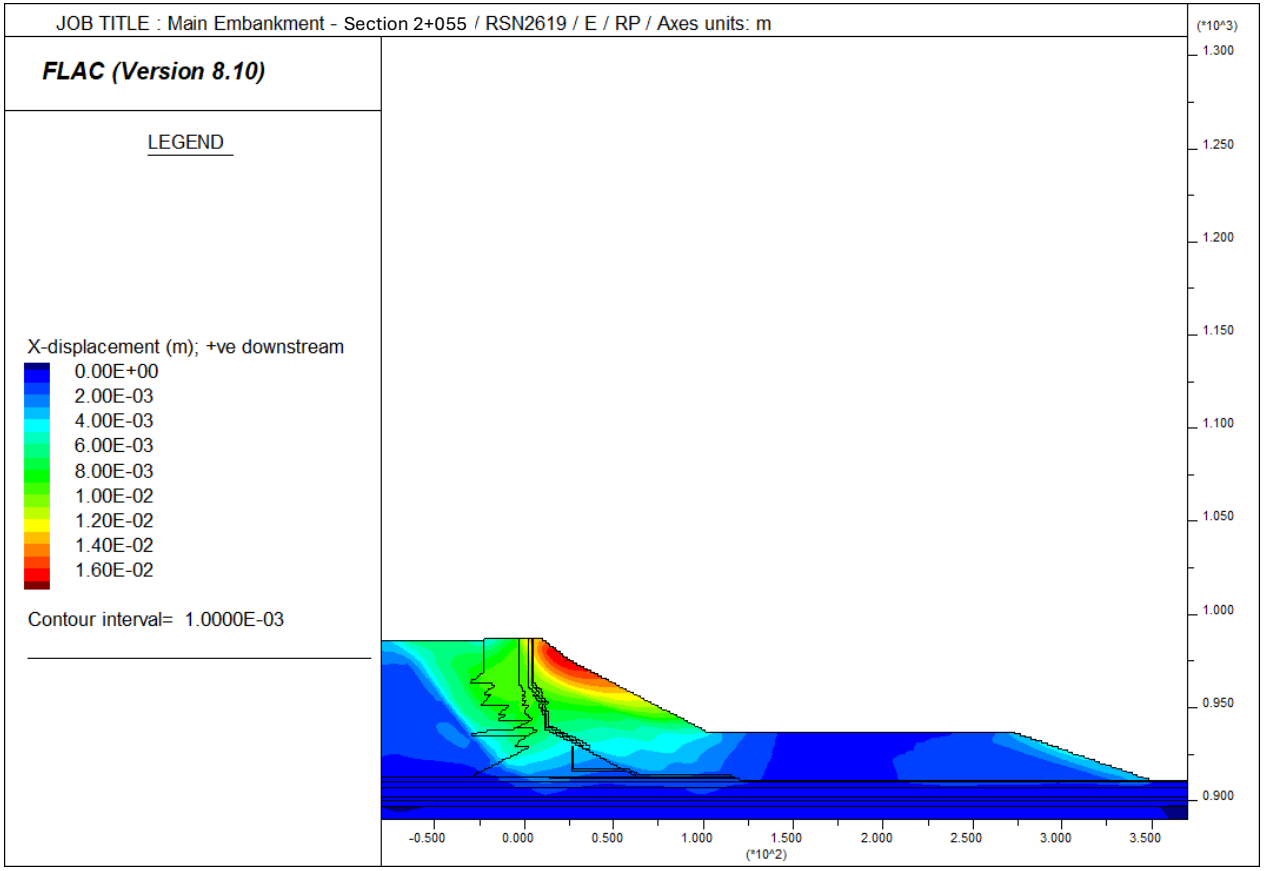

JOB TITLE : Main Embankment - Section 2+055 / RSN2619 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

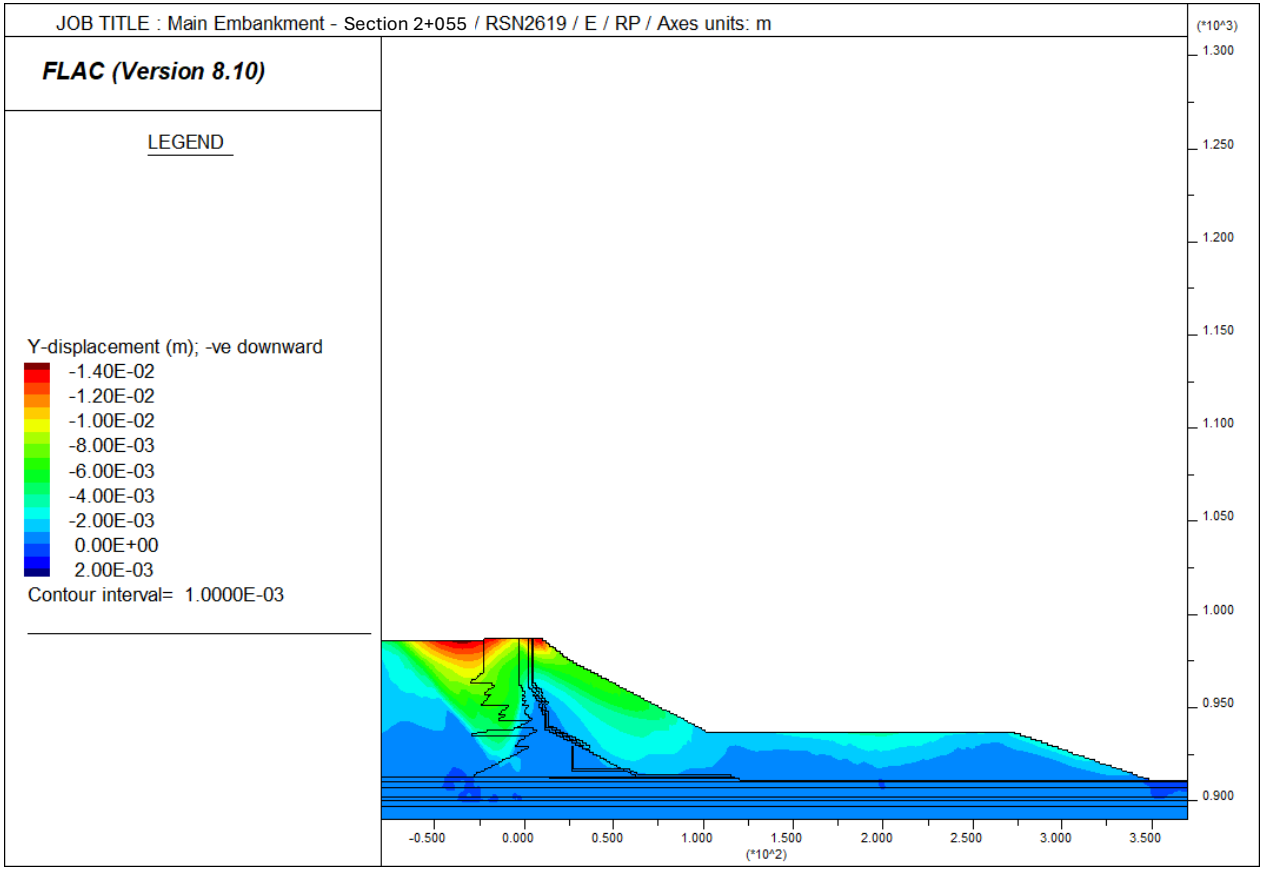

JOB TITLE : Main Embankment - Section 2+055 / RSN2619 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.20E-02
-1.00E-02
-8.00E-03
-6.00E-03
-4.00E-03
-2.00E-03
0.00E+00
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

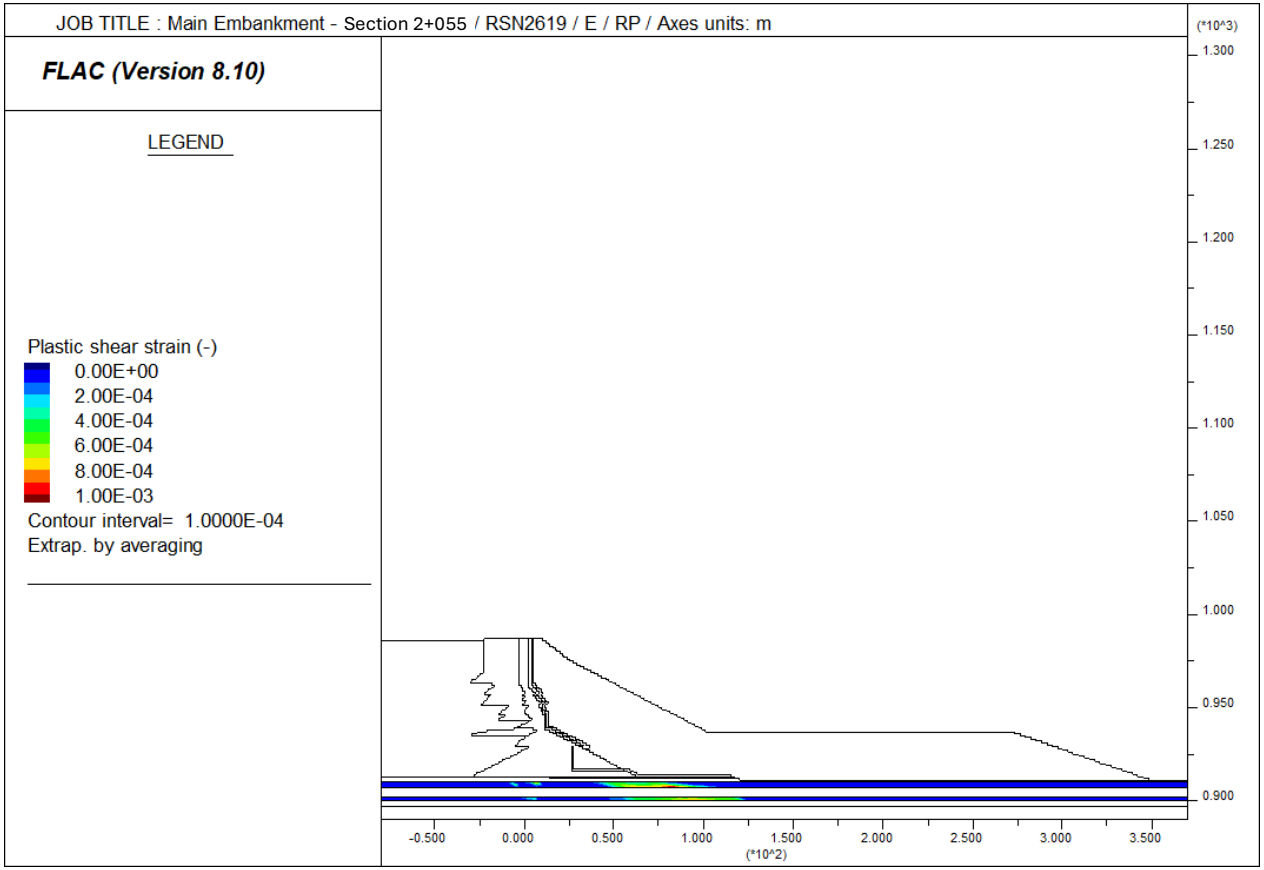

JOB TITLE : Main Embankment - Section 2+055 / RSN2619 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
7.00E-04
8.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

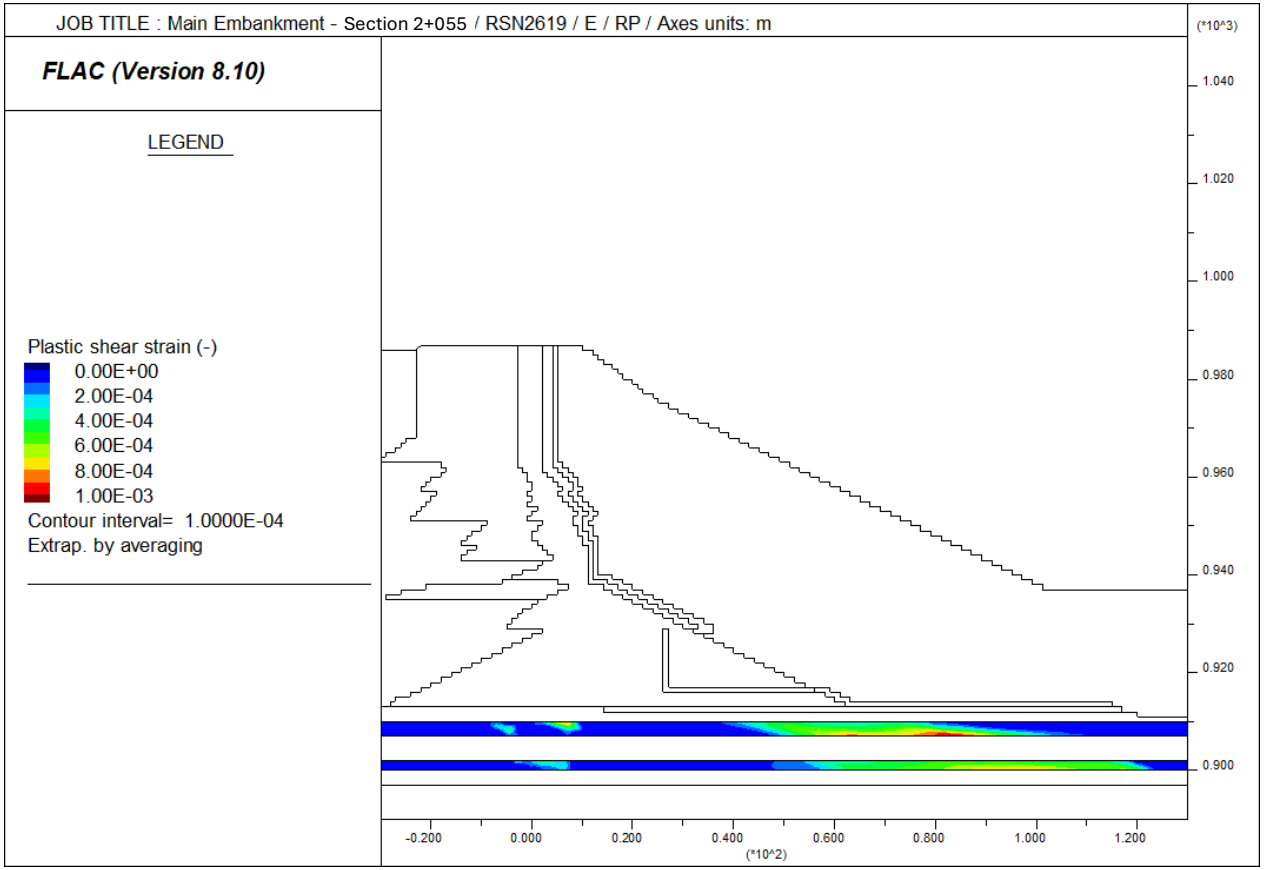

JOB TITLE : Main Embankment - Section 2+055 / RSN2619 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
7.00E-04
8.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

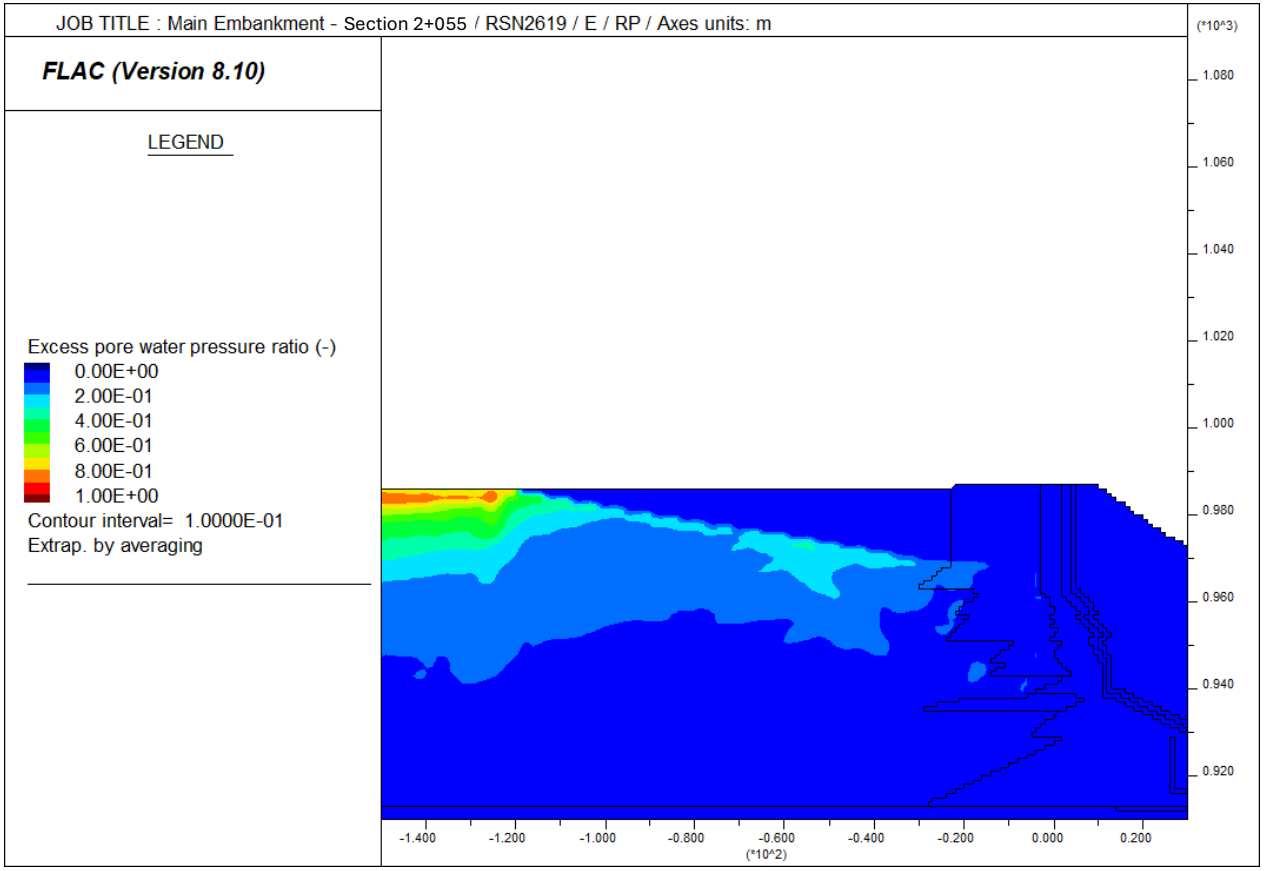

JOB TITLE : Main Embankment - Section 2+055 / RSN2619 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

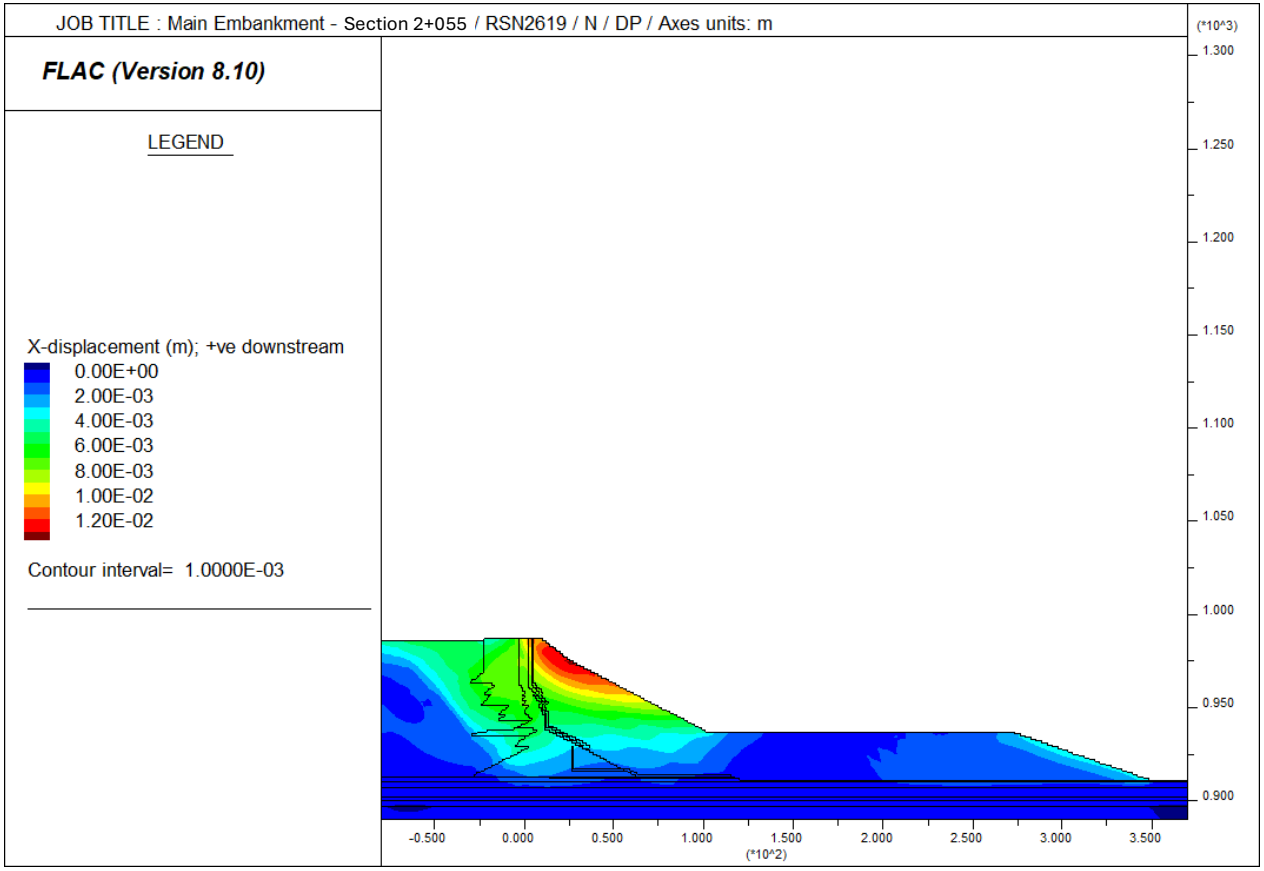

JOB TITLE : Main Embankment - Section 2+055 / RSN2619 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
1.60E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

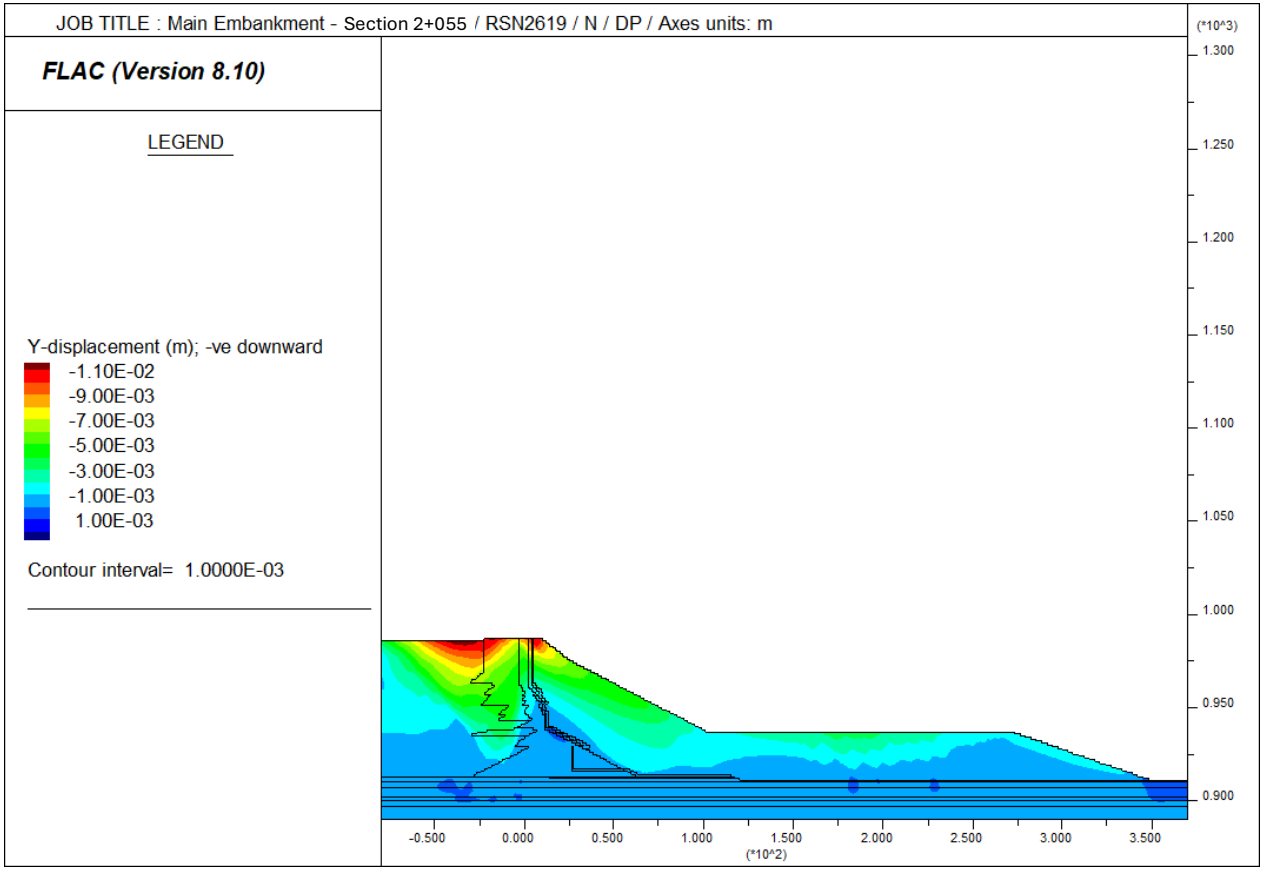

JOB TITLE : Main Embankment - Section 2+055 / RSN2619 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.40E-02
-1.20E-02
-1.00E-02
-8.00E-03
-6.00E-03
-4.00E-03
-2.00E-03
0.00E+00
2.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

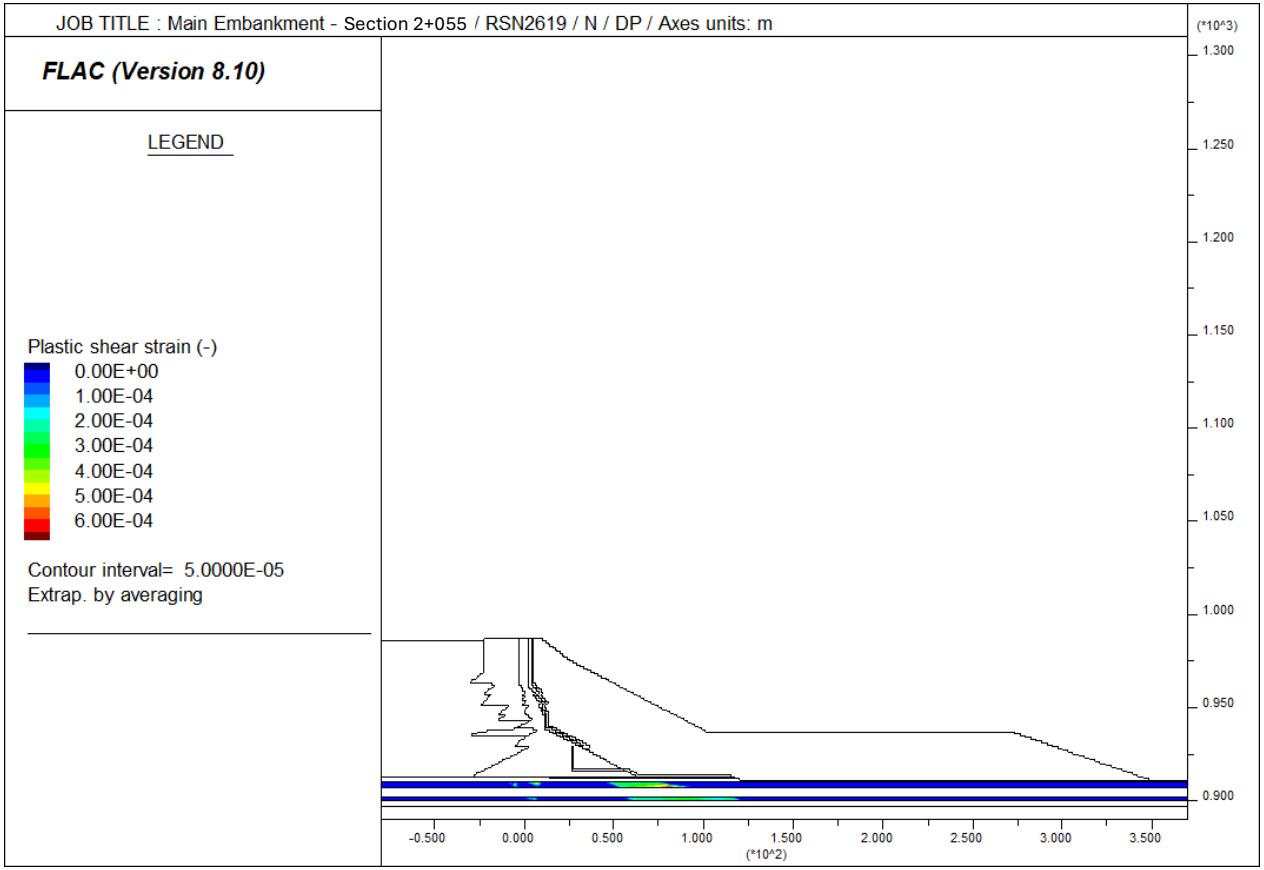

JOB TITLE : Main Embankment - Section 2+055 / RSN2619 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

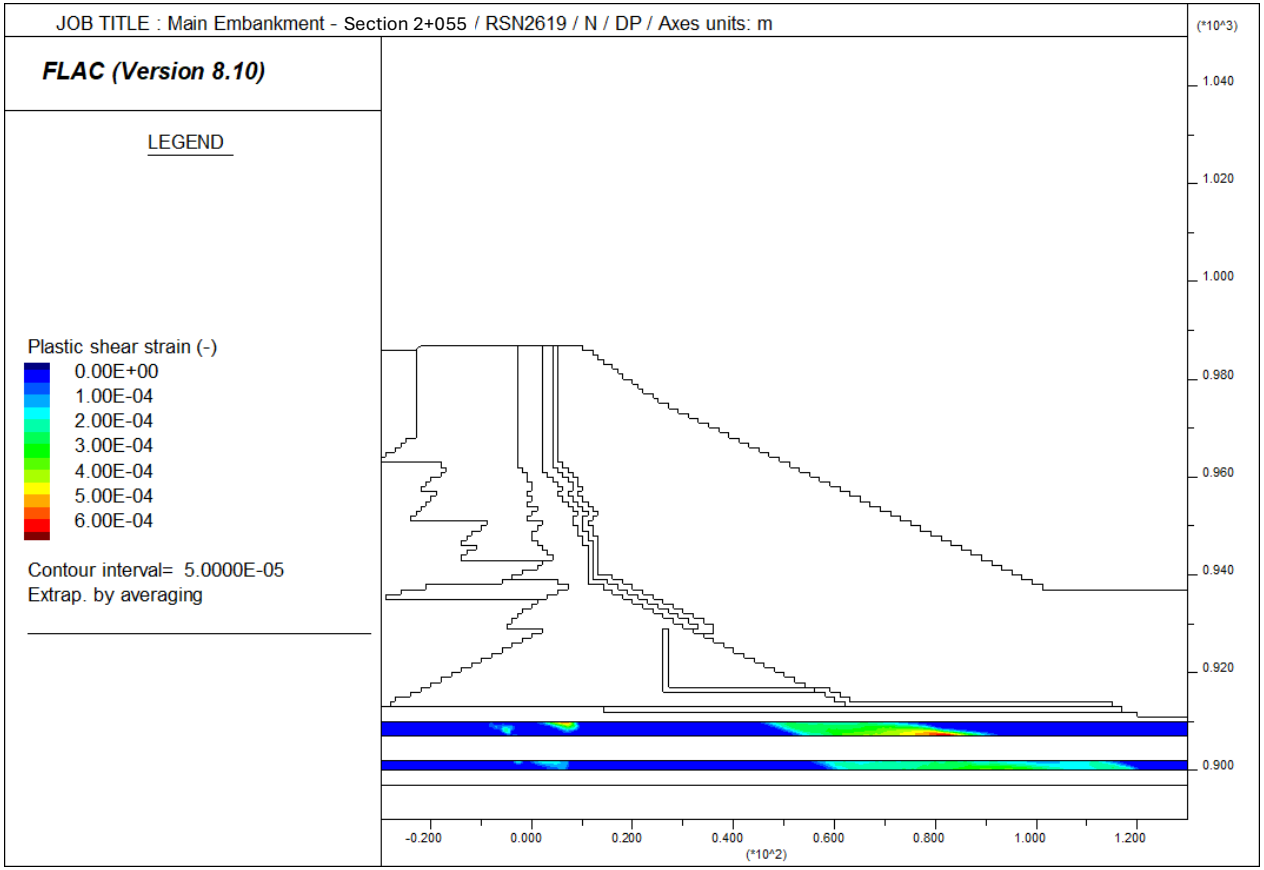

JOB TITLE : Main Embankment - Section 2+055 / RSN2619 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

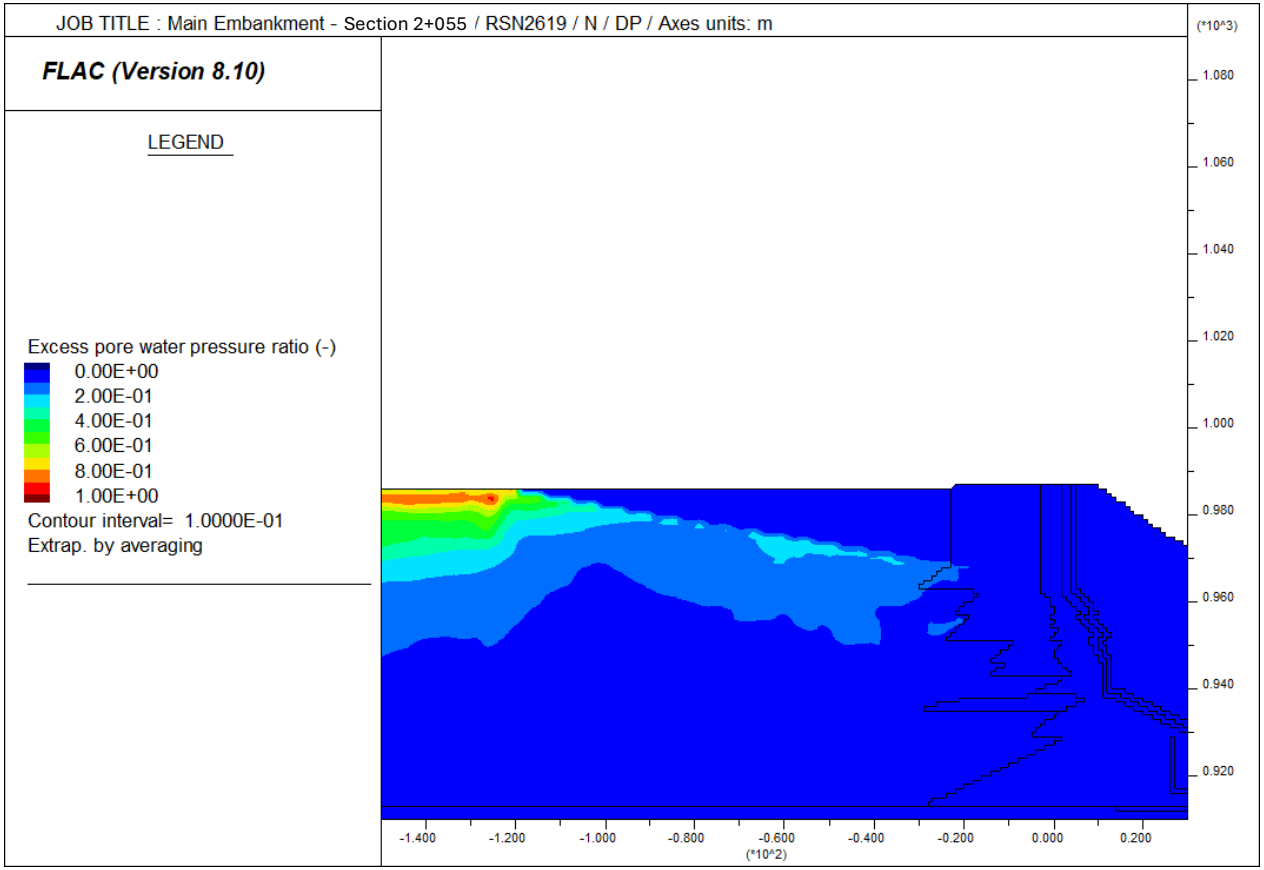

JOB TITLE : Main Embankment - Section 2+055 / RSN2619 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

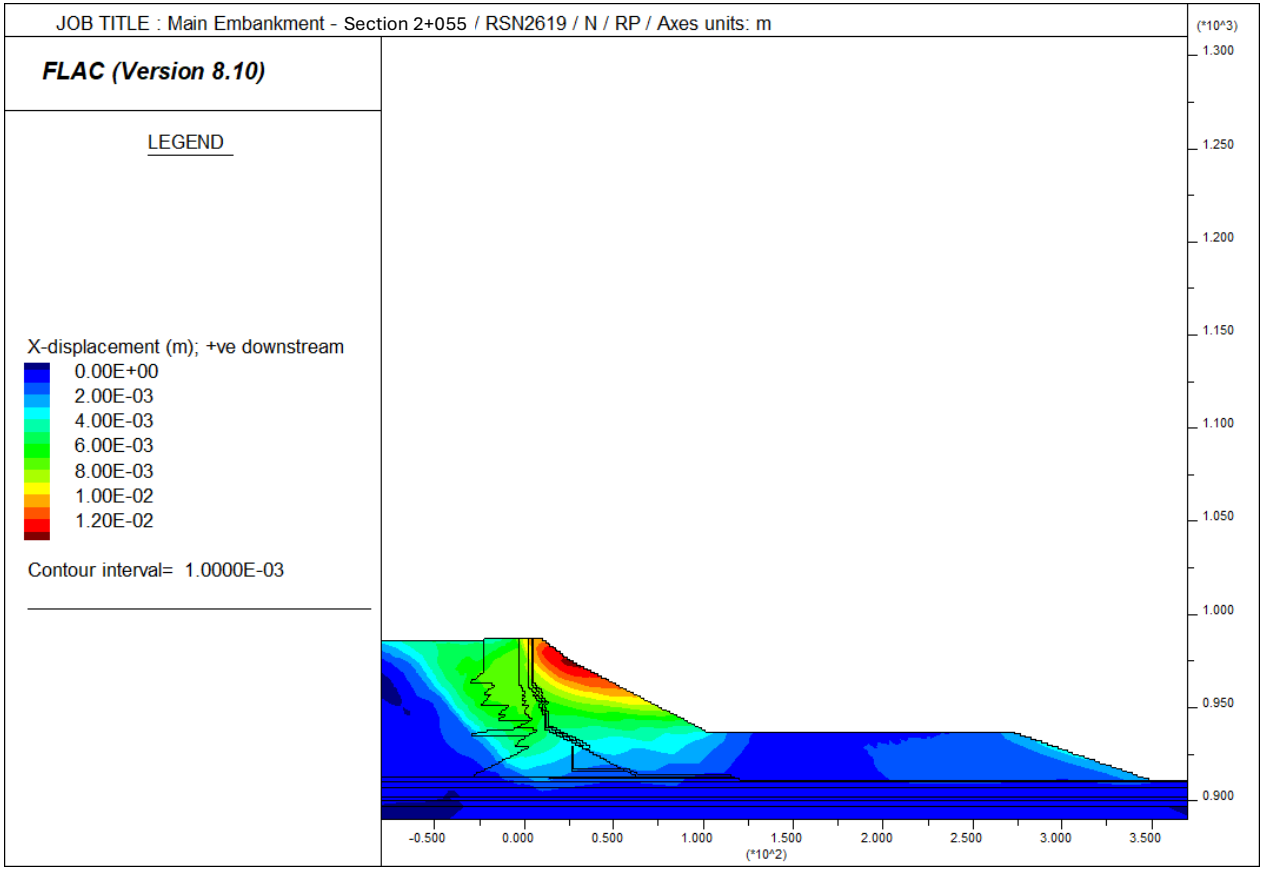

JOB TITLE : Main Embankment - Section 2+055 / RSN2619 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

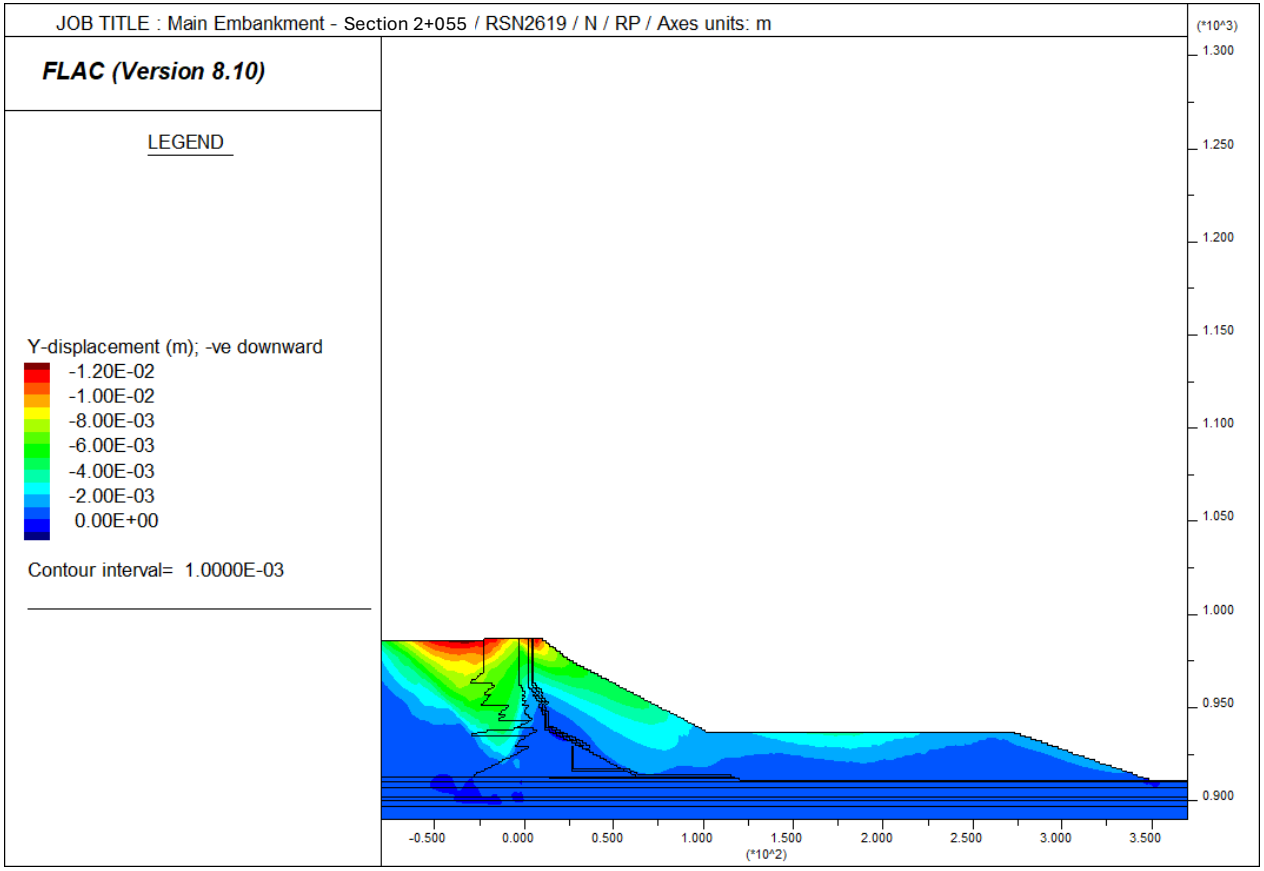

JOB TITLE : Main Embankment - Section 2+055 / RSN2619 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

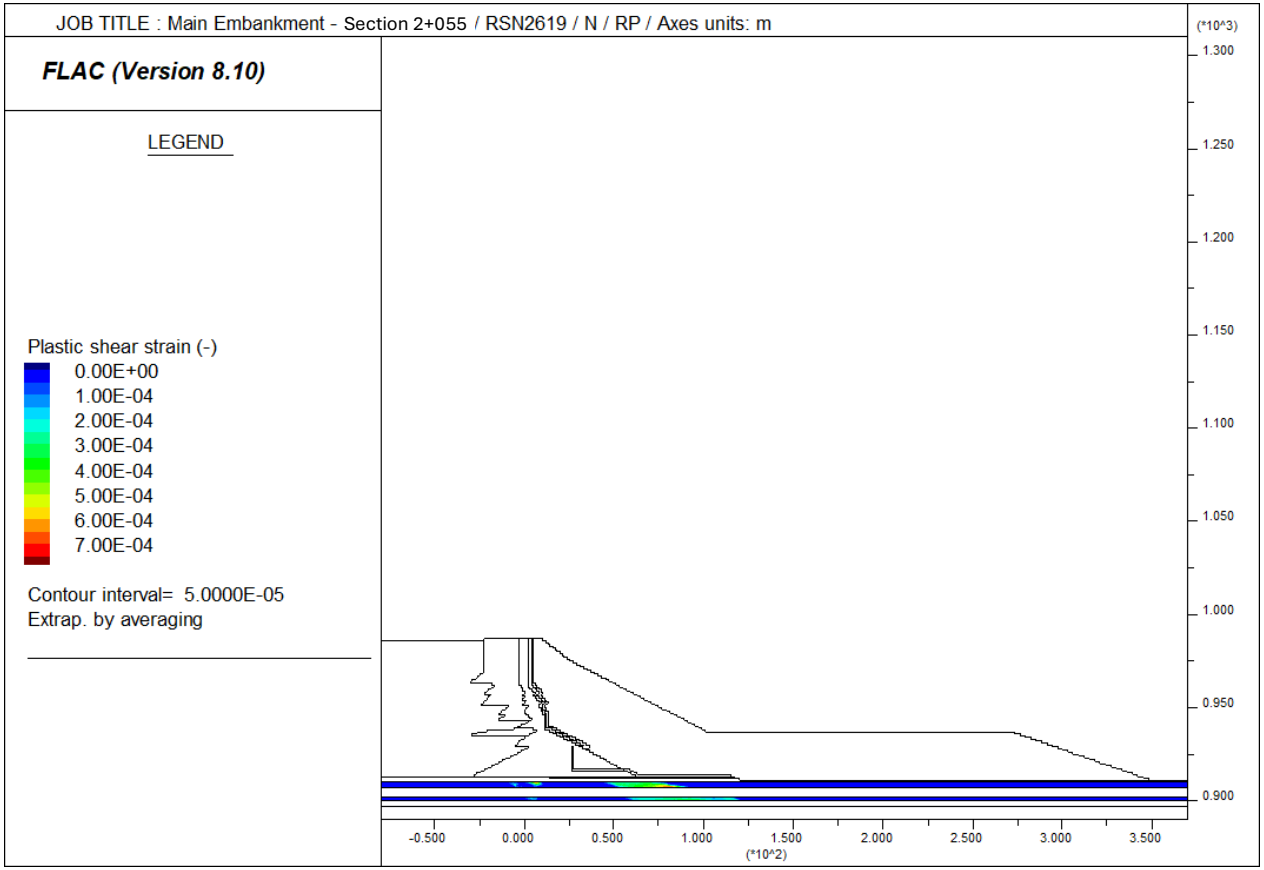

JOB TITLE : Main Embankment - Section 2+055 / RSN2619 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

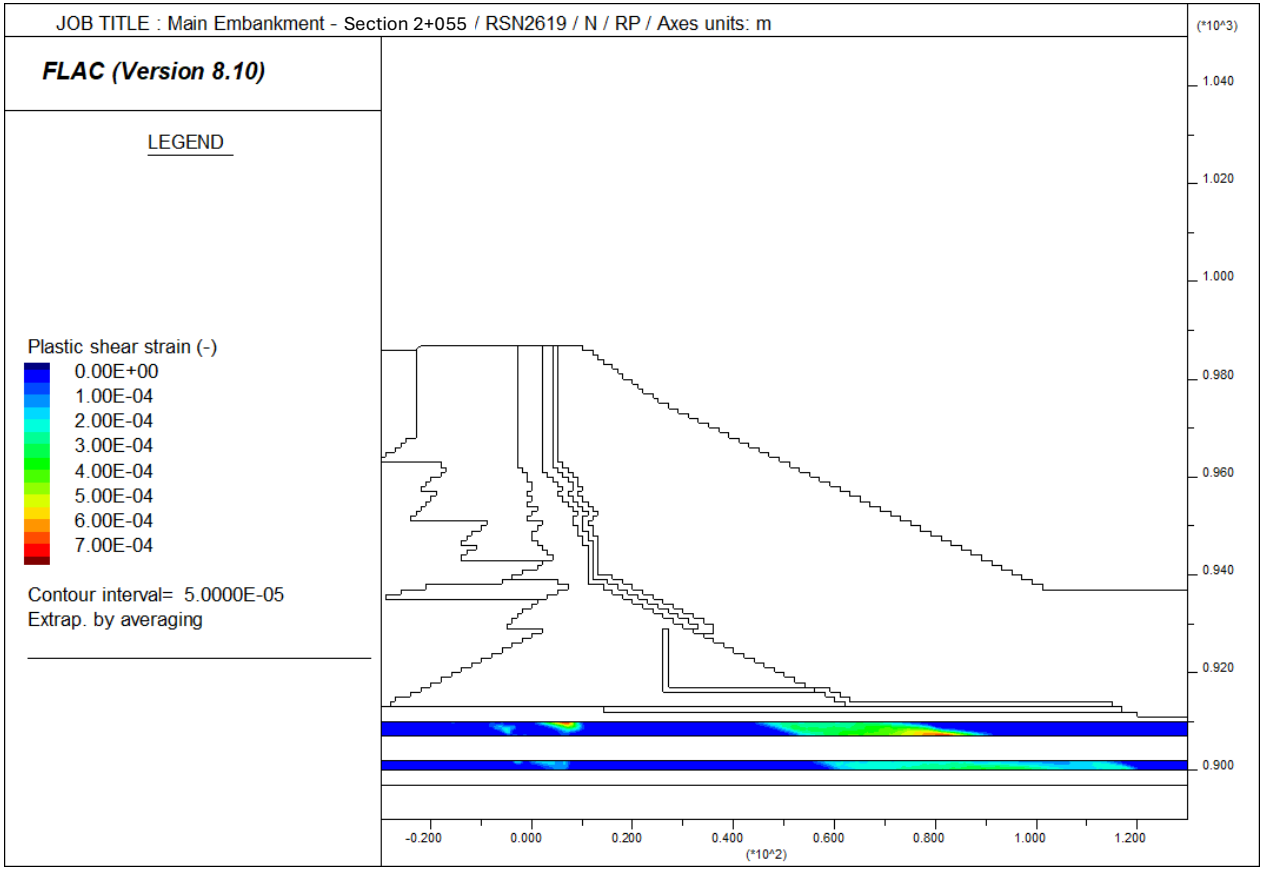

JOB TITLE : Main Embankment - Section 2+055 / RSN2619 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

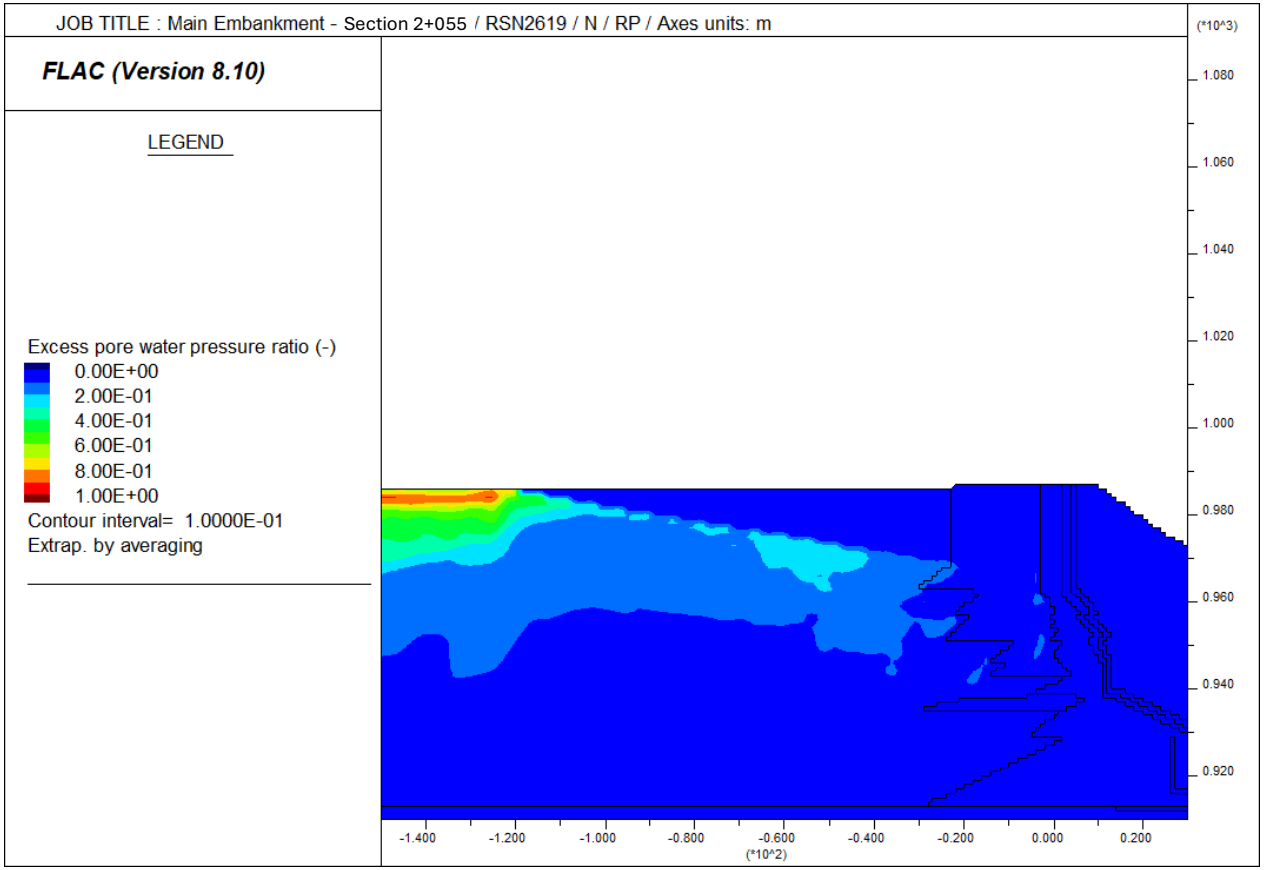

JOB TITLE : Main Embankment - Section 2+055 / RSN2619 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

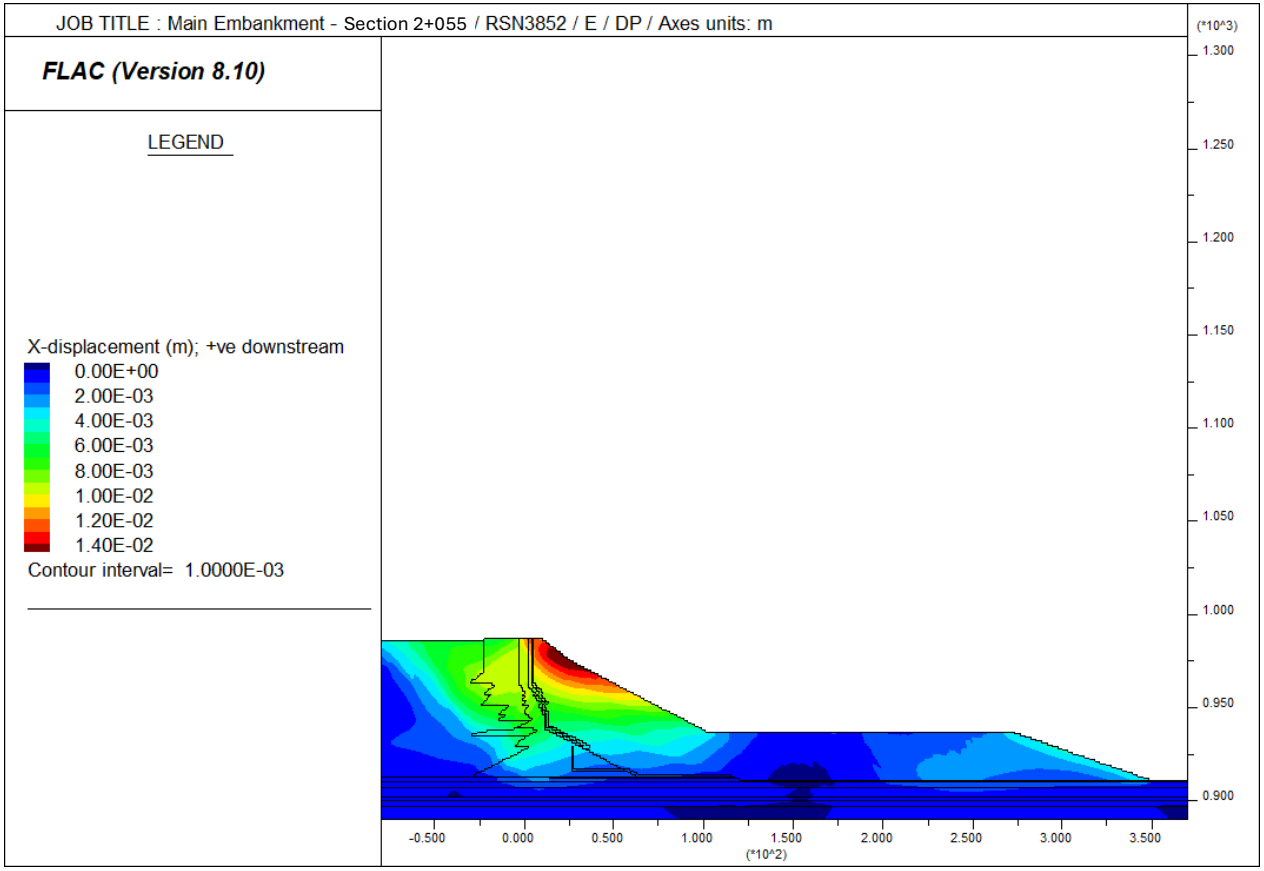

JOB TITLE : Main Embankment - Section 2+055 / RSN2619 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

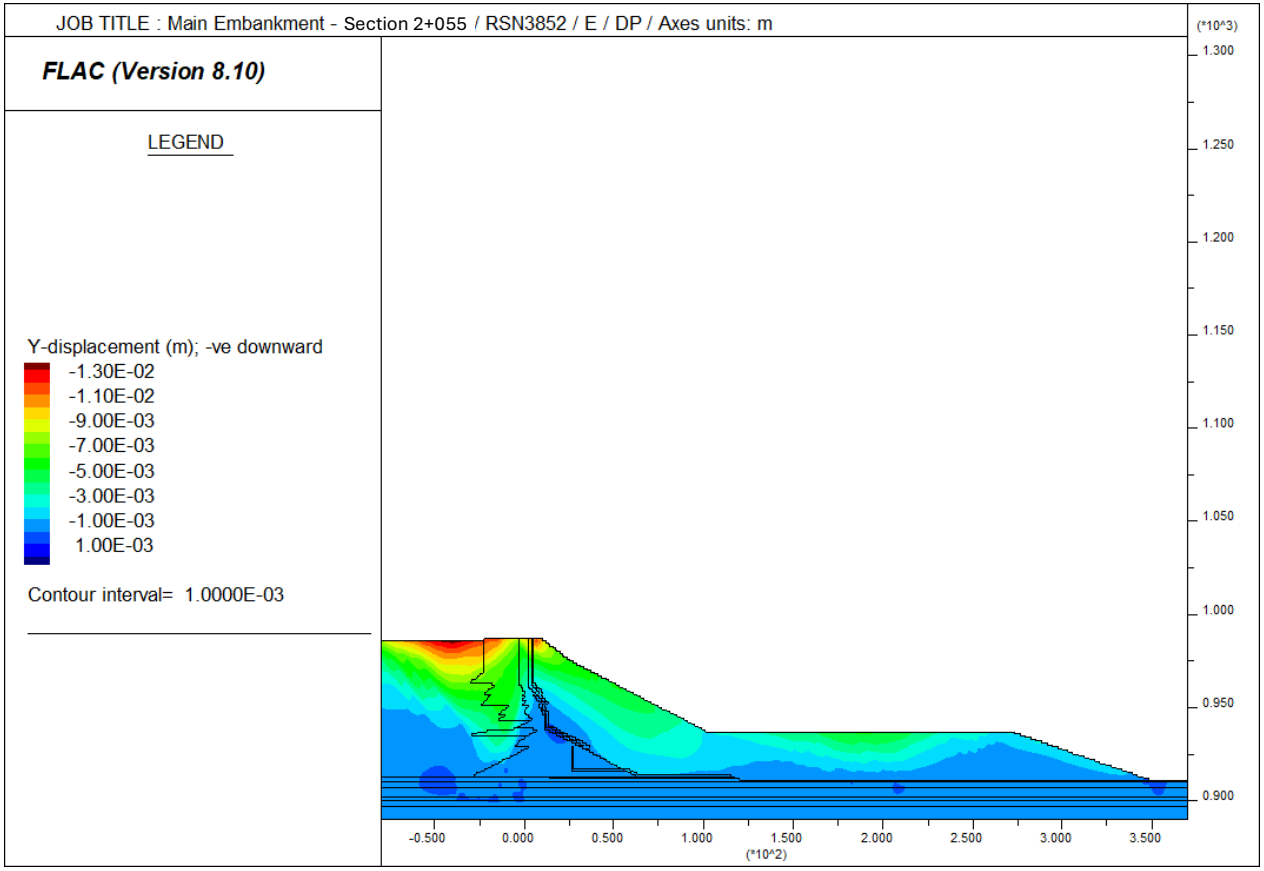

JOB TITLE : Main Embankment - Section 2+055 / RSN2619 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.20E-02
-1.00E-02
-8.00E-03
-6.00E-03
-4.00E-03
-2.00E-03
0.00E+00
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

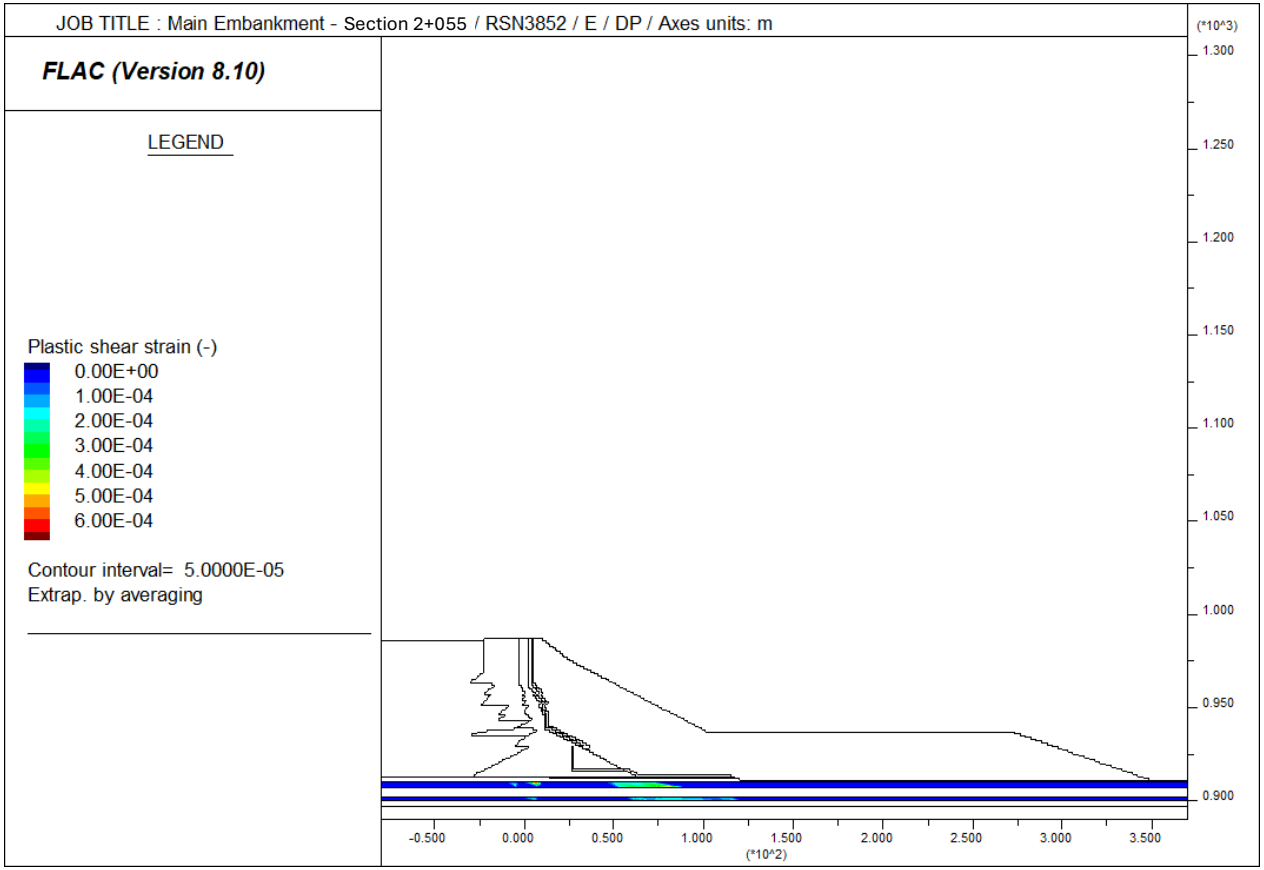

JOB TITLE : Main Embankment - Section 2+055 / RSN2619 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
7.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

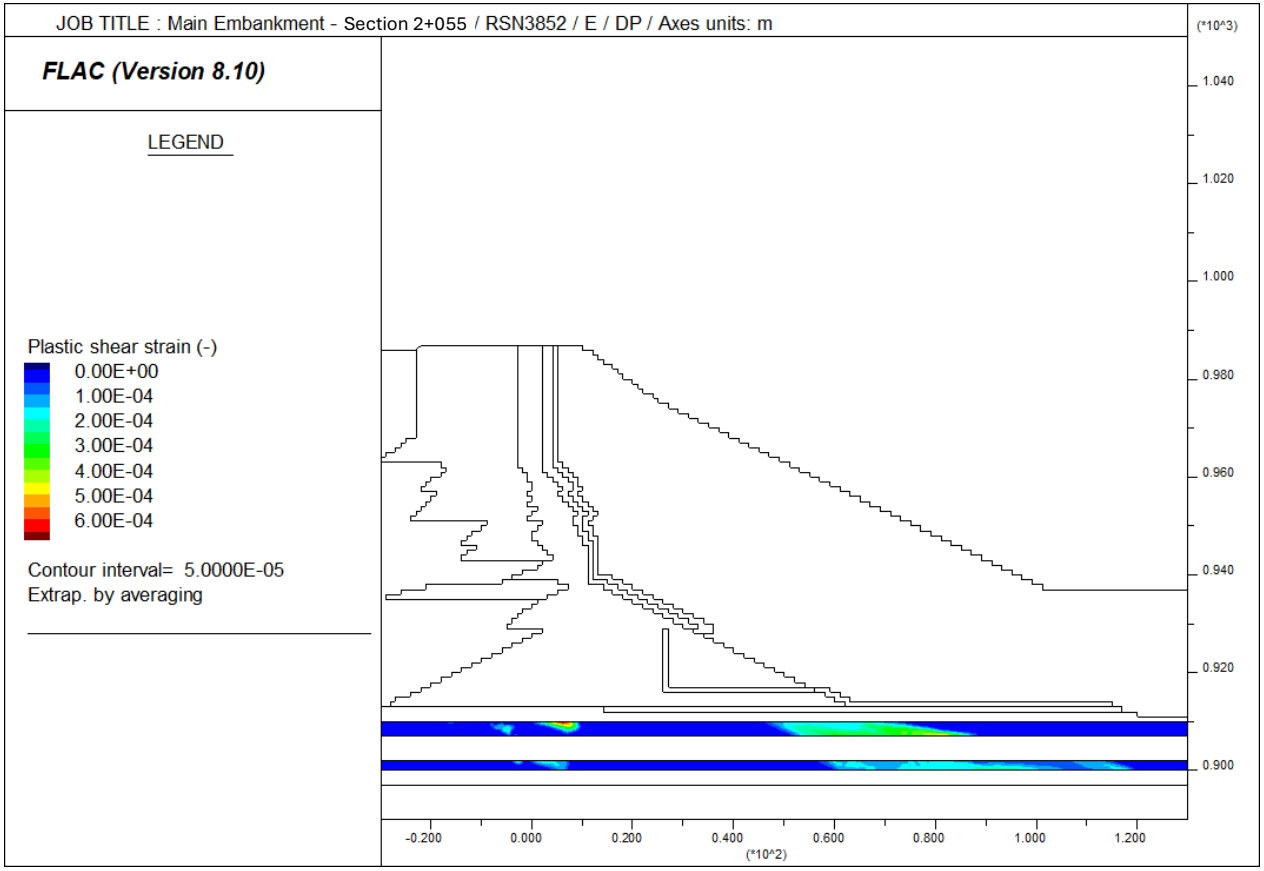

JOB TITLE : Main Embankment - Section 2+055 / RSN2619 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
7.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

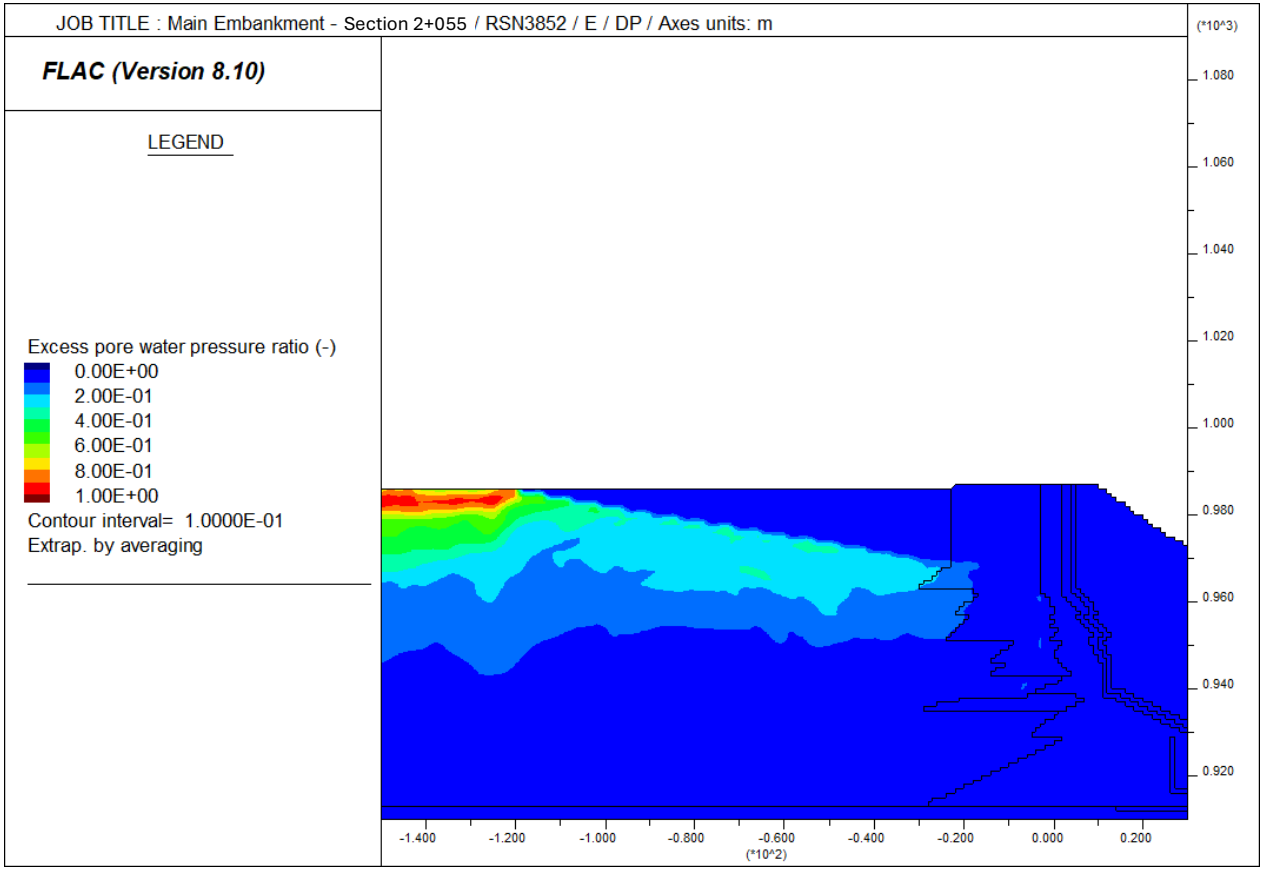

JOB TITLE : Main Embankment - Section 2+055 / RSN2619 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

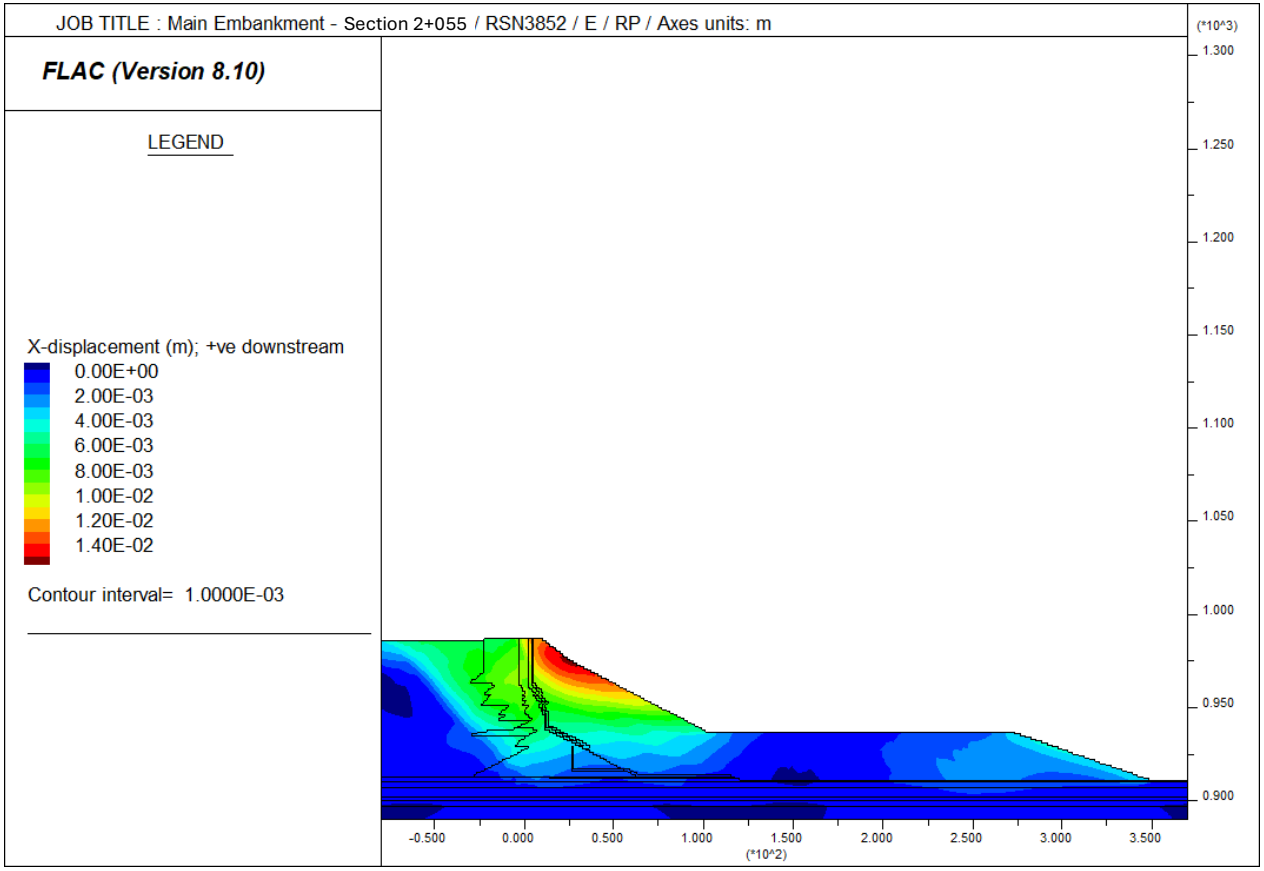

JOB TITLE : Main Embankment - Section 2+055 / RSN3852 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

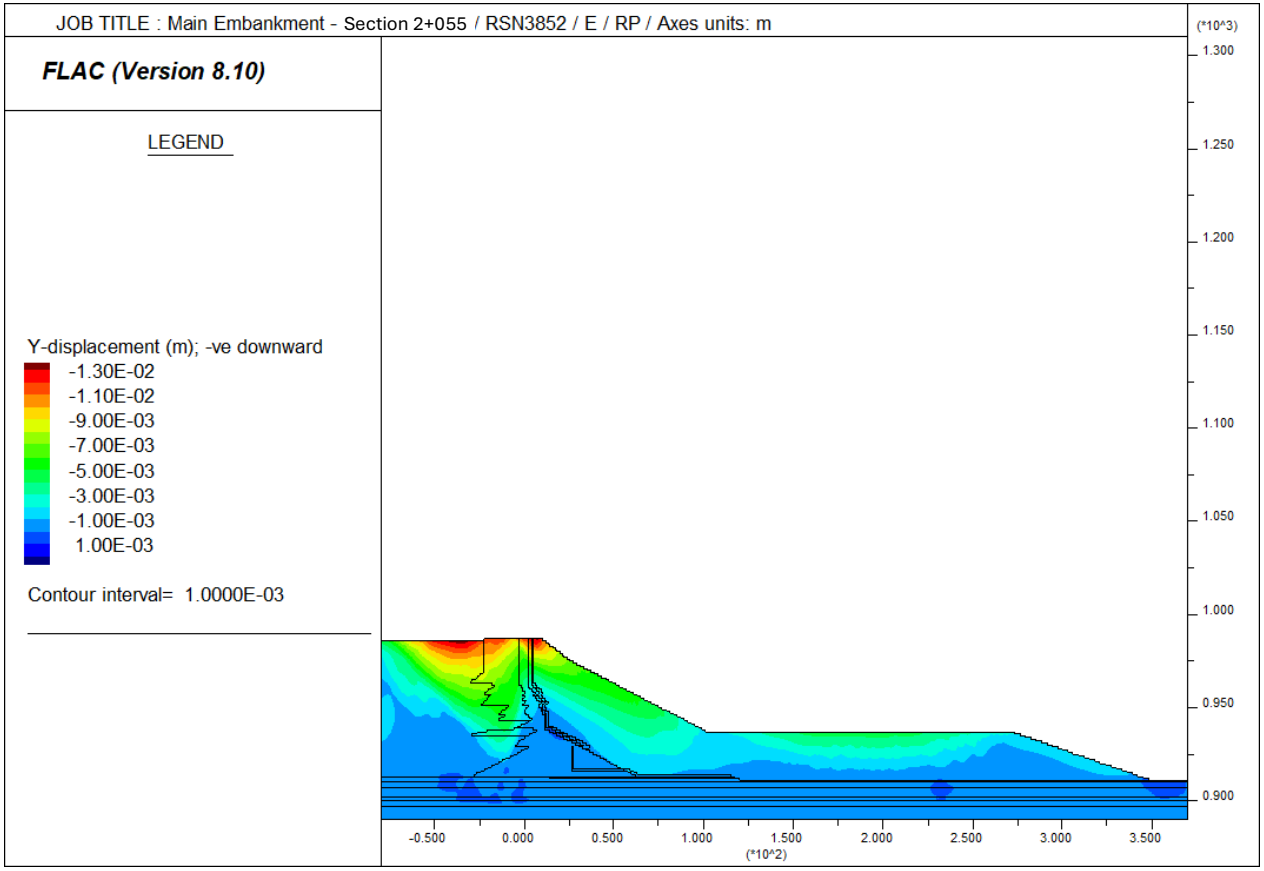

JOB TITLE : Main Embankment - Section 2+055 / RSN3852 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.30E-02
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

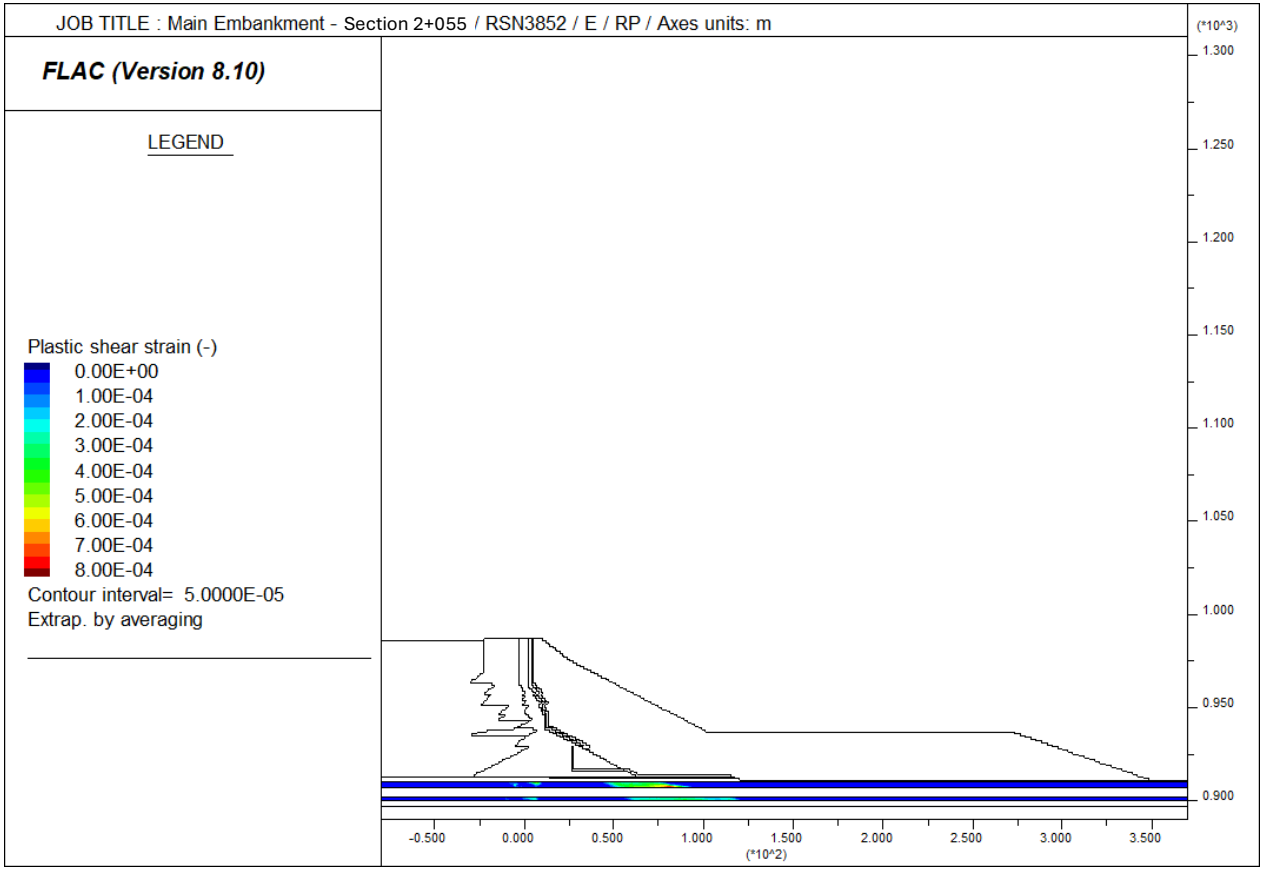

JOB TITLE : Main Embankment - Section 2+055 / RSN3852 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

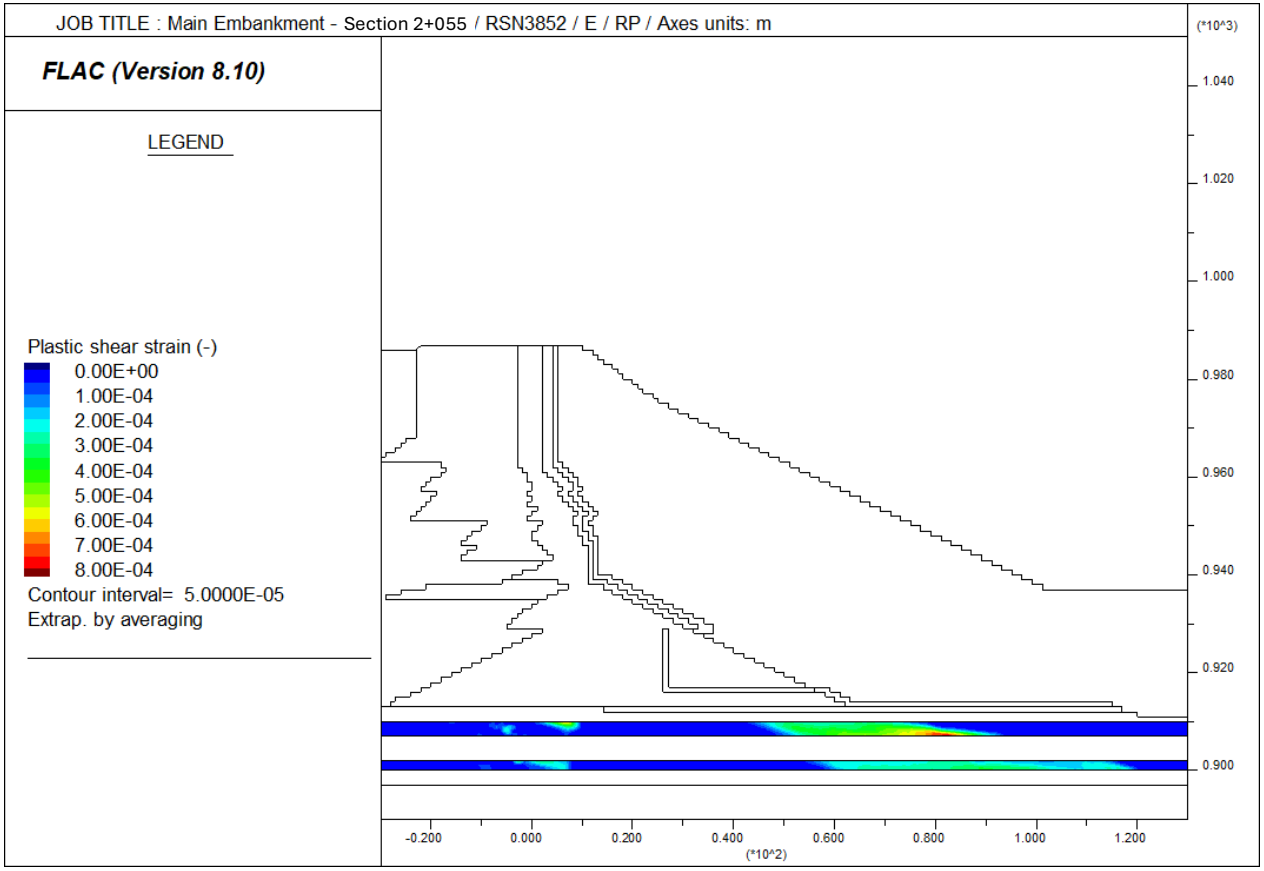

JOB TITLE : Main Embankment - Section 2+055 / RSN3852 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

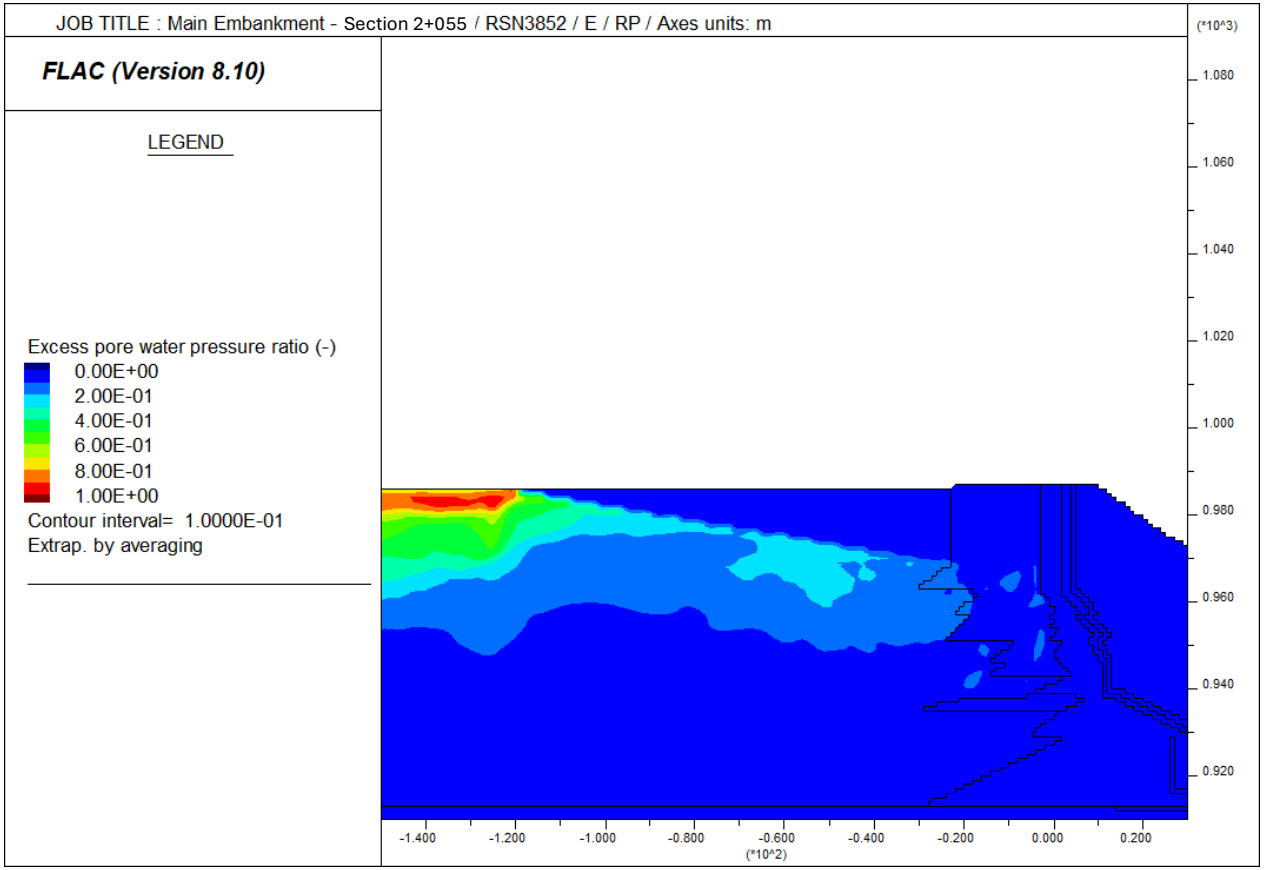

JOB TITLE : Main Embankment - Section 2+055 / RSN3852 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

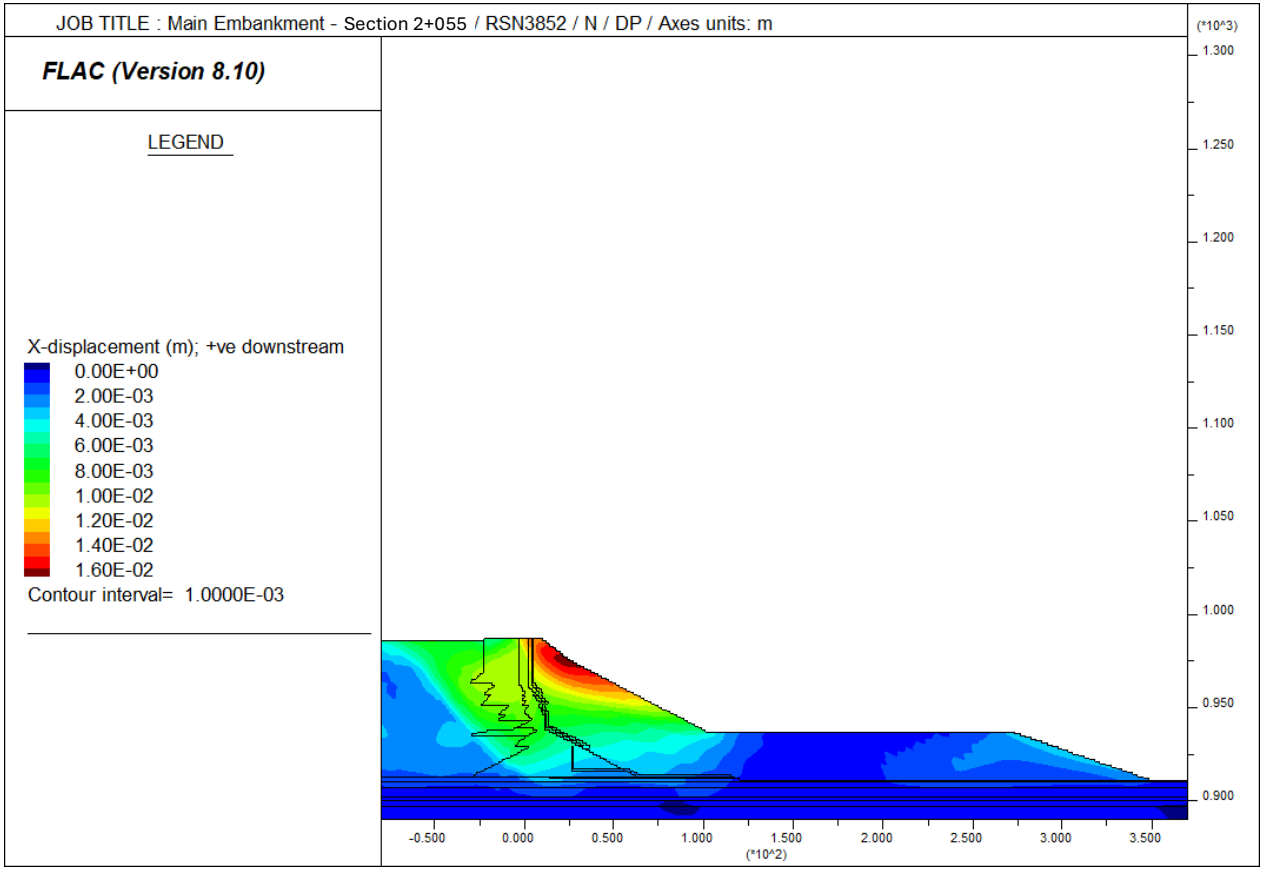

JOB TITLE : Main Embankment - Section 2+055 / RSN3852 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

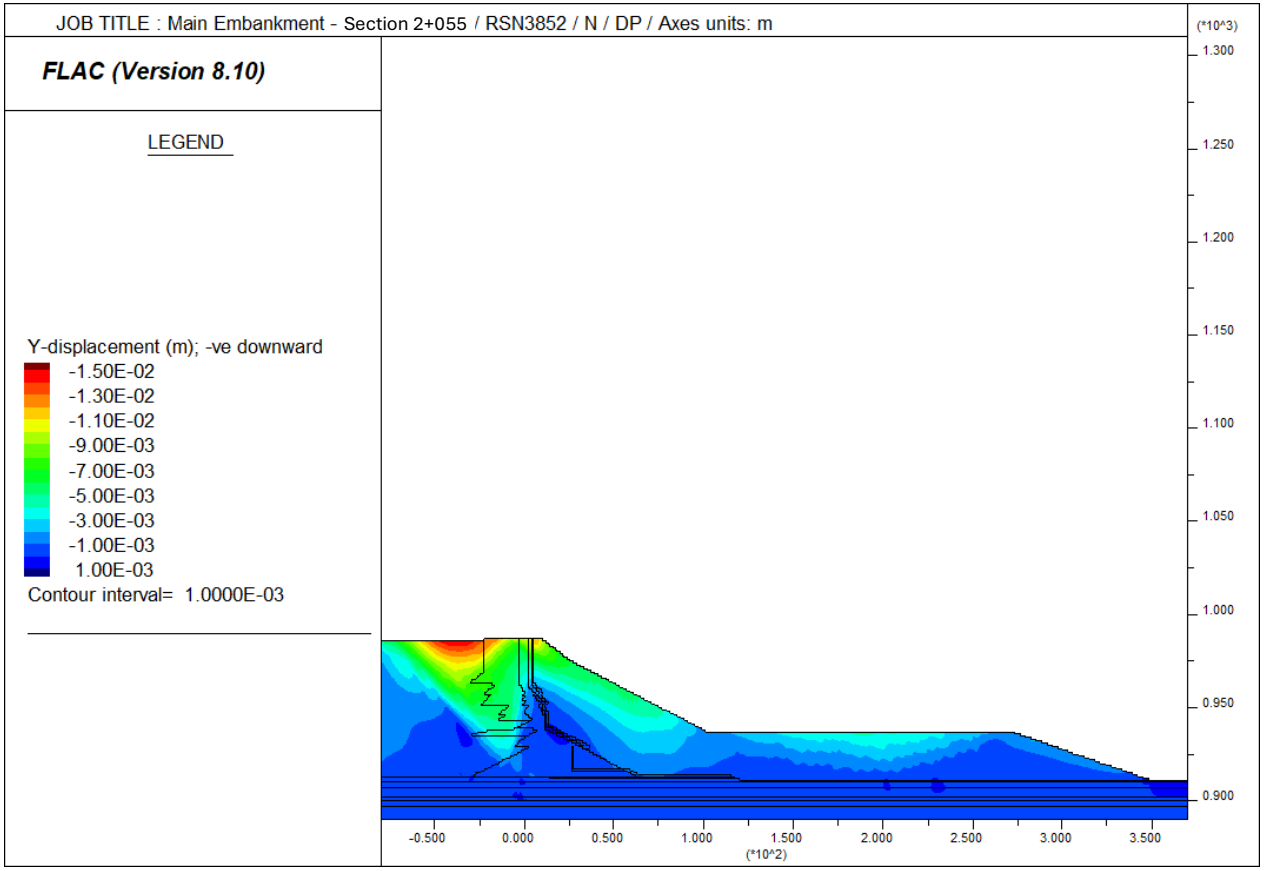

JOB TITLE : Main Embankment - Section 2+055 / RSN3852 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.30E-02
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

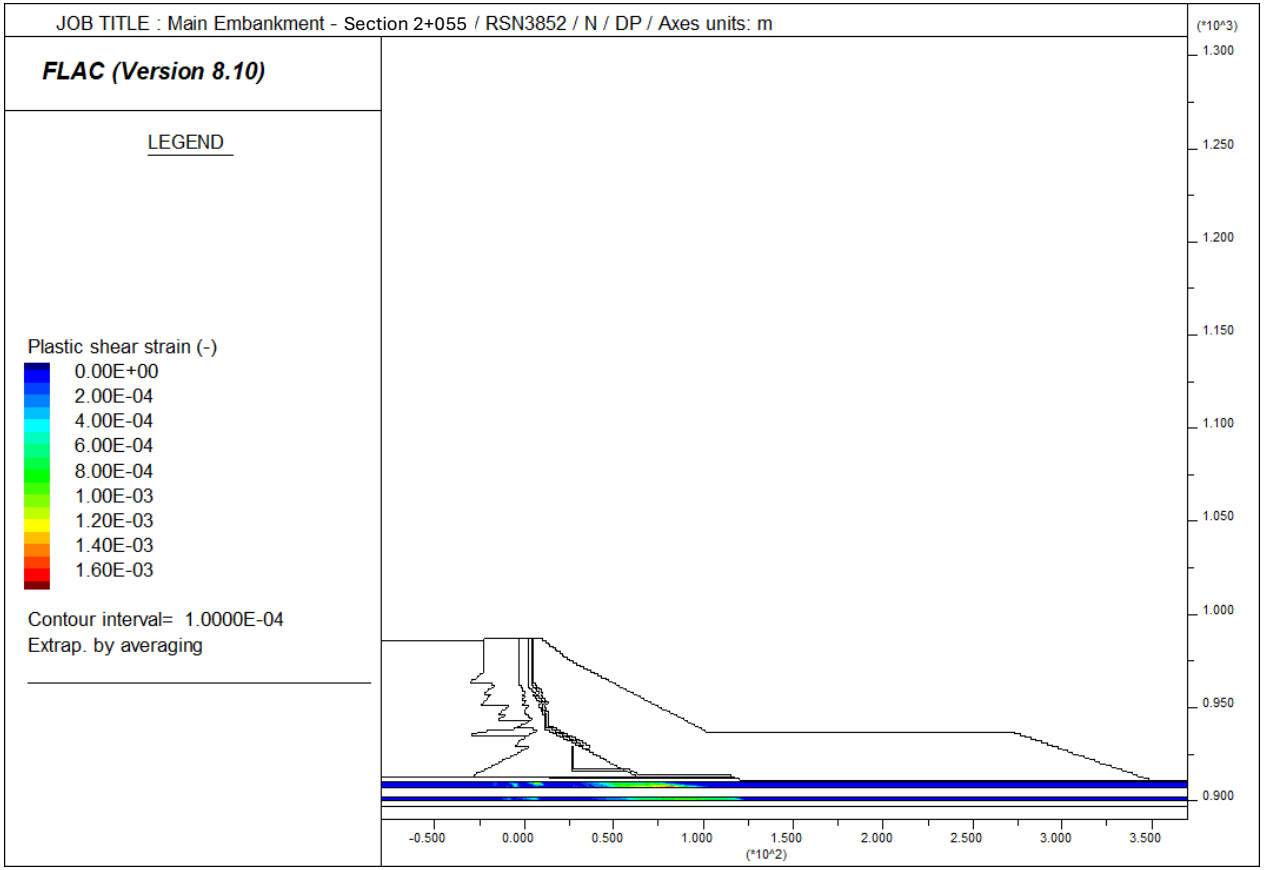

JOB TITLE : Main Embankment - Section 2+055 / RSN3852 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
7.00E-04
8.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

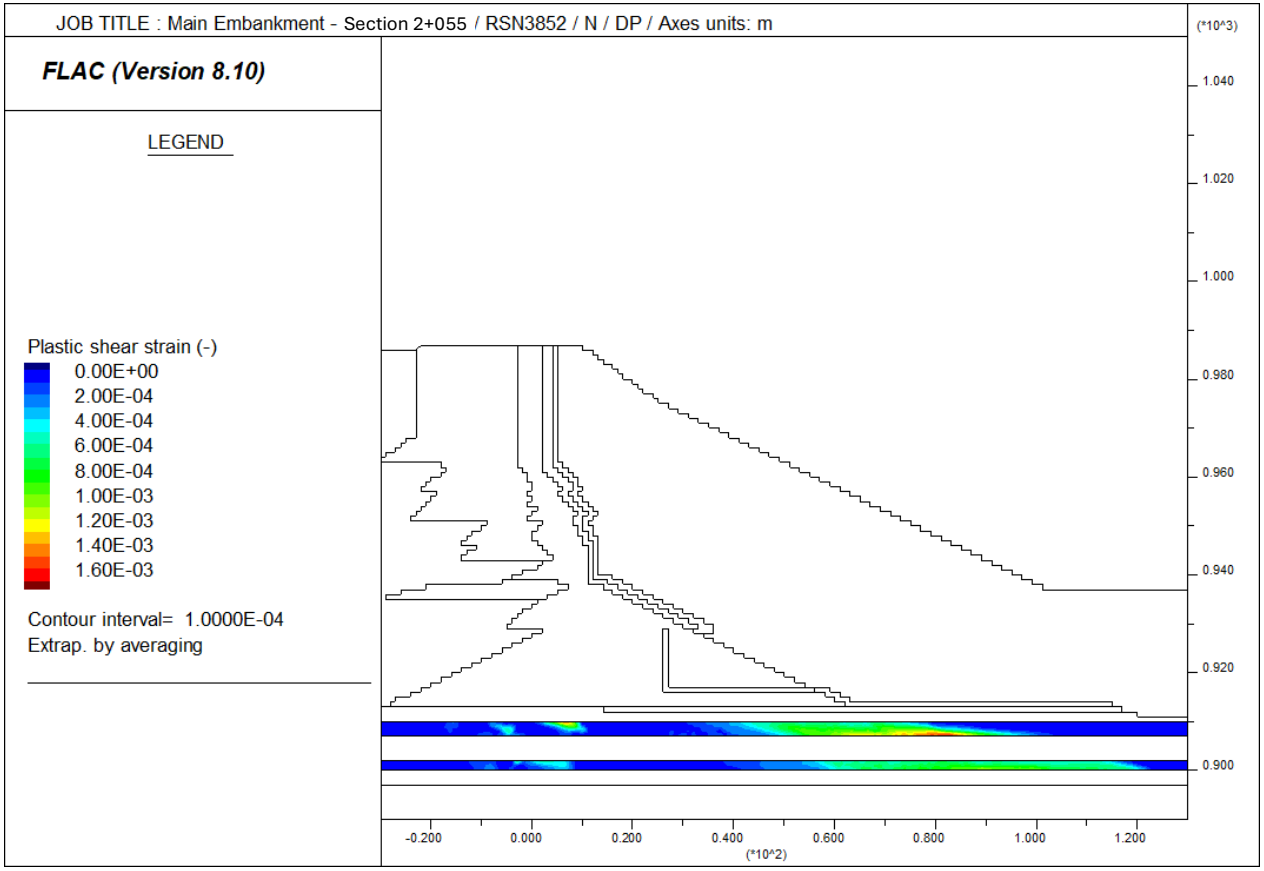

JOB TITLE : Main Embankment - Section 2+055 / RSN3852 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
7.00E-04
8.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

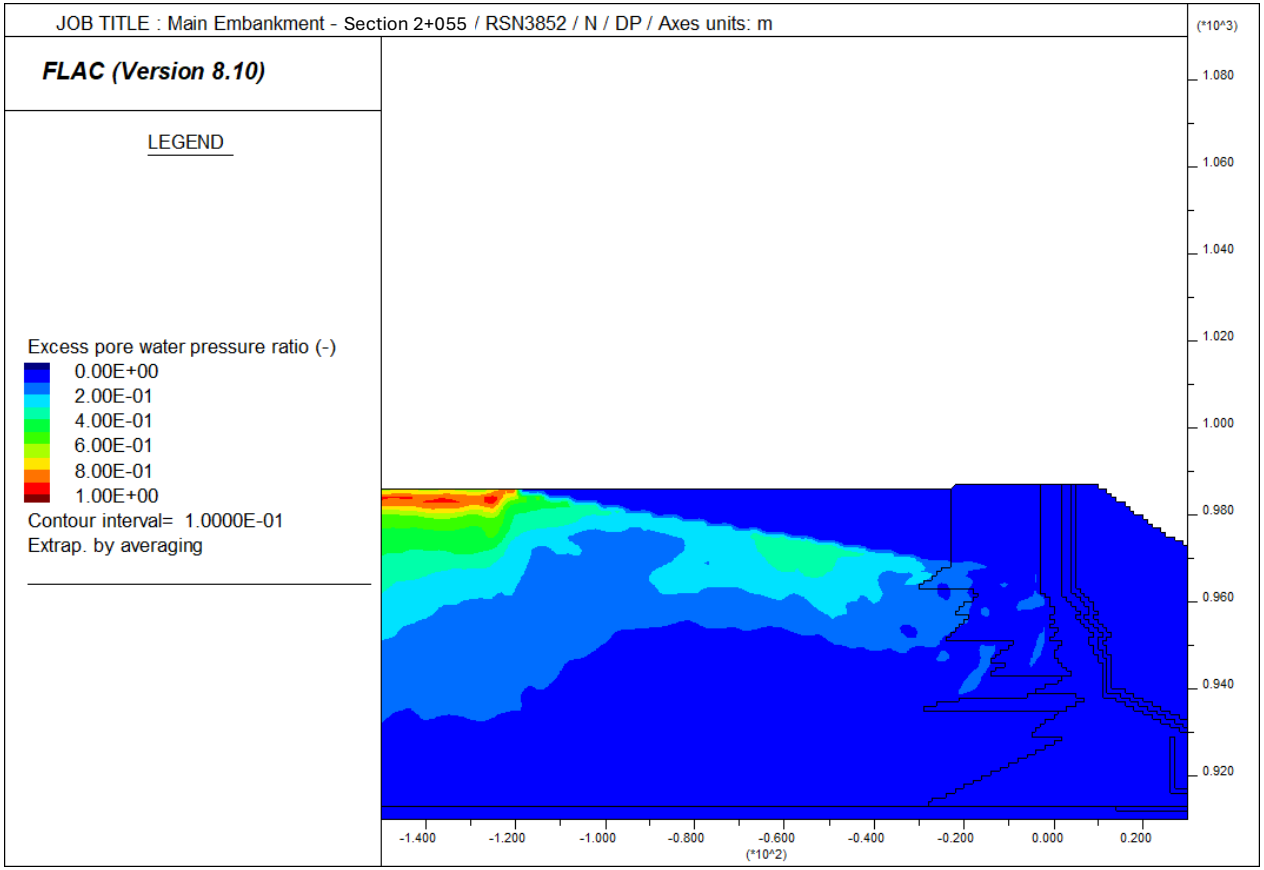

JOB TITLE : Main Embankment - Section 2+055 / RSN3852 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

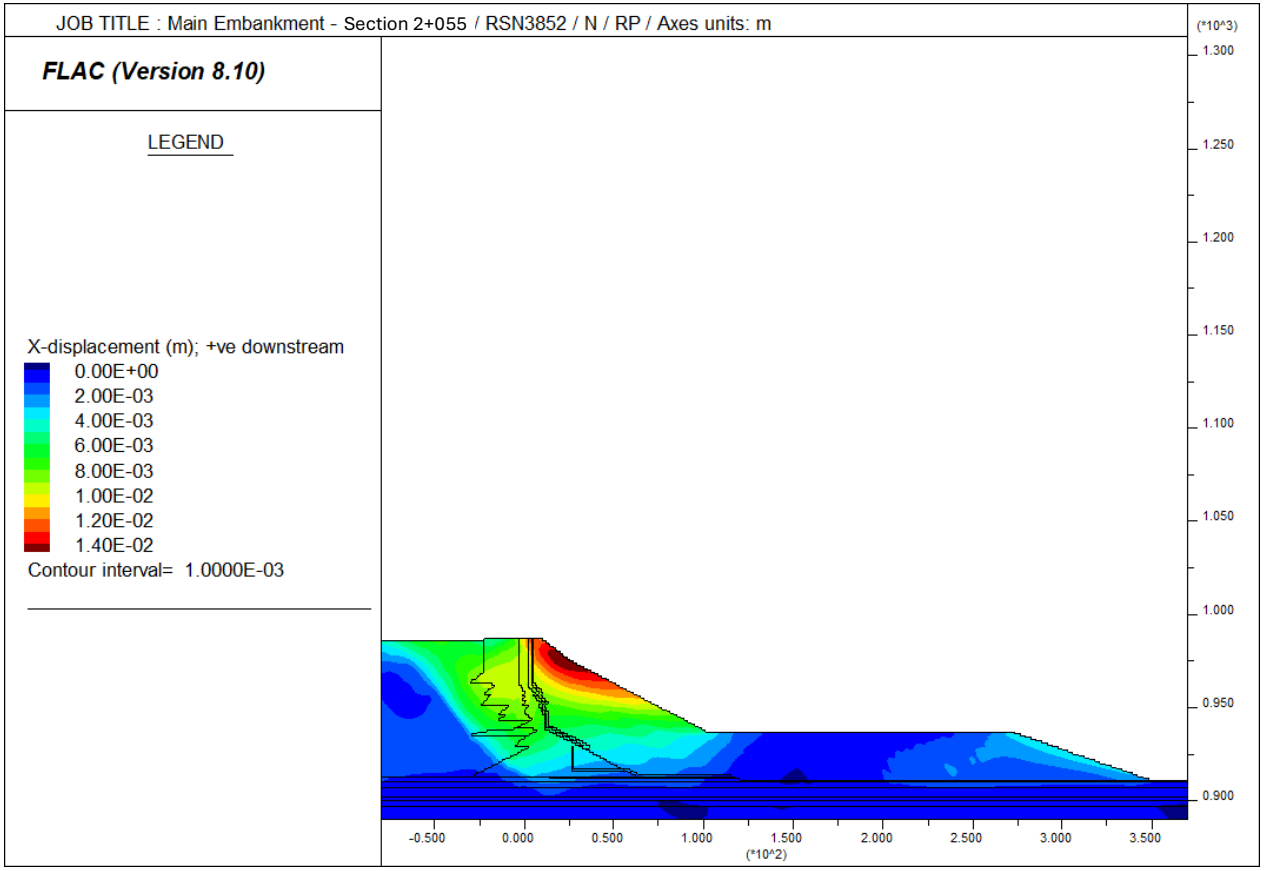

JOB TITLE : Main Embankment - Section 2+055 / RSN3852 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
1.60E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

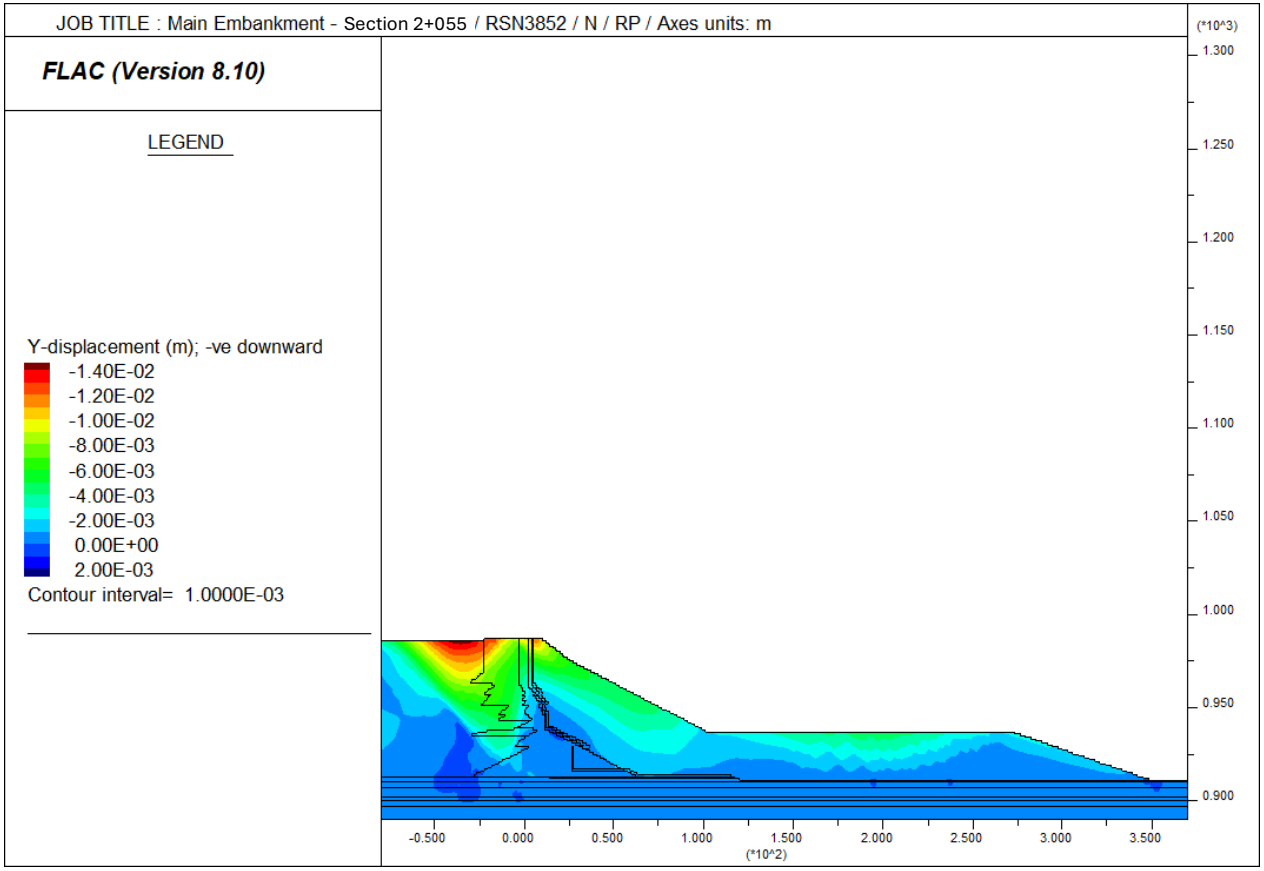

JOB TITLE : Main Embankment - Section 2+055 / RSN3852 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.50E-02
-1.30E-02
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

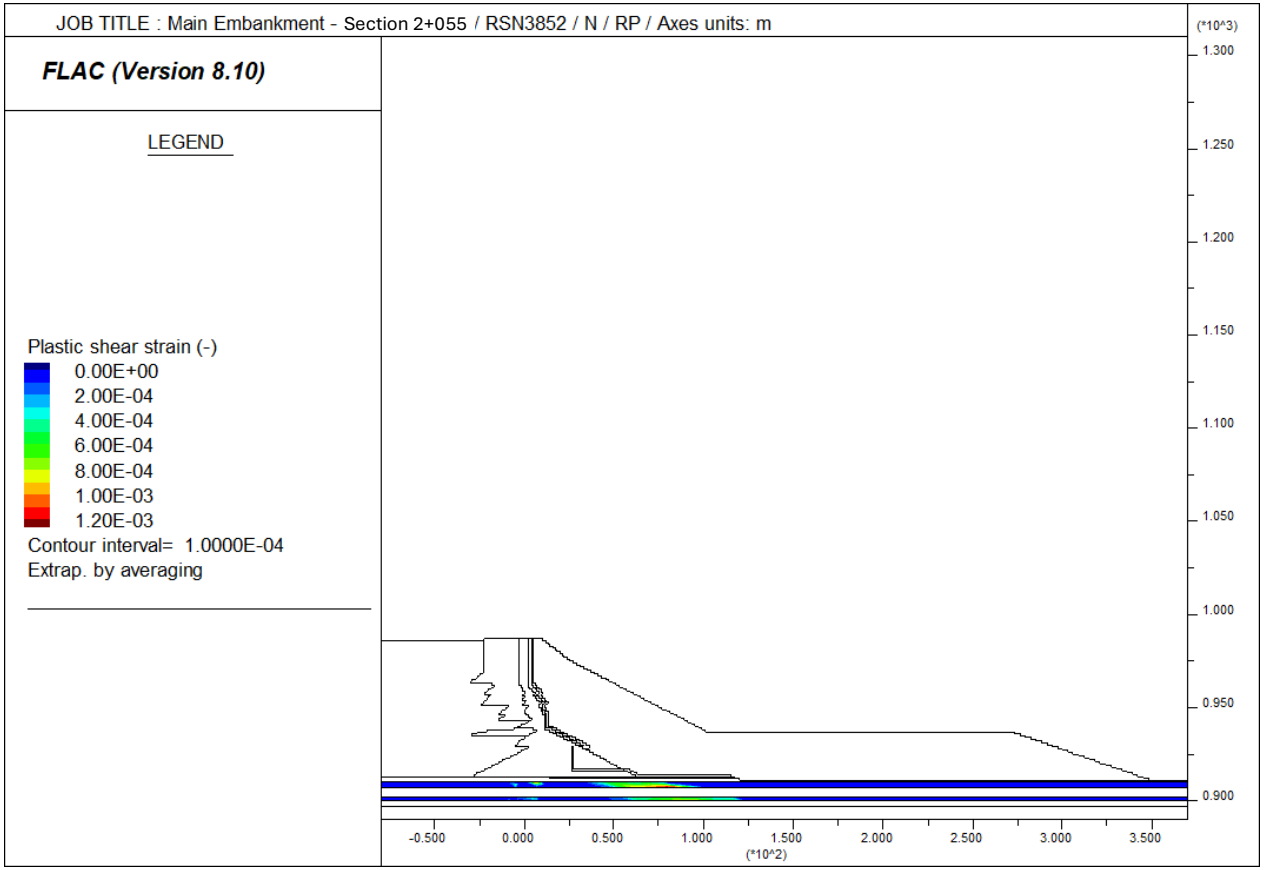

JOB TITLE : Main Embankment - Section 2+055 / RSN3852 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

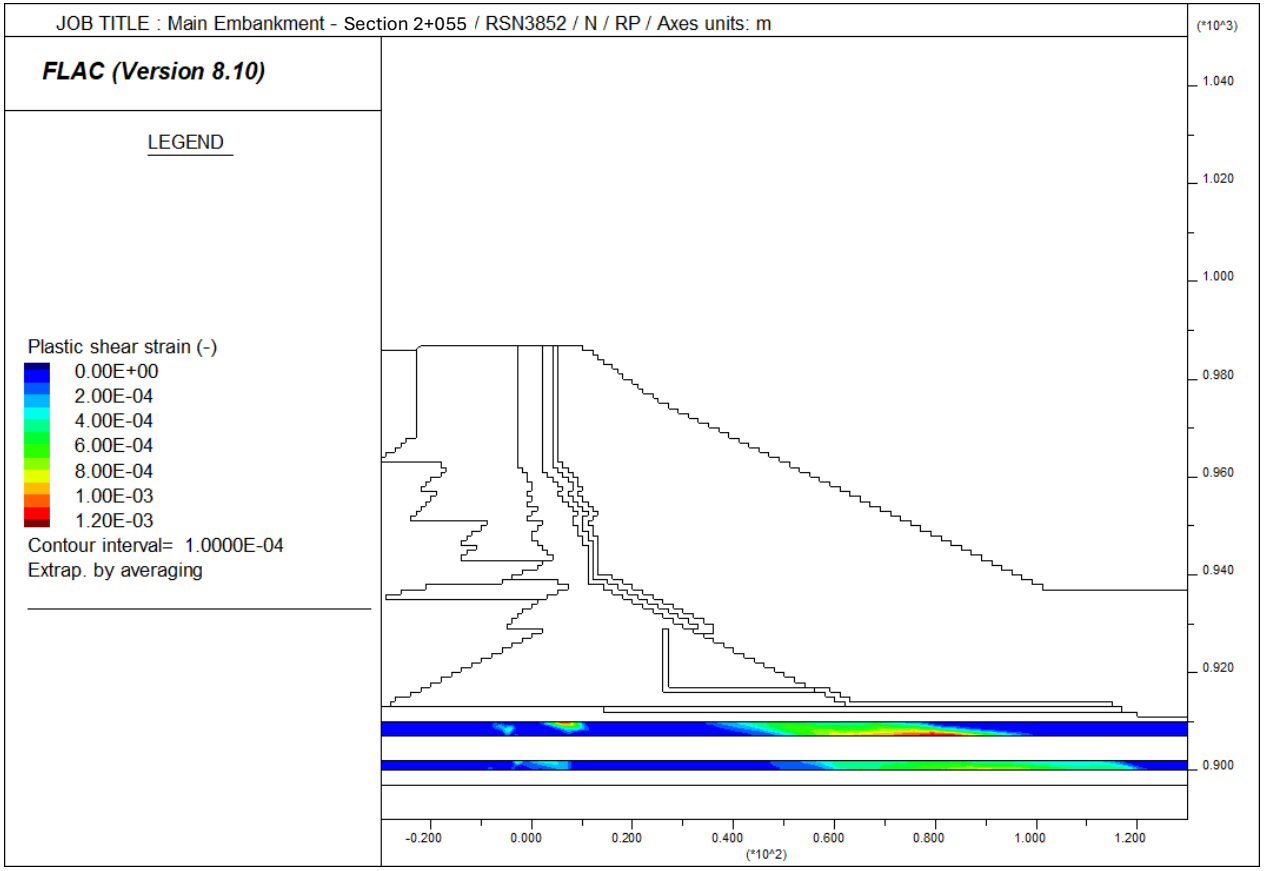

JOB TITLE : Main Embankment - Section 2+055 / RSN3852 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

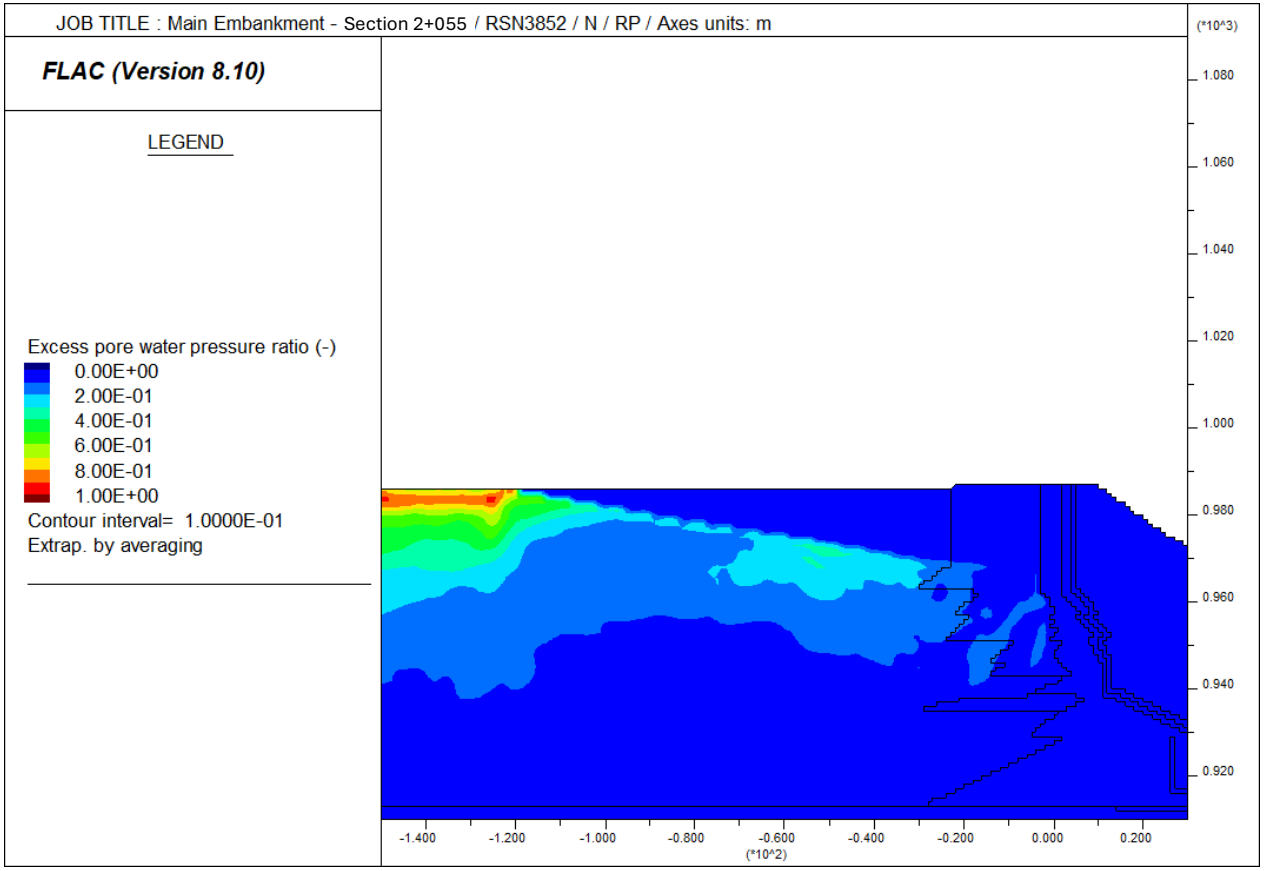

JOB TITLE : Main Embankment - Section 2+055 / RSN3852 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

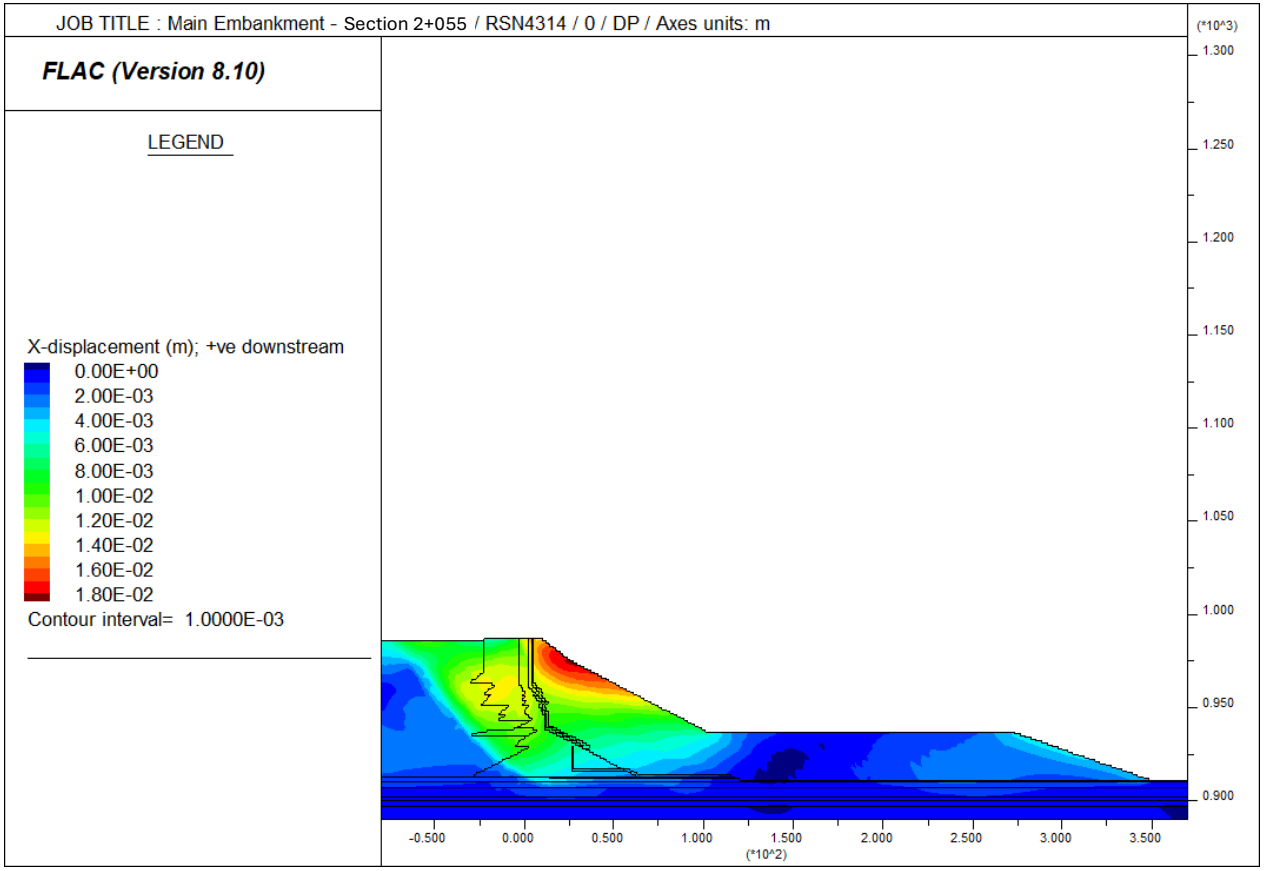

JOB TITLE : Main Embankment - Section 2+055 / RSN3852 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

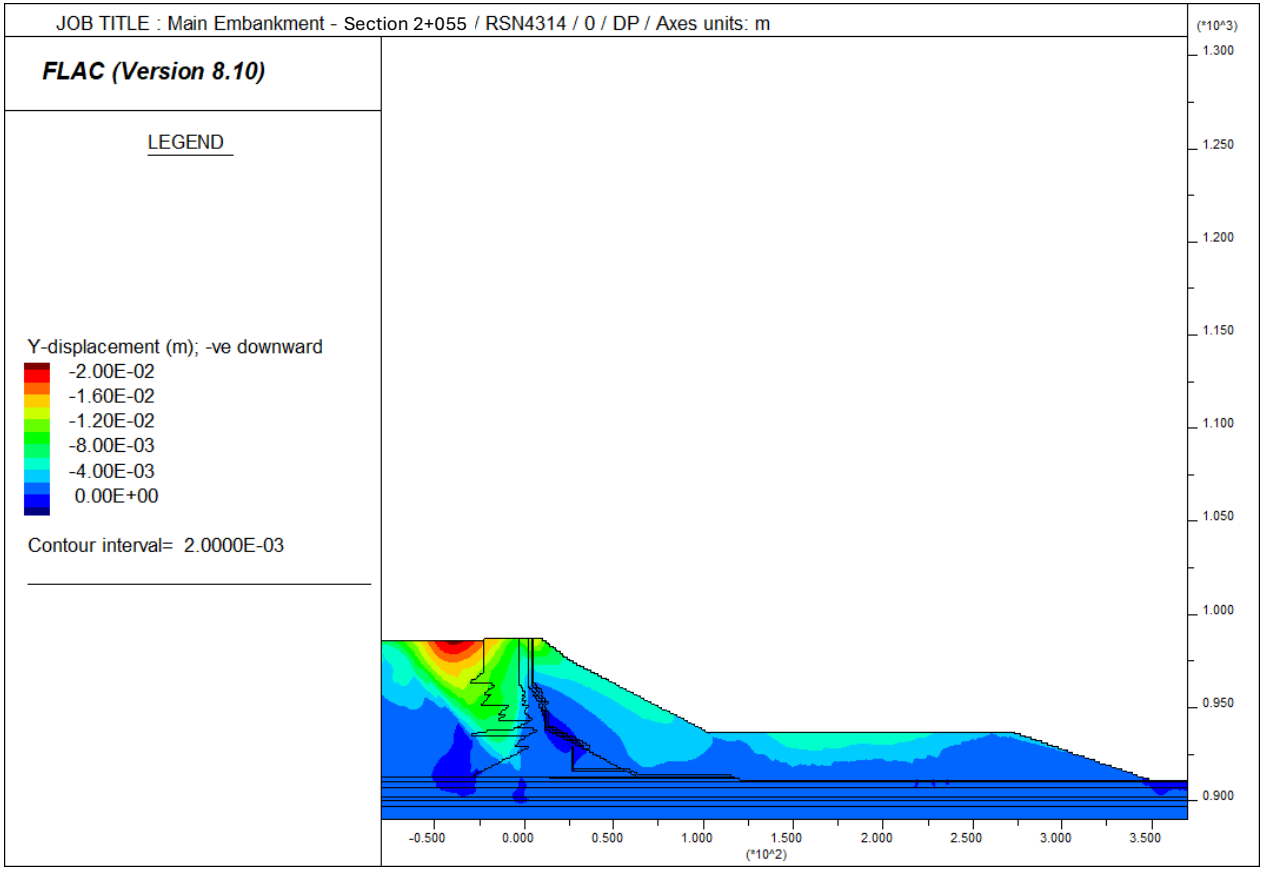

JOB TITLE : Main Embankment - Section 2+055 / RSN3852 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.40E-02
-1.20E-02
-1.00E-02
-8.00E-03
-6.00E-03
-4.00E-03
-2.00E-03
0.00E+00
2.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

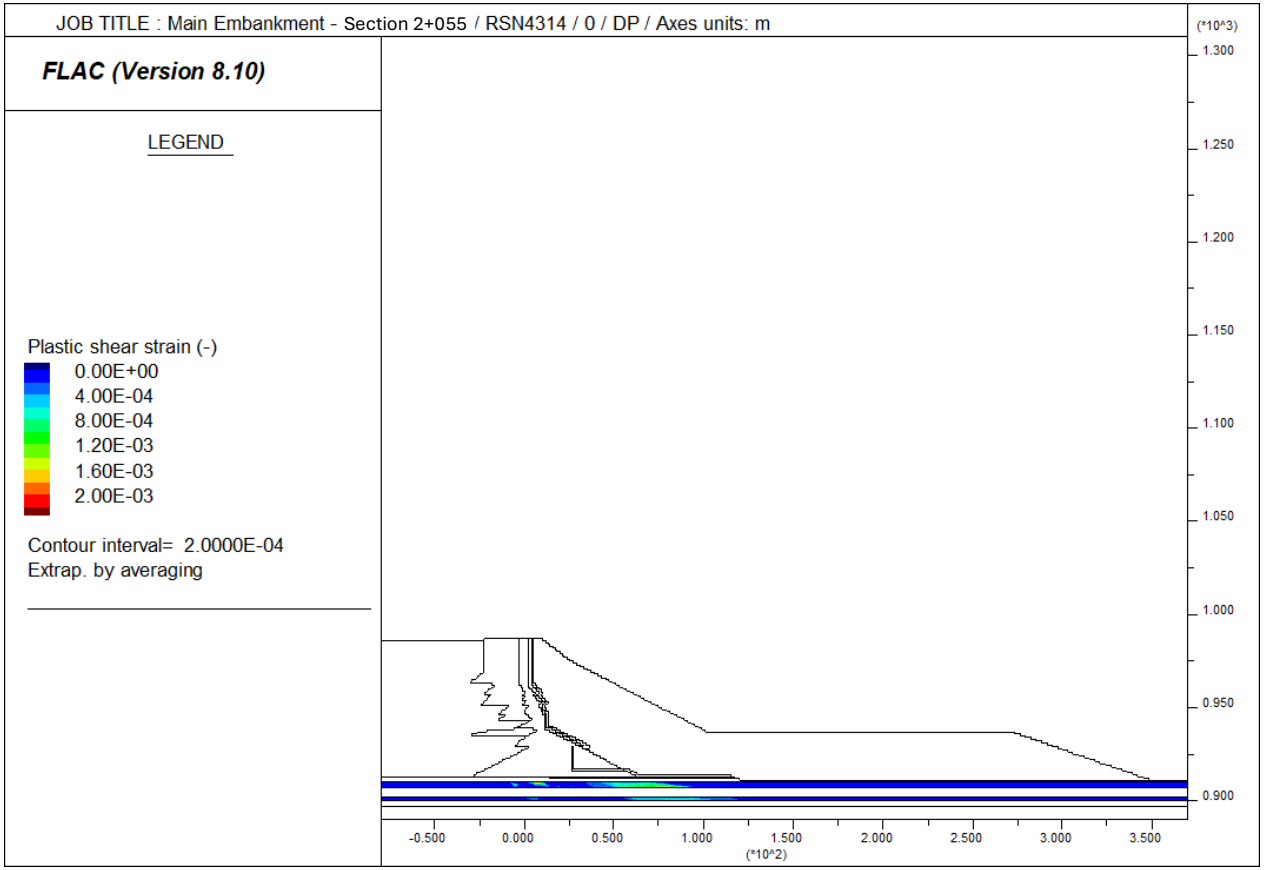

JOB TITLE : Main Embankment - Section 2+055 / RSN3852 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

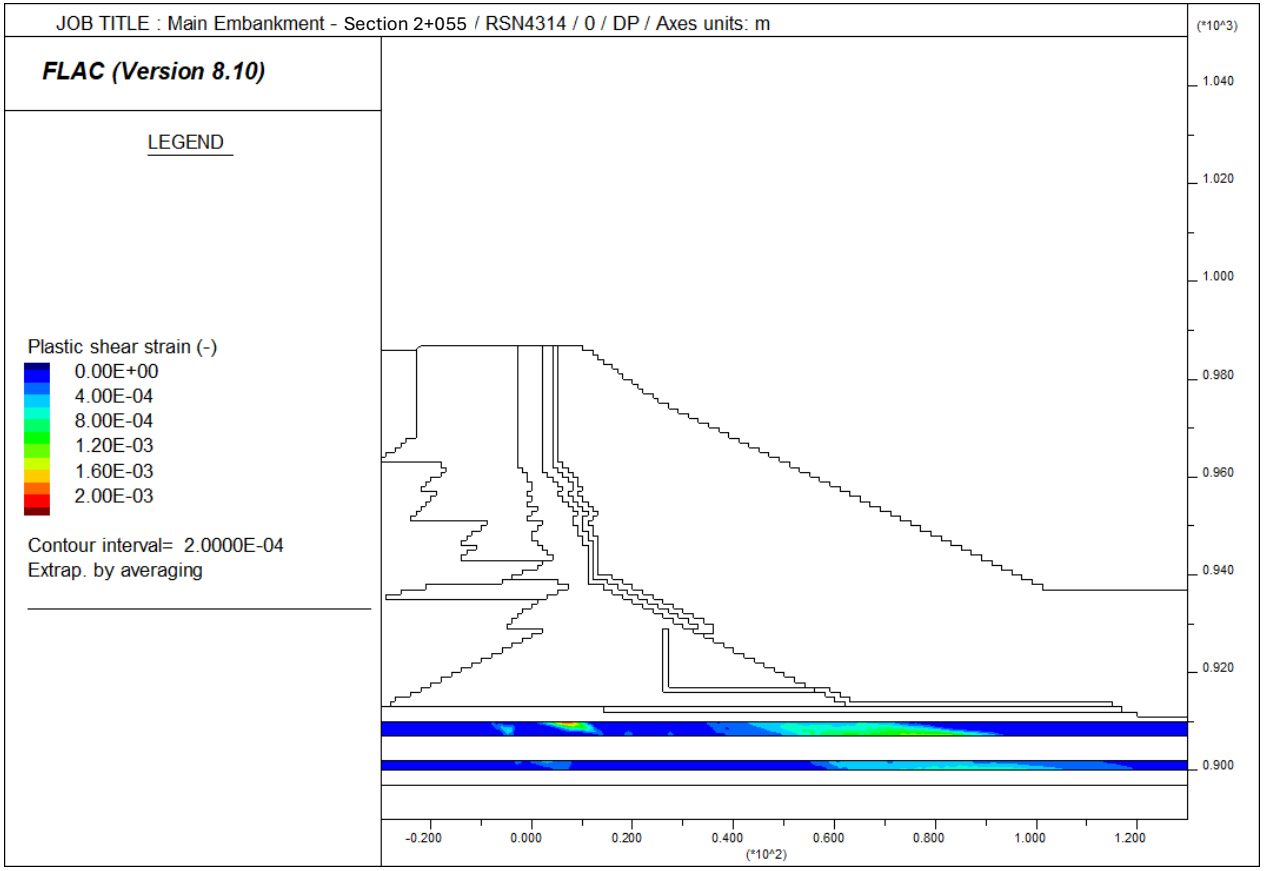

JOB TITLE : Main Embankment - Section 2+055 / RSN3852 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

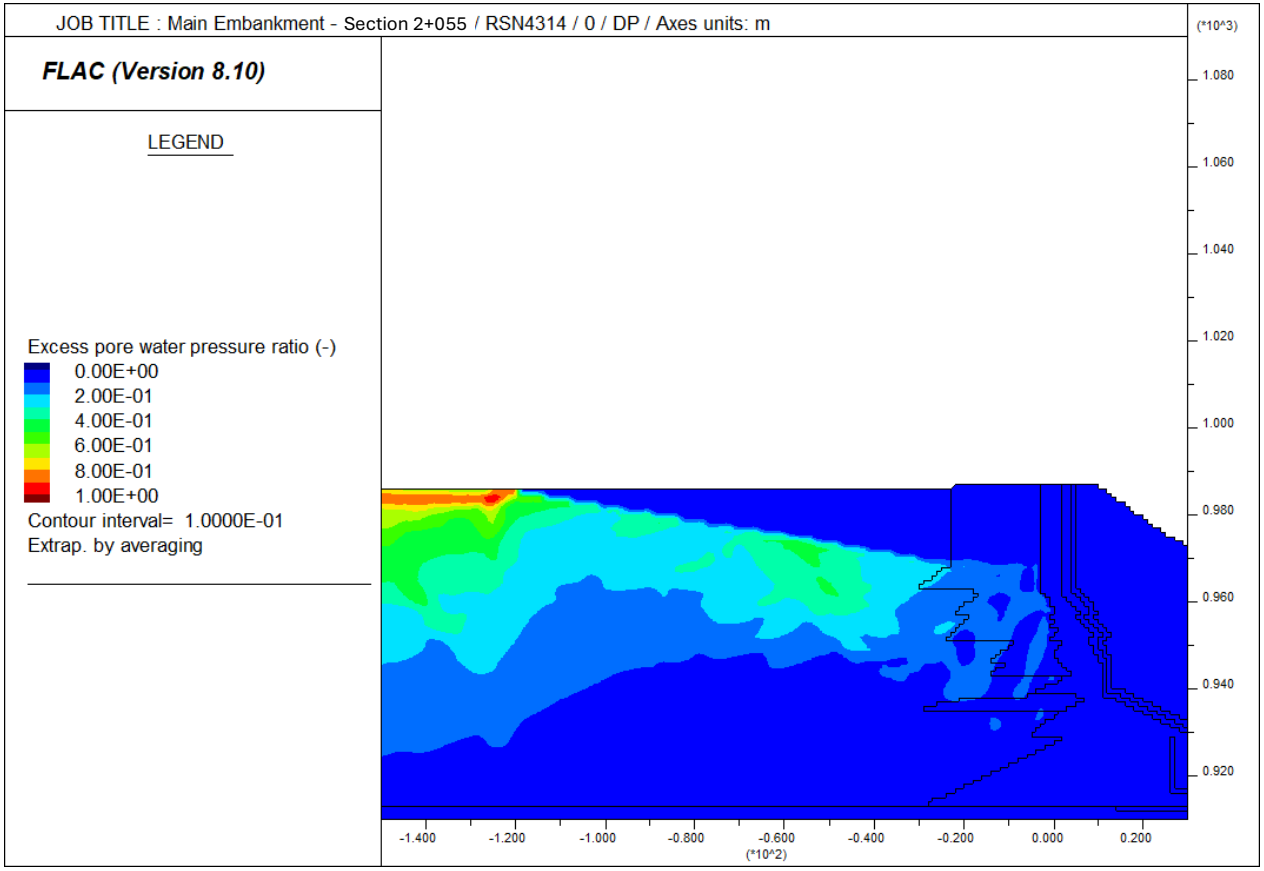

JOB TITLE : Main Embankment - Section 2+055 / RSN3852 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

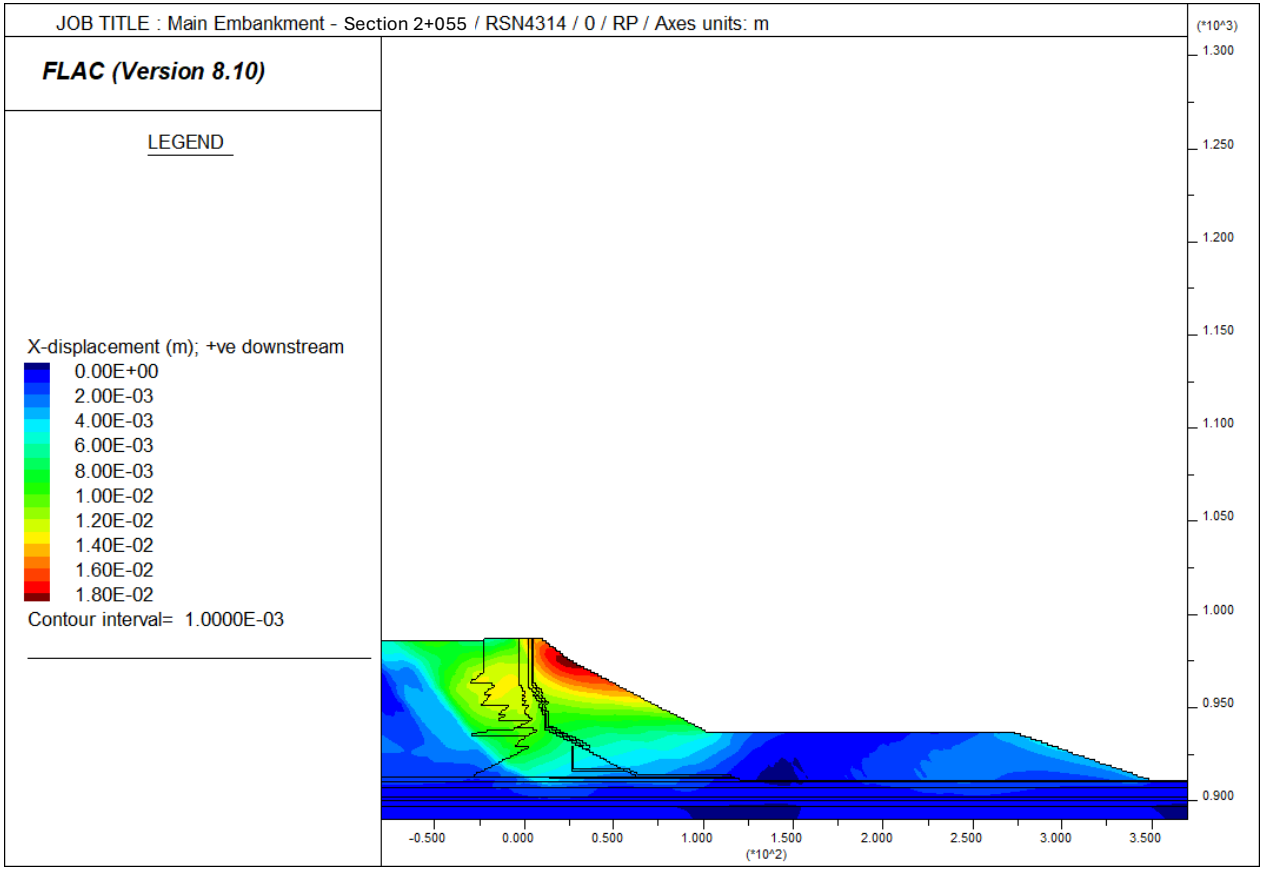

JOB TITLE : Main Embankment - Section 2+055 / RSN4314 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
1.60E-02
1.80E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

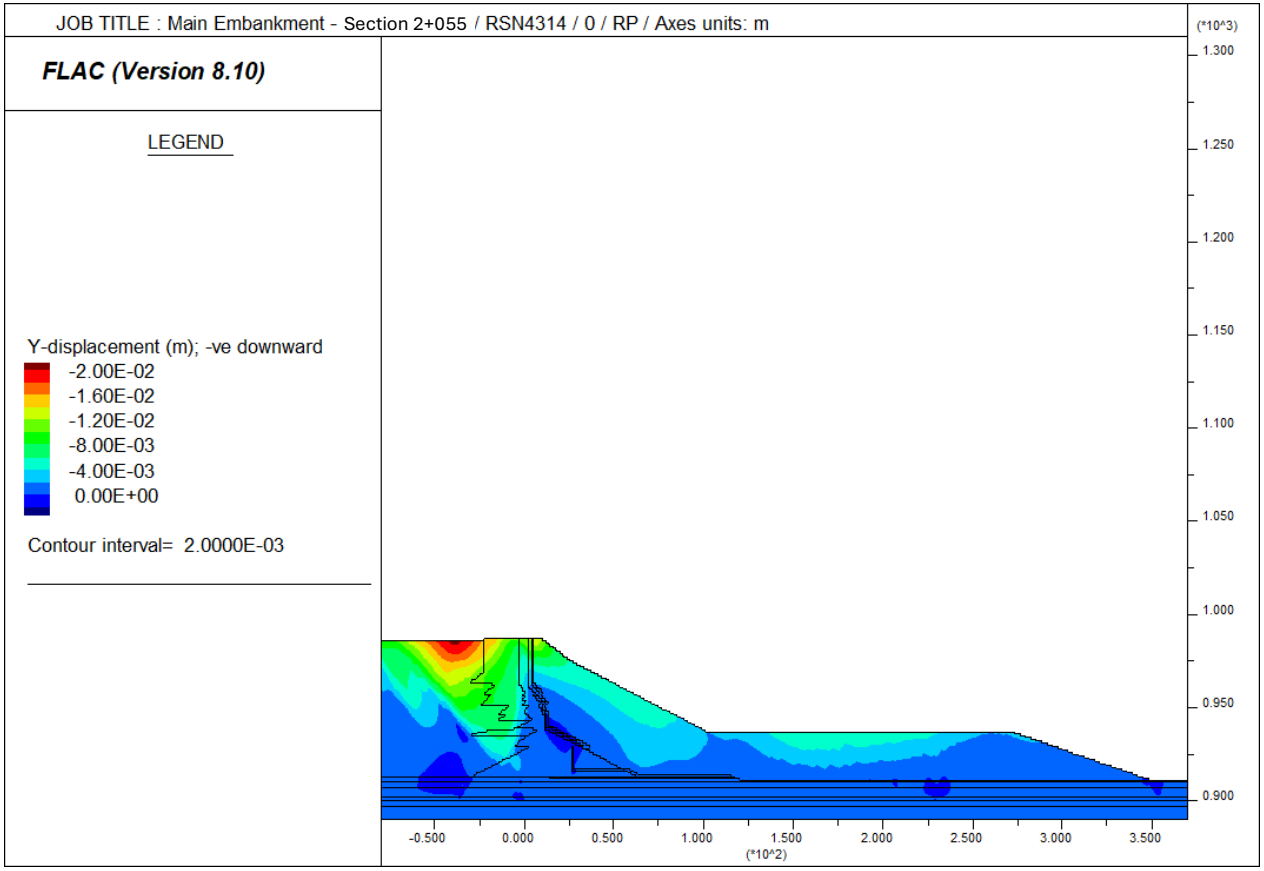

JOB TITLE : Main Embankment - Section 2+055 / RSN4314 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-2.00E-02
-1.60E-02
-1.20E-02
-8.00E-03
-4.00E-03
0.00E+00
Contour interval= 2.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

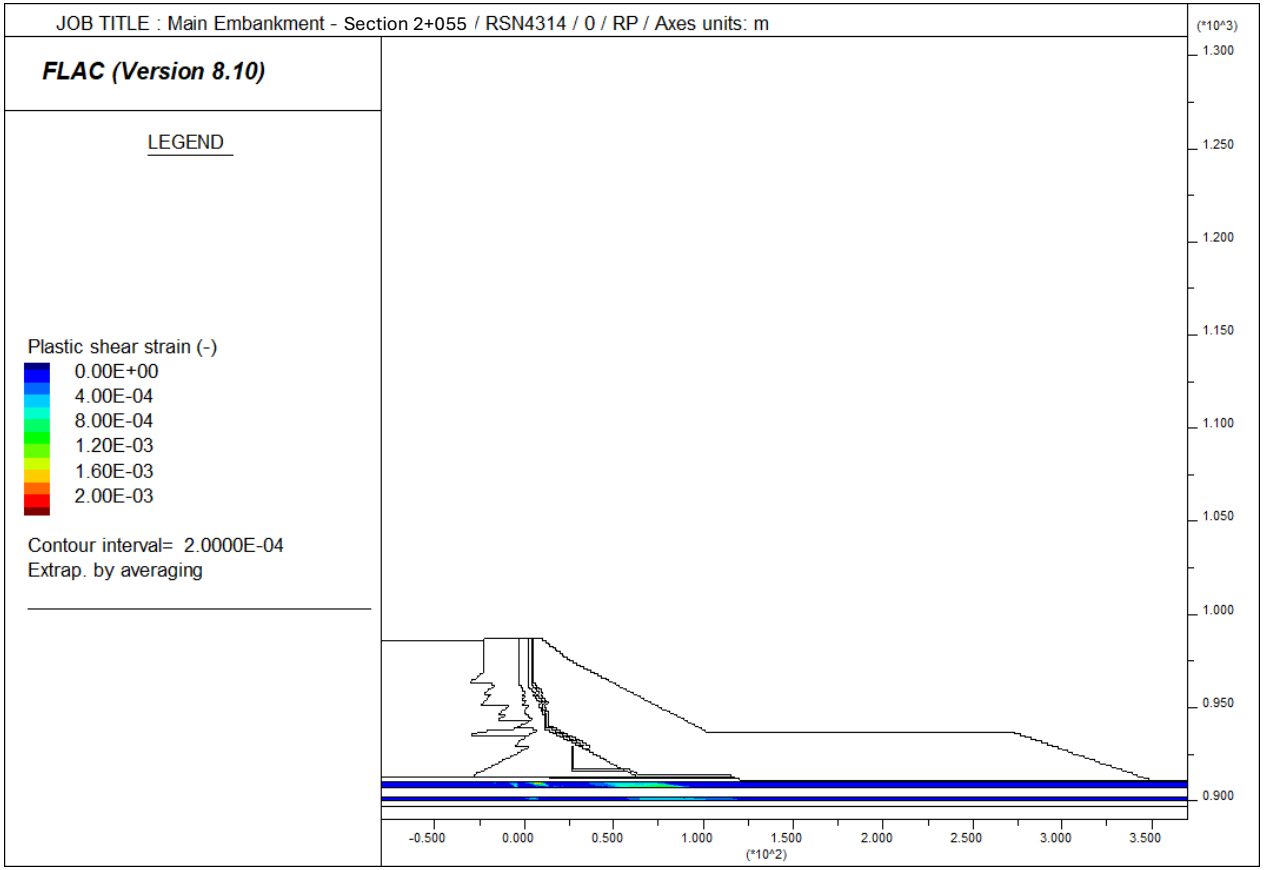

JOB TITLE : Main Embankment - Section 2+055 / RSN4314 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-04
8.00E-04
1.20E-03
1.60E-03
2.00E-03
Contour interval= 2.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

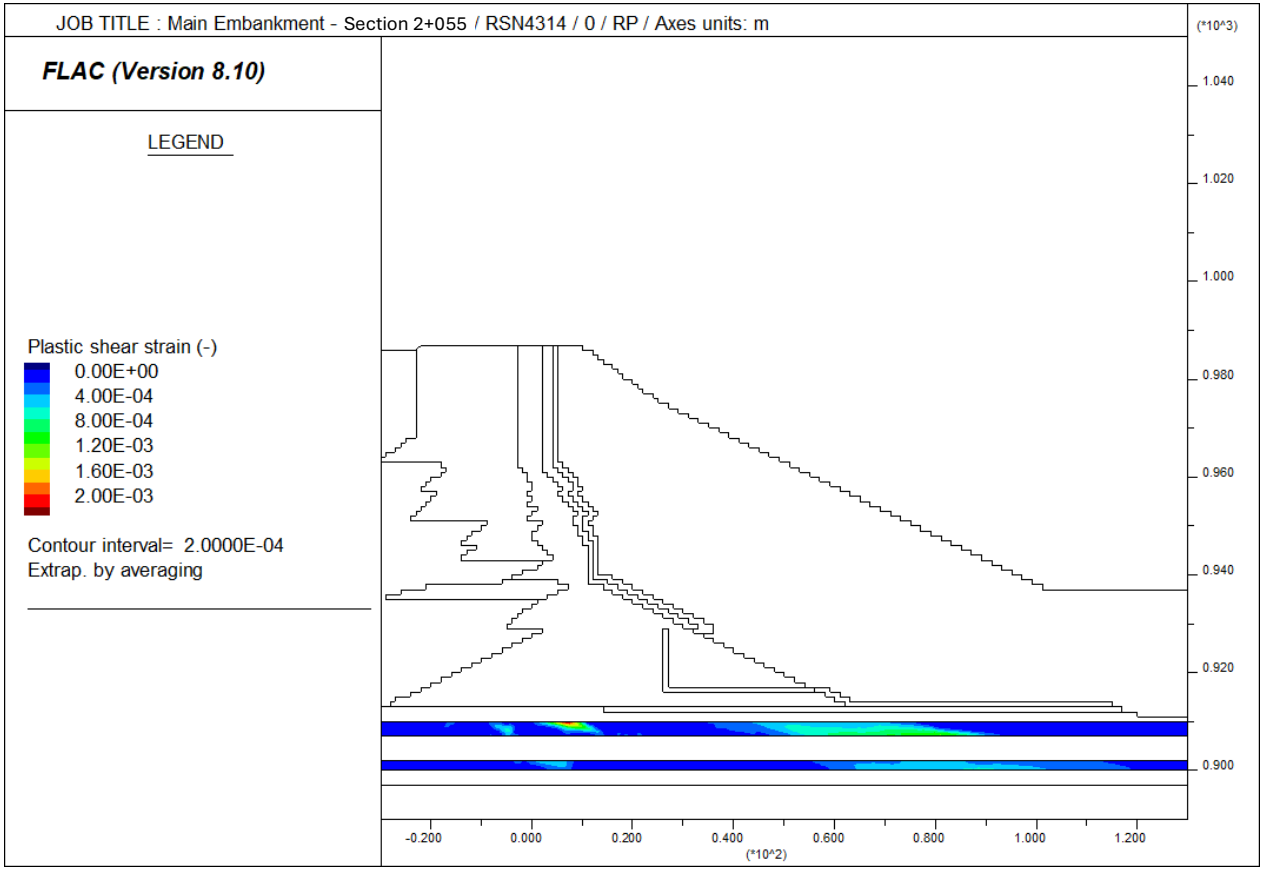

JOB TITLE : Main Embankment - Section 2+055 / RSN4314 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-04
8.00E-04
1.20E-03
1.60E-03
2.00E-03
Contour interval= 2.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

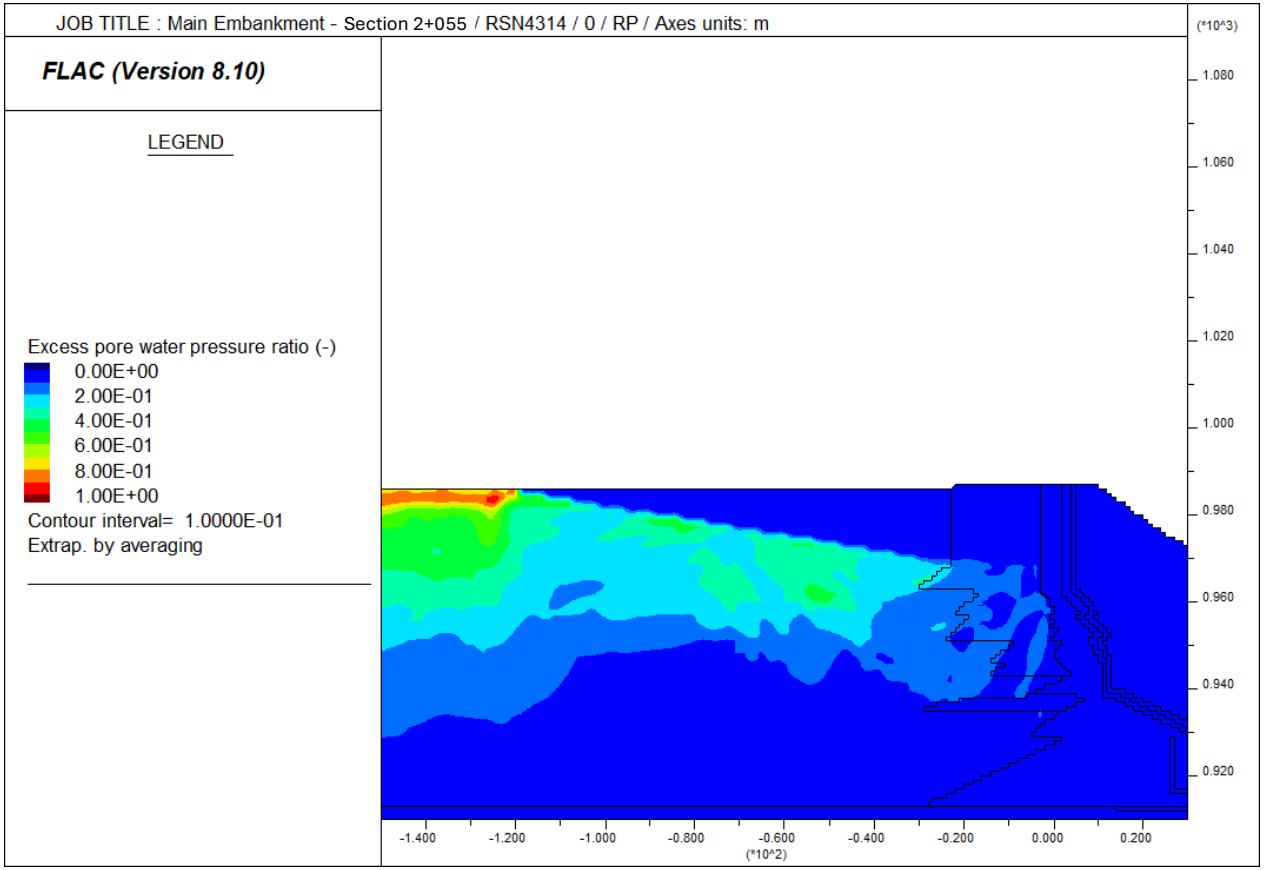

JOB TITLE : Main Embankment - Section 2+055 / RSN4314 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

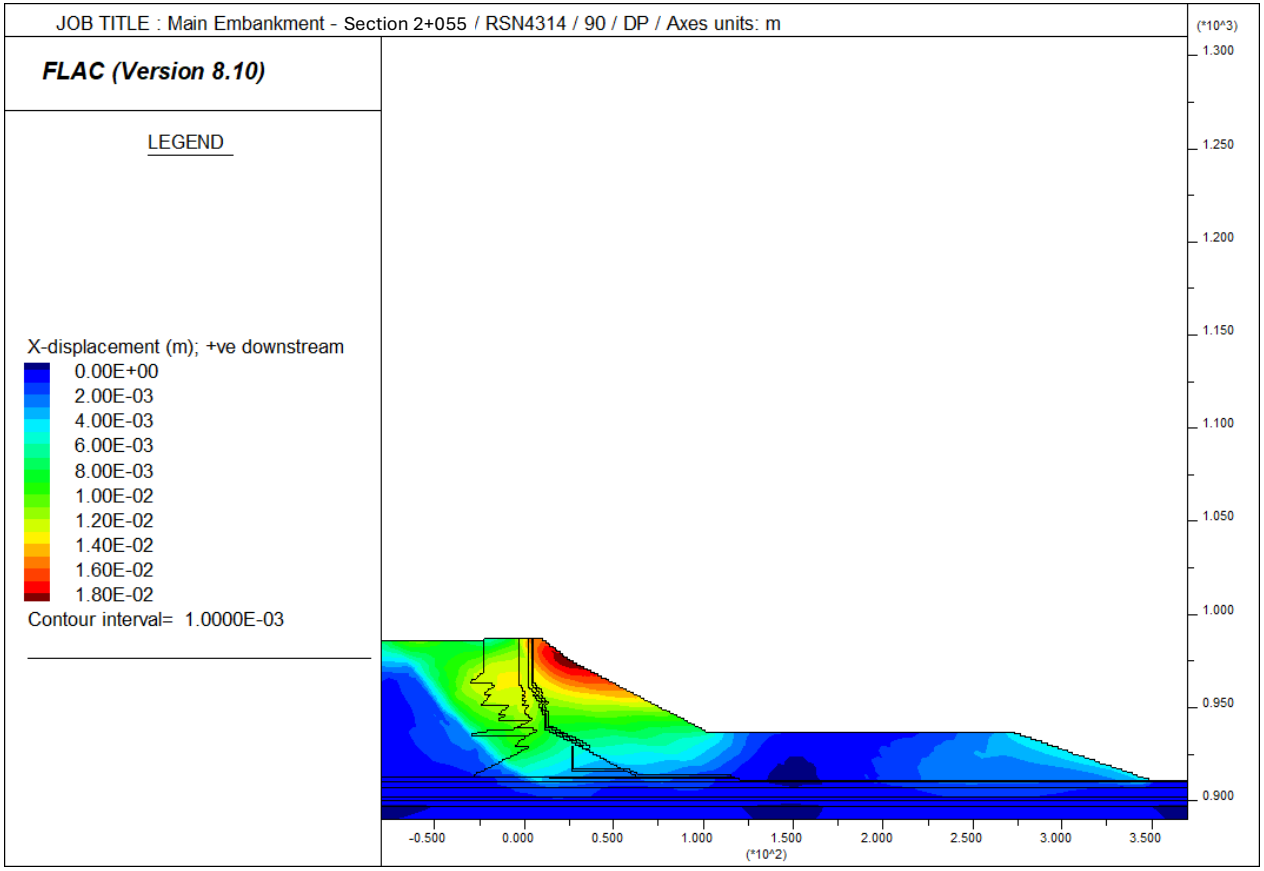

JOB TITLE : Main Embankment - Section 2+055 / RSN4314 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
1.60E-02
1.80E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

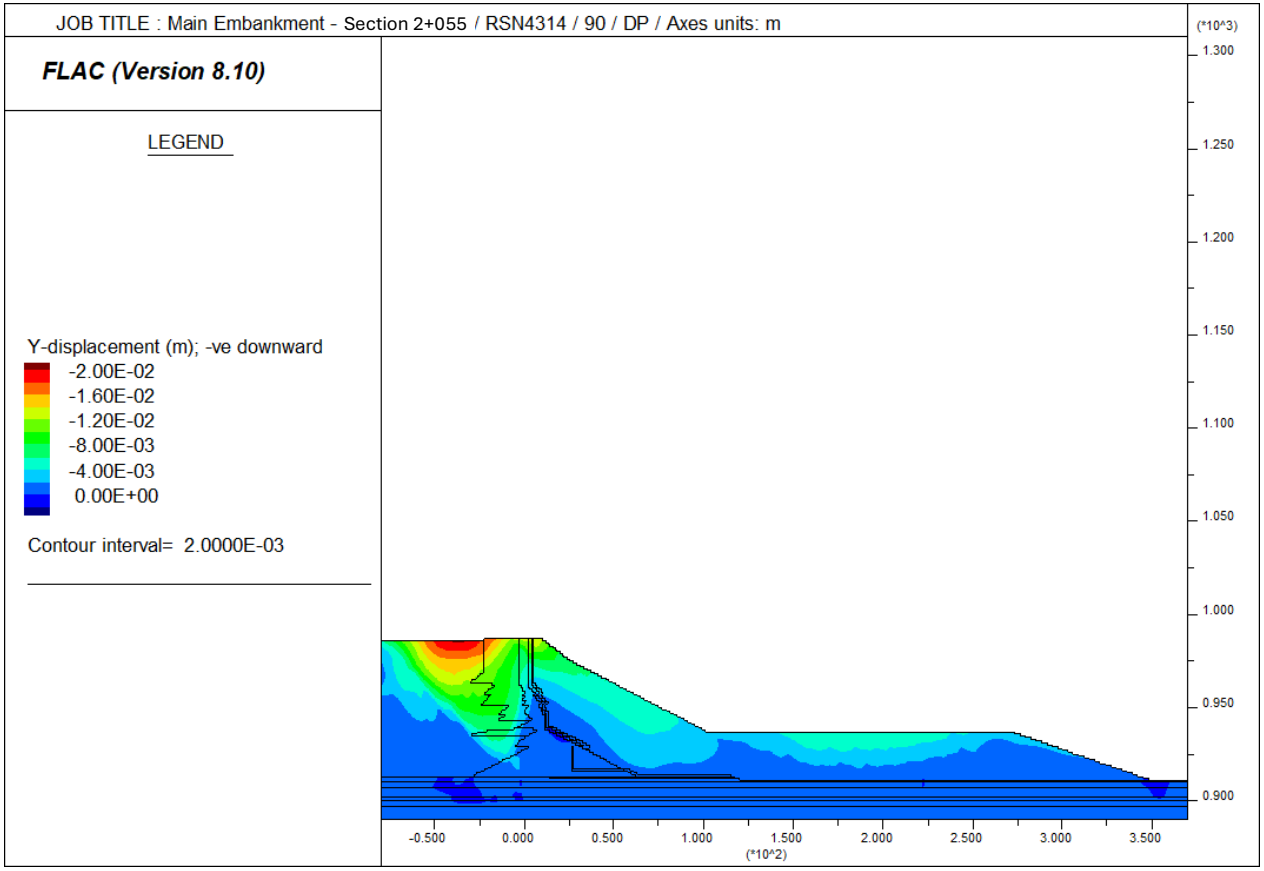

JOB TITLE : Main Embankment - Section 2+055 / RSN4314 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-2.00E-02
-1.60E-02
-1.20E-02
-8.00E-03
-4.00E-03
0.00E+00
Contour interval= 2.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

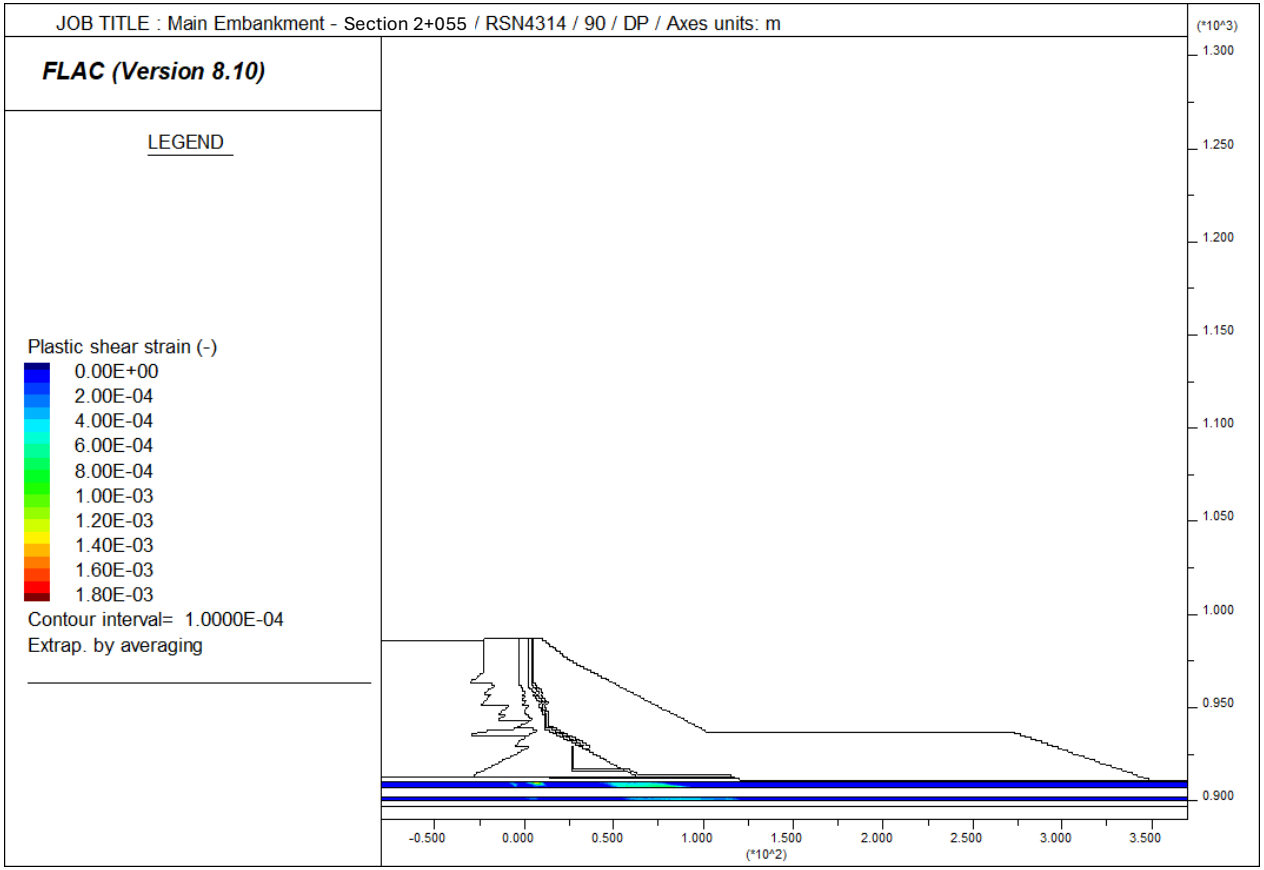

JOB TITLE : Main Embankment - Section 2+055 / RSN4314 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-04
8.00E-04
1.20E-03
1.60E-03
2.00E-03
Contour interval= 2.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

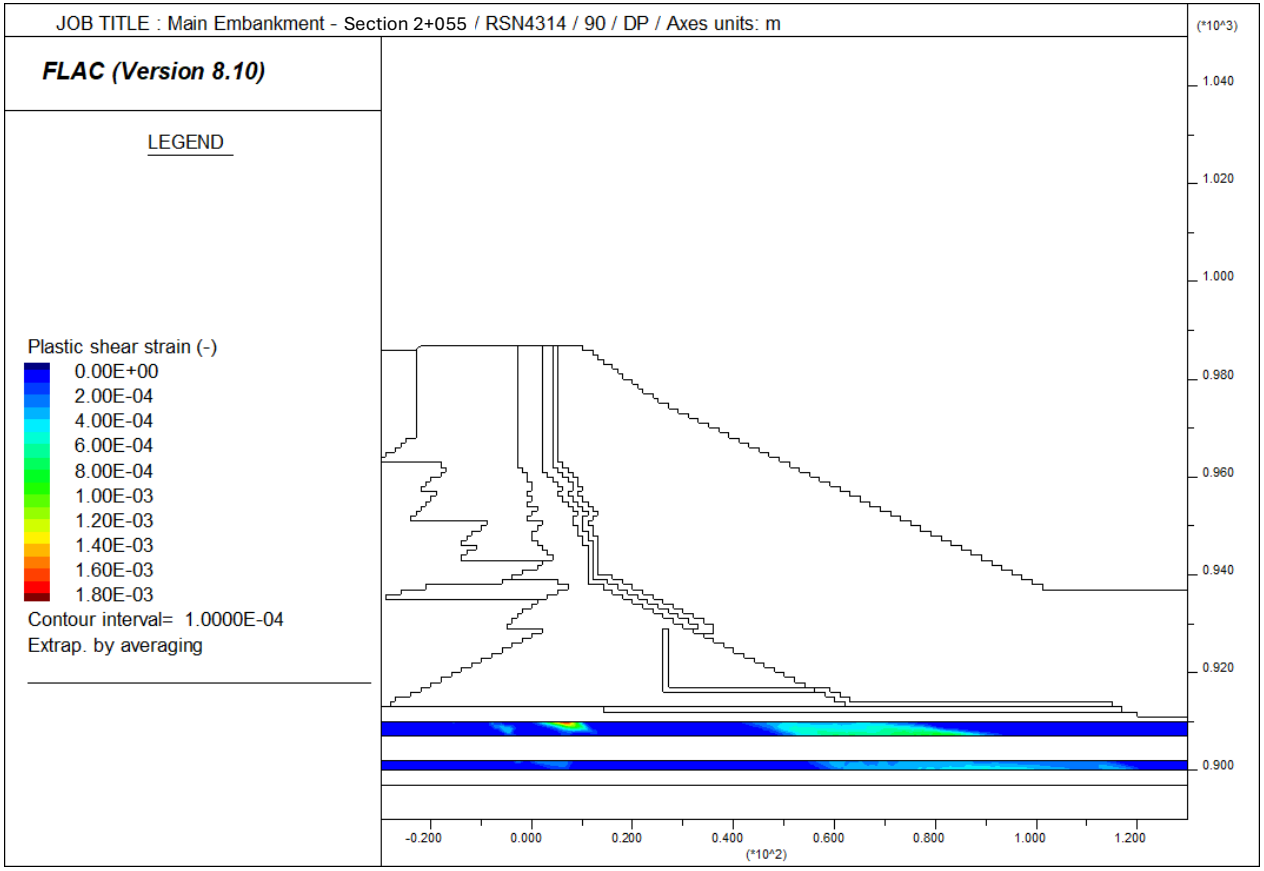

JOB TITLE : Main Embankment - Section 2+055 / RSN4314 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-04
8.00E-04
1.20E-03
1.60E-03
2.00E-03
Contour interval= 2.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

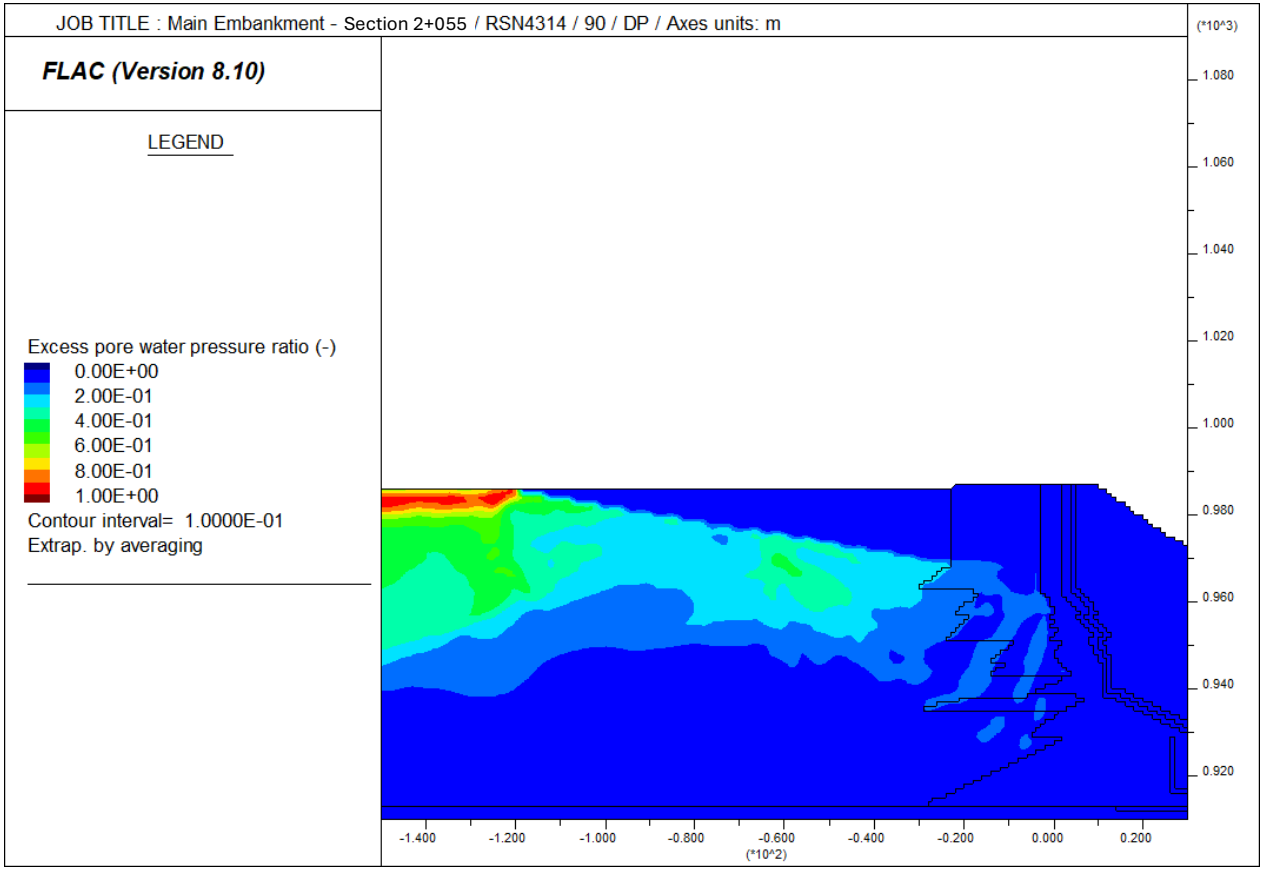

JOB TITLE : Main Embankment - Section 2+055 / RSN4314 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

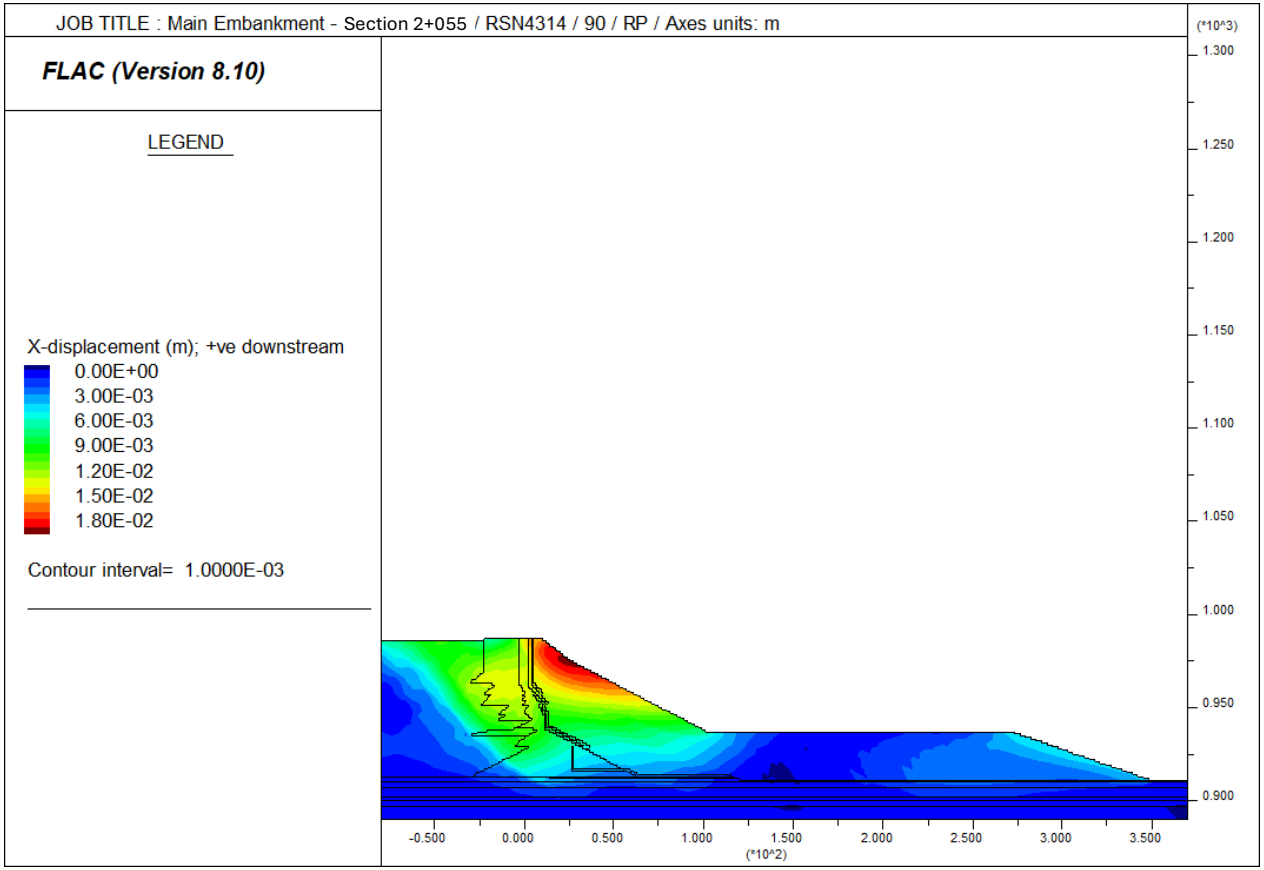

JOB TITLE : Main Embankment - Section 2+055 / RSN4314 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
1.60E-02
1.80E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

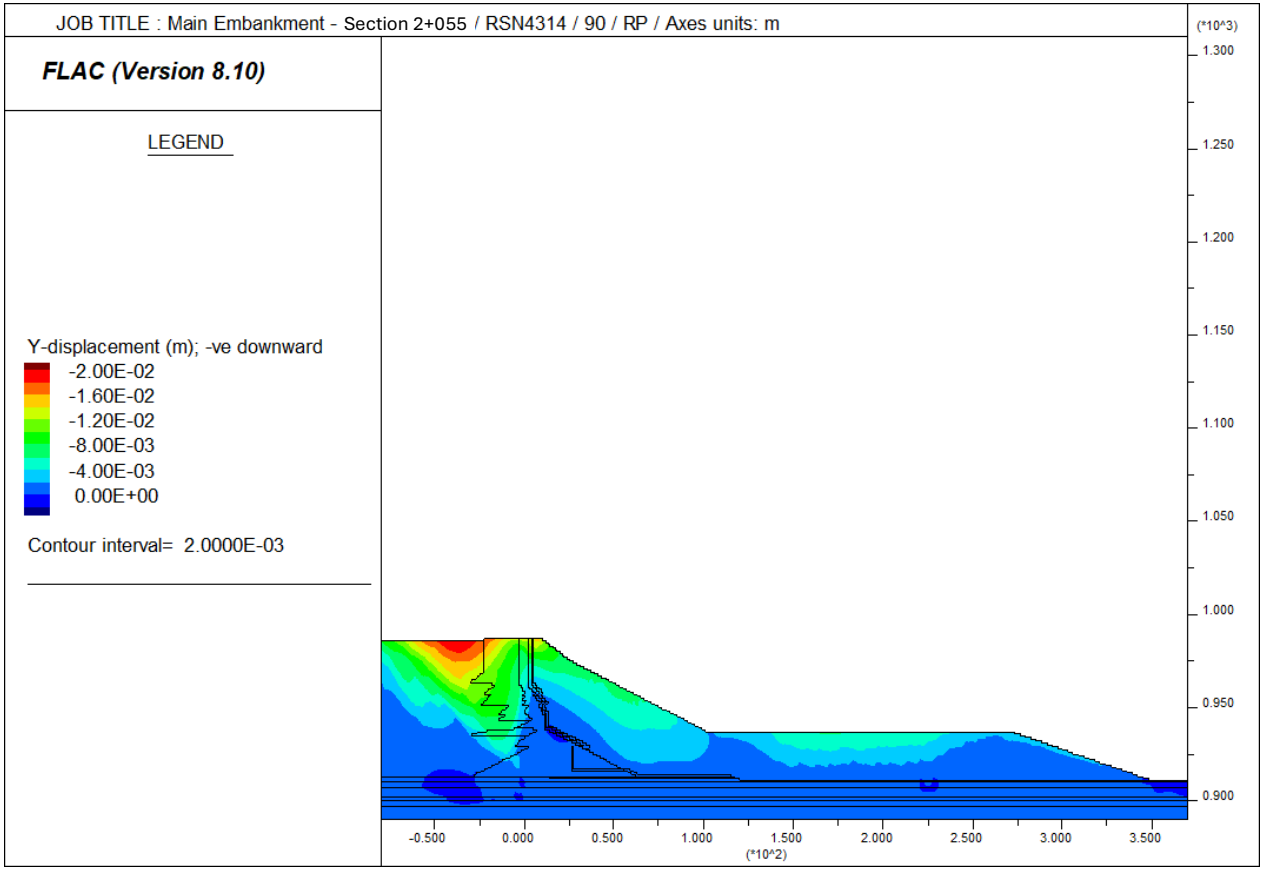

JOB TITLE : Main Embankment - Section 2+055 / RSN4314 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-2.00E-02
-1.60E-02
-1.20E-02
-8.00E-03
-4.00E-03
0.00E+00
Contour interval= 2.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

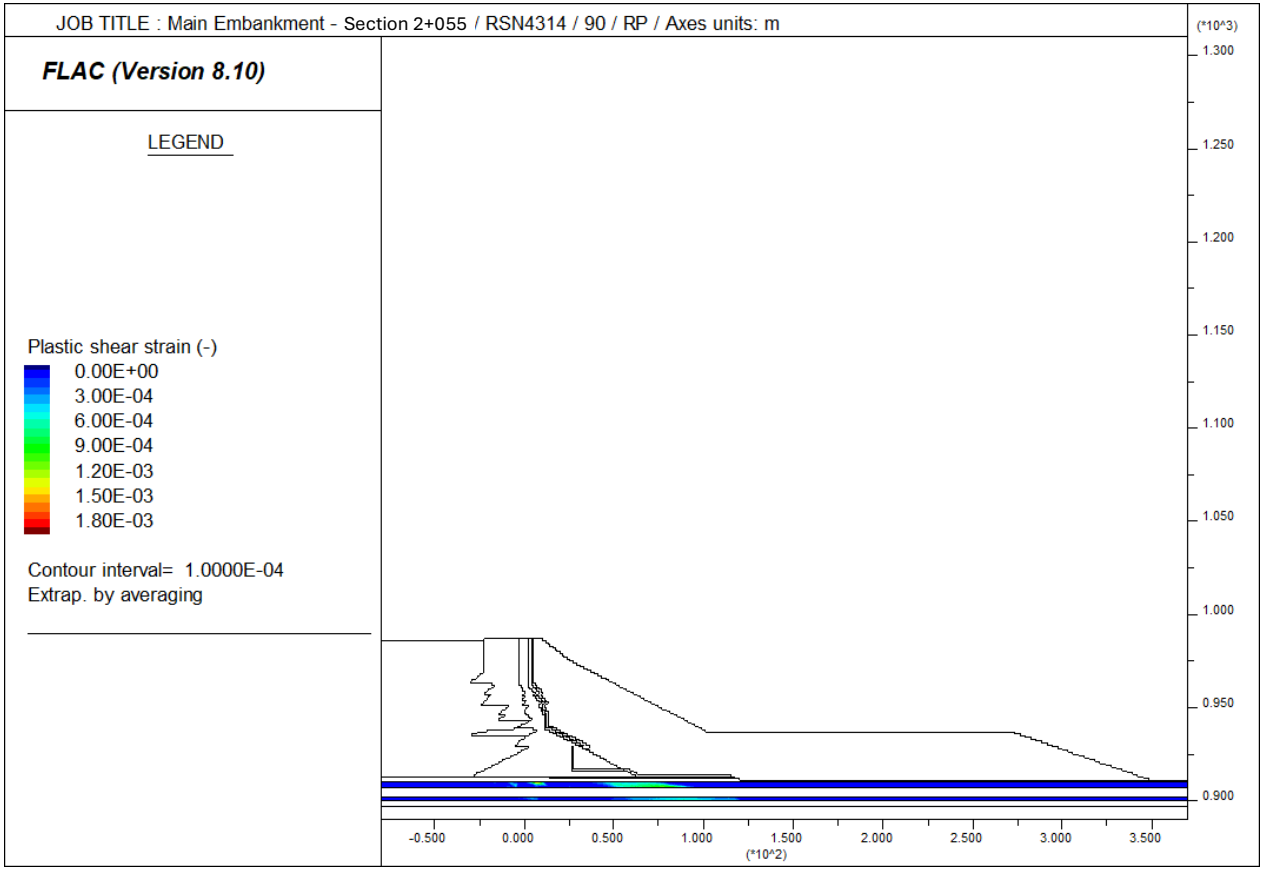

JOB TITLE : Main Embankment - Section 2+055 / RSN4314 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
1.80E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

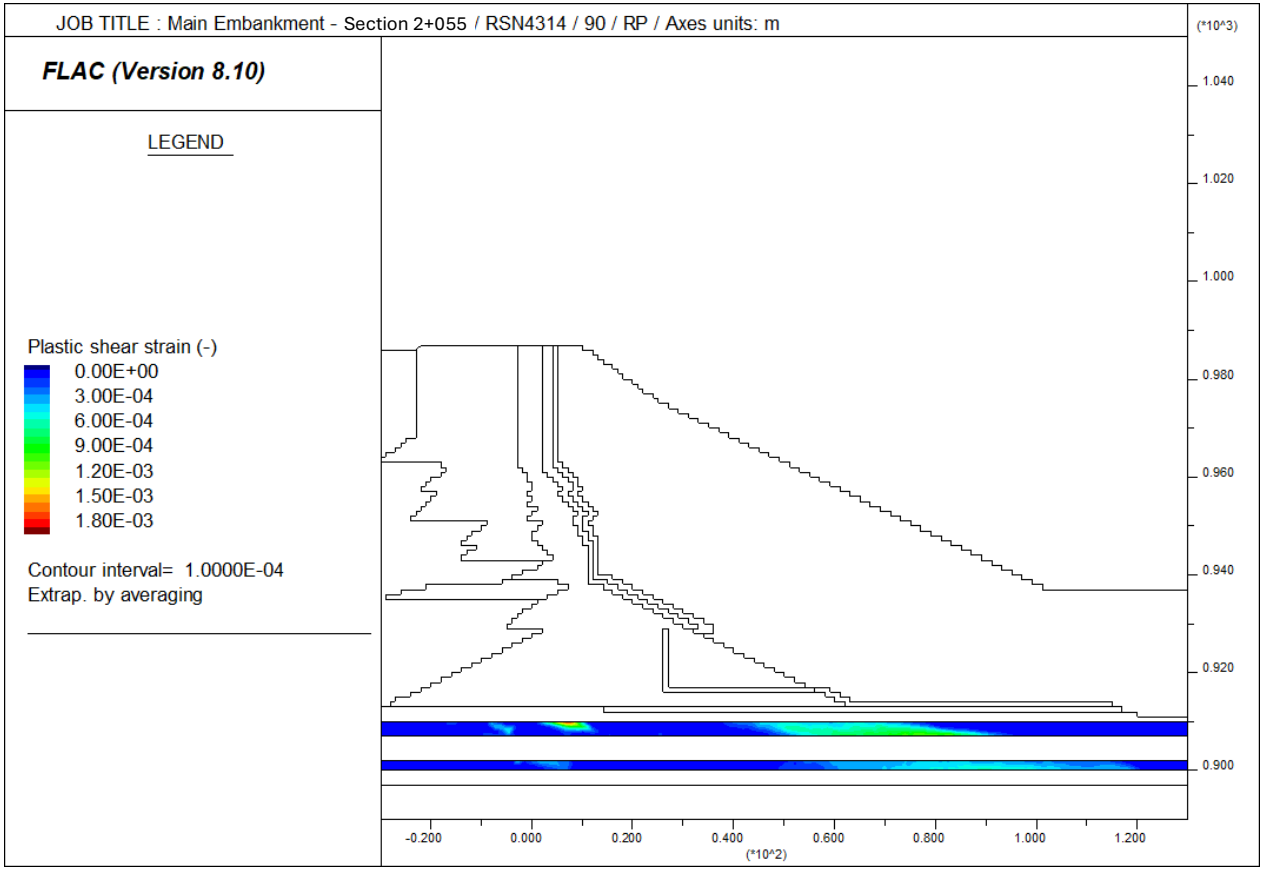

JOB TITLE : Main Embankment - Section 2+055 / RSN4314 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
1.80E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

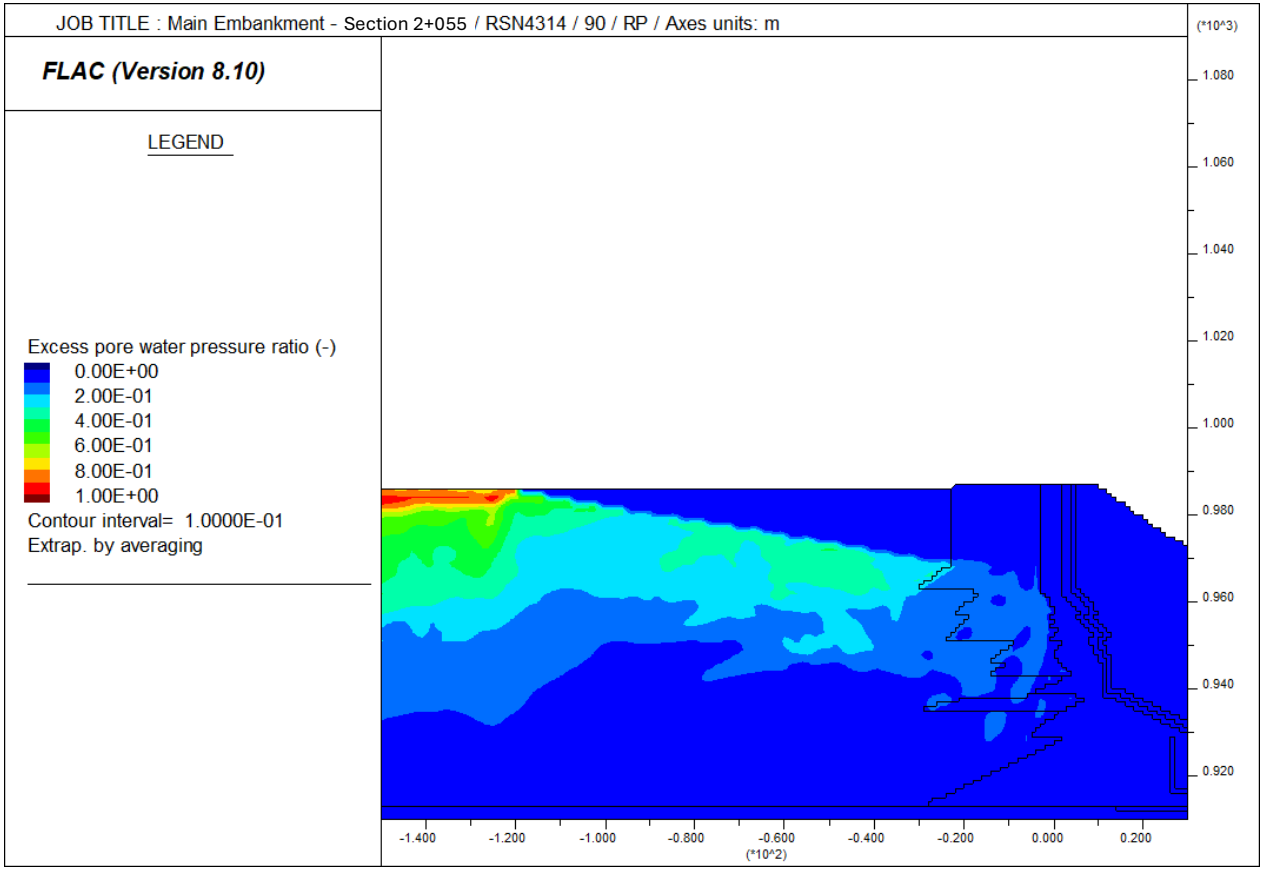

JOB TITLE : Main Embankment - Section 2+055 / RSN4314 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

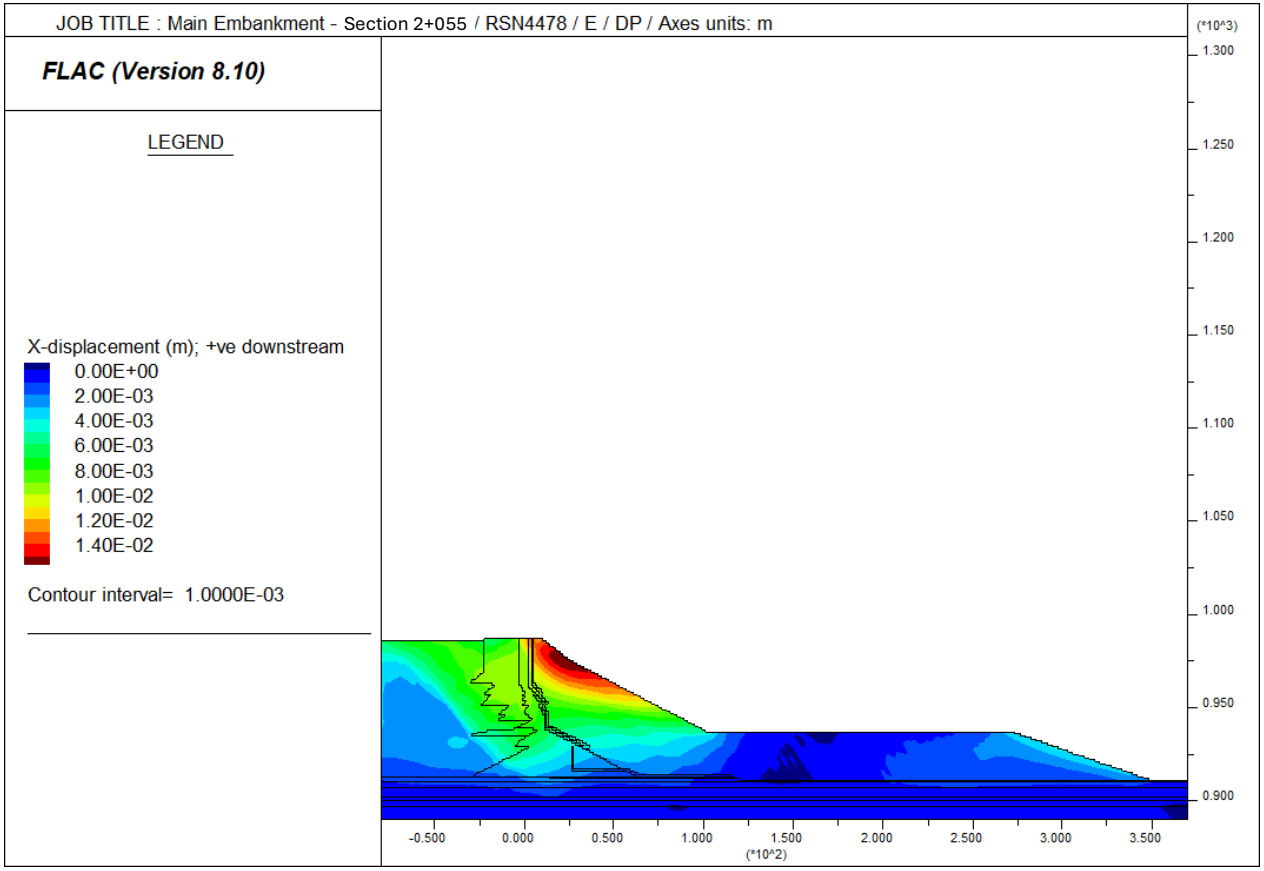

JOB TITLE : Main Embankment - Section 2+055 / RSN4314 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
3.00E-03
6.00E-03
9.00E-03
1.20E-02
1.50E-02
1.80E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

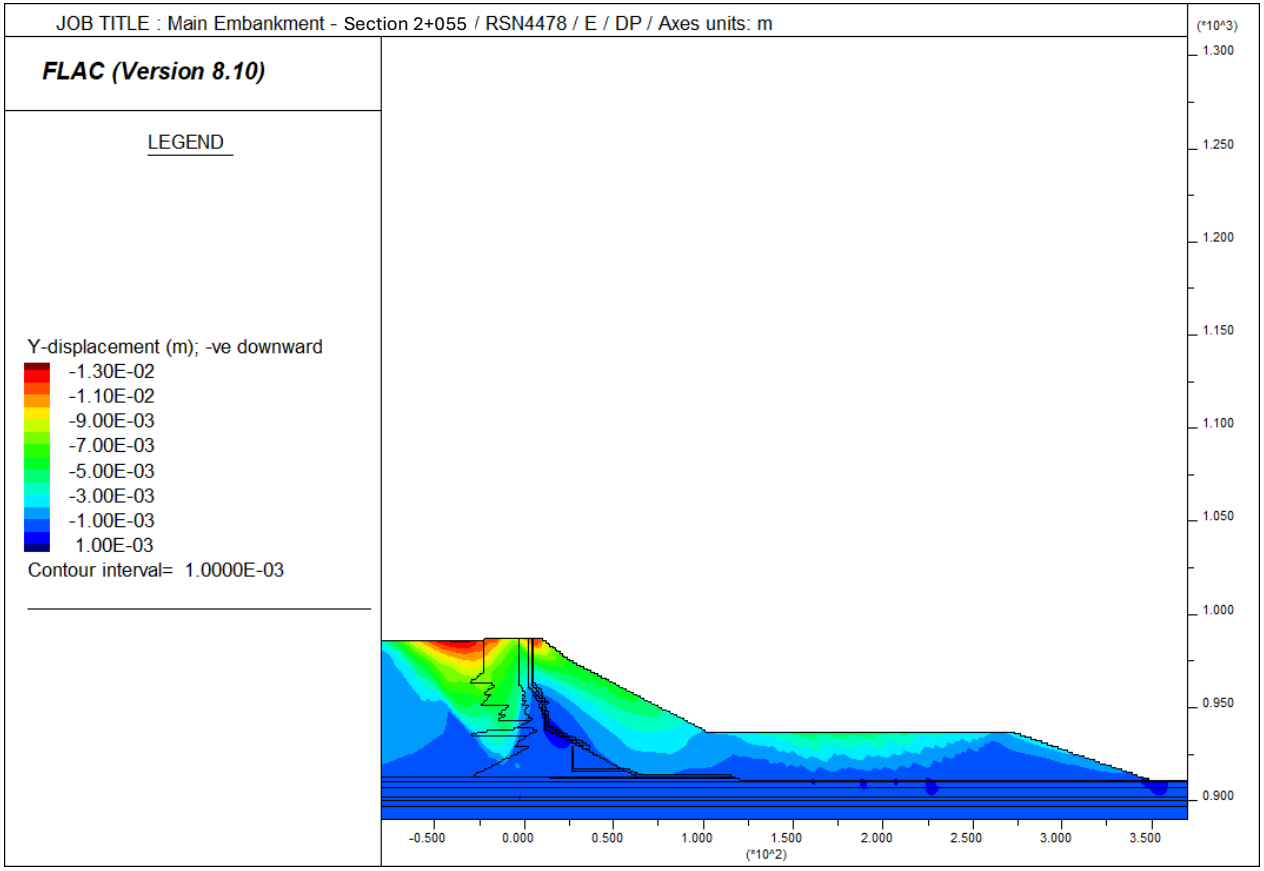

JOB TITLE : Main Embankment - Section 2+055 / RSN4314 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-2.00E-02
-1.60E-02
-1.20E-02
-8.00E-03
-4.00E-03
0.00E+00
Contour interval= 2.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

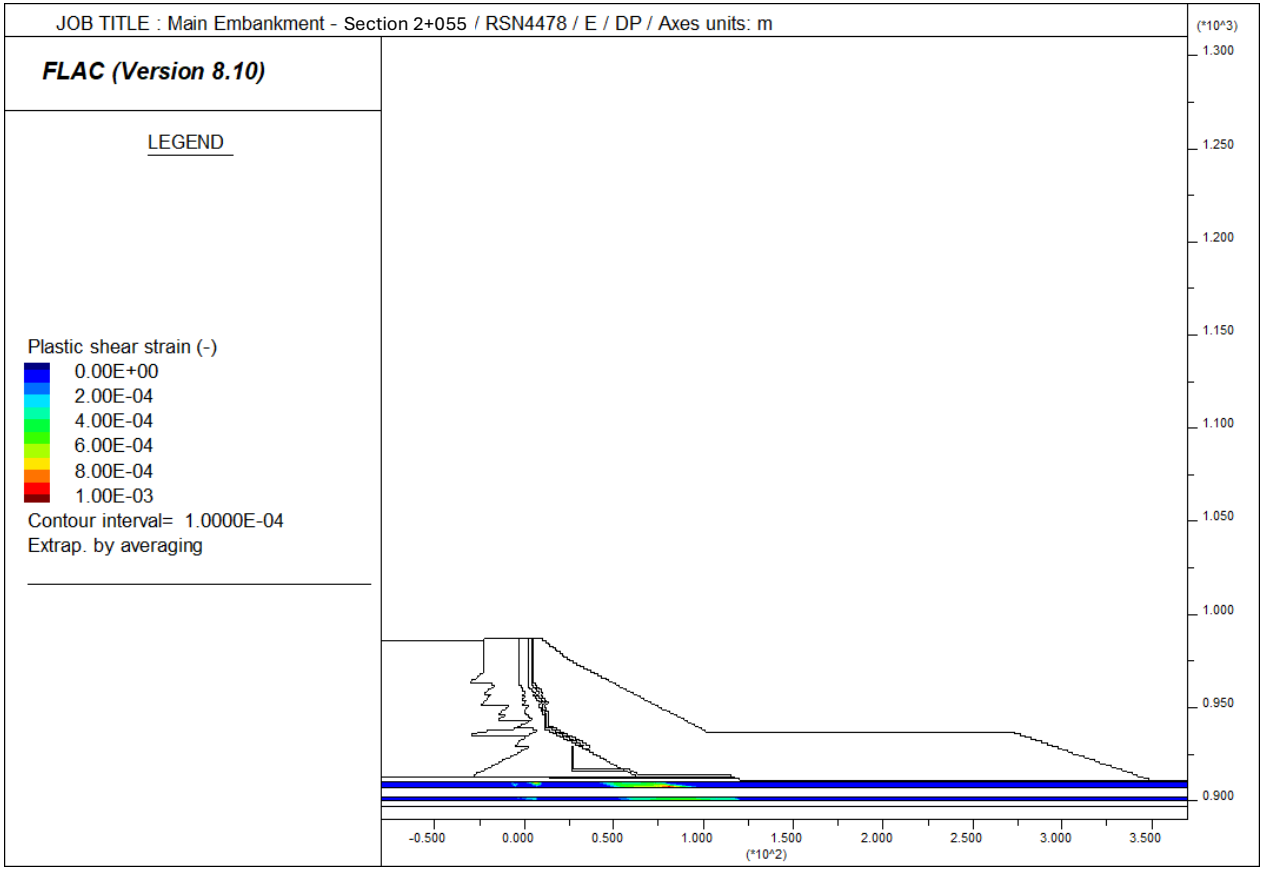

JOB TITLE : Main Embankment - Section 2+055 / RSN4314 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
3.00E-04
6.00E-04
9.00E-04
1.20E-03
1.50E-03
1.80E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

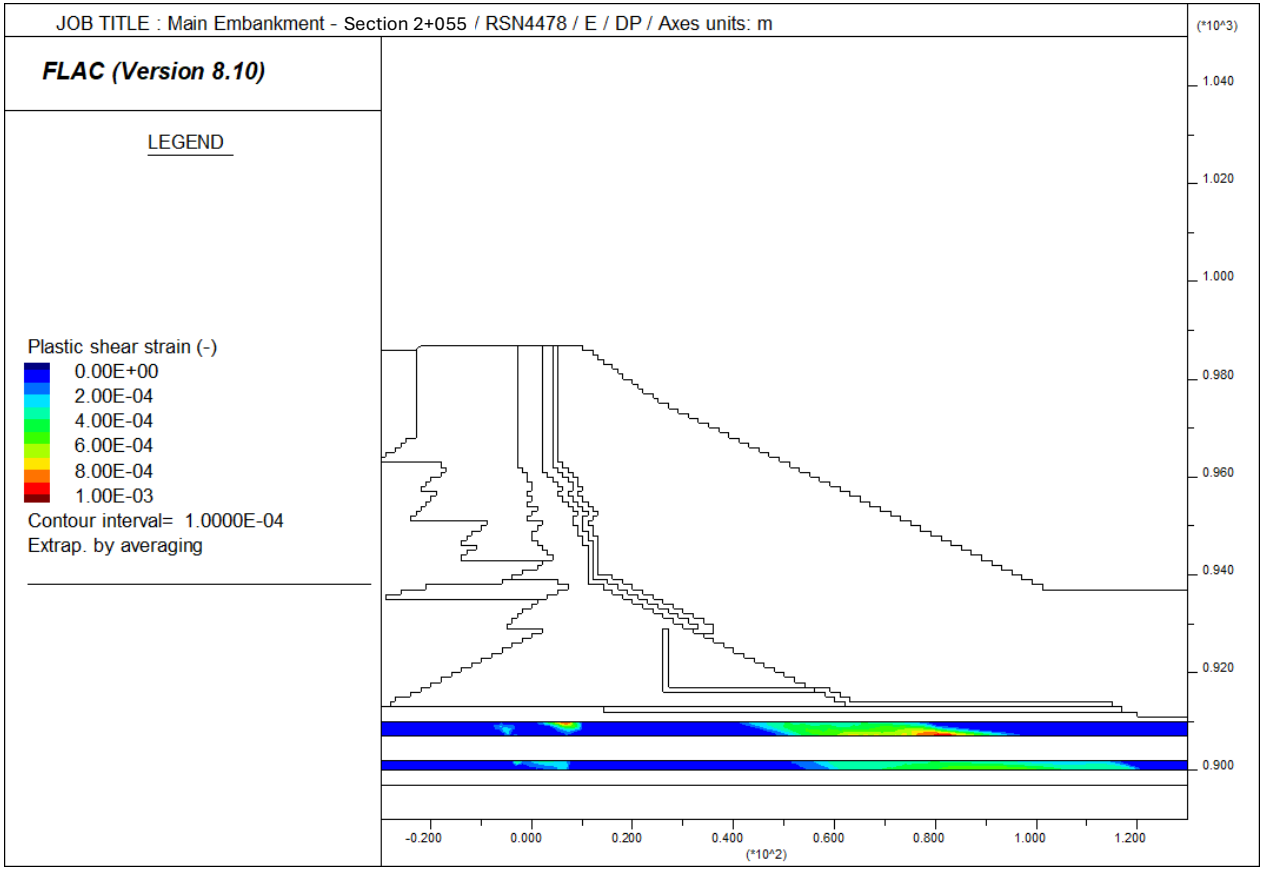

JOB TITLE : Main Embankment - Section 2+055 / RSN4314 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
3.00E-04
6.00E-04
9.00E-04
1.20E-03
1.50E-03
1.80E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

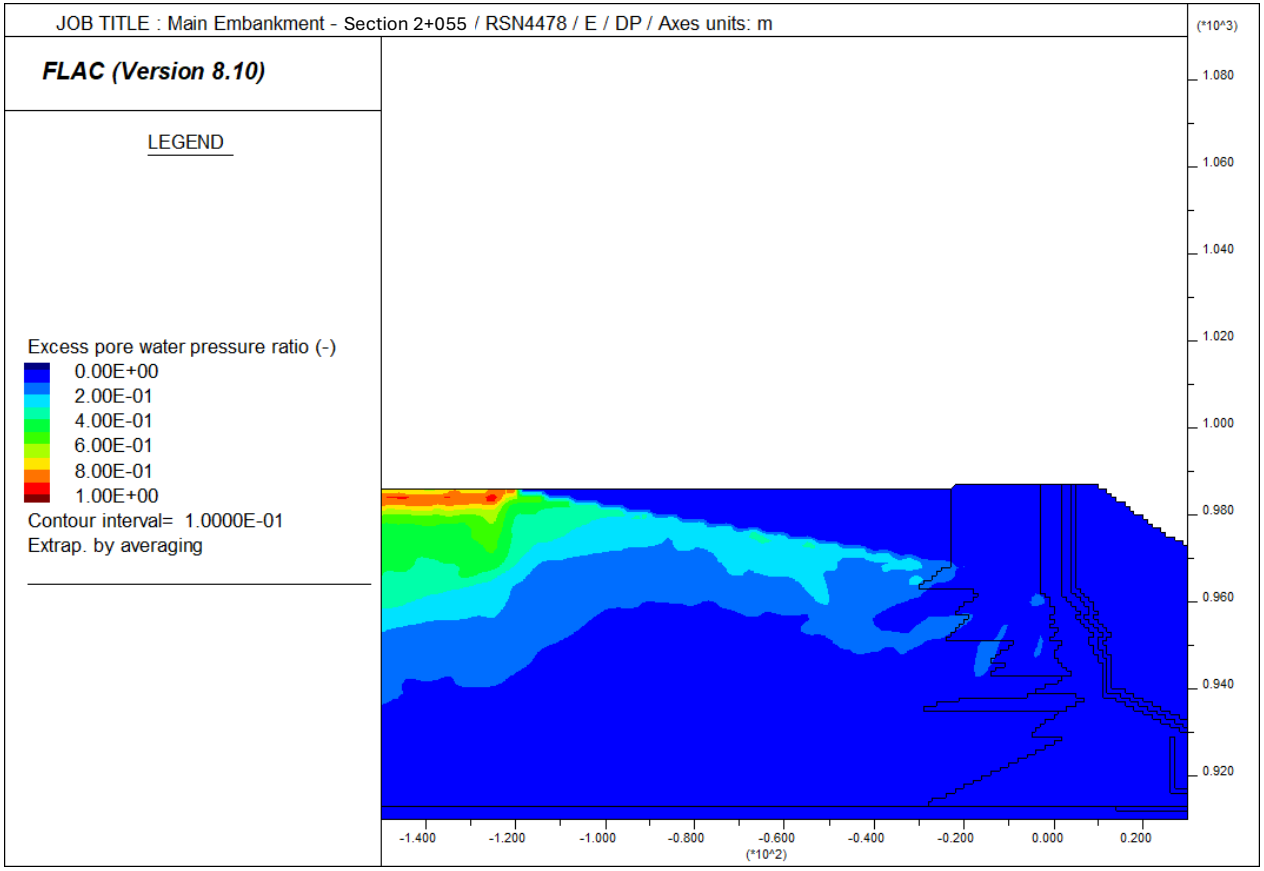

JOB TITLE : Main Embankment - Section 2+055 / RSN4314 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

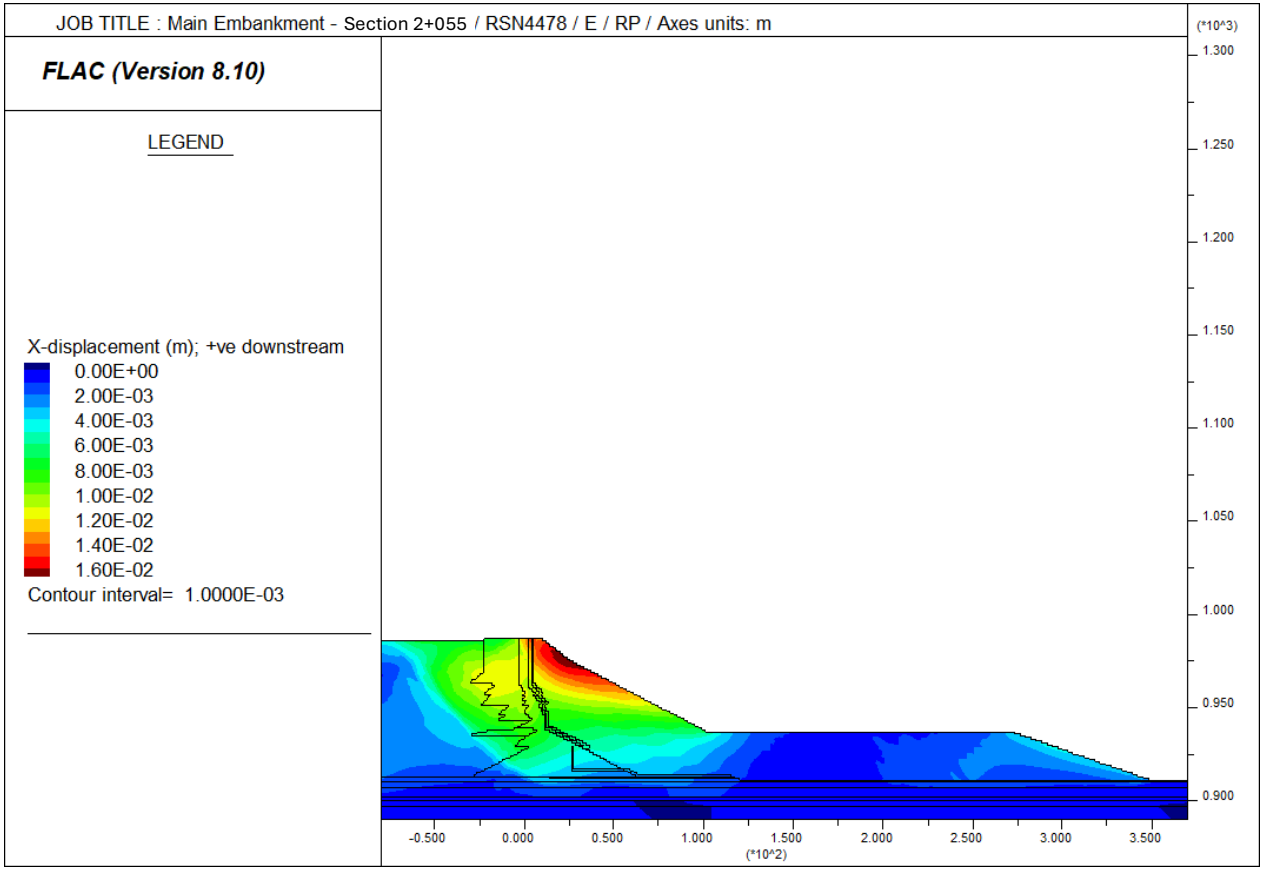

JOB TITLE : Main Embankment - Section 2+055 / RSN4478 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

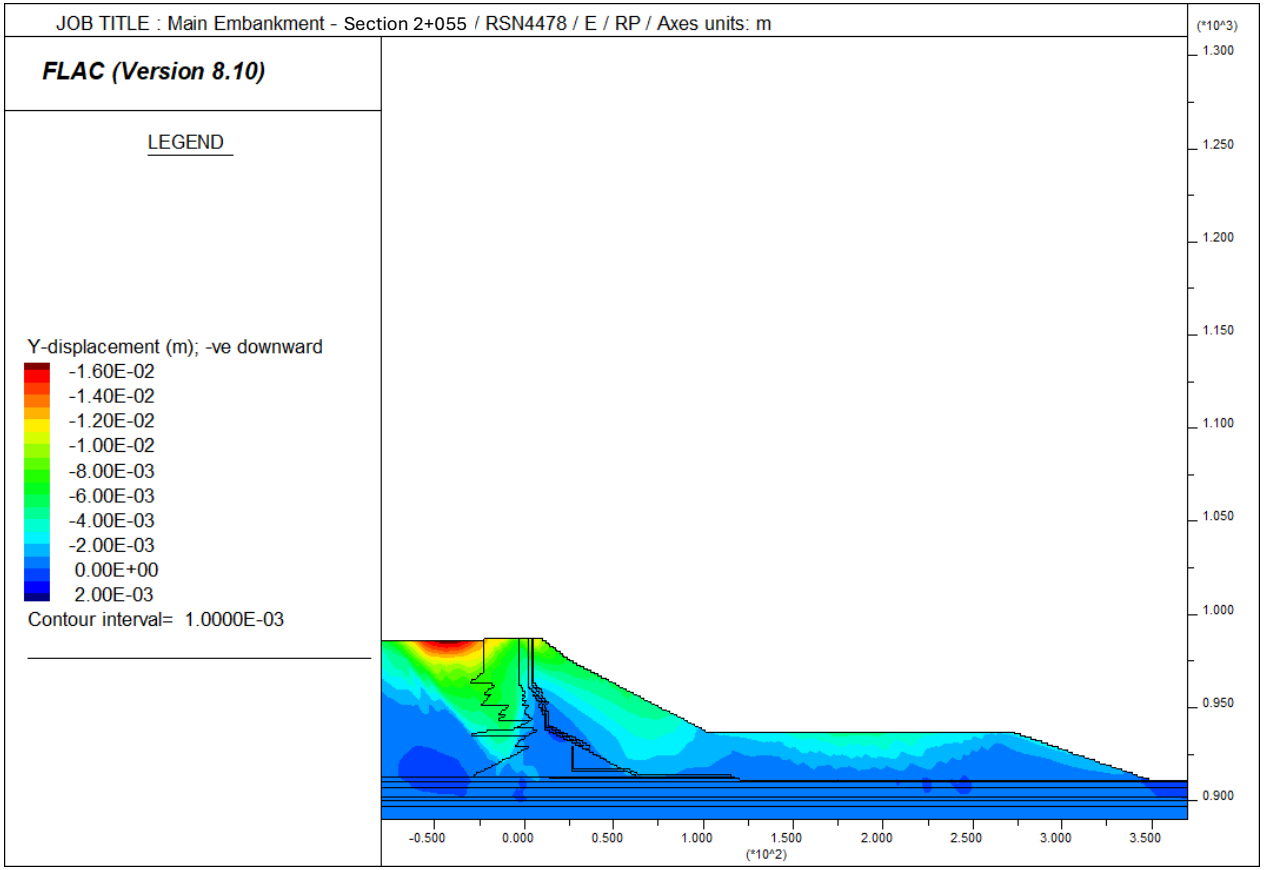

JOB TITLE : Main Embankment - Section 2+055 / RSN4478 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.30E-02
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

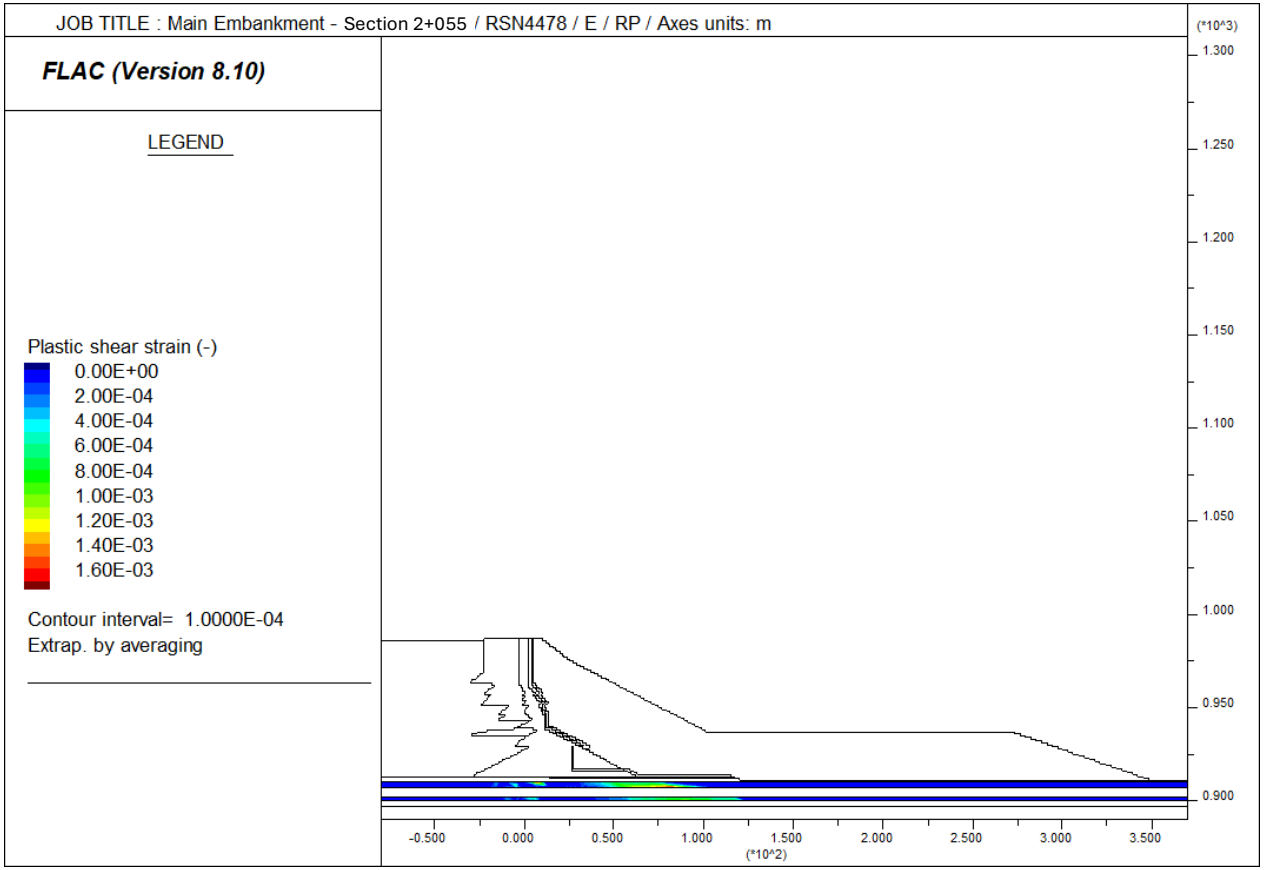

JOB TITLE : Main Embankment - Section 2+055 / RSN4478 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

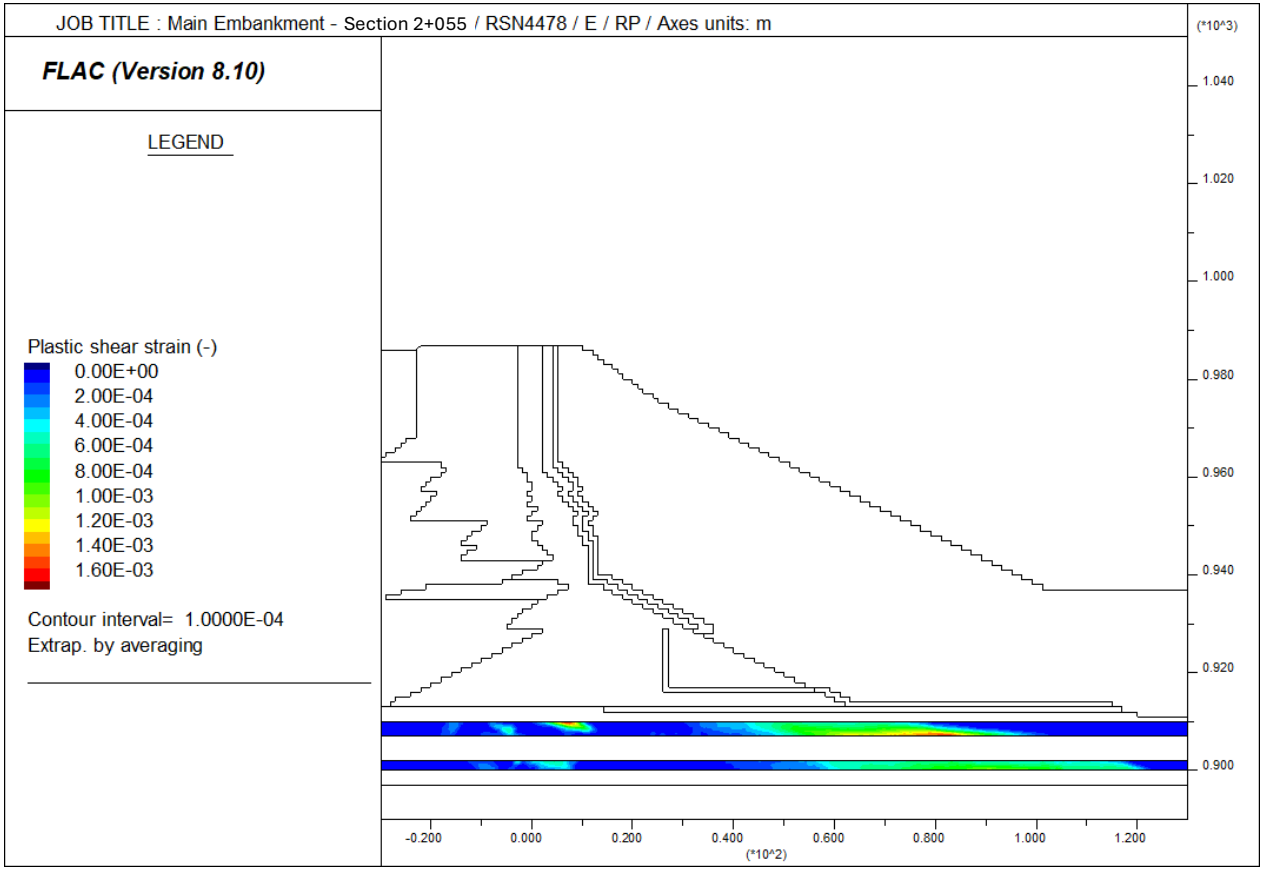

JOB TITLE : Main Embankment - Section 2+055 / RSN4478 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

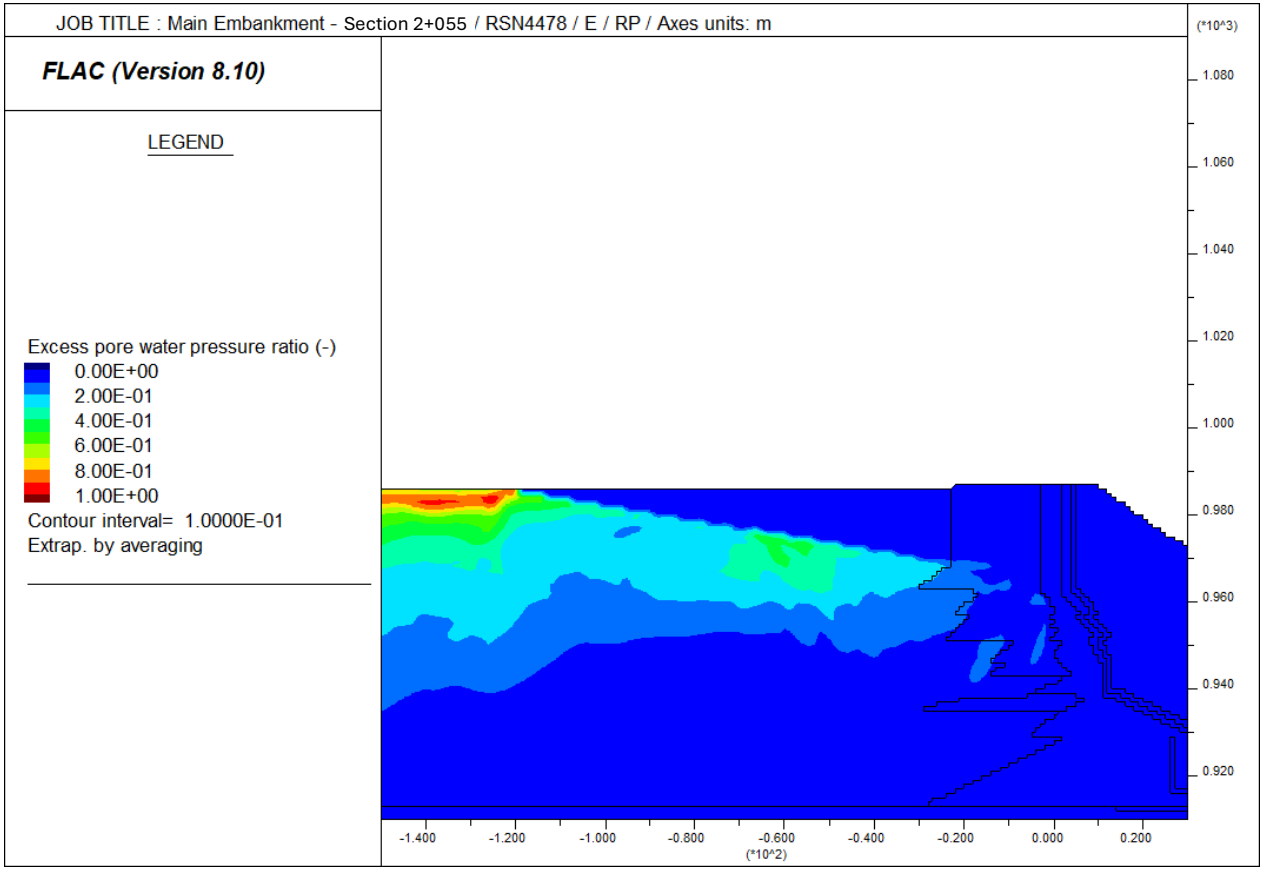

JOB TITLE : Main Embankment - Section 2+055 / RSN4478 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

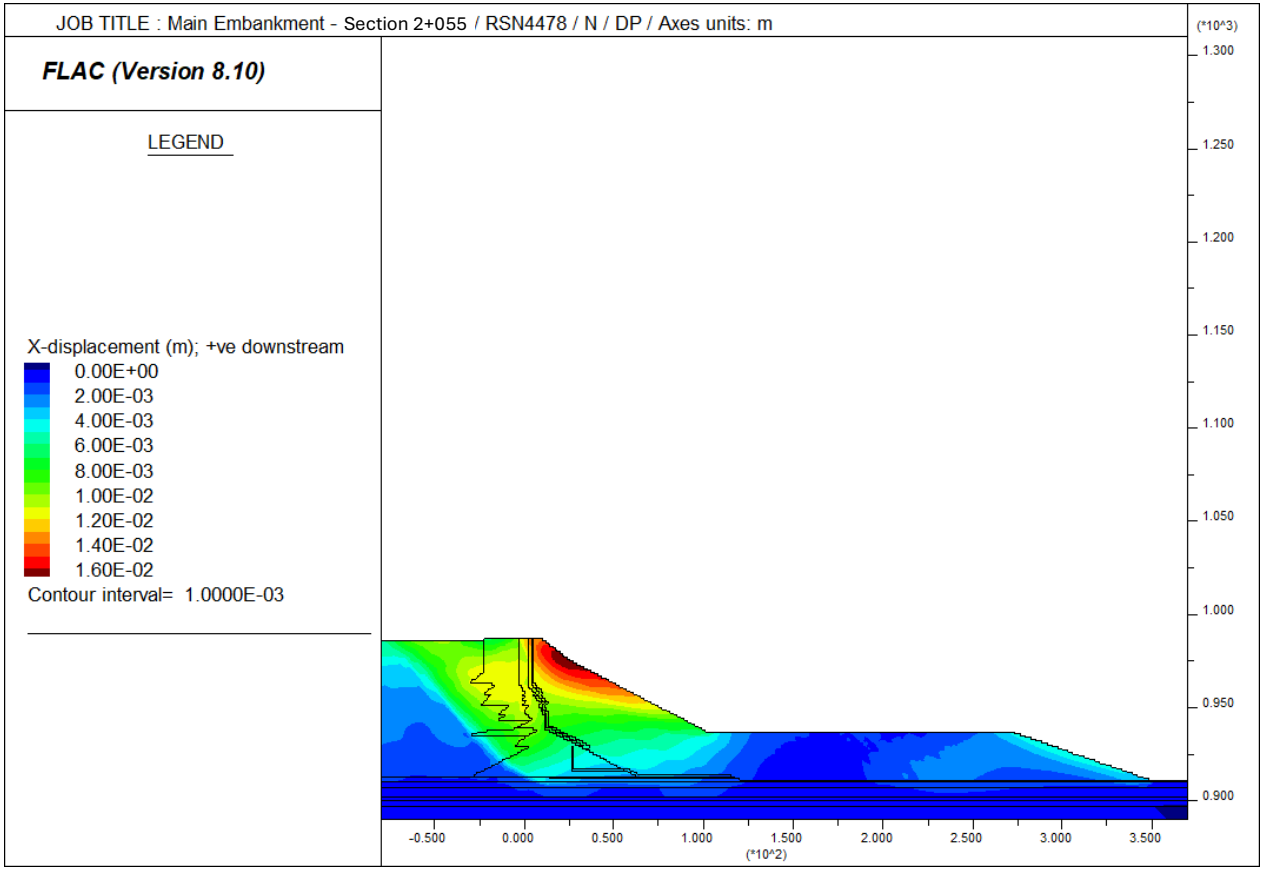

JOB TITLE : Main Embankment - Section 2+055 / RSN4478 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
1.60E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

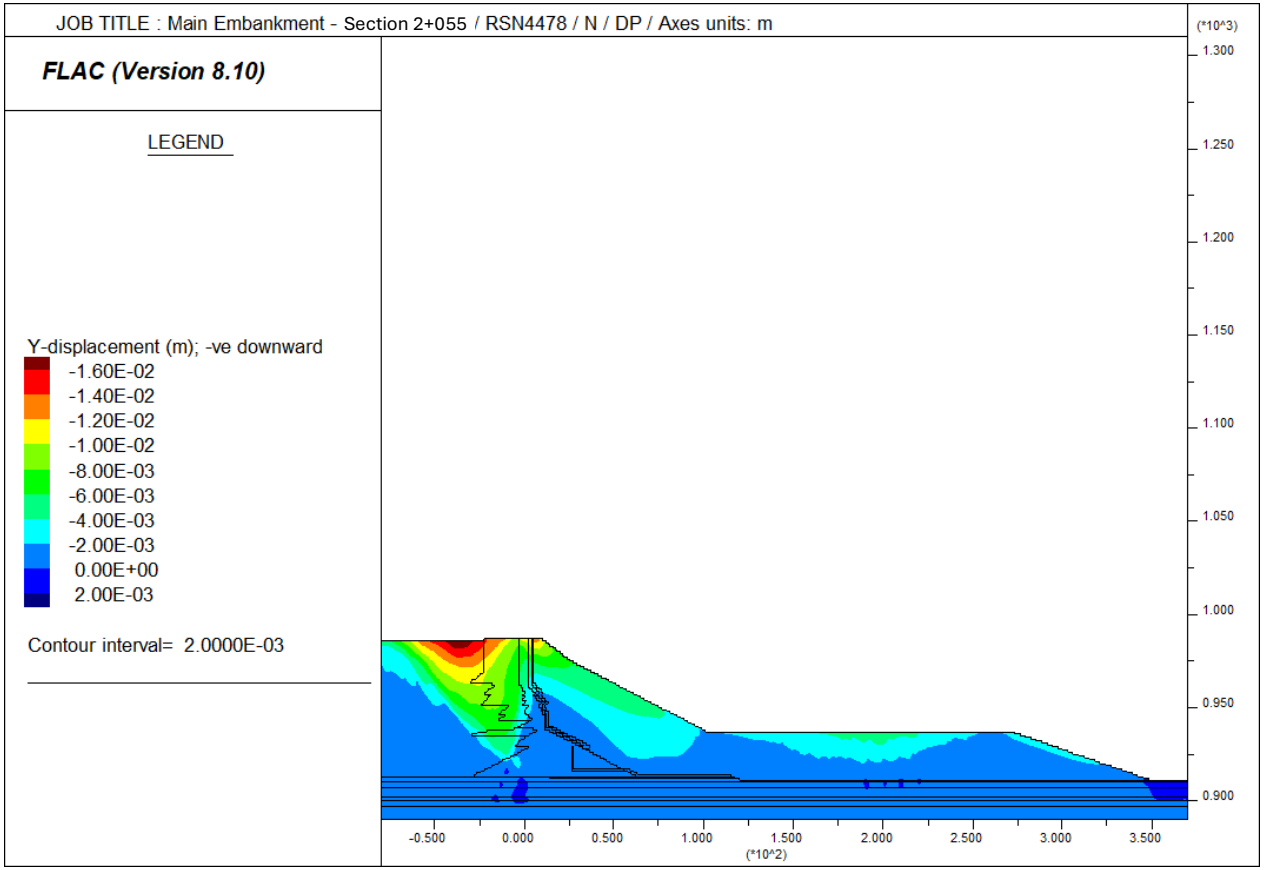

JOB TITLE : Main Embankment - Section 2+055 / RSN4478 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.60E-02
-1.40E-02
-1.20E-02
-1.00E-02
-8.00E-03
-6.00E-03
-4.00E-03
-2.00E-03
0.00E+00
2.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

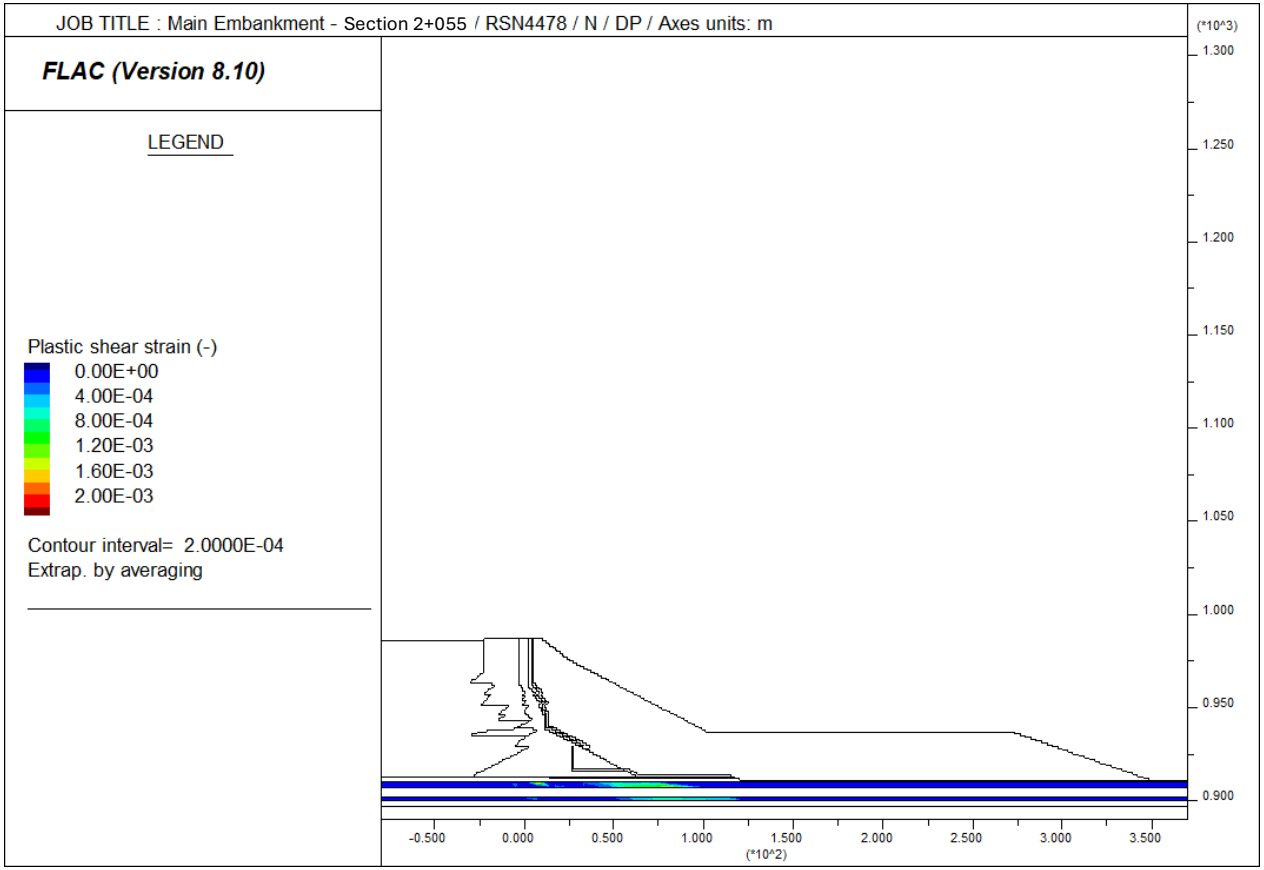

JOB TITLE : Main Embankment - Section 2+055 / RSN4478 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

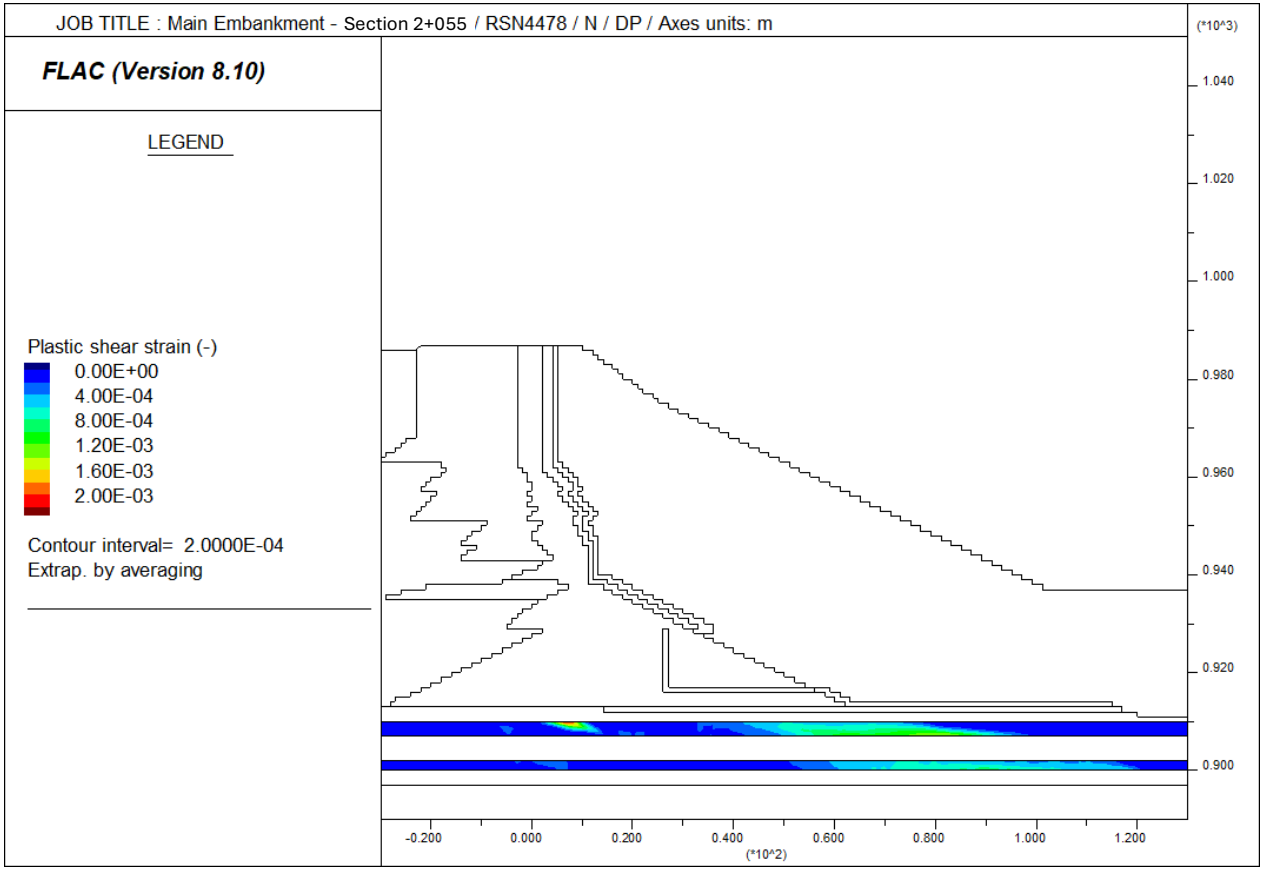

JOB TITLE : Main Embankment - Section 2+055 / RSN4478 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

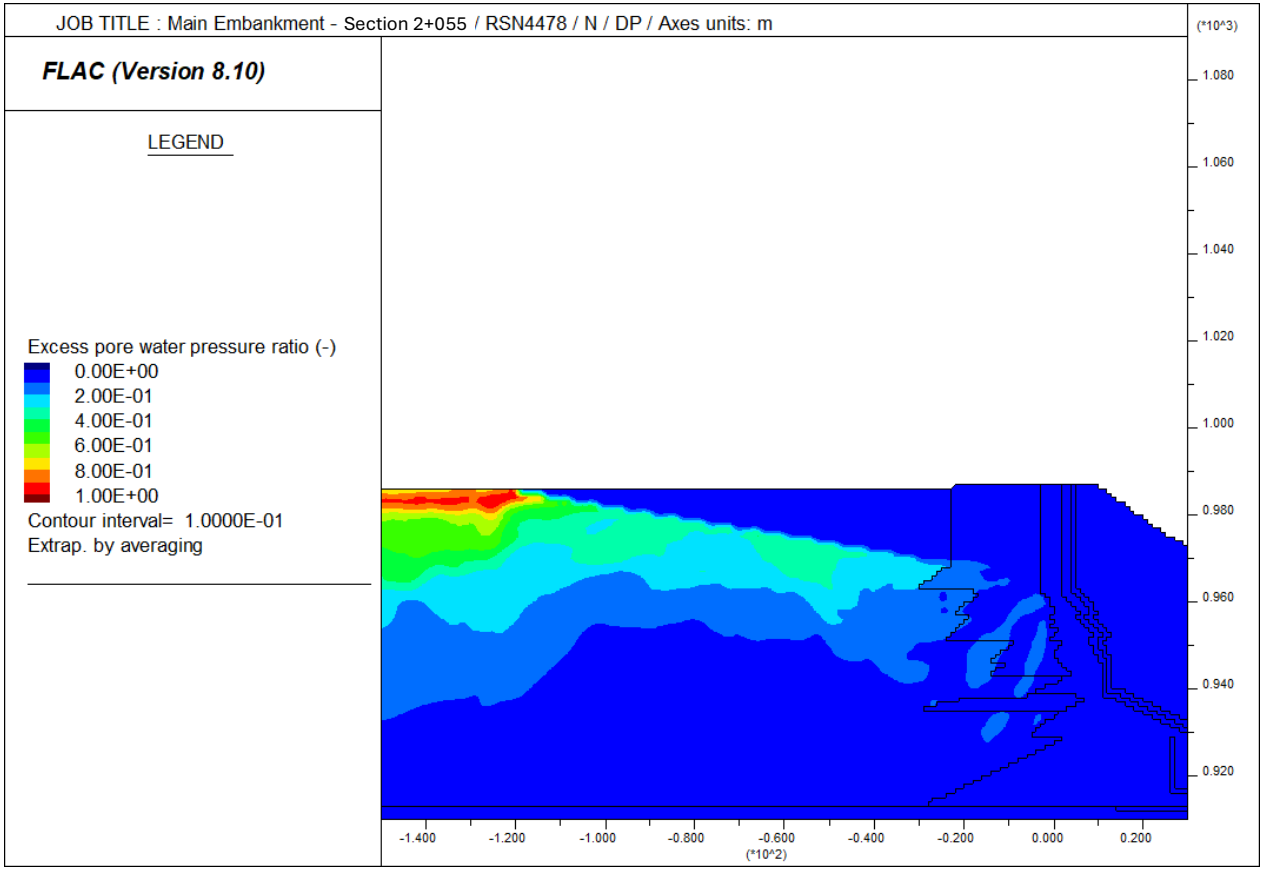

JOB TITLE : Main Embankment - Section 2+055 / RSN4478 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

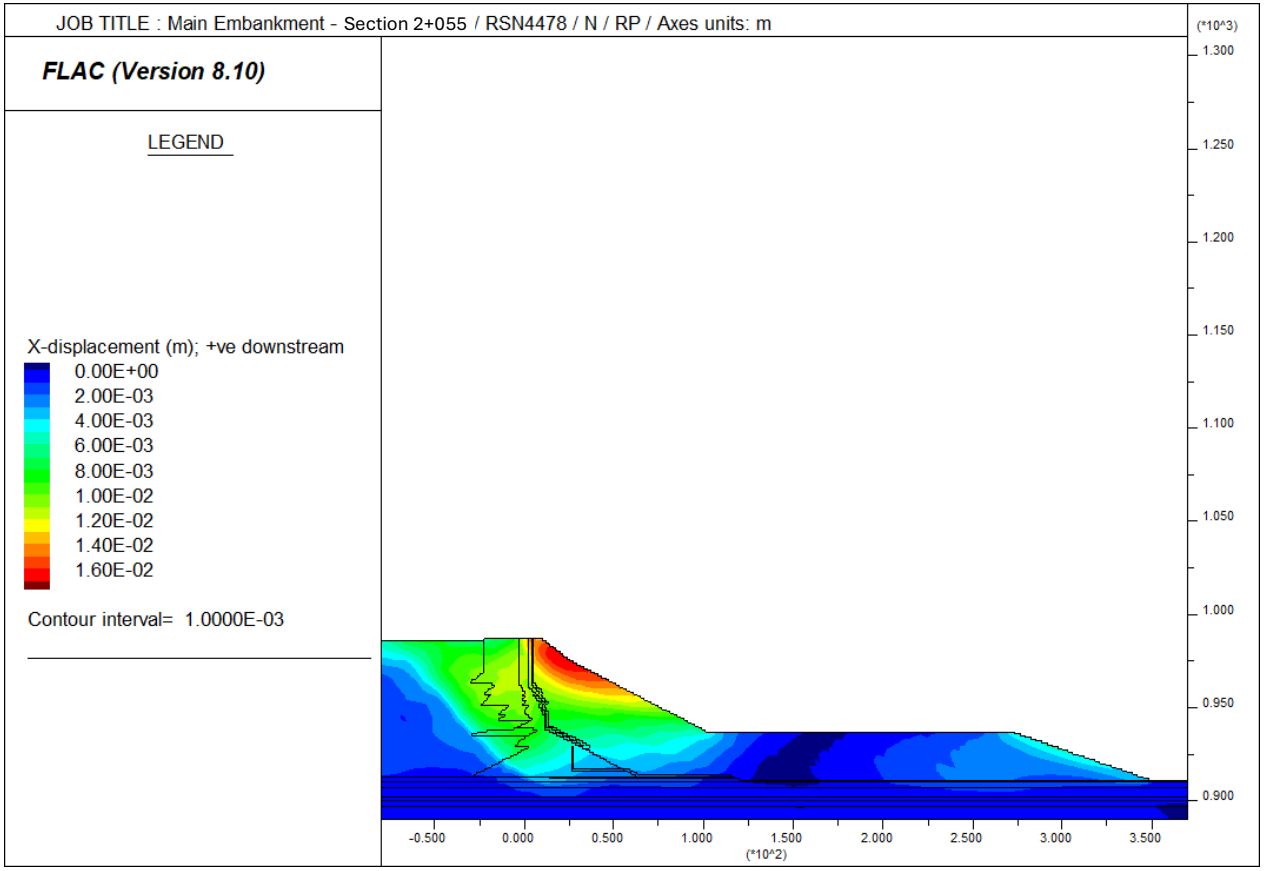

JOB TITLE : Main Embankment - Section 2+055 / RSN4478 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
1.60E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

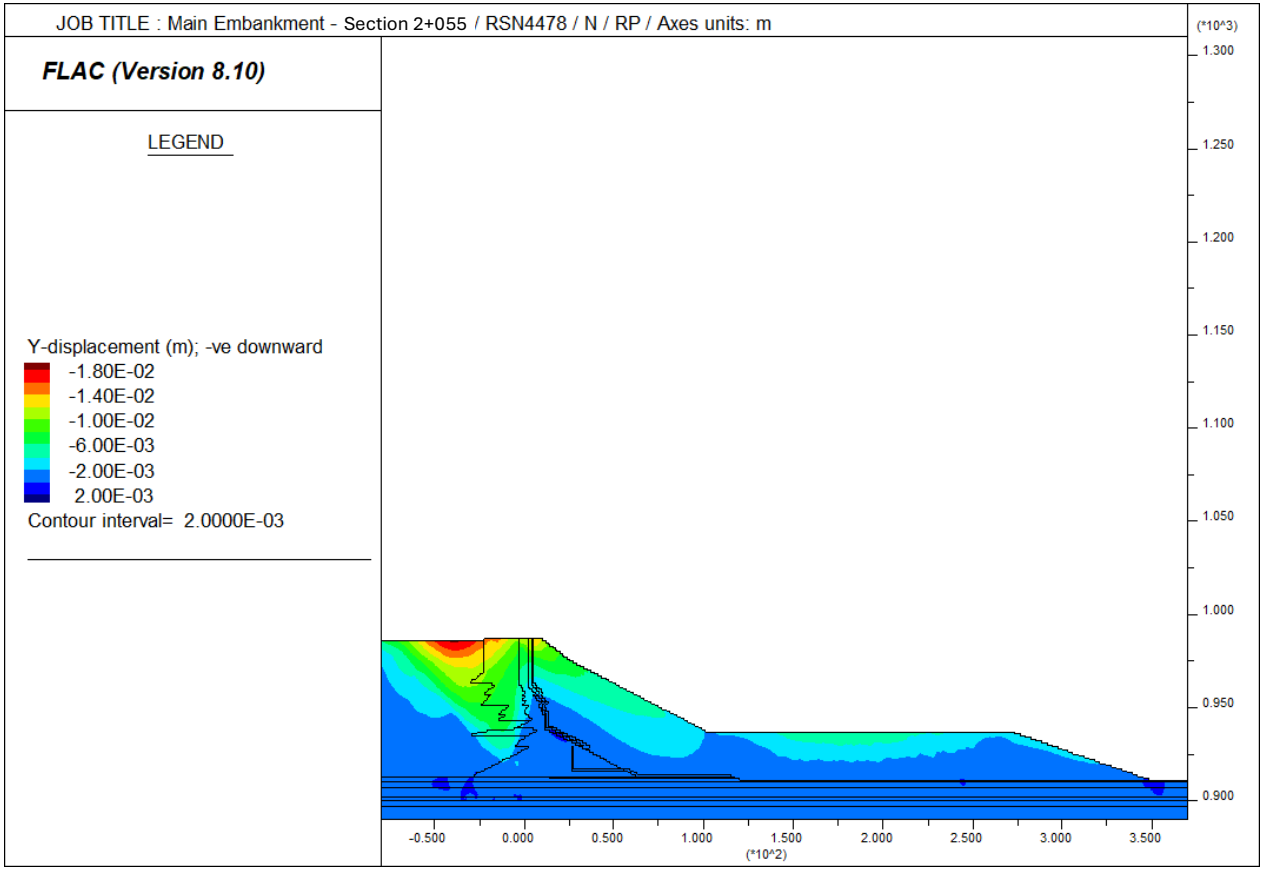

JOB TITLE : Main Embankment - Section 2+055 / RSN4478 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.60E-02
-1.40E-02
-1.20E-02
-1.00E-02
-8.00E-03
-6.00E-03
-4.00E-03
-2.00E-03
0.00E+00
2.00E-03
Contour interval= 2.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

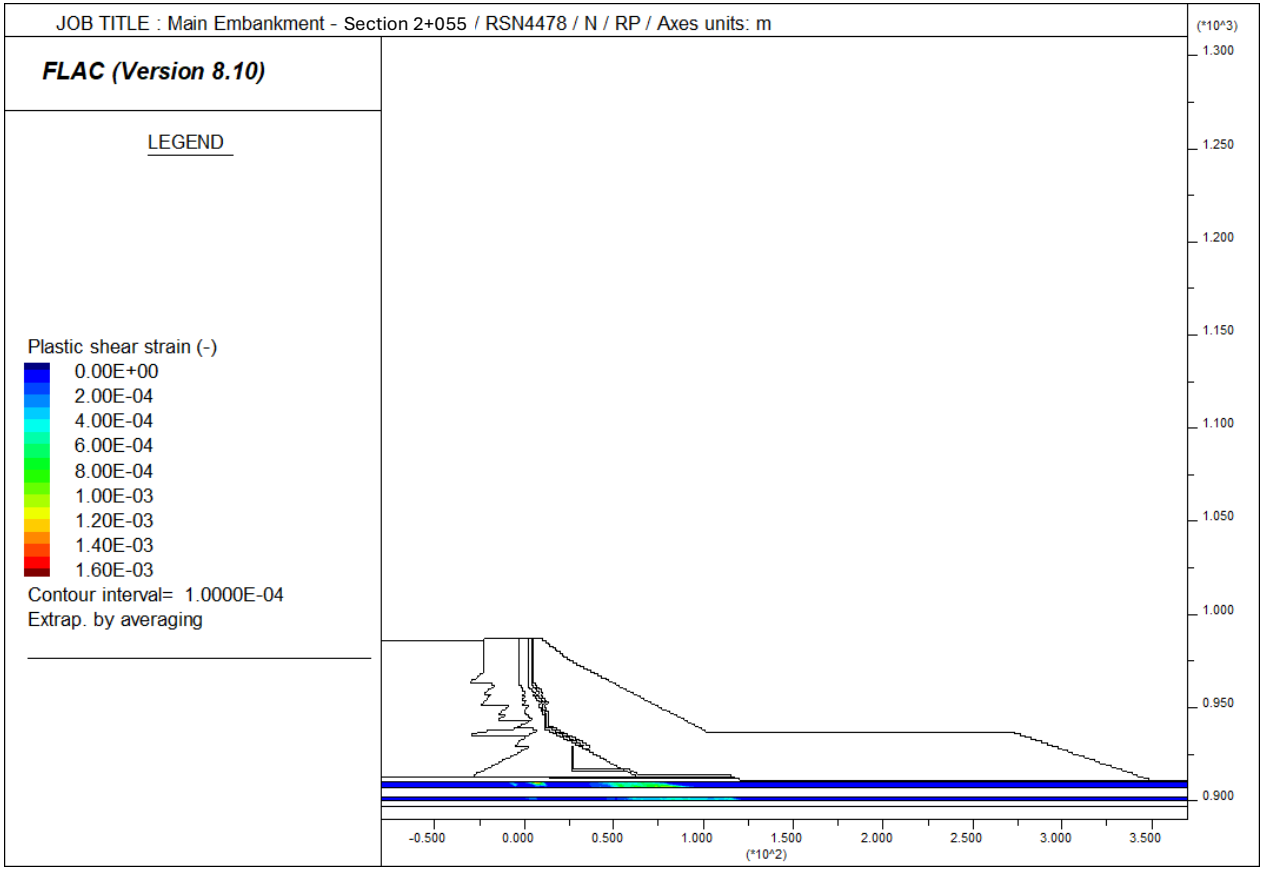

JOB TITLE : Main Embankment - Section 2+055 / RSN4478 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-04
8.00E-04
1.20E-03
1.60E-03
2.00E-03
Contour interval= 2.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

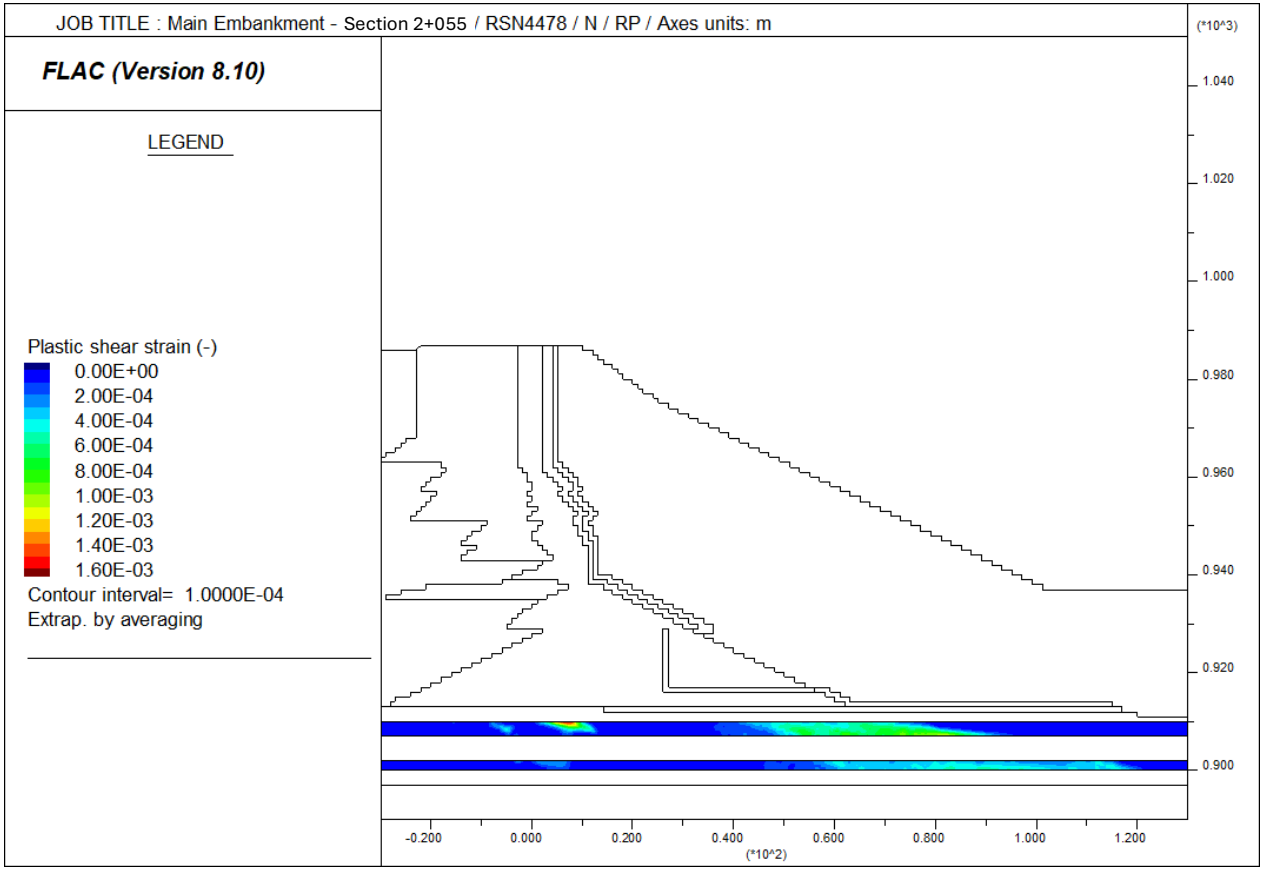

JOB TITLE : Main Embankment - Section 2+055 / RSN4478 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-04
8.00E-04
1.20E-03
1.60E-03
2.00E-03
Contour interval= 2.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

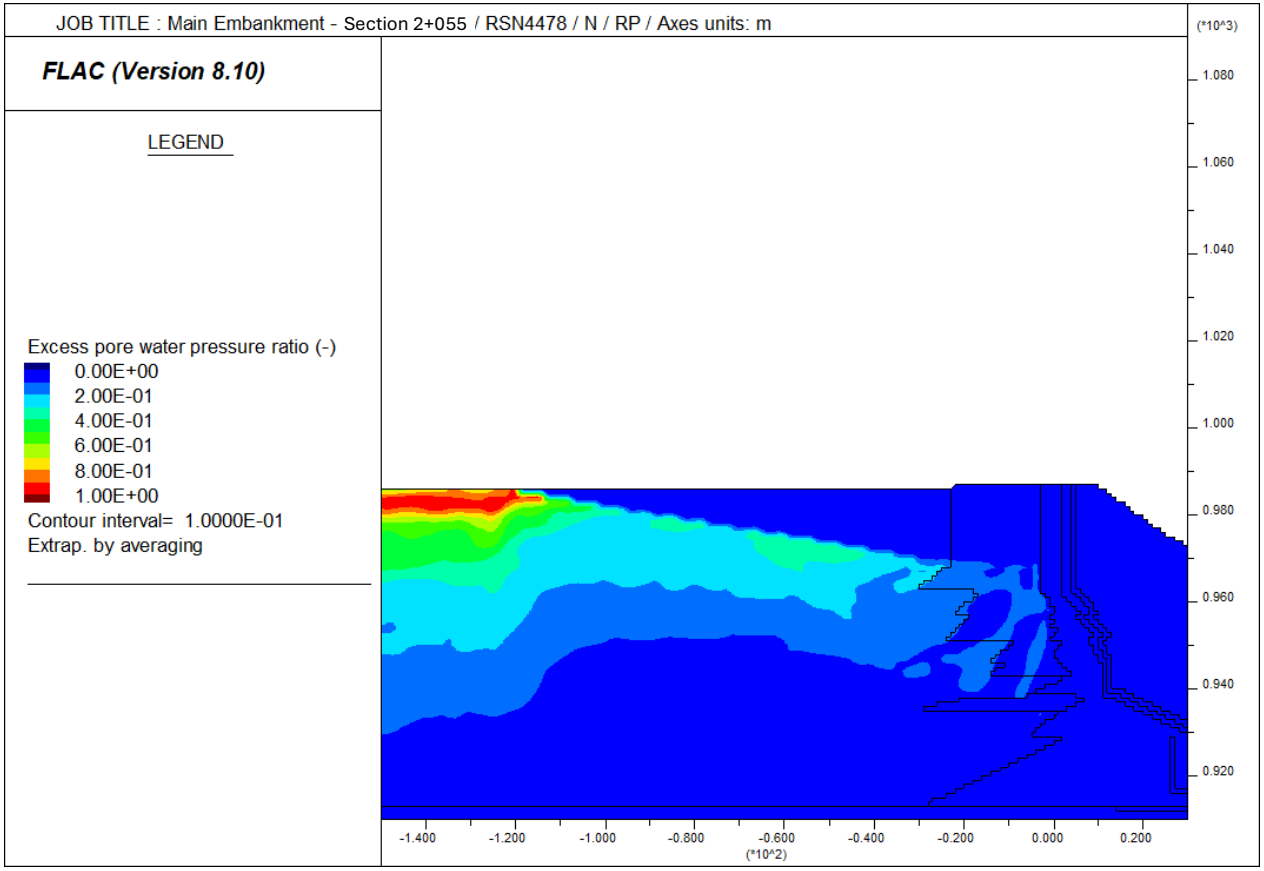

JOB TITLE : Main Embankment - Section 2+055 / RSN4478 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

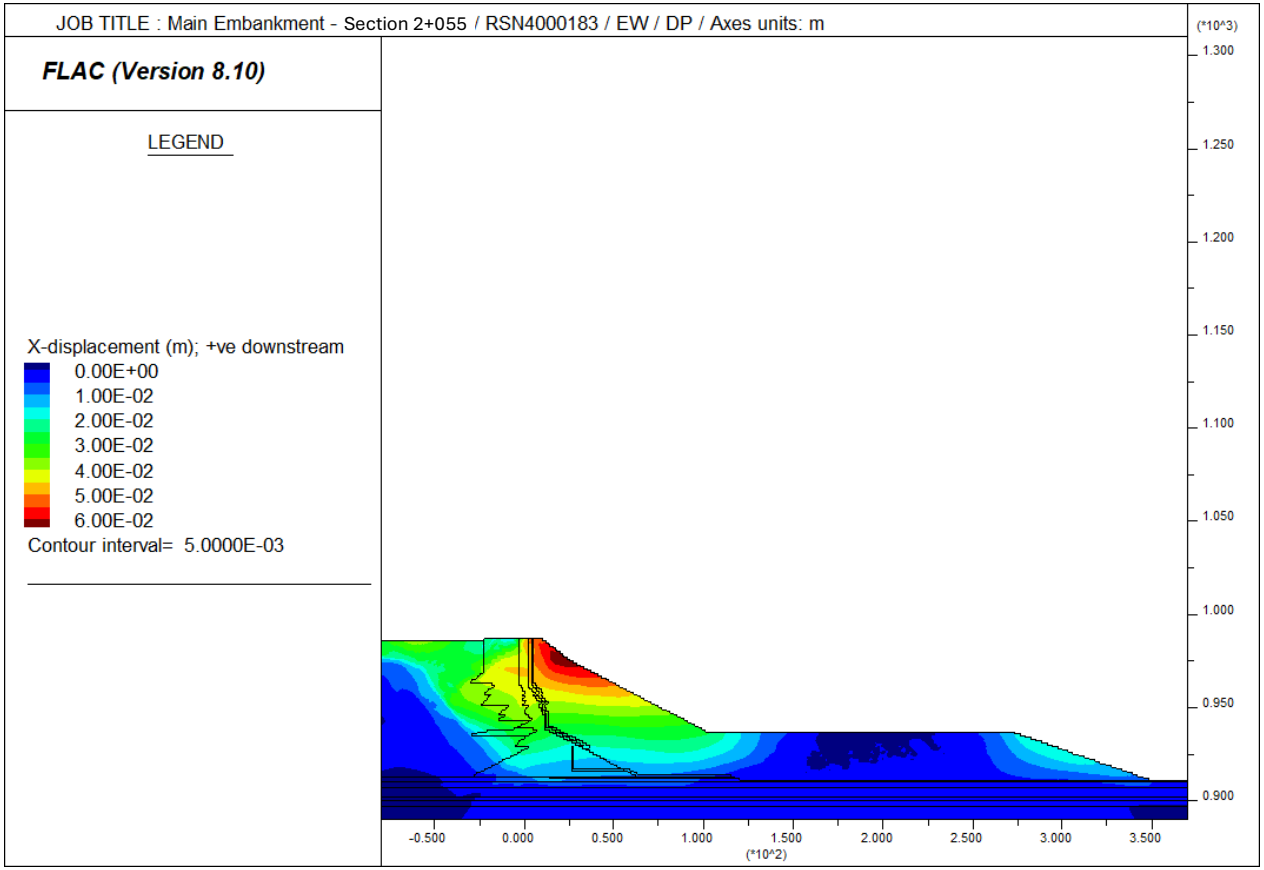

JOB TITLE : Main Embankment - Section 2+055 / RSN4478 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
1.60E-02
Contour interval= 1.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

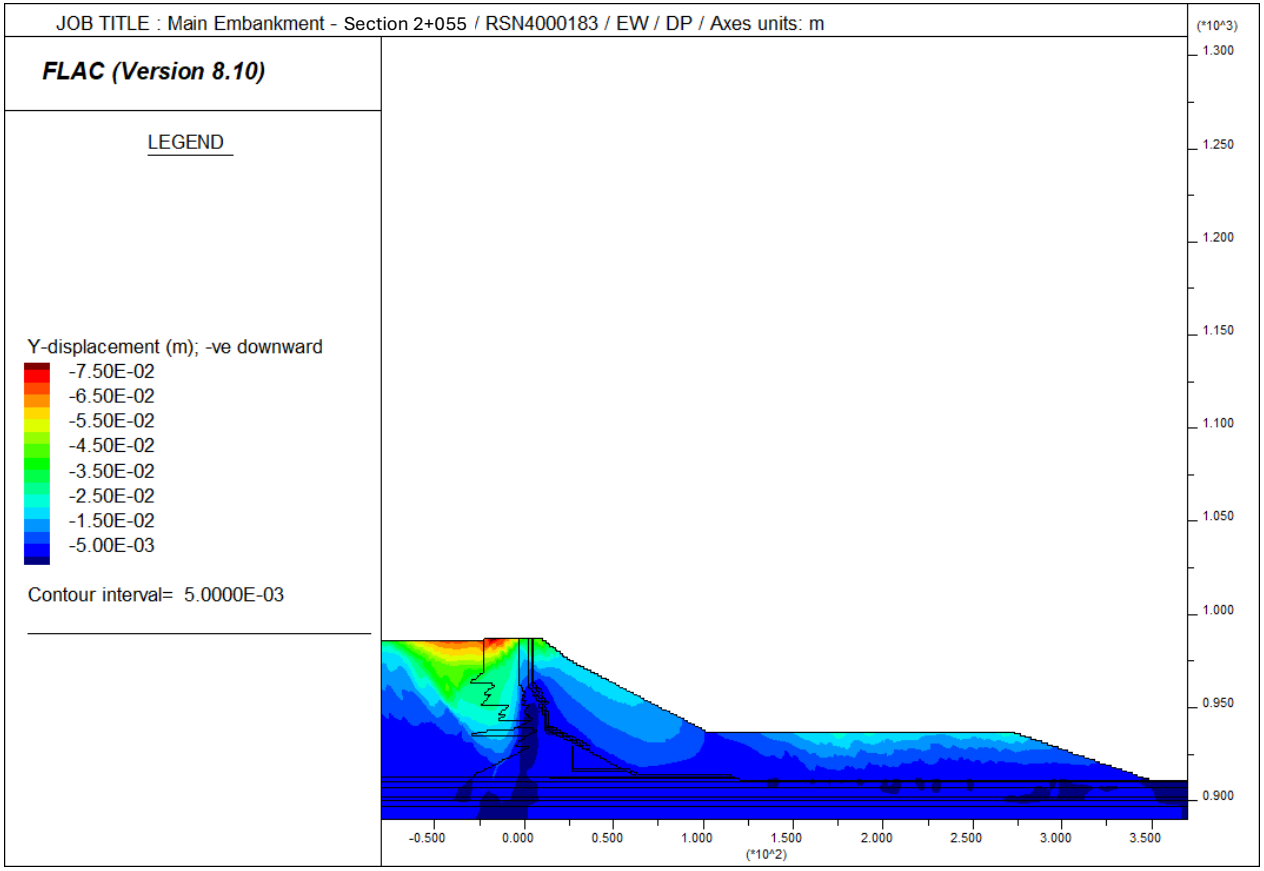

JOB TITLE : Main Embankment - Section 2+055 / RSN4478 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.80E-02
-1.40E-02
-1.00E-02
-6.00E-03
-2.00E-03
2.00E-03
Contour interval= 2.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

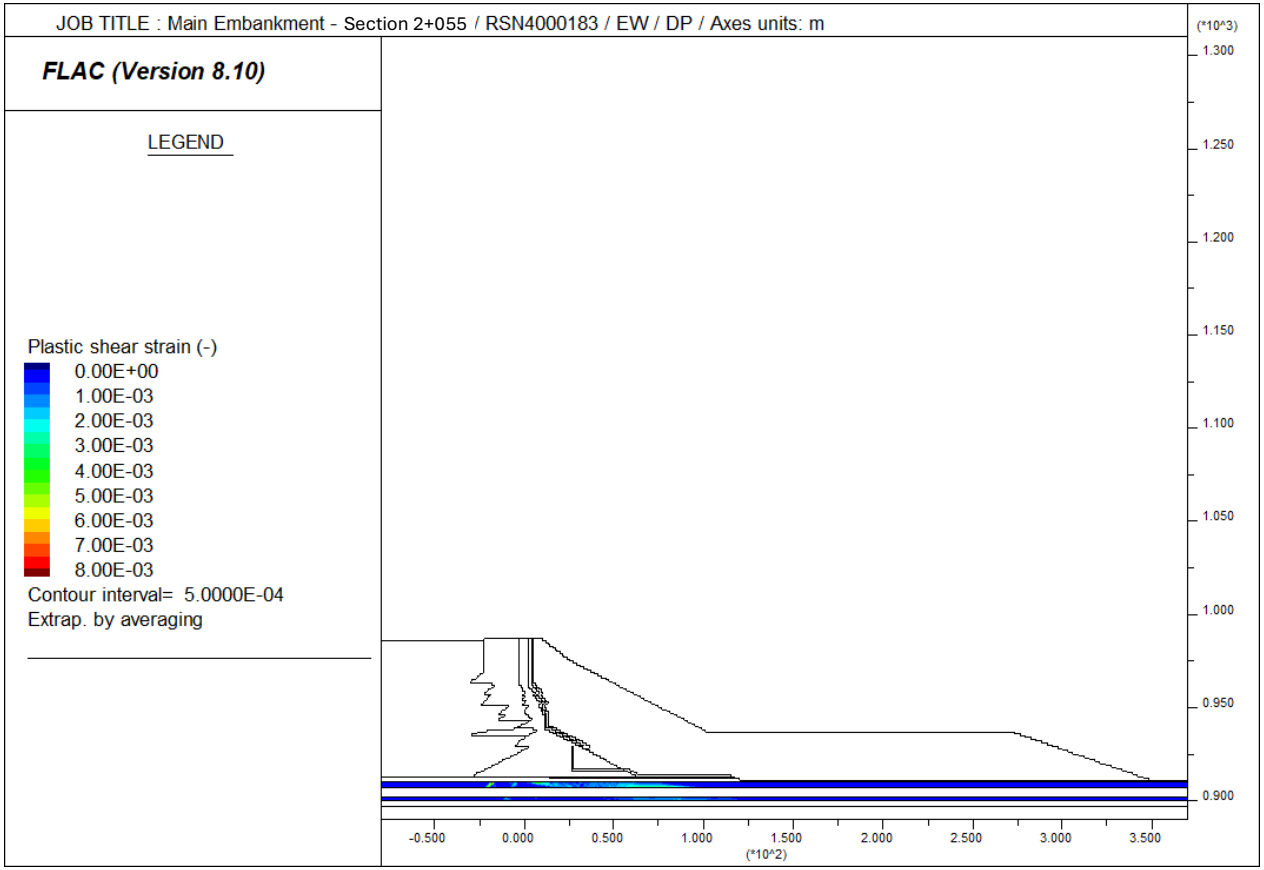

JOB TITLE : Main Embankment - Section 2+055 / RSN4478 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

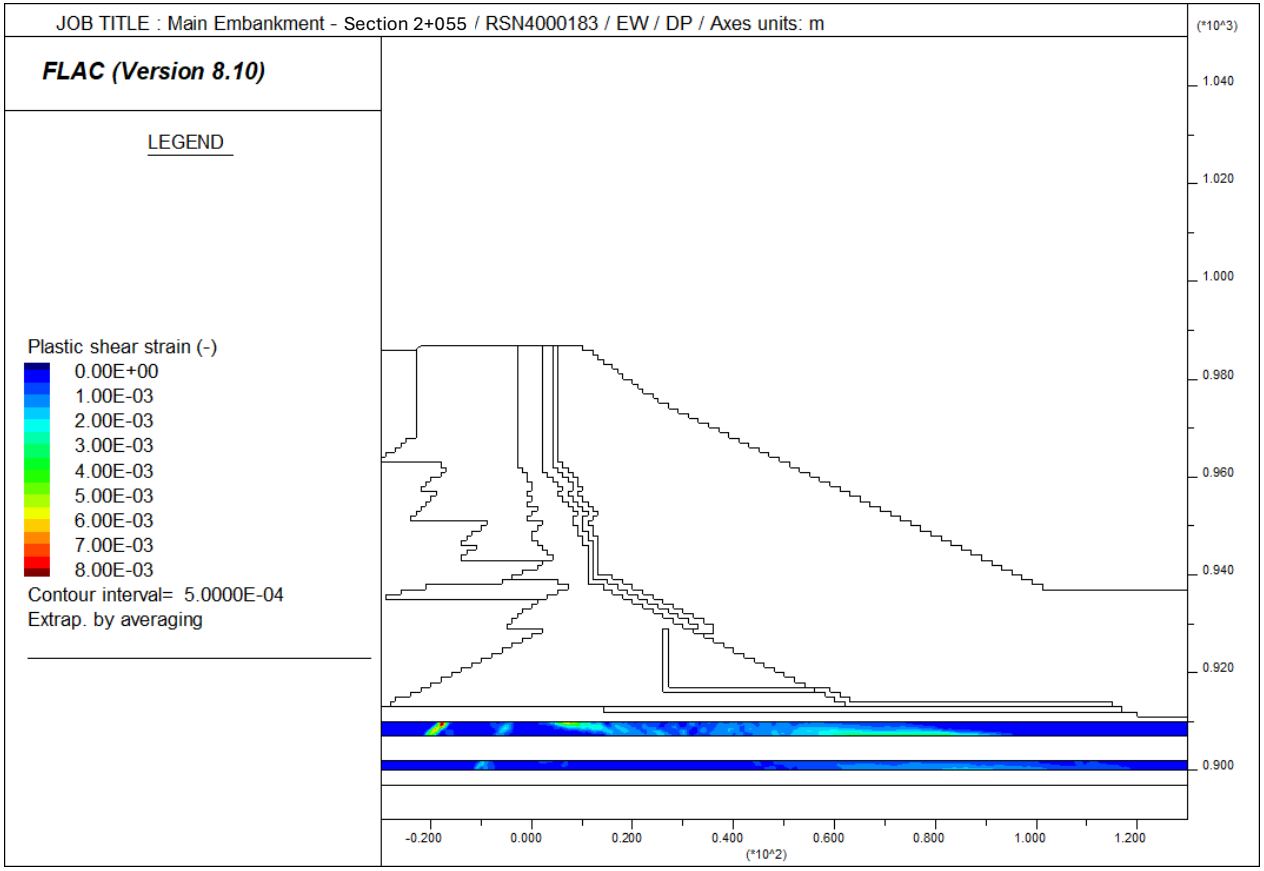

JOB TITLE : Main Embankment - Section 2+055 / RSN4478 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

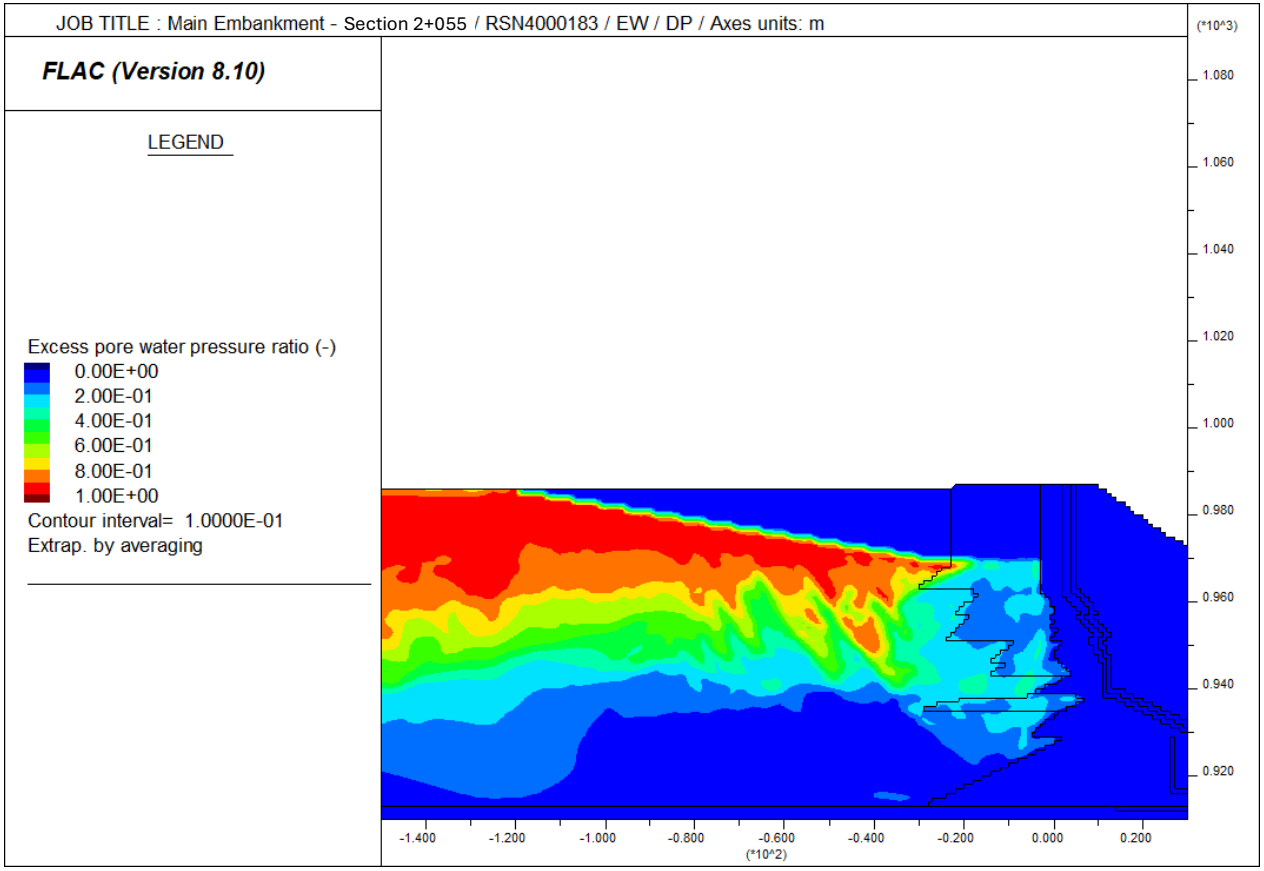

JOB TITLE : Main Embankment - Section 2+055 / RSN4478 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

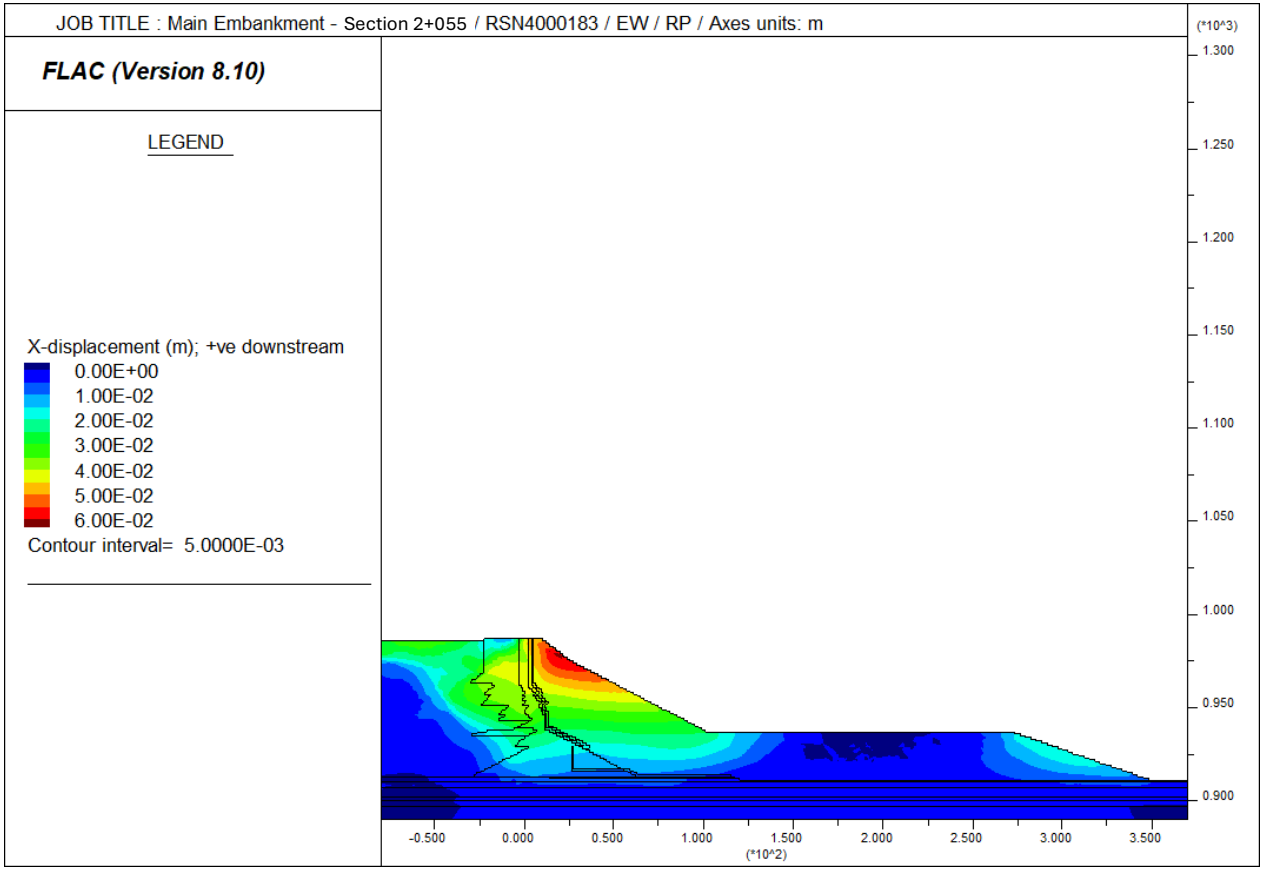

JOB TITLE : Main Embankment - Section 2+055 / RSN4000183 / EW / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
1.00E-02
2.00E-02
3.00E-02
4.00E-02
5.00E-02
6.00E-02
Contour interval= 5.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

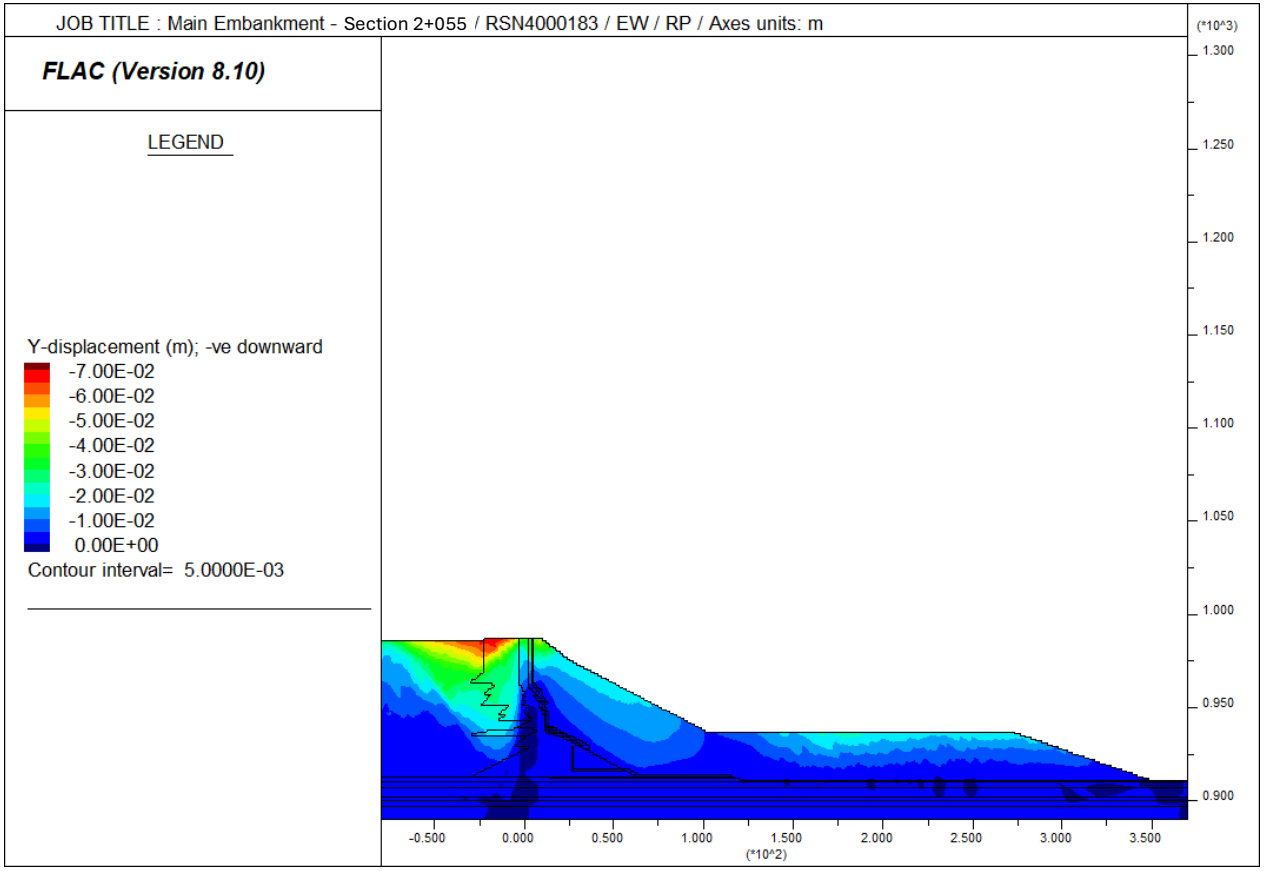

JOB TITLE : Main Embankment - Section 2+055 / RSN4000183 / EW / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-7.50E-02
-6.50E-02
-5.50E-02
-4.50E-02
-3.50E-02
-2.50E-02
-1.50E-02
-5.00E-03
Contour interval= 5.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

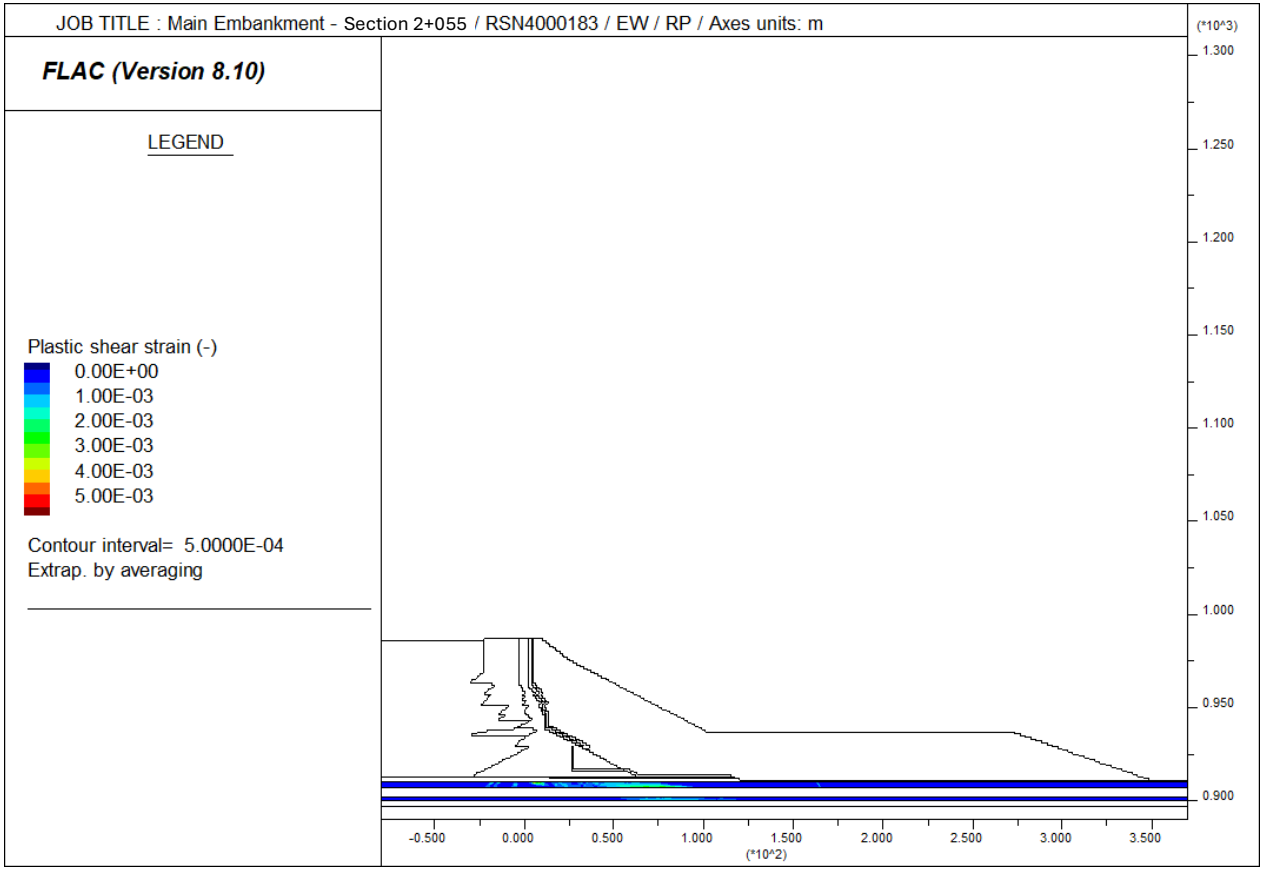

JOB TITLE : Main Embankment - Section 2+055 / RSN4000183 / EW / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-03
2.00E-03
3.00E-03
4.00E-03
5.00E-03
6.00E-03
7.00E-03
8.00E-03
Contour interval= 5.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

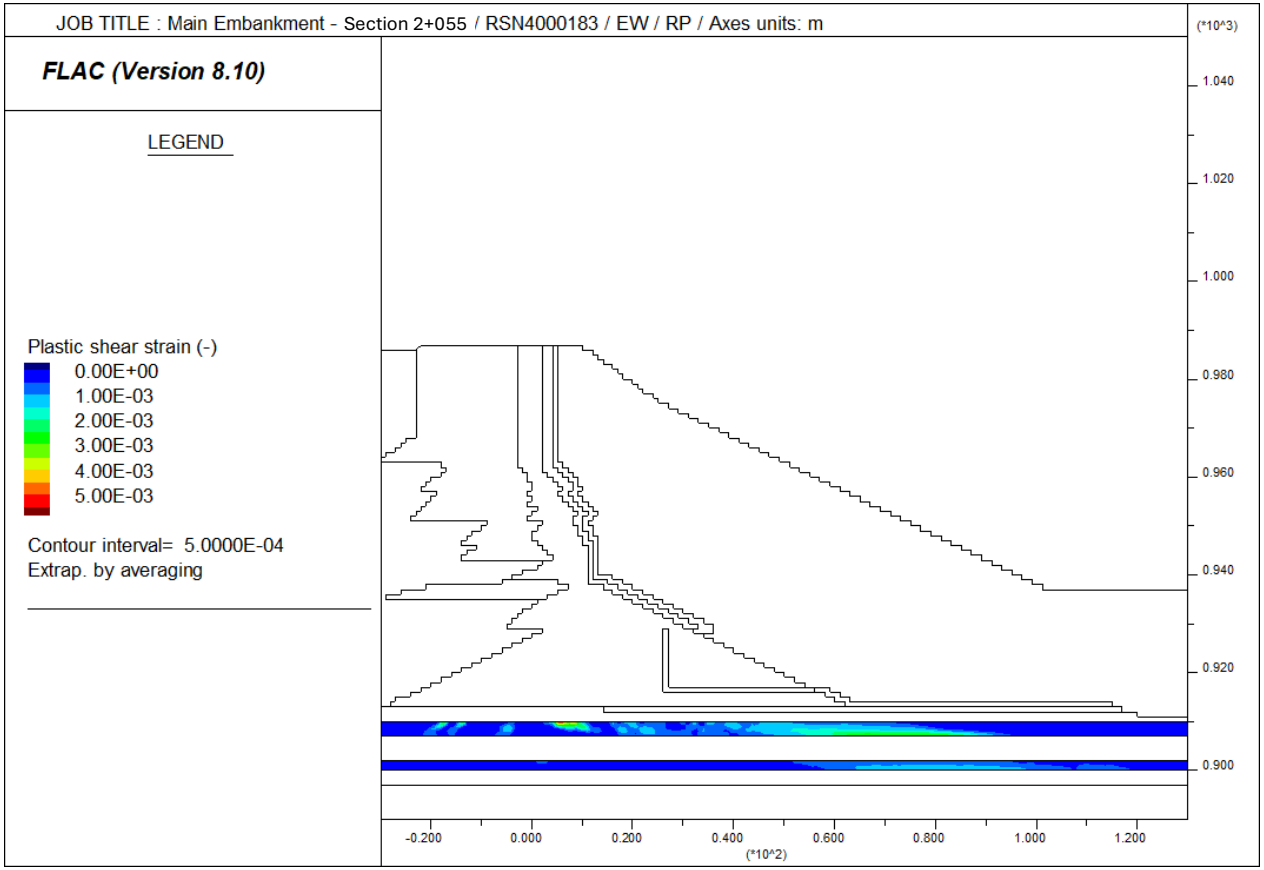

JOB TITLE : Main Embankment - Section 2+055 / RSN4000183 / EW / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-03
2.00E-03
3.00E-03
4.00E-03
5.00E-03
6.00E-03
7.00E-03
8.00E-03
Contour interval= 5.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

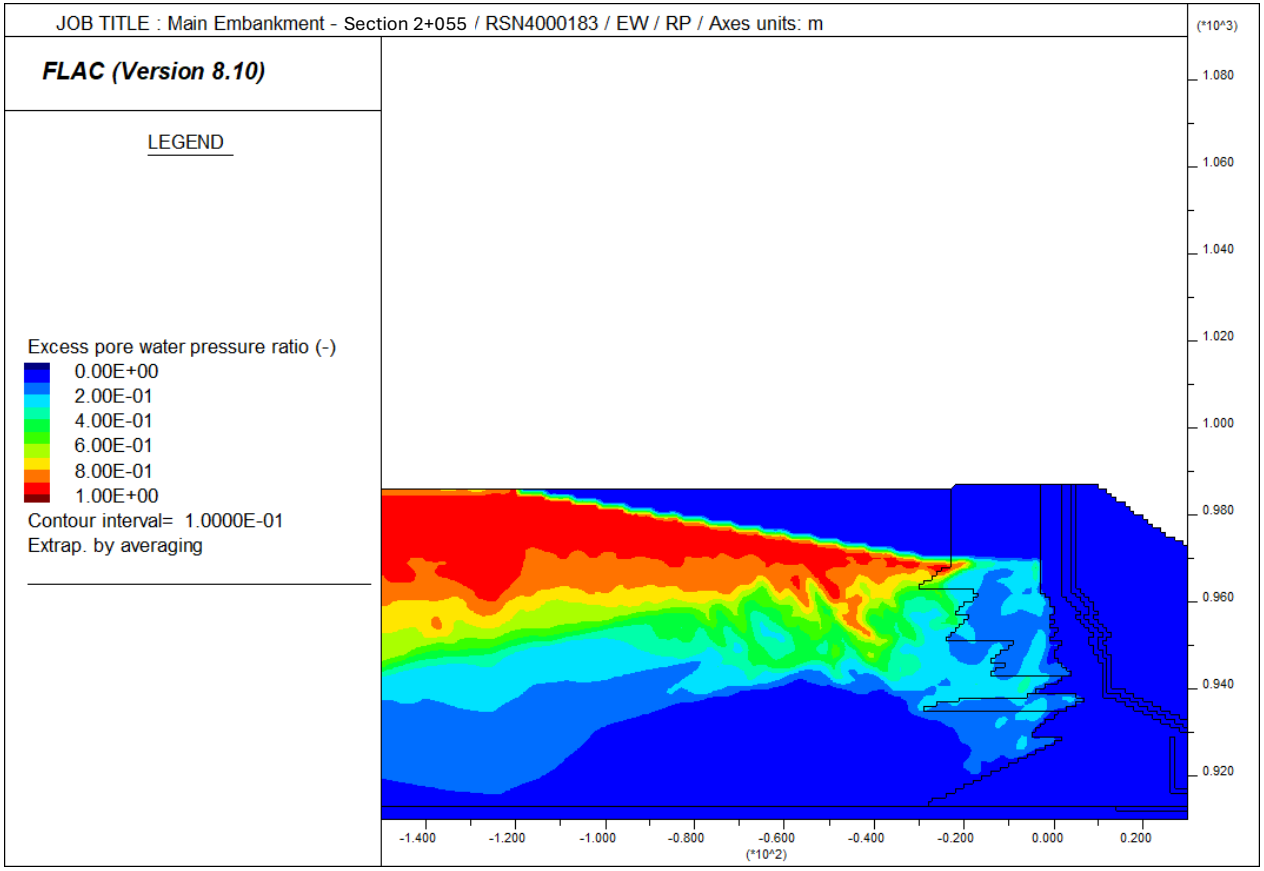

JOB TITLE : Main Embankment - Section 2+055 / RSN4000183 / EW / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

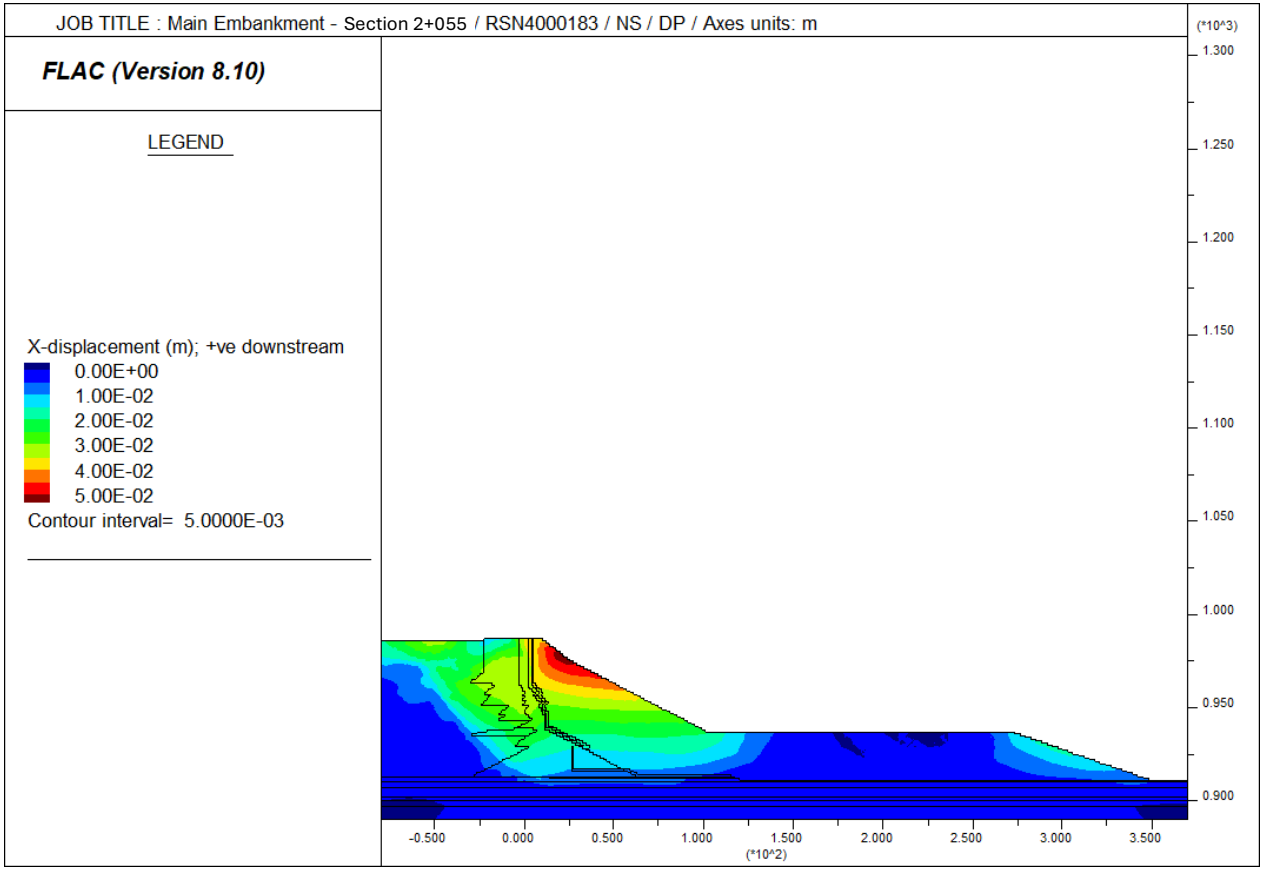

JOB TITLE : Main Embankment - Section 2+055 / RSN4000183 / EW / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
1.00E-02
2.00E-02
3.00E-02
4.00E-02
5.00E-02
6.00E-02
Contour interval= 5.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

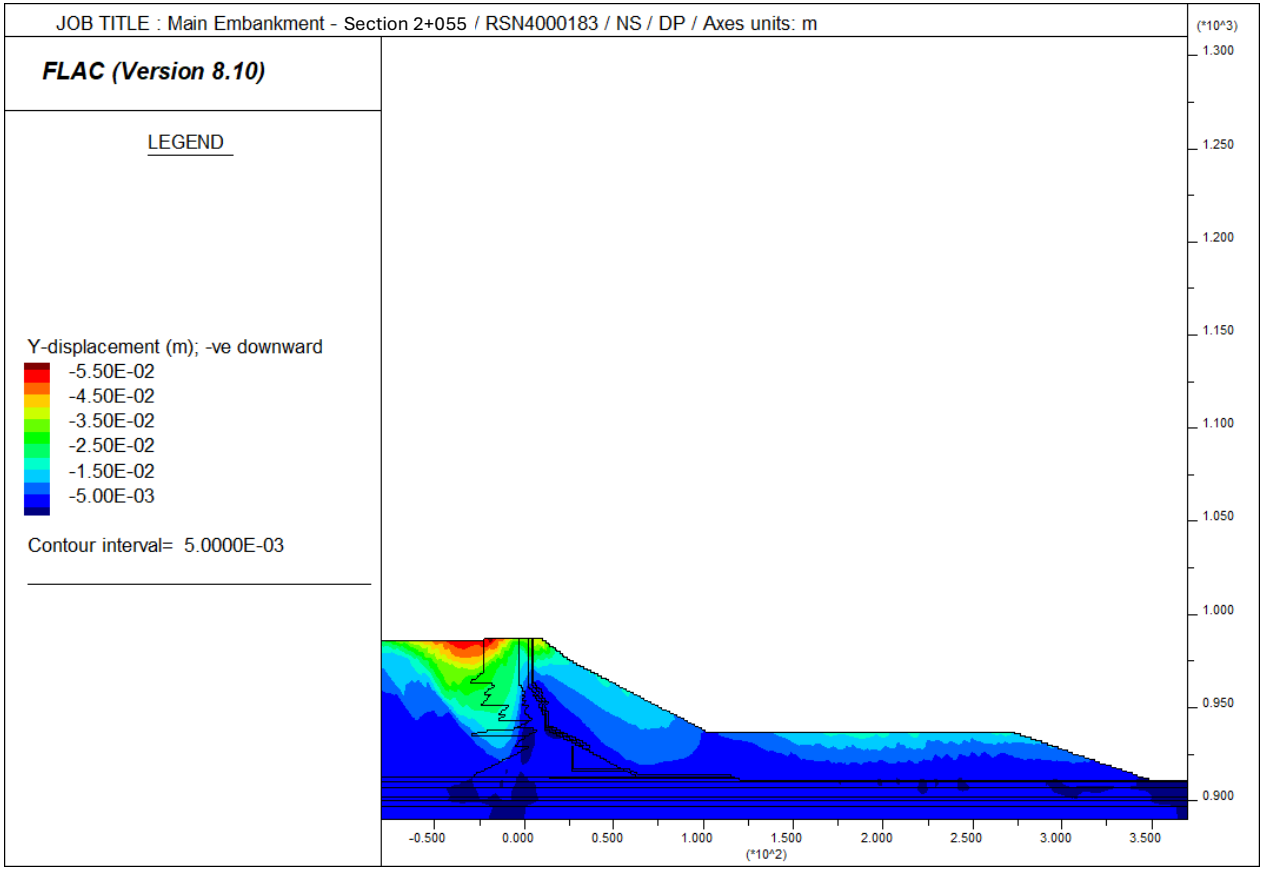

JOB TITLE : Main Embankment - Section 2+055 / RSN4000183 / EW / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-7.00E-02
-6.00E-02
-5.00E-02
-4.00E-02
-3.00E-02
-2.00E-02
-1.00E-02
0.00E+00
Contour interval= 5.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

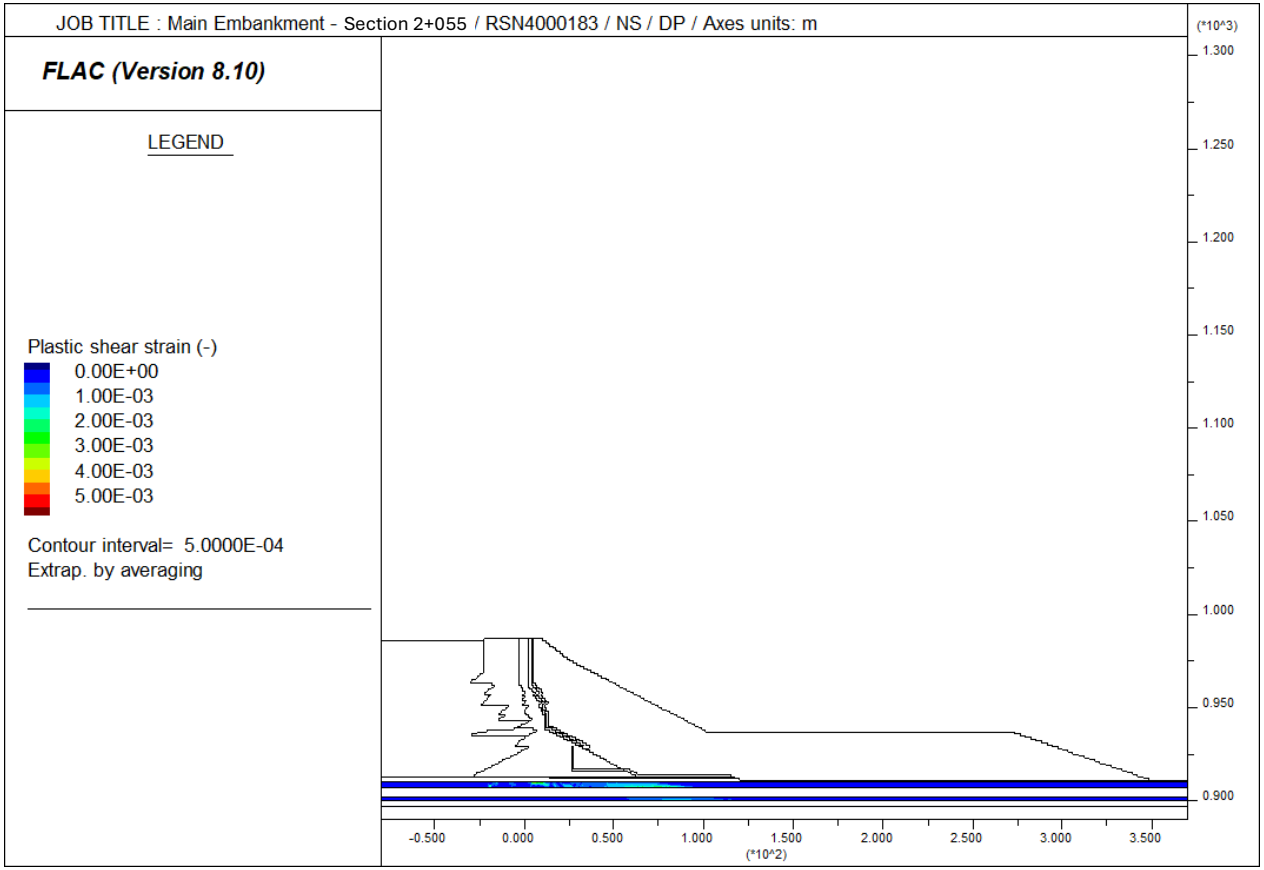

JOB TITLE : Main Embankment - Section 2+055 / RSN4000183 / EW / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-03
2.00E-03
3.00E-03
4.00E-03
5.00E-03
Contour interval= 5.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

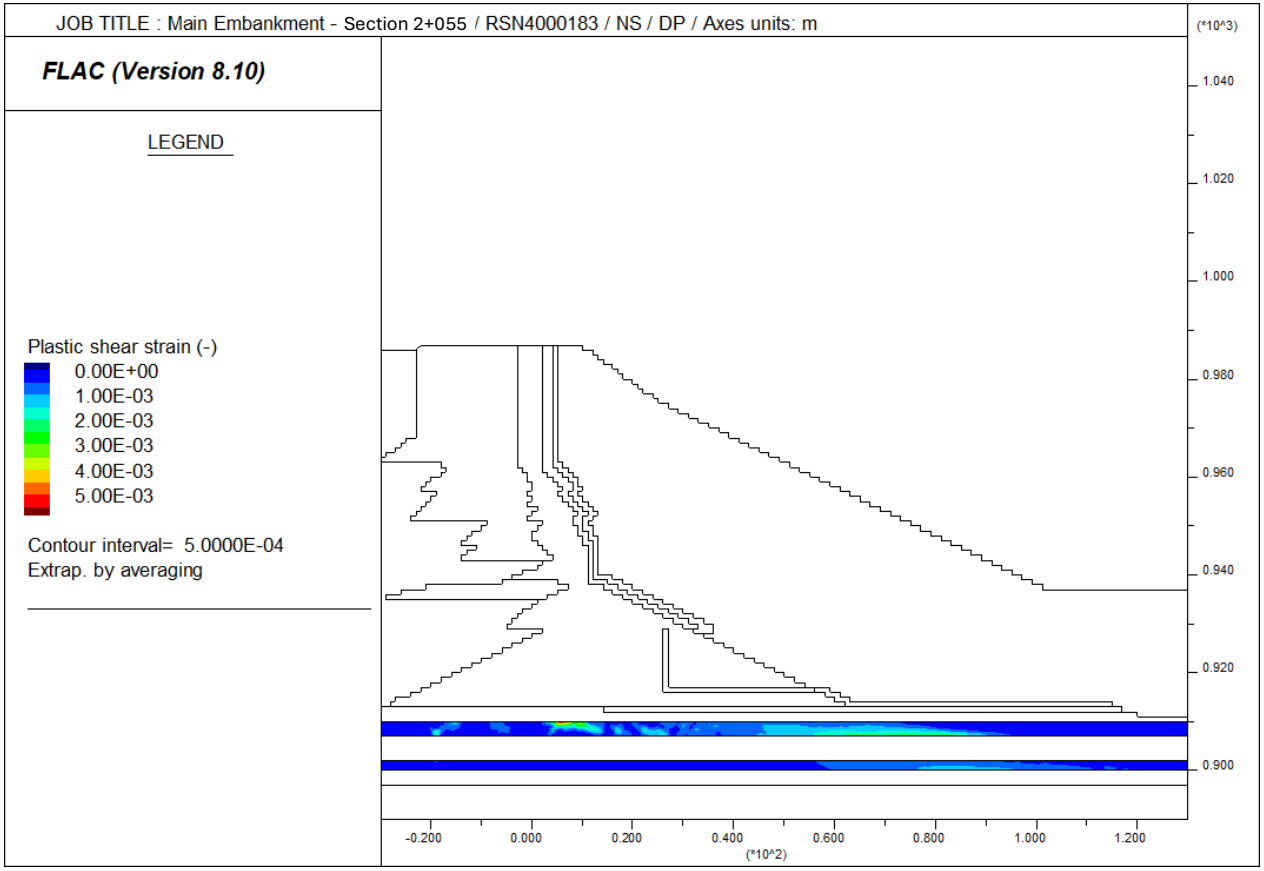

JOB TITLE : Main Embankment - Section 2+055 / RSN4000183 / EW / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-03
2.00E-03
3.00E-03
4.00E-03
5.00E-03
Contour interval= 5.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

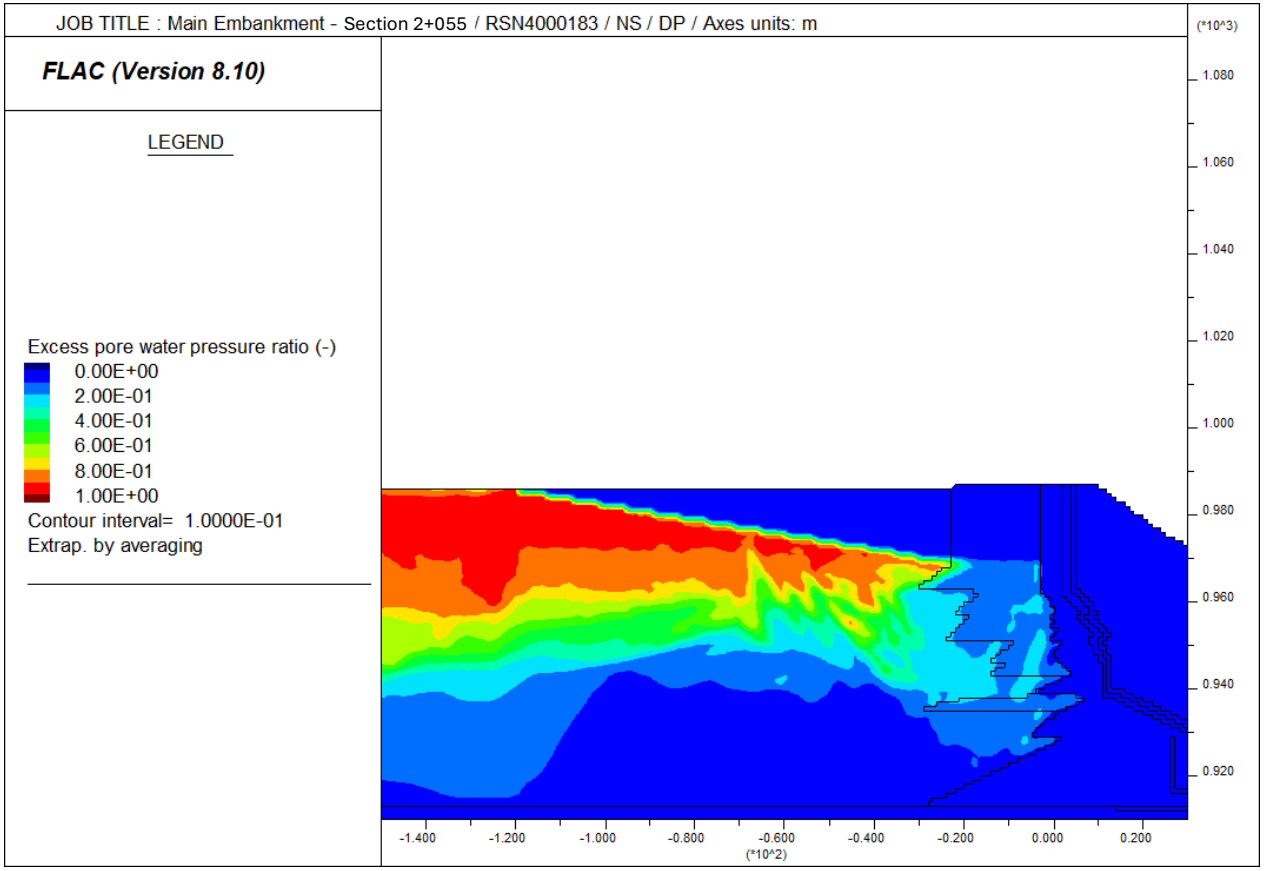

JOB TITLE : Main Embankment - Section 2+055 / RSN4000183 / EW / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

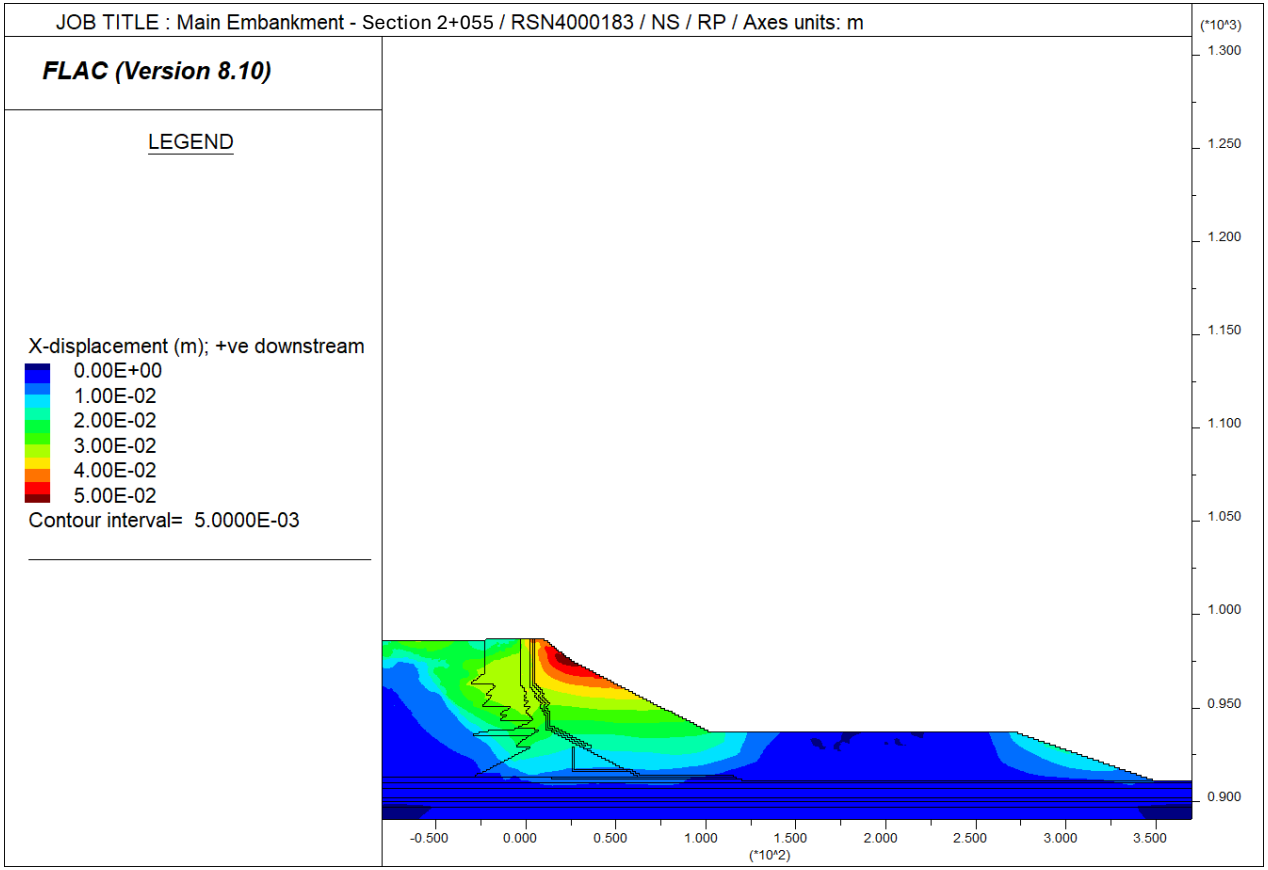

JOB TITLE : Main Embankment - Section 2+055 / RSN4000183 / NS / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
1.00E-02
2.00E-02
3.00E-02
4.00E-02
5.00E-02
Contour interval= 5.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

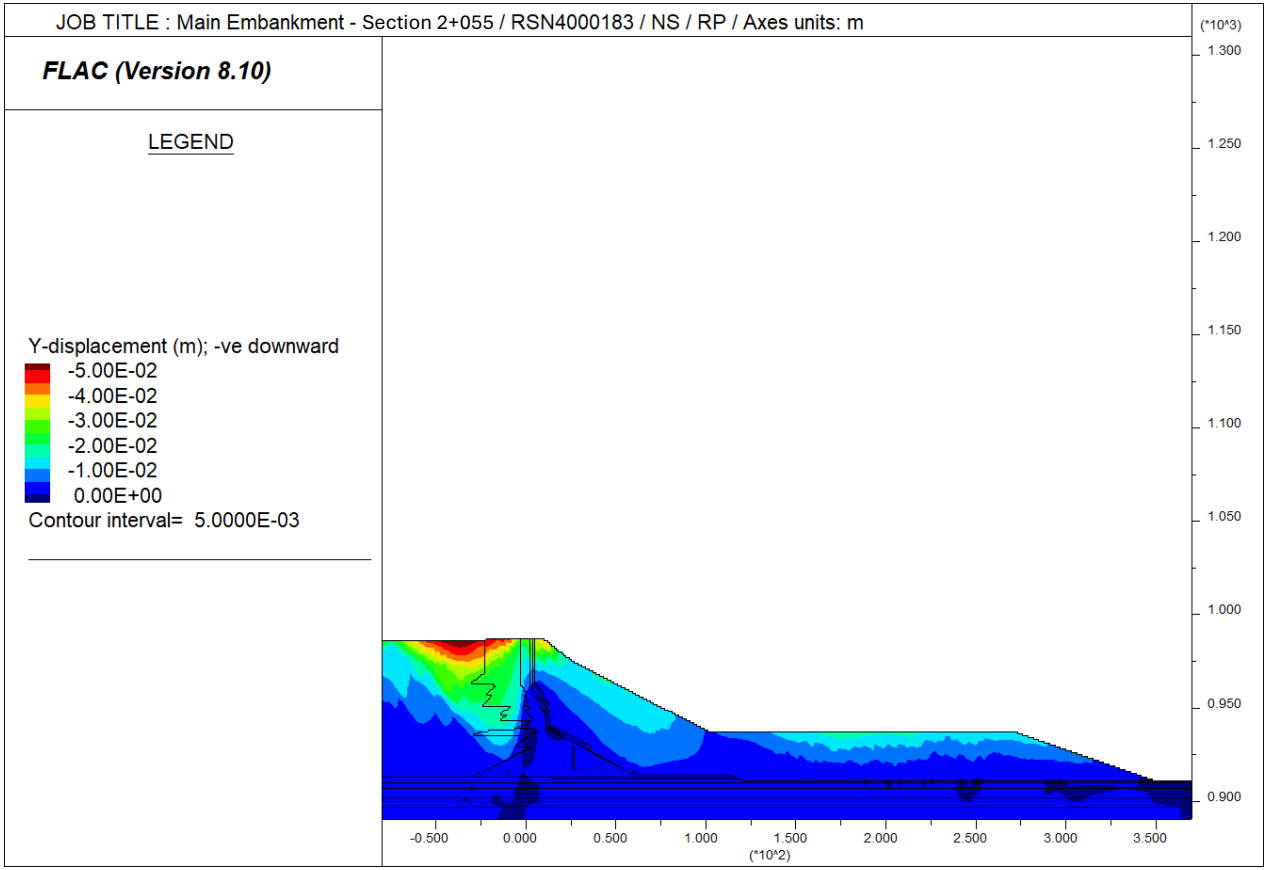

JOB TITLE : Main Embankment - Section 2+055 / RSN4000183 / NS / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-5.50E-02
-4.50E-02
-3.50E-02
-2.50E-02
-1.50E-02
-5.00E-03
Contour interval= 5.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

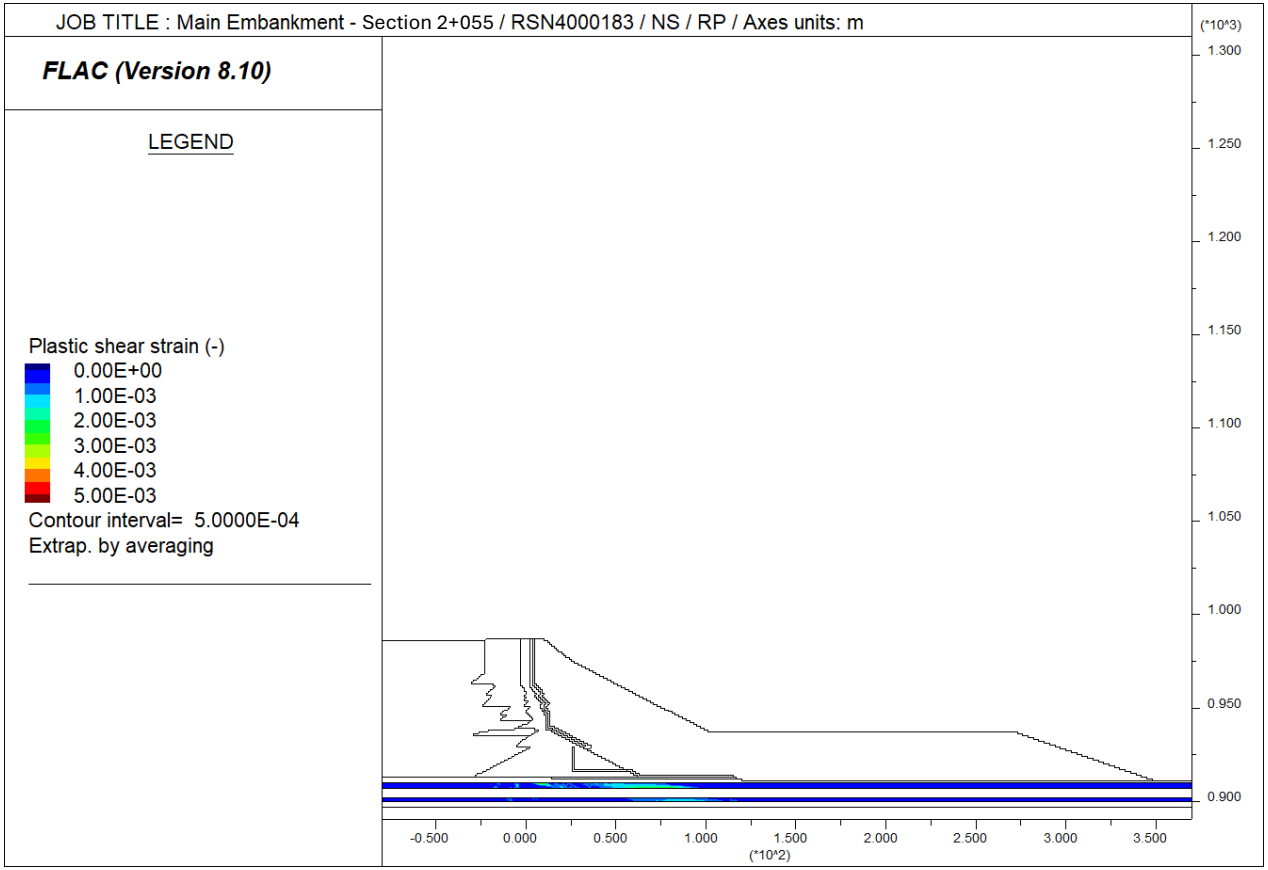

JOB TITLE : Main Embankment - Section 2+055 / RSN4000183 / NS / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-03
2.00E-03
3.00E-03
4.00E-03
5.00E-03
Contour interval= 5.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

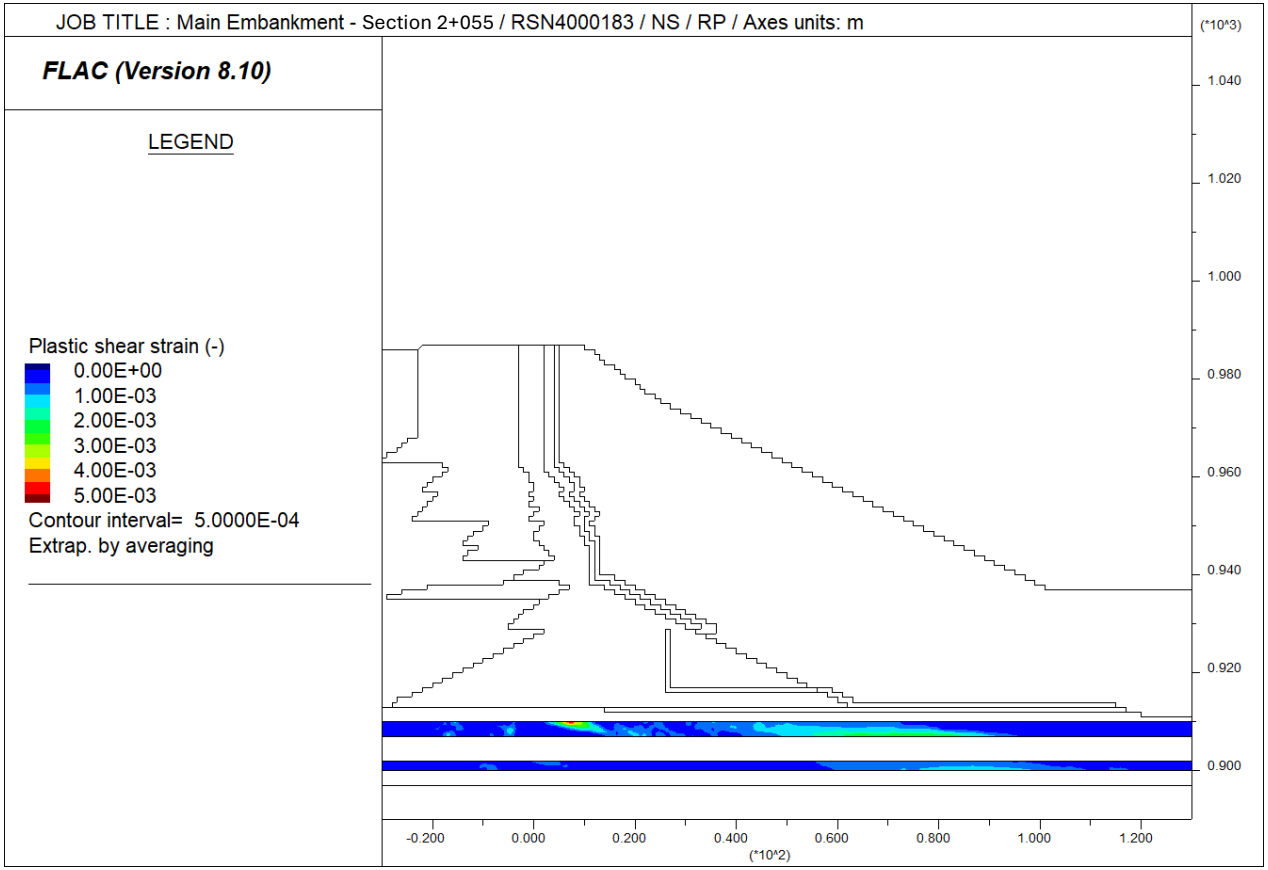

JOB TITLE : Main Embankment - Section 2+055 / RSN4000183 / NS / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-03
2.00E-03
3.00E-03
4.00E-03
5.00E-03
Contour interval= 5.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

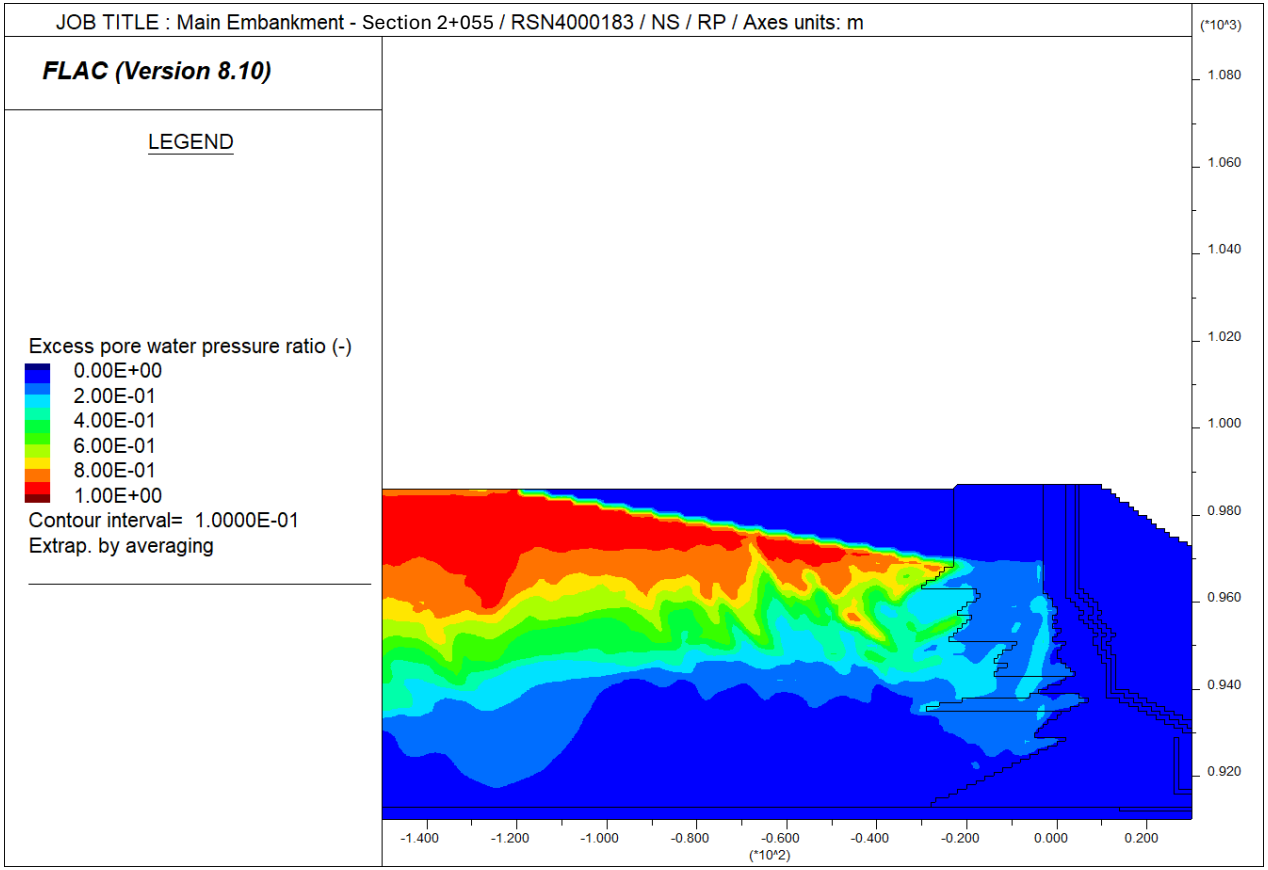

JOB TITLE : Main Embankment - Section 2+055 / RSN4000183 / NS / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

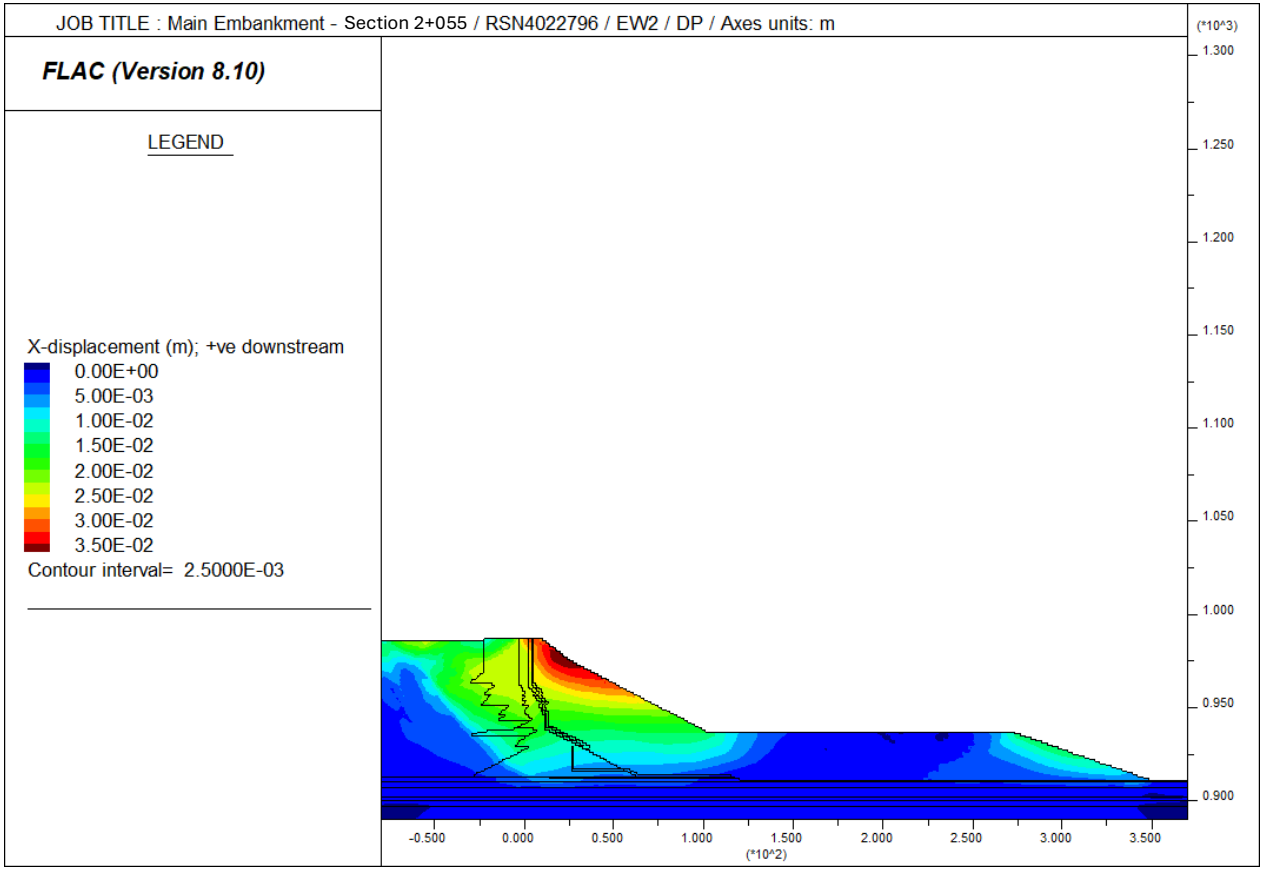

JOB TITLE : Main Embankment - Section 2+055 / RSN4000183 / NS / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
1.00E-02
2.00E-02
3.00E-02
4.00E-02
5.00E-02
Contour interval= 5.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

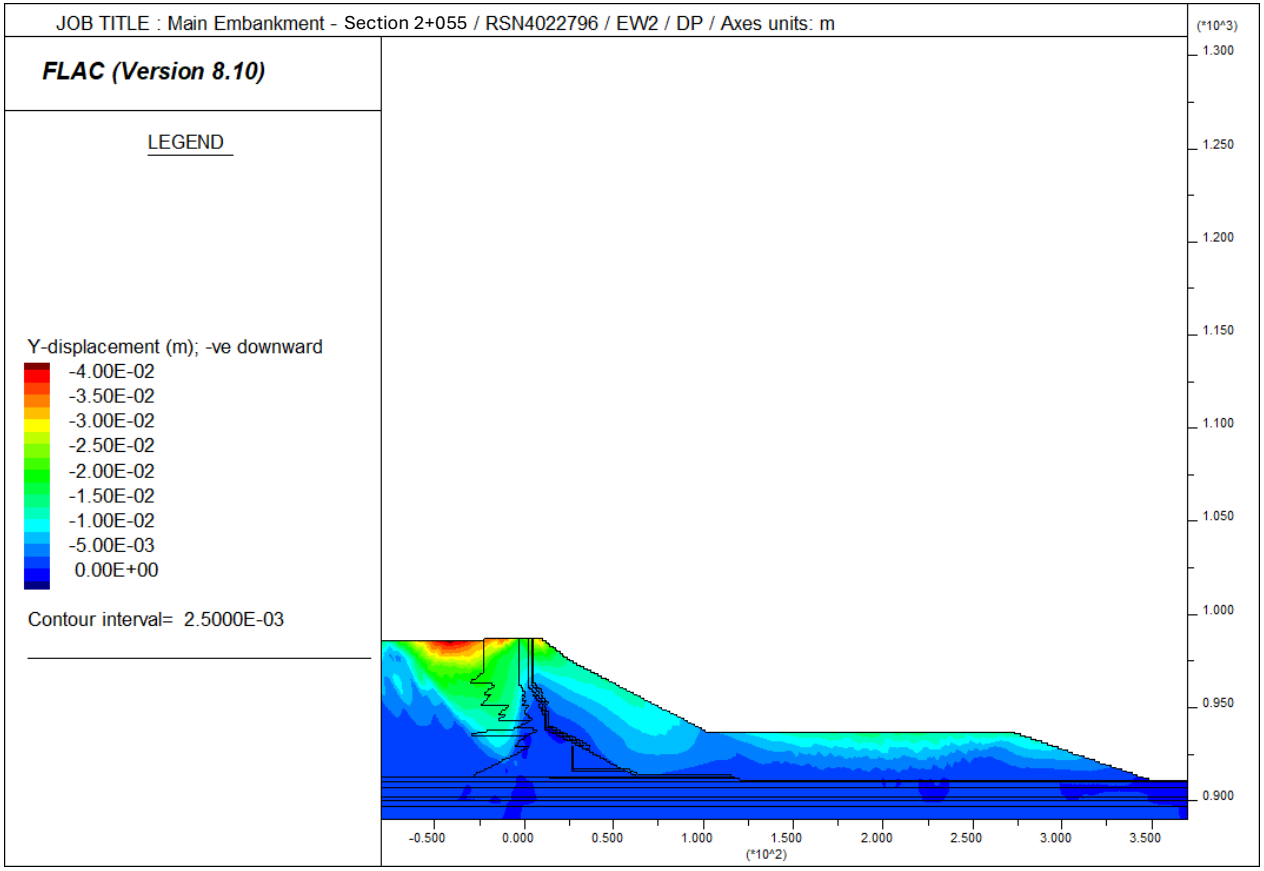

JOB TITLE : Main Embankment - Section 2+055 / RSN4000183 / NS / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-5.00E-02
-4.00E-02
-3.00E-02
-2.00E-02
-1.00E-02
0.00E+00
Contour interval= 5.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

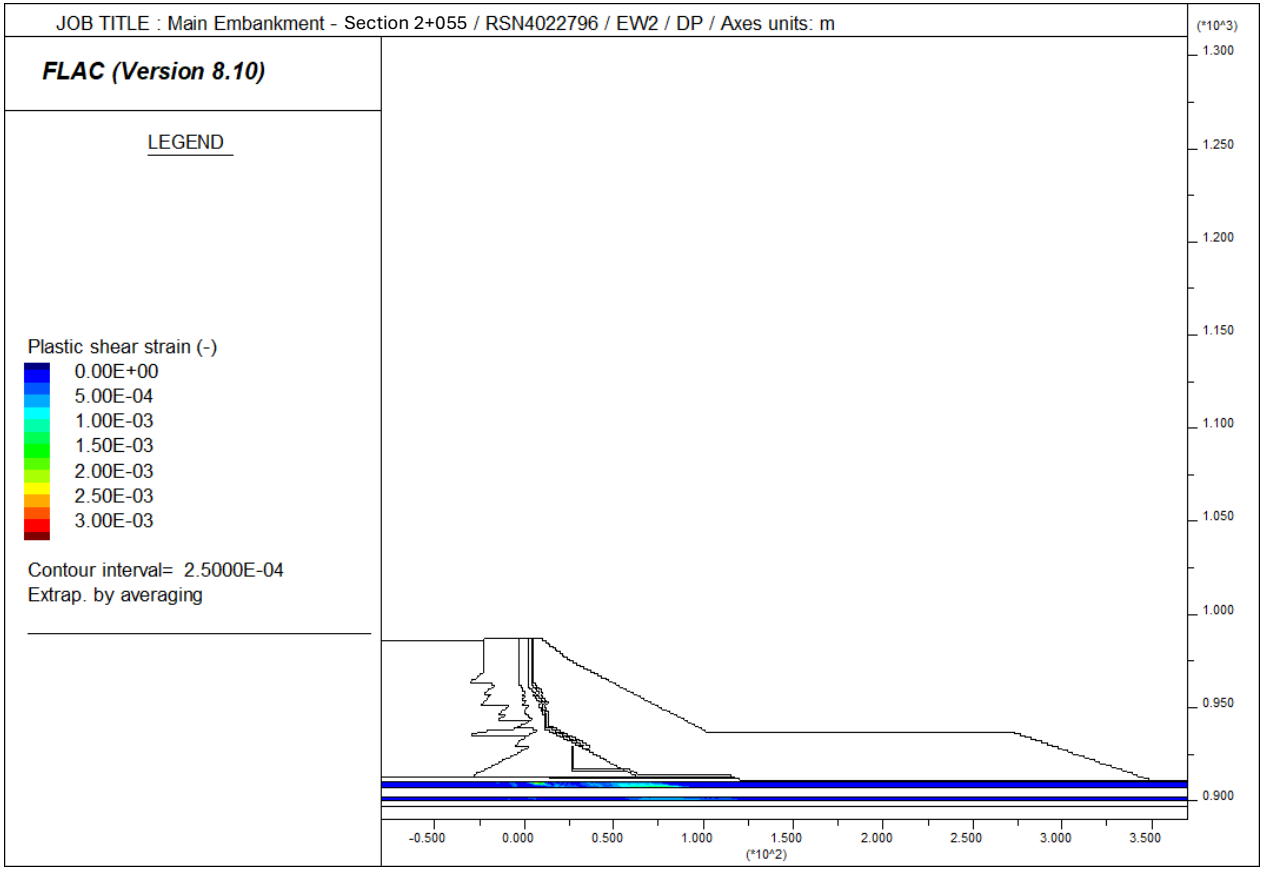

JOB TITLE : Main Embankment - Section 2+055 / RSN4000183 / NS / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-03
2.00E-03
3.00E-03
4.00E-03
5.00E-03
Contour interval= 5.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

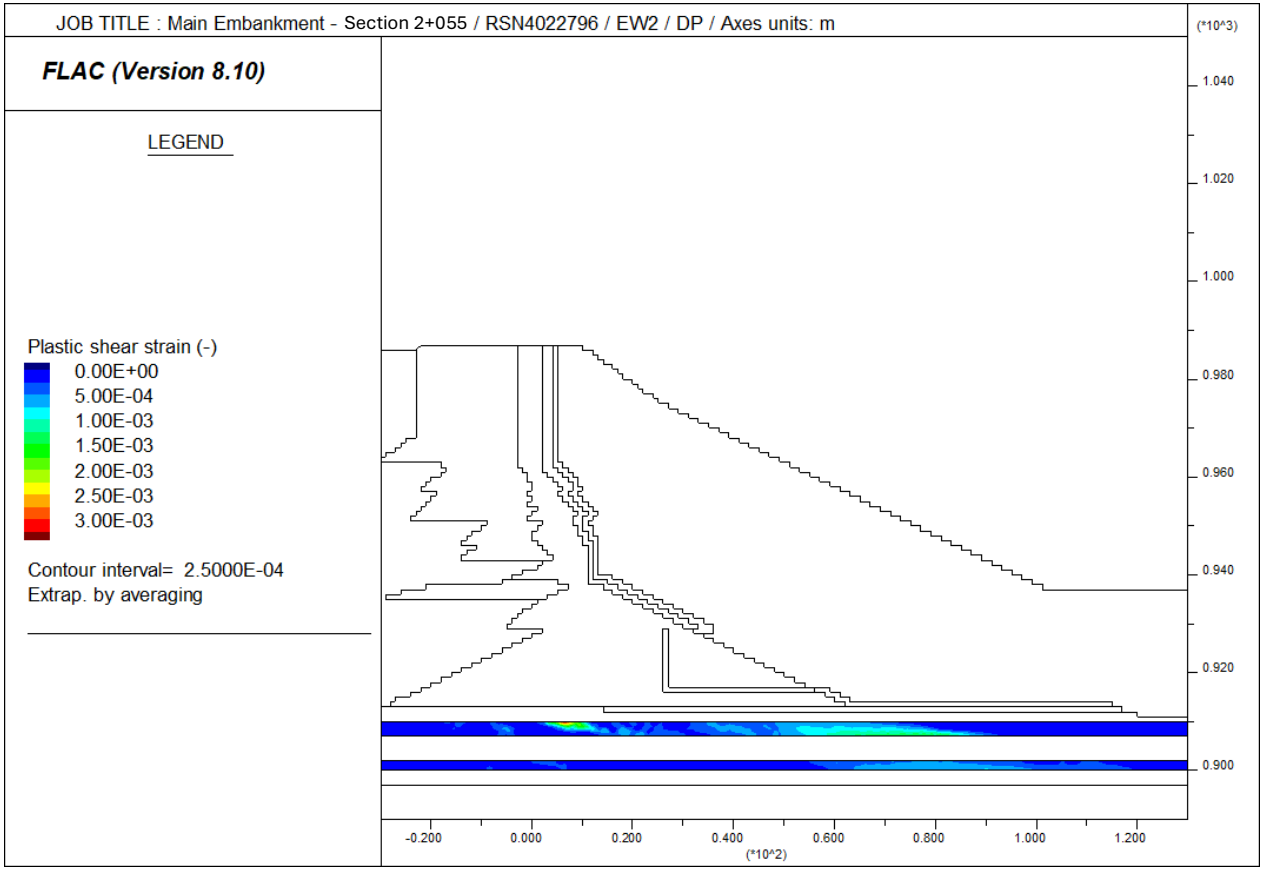

JOB TITLE : Main Embankment - Section 2+055 / RSN4000183 / NS / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-03
2.00E-03
3.00E-03
4.00E-03
5.00E-03
Contour interval= 5.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

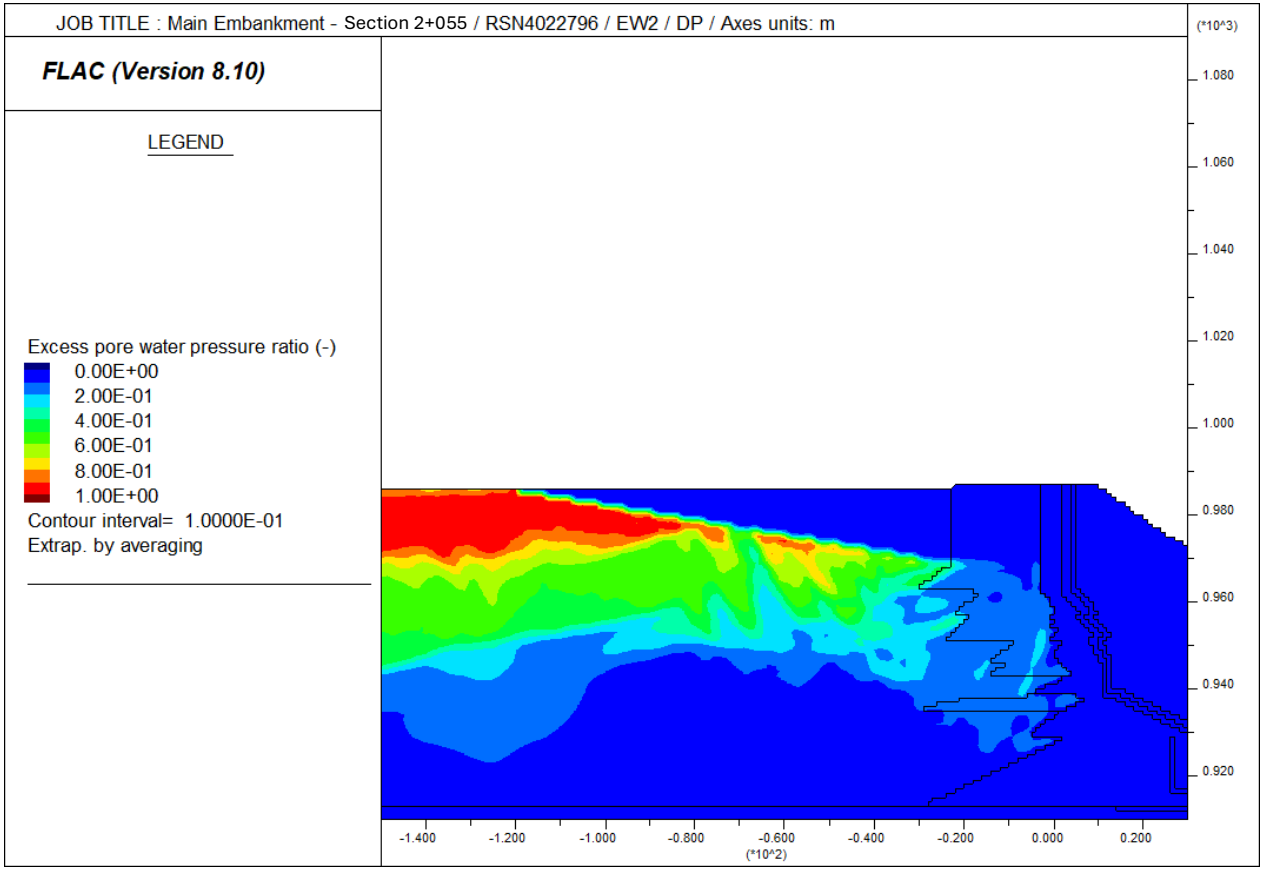

JOB TITLE : Main Embankment - Section 2+055 / RSN4000183 / NS / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

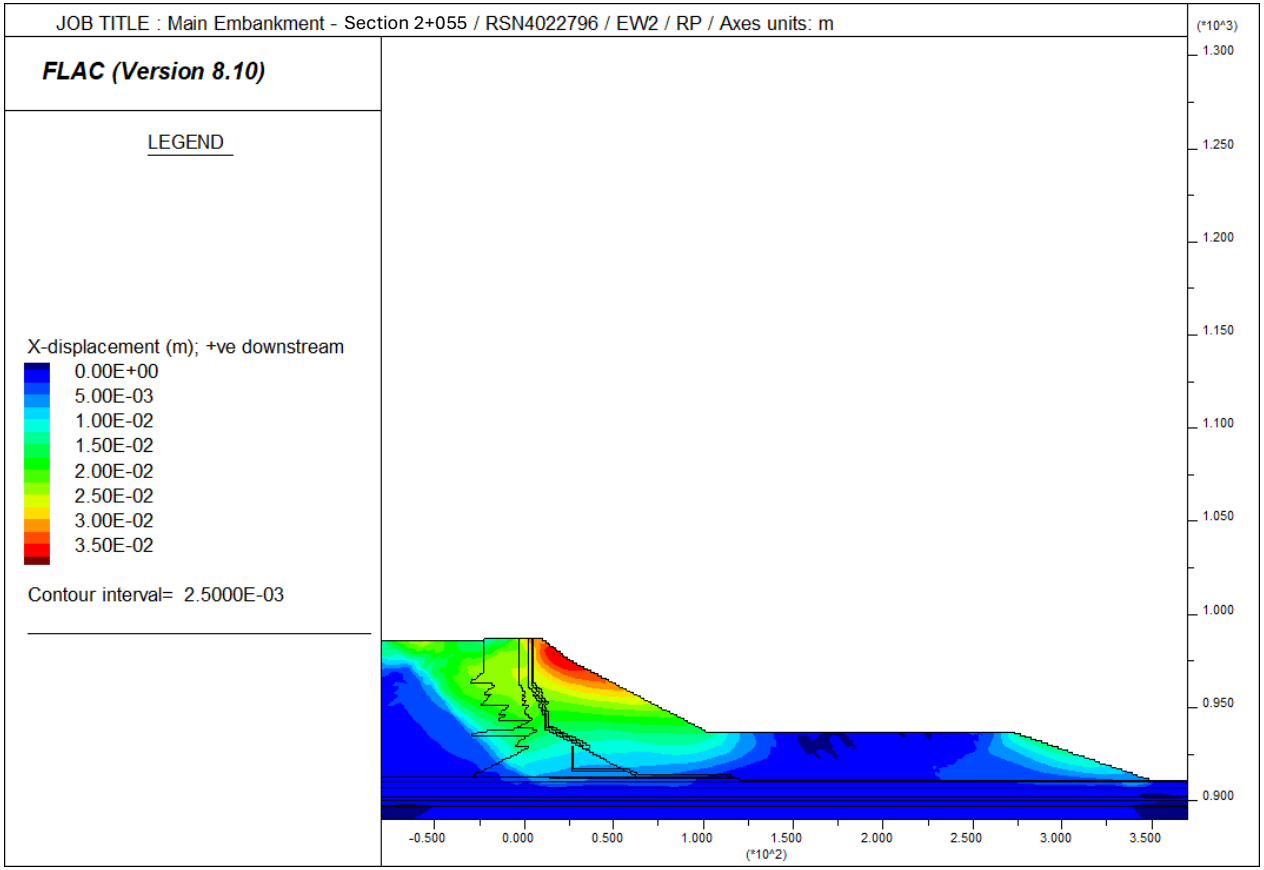

JOB TITLE : Main Embankment - Section 2+055 / RSN4022796 / EW2 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
5.00E-03
1.00E-02
1.50E-02
2.00E-02
2.50E-02
3.00E-02
3.50E-02
Contour interval= 2.5000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

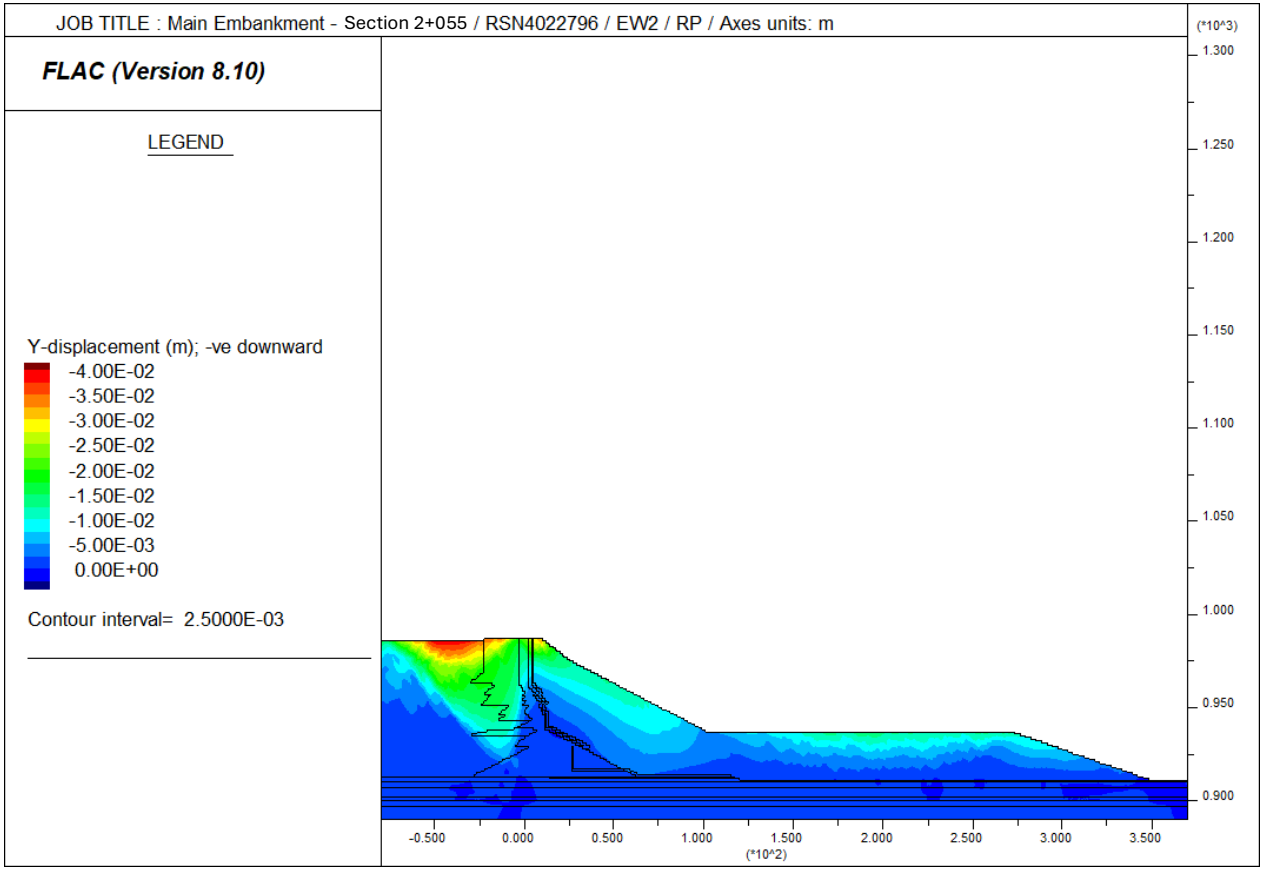

JOB TITLE : Main Embankment - Section 2+055 / RSN4022796 / EW2 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-4.00E-02
-3.50E-02
-3.00E-02
-2.50E-02
-2.00E-02
-1.50E-02
-1.00E-02
-5.00E-03
0.00E+00
Contour interval= 2.5000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

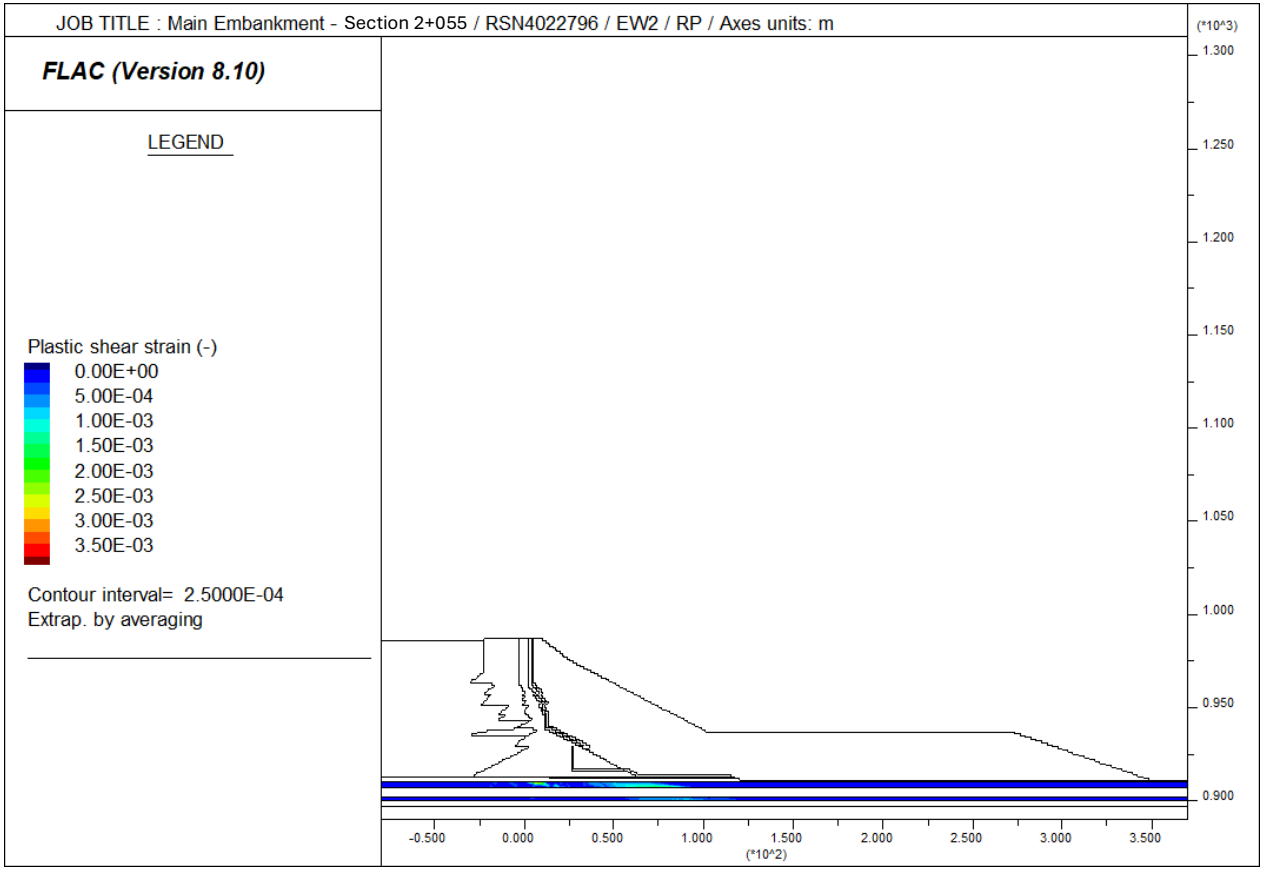

JOB TITLE : Main Embankment - Section 2+055 / RSN4022796 / EW2 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

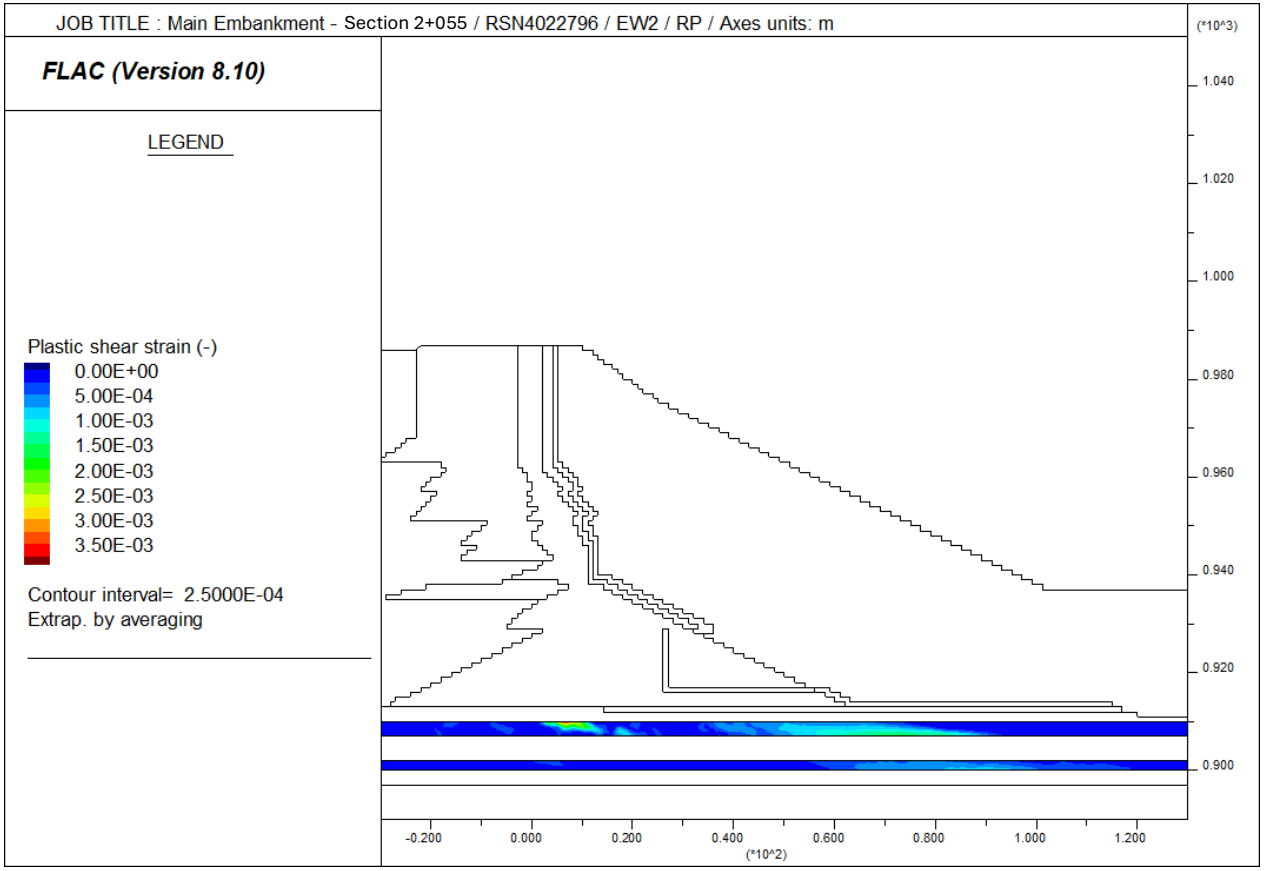

JOB TITLE : Main Embankment - Section 2+055 / RSN4022796 / EW2 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

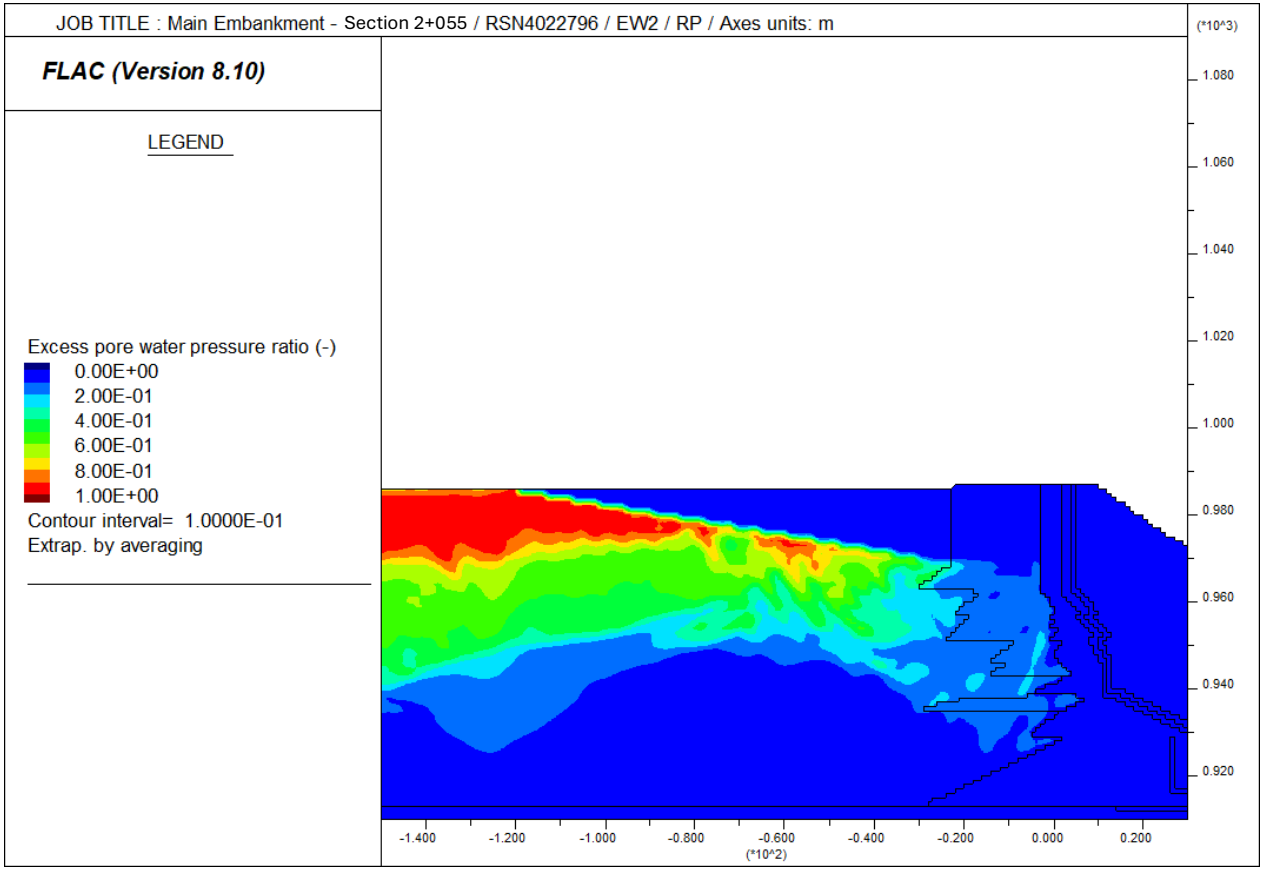

JOB TITLE : Main Embankment - Section 2+055 / RSN4022796 / EW2 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

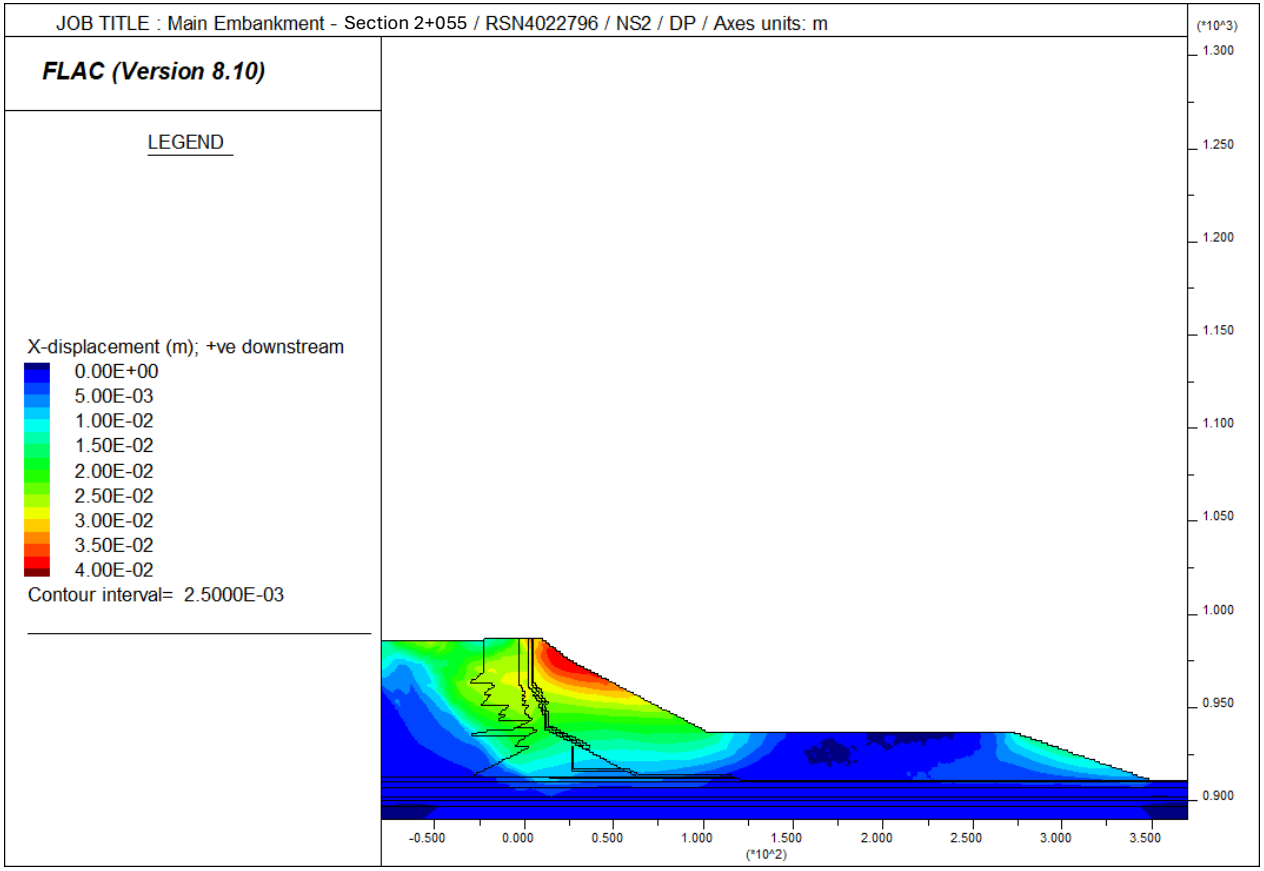

JOB TITLE : Main Embankment - Section 2+055 / RSN4022796 / EW2 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
5.00E-03
1.00E-02
1.50E-02
2.00E-02
2.50E-02
3.00E-02
3.50E-02
Contour interval= 2.5000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

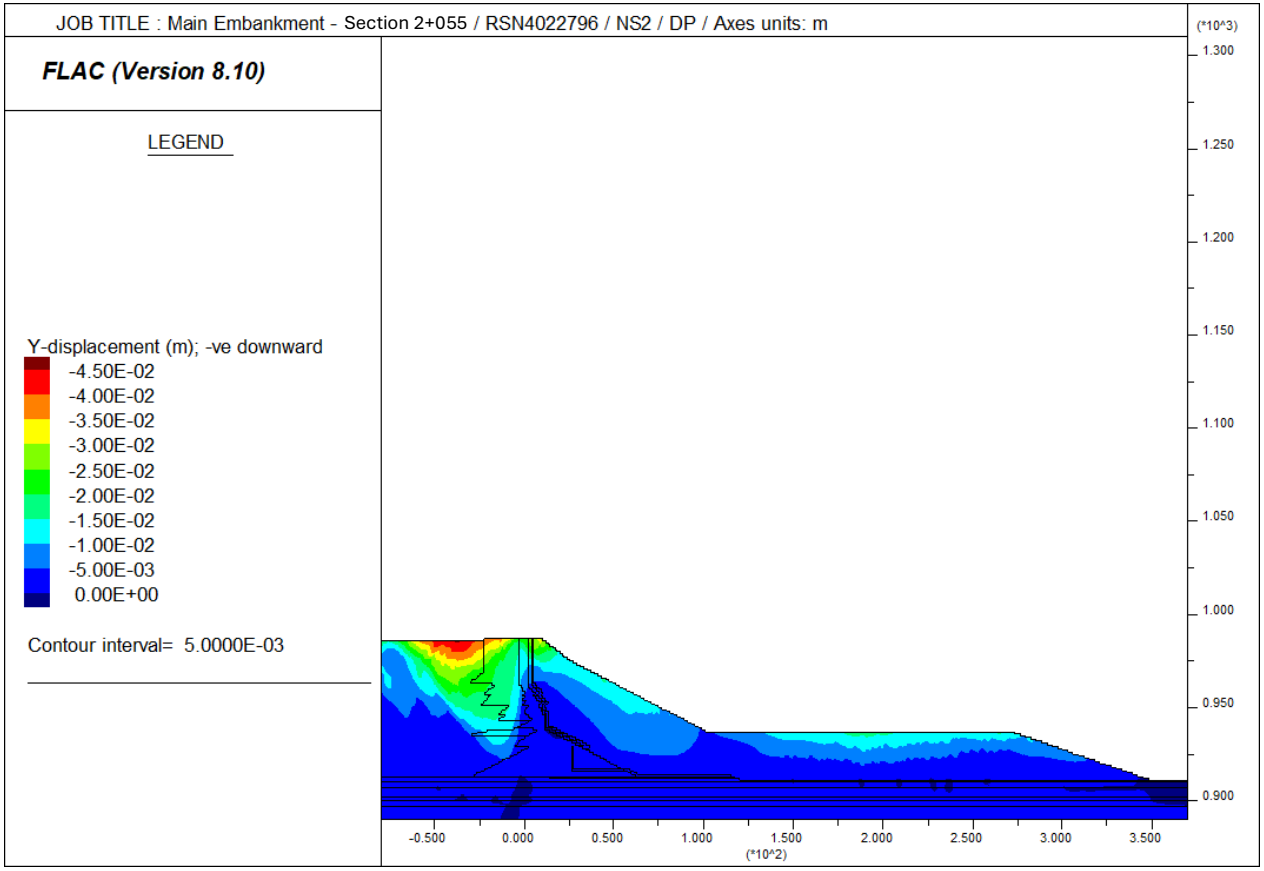

JOB TITLE : Main Embankment - Section 2+055 / RSN4022796 / EW2 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-4.00E-02
-3.50E-02
-3.00E-02
-2.50E-02
-2.00E-02
-1.50E-02
-1.00E-02
-5.00E-03
0.00E+00
Contour interval= 2.5000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

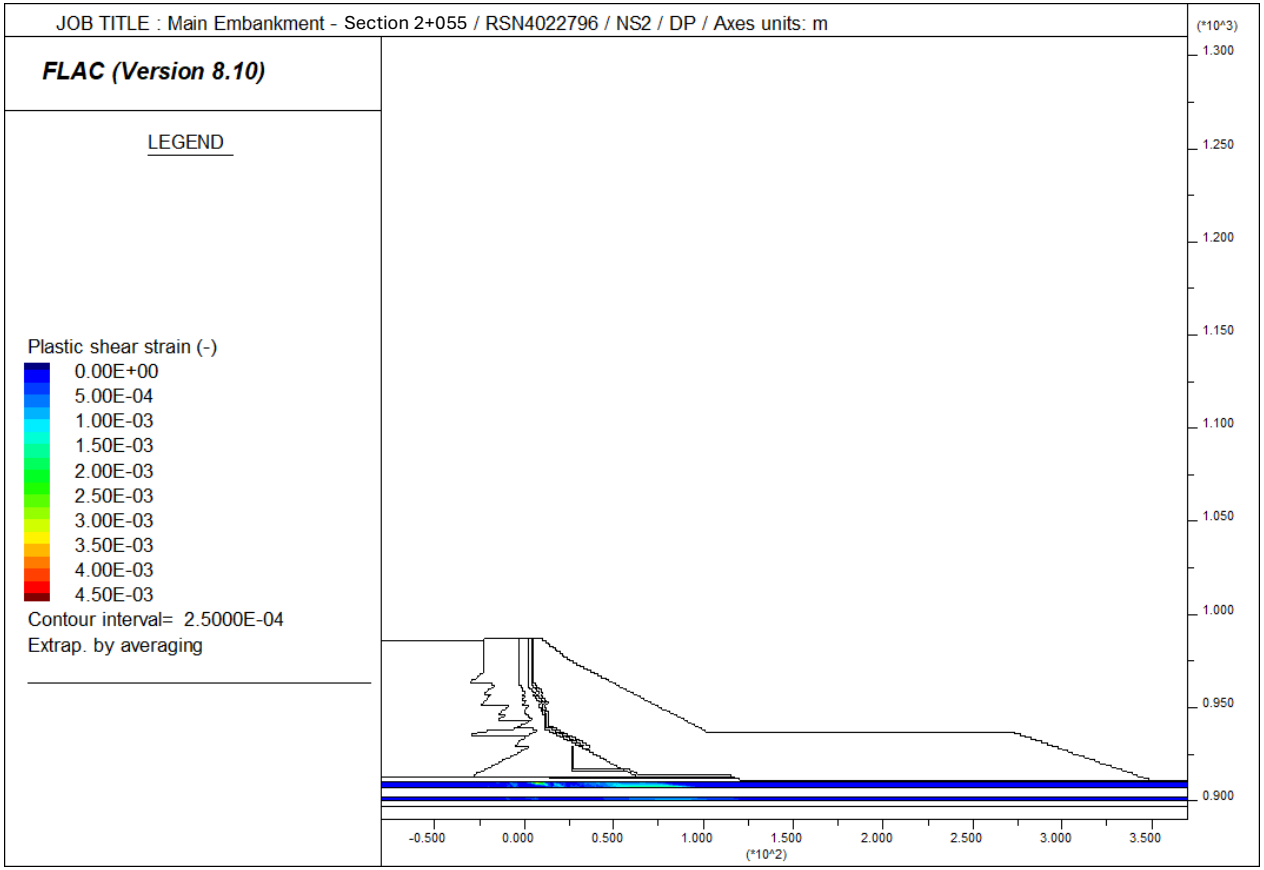

JOB TITLE : Main Embankment - Section 2+055 / RSN4022796 / EW2 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
3.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

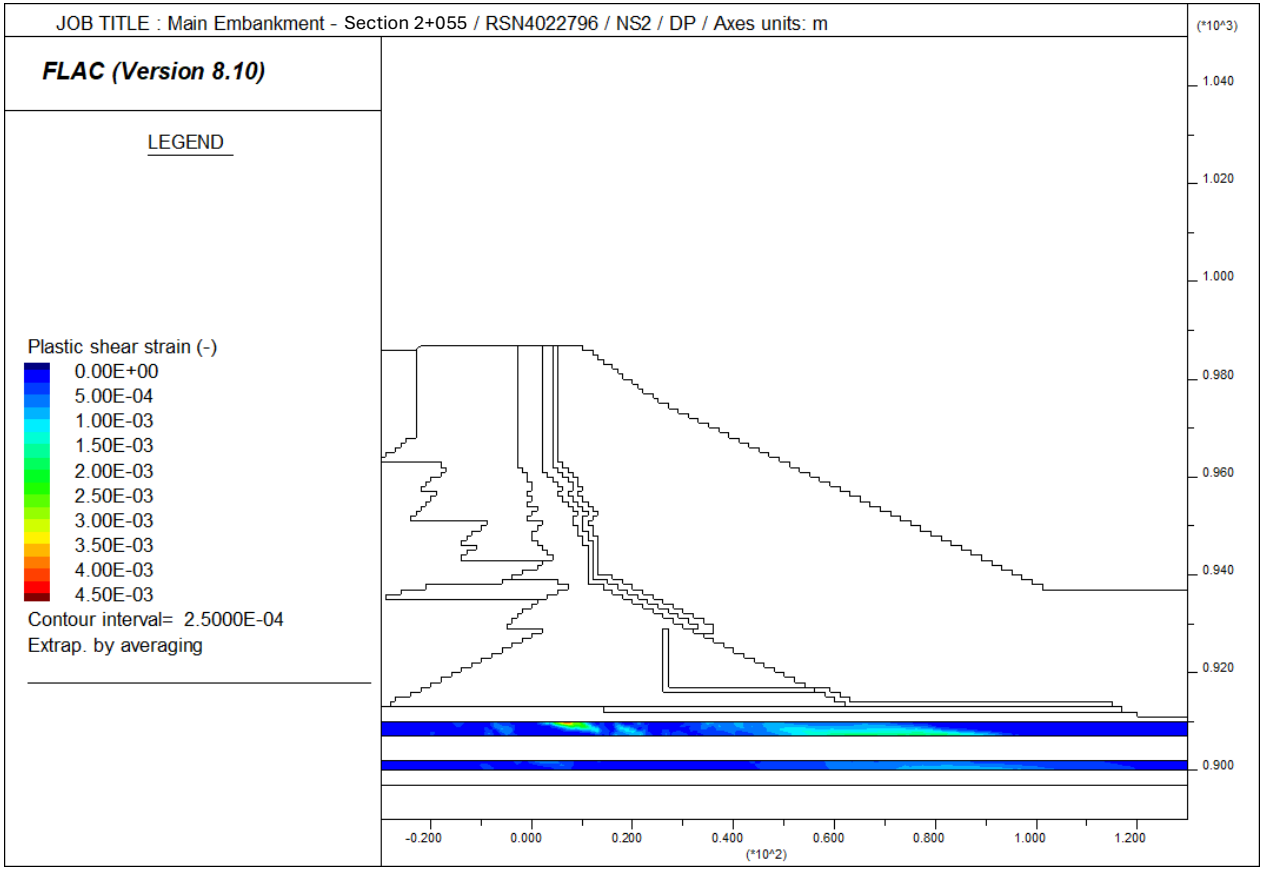

JOB TITLE : Main Embankment - Section 2+055 / RSN4022796 / EW2 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
3.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

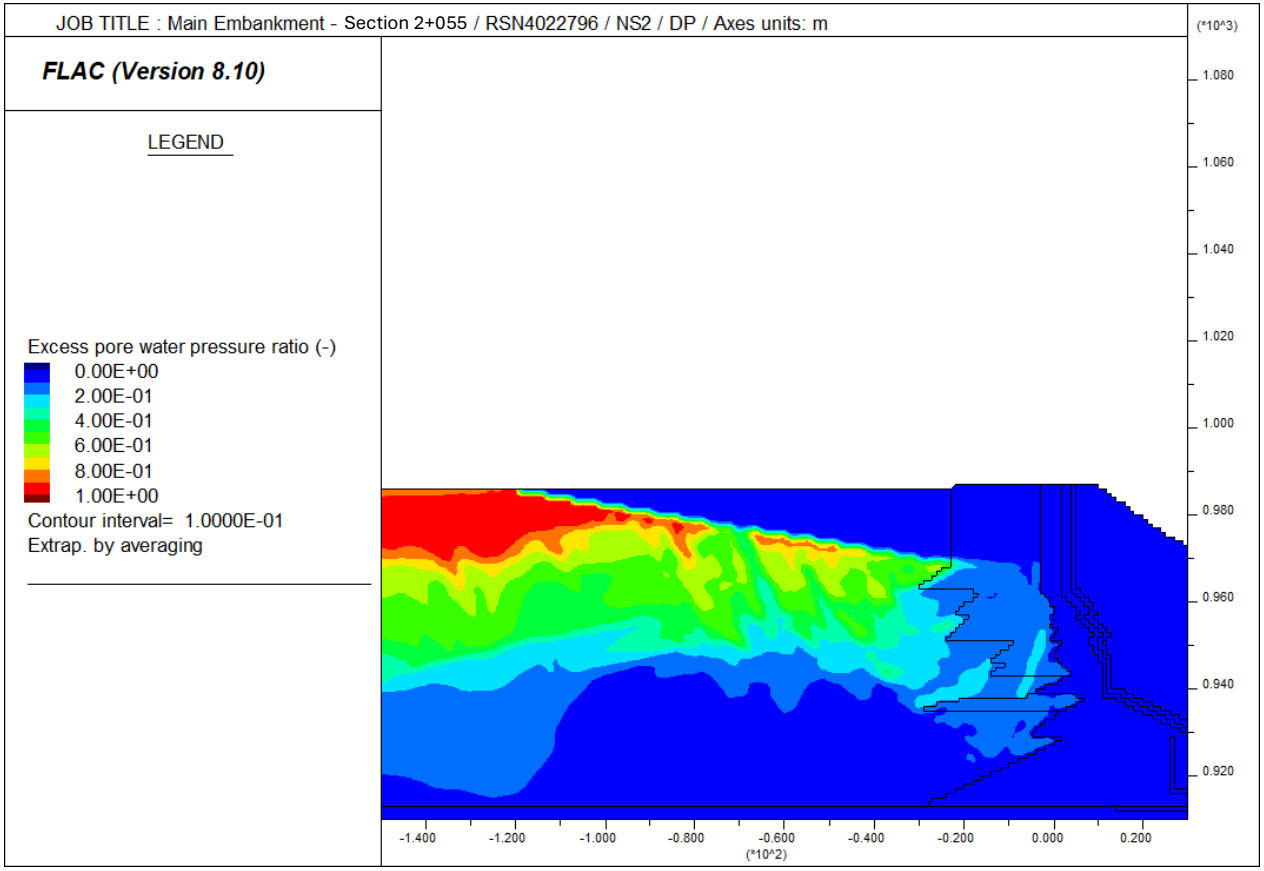

JOB TITLE : Main Embankment - Section 2+055 / RSN4022796 / EW2 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

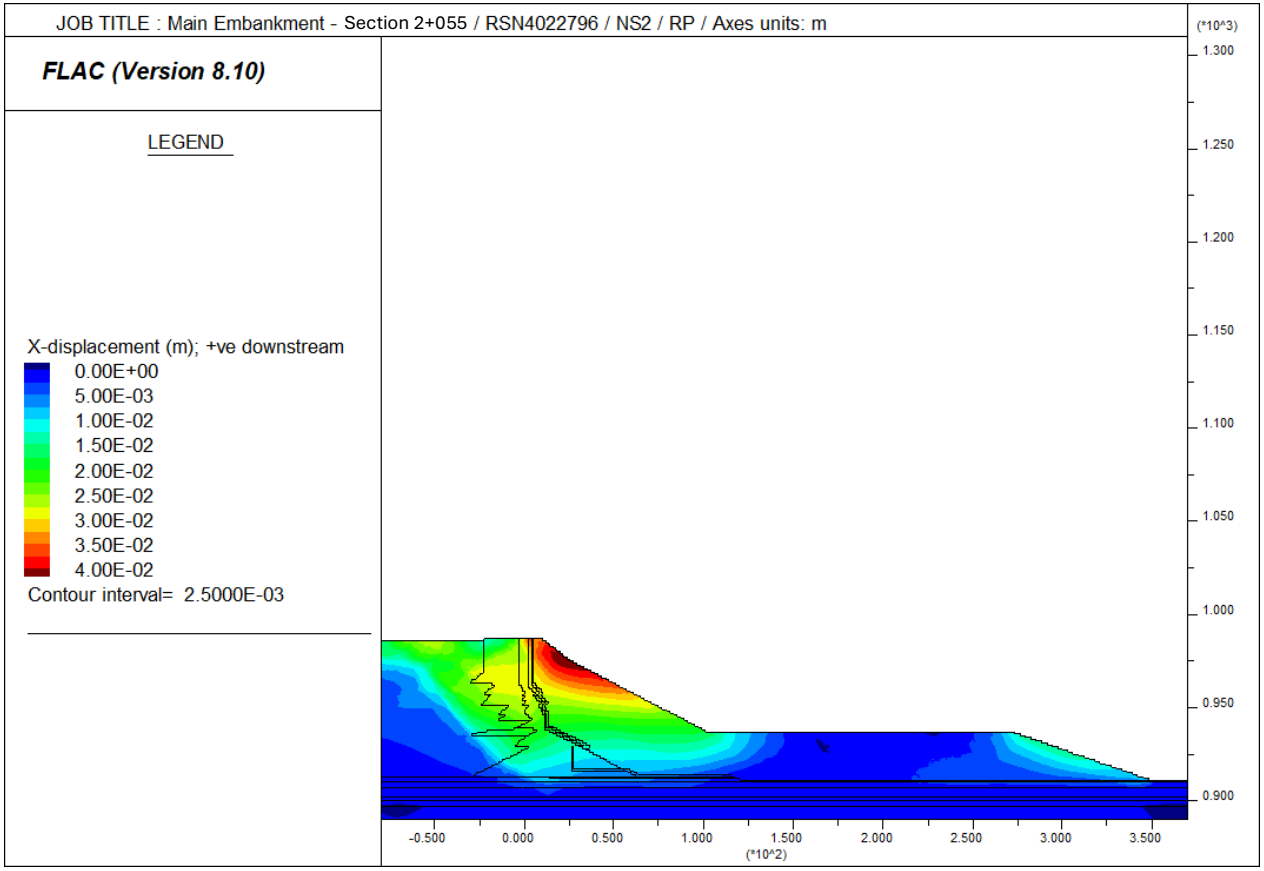

JOB TITLE : Main Embankment - Section 2+055 / RSN4022796 / NS2 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
5.00E-03
1.00E-02
1.50E-02
2.00E-02
2.50E-02
3.00E-02
3.50E-02
4.00E-02
Contour interval= 2.5000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

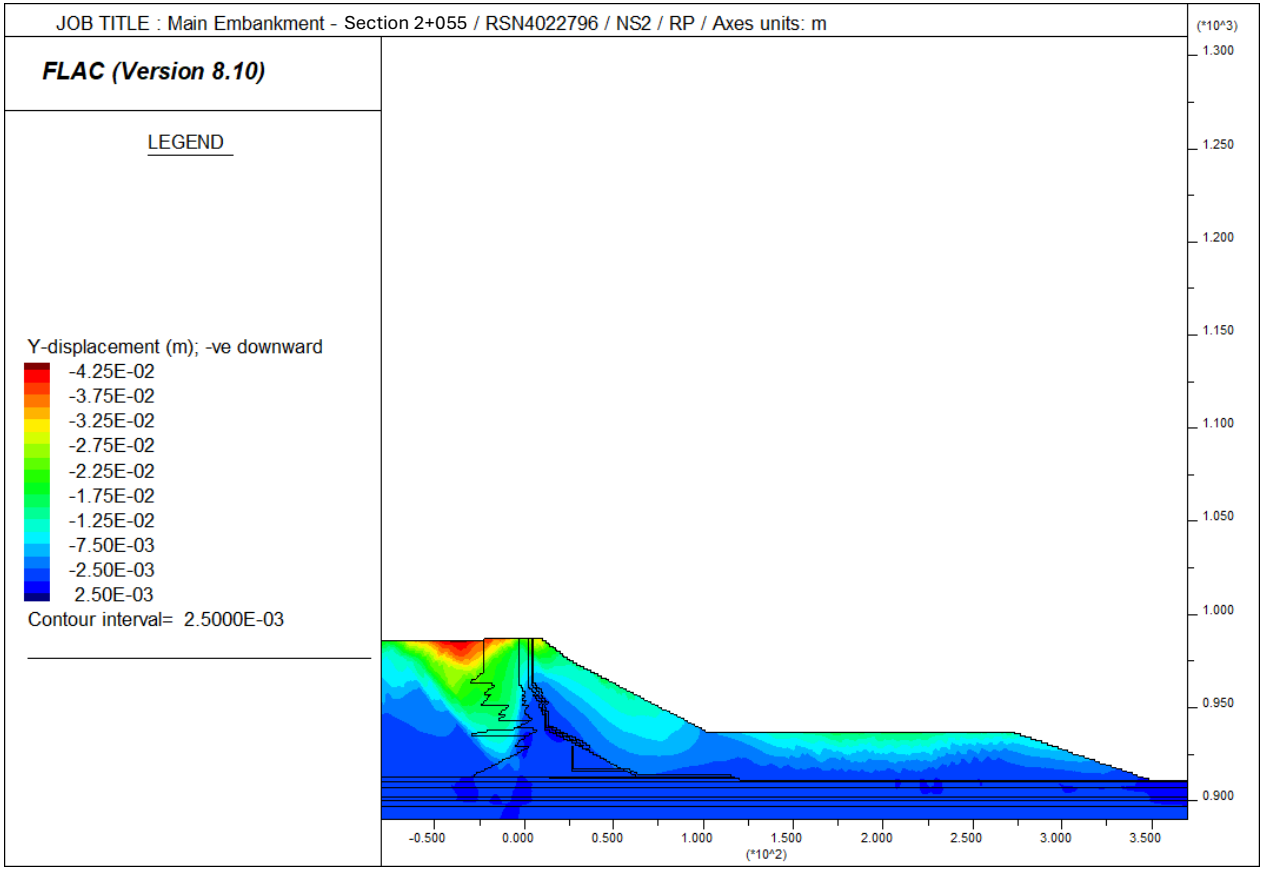

JOB TITLE : Main Embankment - Section 2+055 / RSN4022796 / NS2 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-4.50E-02
-4.00E-02
-3.50E-02
-3.00E-02
-2.50E-02
-2.00E-02
-1.50E-02
-1.00E-02
-5.00E-03
0.00E+00
Contour interval= 5.0000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

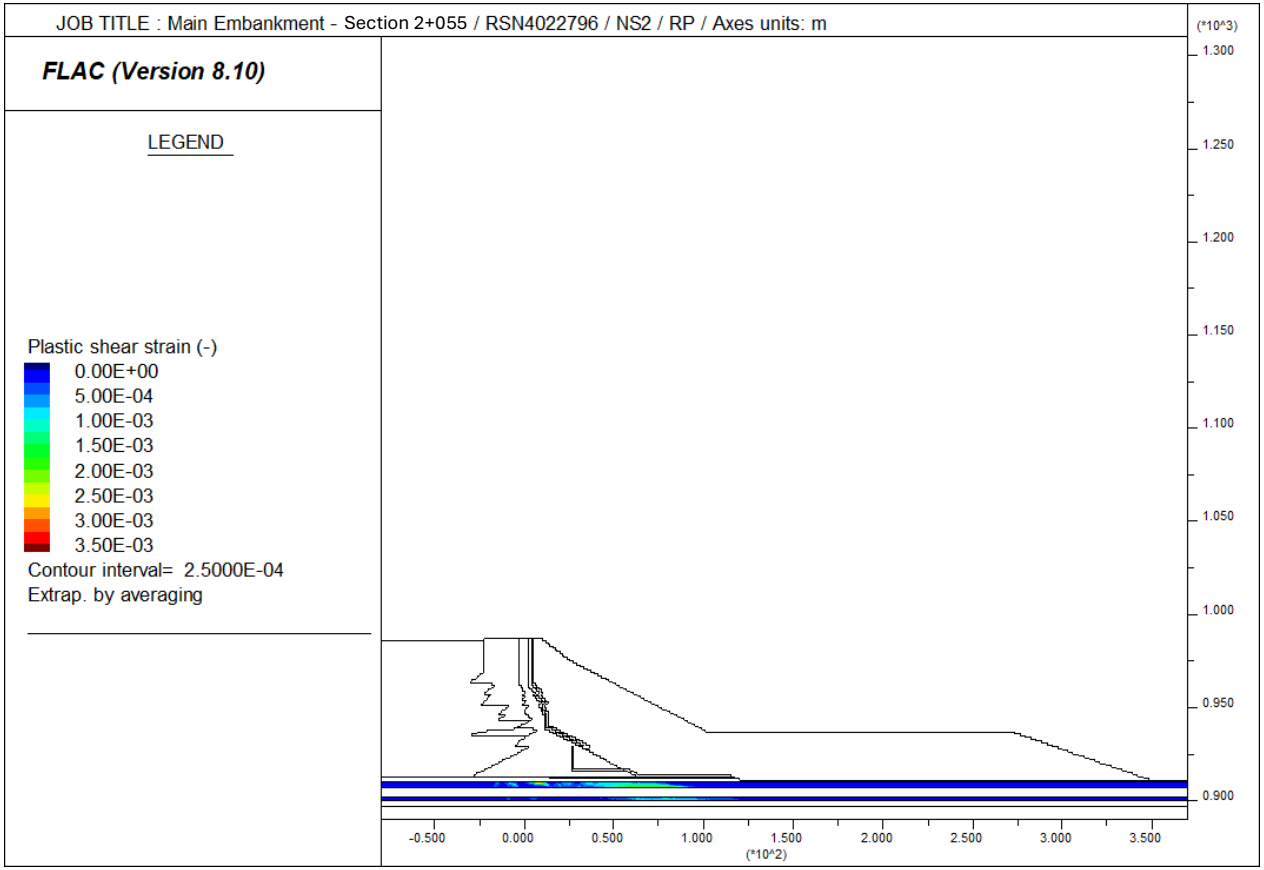

JOB TITLE : Main Embankment - Section 2+055 / RSN4022796 / NS2 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
3.50E-03
4.00E-03
4.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

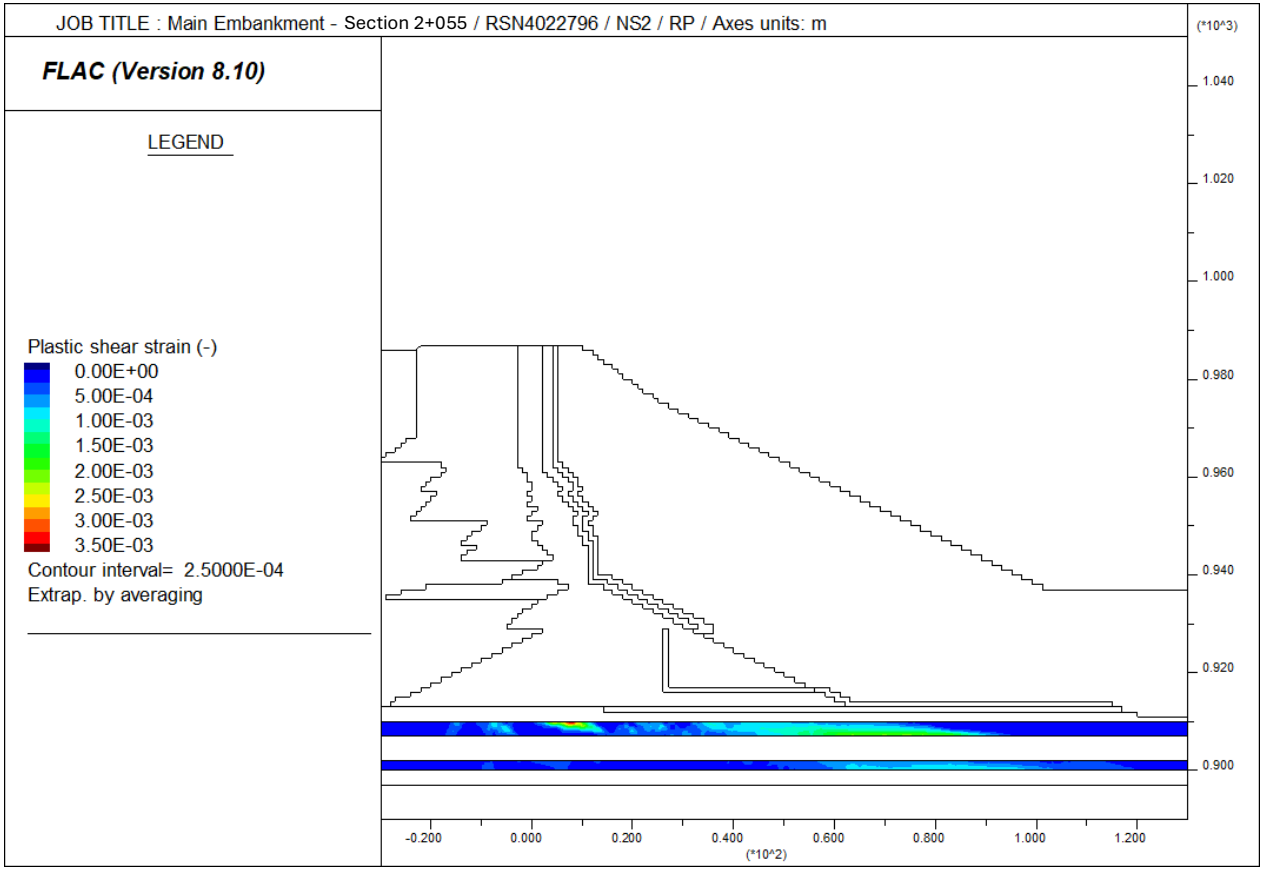

JOB TITLE : Main Embankment - Section 2+055 / RSN4022796 / NS2 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
3.50E-03
4.00E-03
4.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

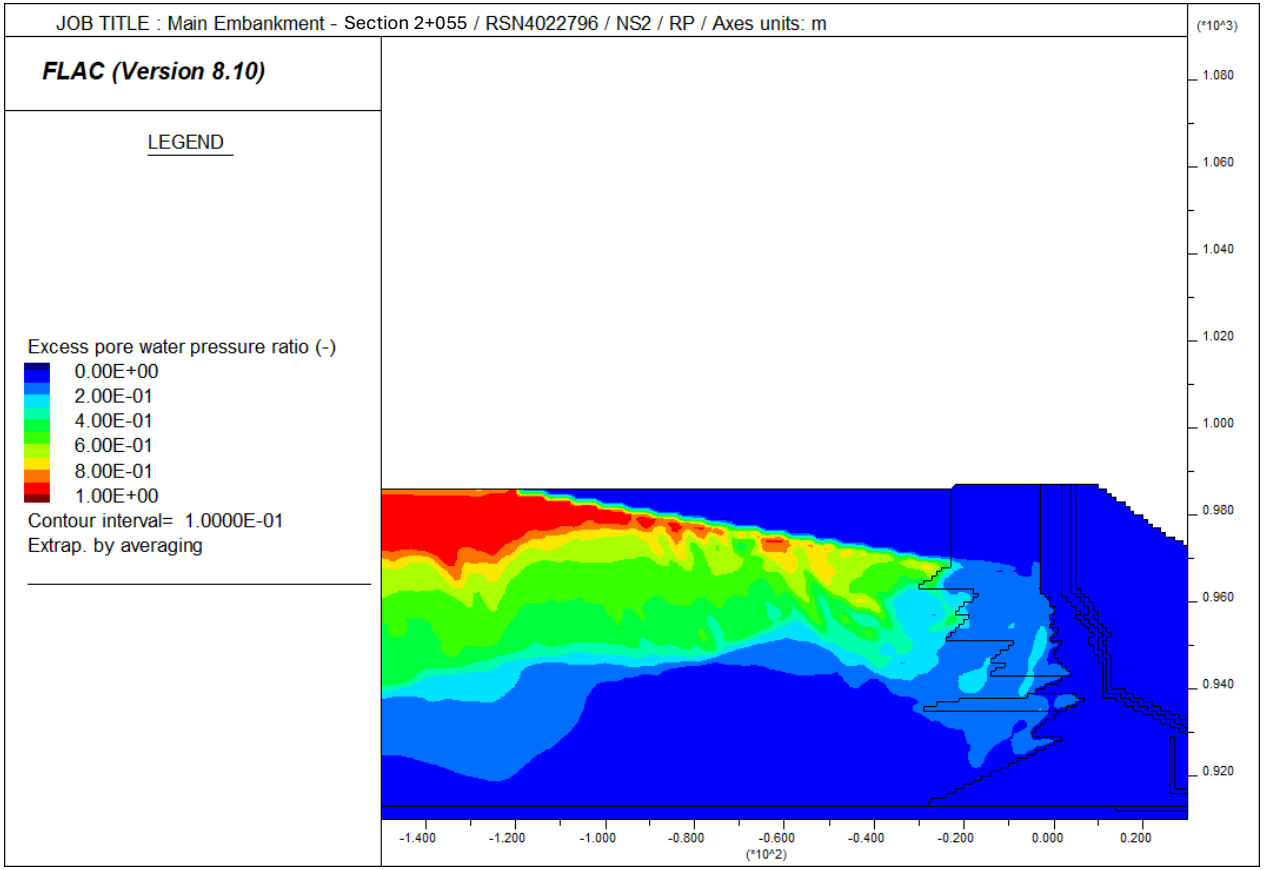

JOB TITLE : Main Embankment - Section 2+055 / RSN4022796 / NS2 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

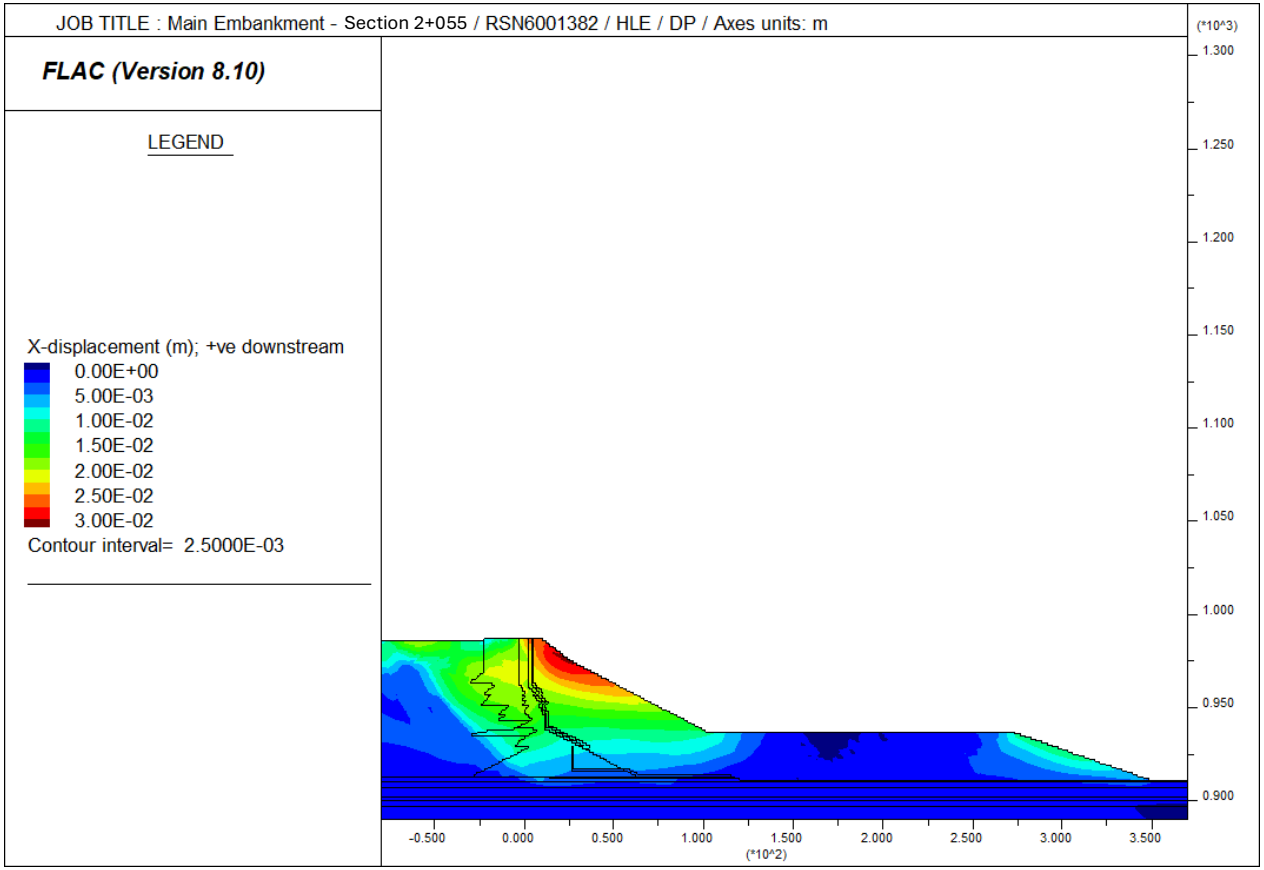

JOB TITLE : Main Embankment - Section 2+055 / RSN4022796 / NS2 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
5.00E-03
1.00E-02
1.50E-02
2.00E-02
2.50E-02
3.00E-02
3.50E-02
4.00E-02
Contour interval= 2.5000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

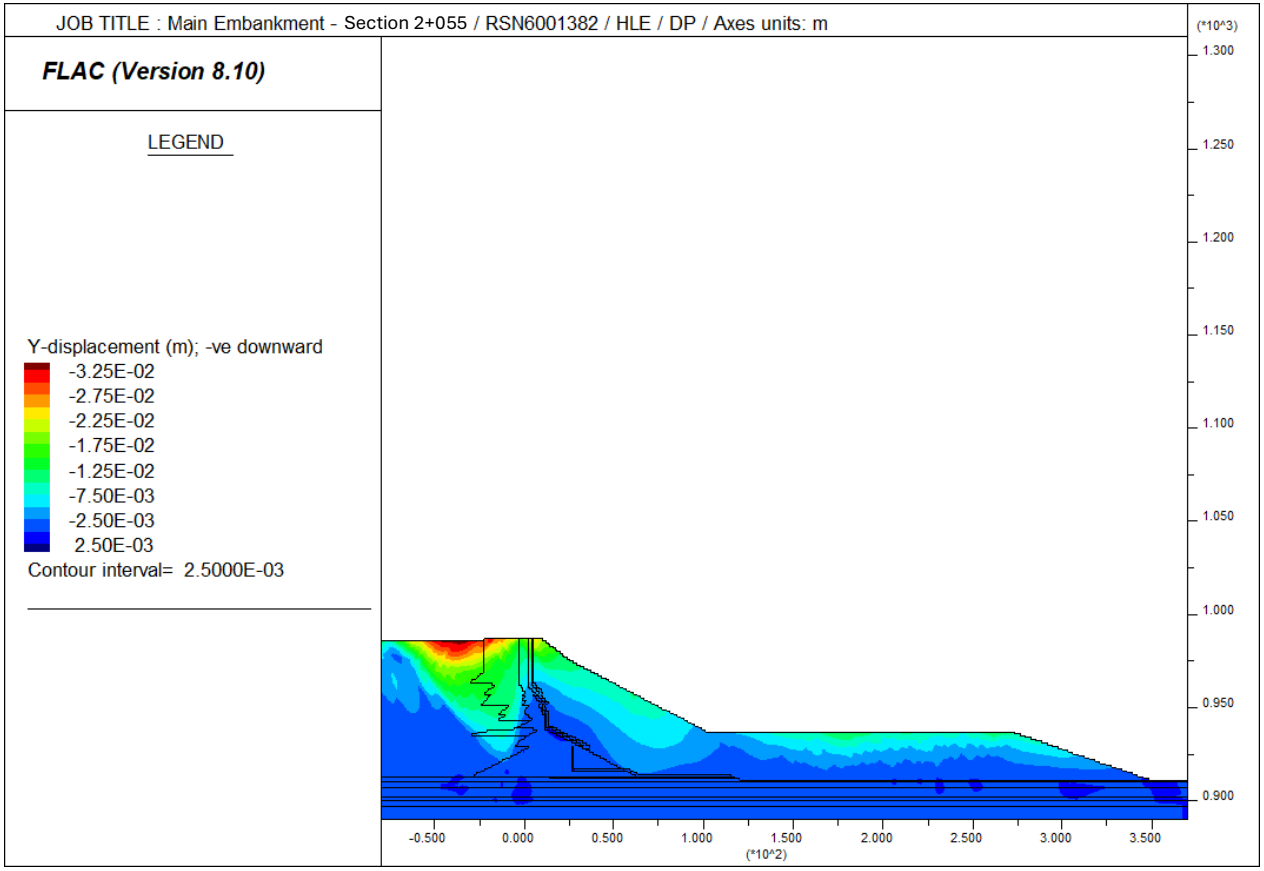

JOB TITLE : Main Embankment - Section 2+055 / RSN4022796 / NS2 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-4.25E-02
-3.75E-02
-3.25E-02
-2.75E-02
-2.25E-02
-1.75E-02
-1.25E-02
-7.50E-03
-2.50E-03
2.50E-03
Contour interval= 2.5000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

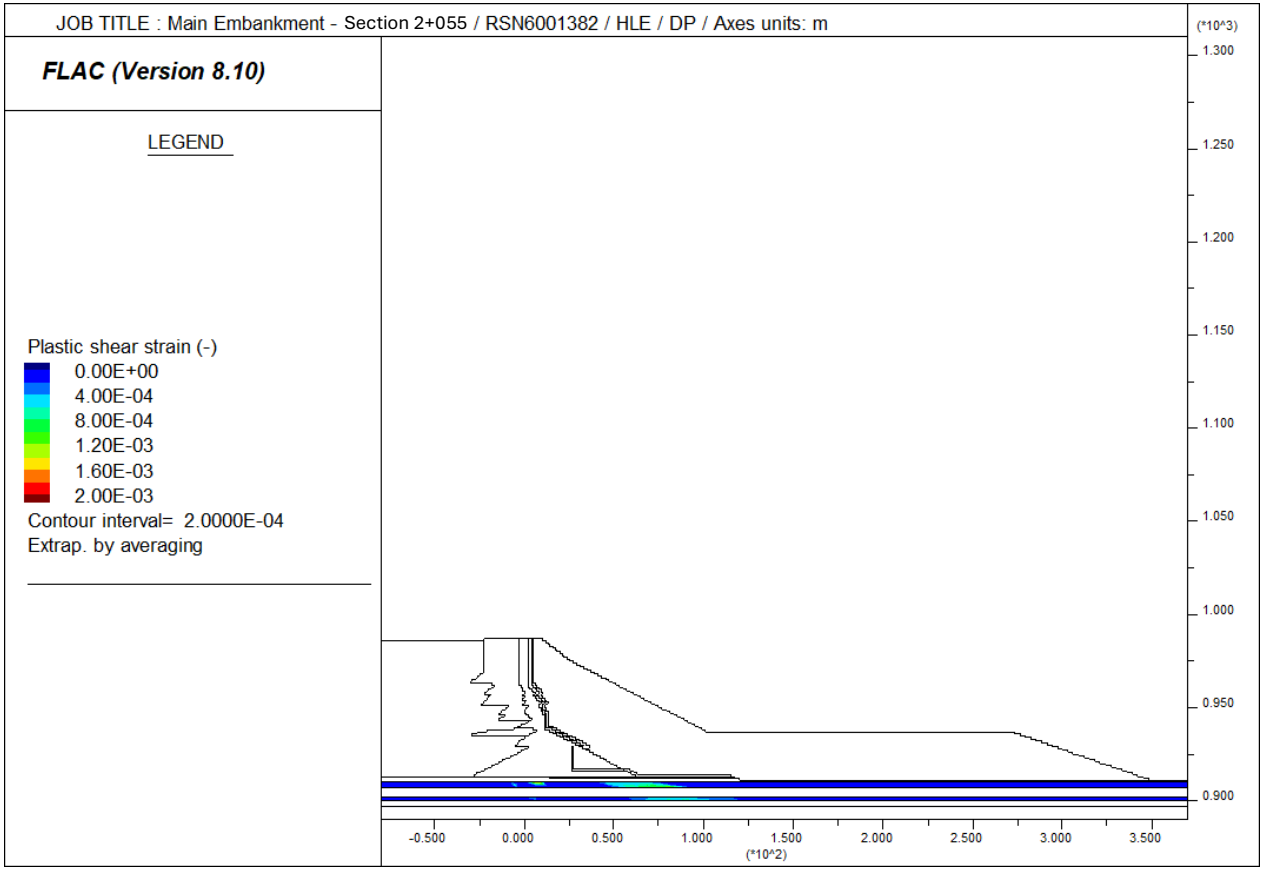

JOB TITLE : Main Embankment - Section 2+055 / RSN4022796 / NS2 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
3.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

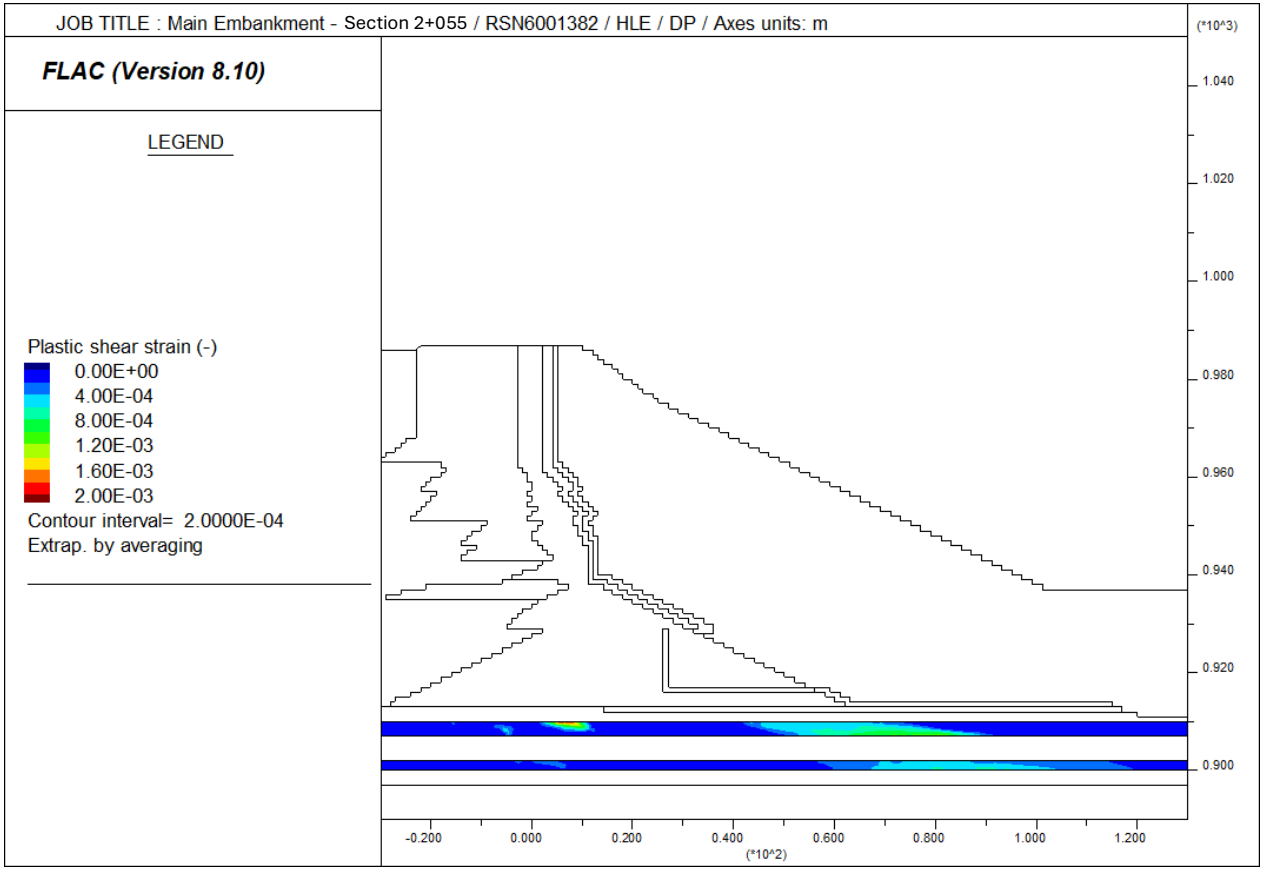

JOB TITLE : Main Embankment - Section 2+055 / RSN4022796 / NS2 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
3.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

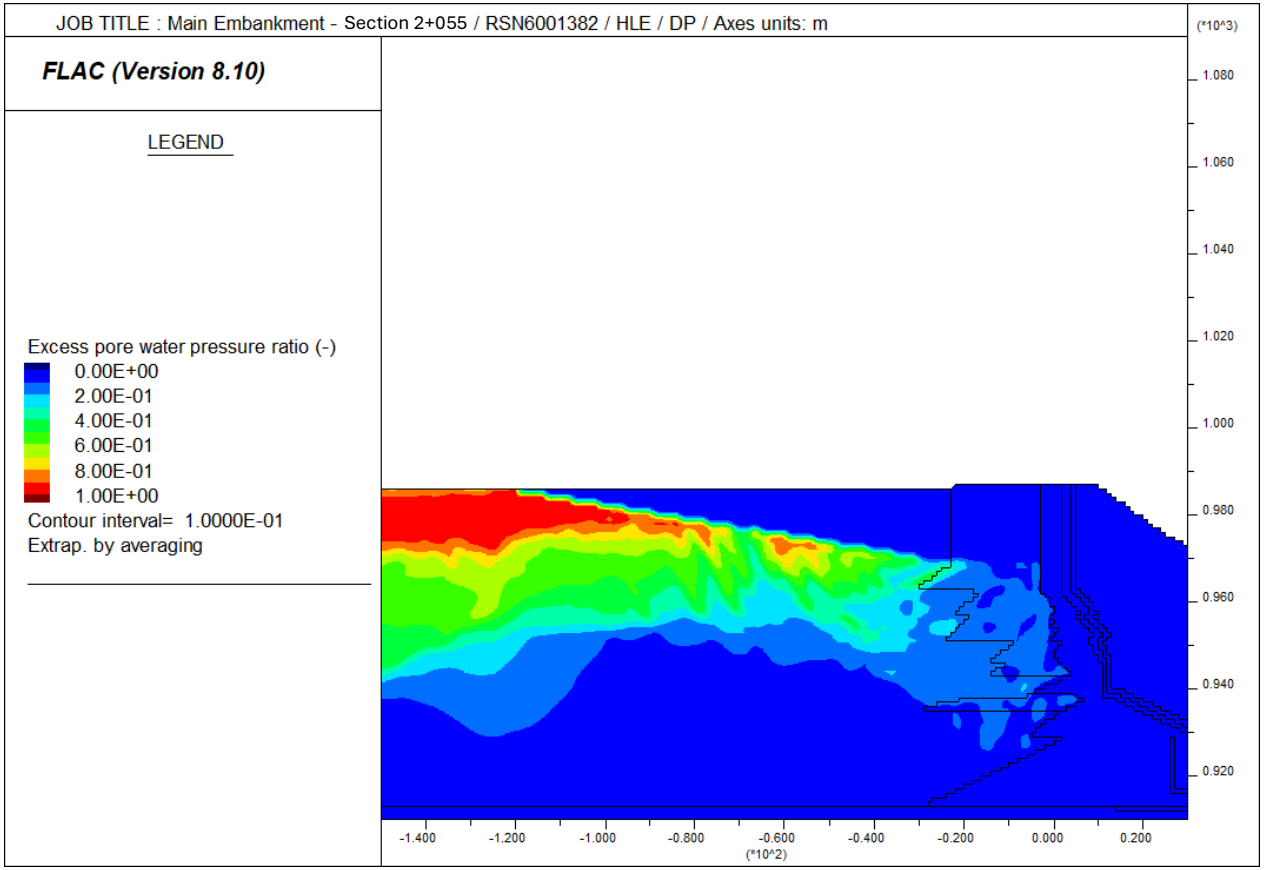

JOB TITLE : Main Embankment - Section 2+055 / RSN4022796 / NS2 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

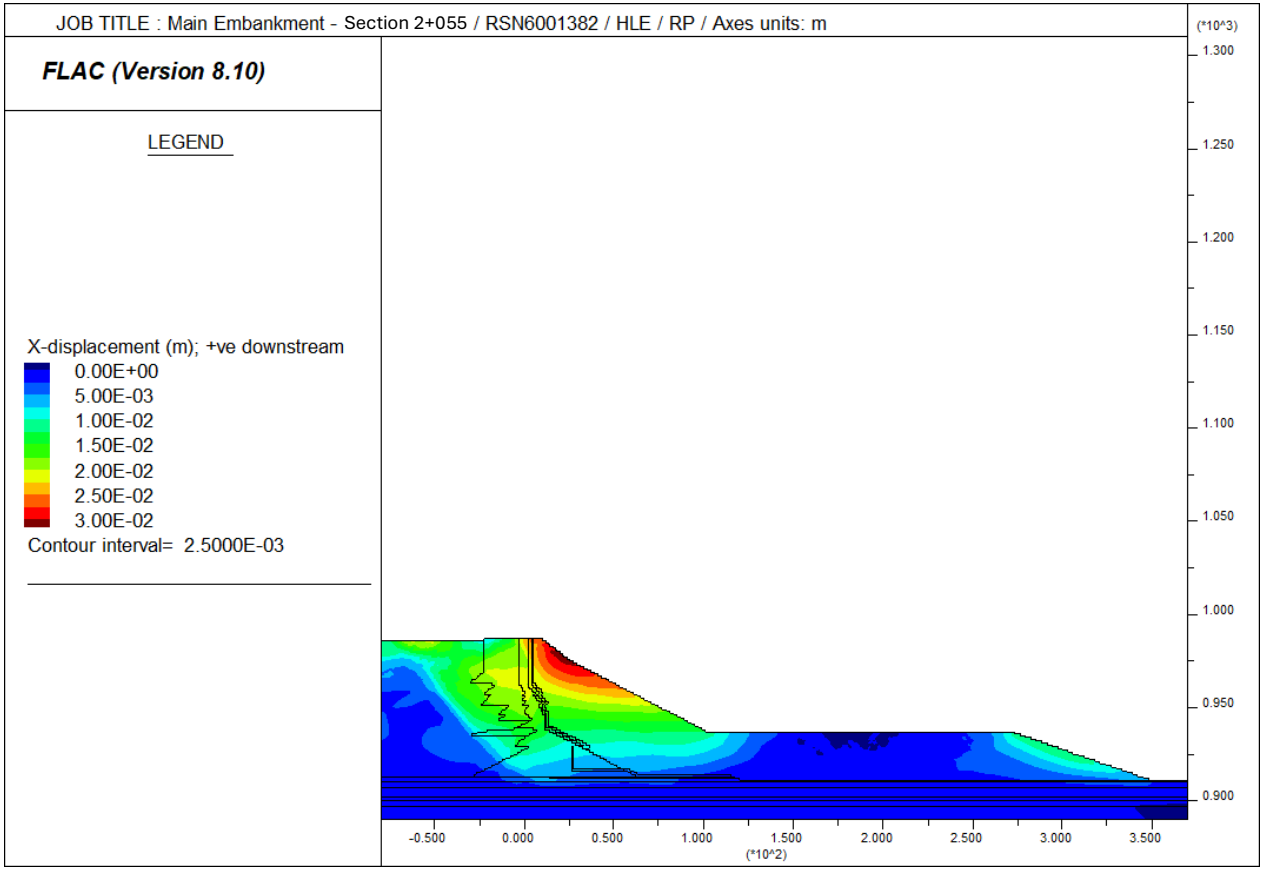

JOB TITLE : Main Embankment - Section 2+055 / RSN6001382 / HLE / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
5.00E-03
1.00E-02
1.50E-02
2.00E-02
2.50E-02
3.00E-02
Contour interval= 2.5000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

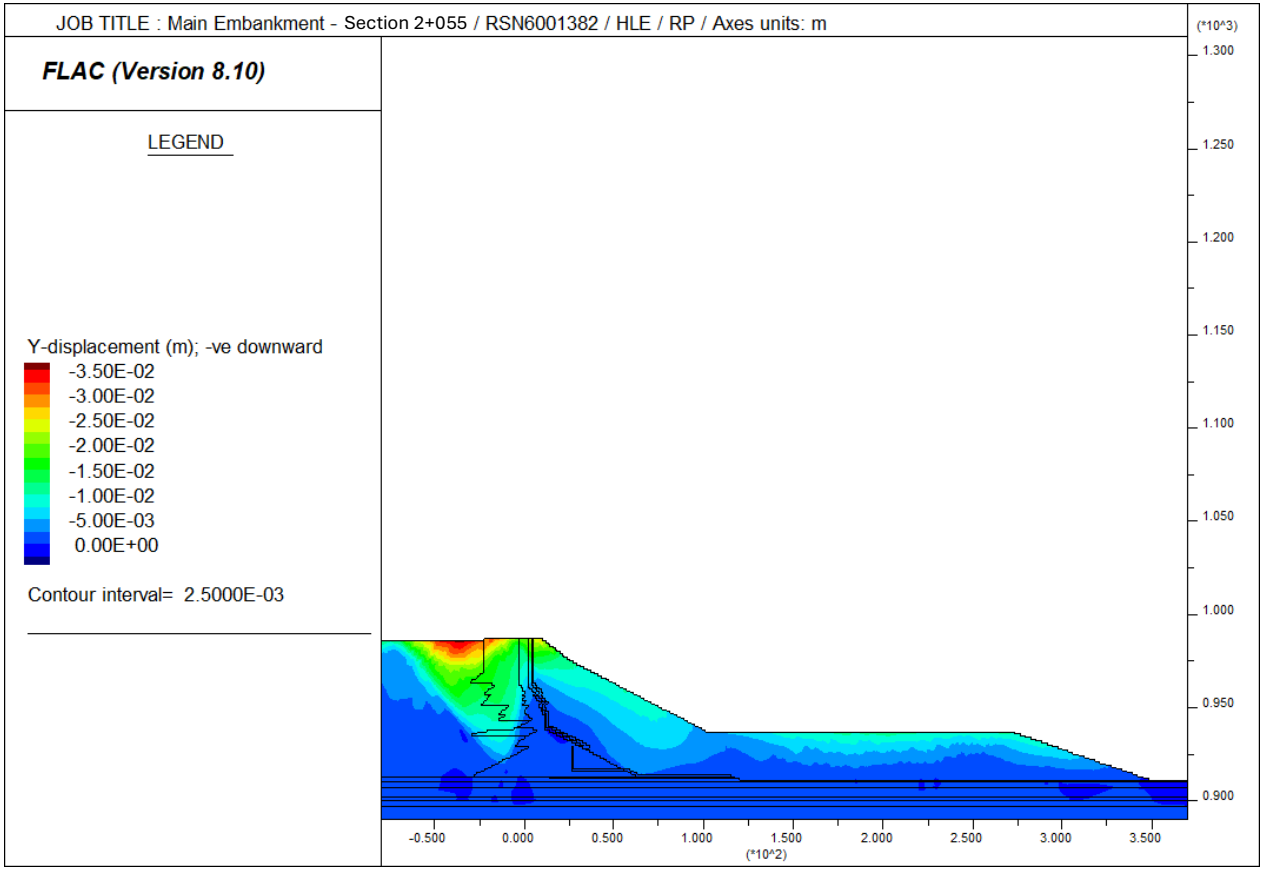

JOB TITLE : Main Embankment - Section 2+055 / RSN6001382 / HLE / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-3.25E-02
-2.75E-02
-2.25E-02
-1.75E-02
-1.25E-02
-7.50E-03
-2.50E-03
2.50E-03
Contour interval= 2.5000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

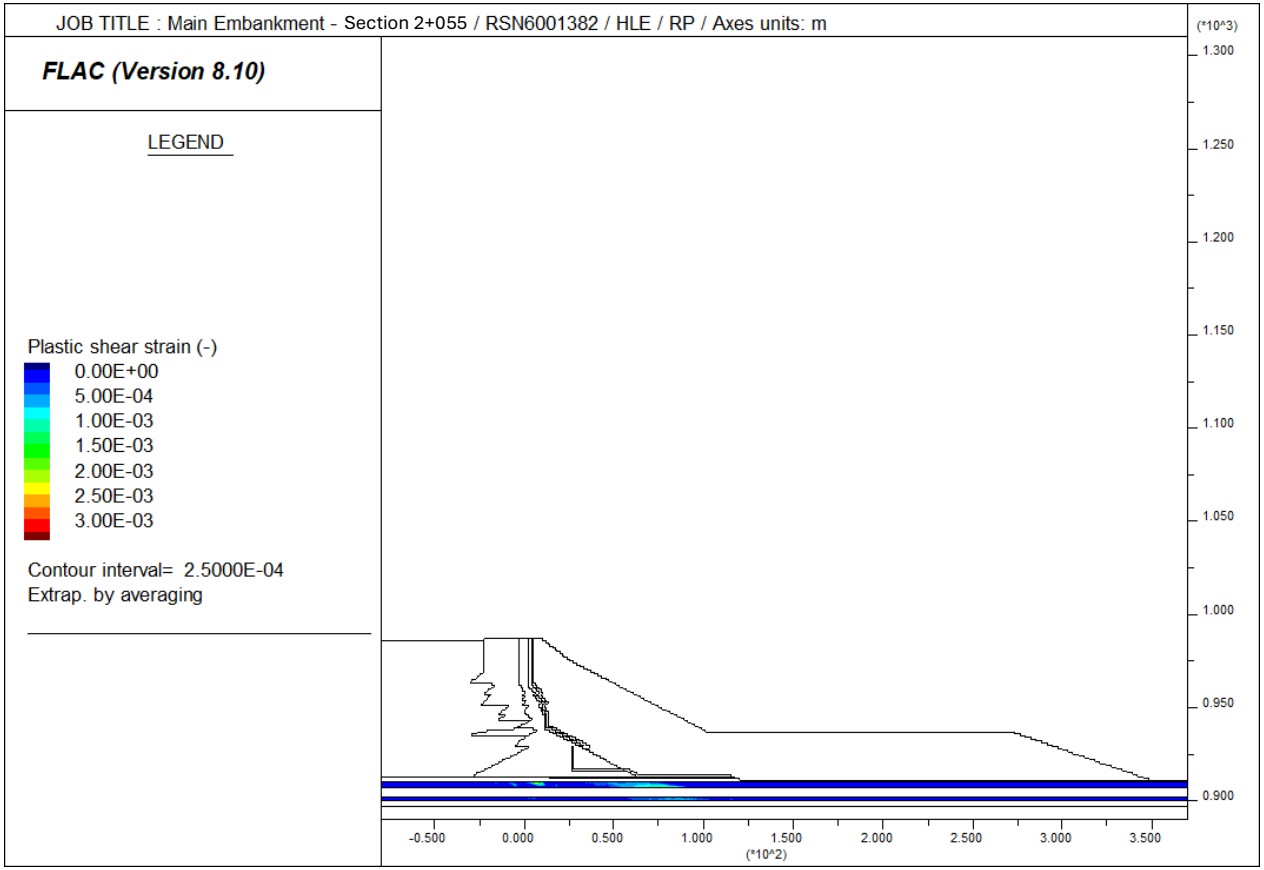

JOB TITLE : Main Embankment - Section 2+055 / RSN6001382 / HLE / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-04
8.00E-04
1.20E-03
1.60E-03
2.00E-03
Contour interval= 2.0000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

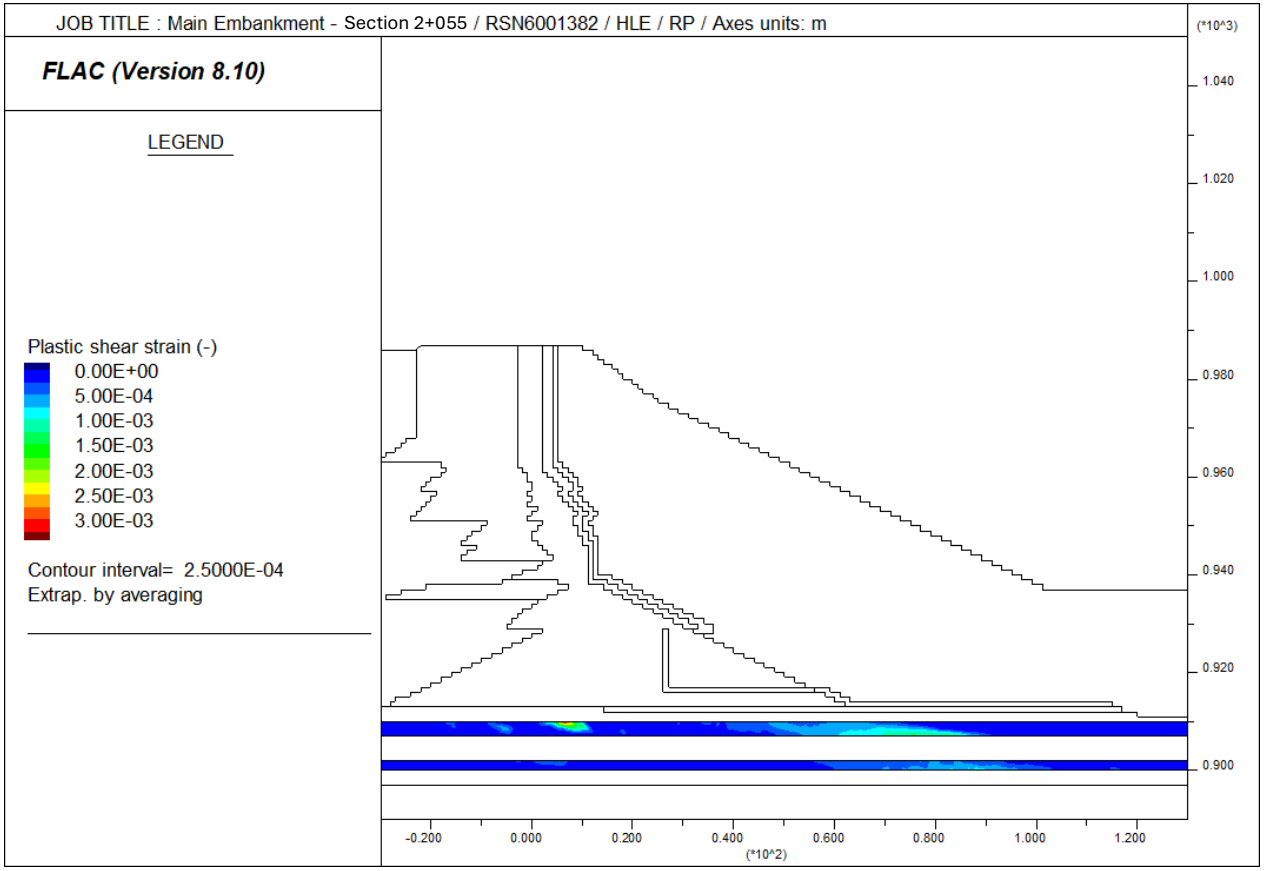

JOB TITLE : Main Embankment - Section 2+055 / RSN6001382 / HLE / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-04
8.00E-04
1.20E-03
1.60E-03
2.00E-03
Contour interval= 2.0000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

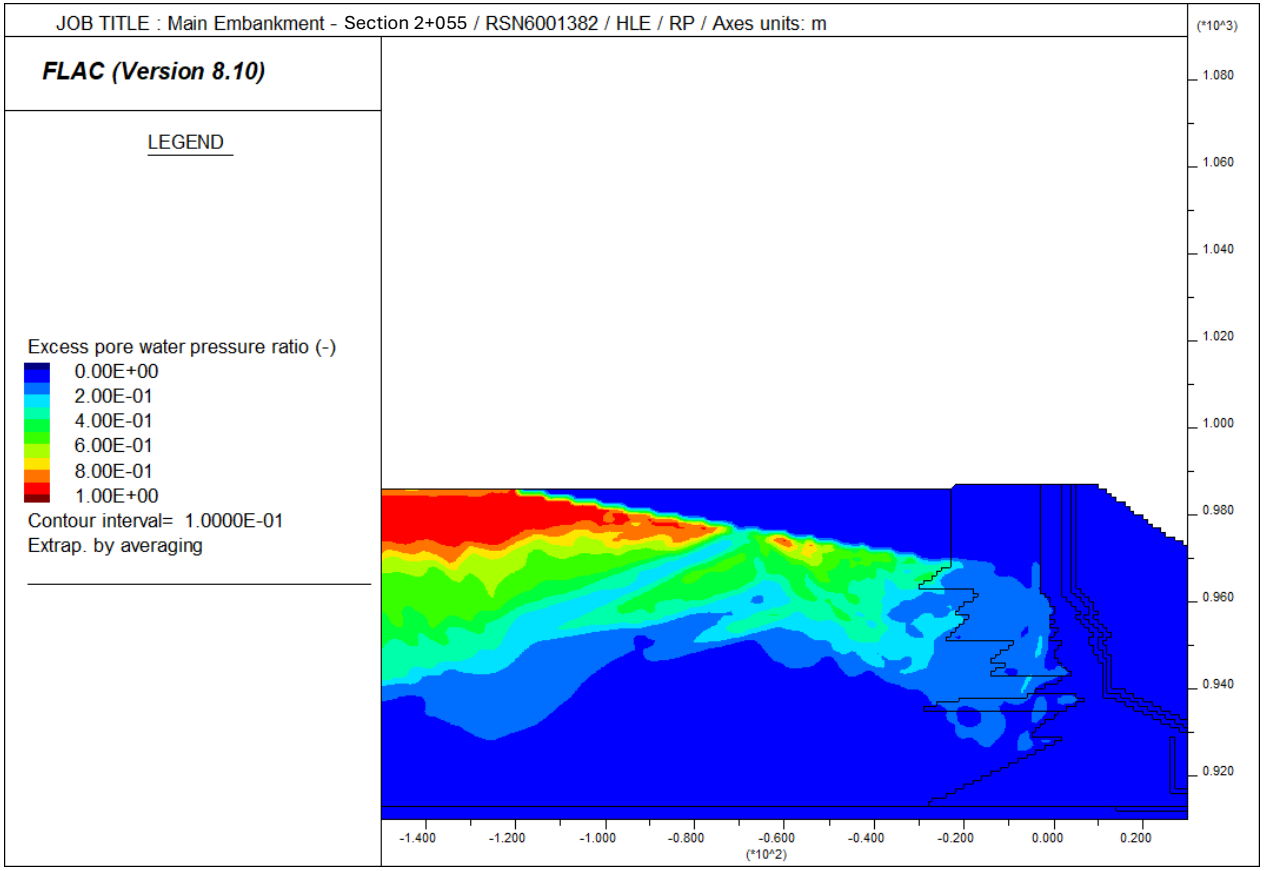

JOB TITLE : Main Embankment - Section 2+055 / RSN6001382 / HLE / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

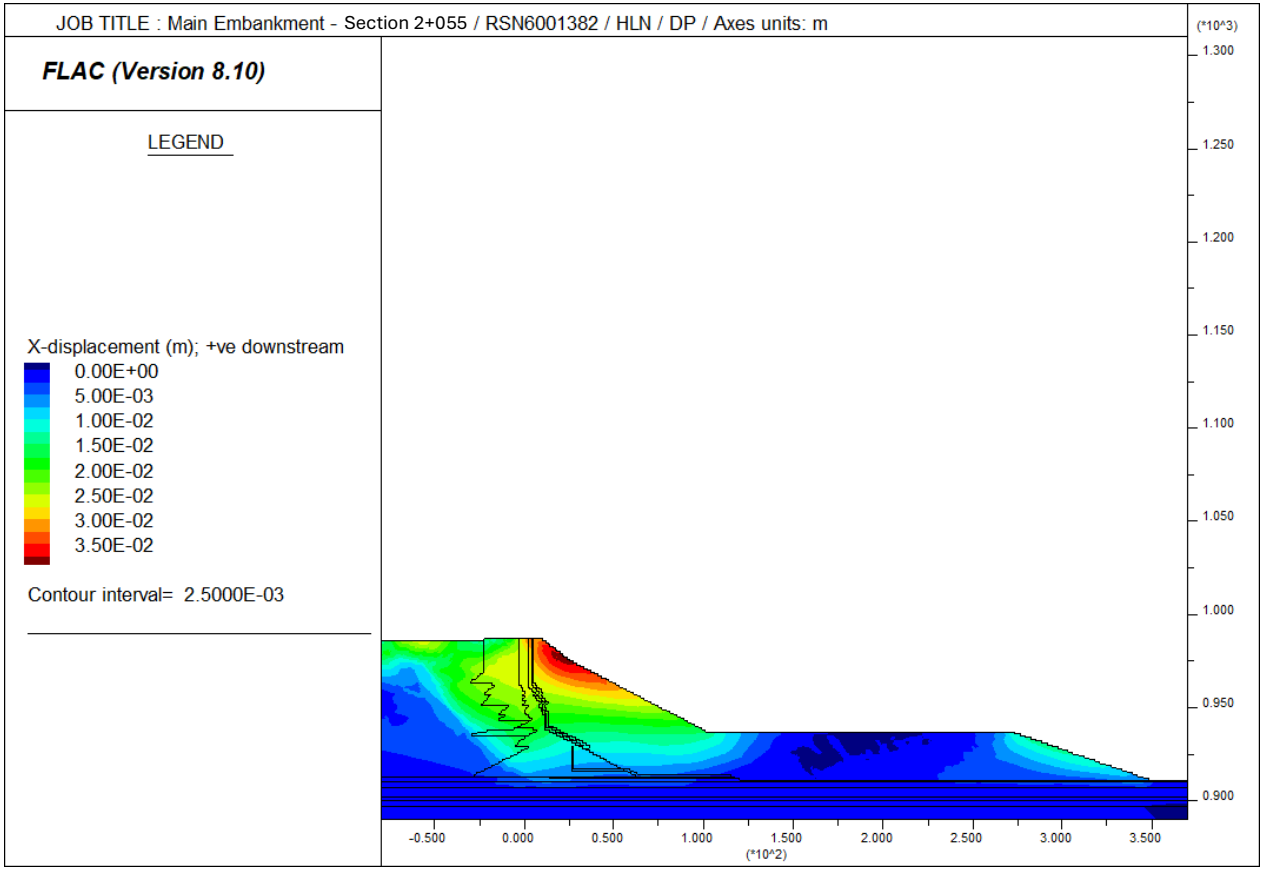

JOB TITLE : Main Embankment - Section 2+055 / RSN6001382 / HLE / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
5.00E-03
1.00E-02
1.50E-02
2.00E-02
2.50E-02
3.00E-02
Contour interval= 2.5000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

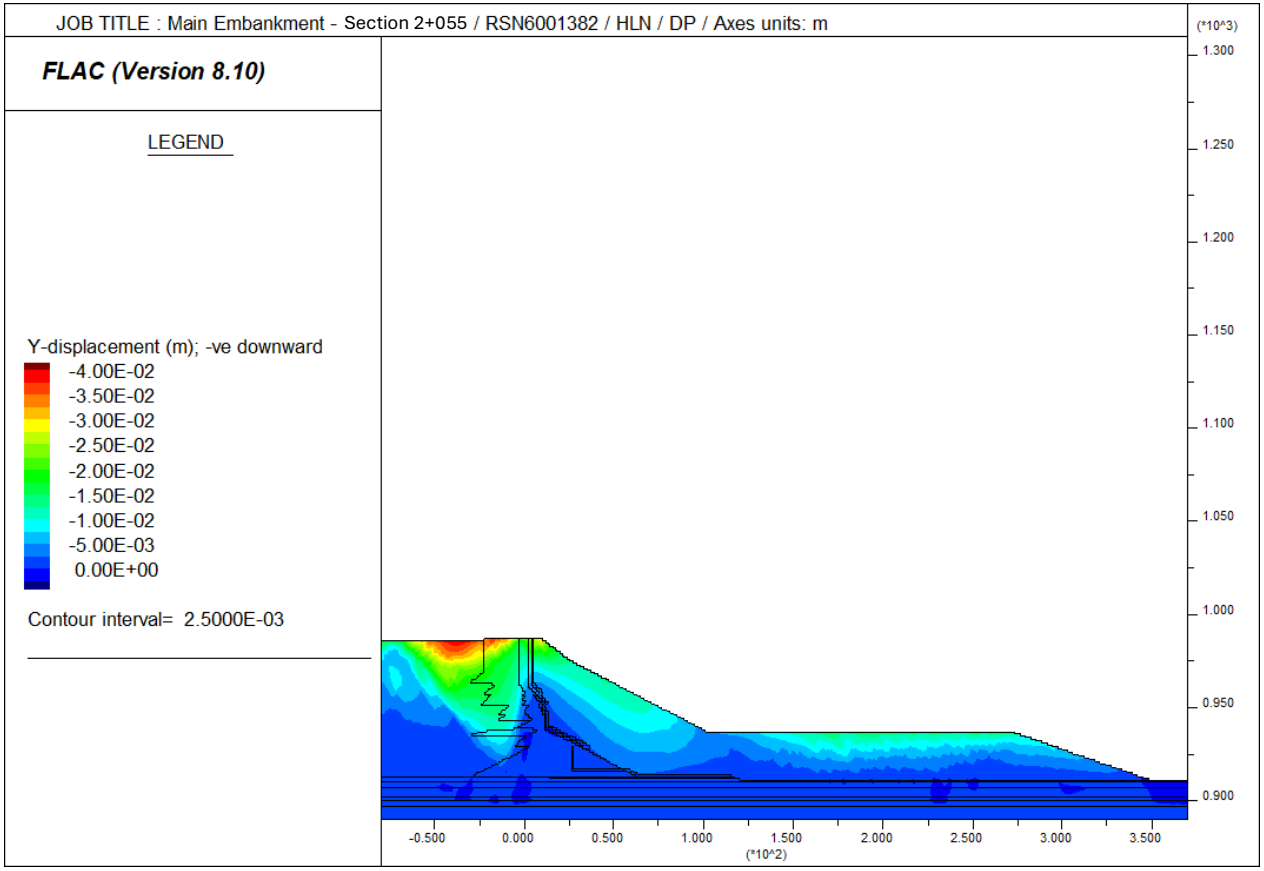

JOB TITLE : Main Embankment - Section 2+055 / RSN6001382 / HLE / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-3.50E-02
-3.00E-02
-2.50E-02
-2.00E-02
-1.50E-02
-1.00E-02
-5.00E-03
0.00E+00
Contour interval= 2.5000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

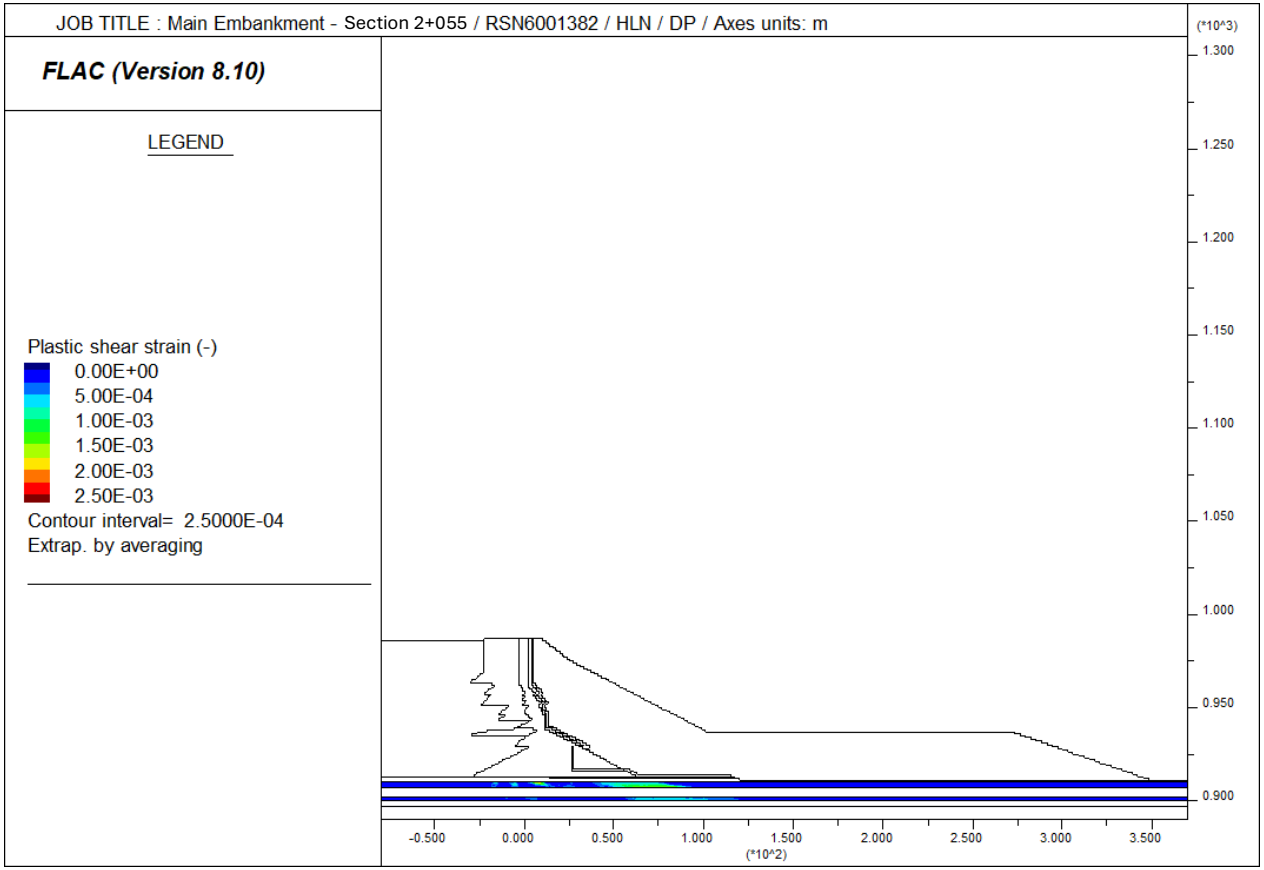

JOB TITLE : Main Embankment - Section 2+055 / RSN6001382 / HLE / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

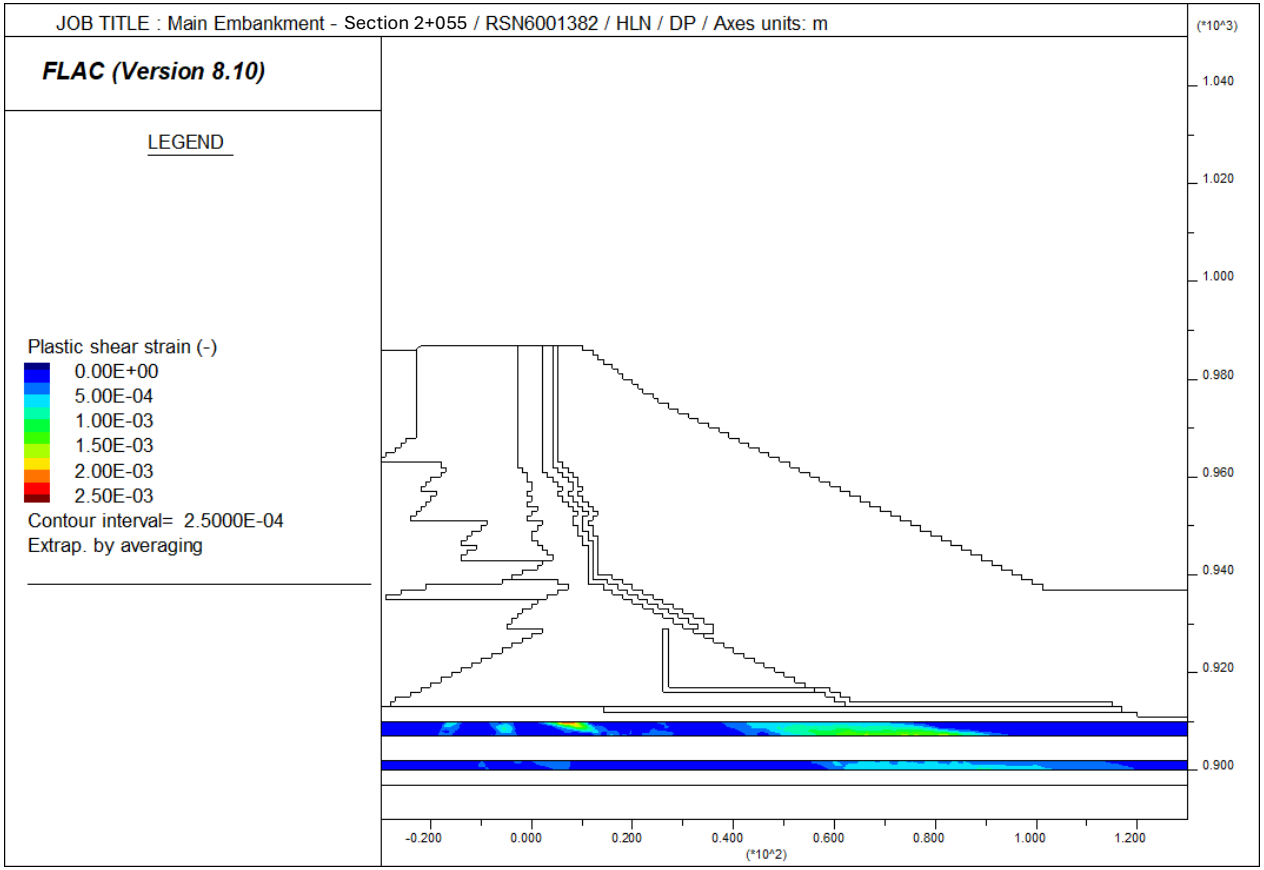

JOB TITLE : Main Embankment - Section 2+055 / RSN6001382 / HLE / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

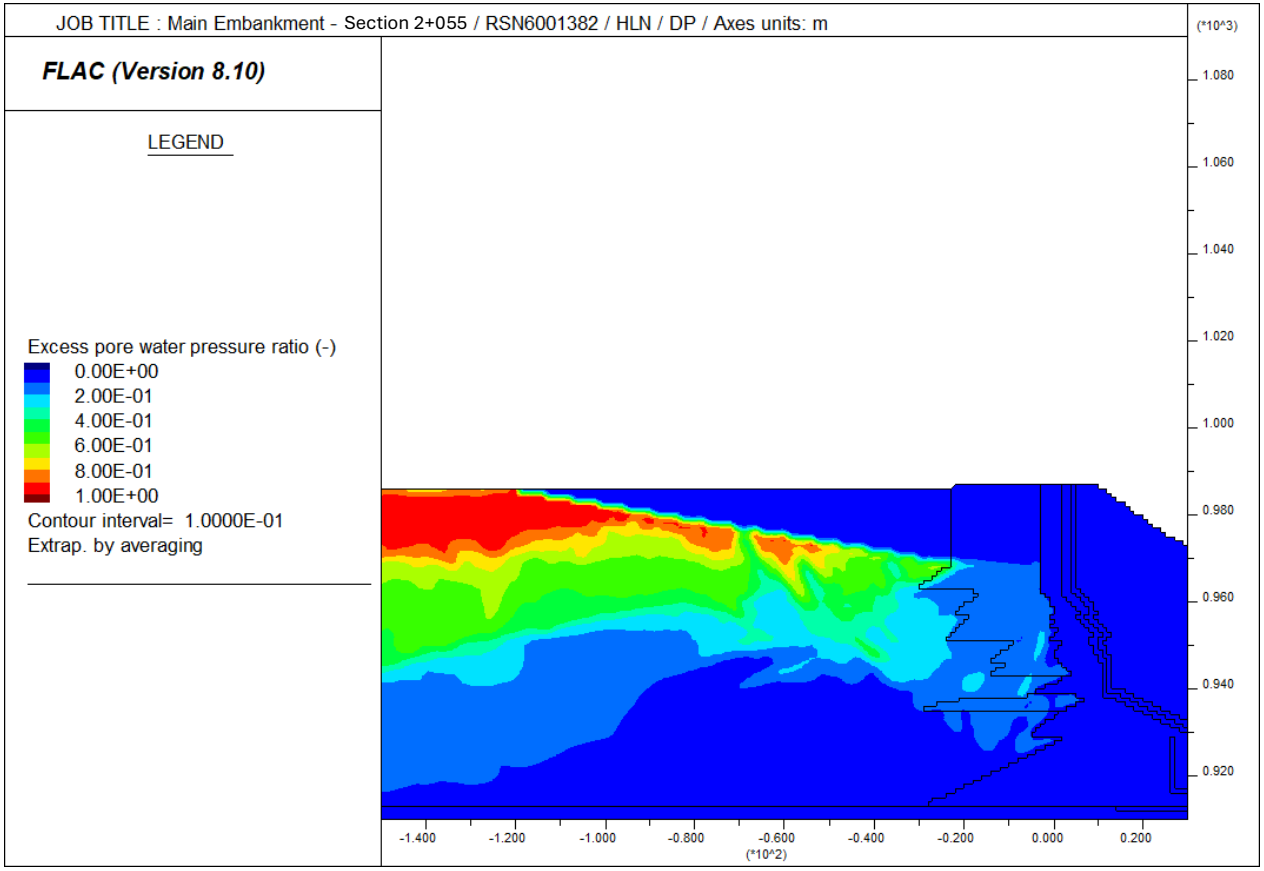

JOB TITLE : Main Embankment - Section 2+055 / RSN6001382 / HLE / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

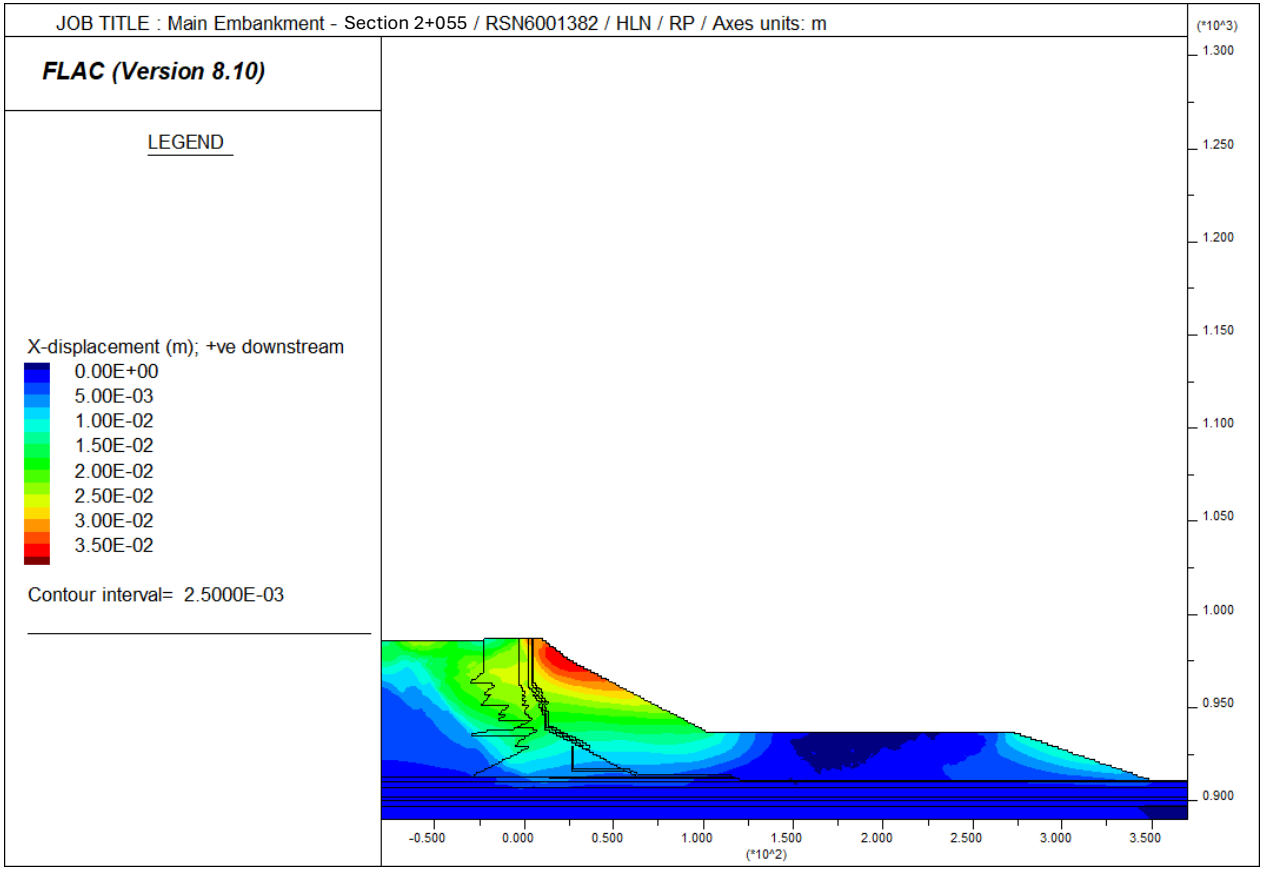

JOB TITLE : Main Embankment - Section 2+055 / RSN6001382 / HLN / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
5.00E-03
1.00E-02
1.50E-02
2.00E-02
2.50E-02
3.00E-02
3.50E-02
Contour interval= 2.5000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

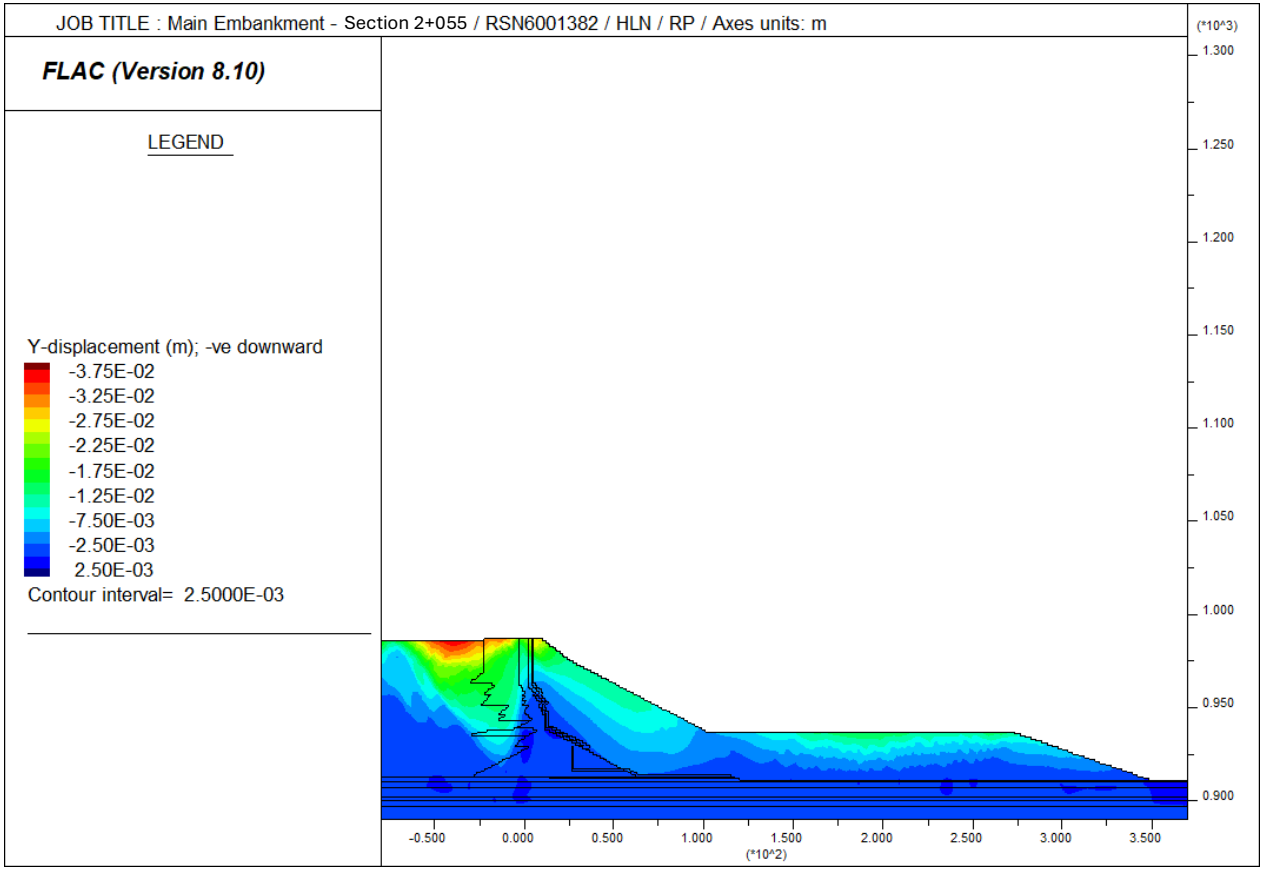

JOB TITLE : Main Embankment - Section 2+055 / RSN6001382 / HLN / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-4.00E-02
-3.50E-02
-3.00E-02
-2.50E-02
-2.00E-02
-1.50E-02
-1.00E-02
-5.00E-03
0.00E+00
Contour interval= 2.5000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

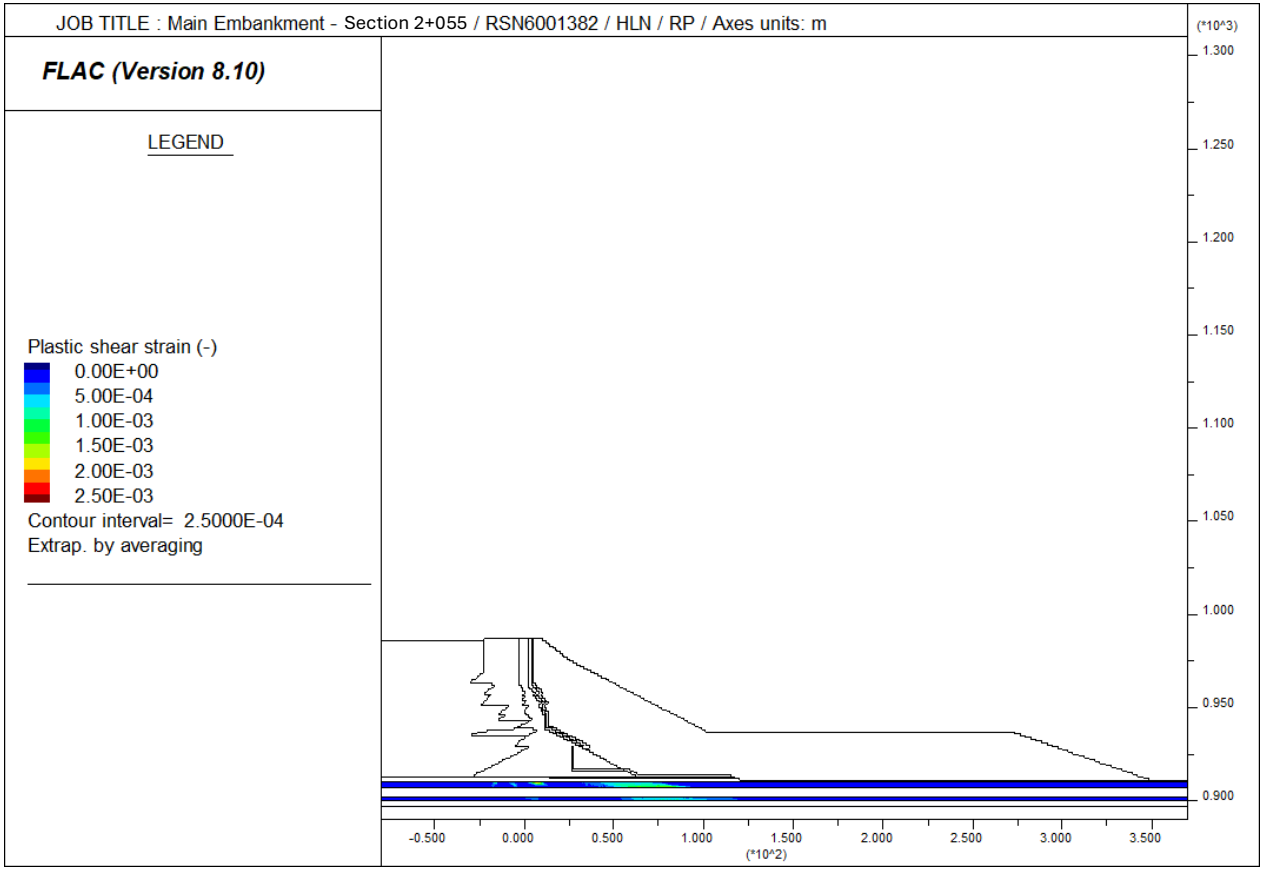

JOB TITLE : Main Embankment - Section 2+055 / RSN6001382 / HLN / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

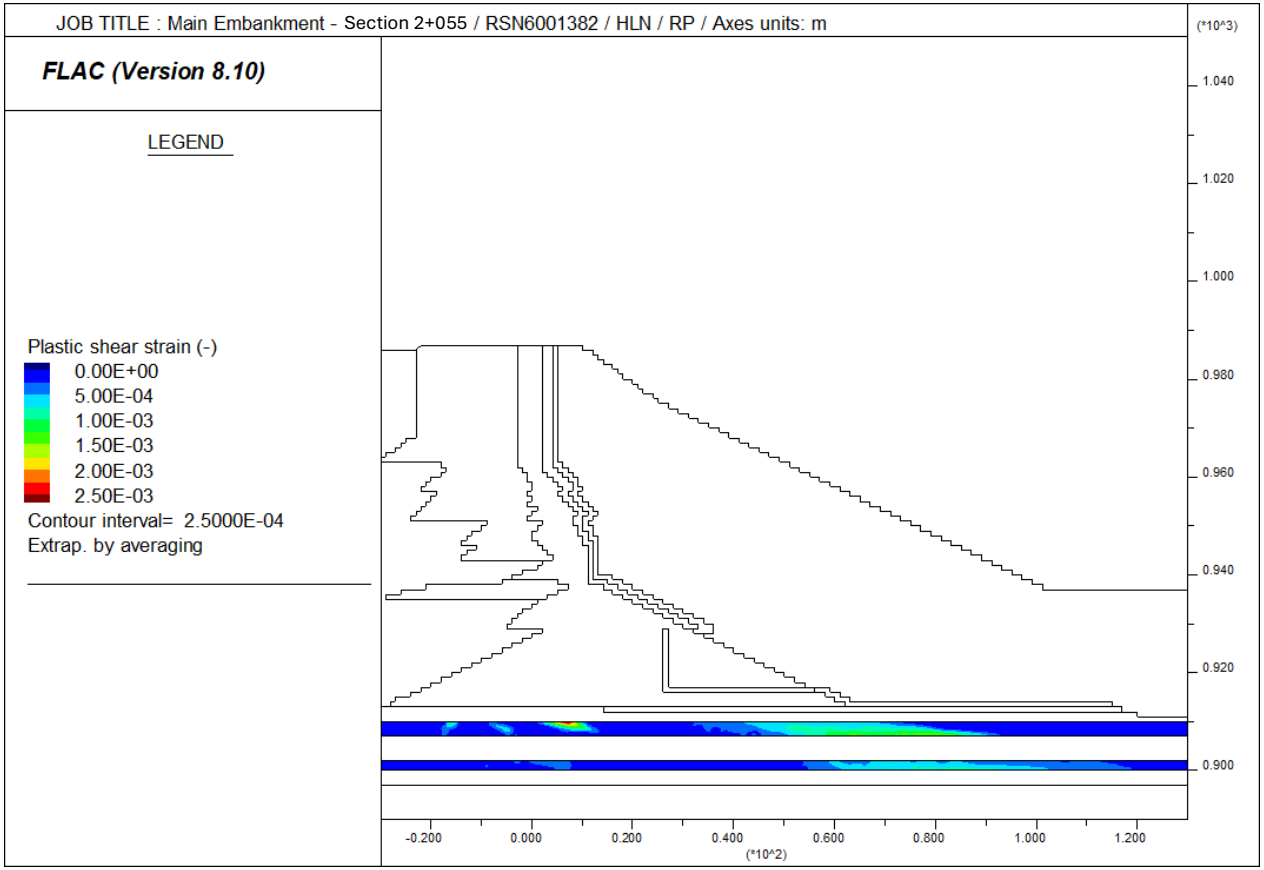

JOB TITLE : Main Embankment - Section 2+055 / RSN6001382 / HLN / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

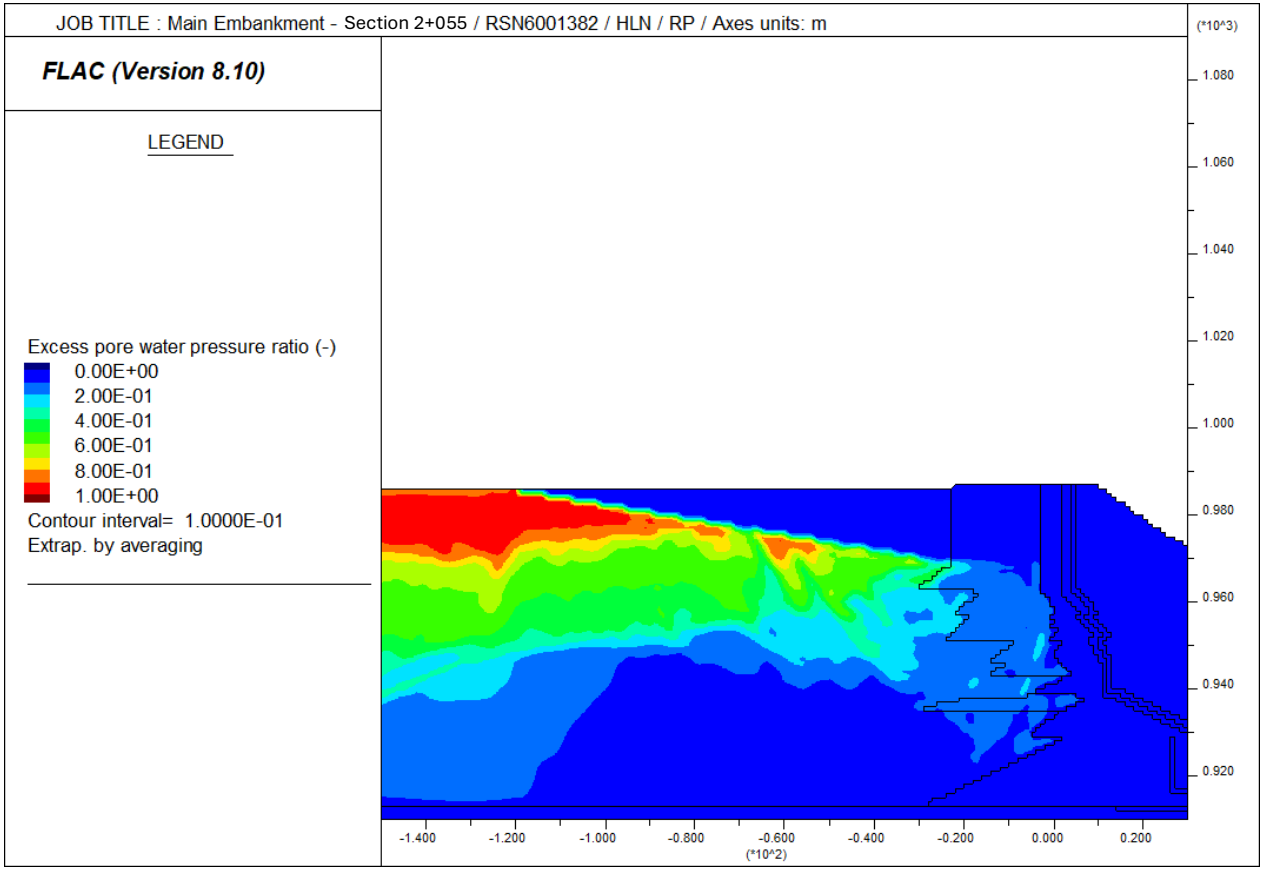

JOB TITLE : Main Embankment - Section 2+055 / RSN6001382 / HLN / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

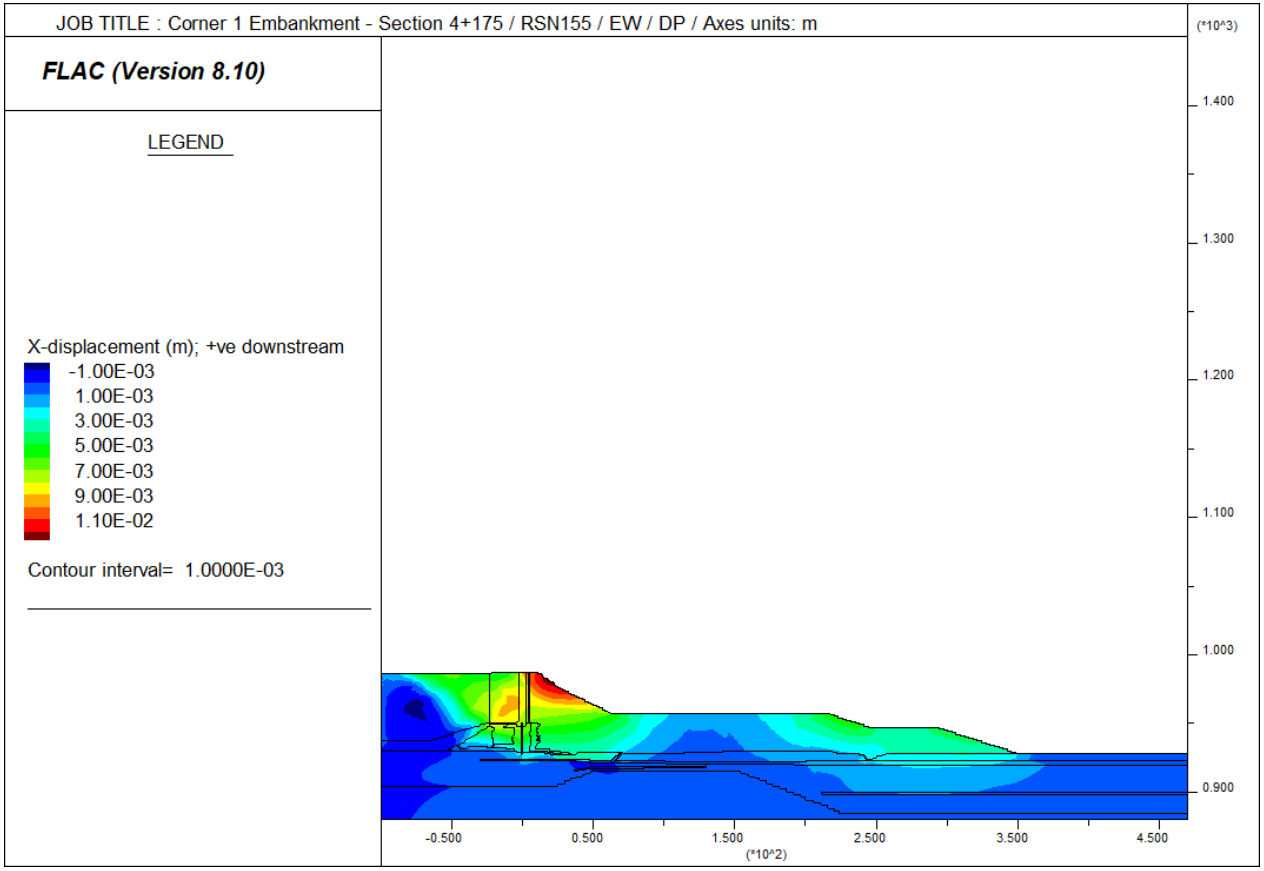

JOB TITLE : Main Embankment - Section 2+055 / RSN6001382 / HLN / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
5.00E-03
1.00E-02
1.50E-02
2.00E-02
2.50E-02
3.00E-02
3.50E-02
Contour interval= 2.5000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

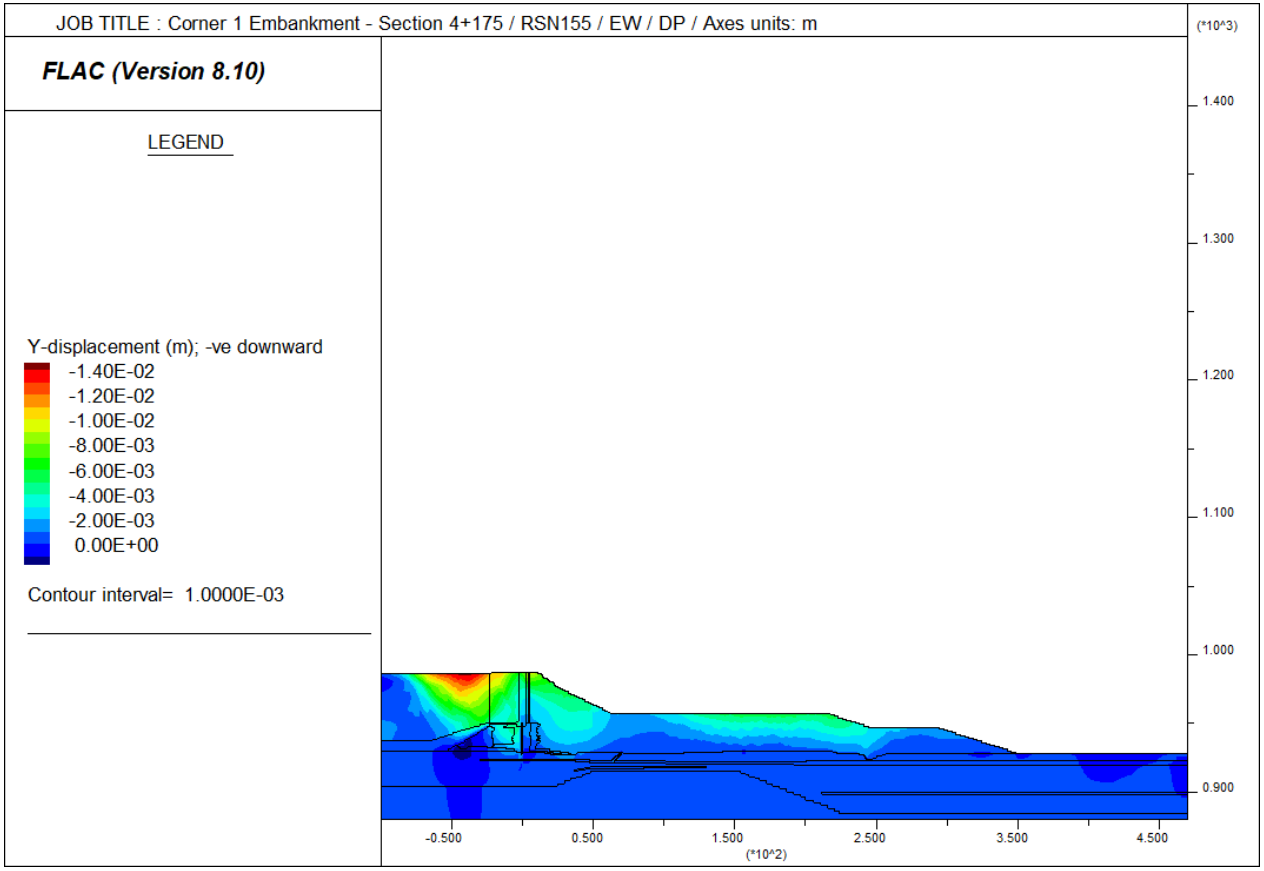

JOB TITLE : Main Embankment - Section 2+055 / RSN6001382 / HLN / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-3.75E-02
-3.25E-02
-2.75E-02
-2.25E-02
-1.75E-02
-1.25E-02
-7.50E-03
-2.50E-03
2.50E-03
Contour interval= 2.5000E-03
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

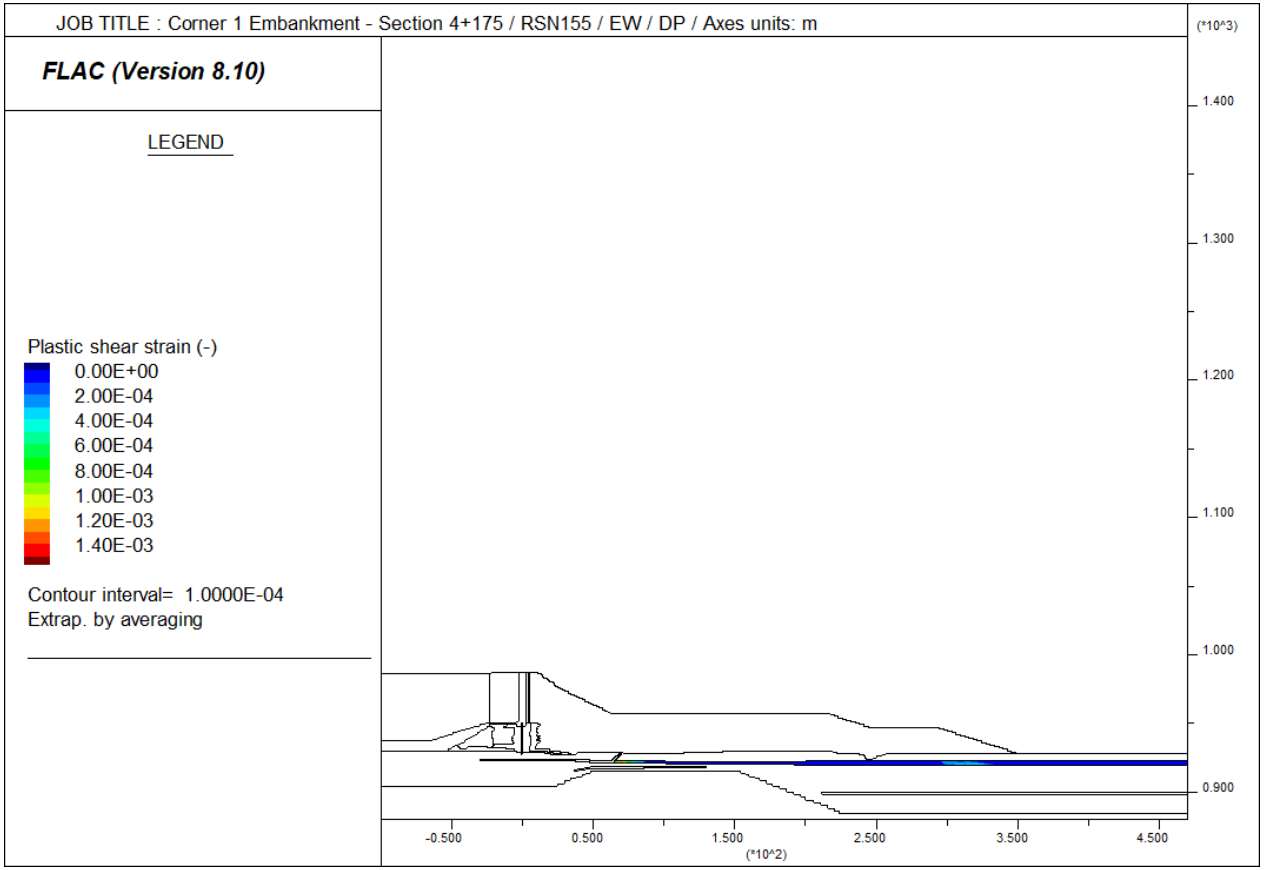

JOB TITLE : Main Embankment - Section 2+055 / RSN6001382 / HLN / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.300
1.250
1.200
1.150
1.100
1.050
1.000
0.950
0.900
-0.500
0.000
0.500
1.000
1.500
2.000
2.500
3.000
3.500
(*10^2)

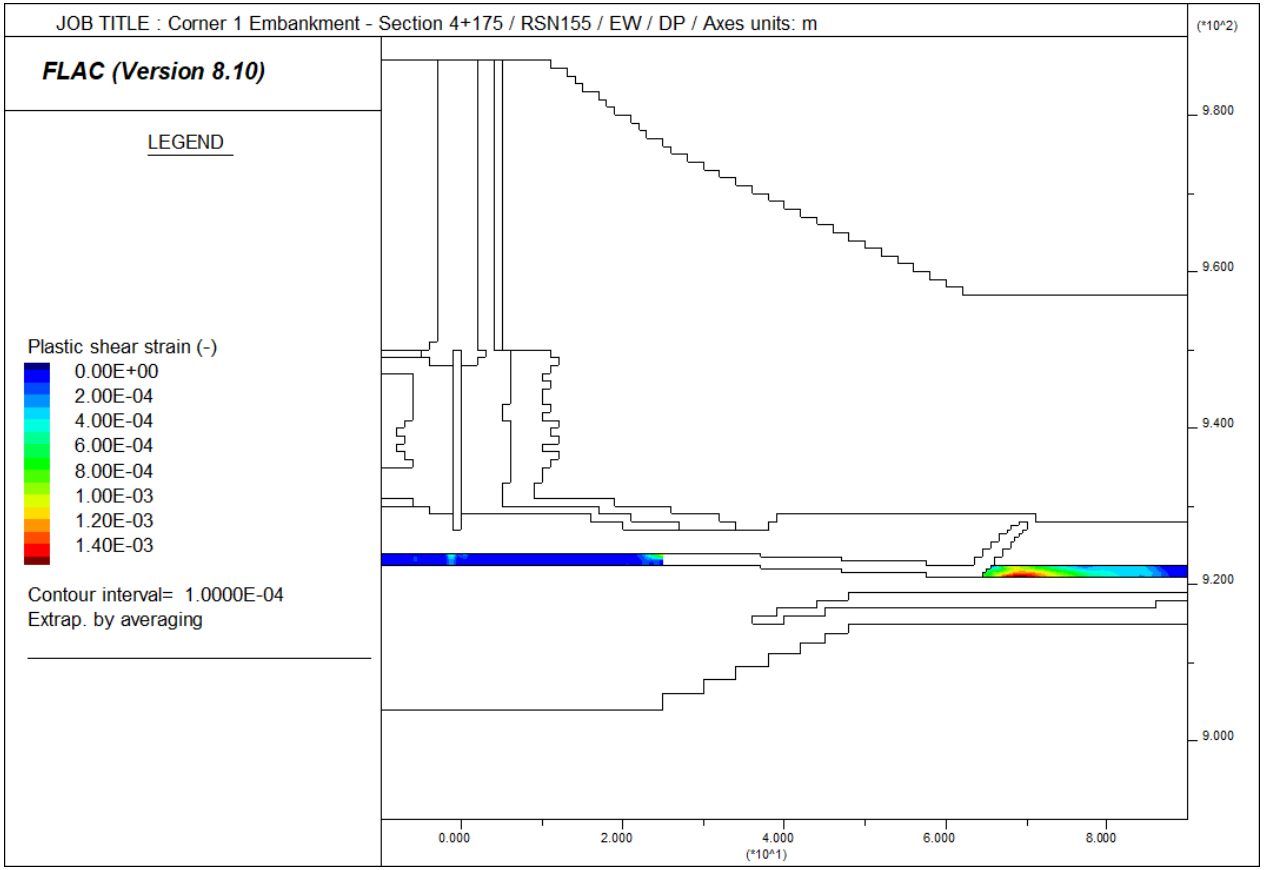

JOB TITLE : Main Embankment - Section 2+055 / RSN6001382 / HLN / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.040
1.020
1.000
0.980
0.960
0.940
0.920
0.900
-0.200
0.000
0.200
0.400
0.600
0.800
1.000
1.200
(*10^2)

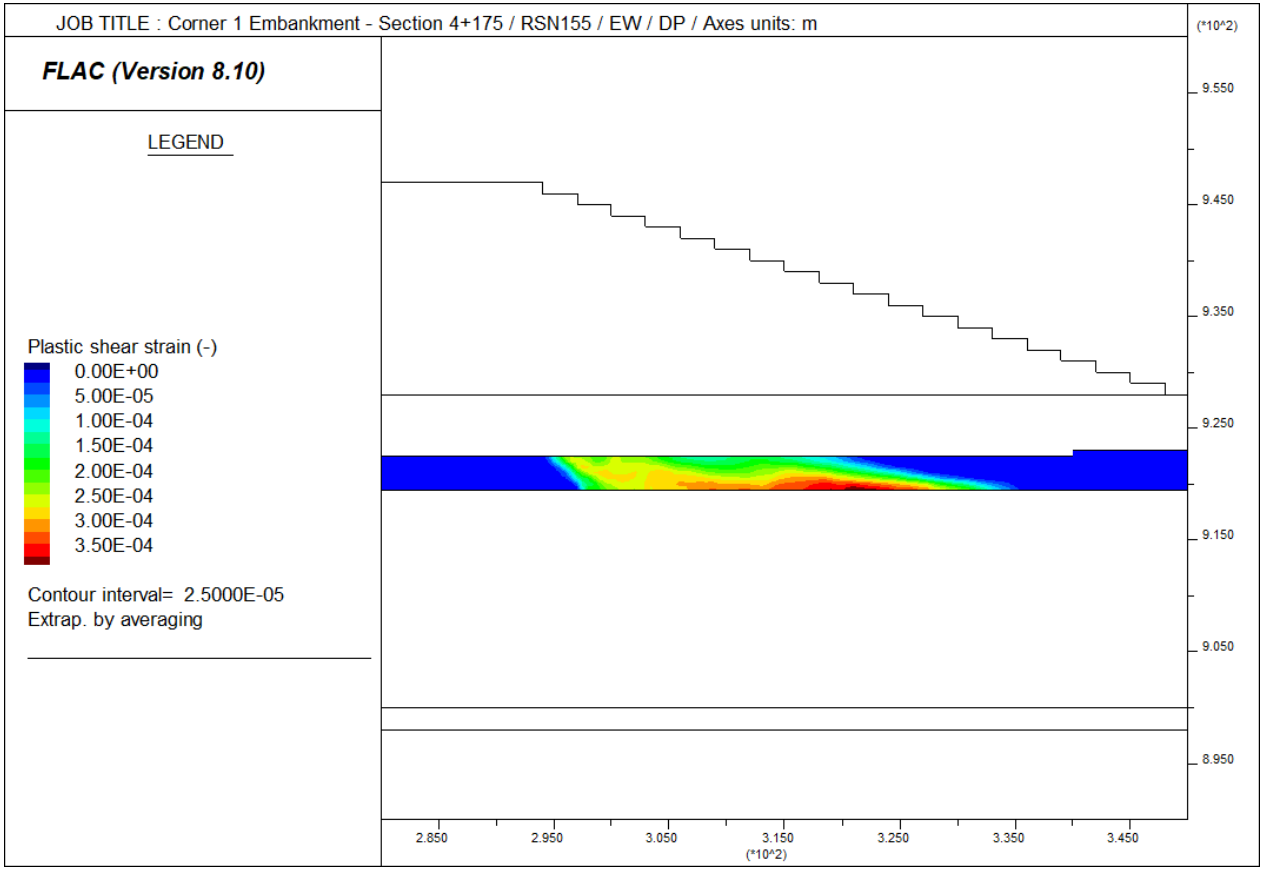

JOB TITLE : Main Embankment - Section 2+055 / RSN6001382 / HLN / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.080
1.060
1.040
1.020
1.000
0.980
0.960
0.940
0.920
-1.400
-1.200
-1.000
-0.800
-0.600
-0.400
-0.200
0.000
0.200
(*10^2)

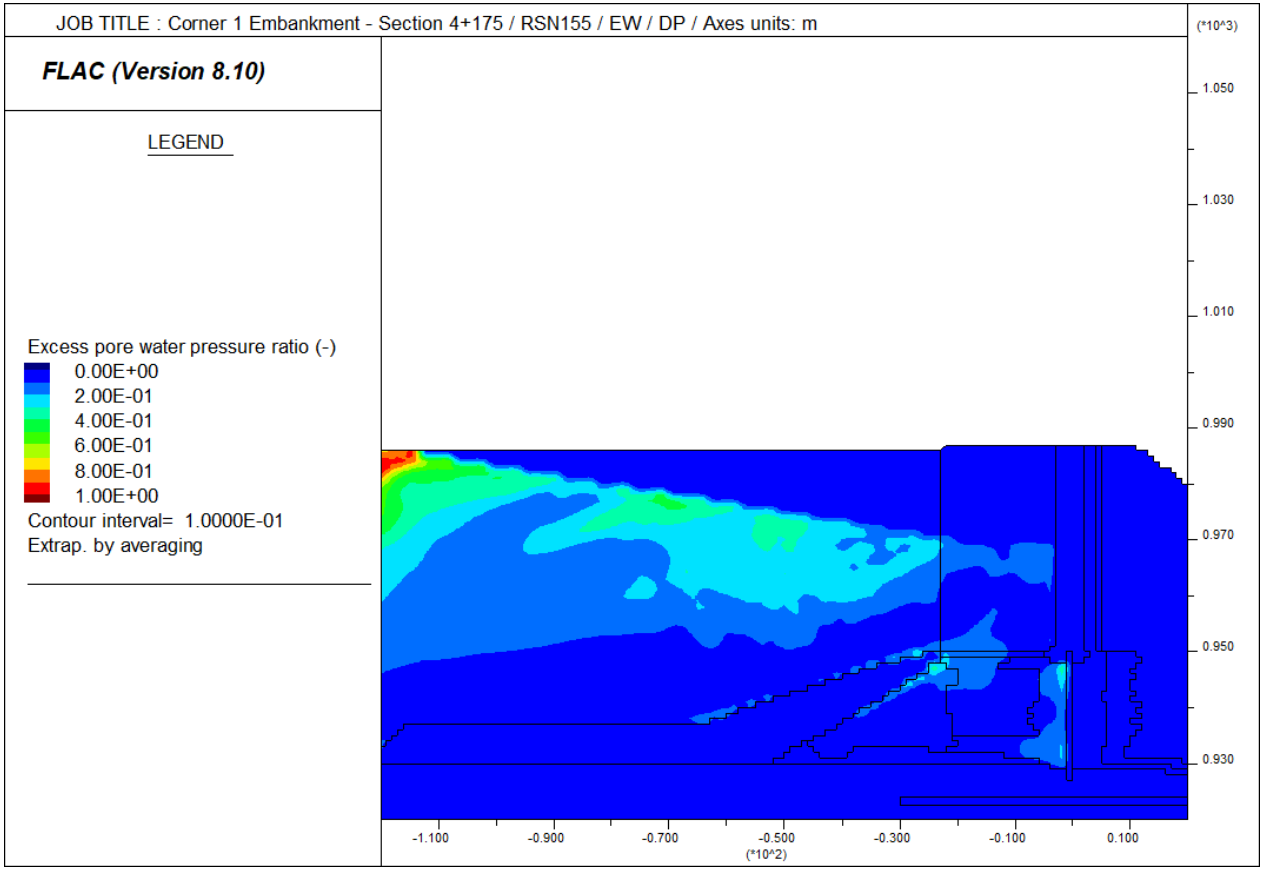

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / EW / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
-1.00E-03
1.00E-03
3.00E-03
5.00E-03
7.00E-03
9.00E-03
1.10E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

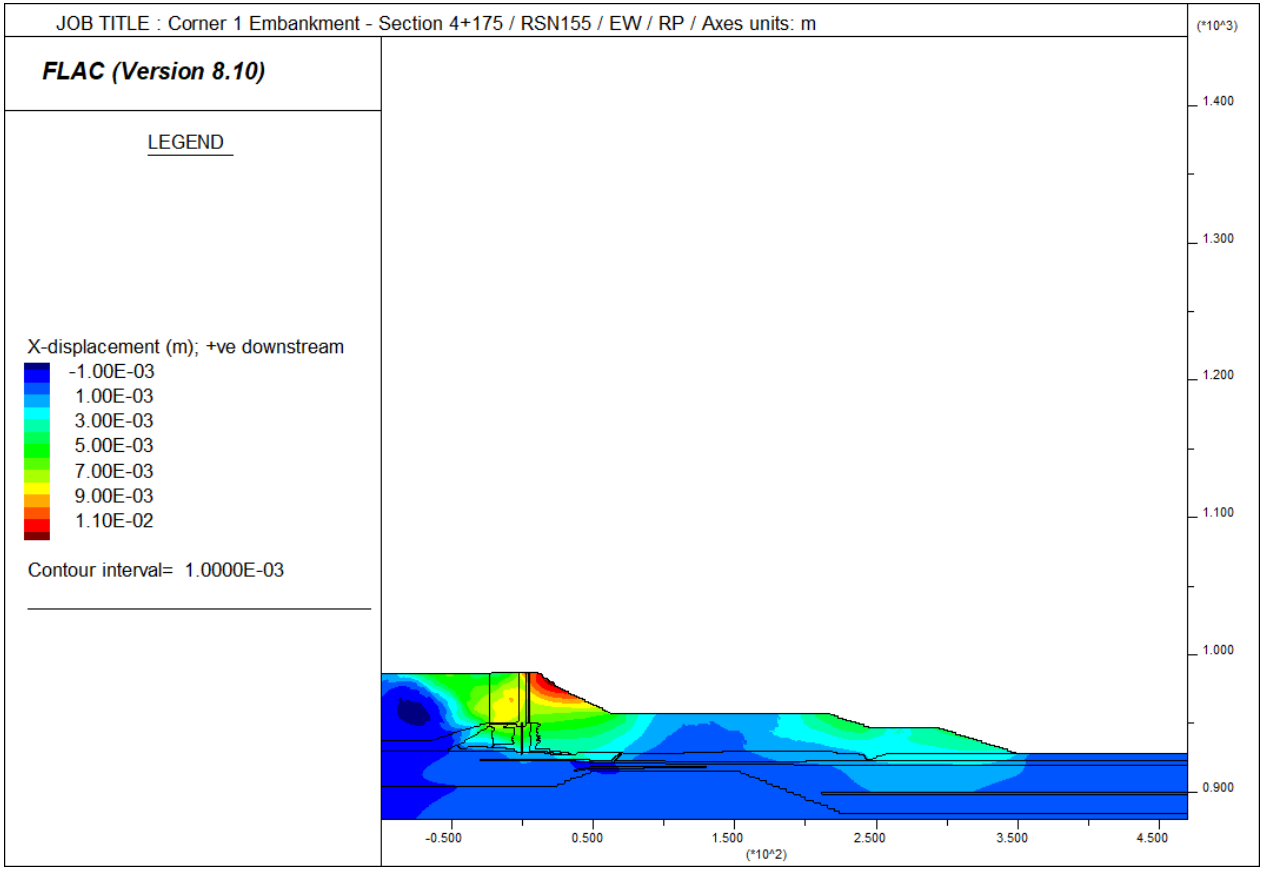

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / EW / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.40E-02
-1.20E-02
-1.00E-02
-8.00E-03
-6.00E-03
-4.00E-03
-2.00E-03
0.00E+00
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

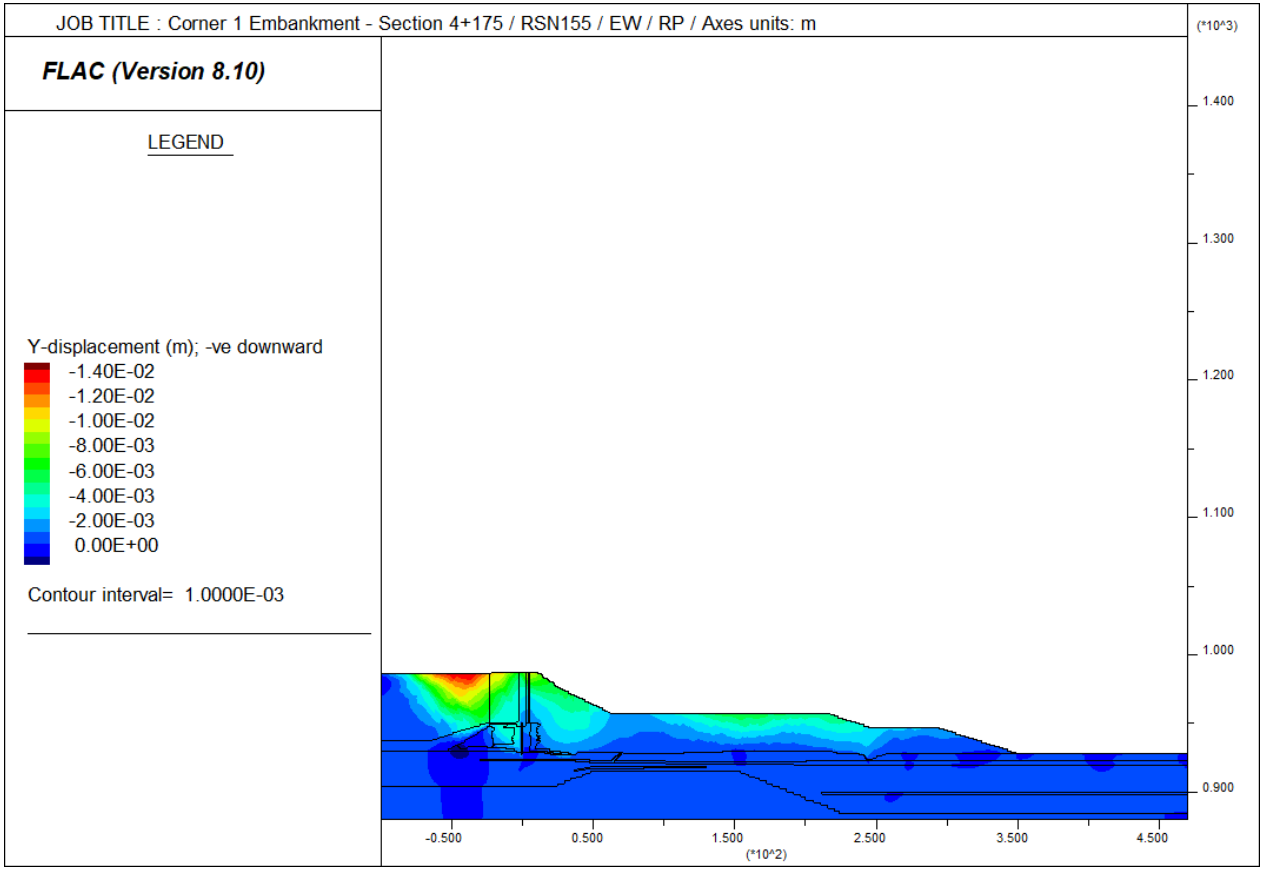

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / EW / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

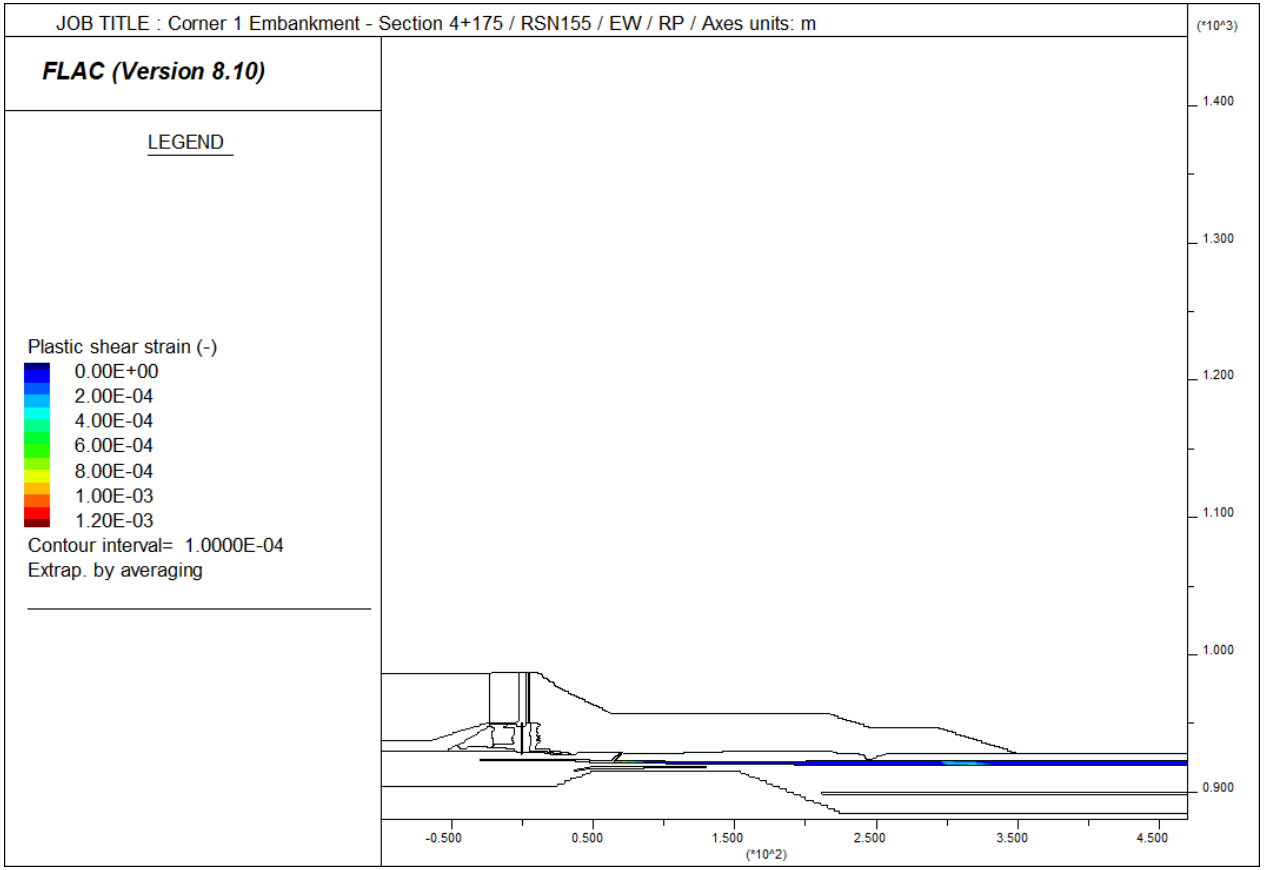

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / EW / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

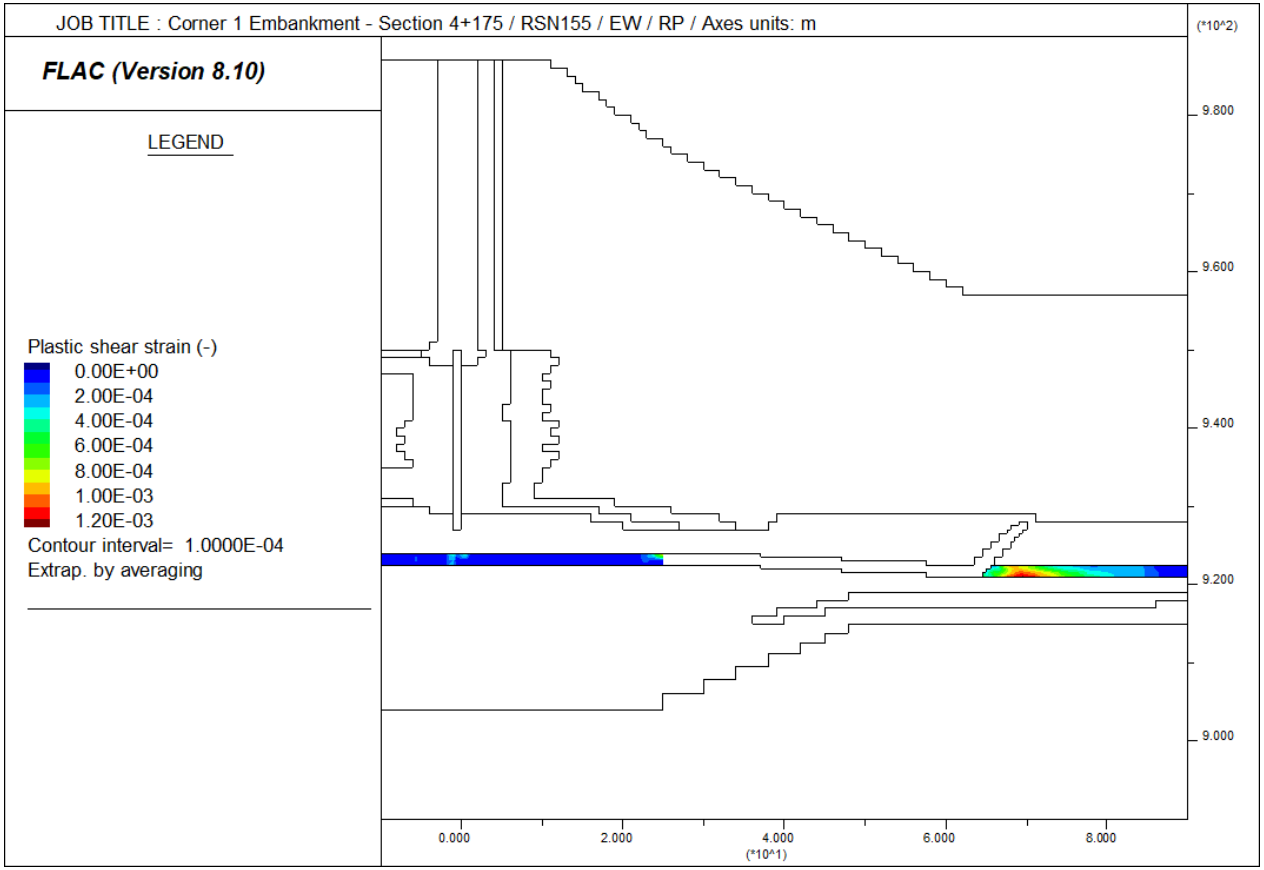

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / EW / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-05
1.00E-04
1.50E-04
2.00E-04
2.50E-04
3.00E-04
3.50E-04
Contour interval= 2.5000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

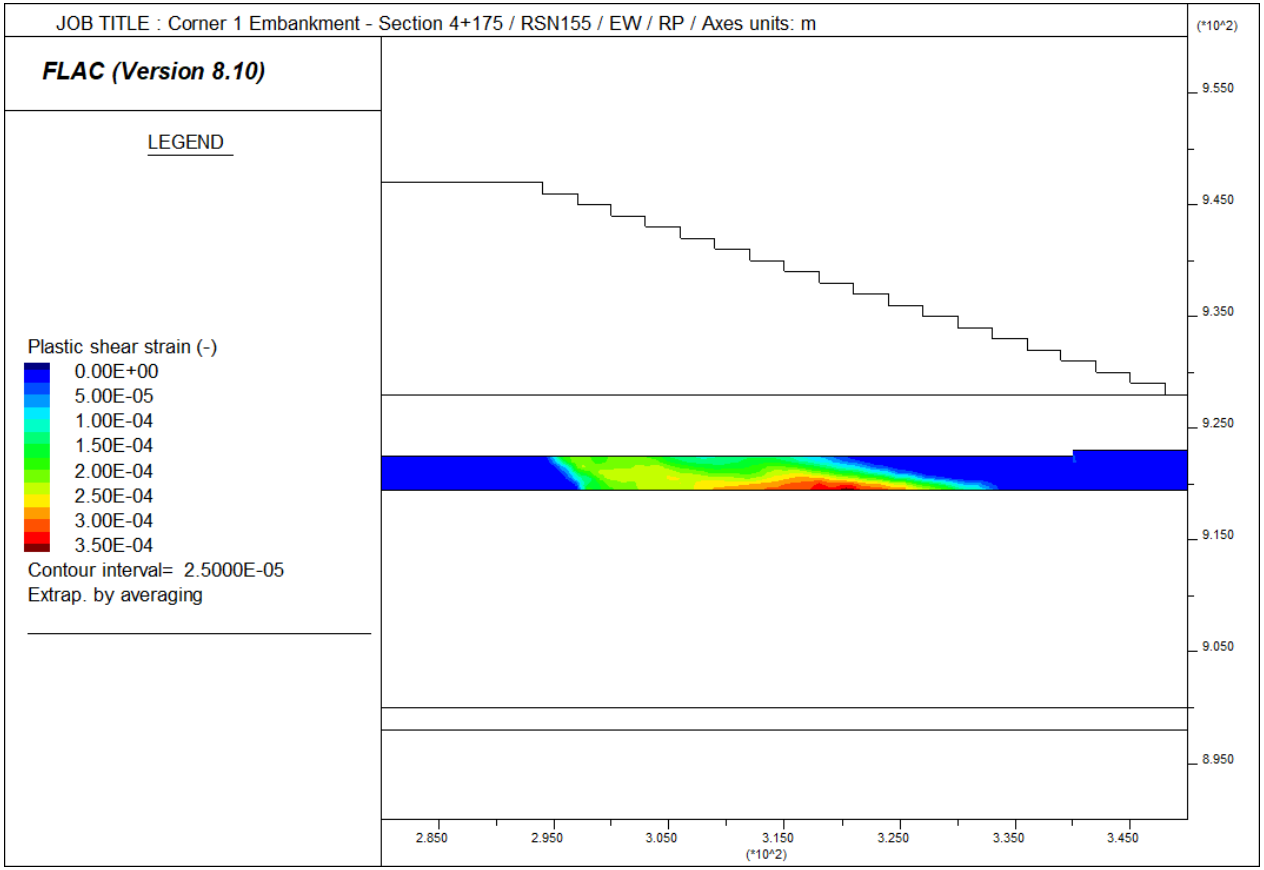

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / EW / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

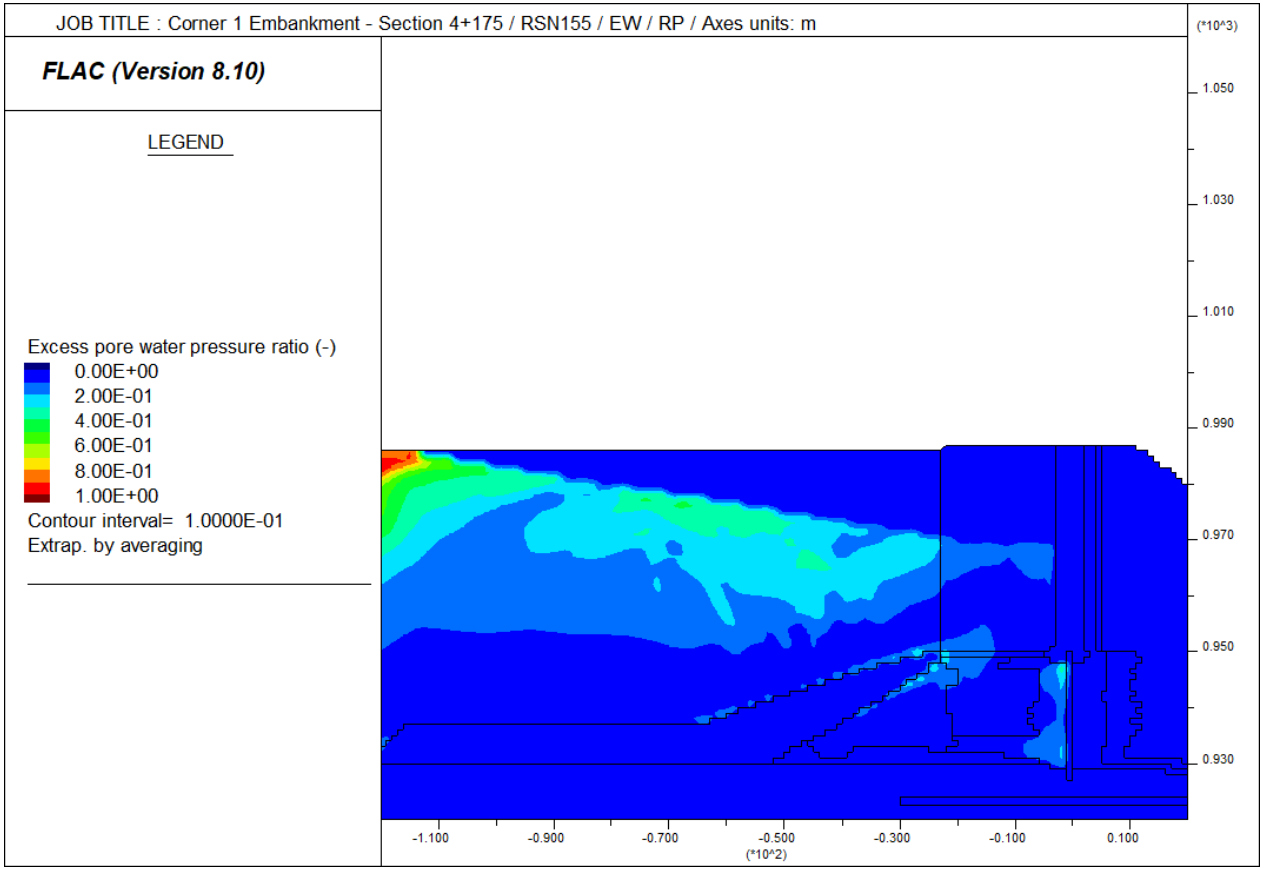

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / EW / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
-1.00E-03
1.00E-03
3.00E-03
5.00E-03
7.00E-03
9.00E-03
1.10E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

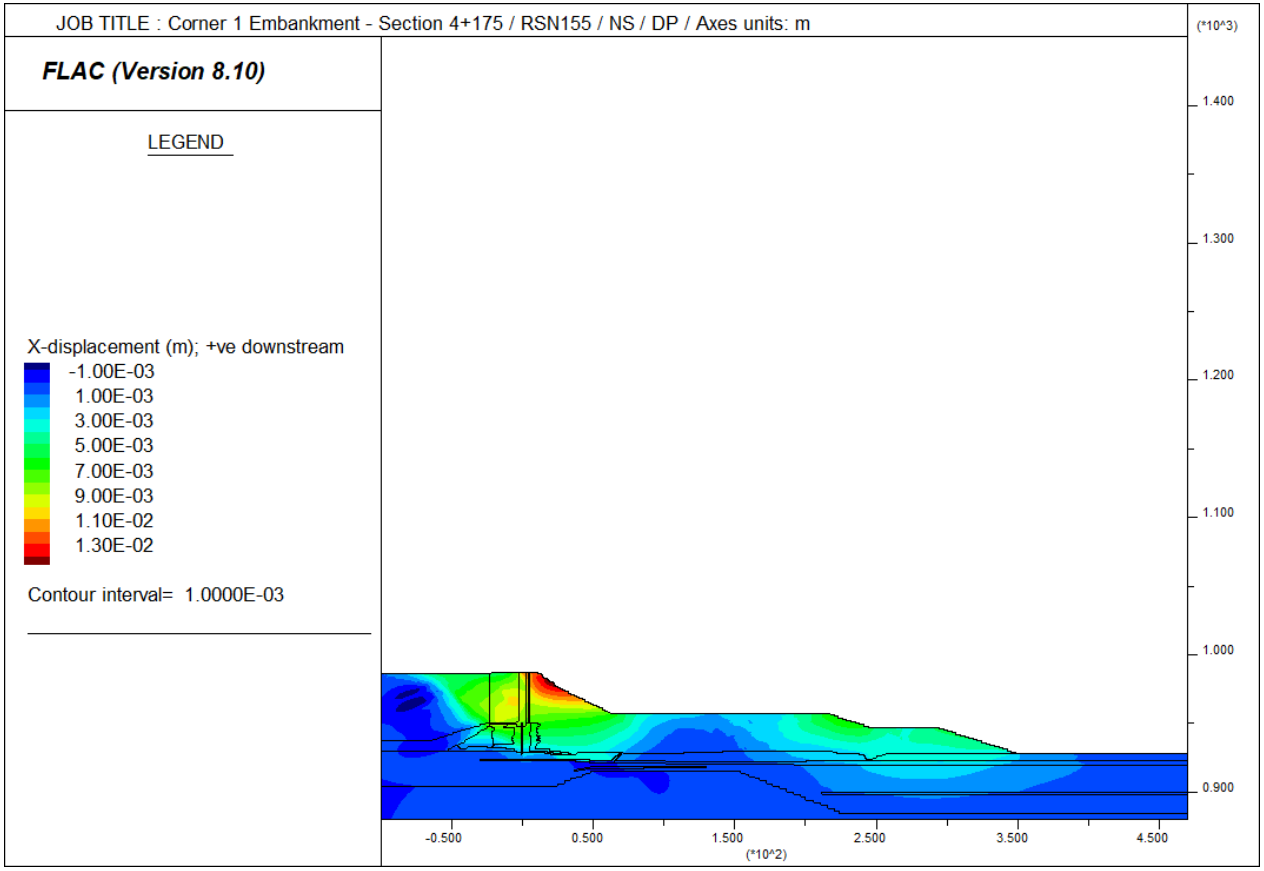

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / EW / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.40E-02
-1.20E-02
-1.00E-02
-8.00E-03
-6.00E-03
-4.00E-03
-2.00E-03
0.00E+00
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

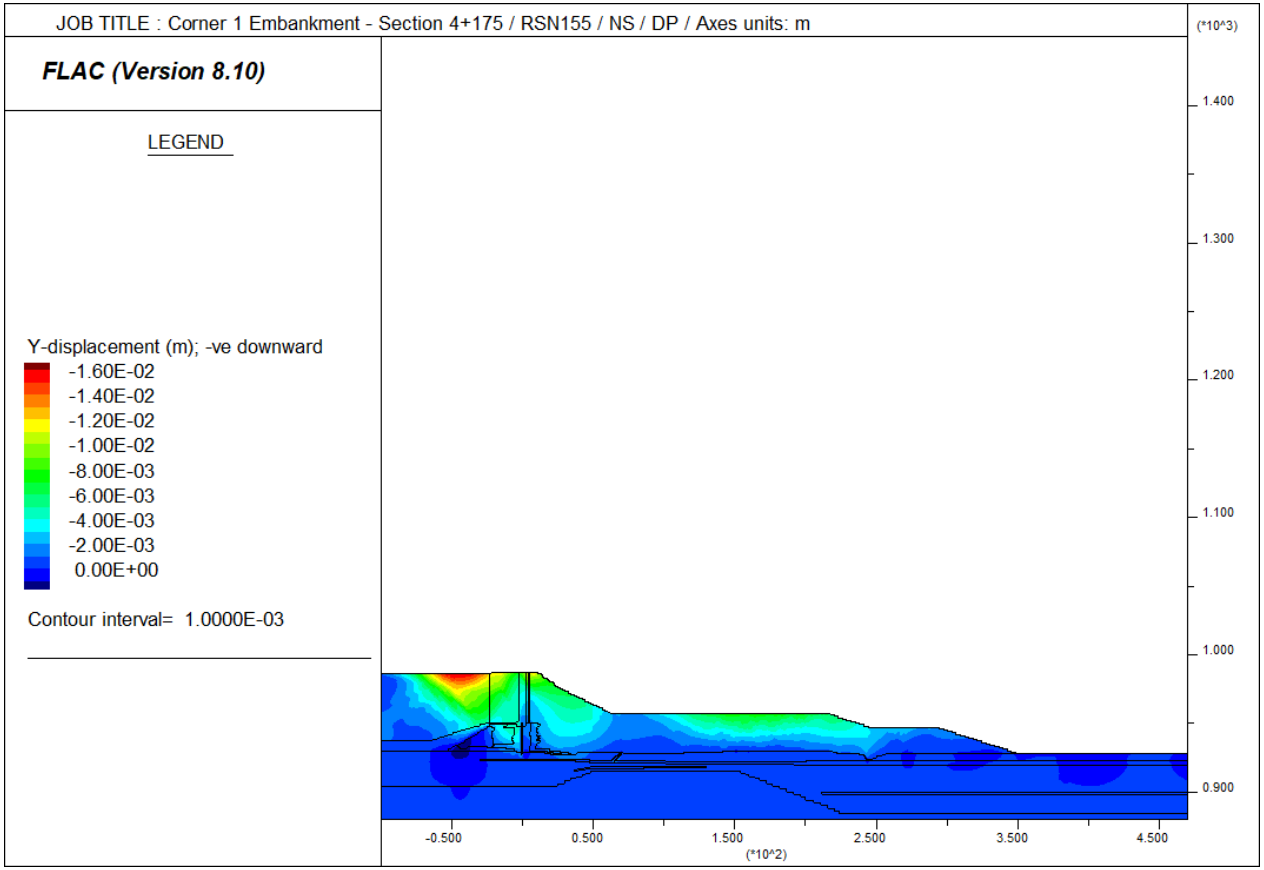

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / EW / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

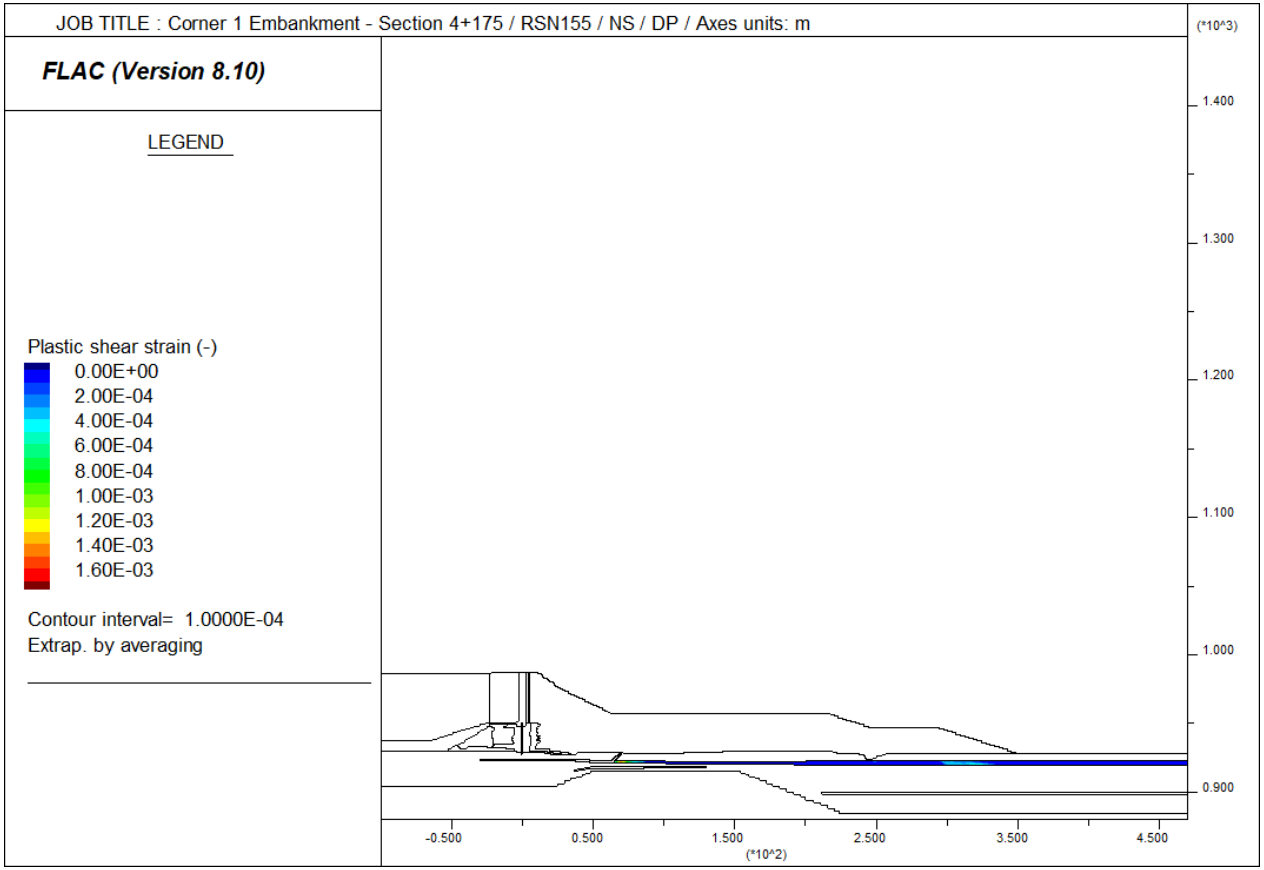

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / EW / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

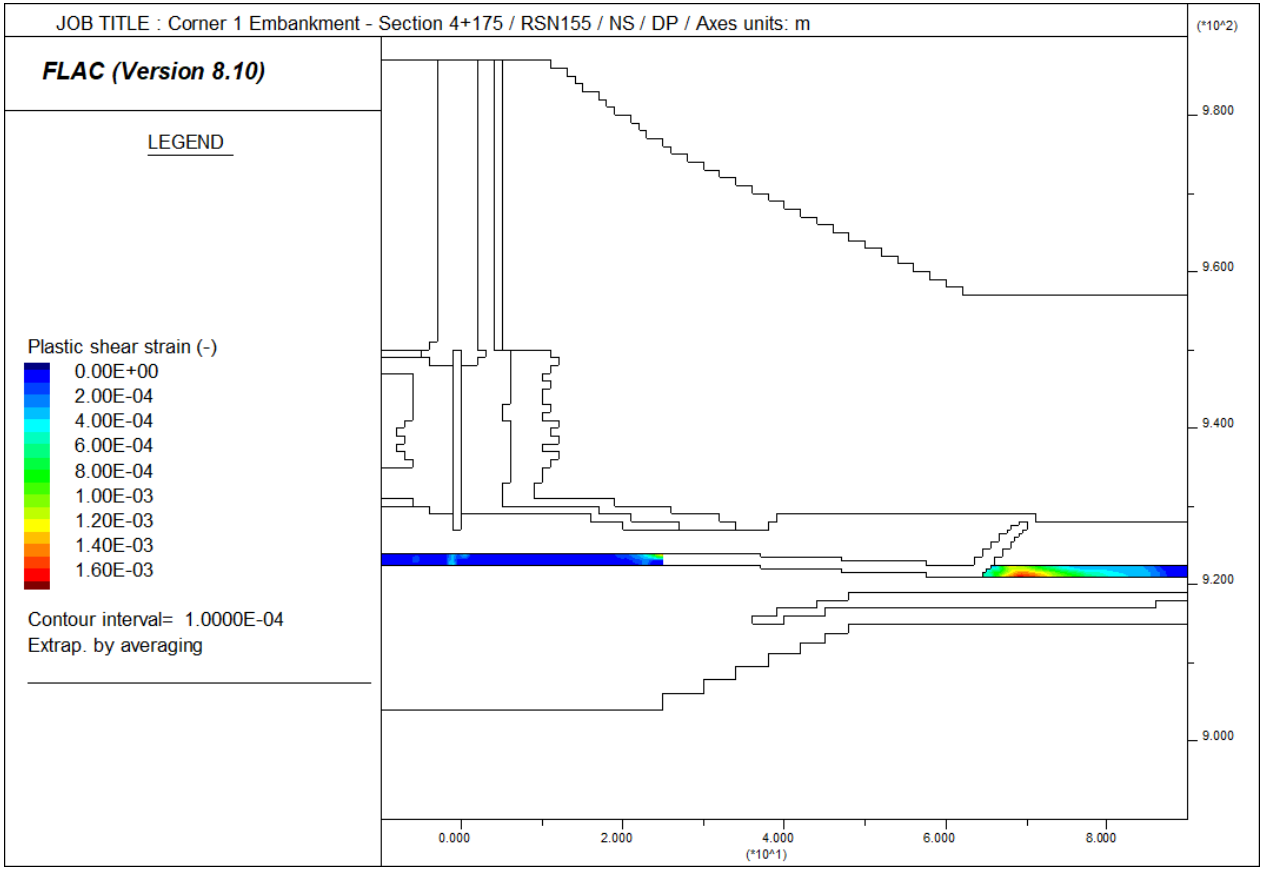

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / EW / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-05
1.00E-04
1.50E-04
2.00E-04
2.50E-04
3.00E-04
3.50E-04
Contour interval= 2.5000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

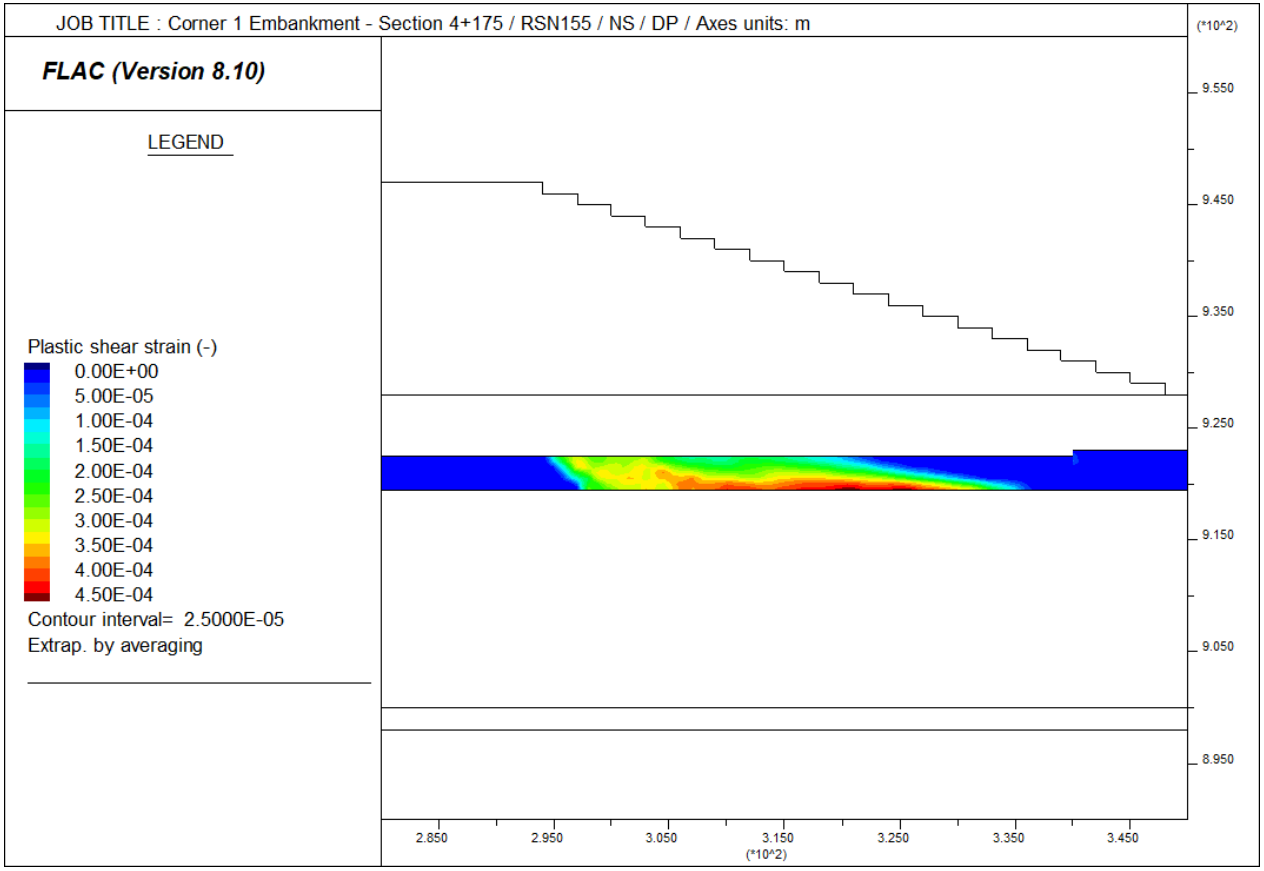

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / EW / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

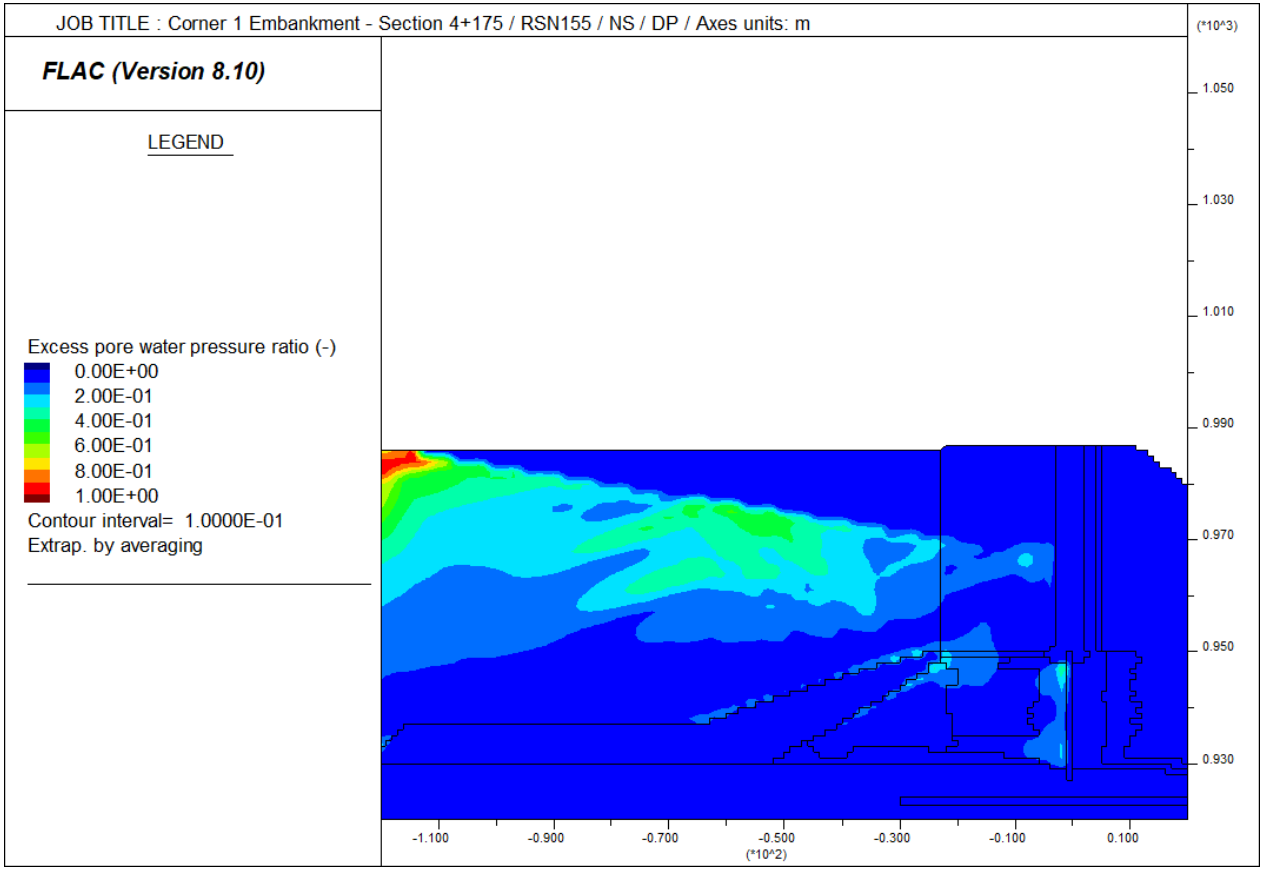

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / NS / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
-1.00E-03
1.00E-03
3.00E-03
5.00E-03
7.00E-03
9.00E-03
1.10E-02
1.30E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

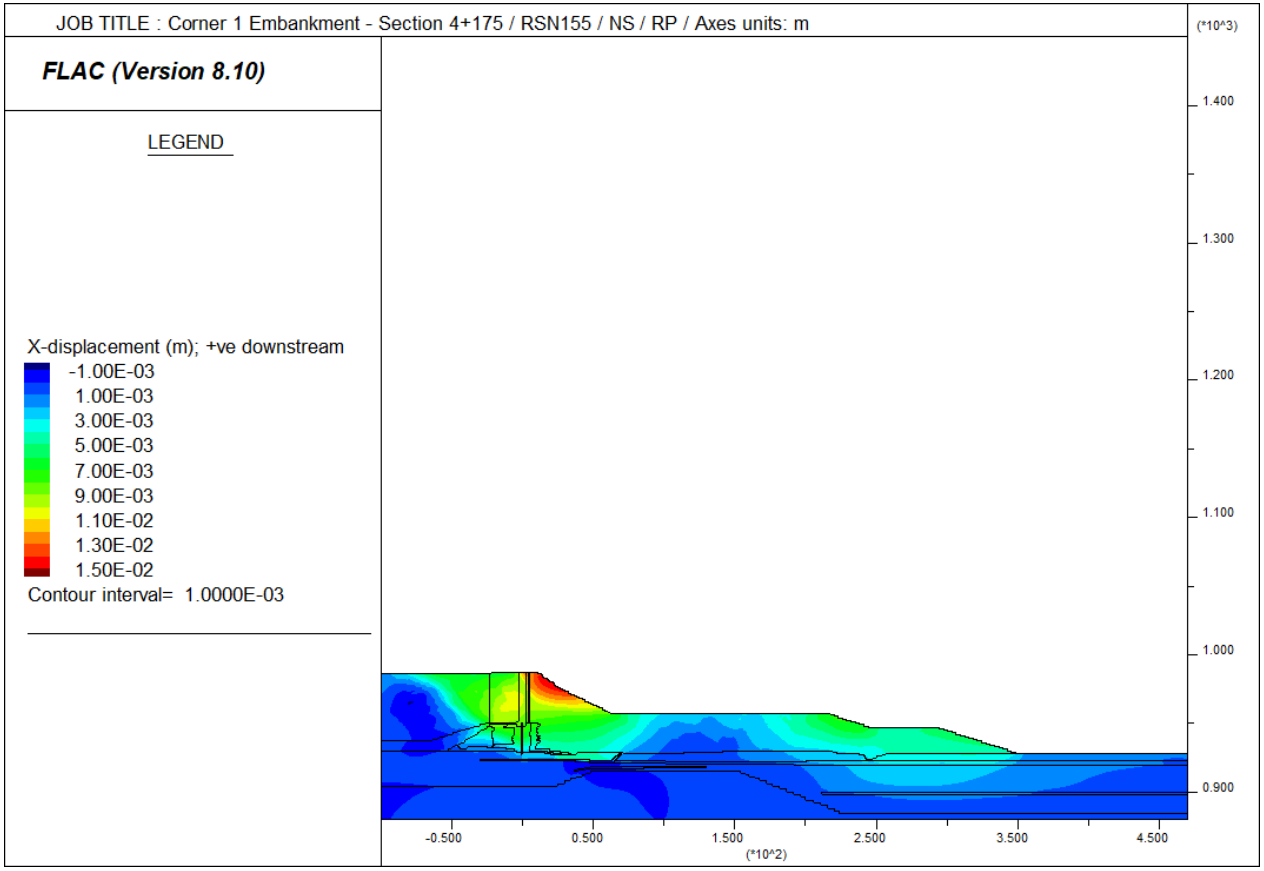

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / NS / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.60E-02
-1.40E-02
-1.20E-02
-1.00E-02
-8.00E-03
-6.00E-03
-4.00E-03
-2.00E-03
0.00E+00
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

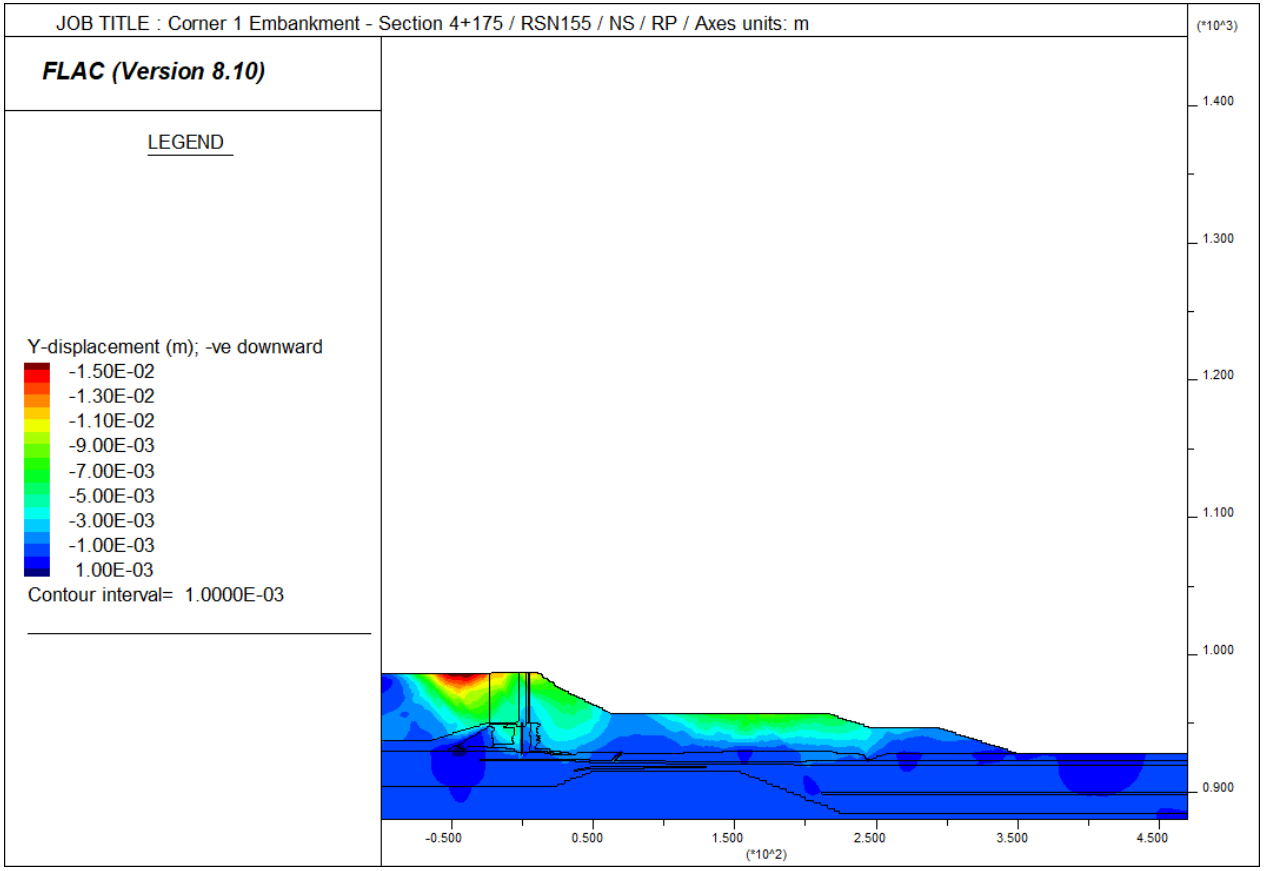

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / NS / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

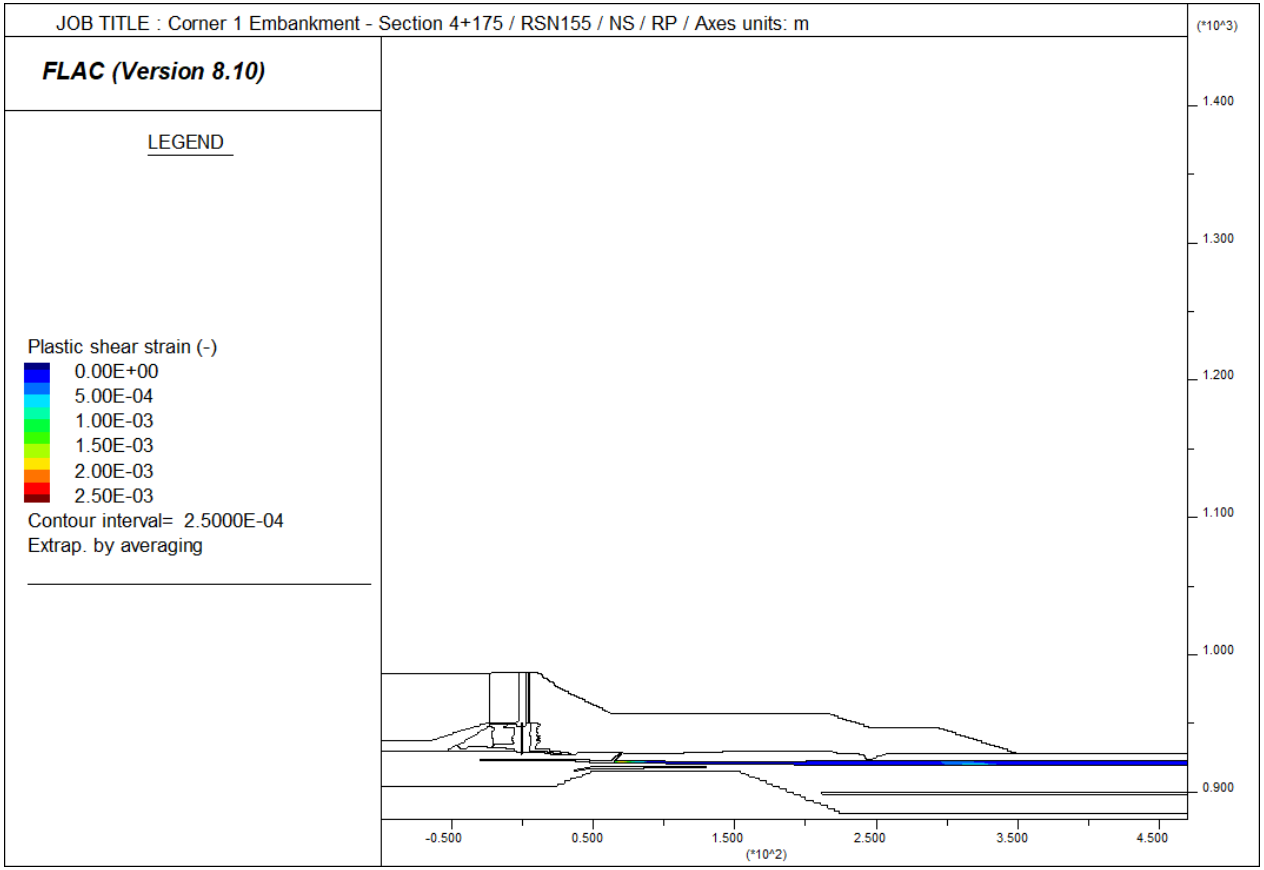

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / NS / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

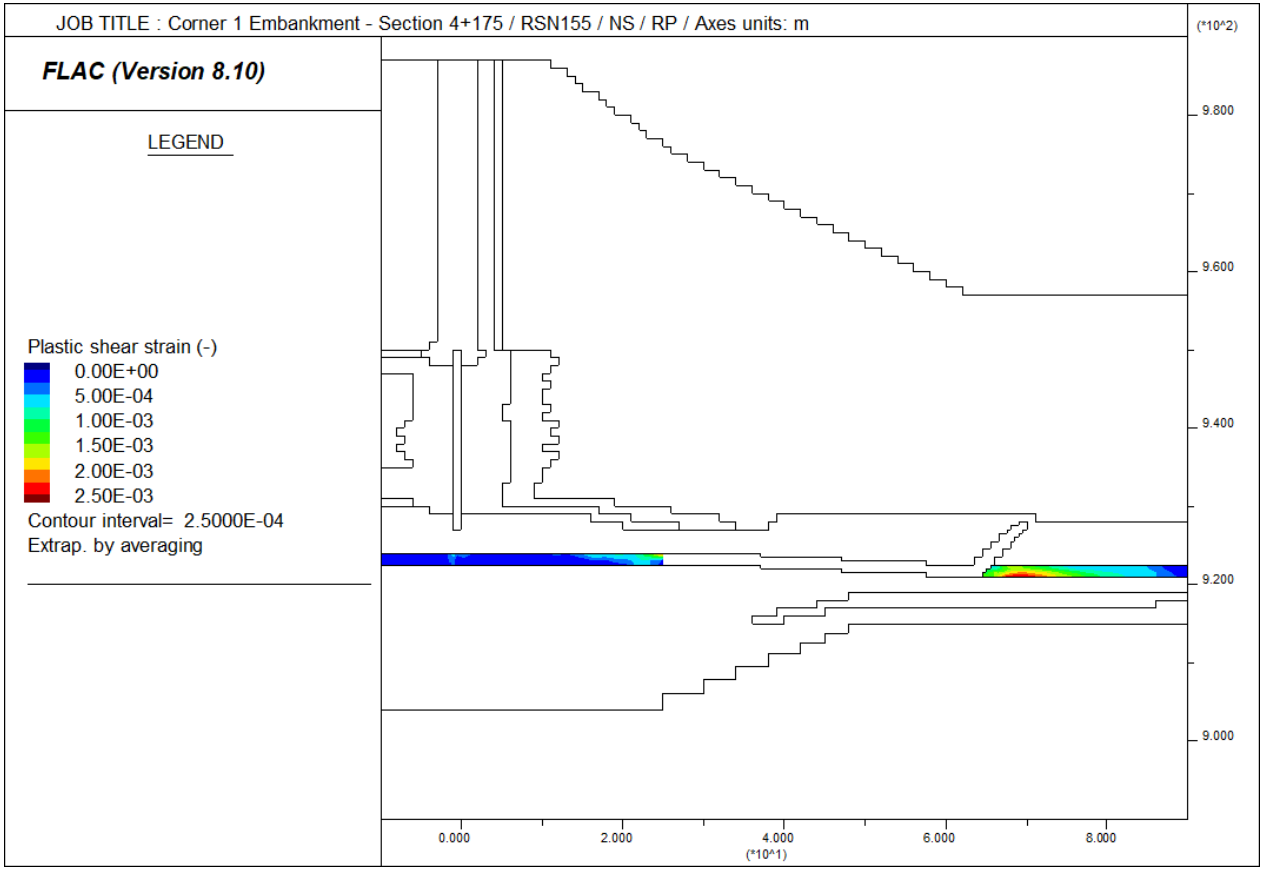

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / NS / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-05
1.00E-04
1.50E-04
2.00E-04
2.50E-04
3.00E-04
3.50E-04
4.00E-04
4.50E-04
Contour interval= 2.5000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

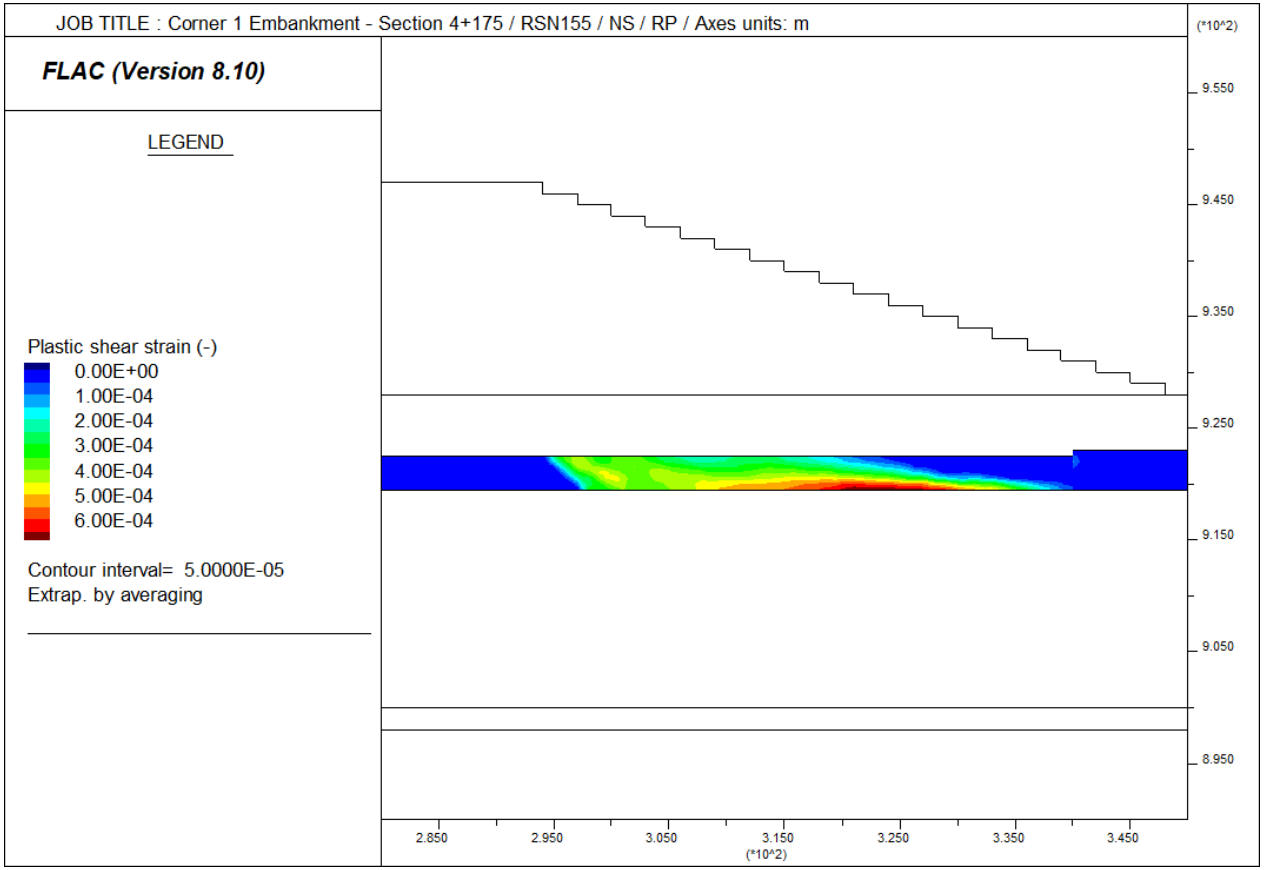

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / NS / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

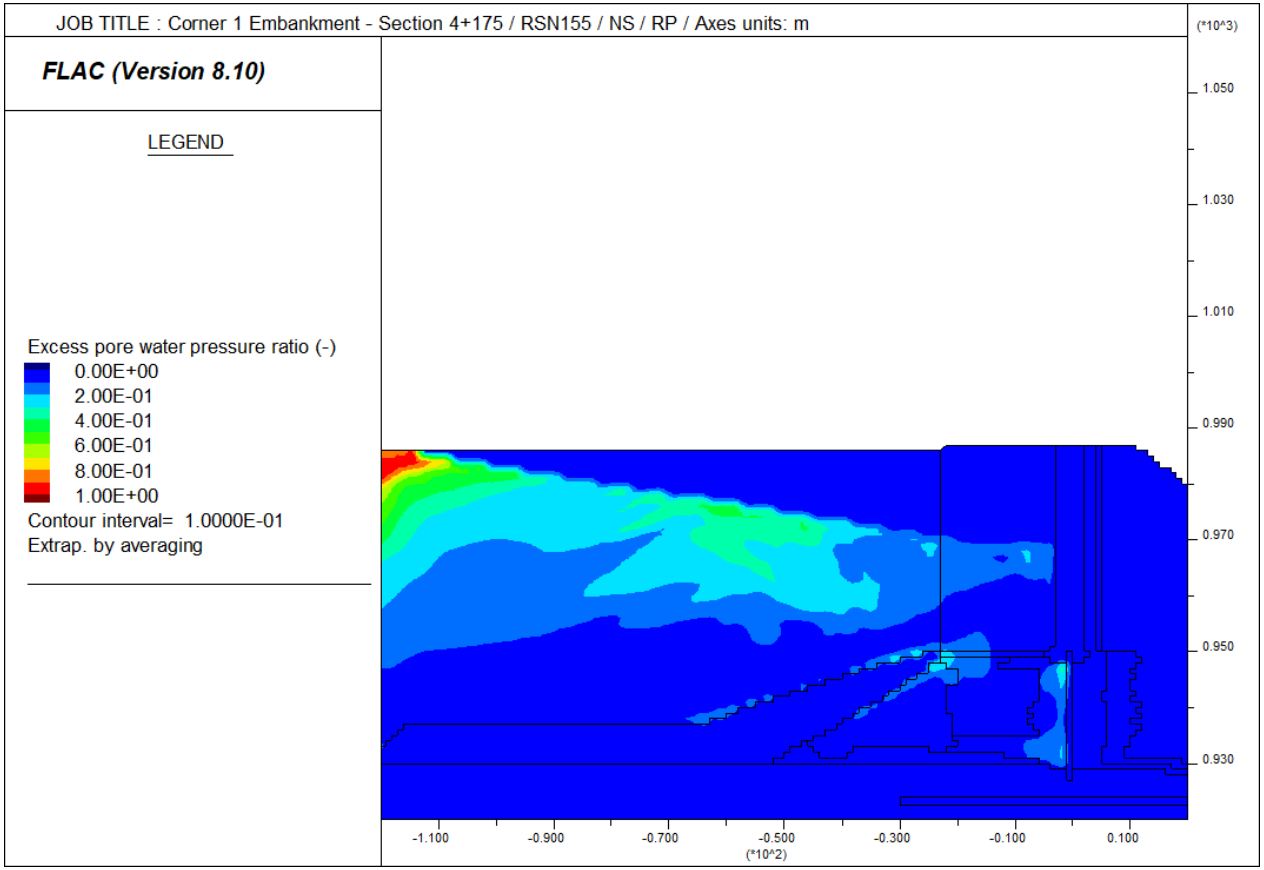

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / NS / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
-1.00E-03
1.00E-03
3.00E-03
5.00E-03
7.00E-03
9.00E-03
1.10E-02
1.30E-02
1.50E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

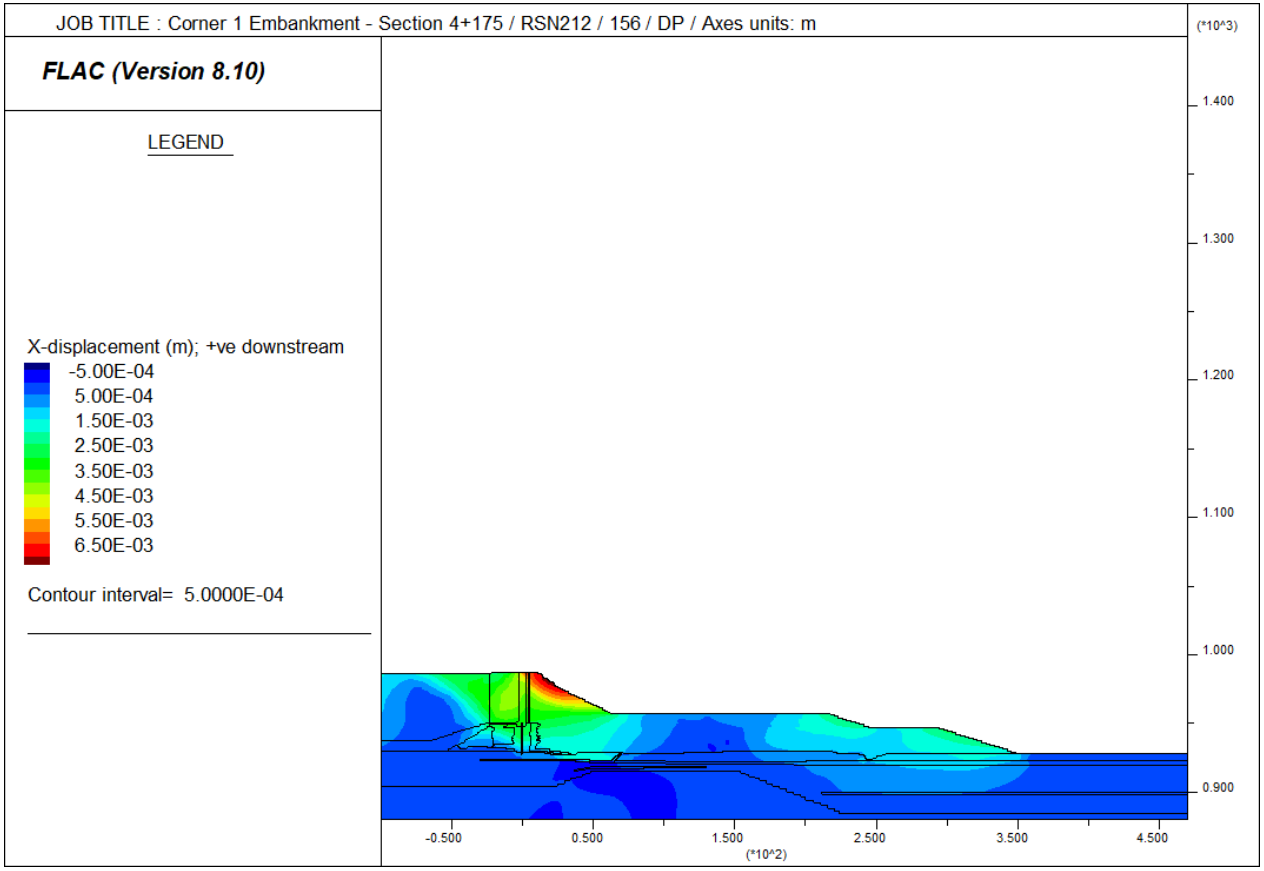

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / NS / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.50E-02
-1.30E-02
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

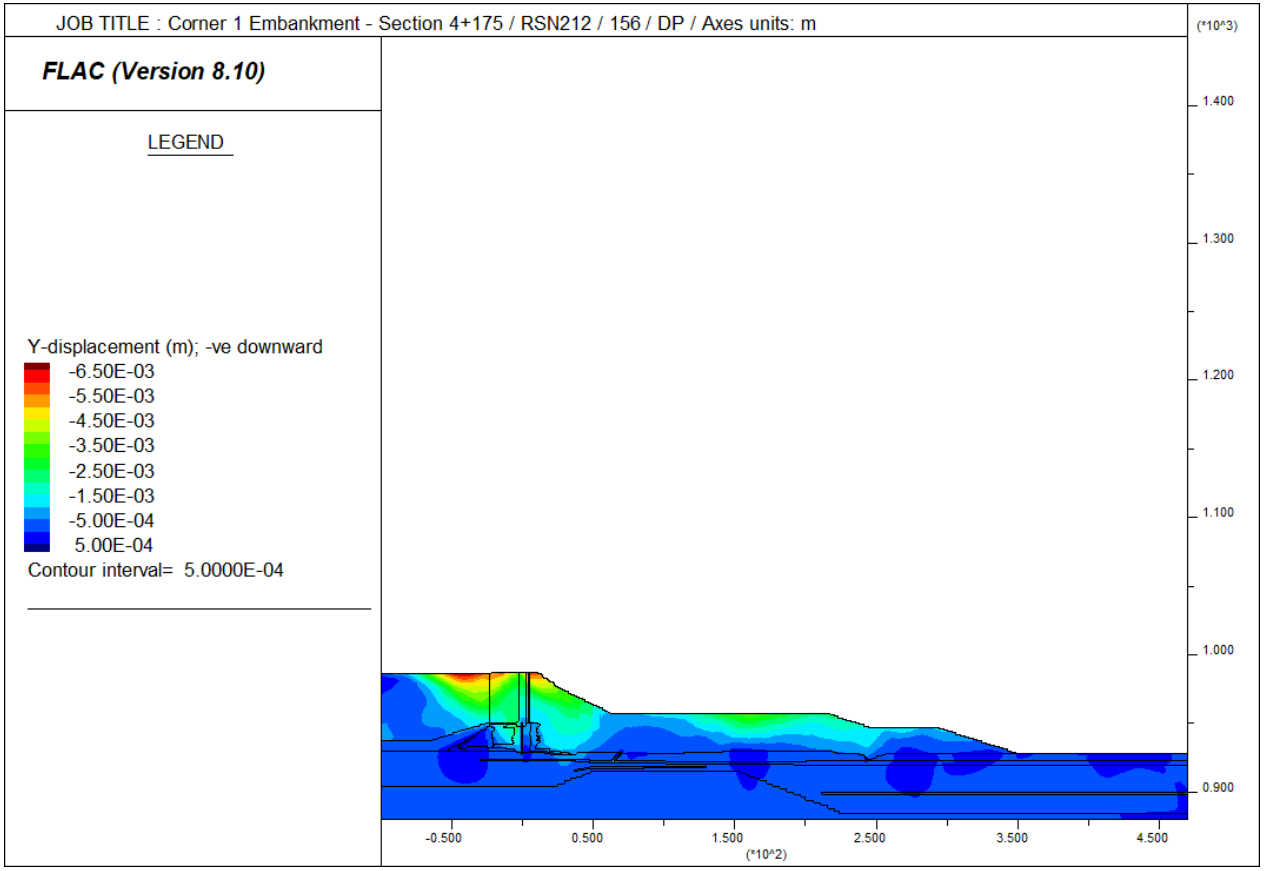

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / NS / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

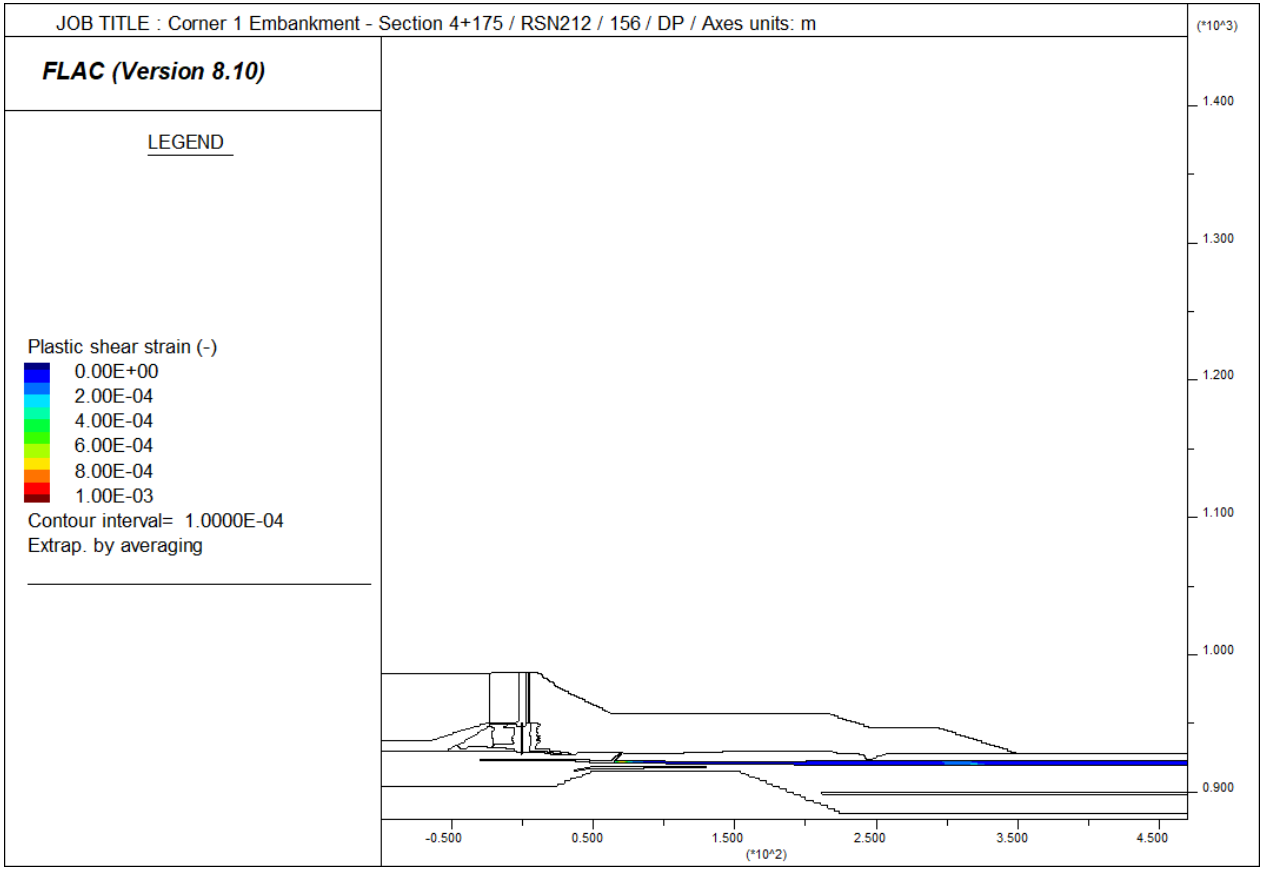

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / NS / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

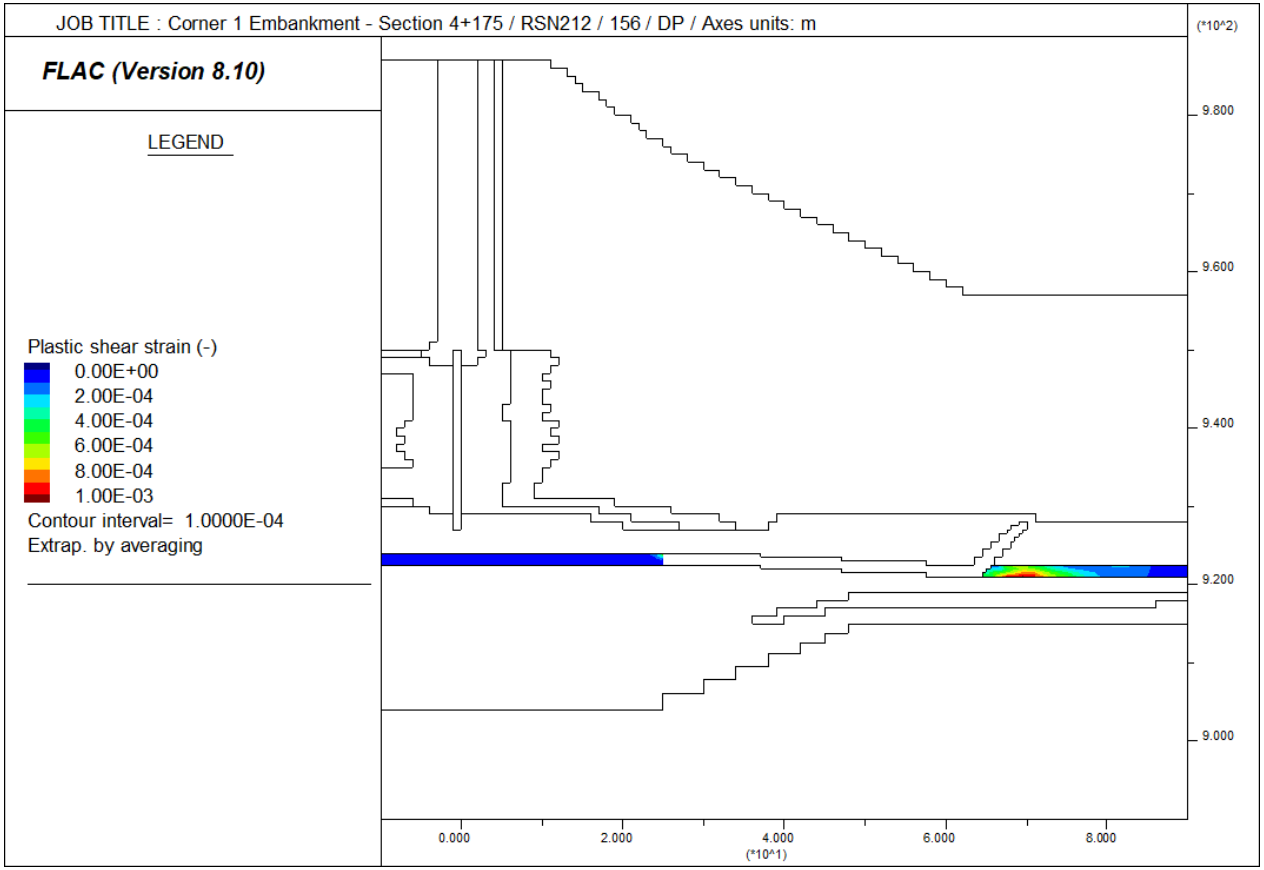

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / NS / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

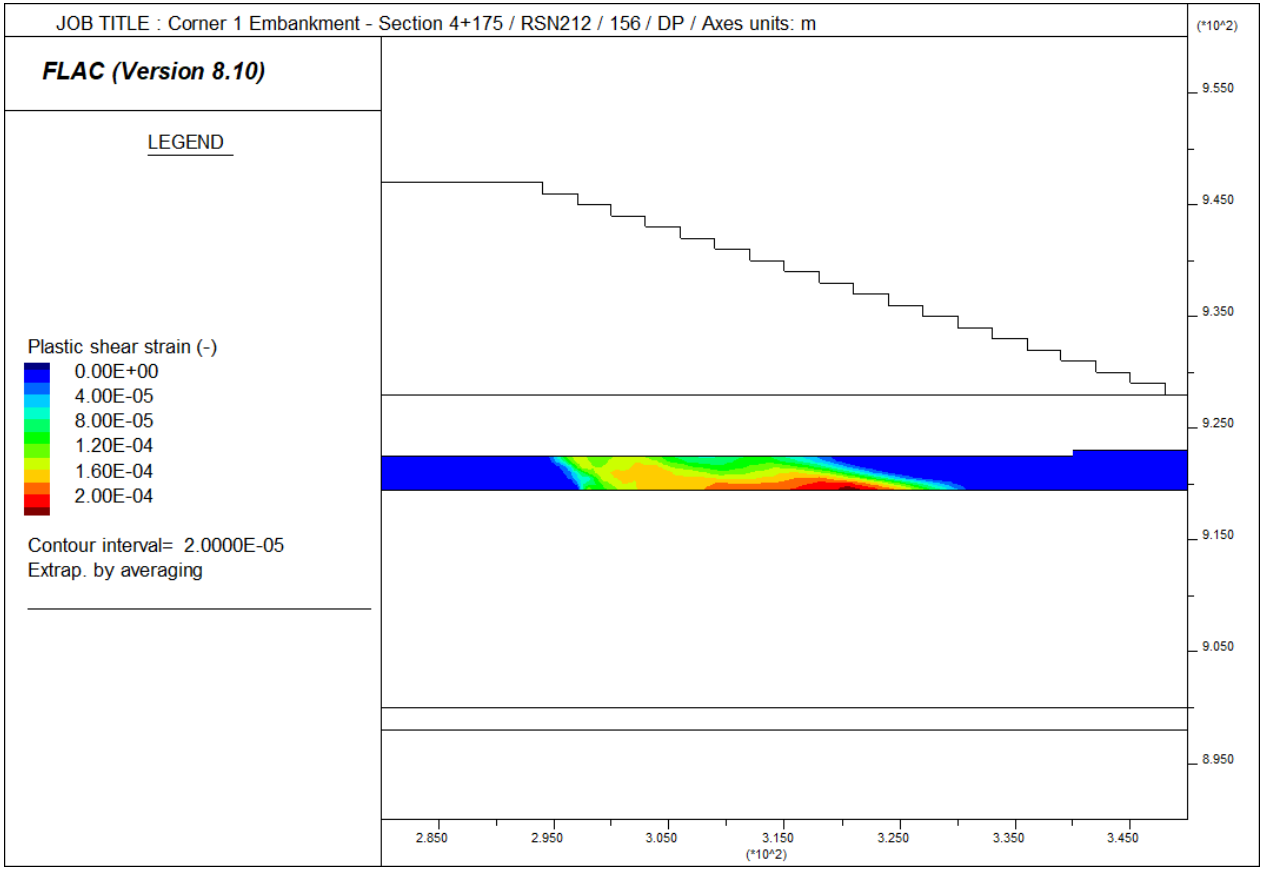

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN155 / NS / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

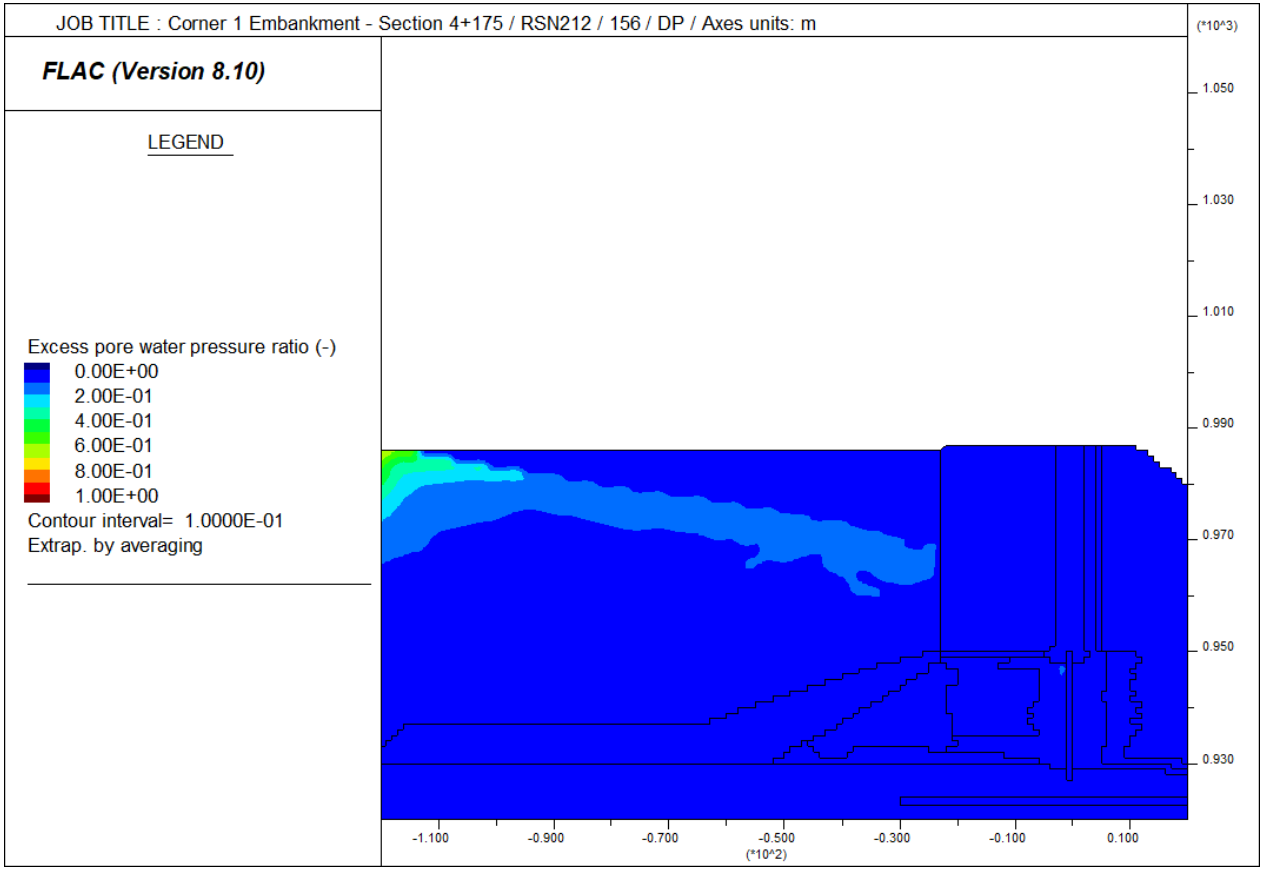

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 156 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
-5.00E-04
5.00E-04
1.50E-03
2.50E-03
3.50E-03
4.50E-03
5.50E-03
6.50E-03
Contour interval= 5.0000E-04
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

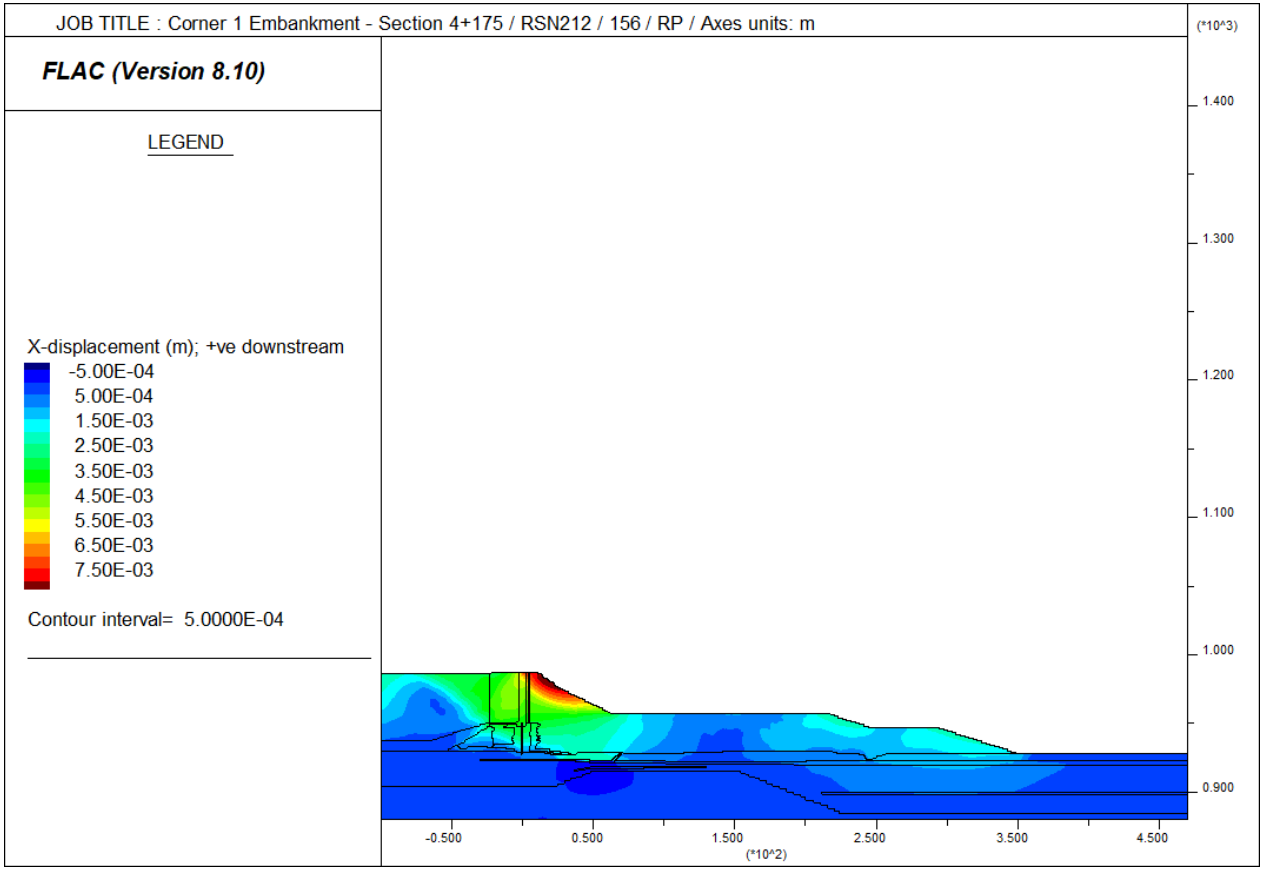

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 156 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-6.50E-03
-5.50E-03
-4.50E-03
-3.50E-03
-2.50E-03
-1.50E-03
-5.00E-04
5.00E-04
Contour interval= 5.0000E-04
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

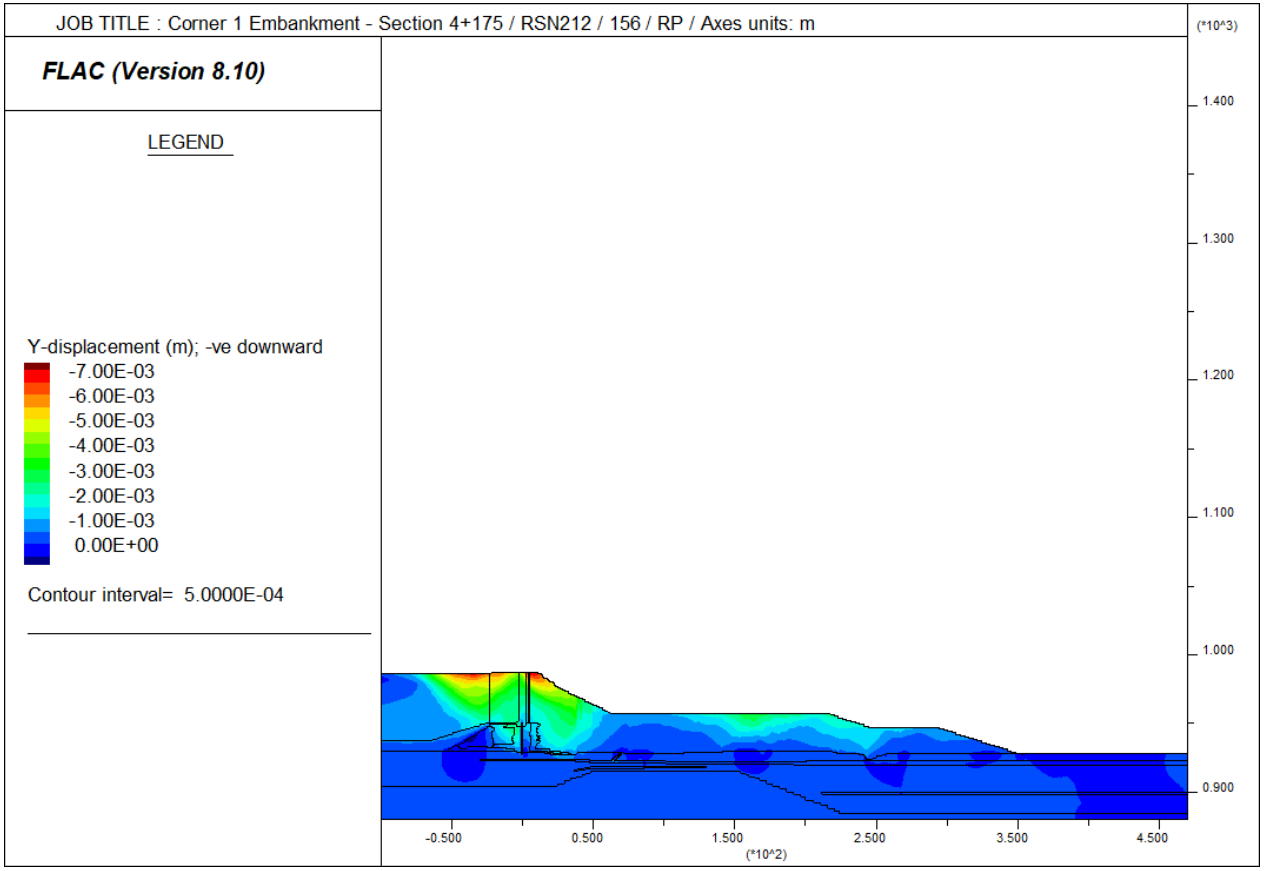

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 156 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

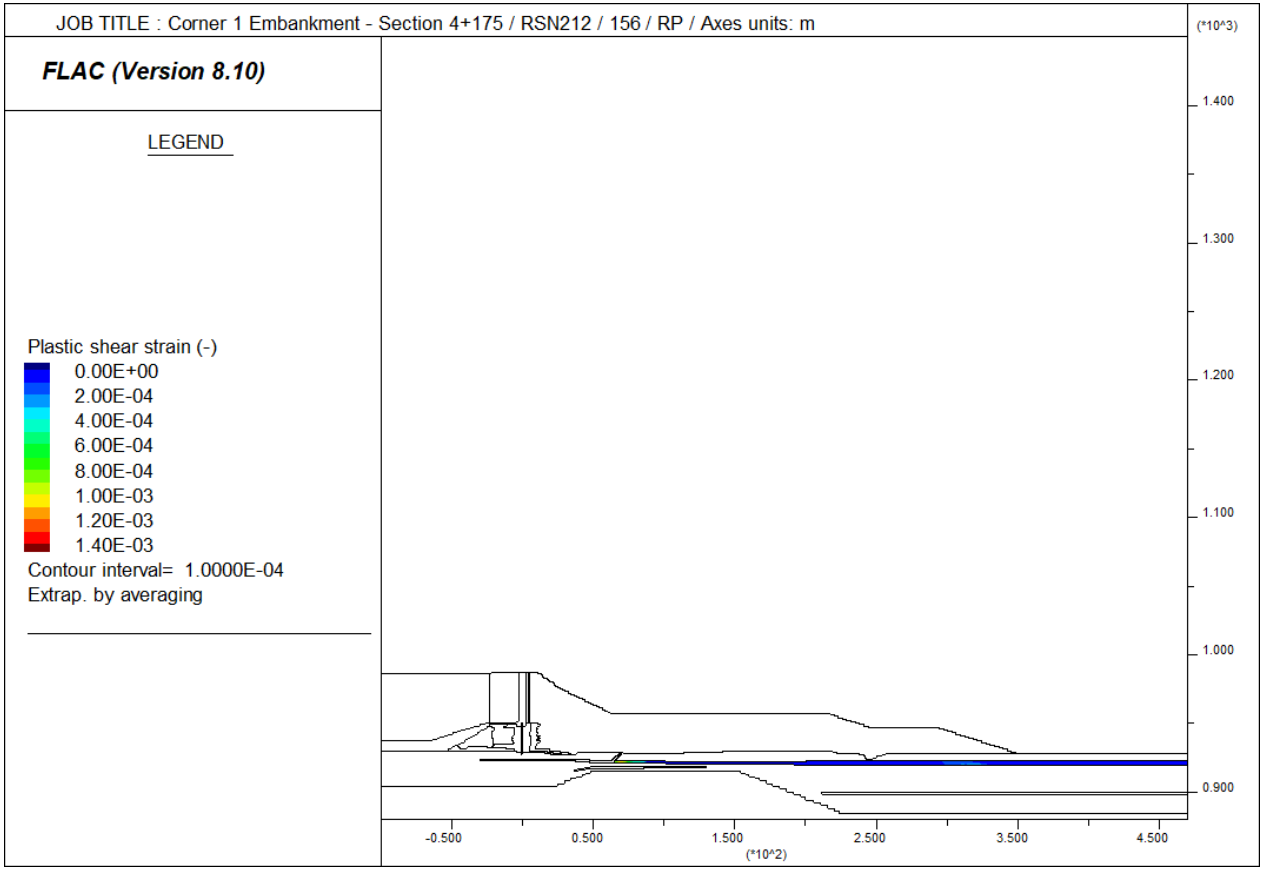

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 156 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

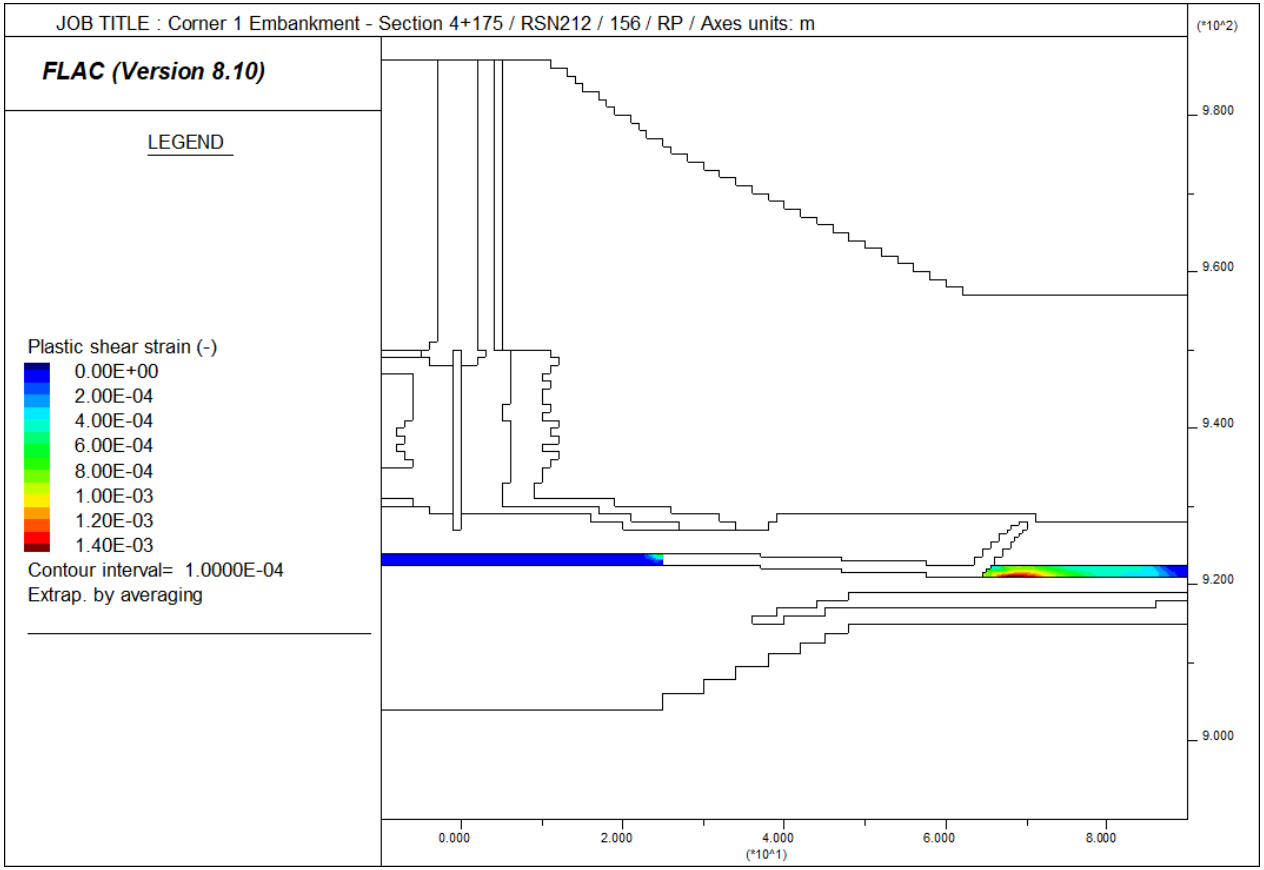

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 156 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-05
8.00E-05
1.20E-04
1.60E-04
2.00E-04
Contour interval= 2.0000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

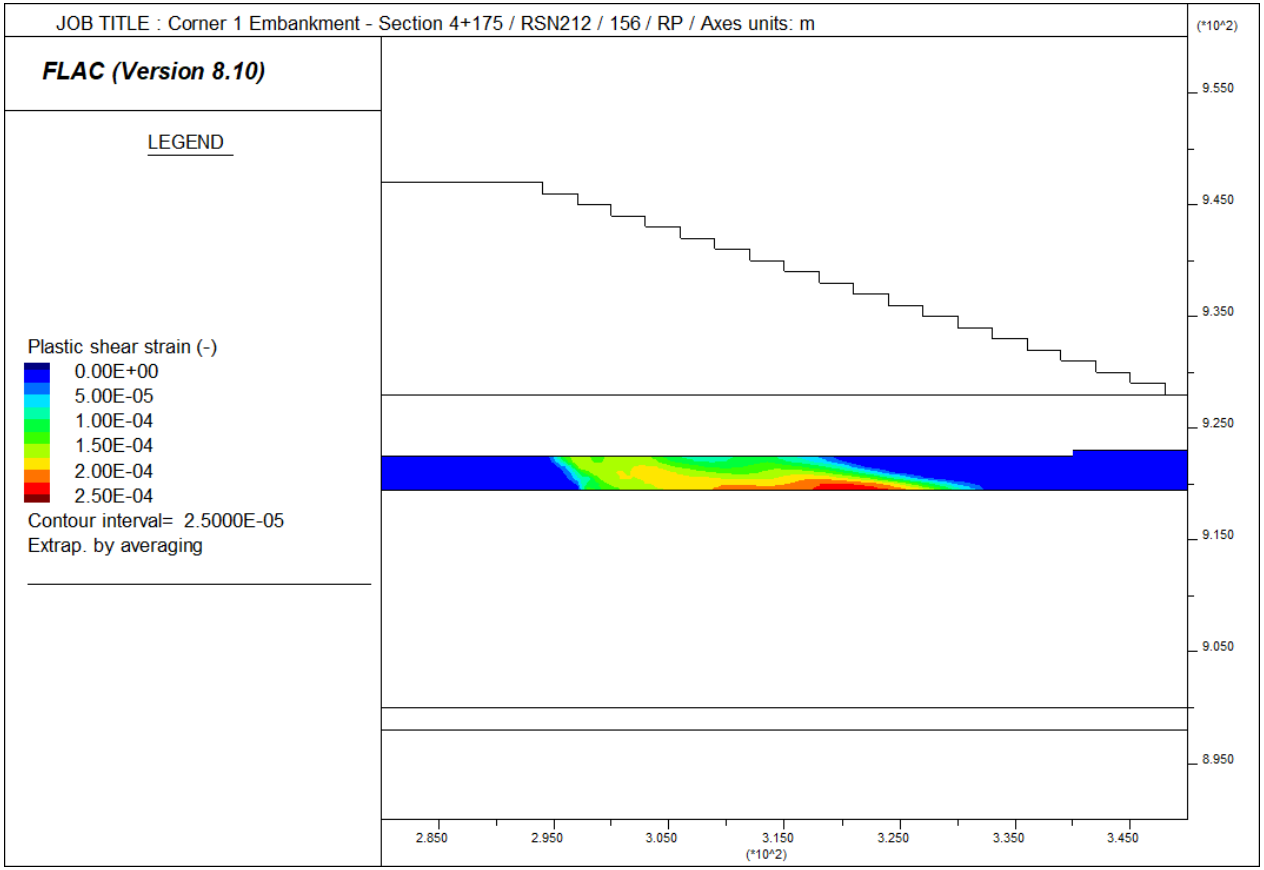

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 156 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

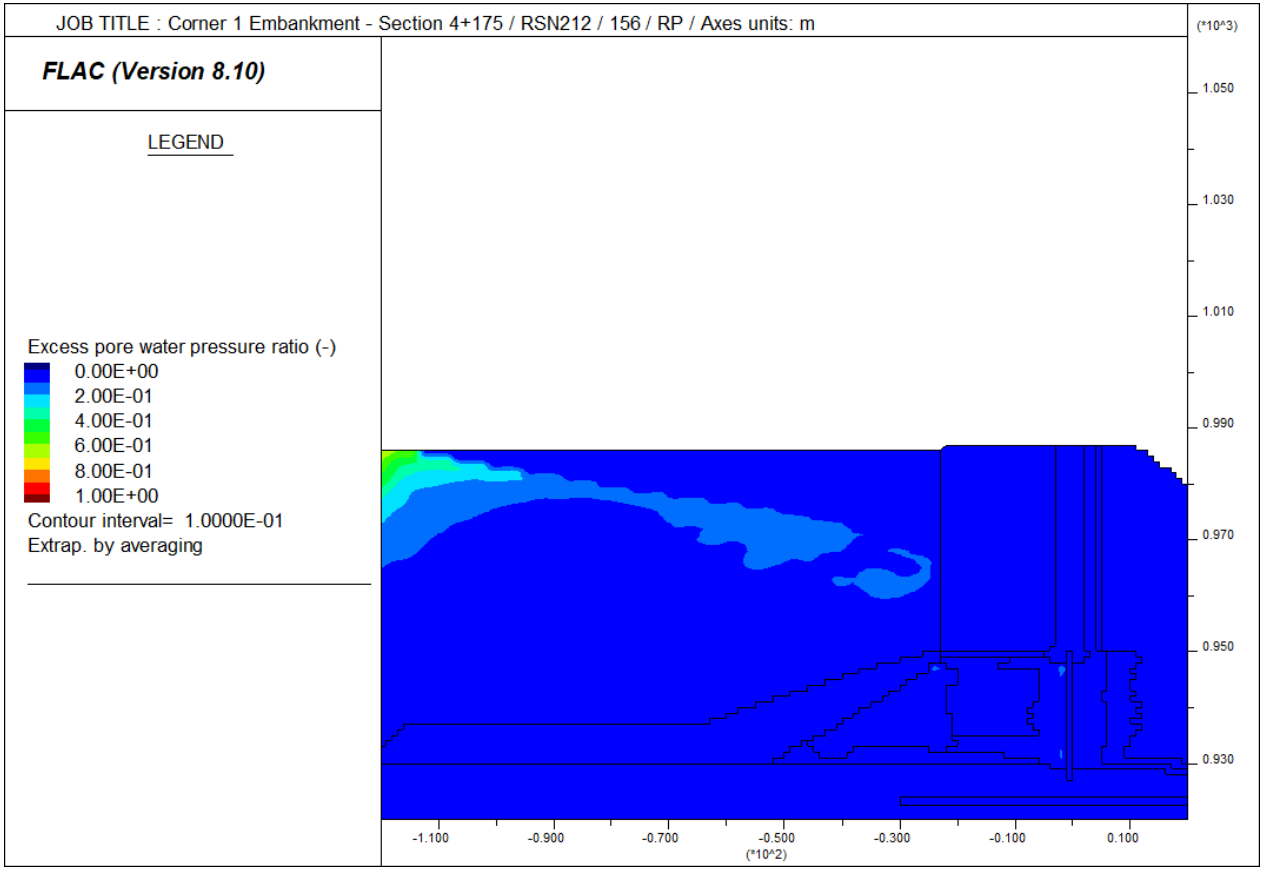

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 156 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
-5.00E-04
5.00E-04
1.50E-03
2.50E-03
3.50E-03
4.50E-03
5.50E-03
6.50E-03
7.50E-03
Contour interval= 5.0000E-04
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

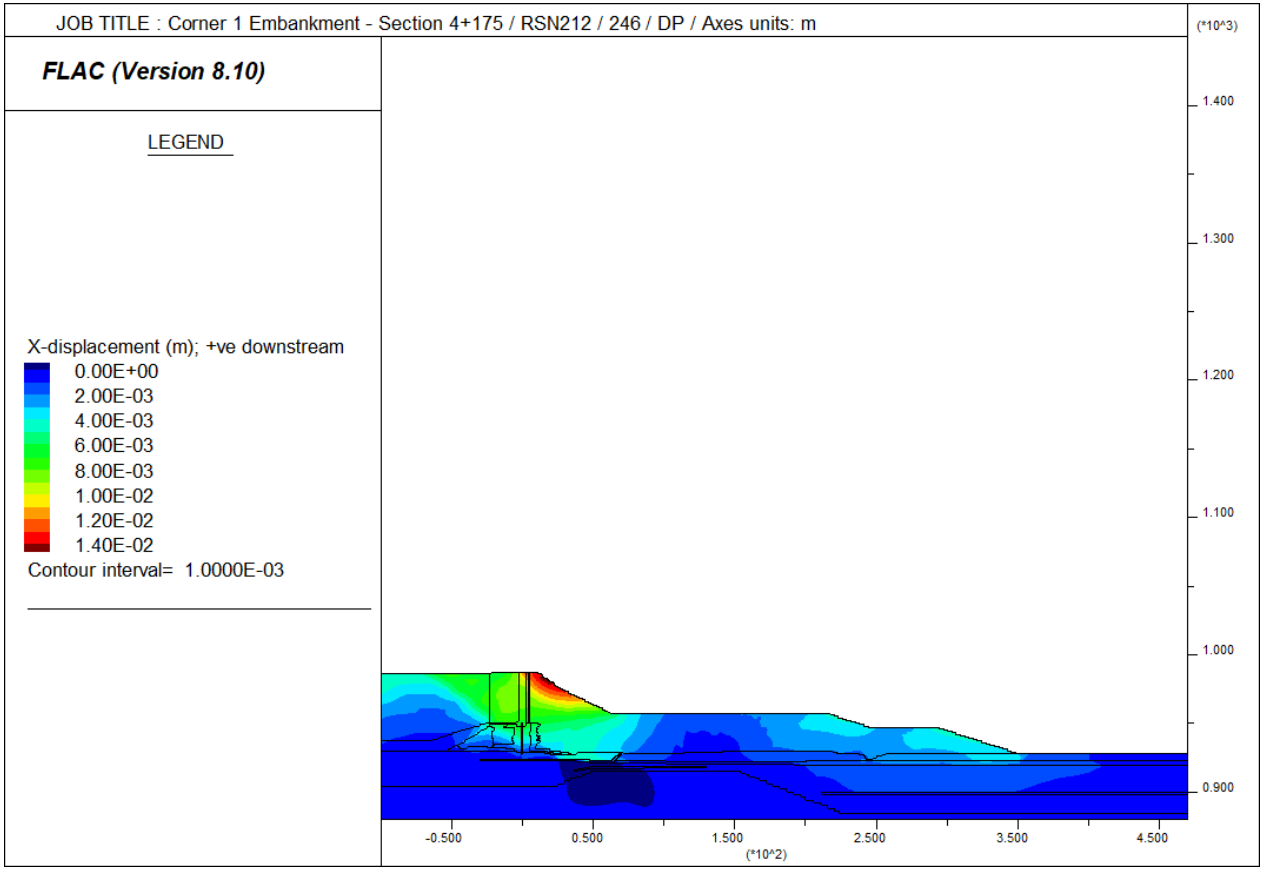

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 156 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-7.00E-03
-6.00E-03
-5.00E-03
-4.00E-03
-3.00E-03
-2.00E-03
-1.00E-03
0.00E+00
Contour interval= 5.0000E-04
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

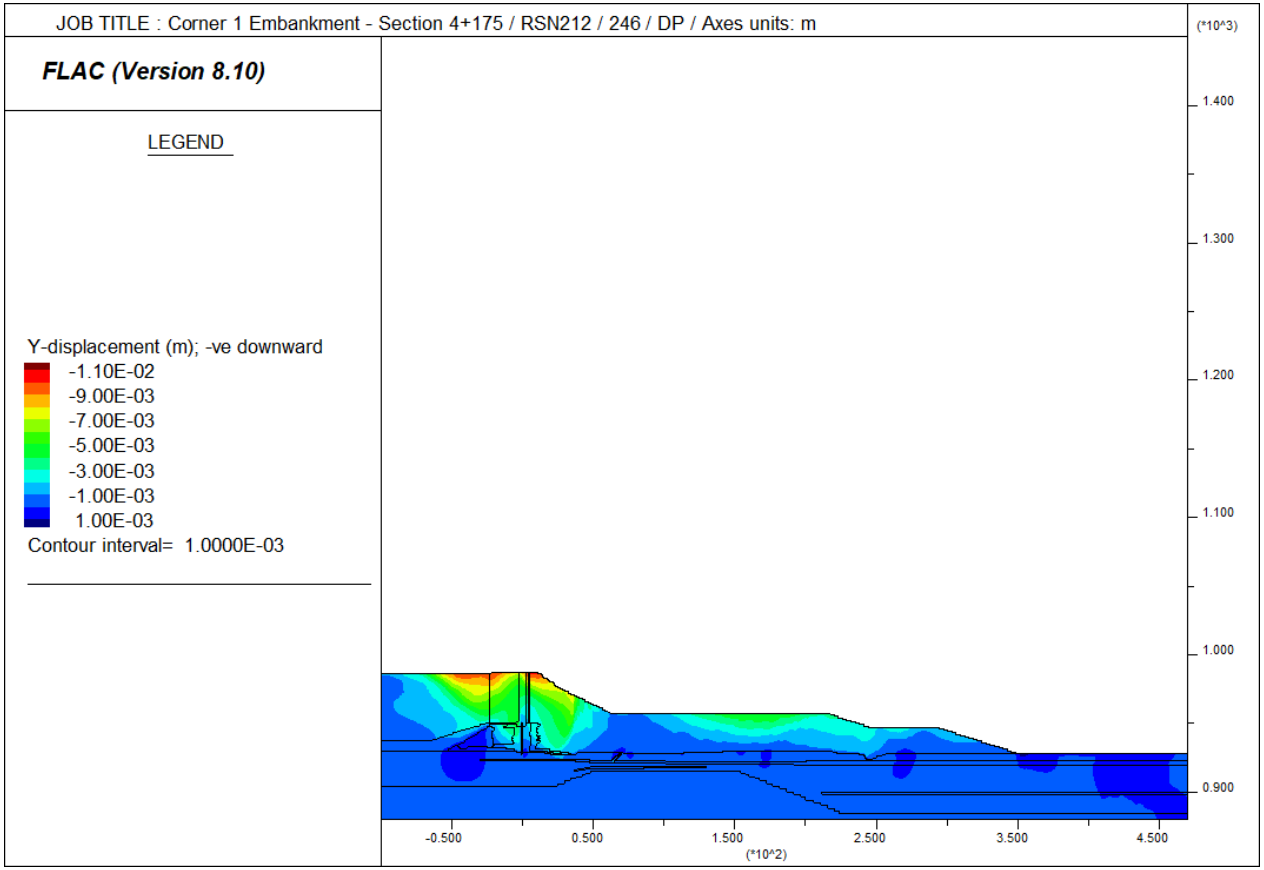

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 156 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

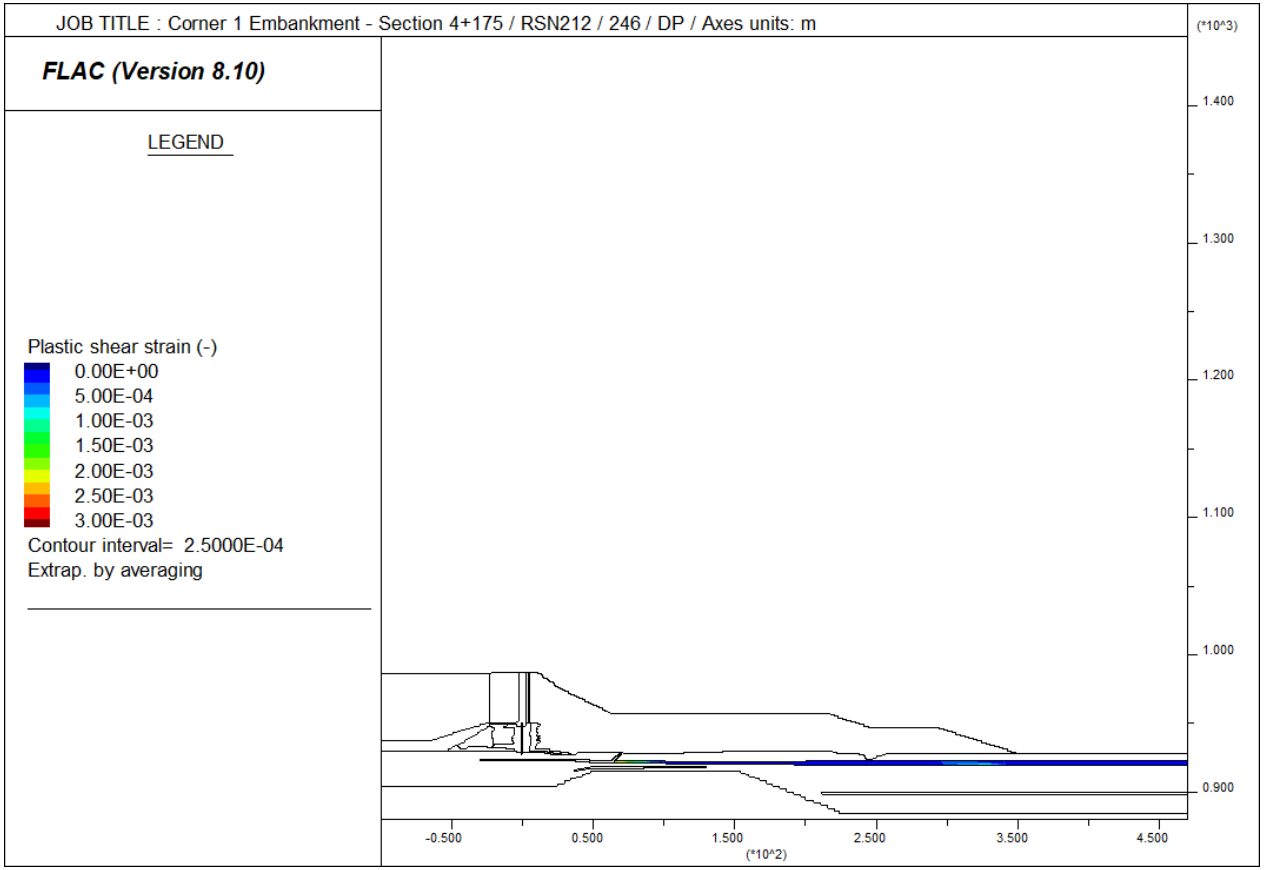

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 156 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

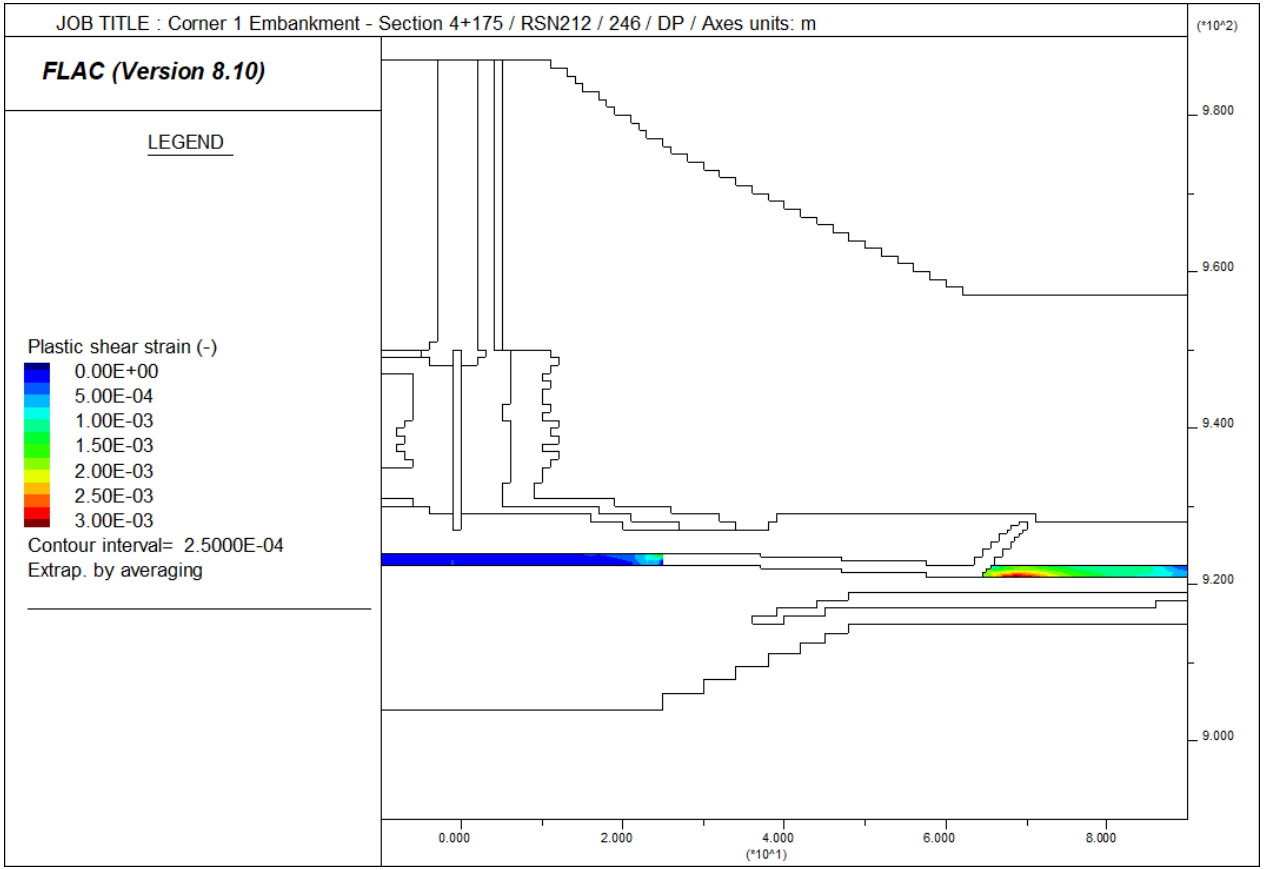

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 156 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-05
1.00E-04
1.50E-04
2.00E-04
2.50E-04
Contour interval= 2.5000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

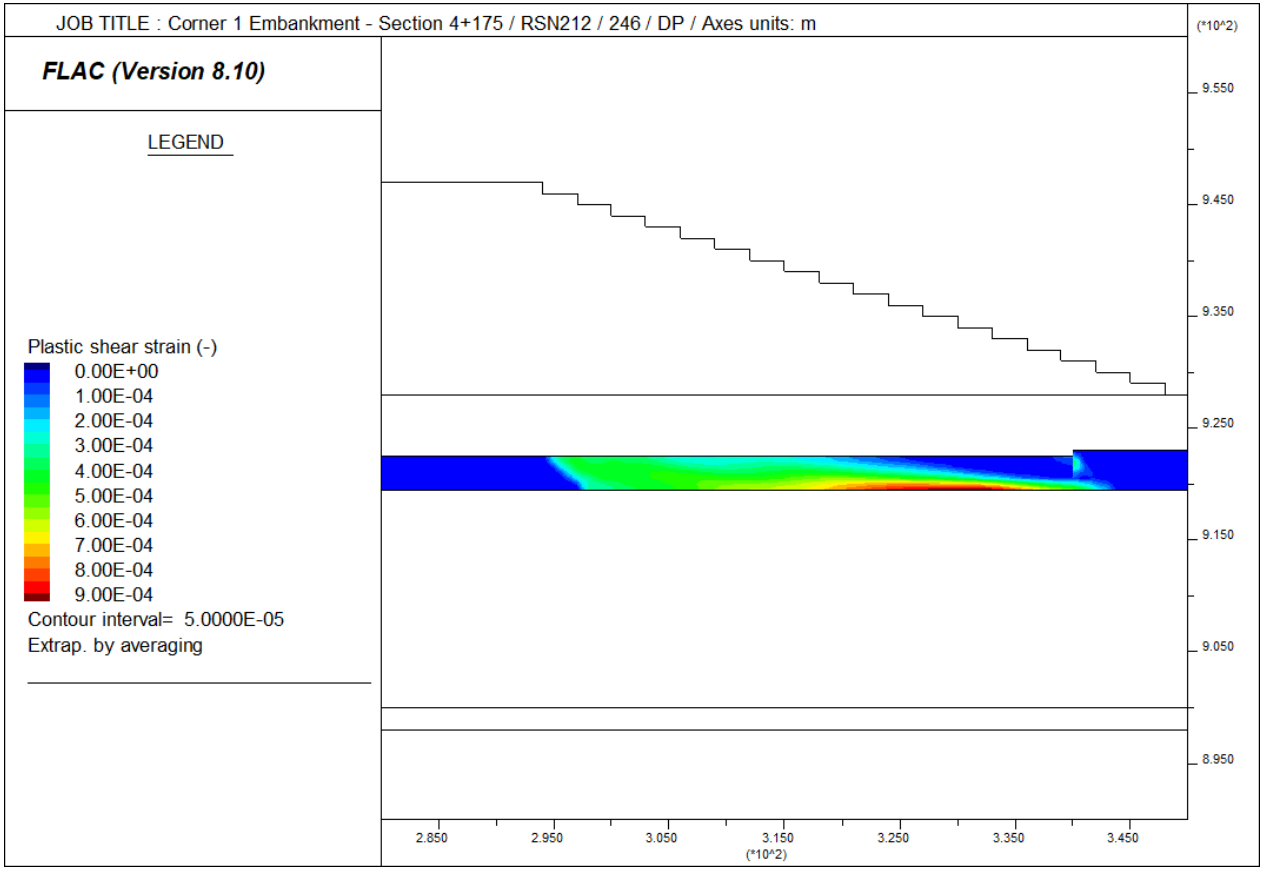

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 156 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

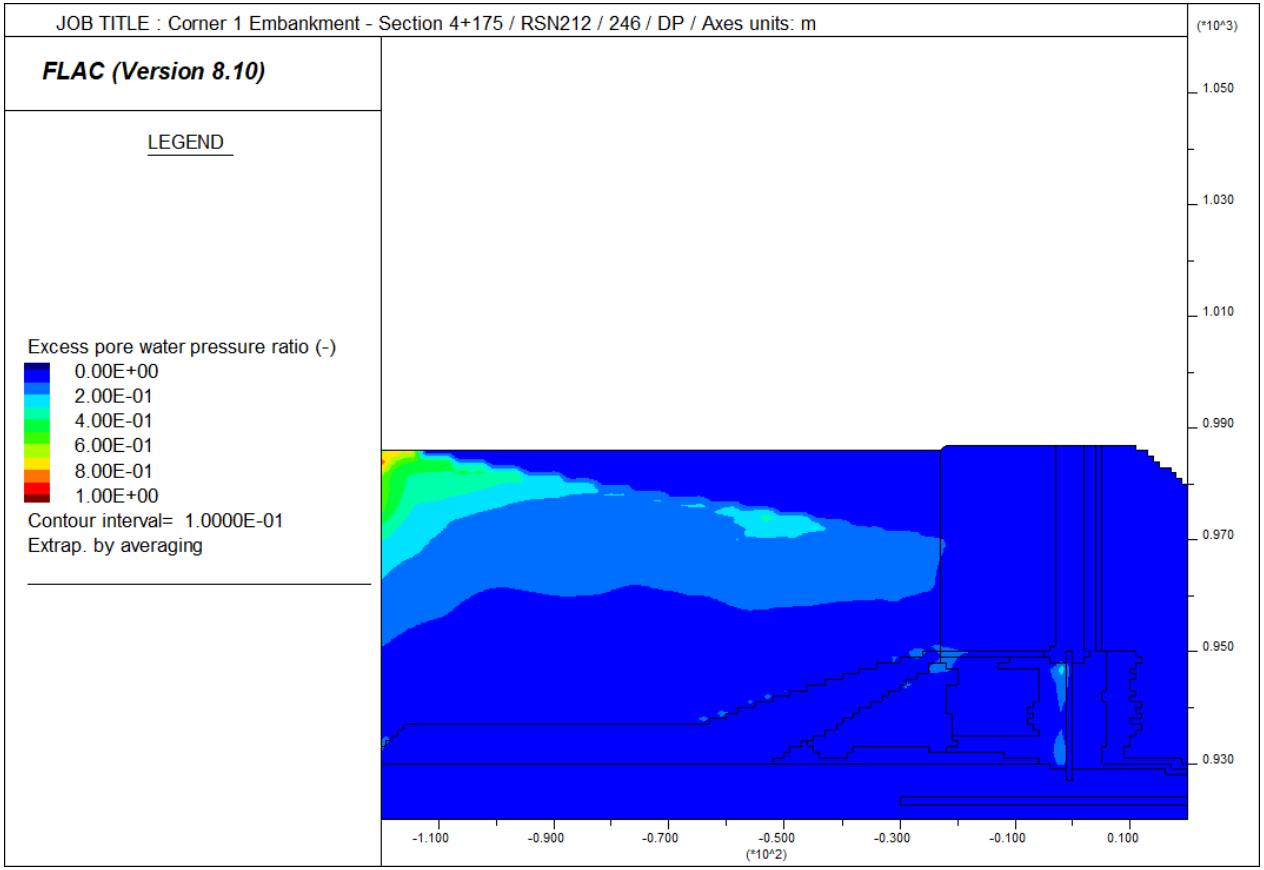

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 246 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

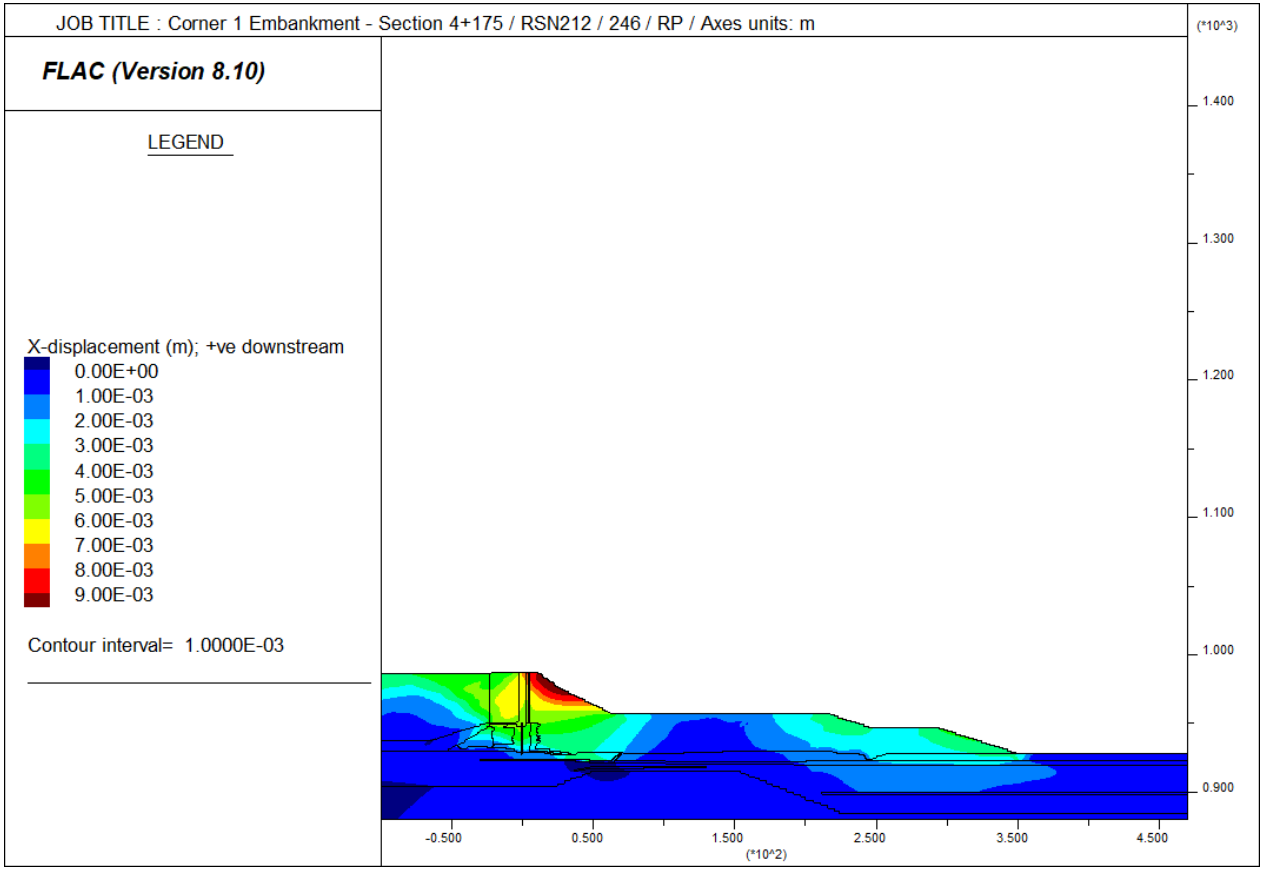

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 246 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

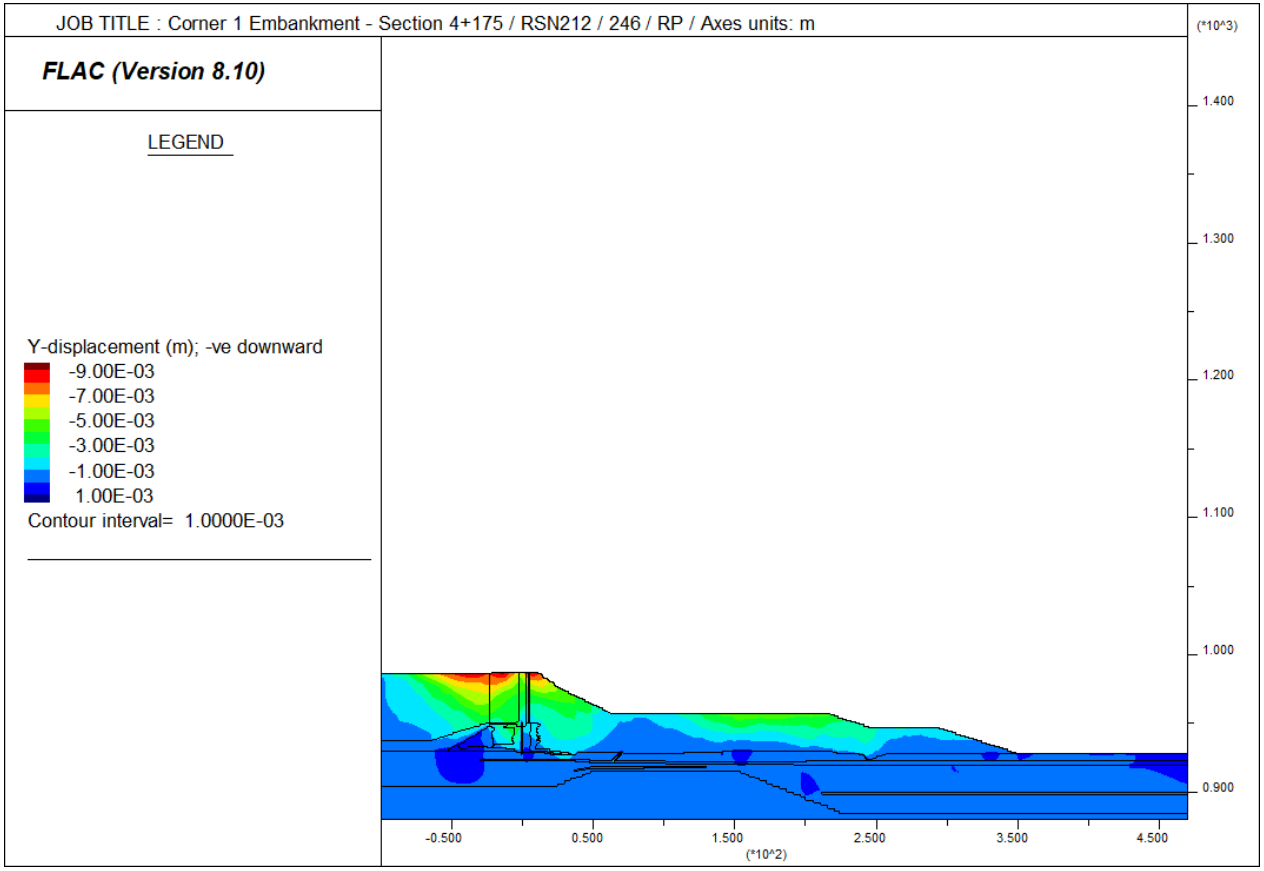

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 246 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

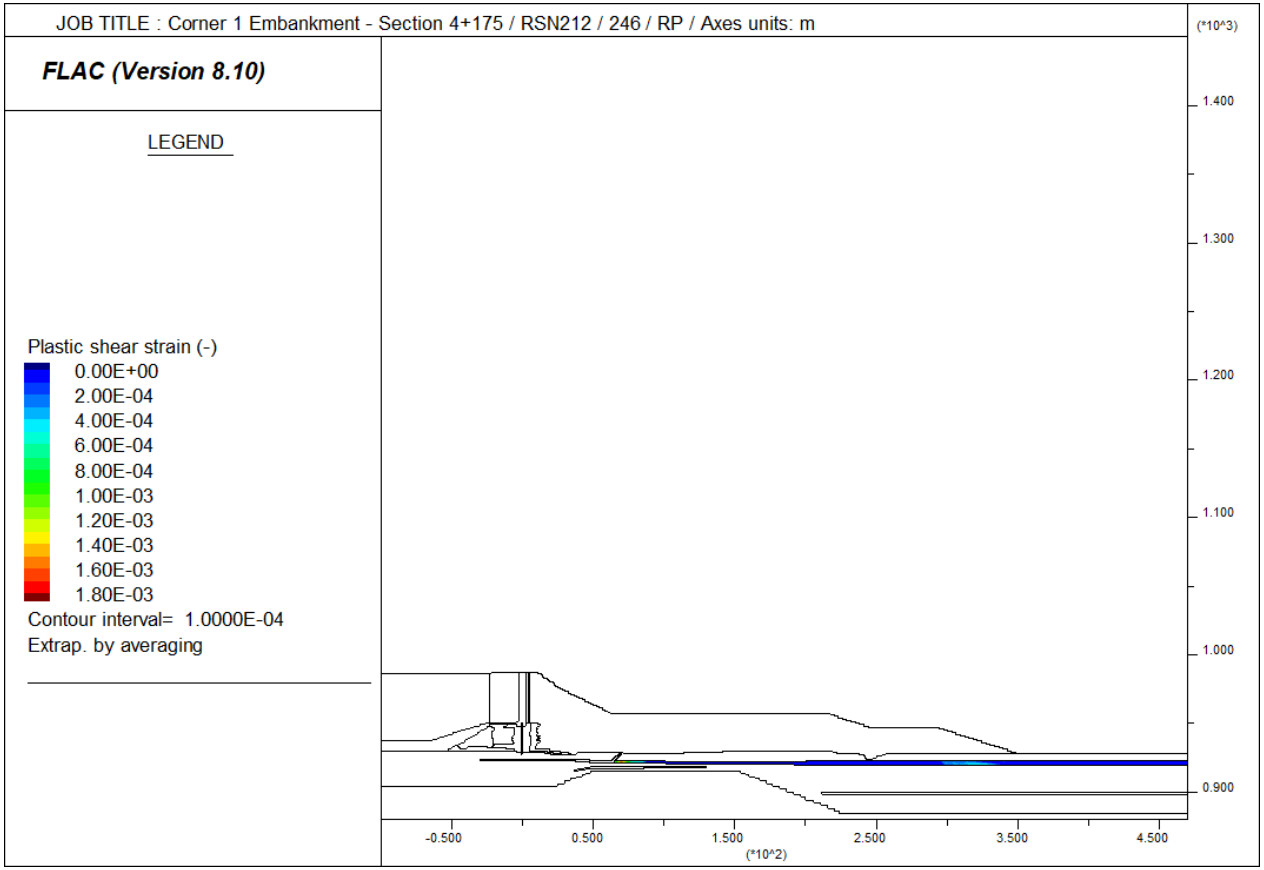

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 246 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

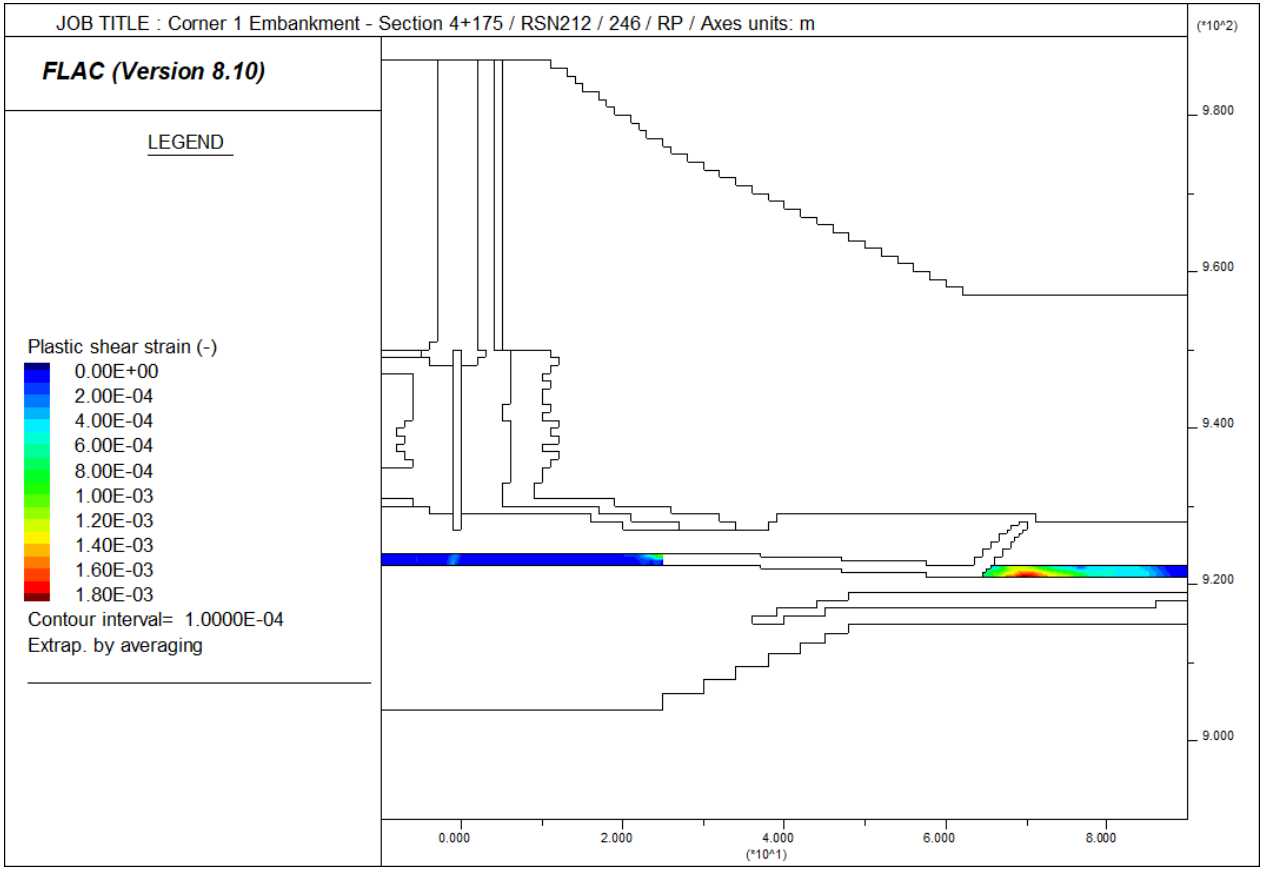

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 246 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
7.00E-04
8.00E-04
9.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

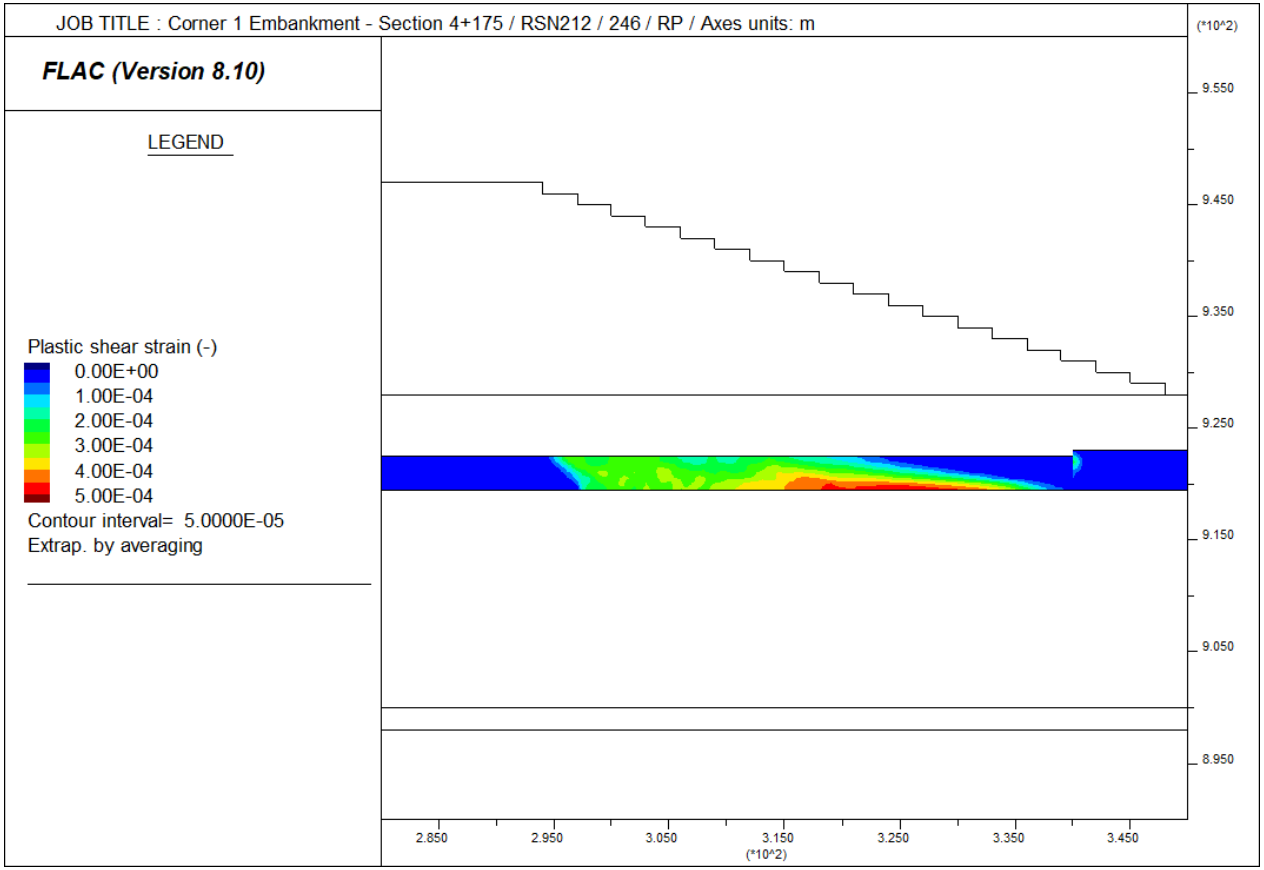

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 246 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

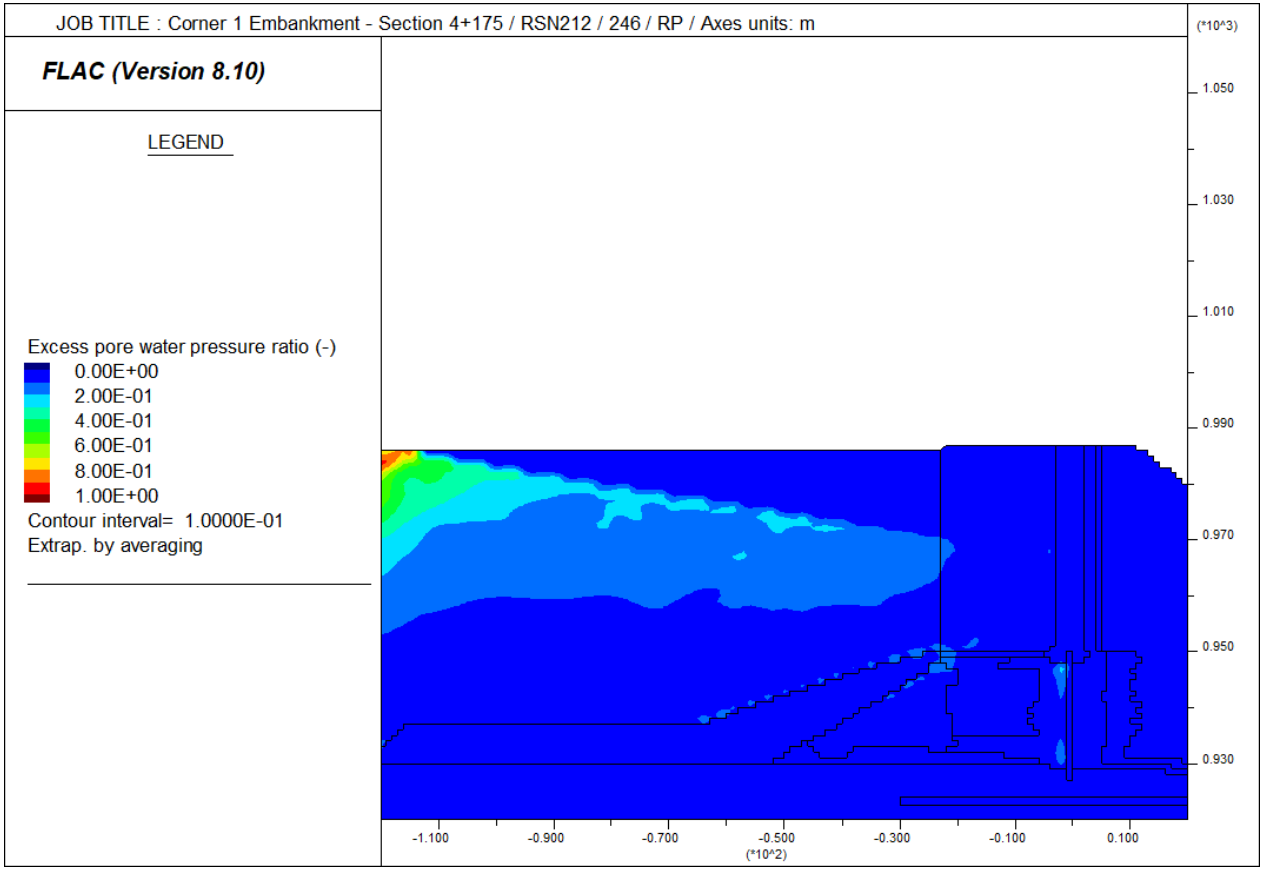

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 246 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
1.00E-03
2.00E-03
3.00E-03
4.00E-03
5.00E-03
6.00E-03
7.00E-03
8.00E-03
9.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

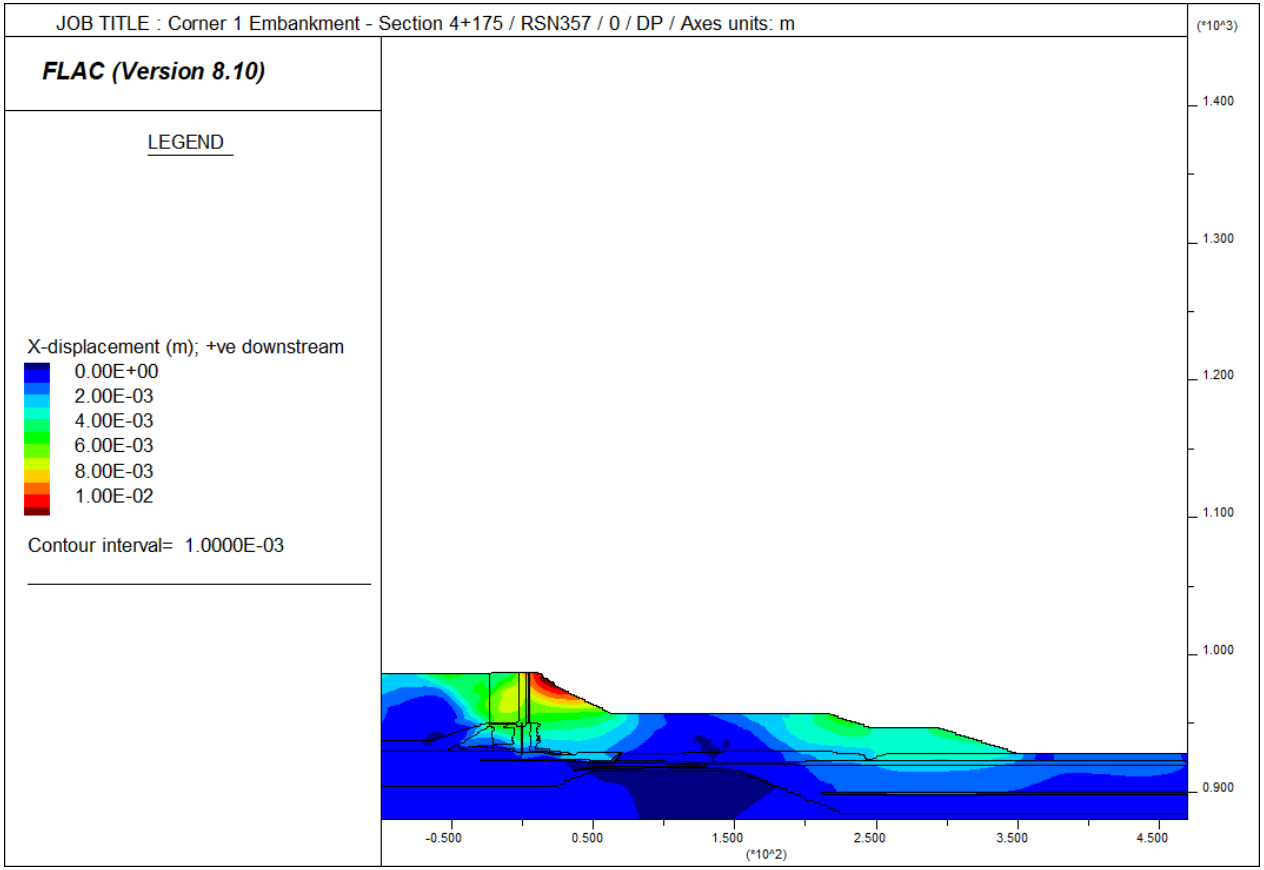

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 246 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

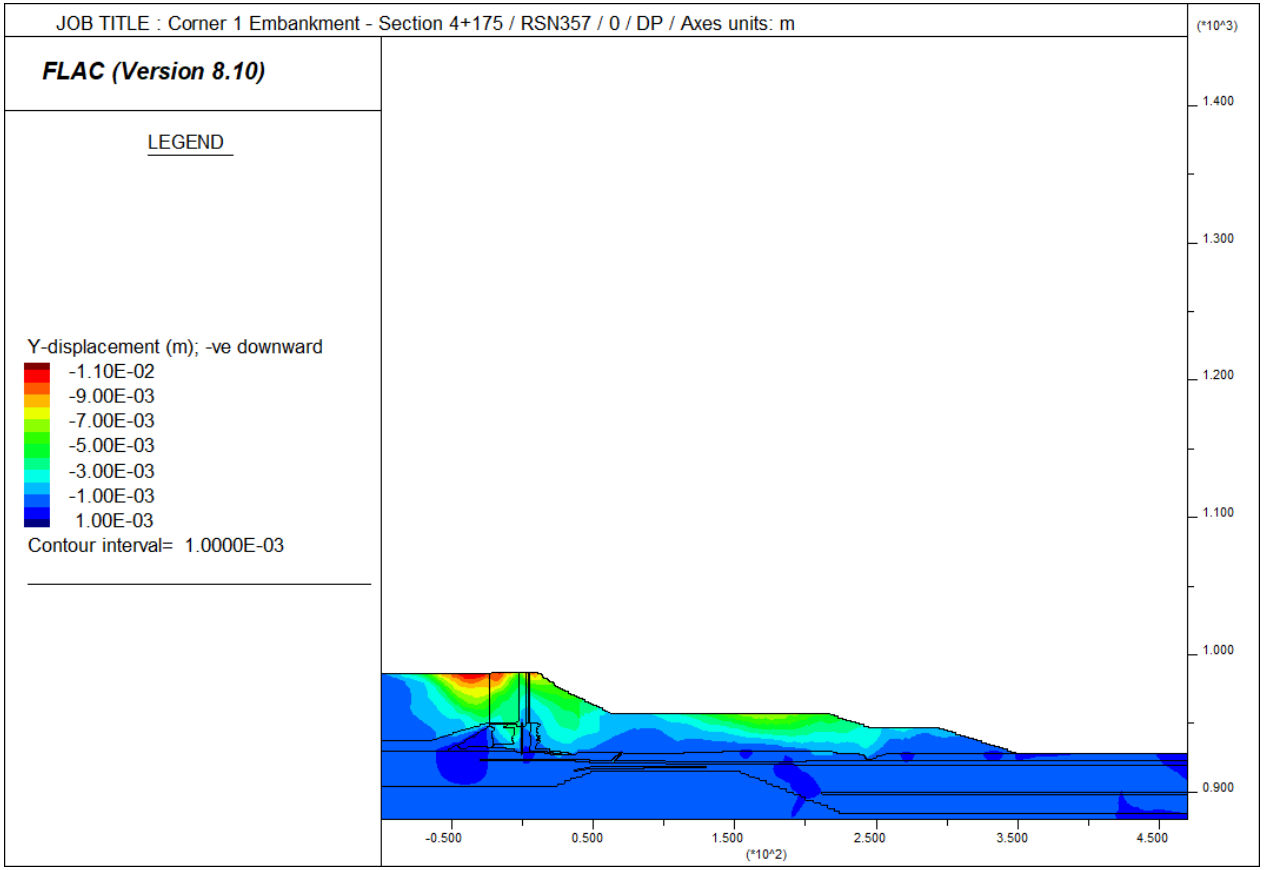

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 246 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
1.80E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

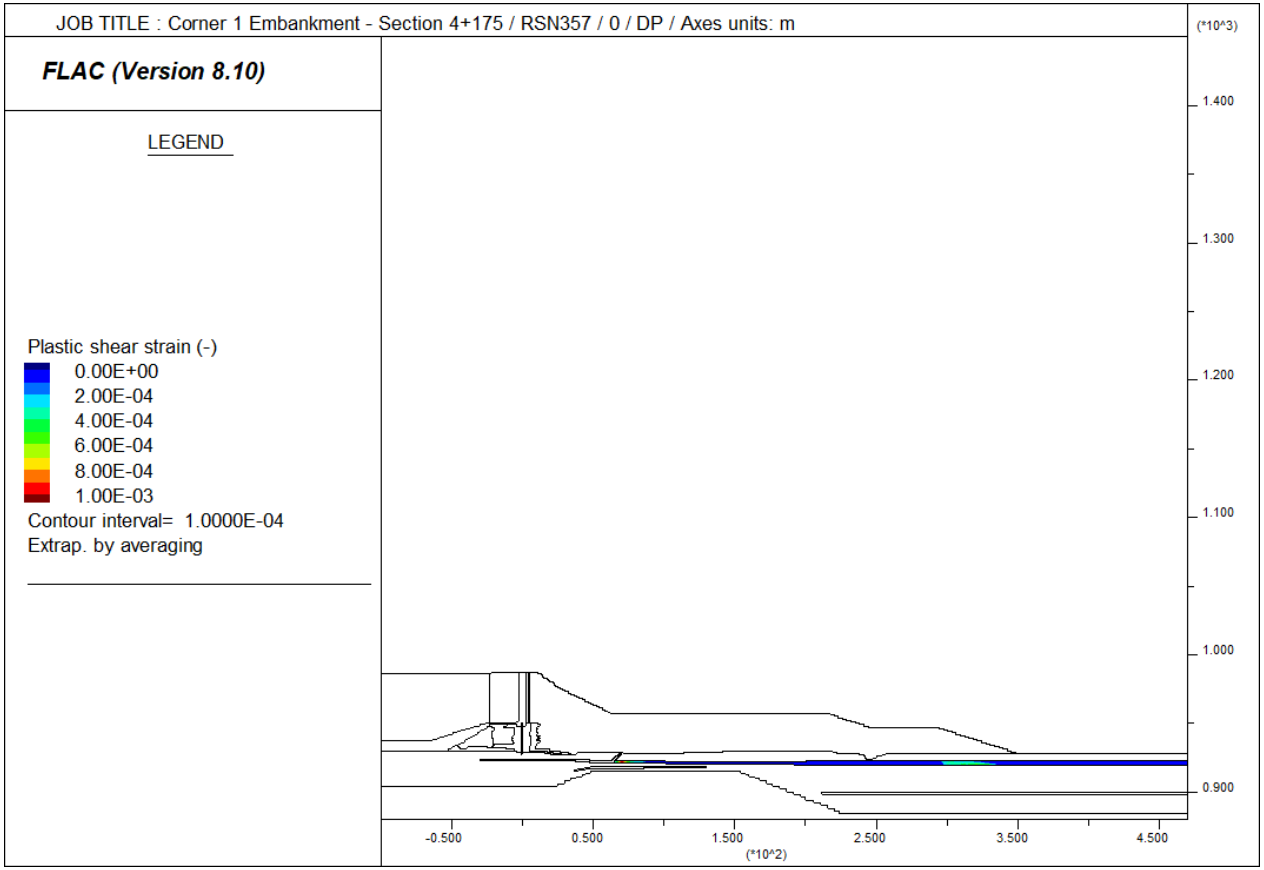

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 246 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
1.80E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

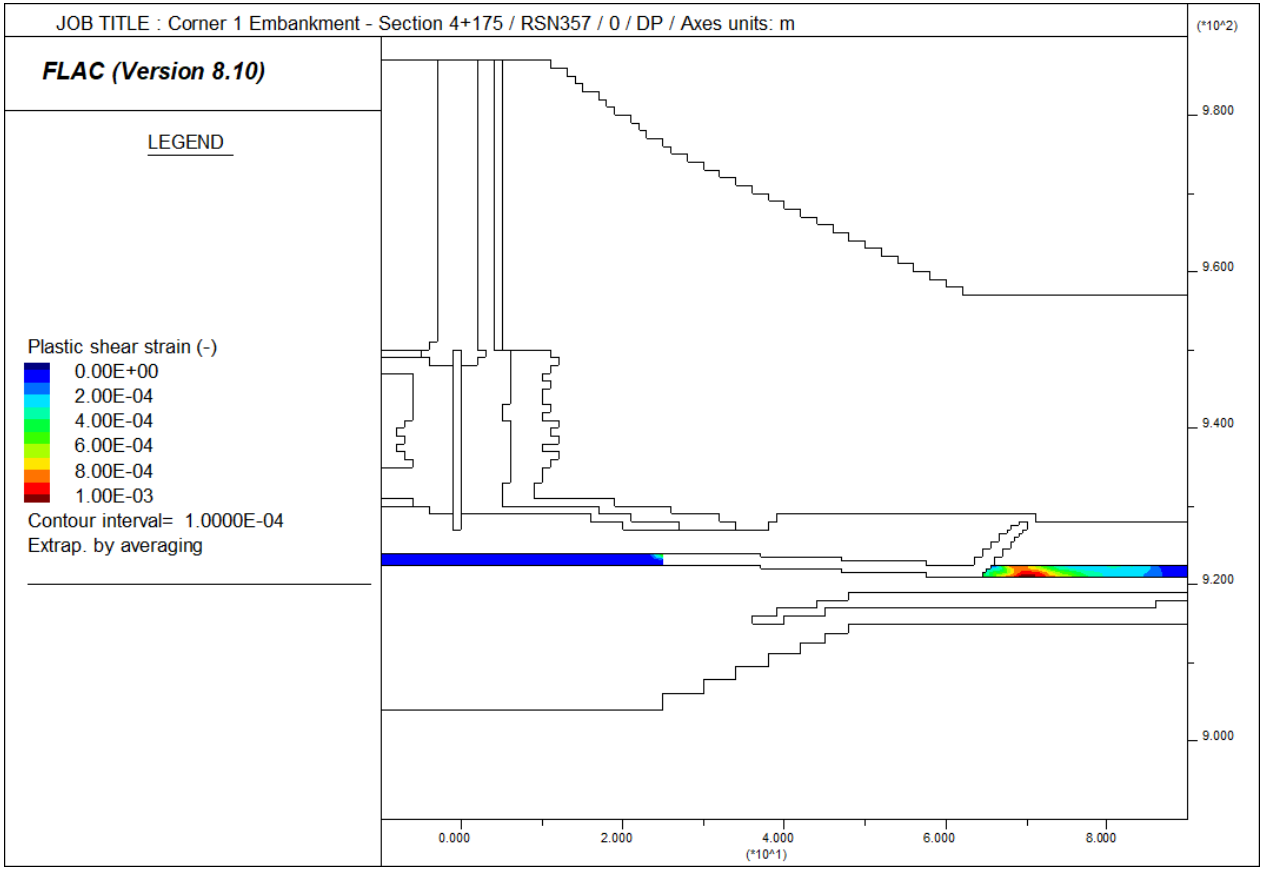

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 246 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

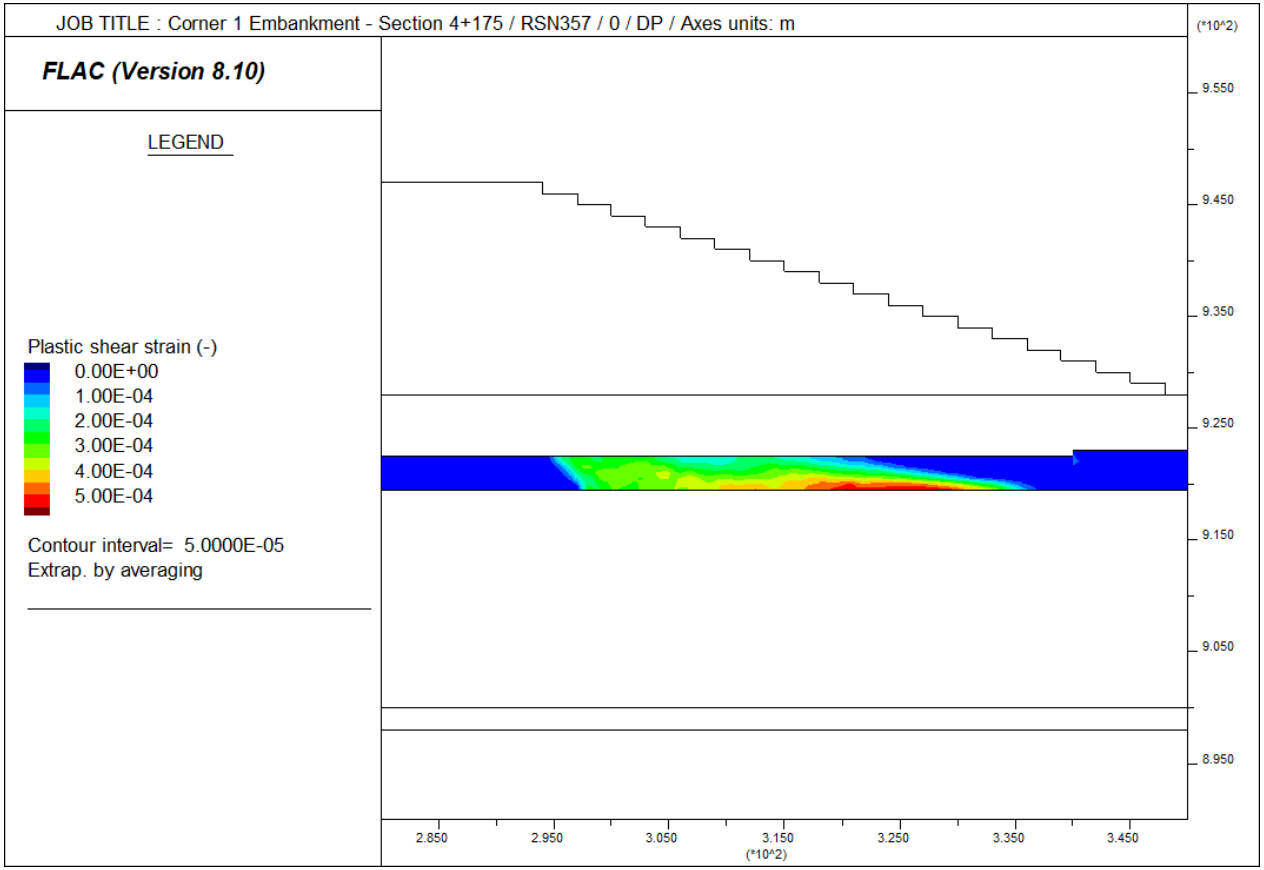

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN212 / 246 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

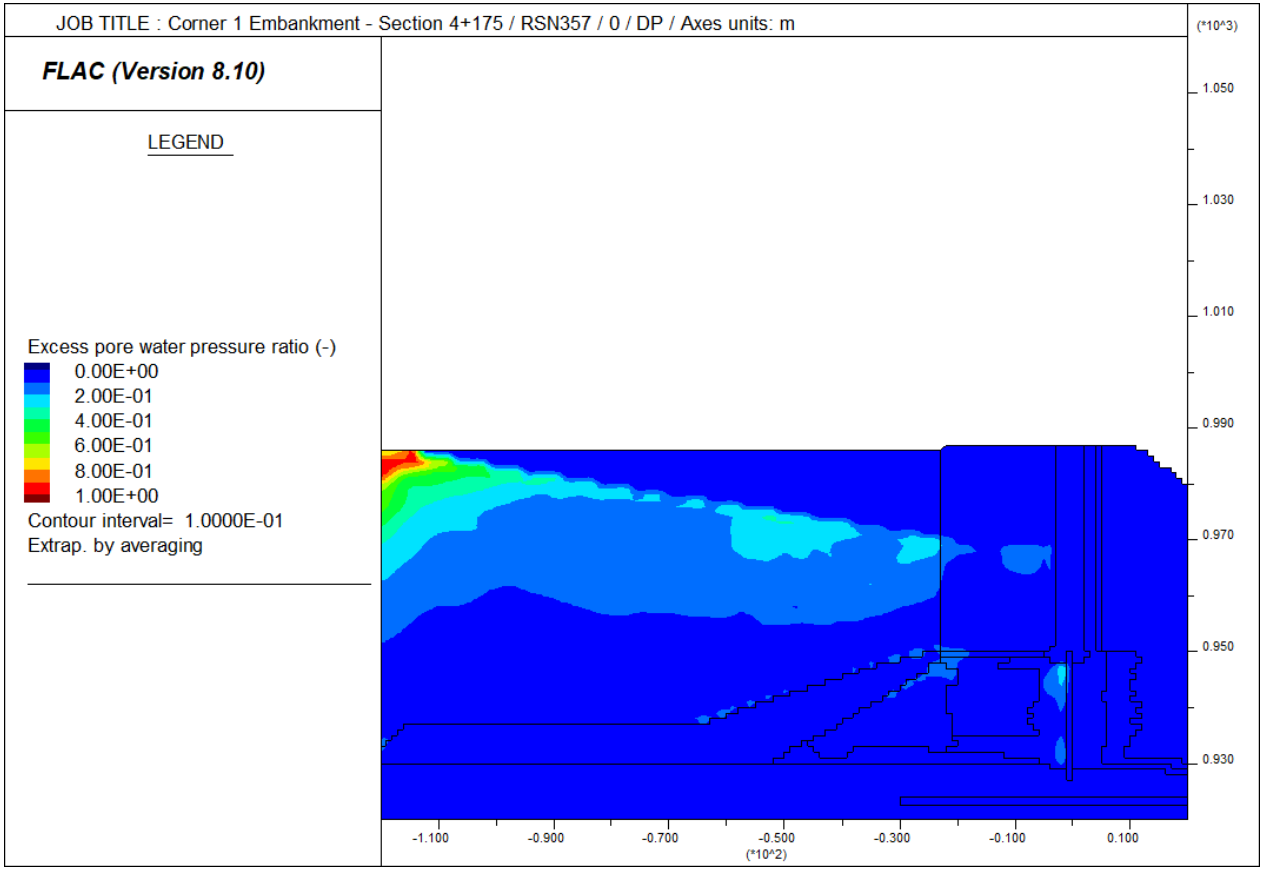

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

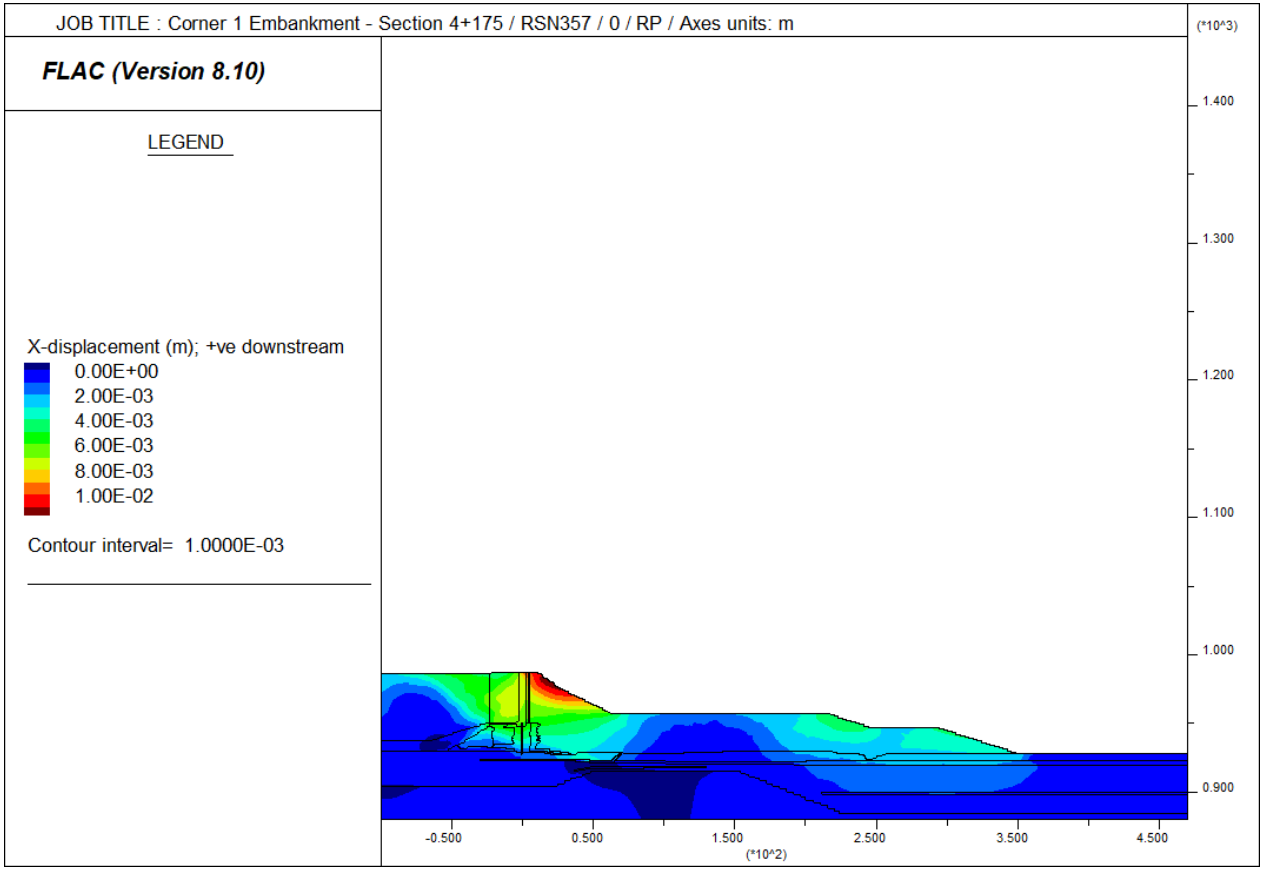

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

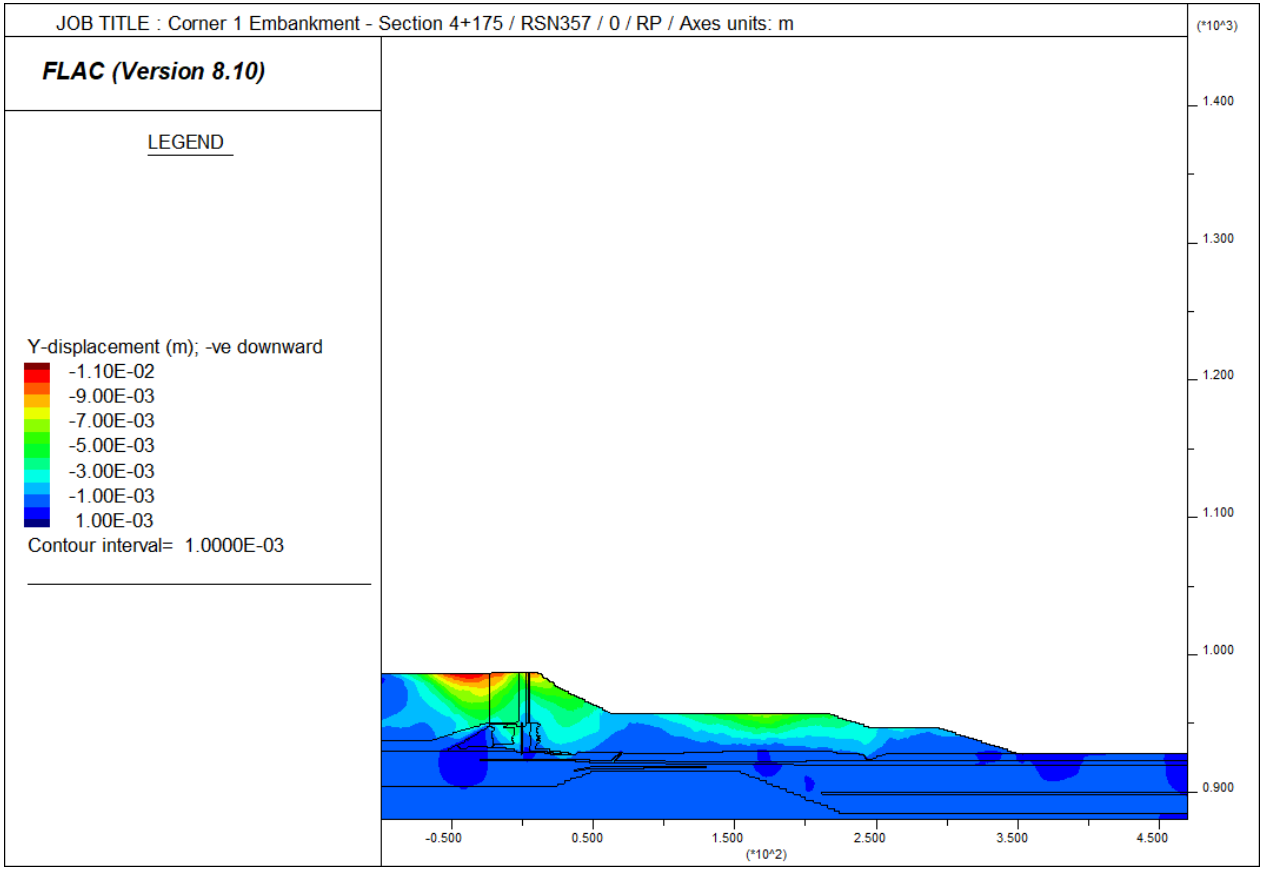

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

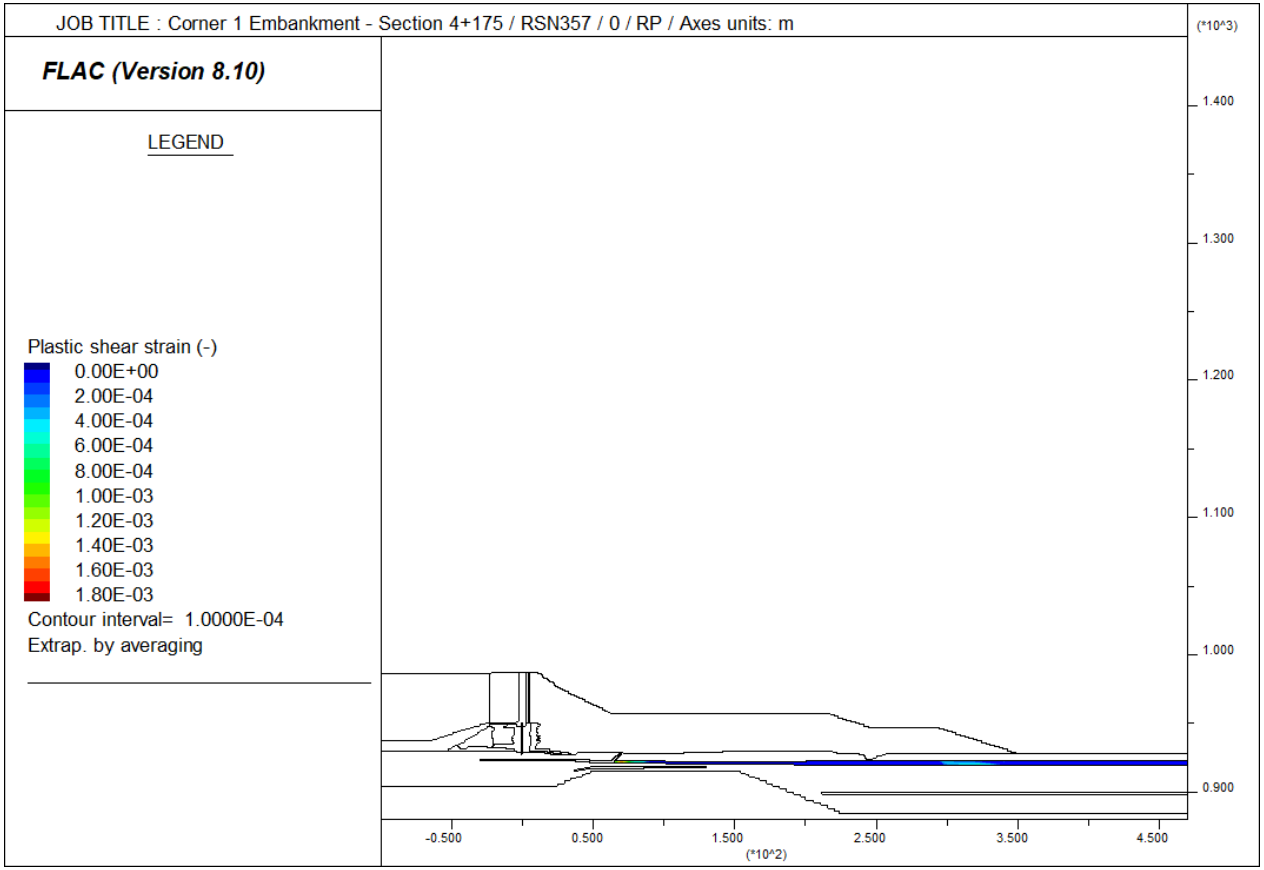

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

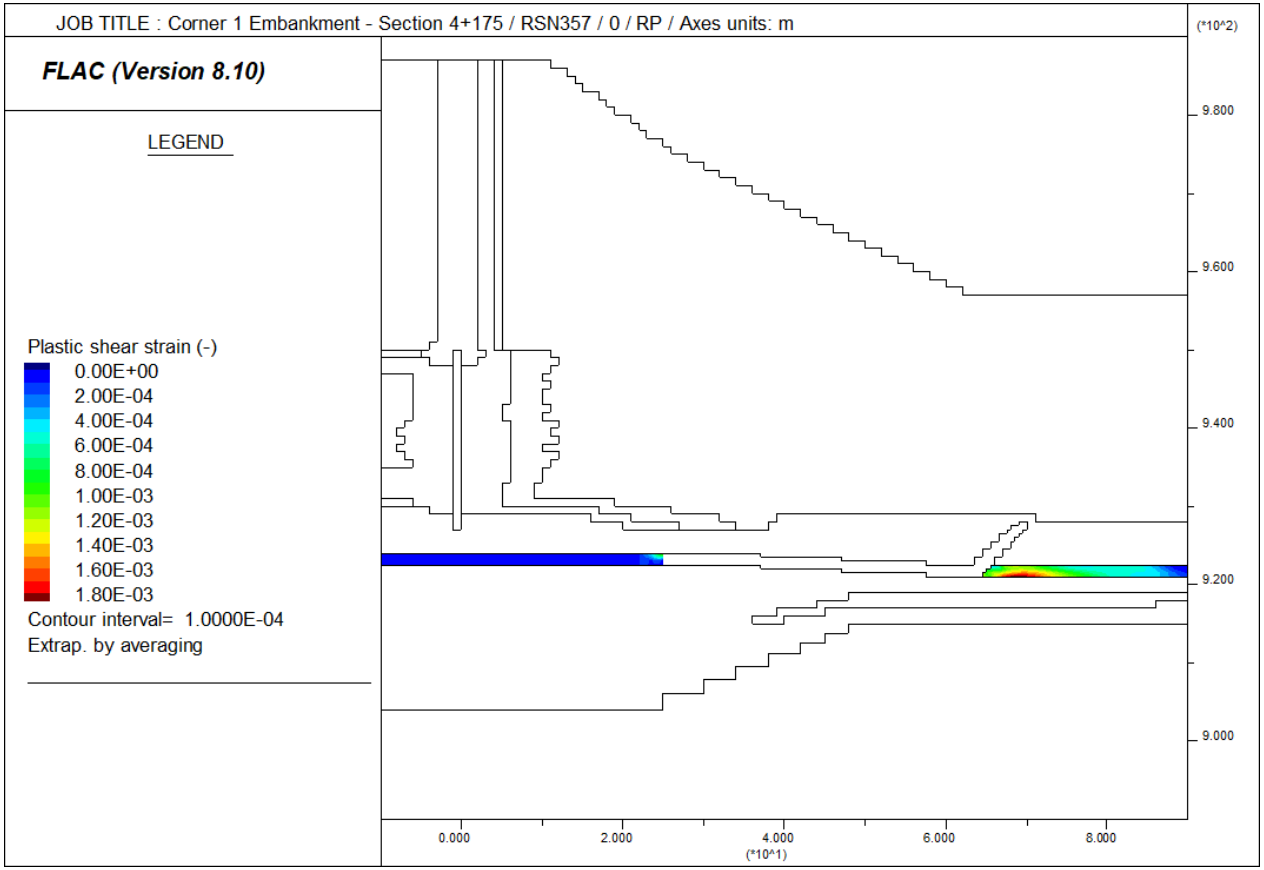

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

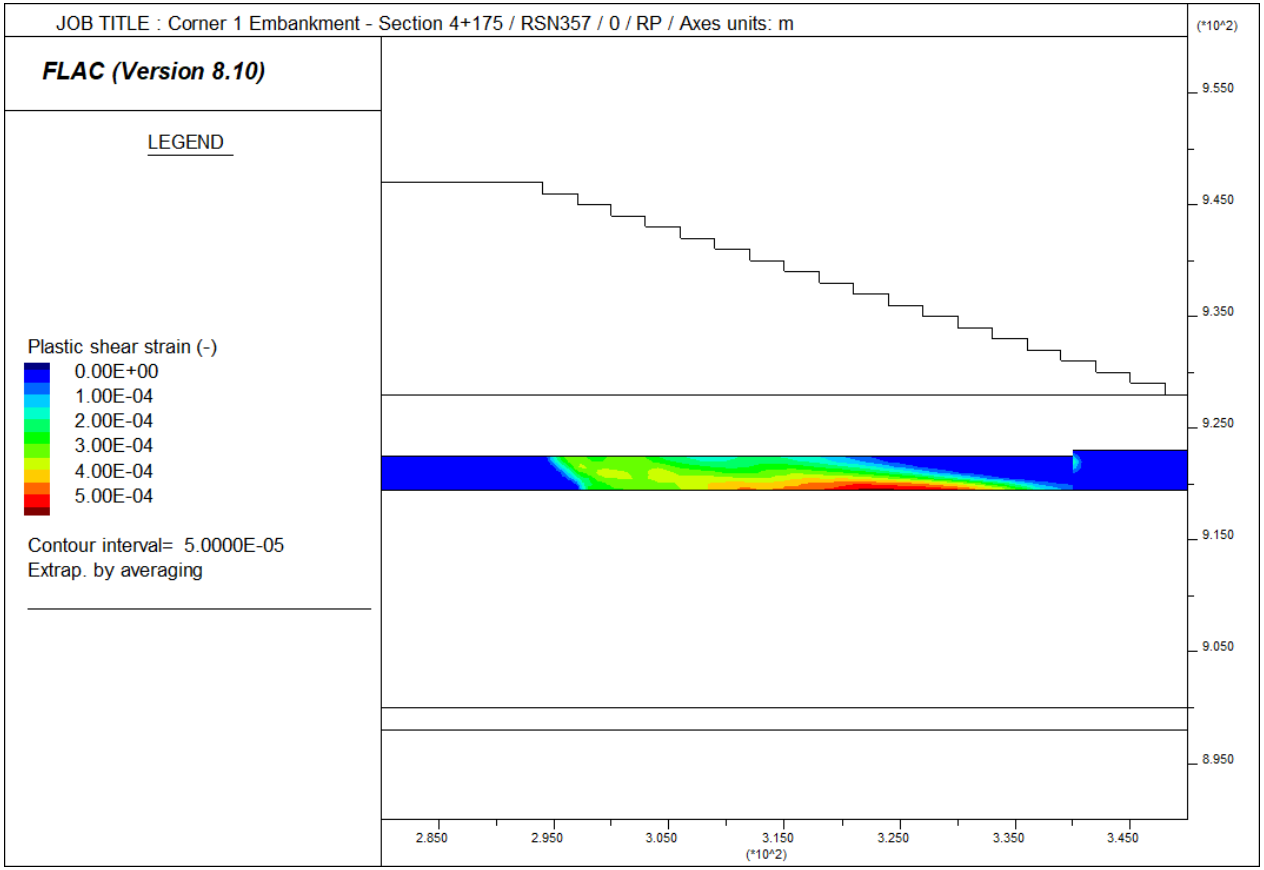

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

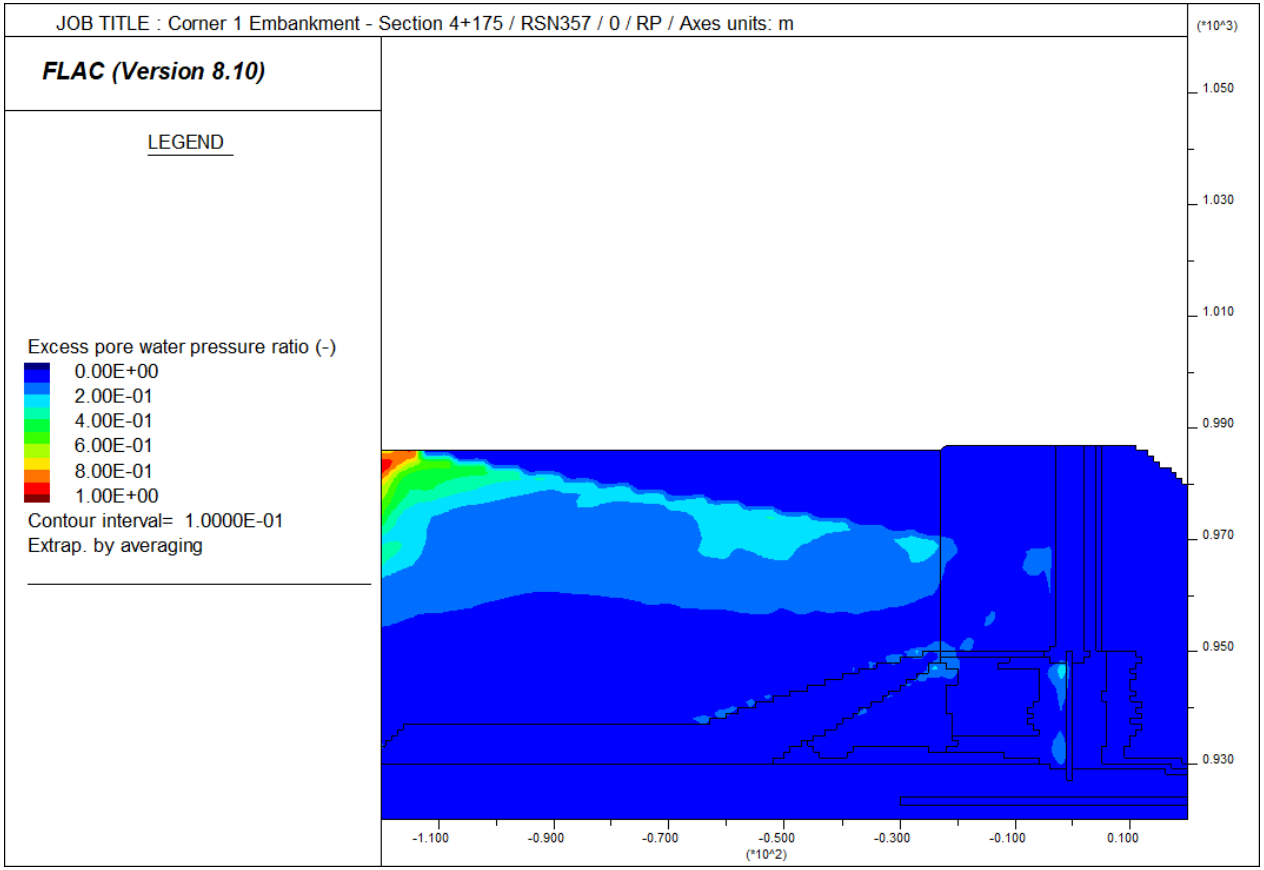

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

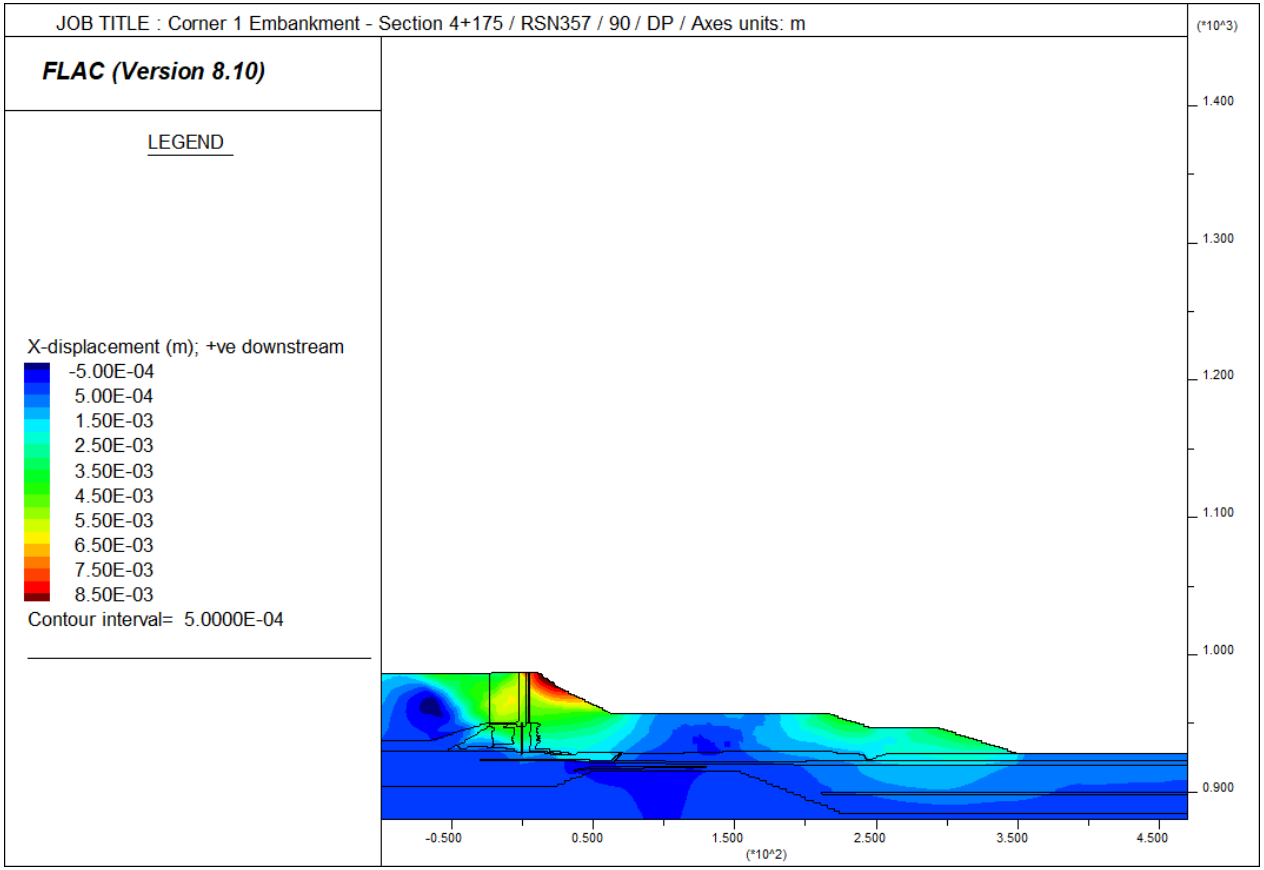

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

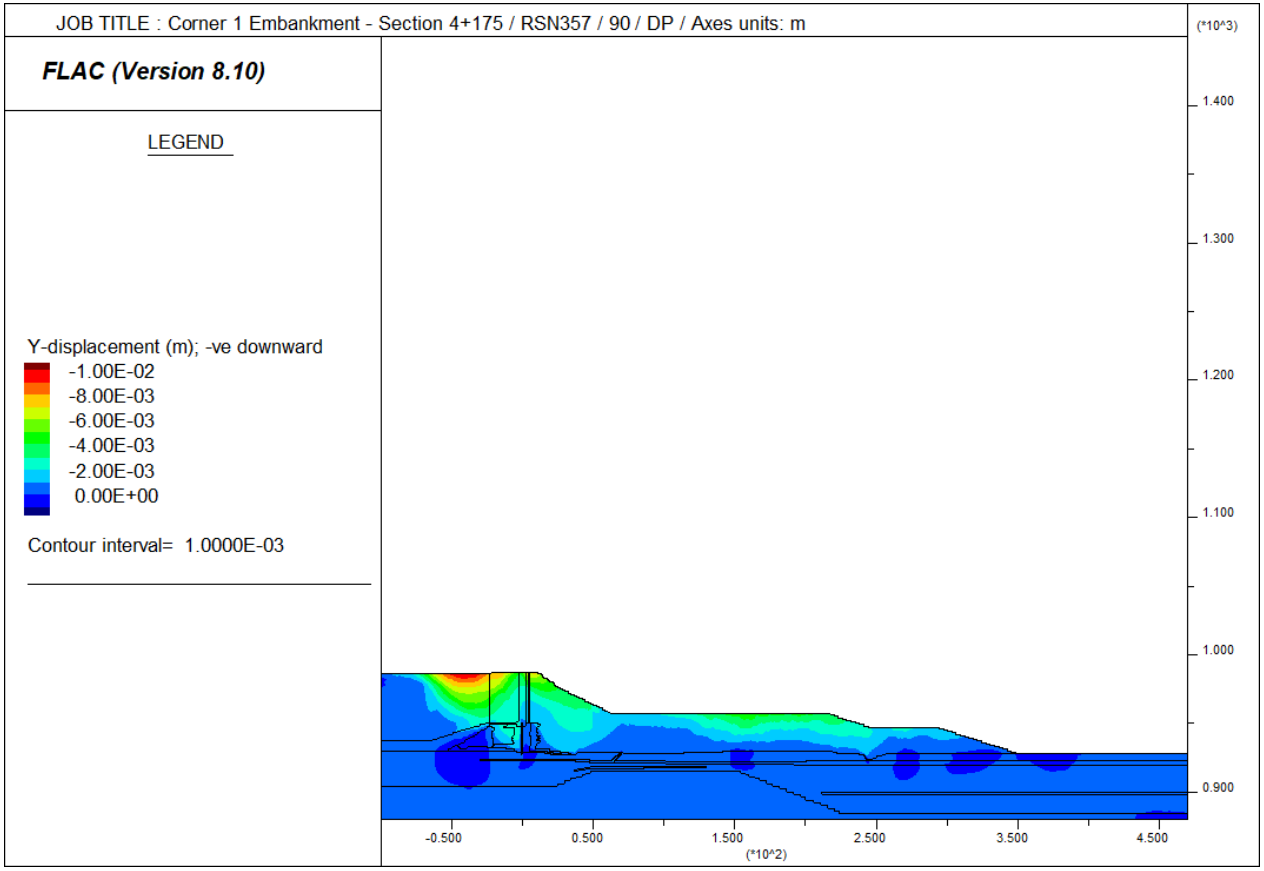

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
1.80E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

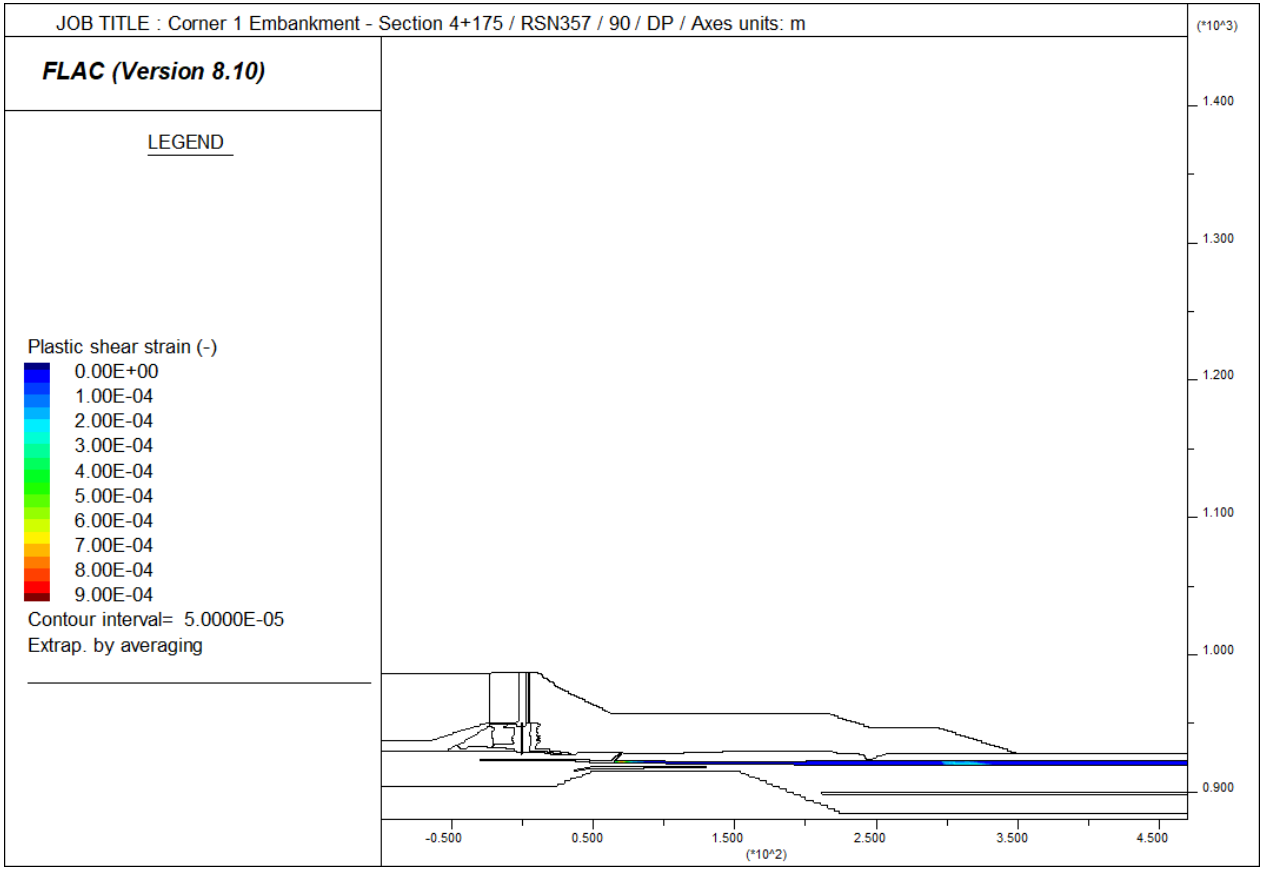

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
1.80E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

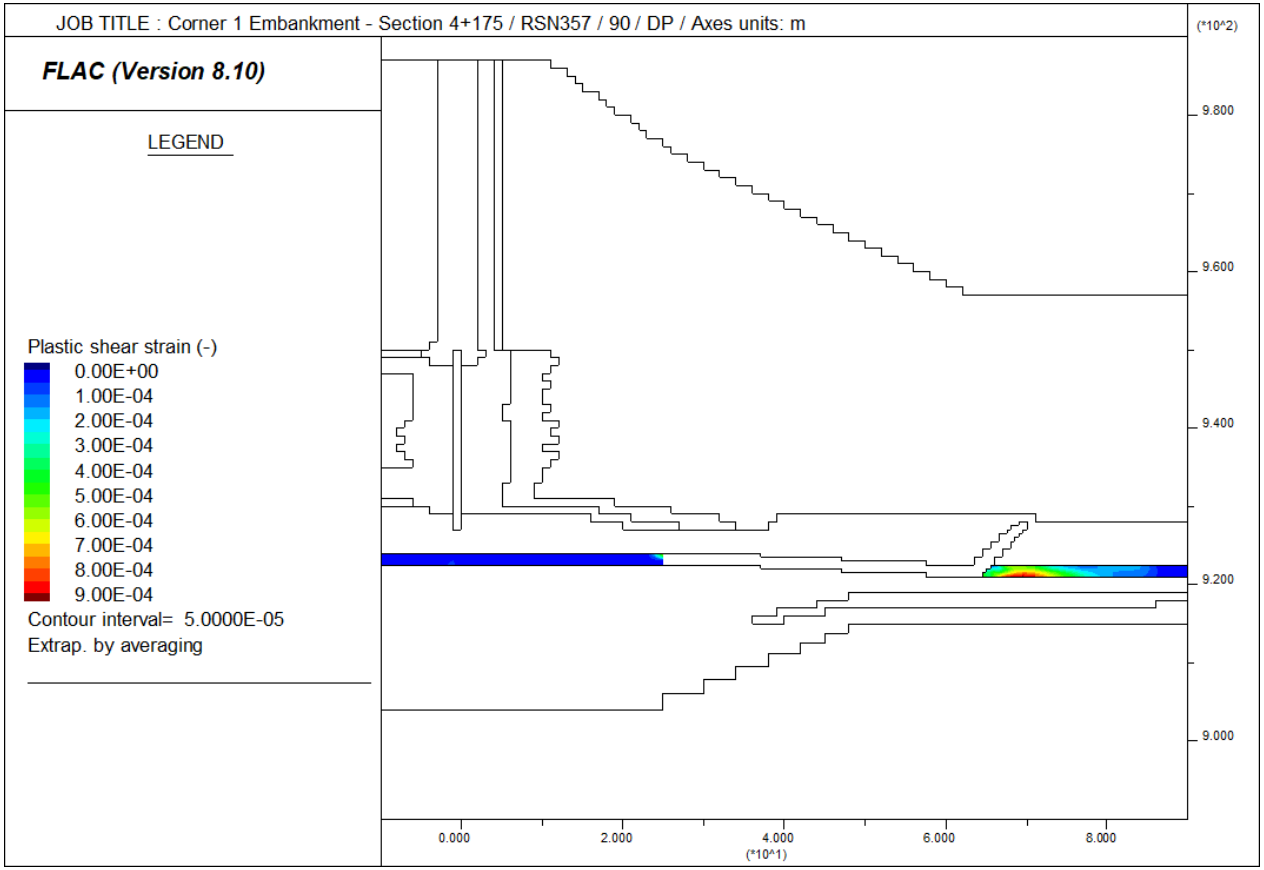

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

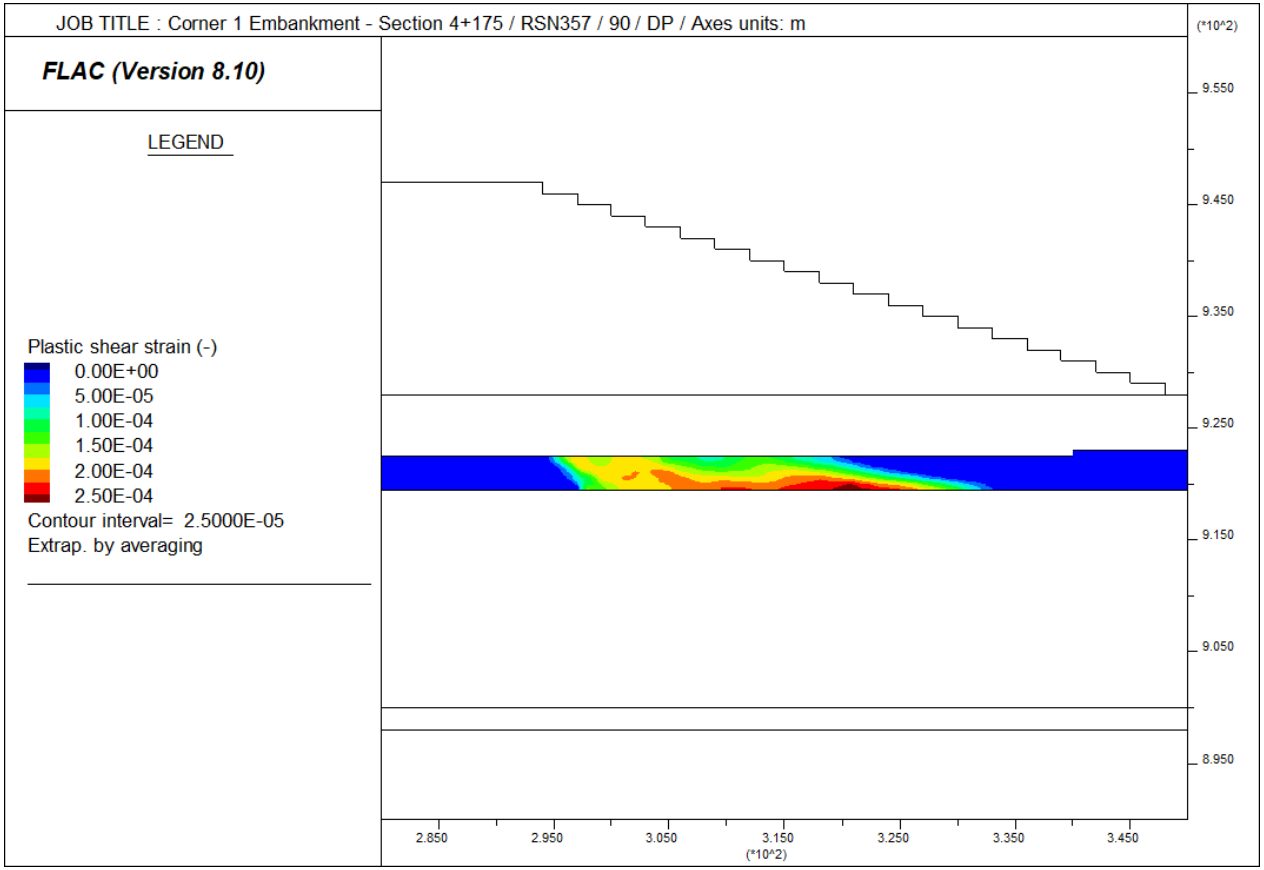

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

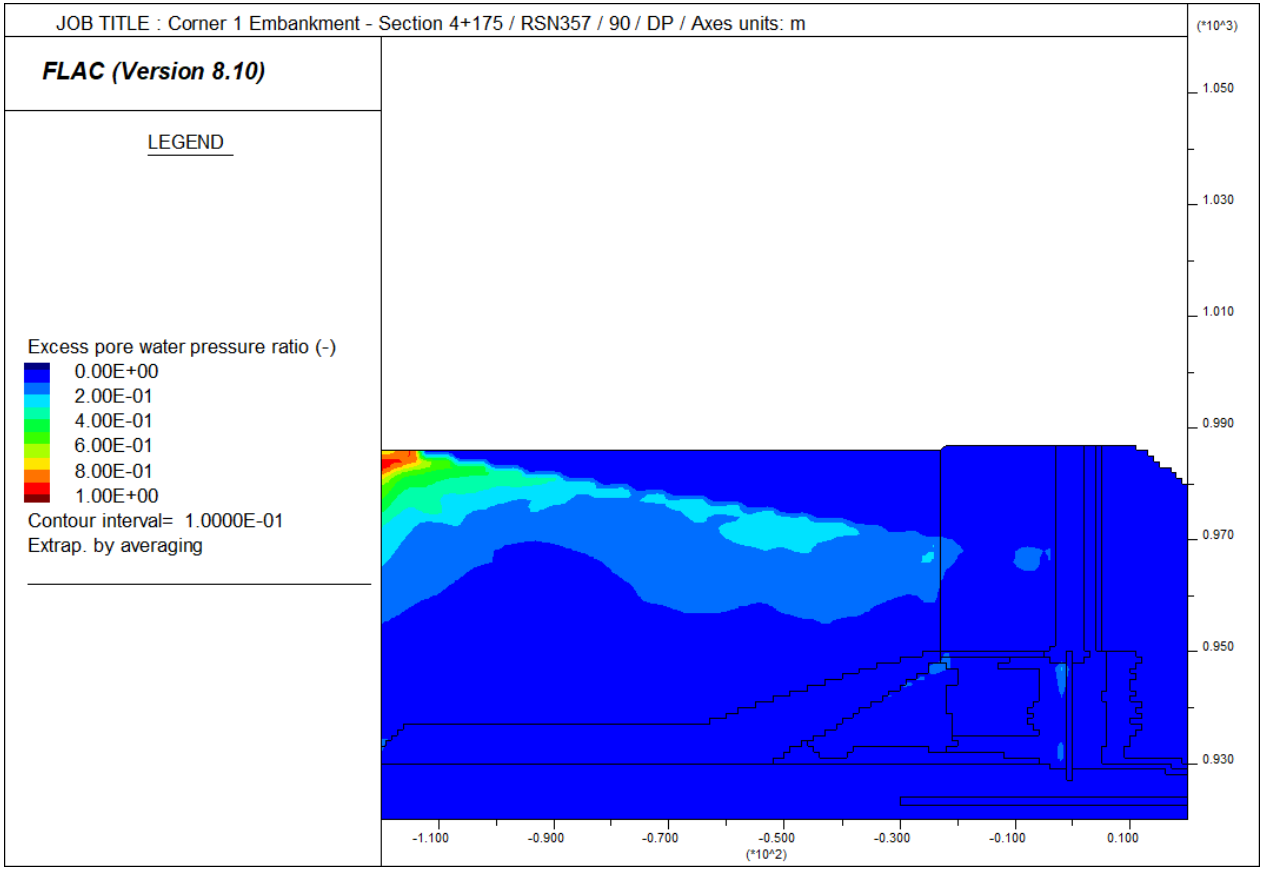

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
-5.00E-04
5.00E-04
1.50E-03
2.50E-03
3.50E-03
4.50E-03
5.50E-03
6.50E-03
7.50E-03
8.50E-03
Contour interval= 5.0000E-04
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

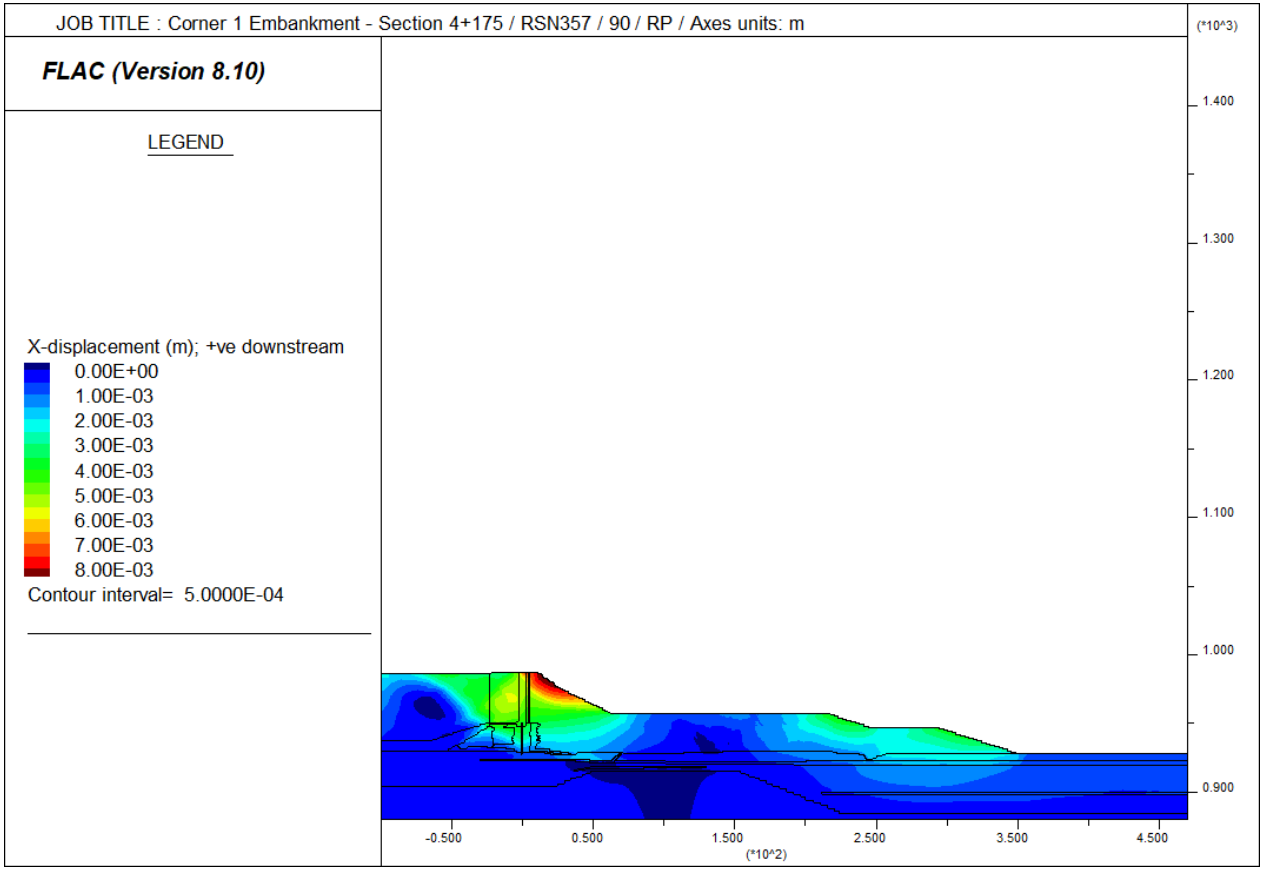

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.00E-02
-8.00E-03
-6.00E-03
-4.00E-03
-2.00E-03
0.00E+00
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

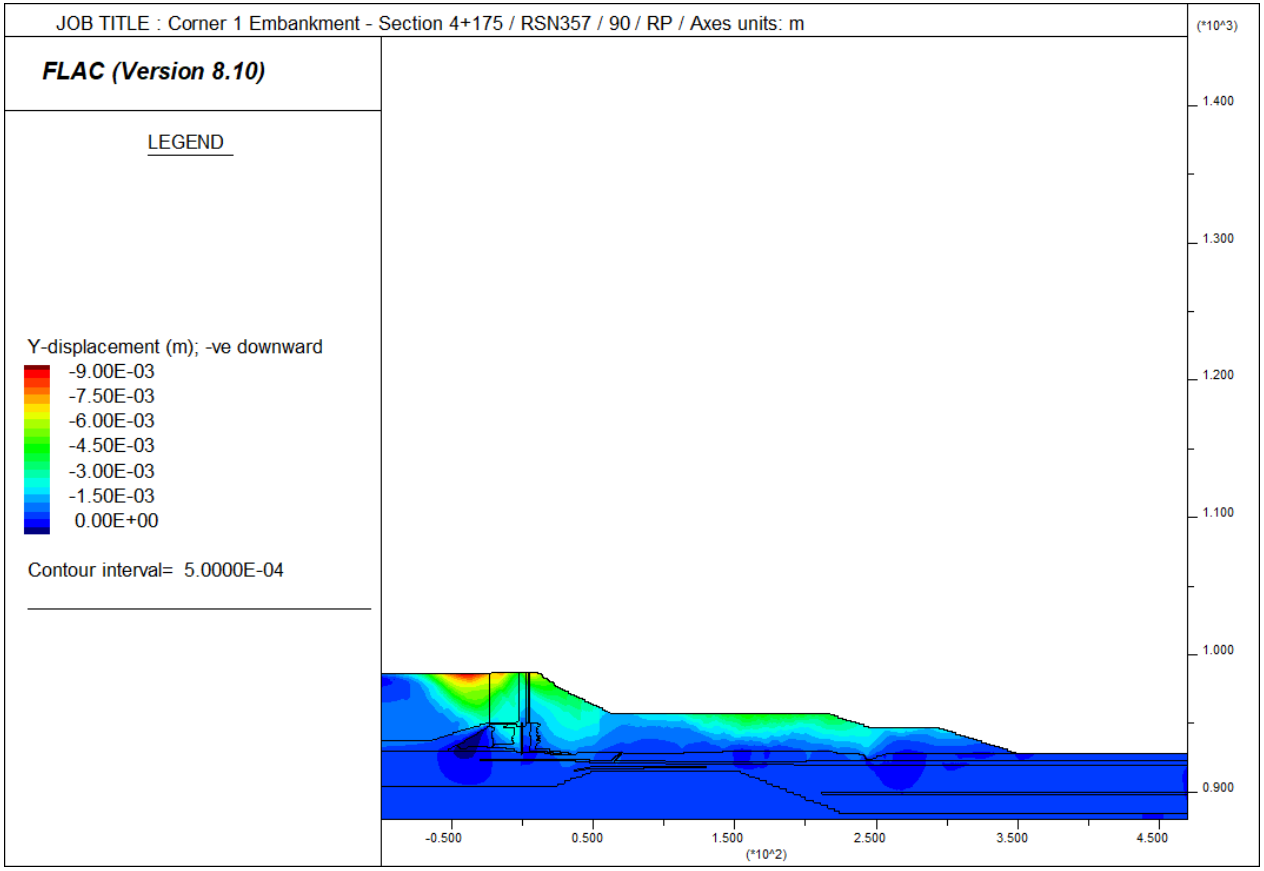

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
7.00E-04
8.00E-04
9.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

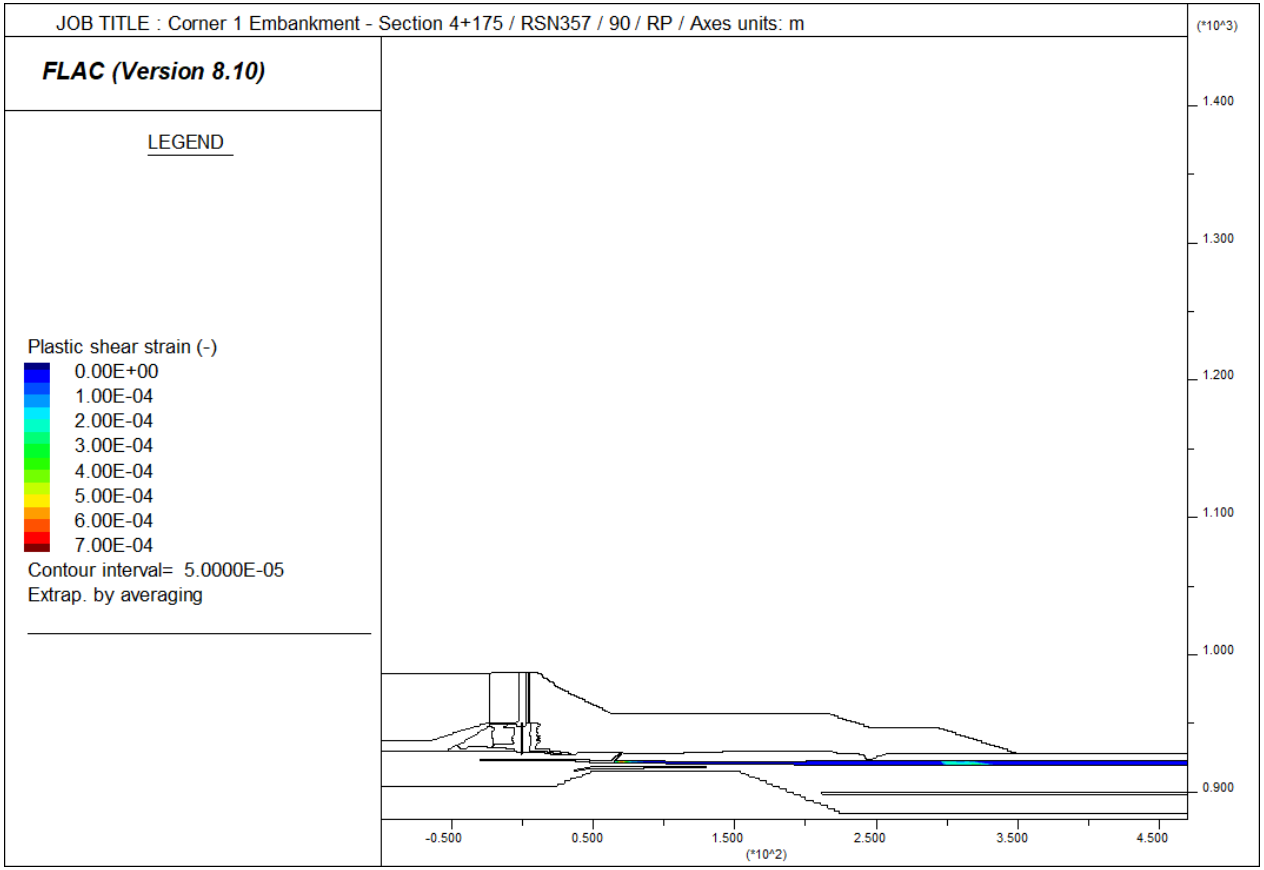

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
7.00E-04
8.00E-04
9.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

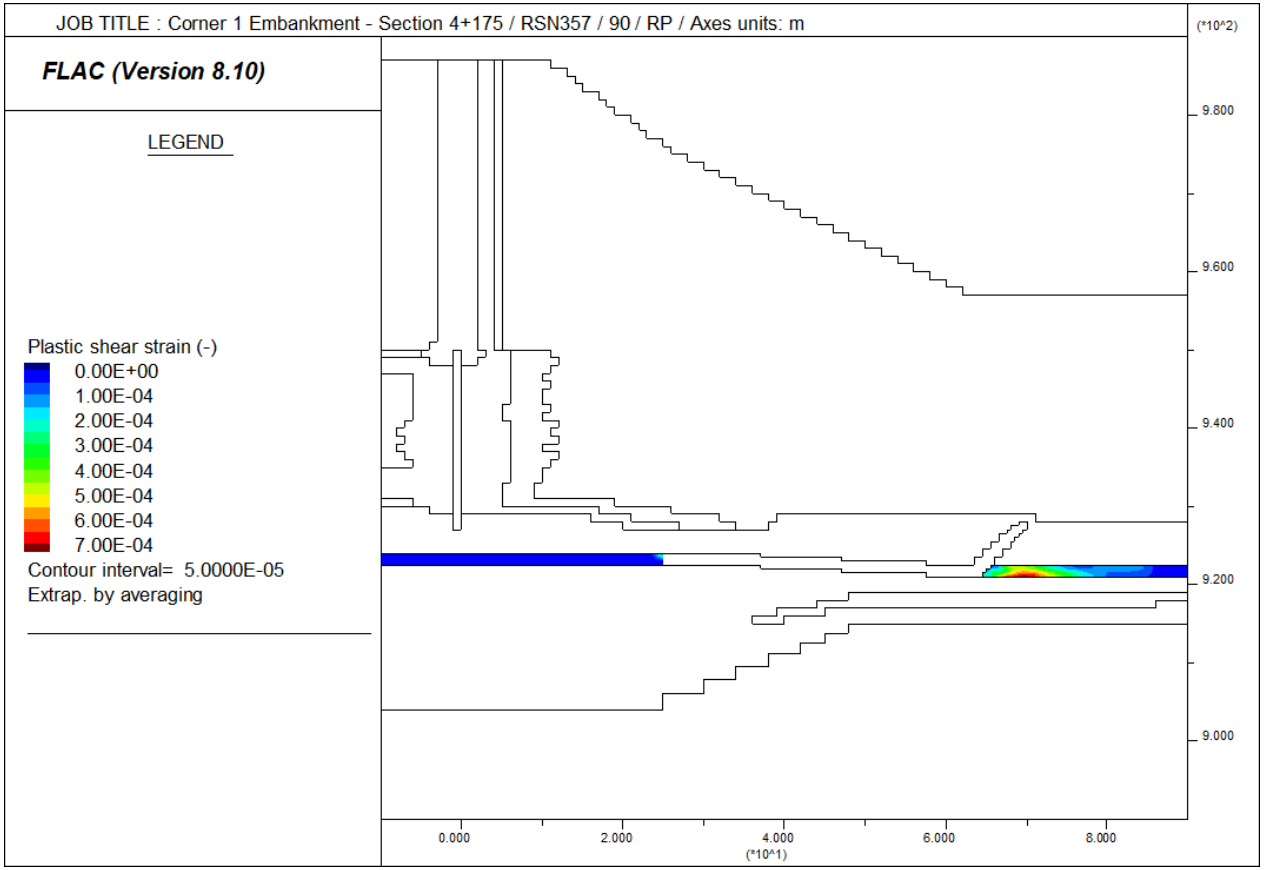

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-05
1.00E-04
1.50E-04
2.00E-04
2.50E-04
Contour interval= 2.5000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

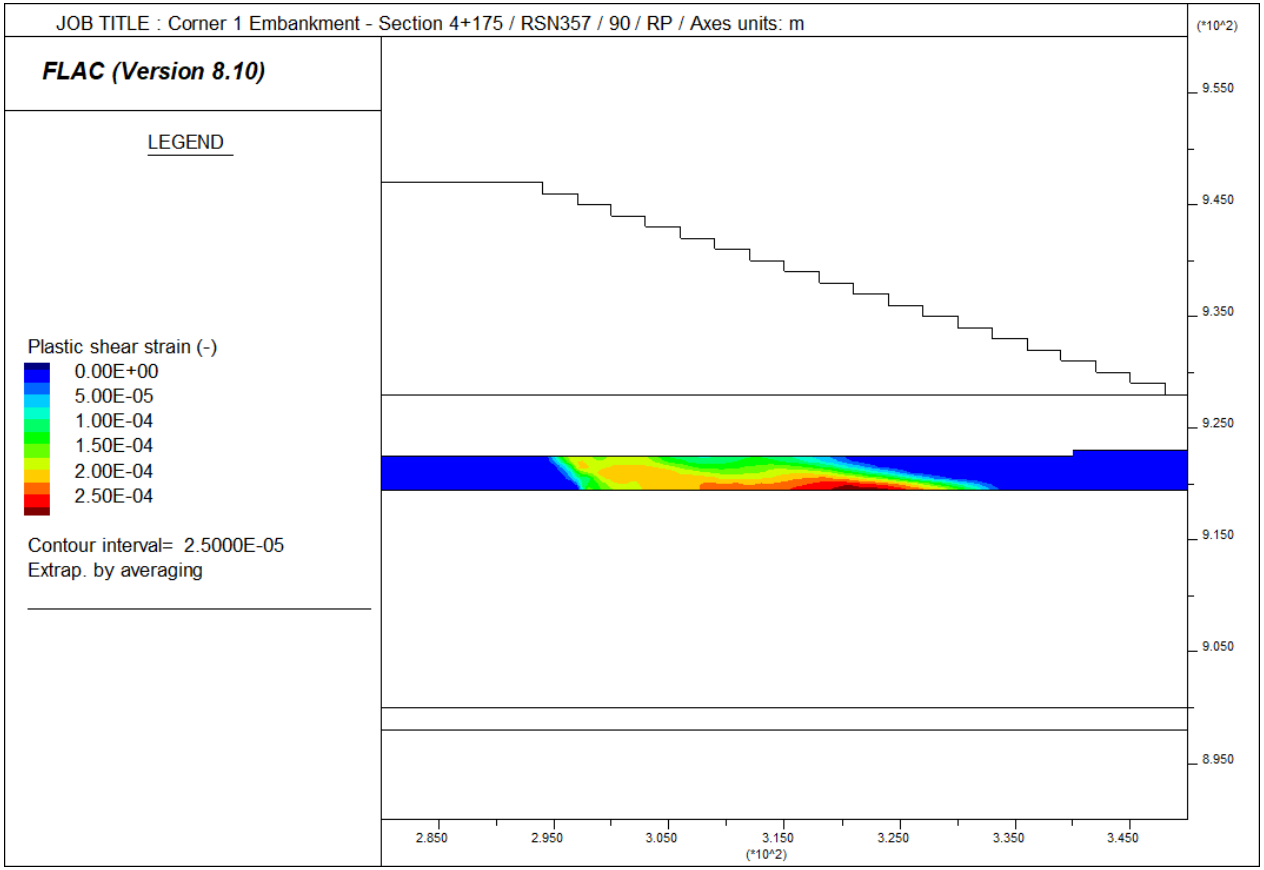

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

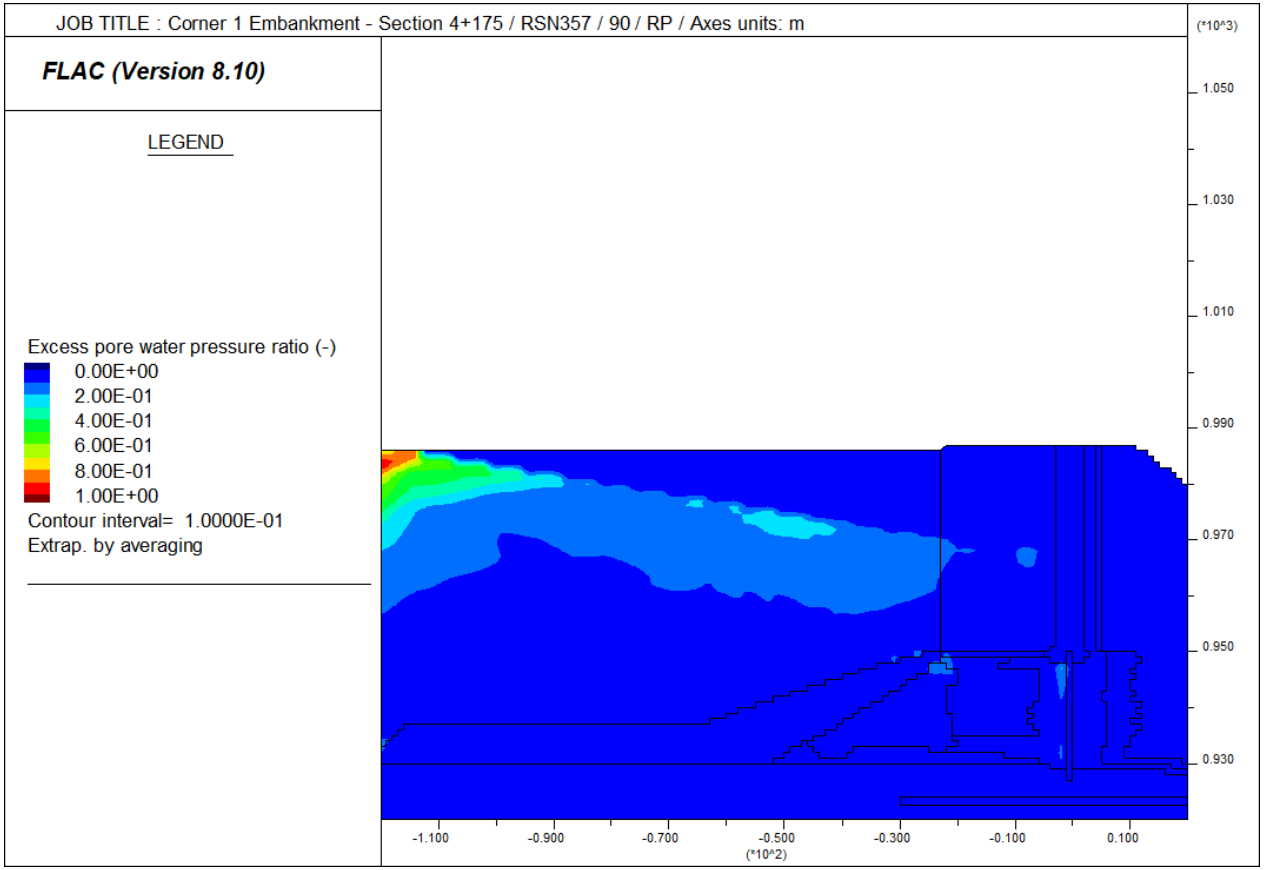

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
1.00E-03
2.00E-03
3.00E-03
4.00E-03
5.00E-03
6.00E-03
7.00E-03
8.00E-03
Contour interval= 5.0000E-04
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

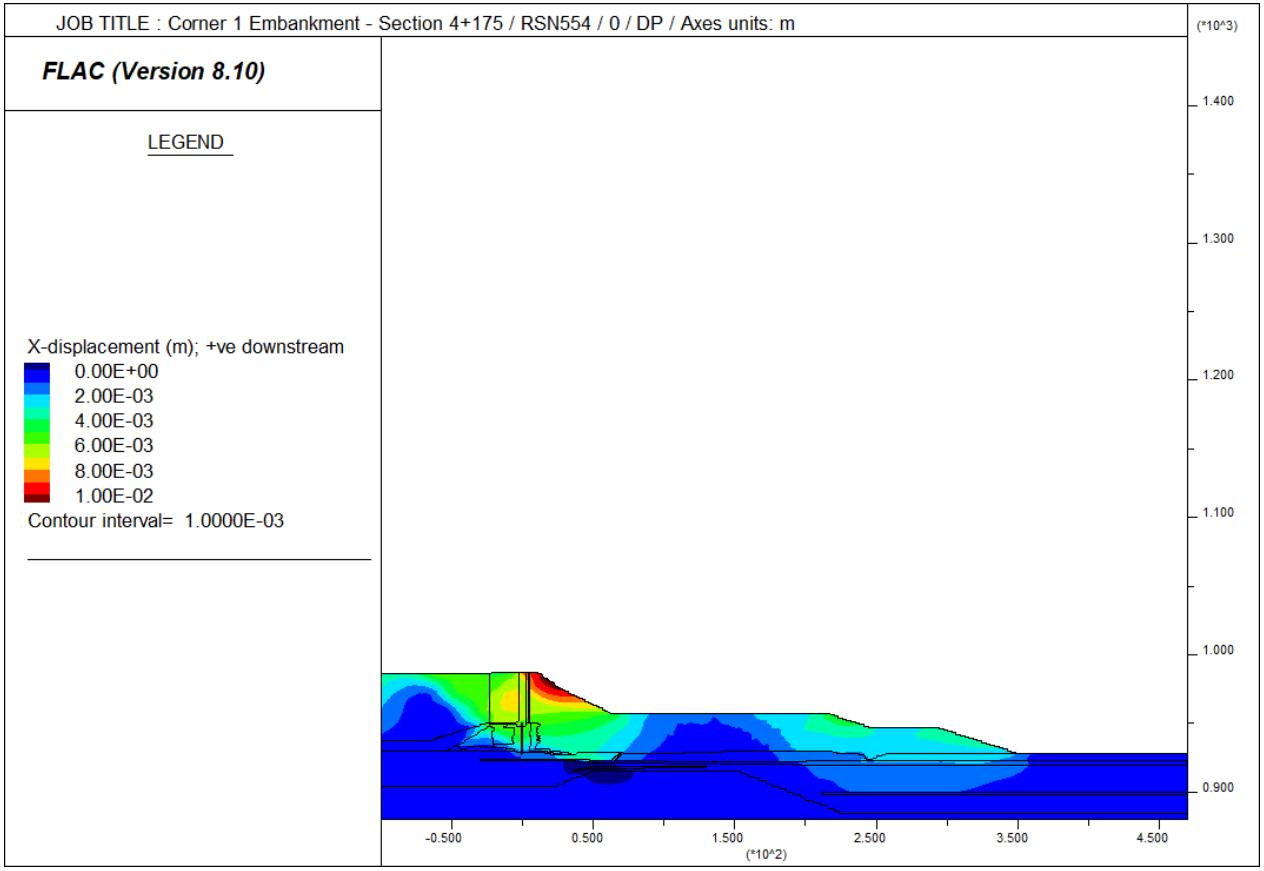

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-9.00E-03
-7.50E-03
-6.00E-03
-4.50E-03
-3.00E-03
-1.50E-03
0.00E+00
Contour interval= 5.0000E-04
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

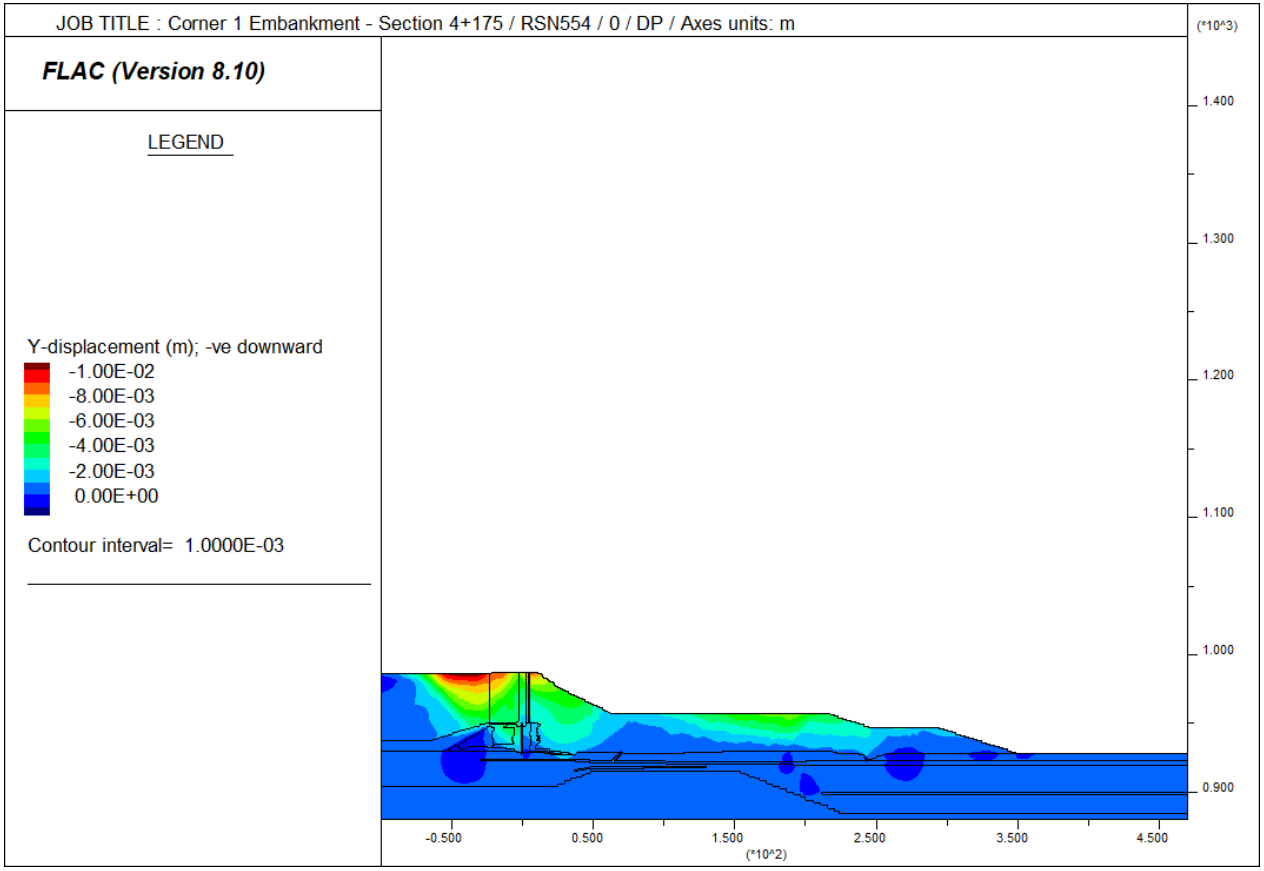

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
7.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

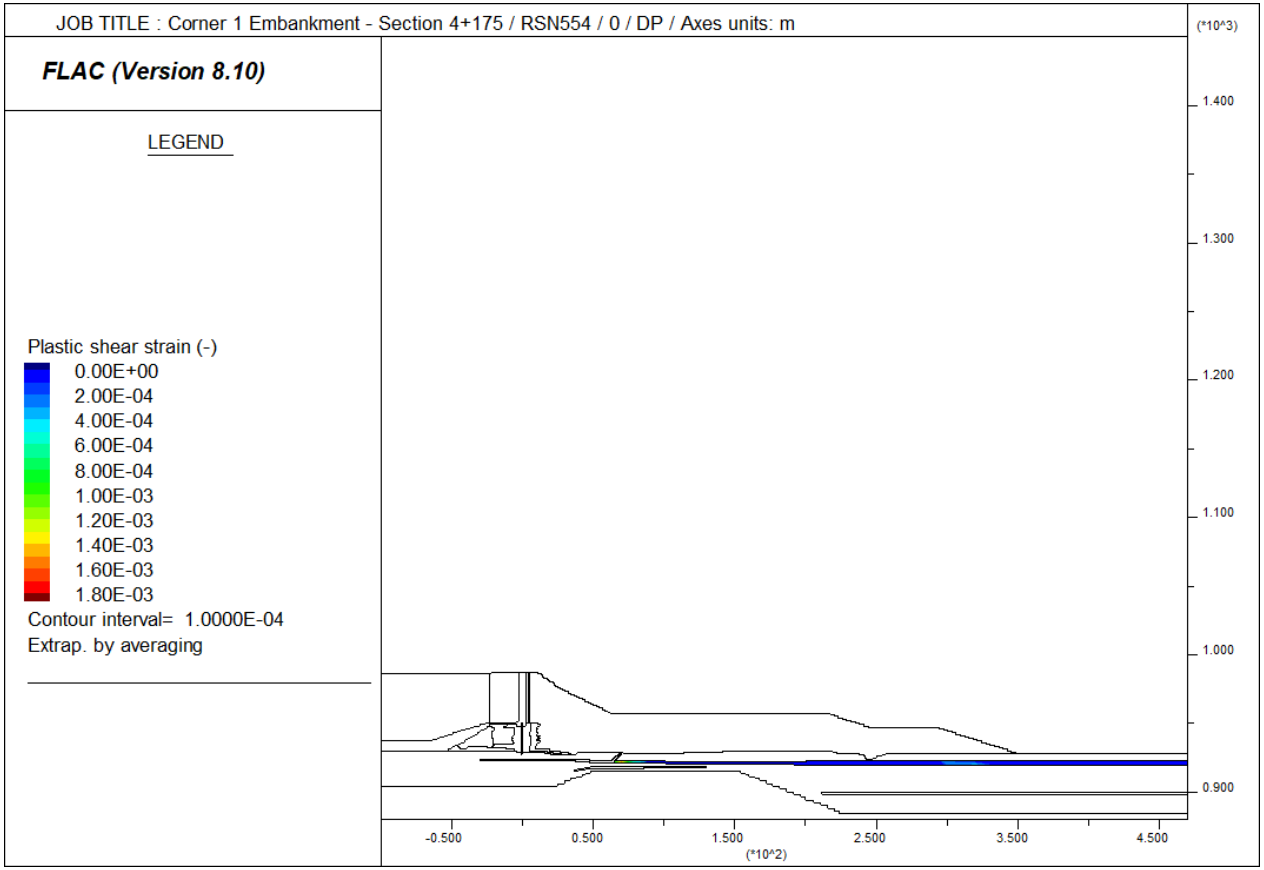

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
7.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

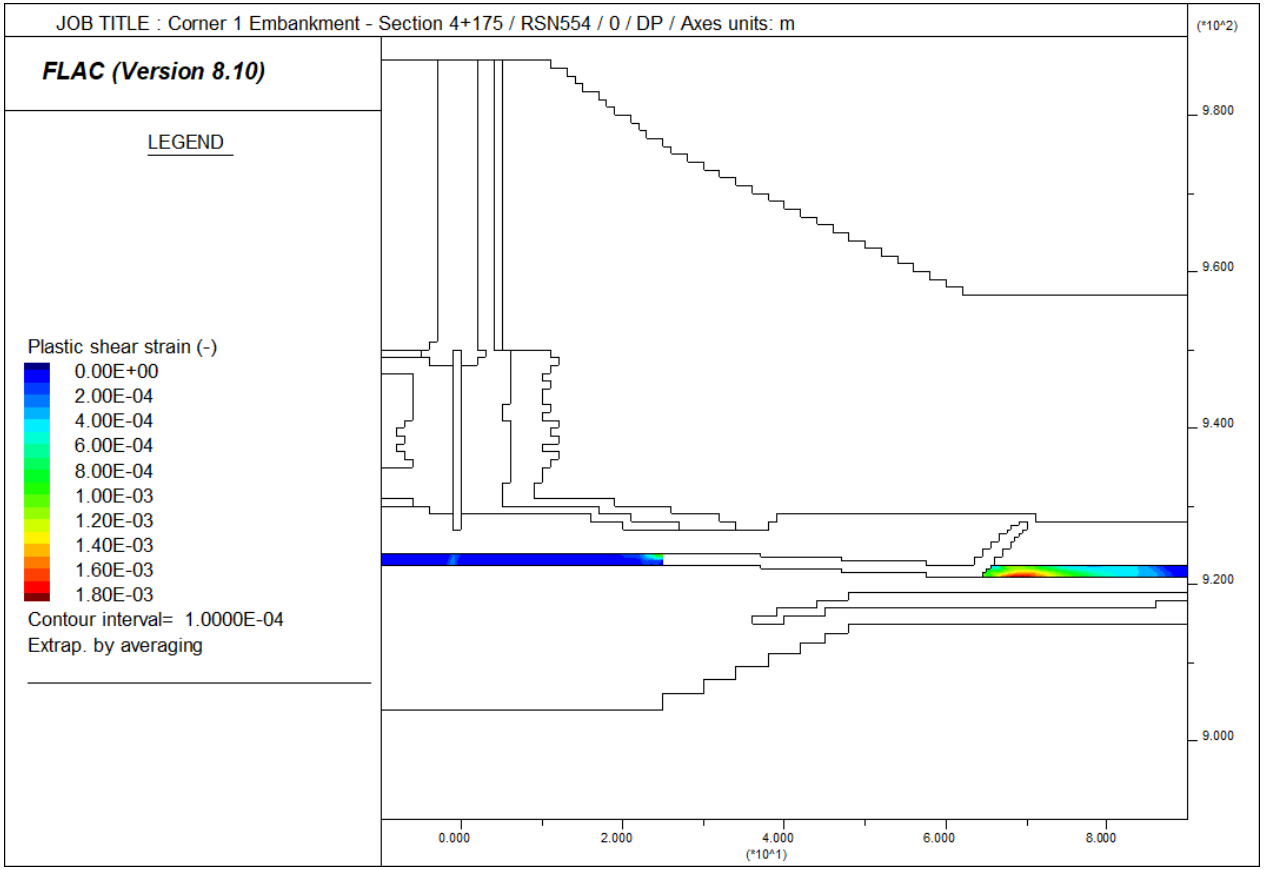

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-05
1.00E-04
1.50E-04
2.00E-04
2.50E-04
Contour interval= 2.5000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

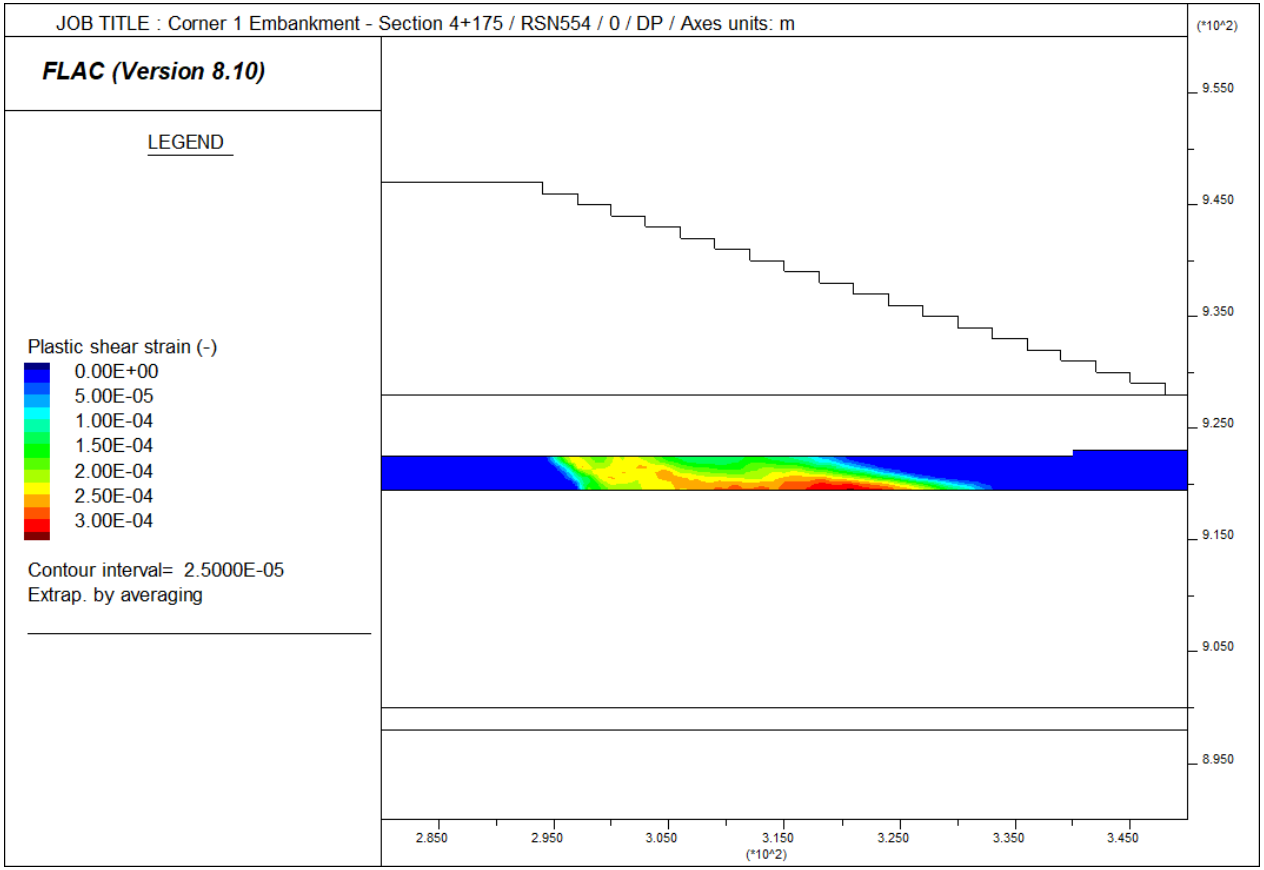

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN357 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

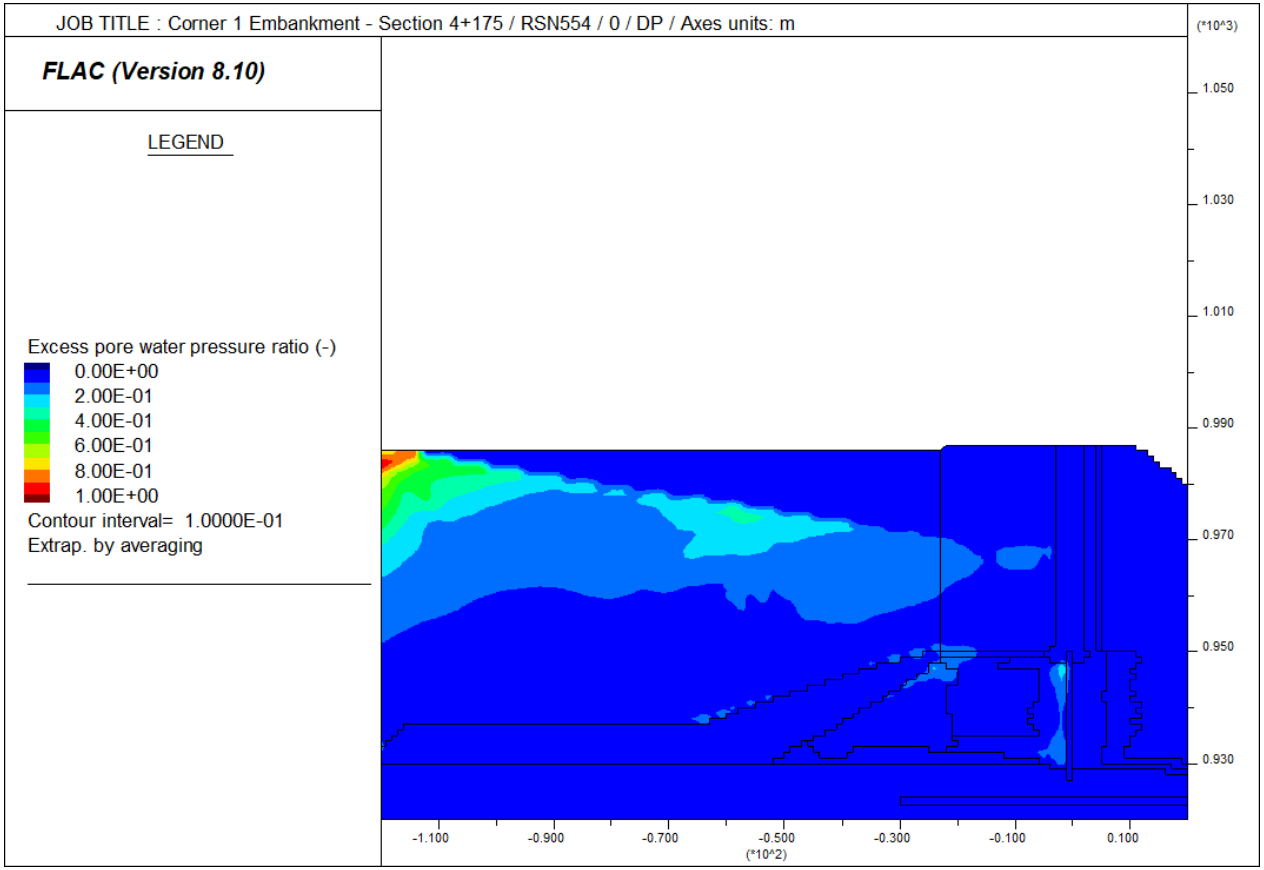

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

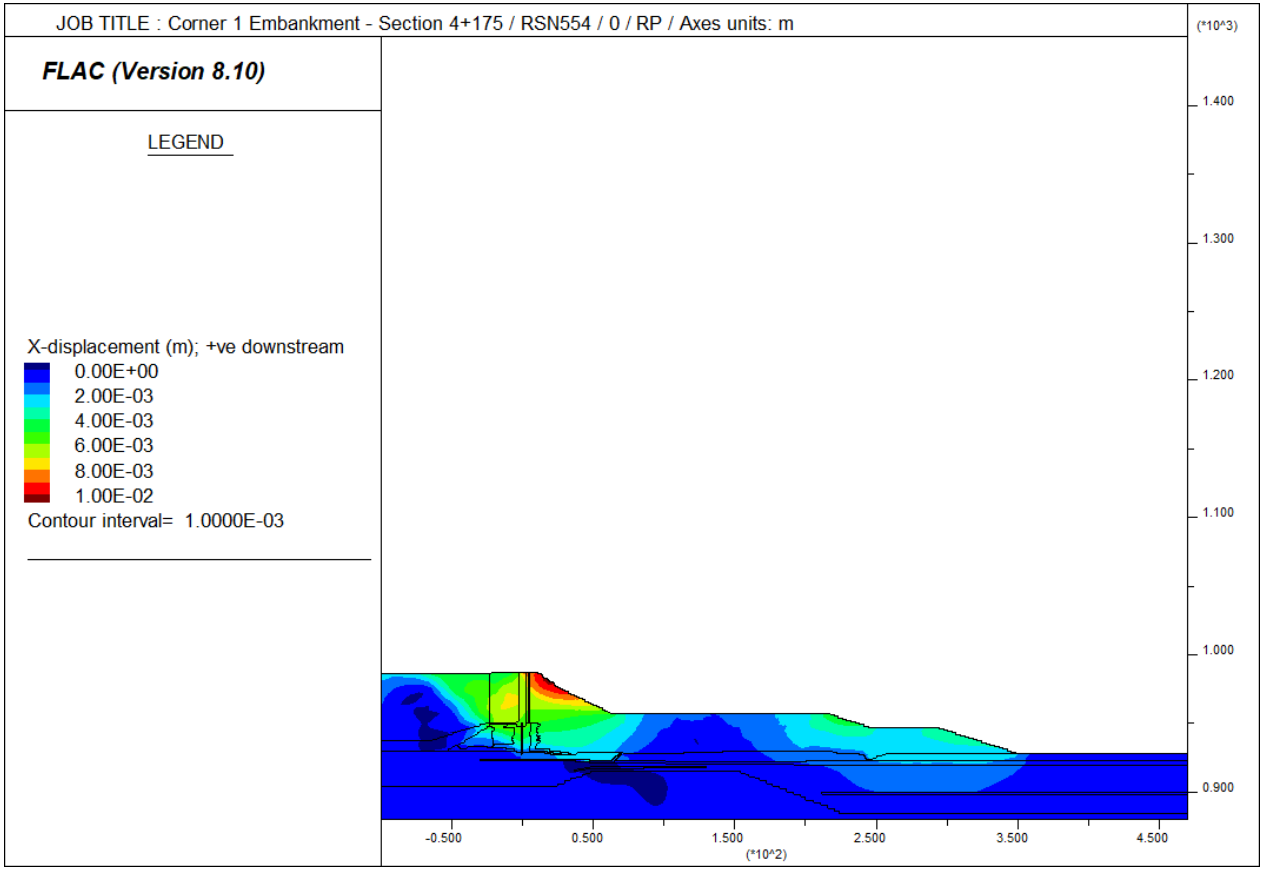

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.00E-02
-8.00E-03
-6.00E-03
-4.00E-03
-2.00E-03
0.00E+00
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

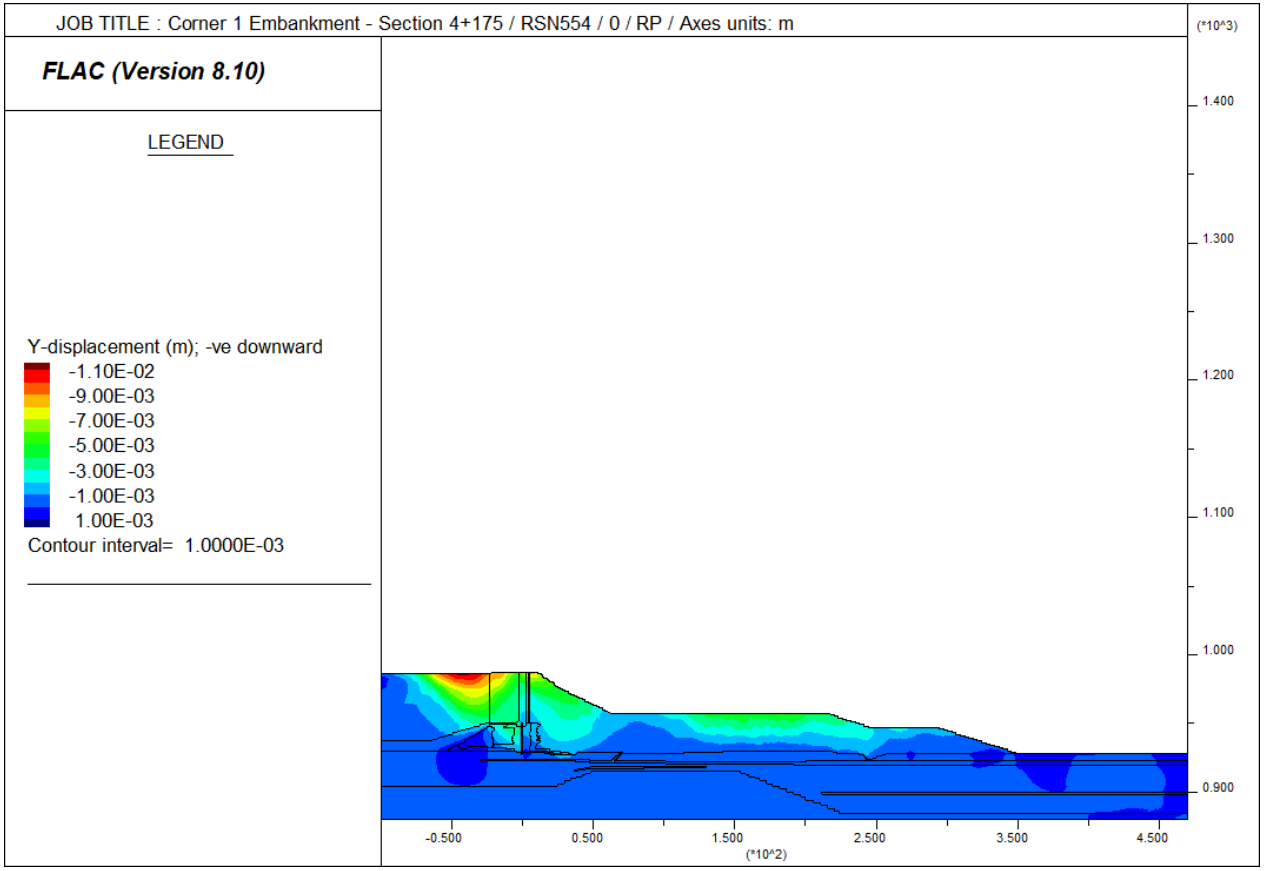

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
1.80E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

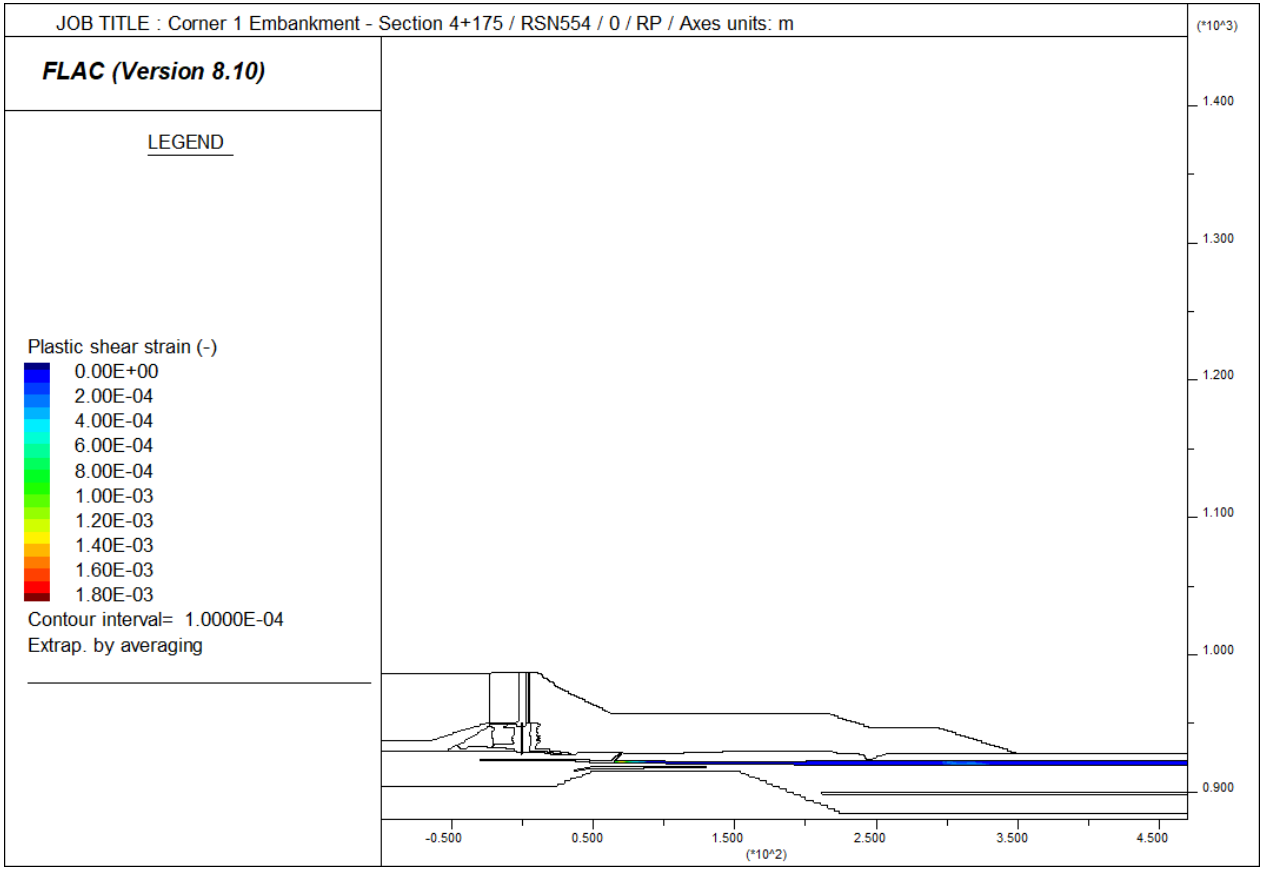

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
1.80E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

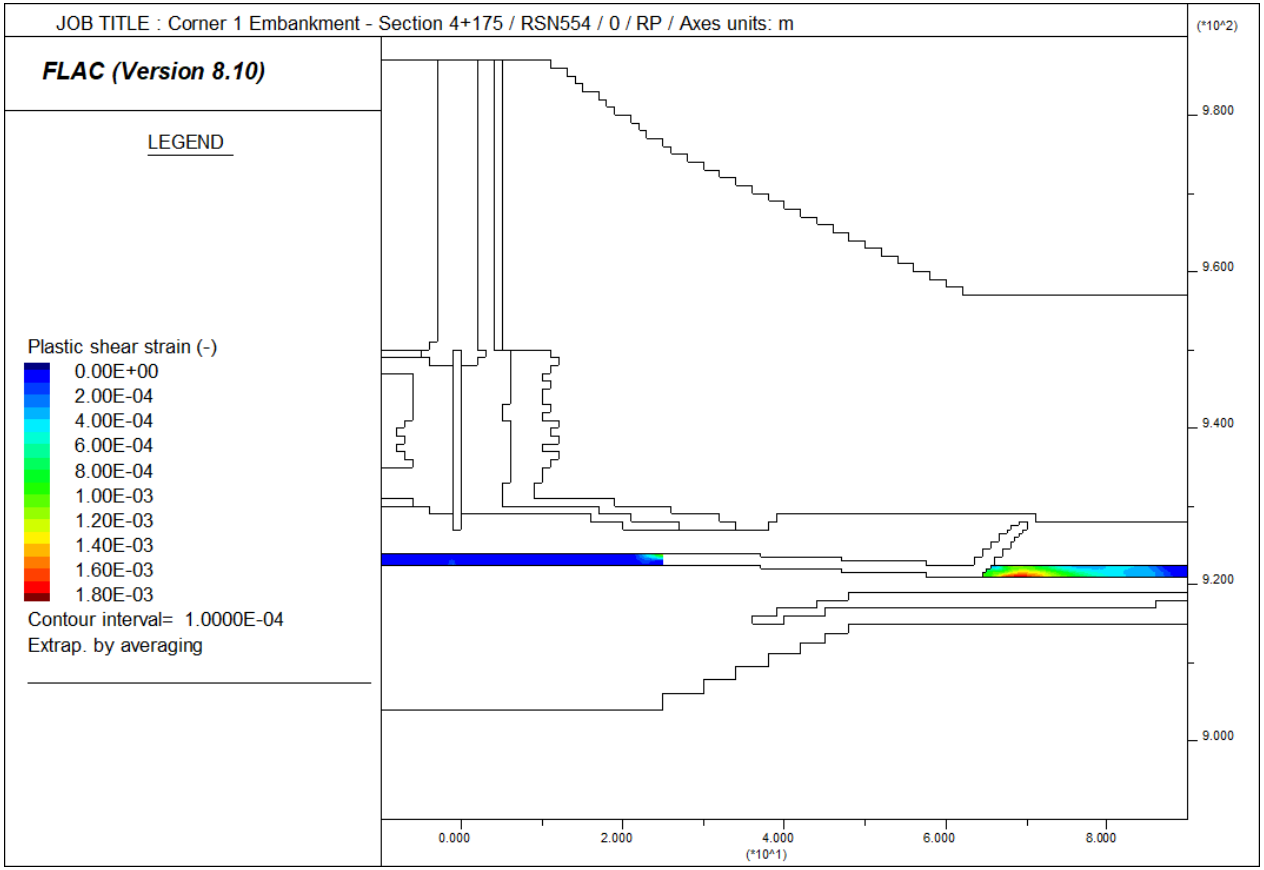

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-05
1.00E-04
1.50E-04
2.00E-04
2.50E-04
3.00E-04
Contour interval= 2.5000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

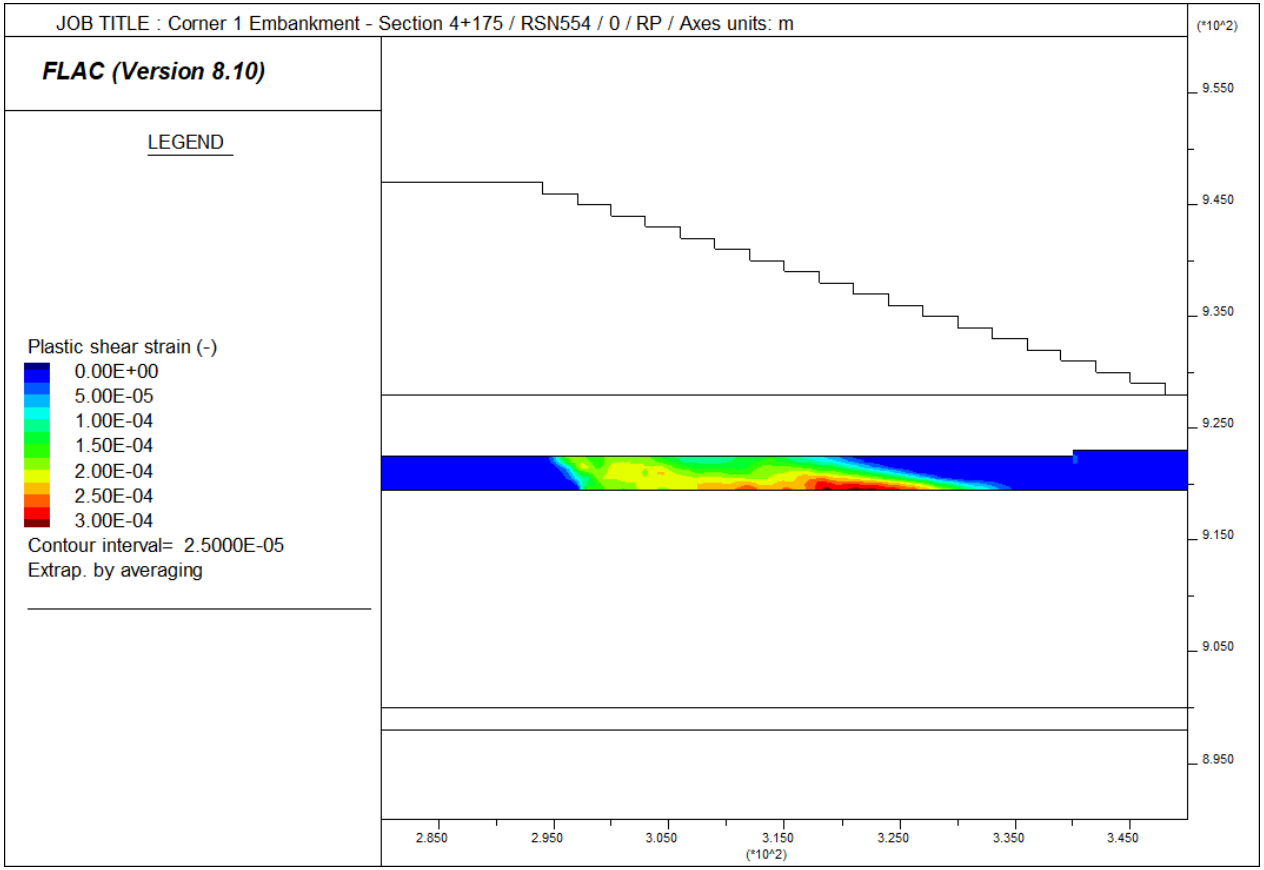

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

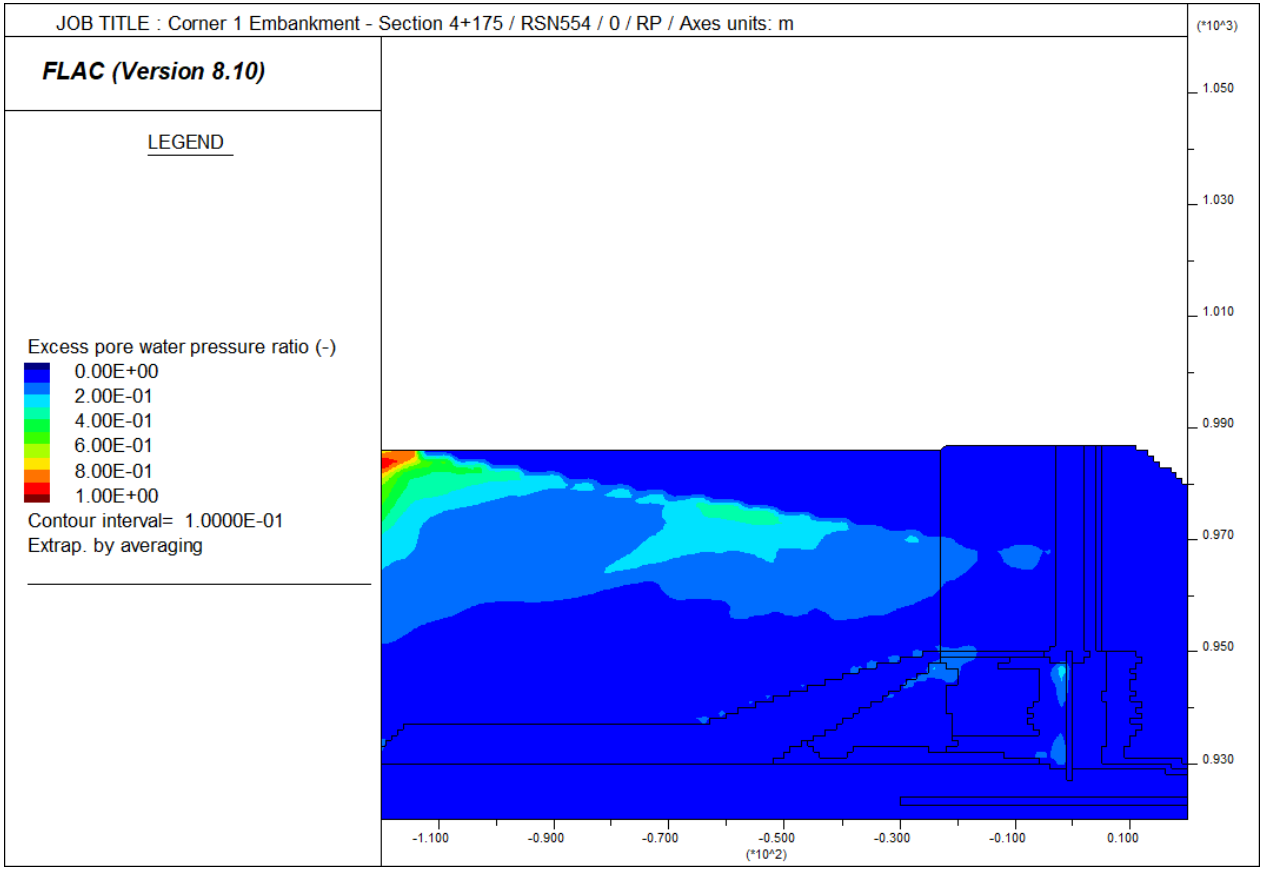

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

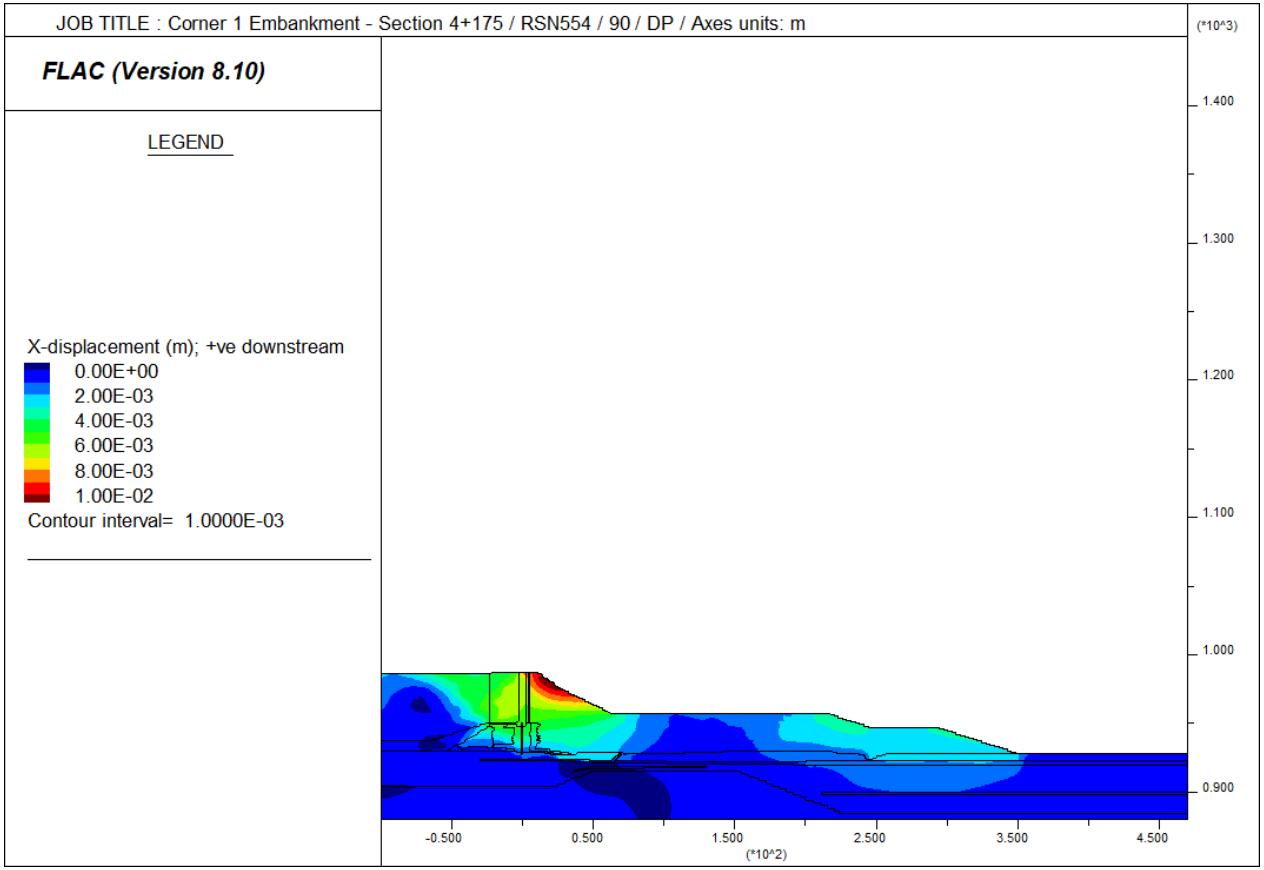

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

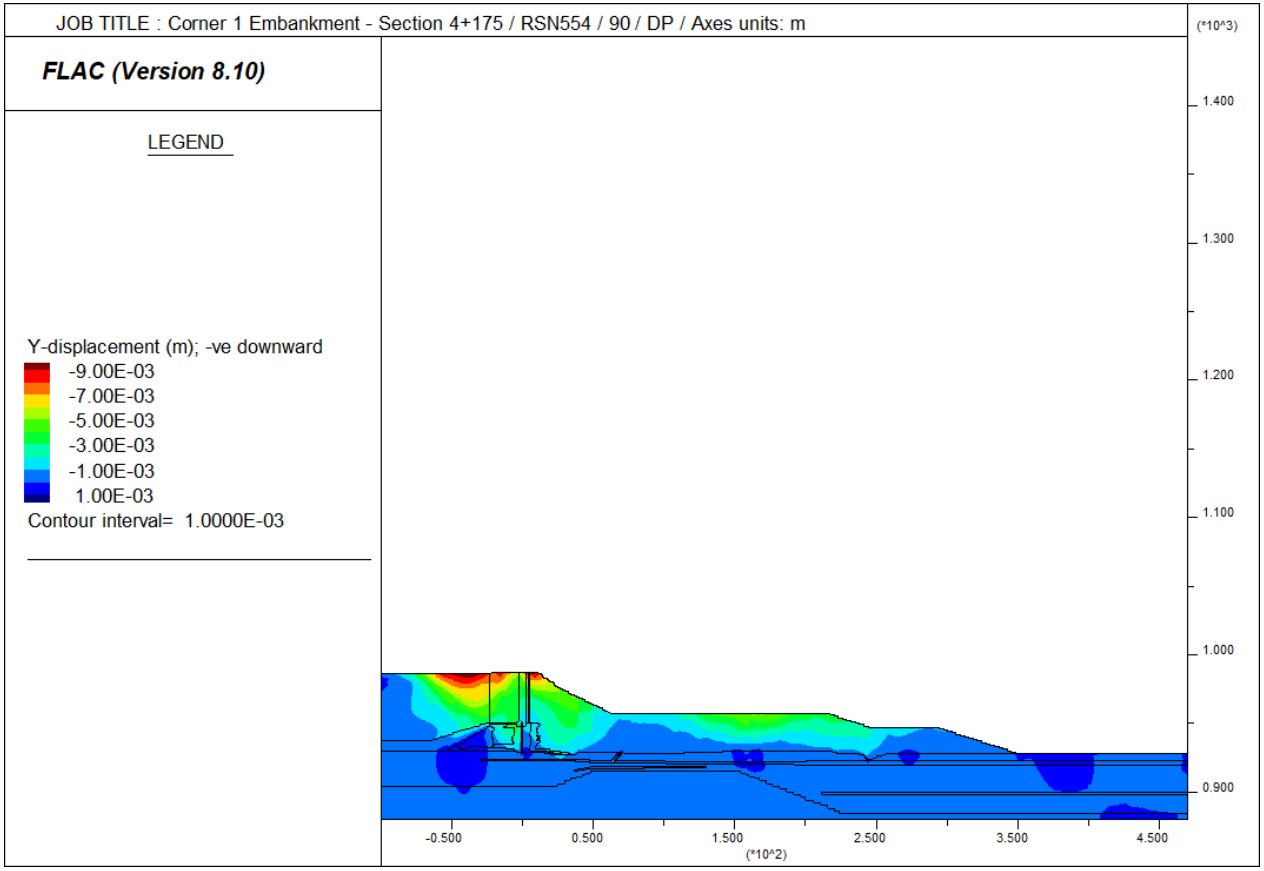

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
1.80E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

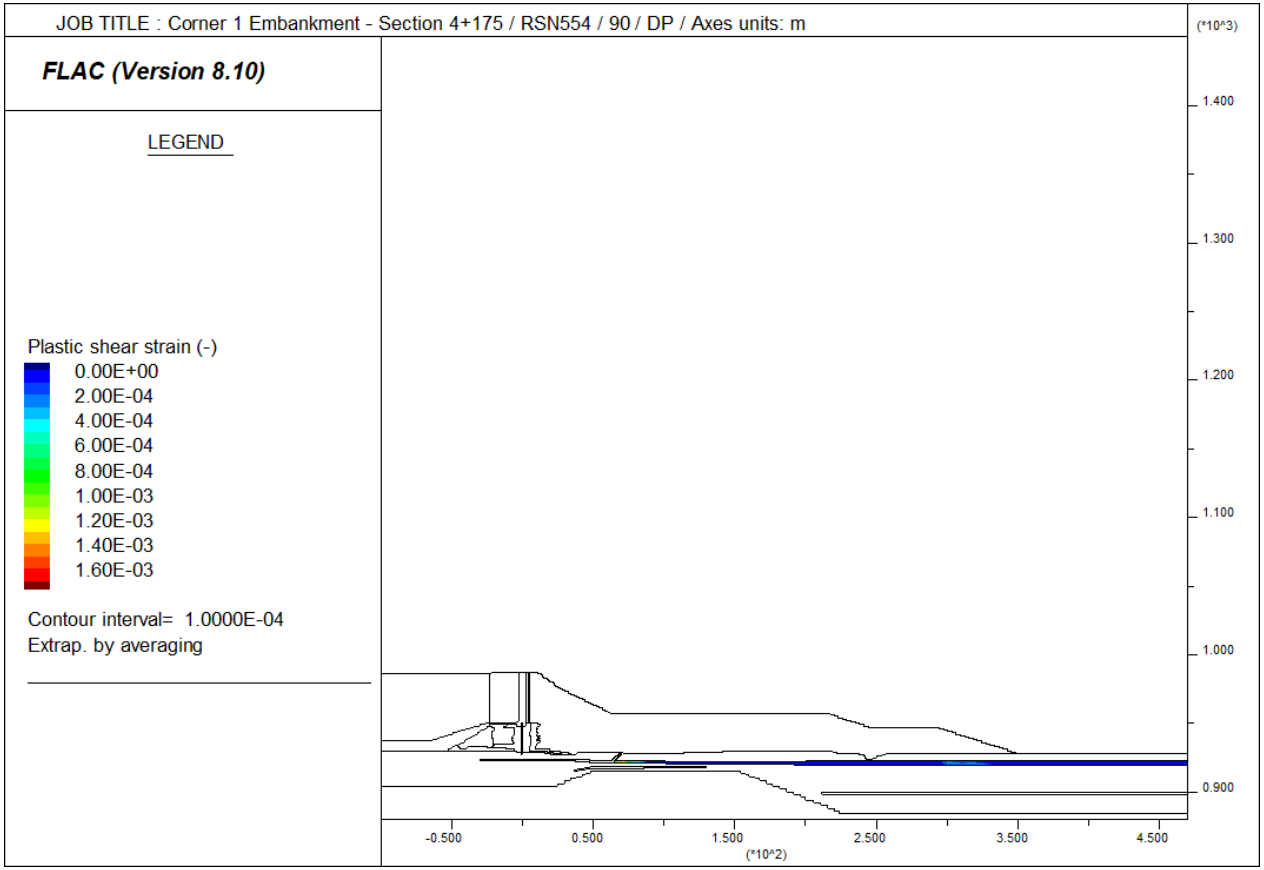

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
1.80E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

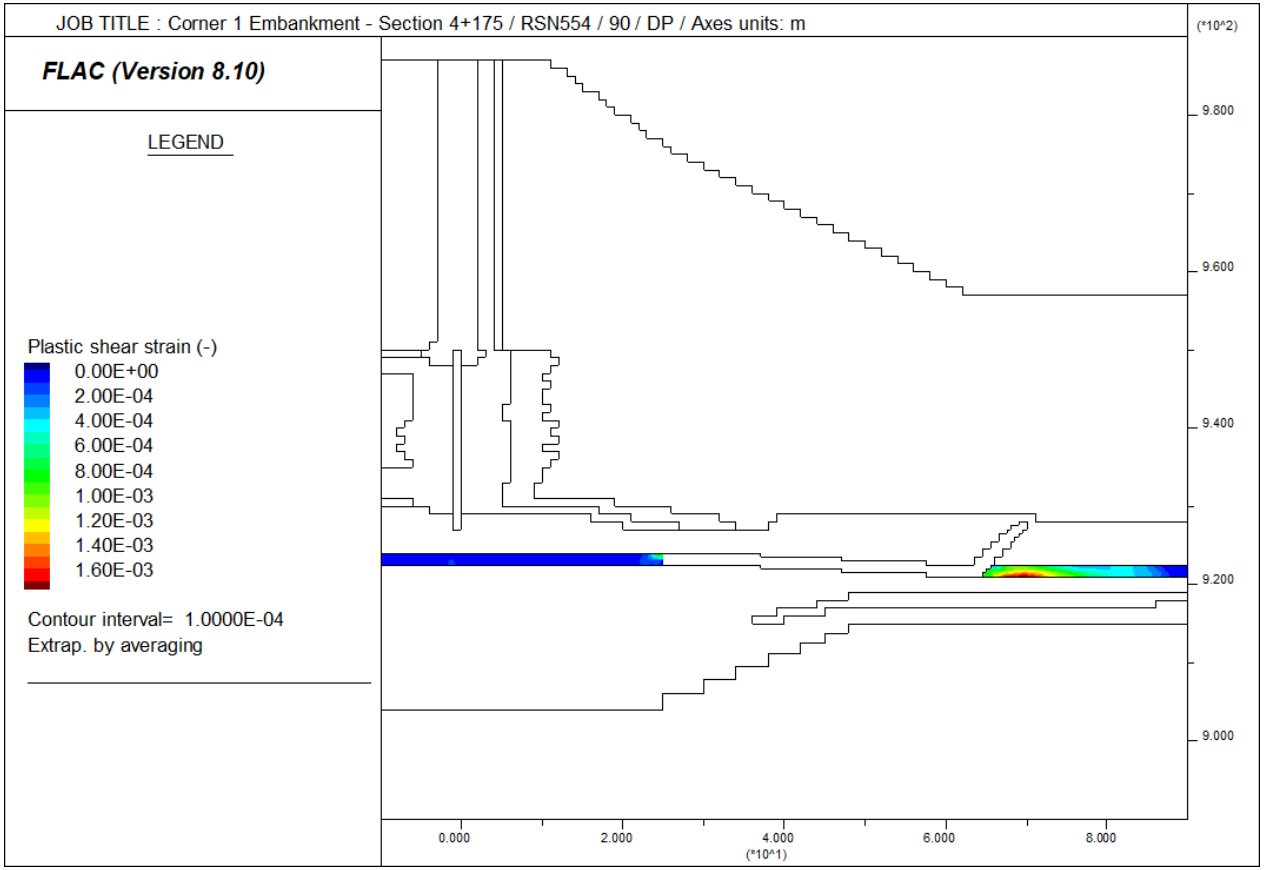

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-05
1.00E-04
1.50E-04
2.00E-04
2.50E-04
3.00E-04
Contour interval= 2.5000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

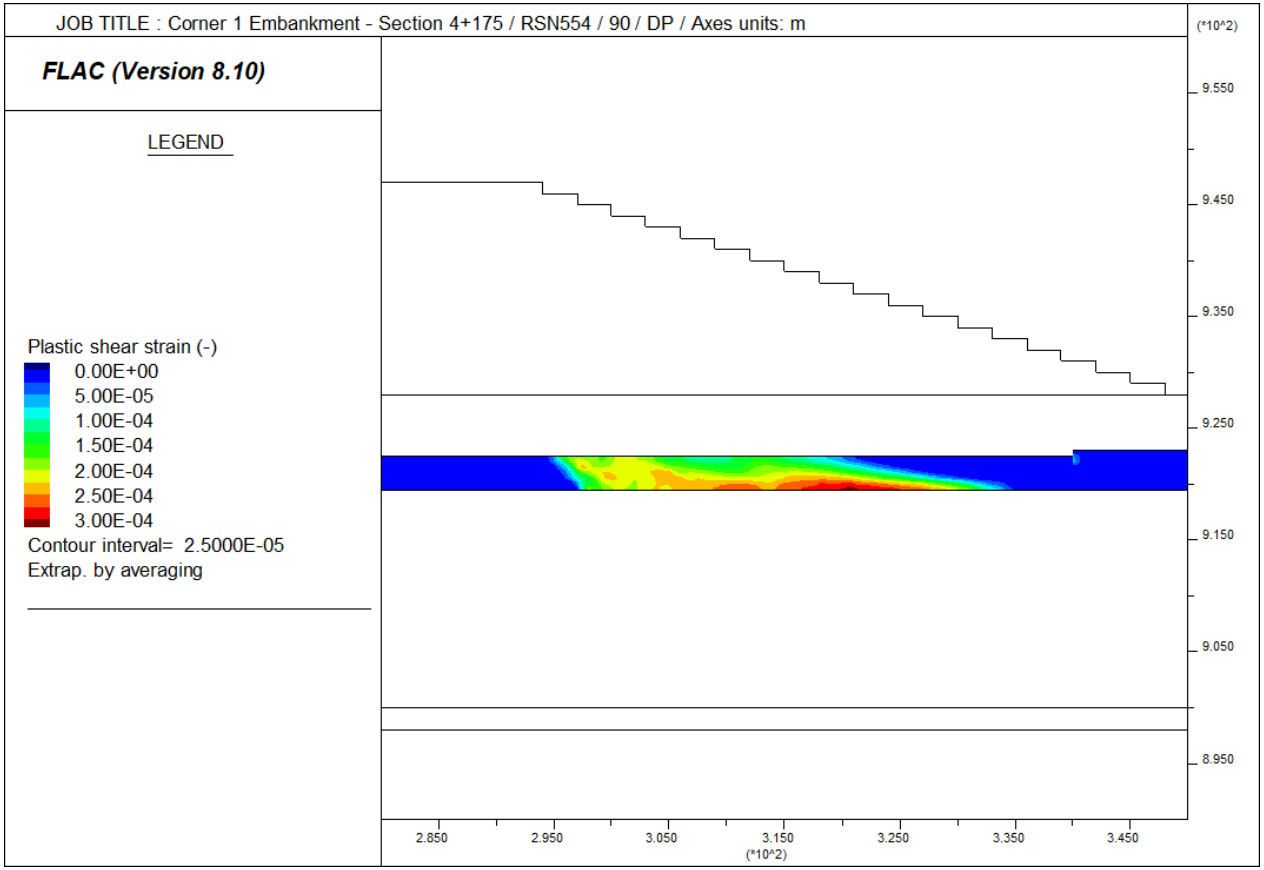

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

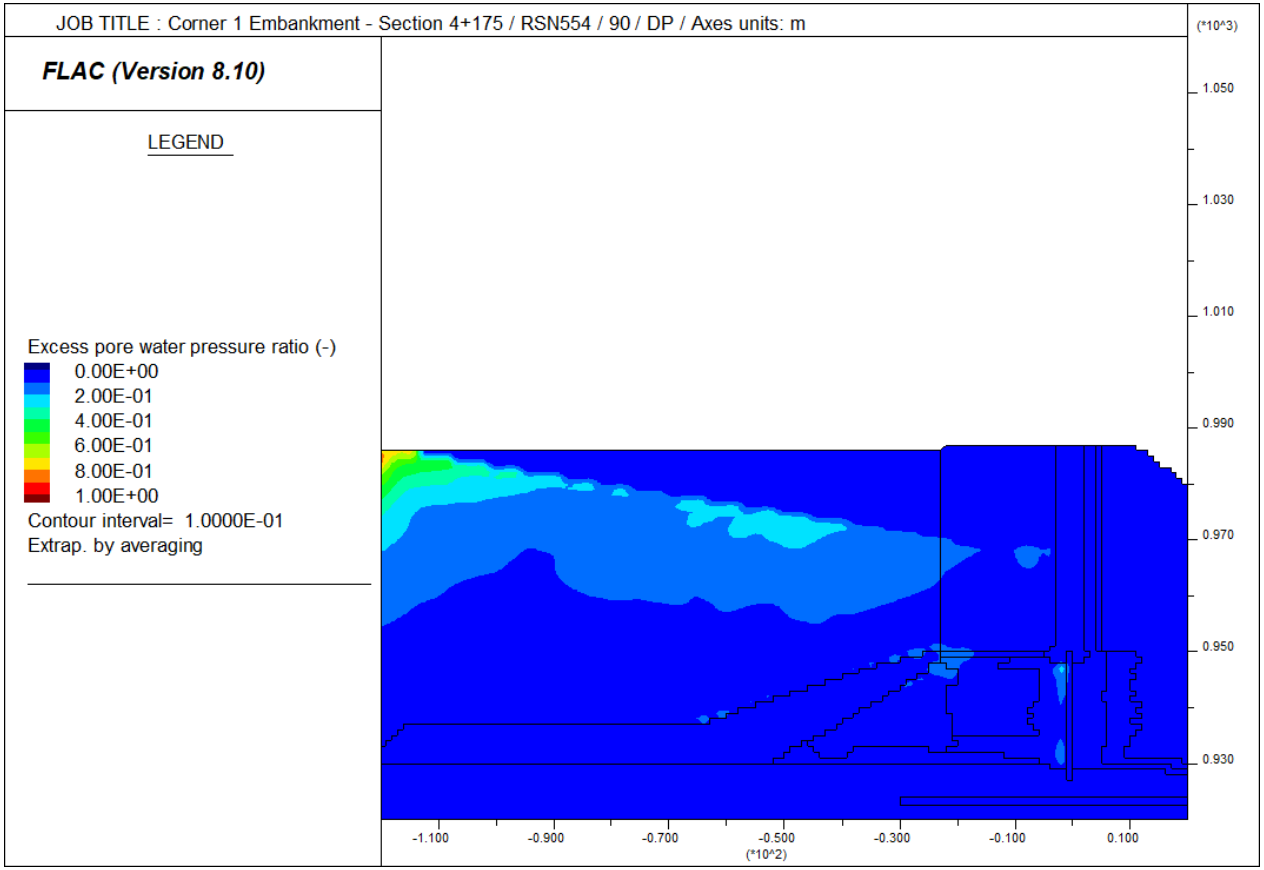

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

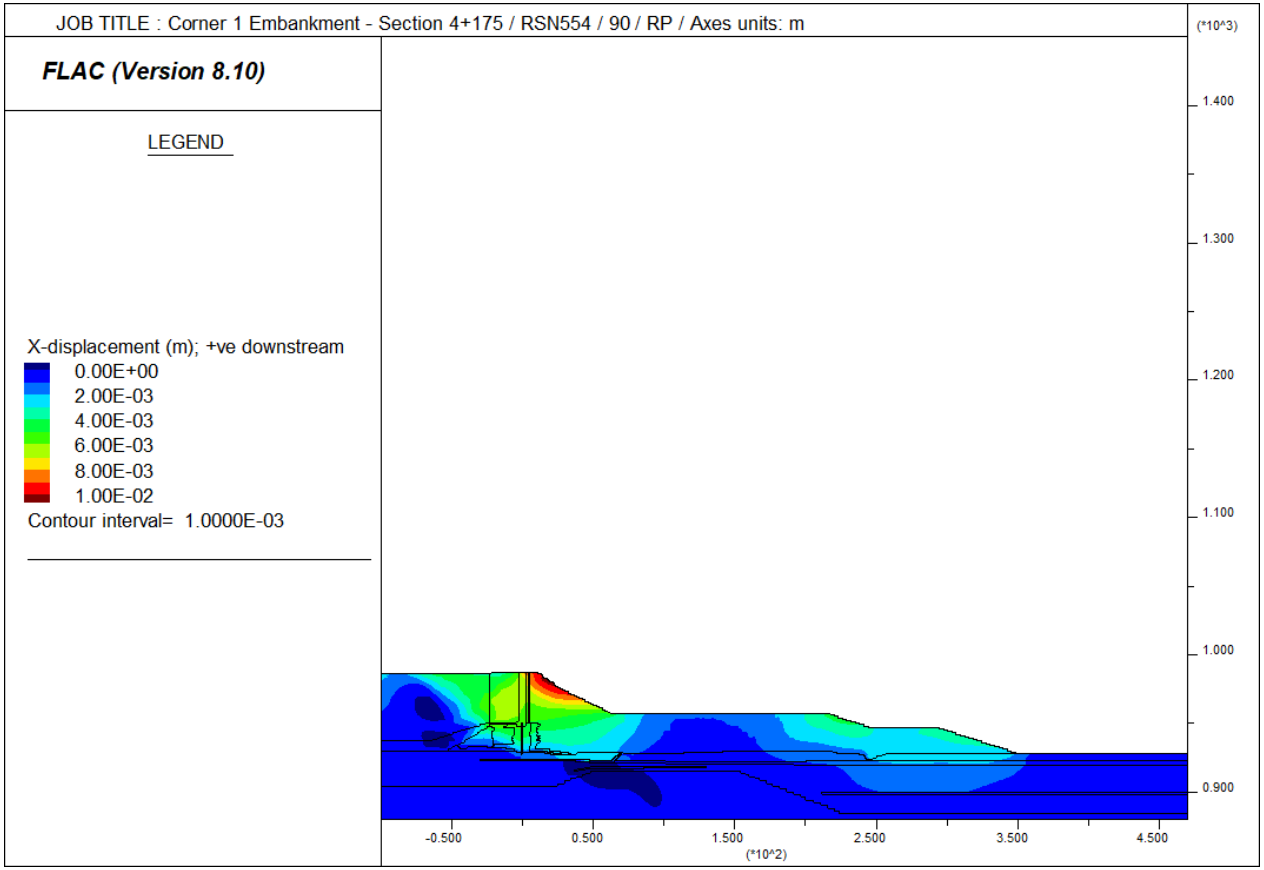

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

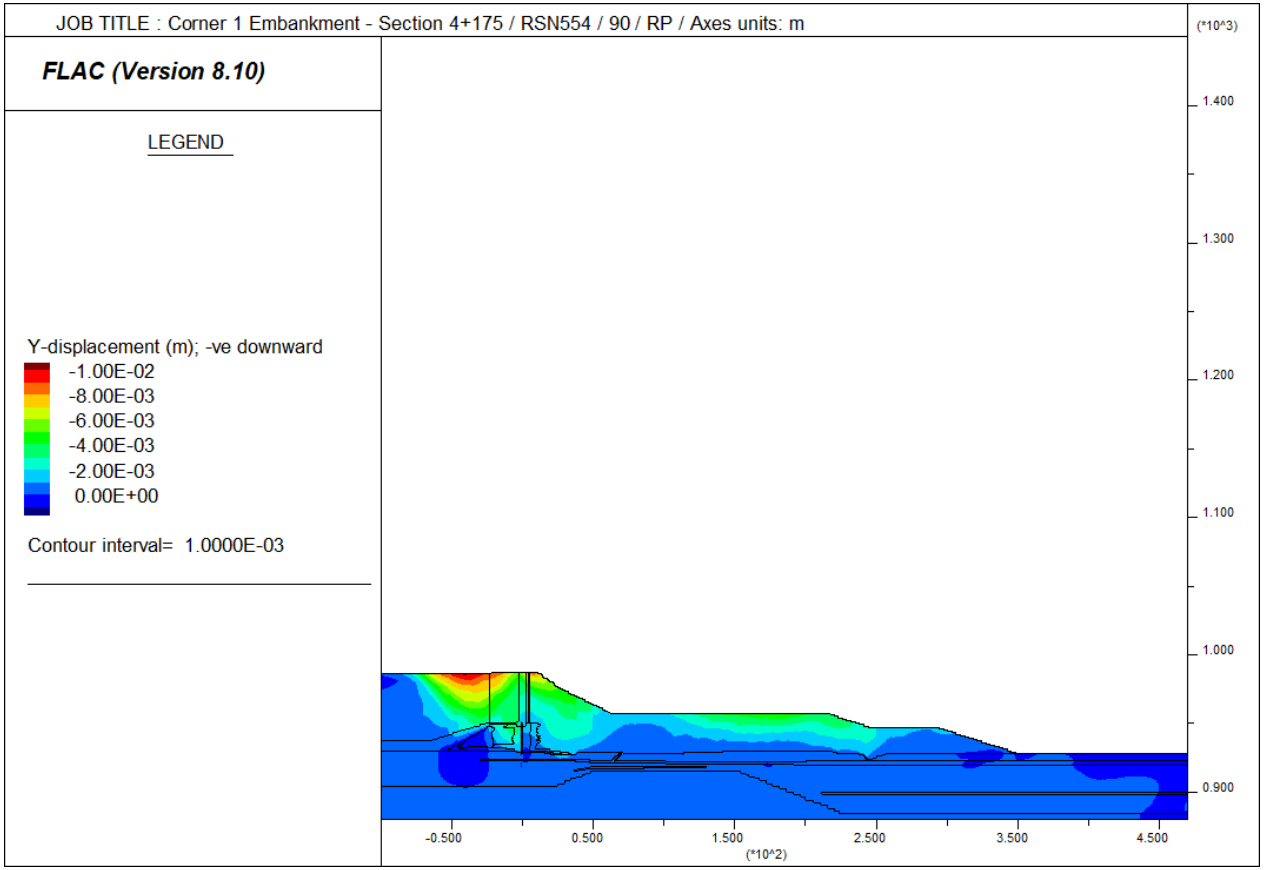

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

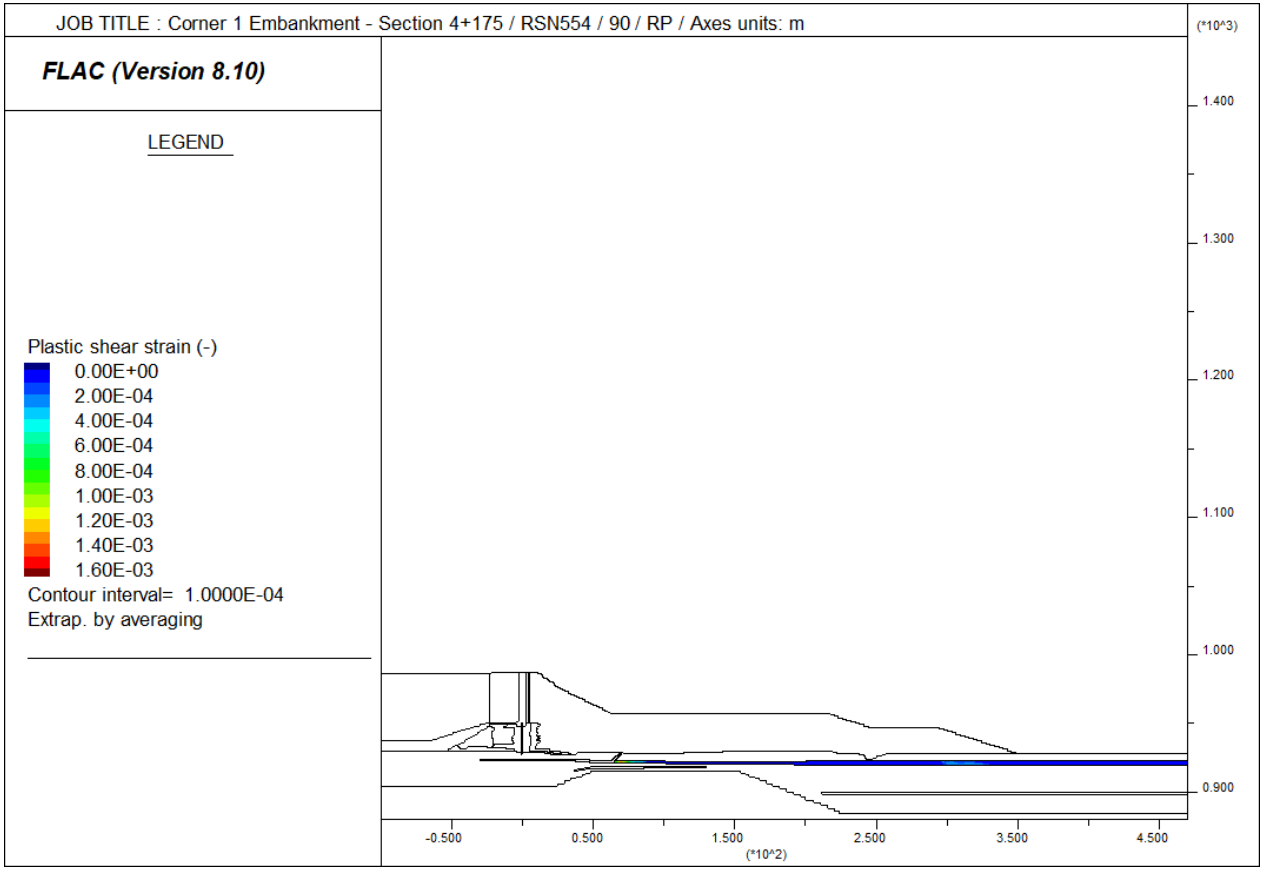

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

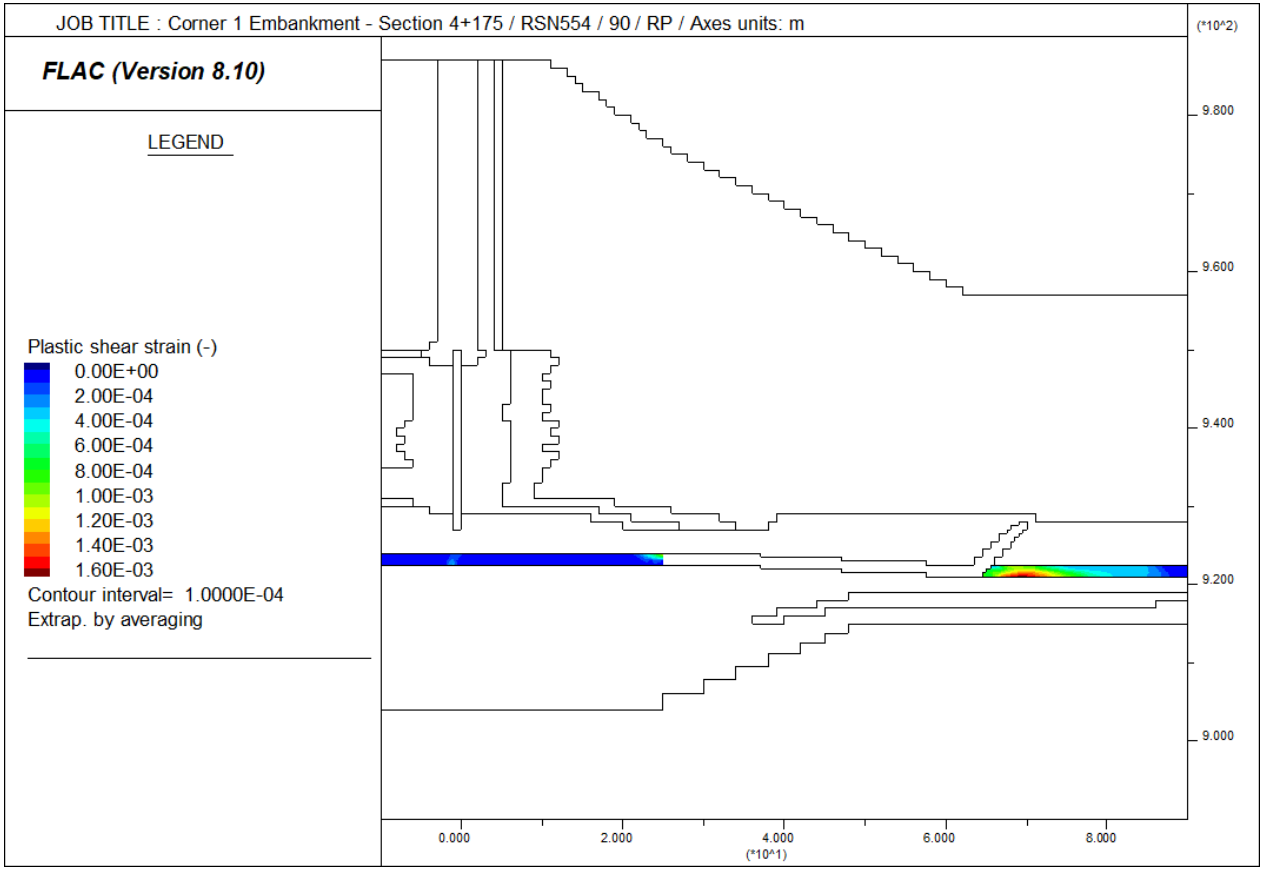

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-05
1.00E-04
1.50E-04
2.00E-04
2.50E-04
3.00E-04
Contour interval= 2.5000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

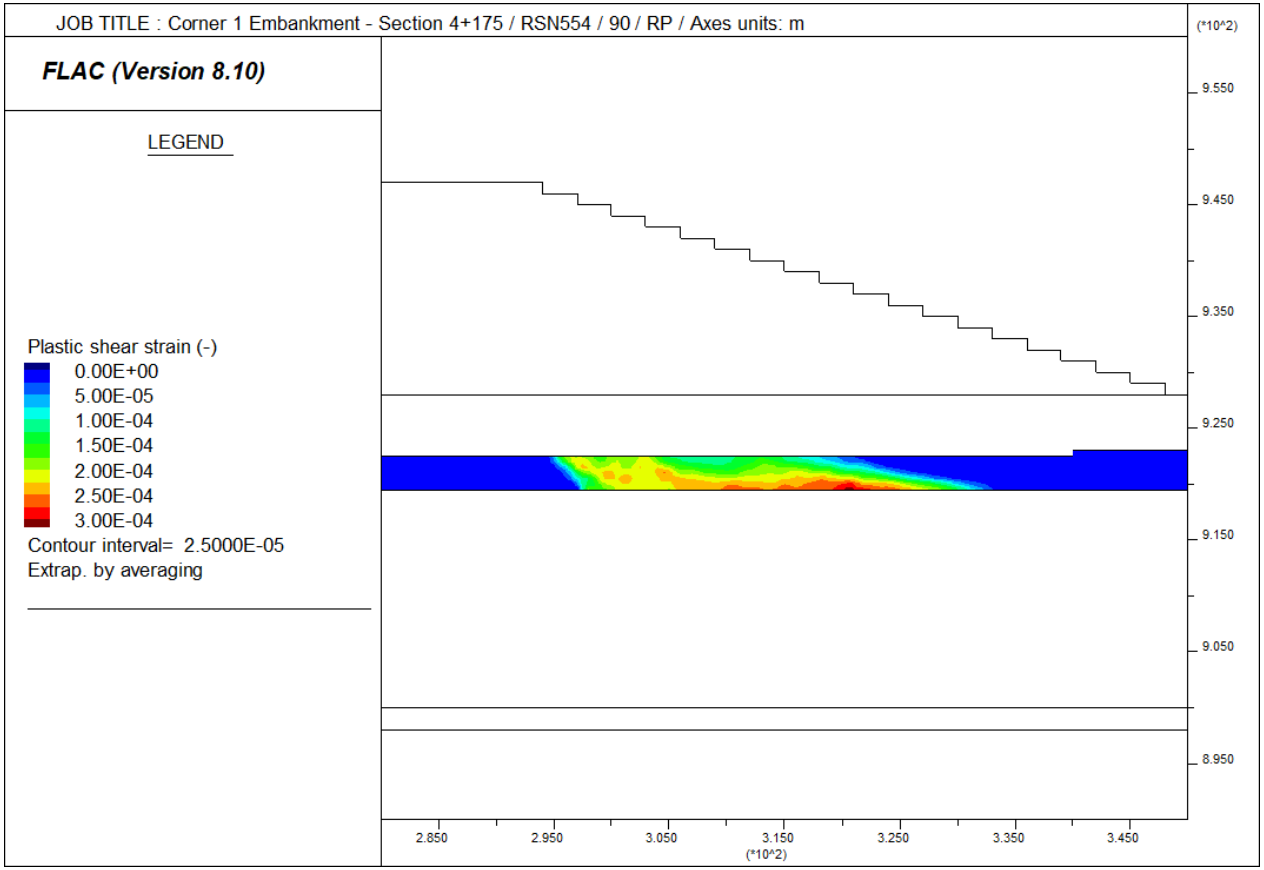

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

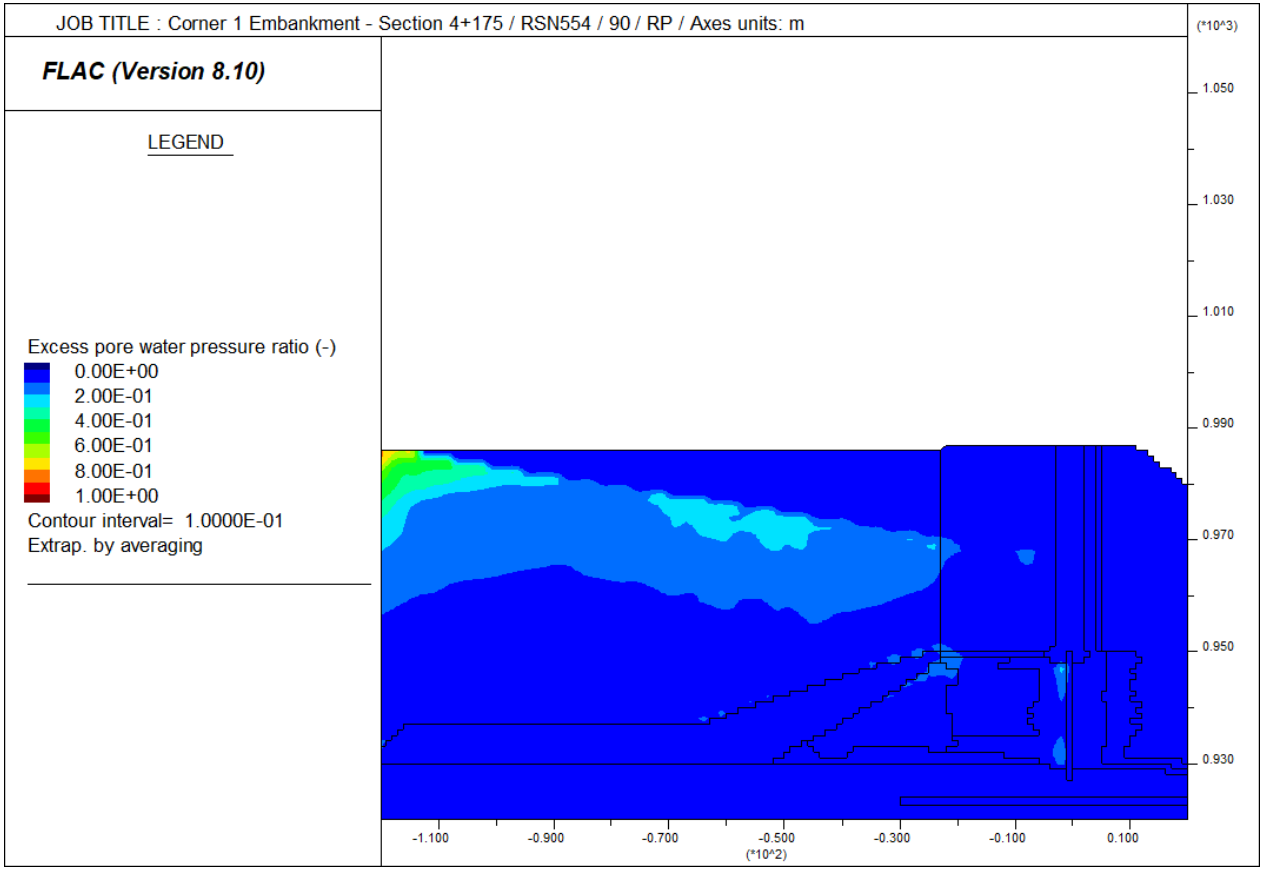

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

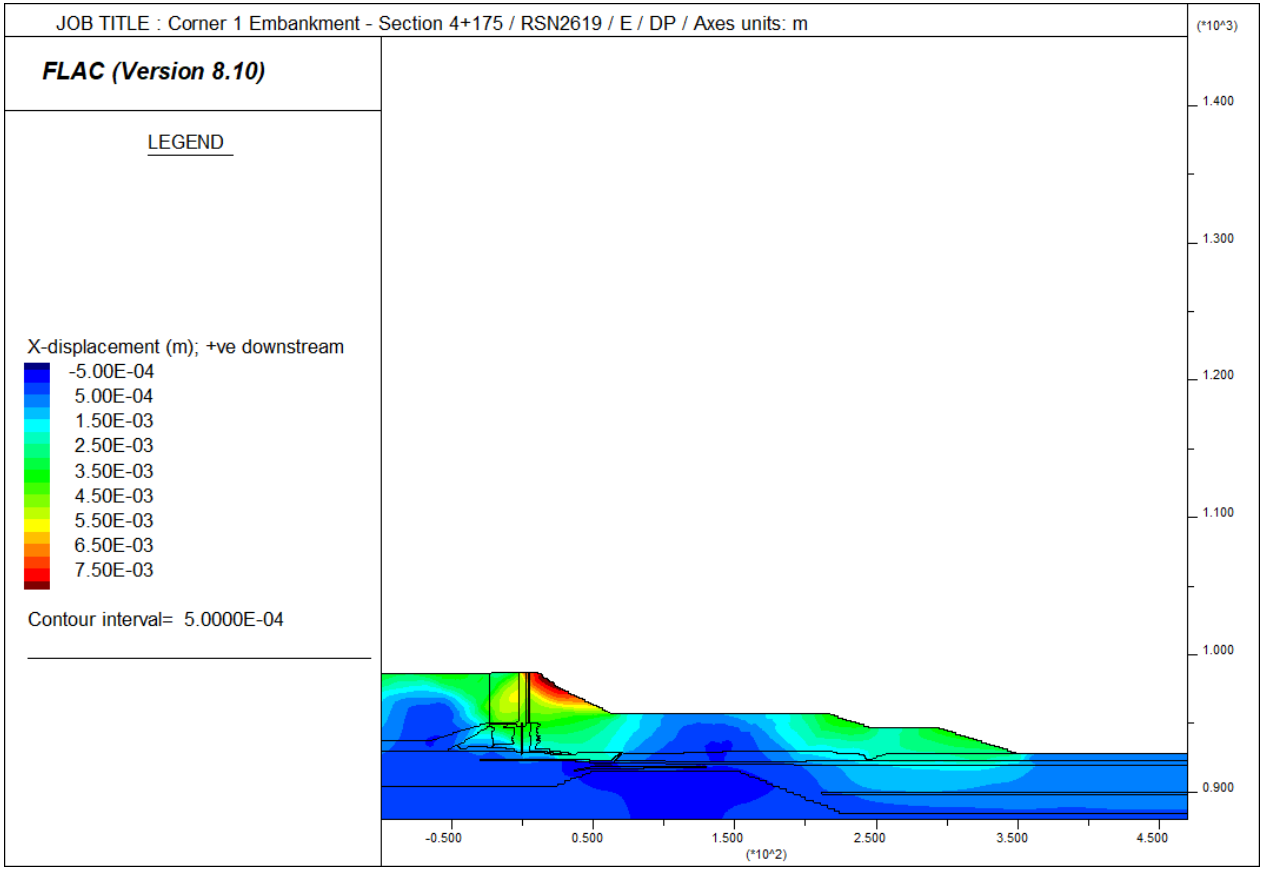

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.00E-02
-8.00E-03
-6.00E-03
-4.00E-03
-2.00E-03
0.00E+00
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

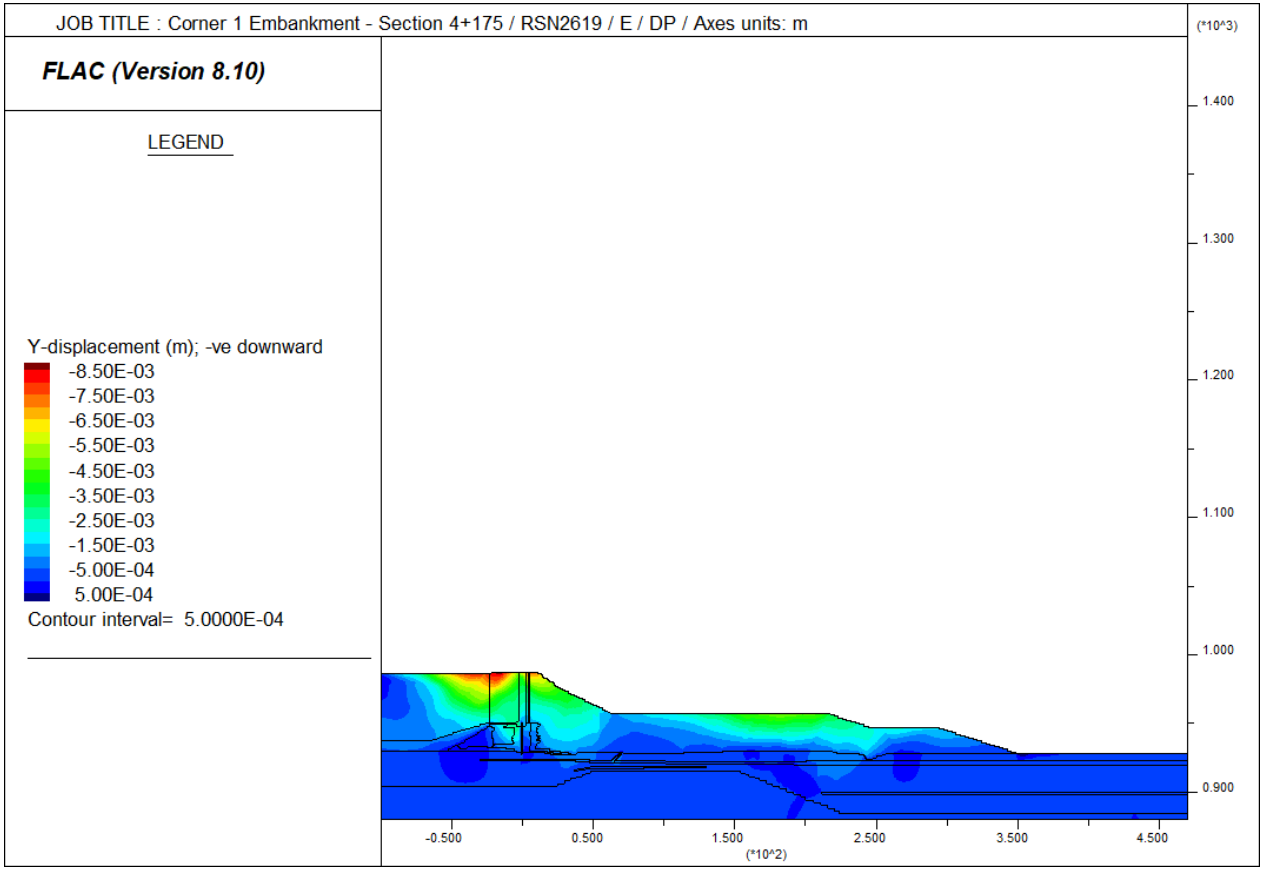

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

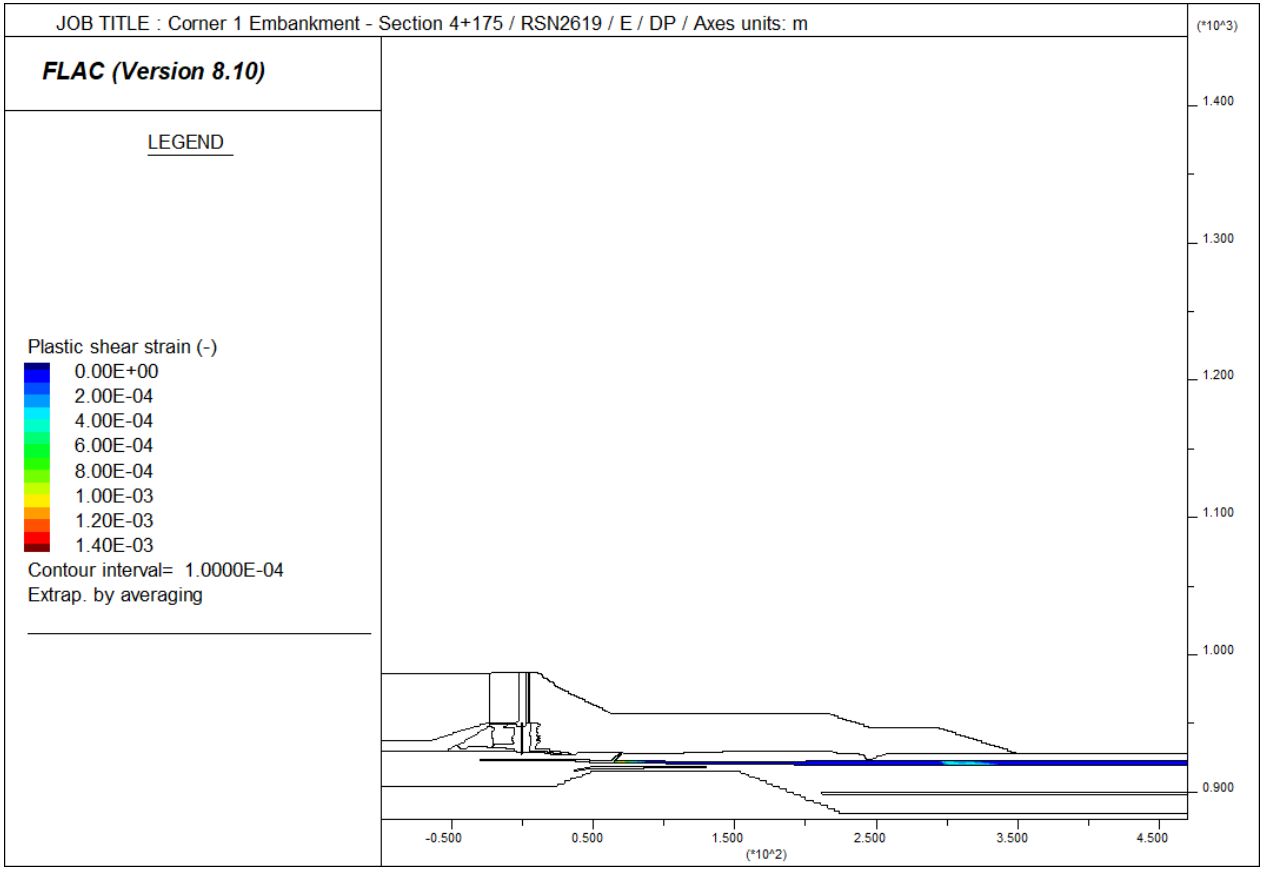

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

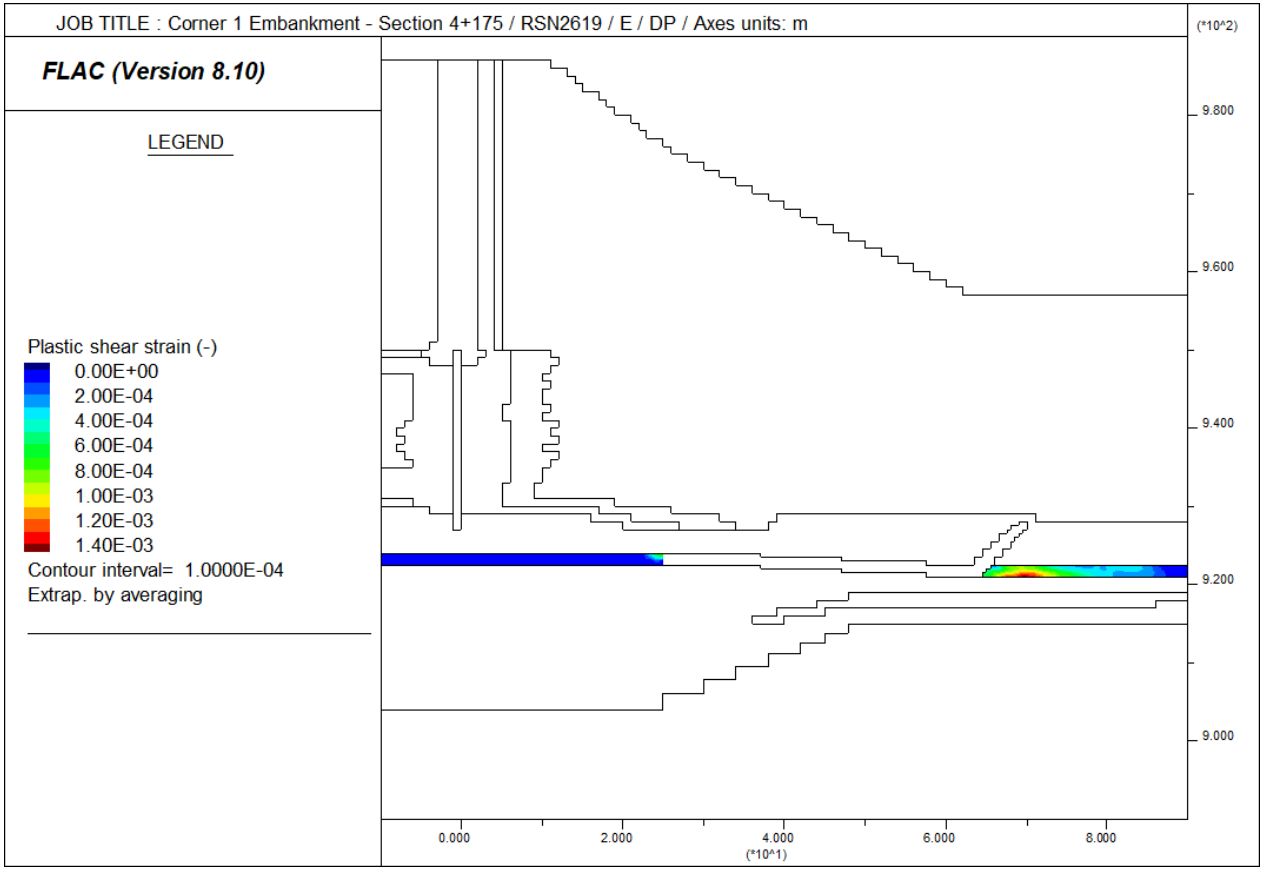

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-05
1.00E-04
1.50E-04
2.00E-04
2.50E-04
3.00E-04
Contour interval= 2.5000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

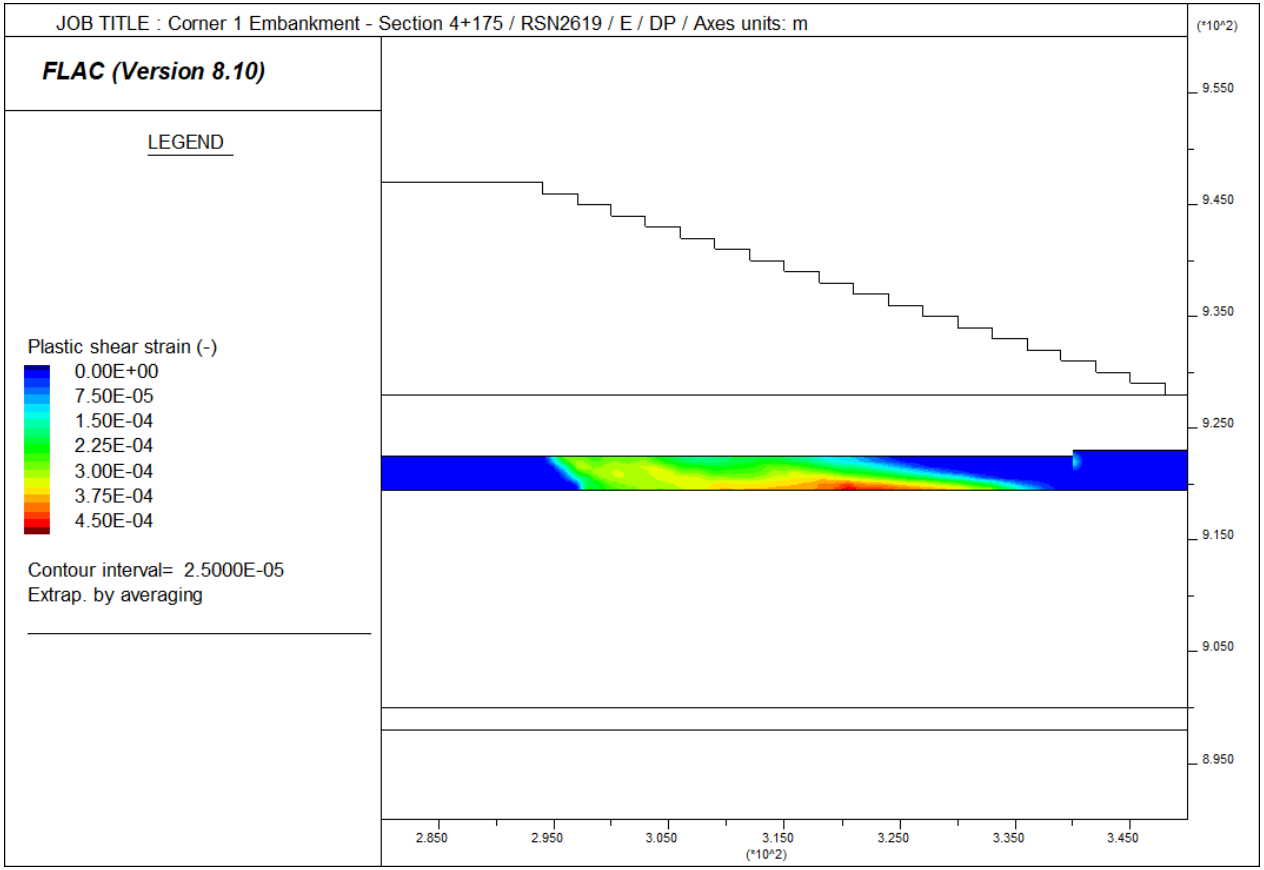

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN554 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

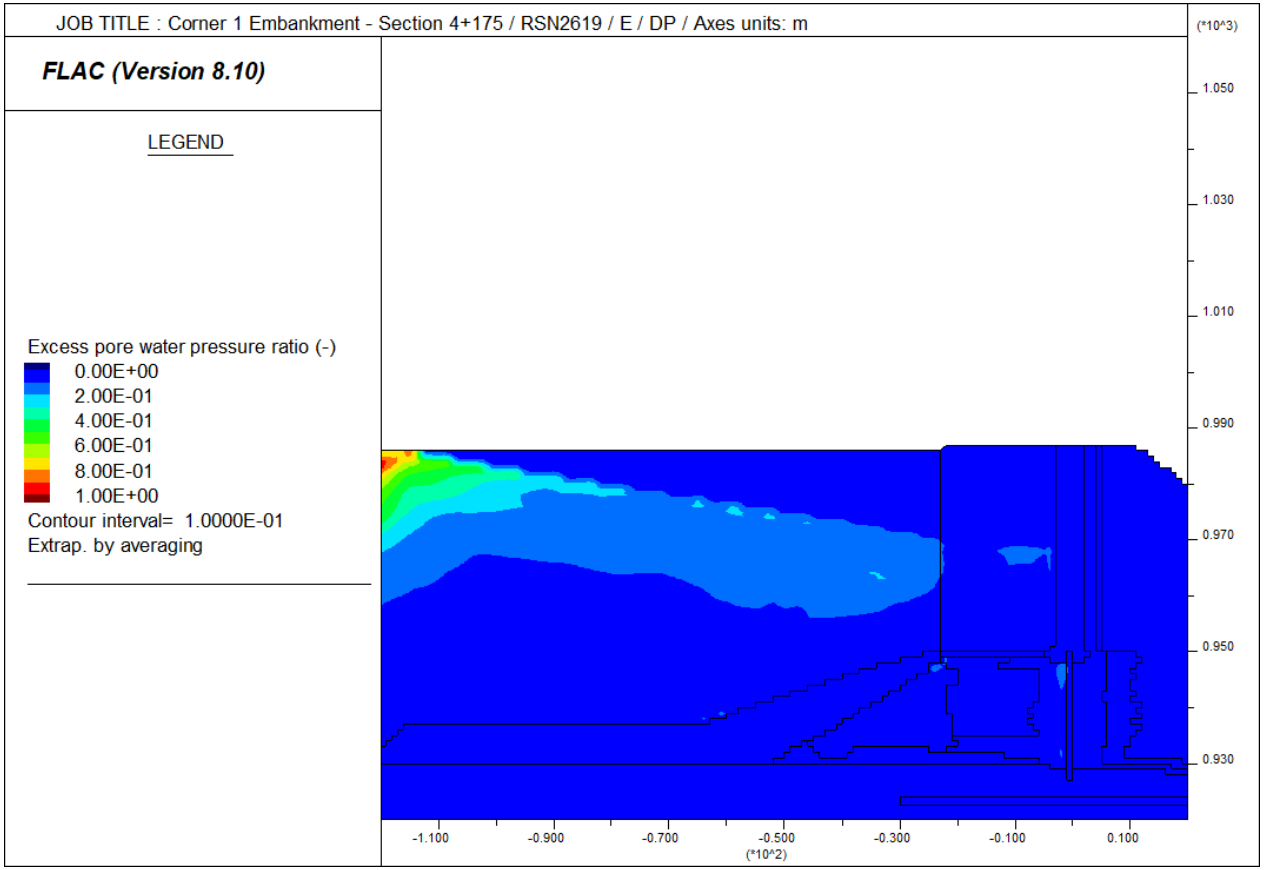

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
-5.00E-04
5.00E-04
1.50E-03
2.50E-03
3.50E-03
4.50E-03
5.50E-03
6.50E-03
7.50E-03
Contour interval= 5.0000E-04
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

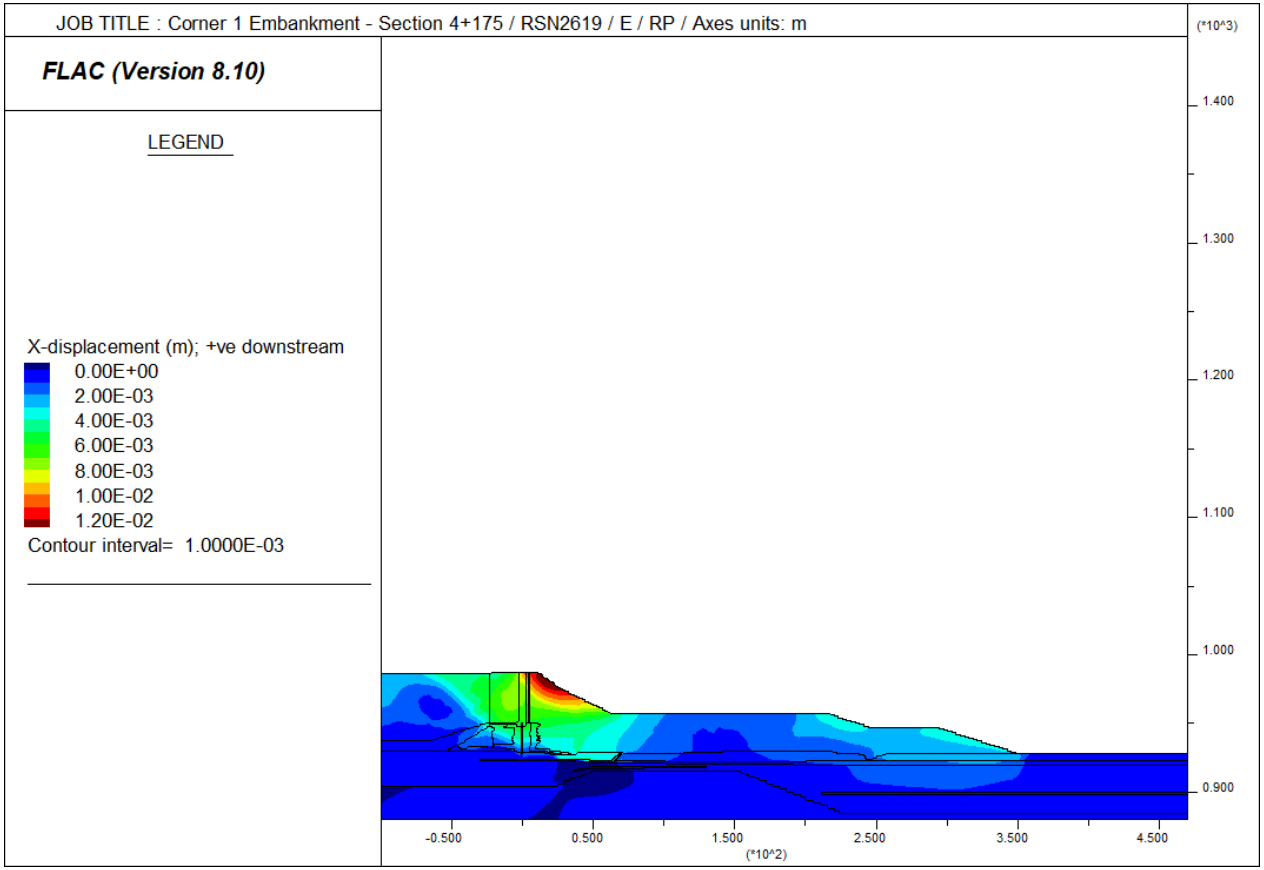

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-8.50E-03
-7.50E-03
-6.50E-03
-5.50E-03
-4.50E-03
-3.50E-03
-2.50E-03
-1.50E-03
-5.00E-04
5.00E-04
Contour interval= 5.0000E-04
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

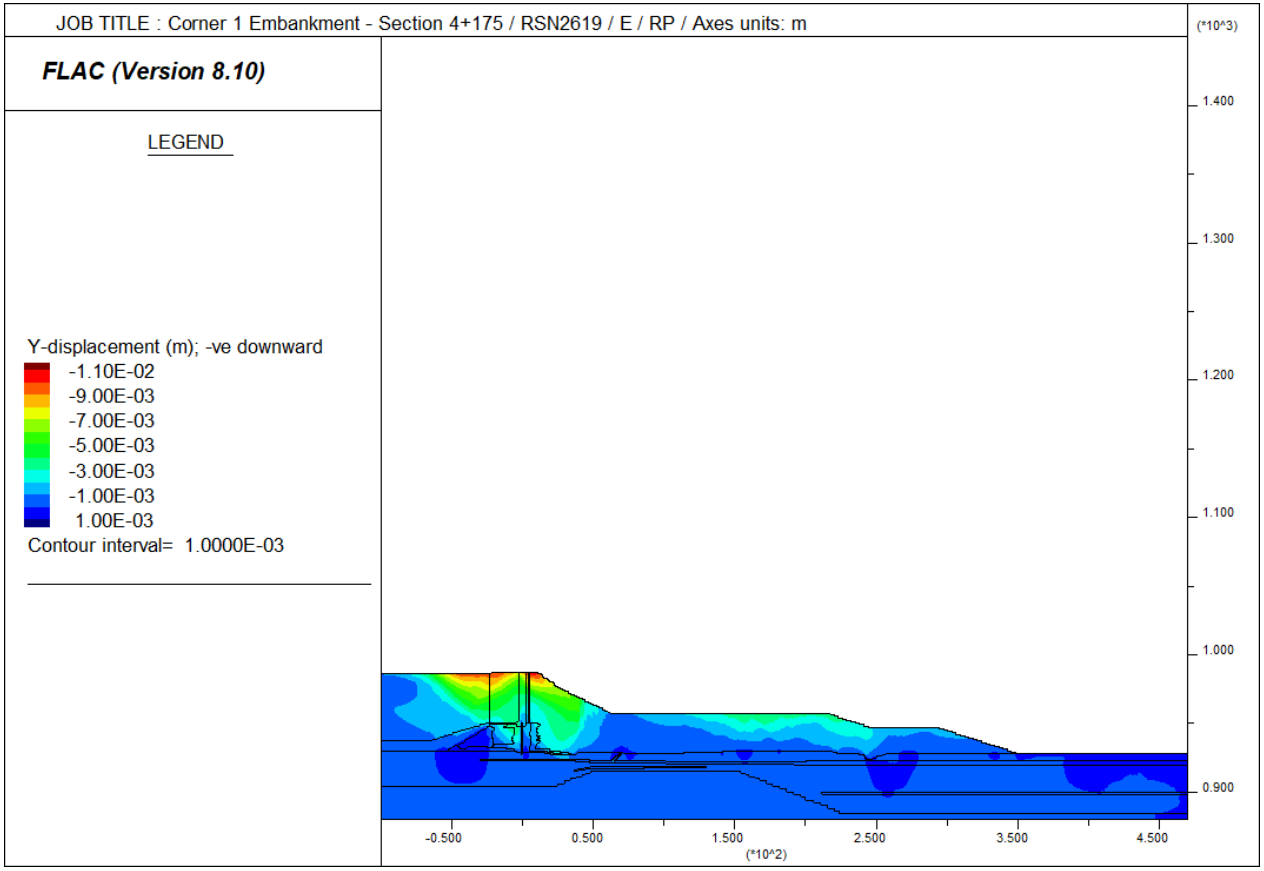

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

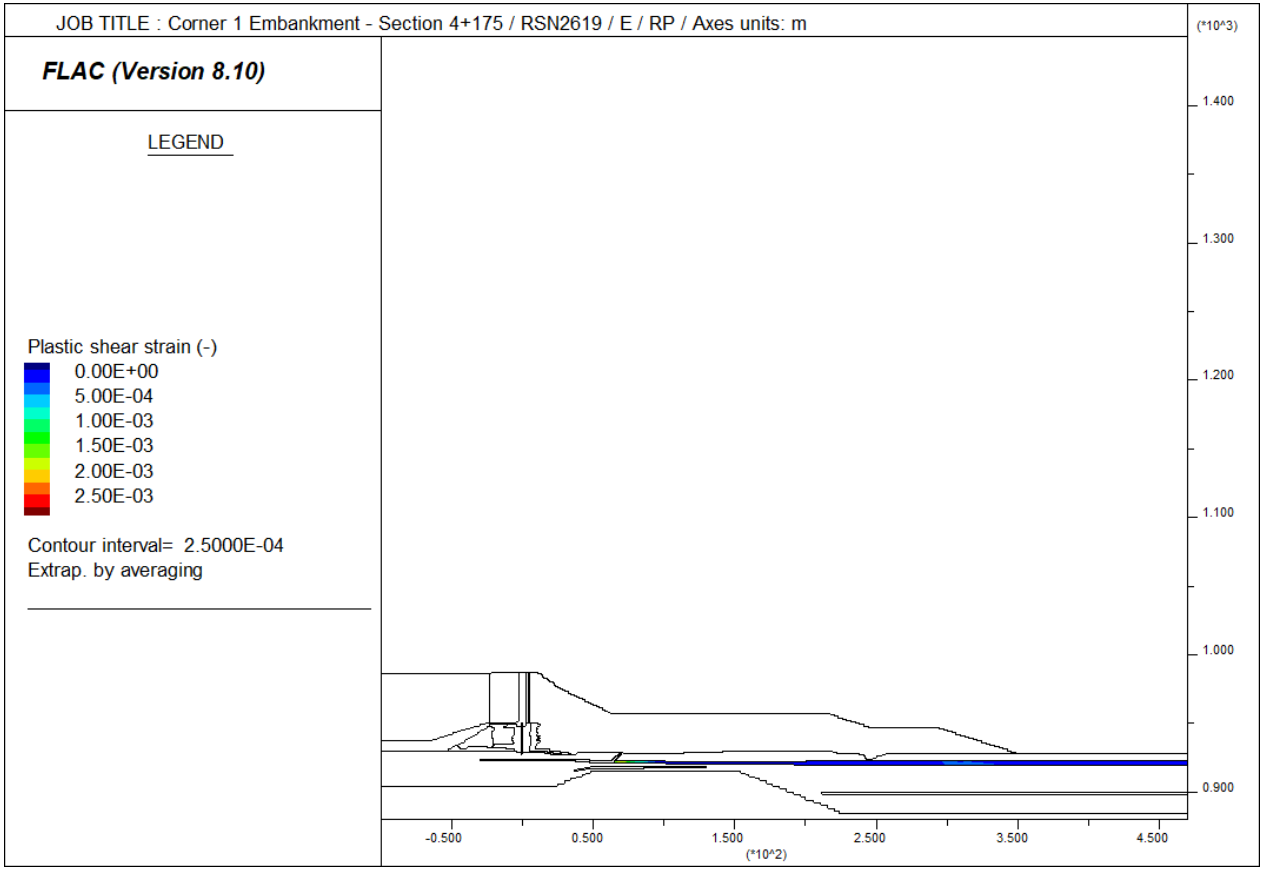

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

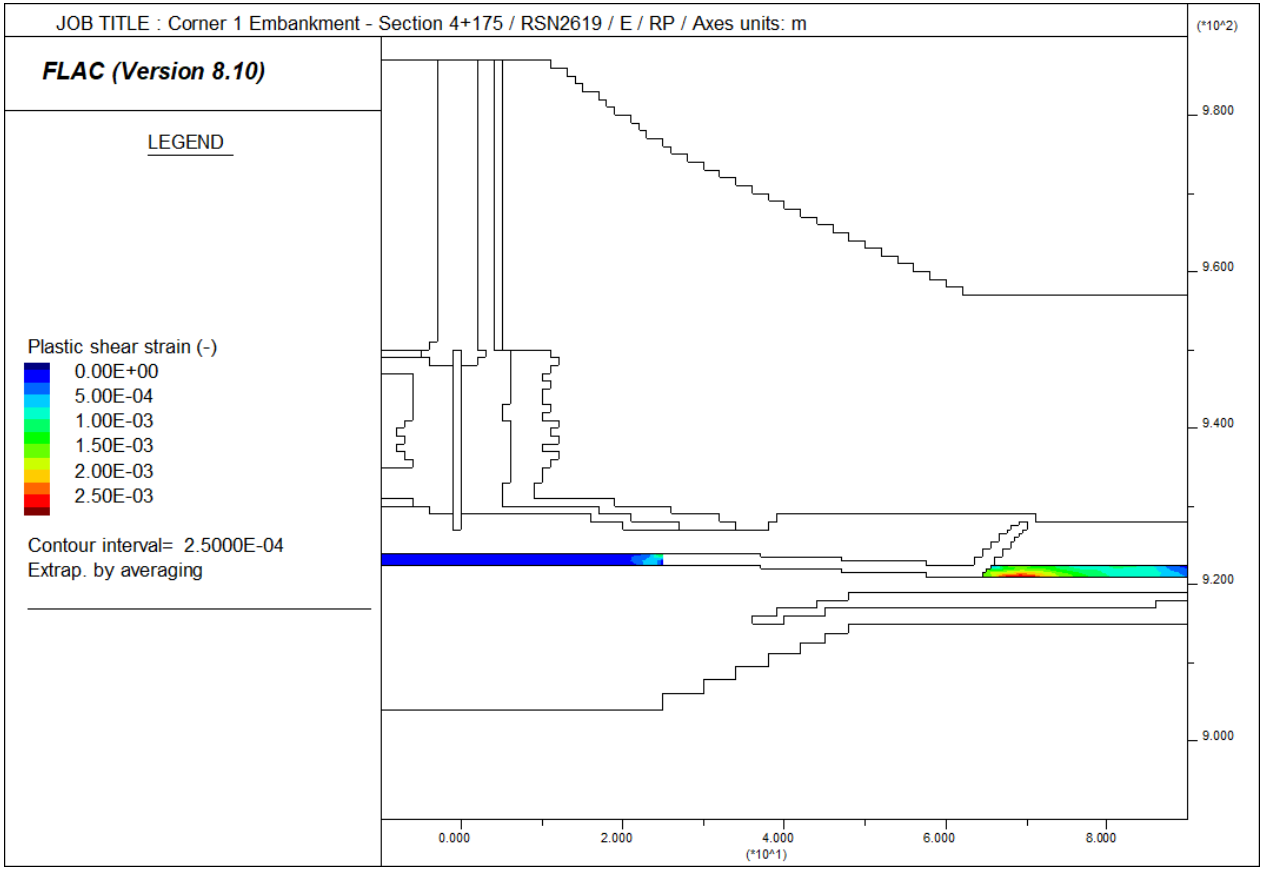

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
7.50E-05
1.50E-04
2.25E-04
3.00E-04
3.75E-04
4.50E-04
Contour interval= 2.5000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

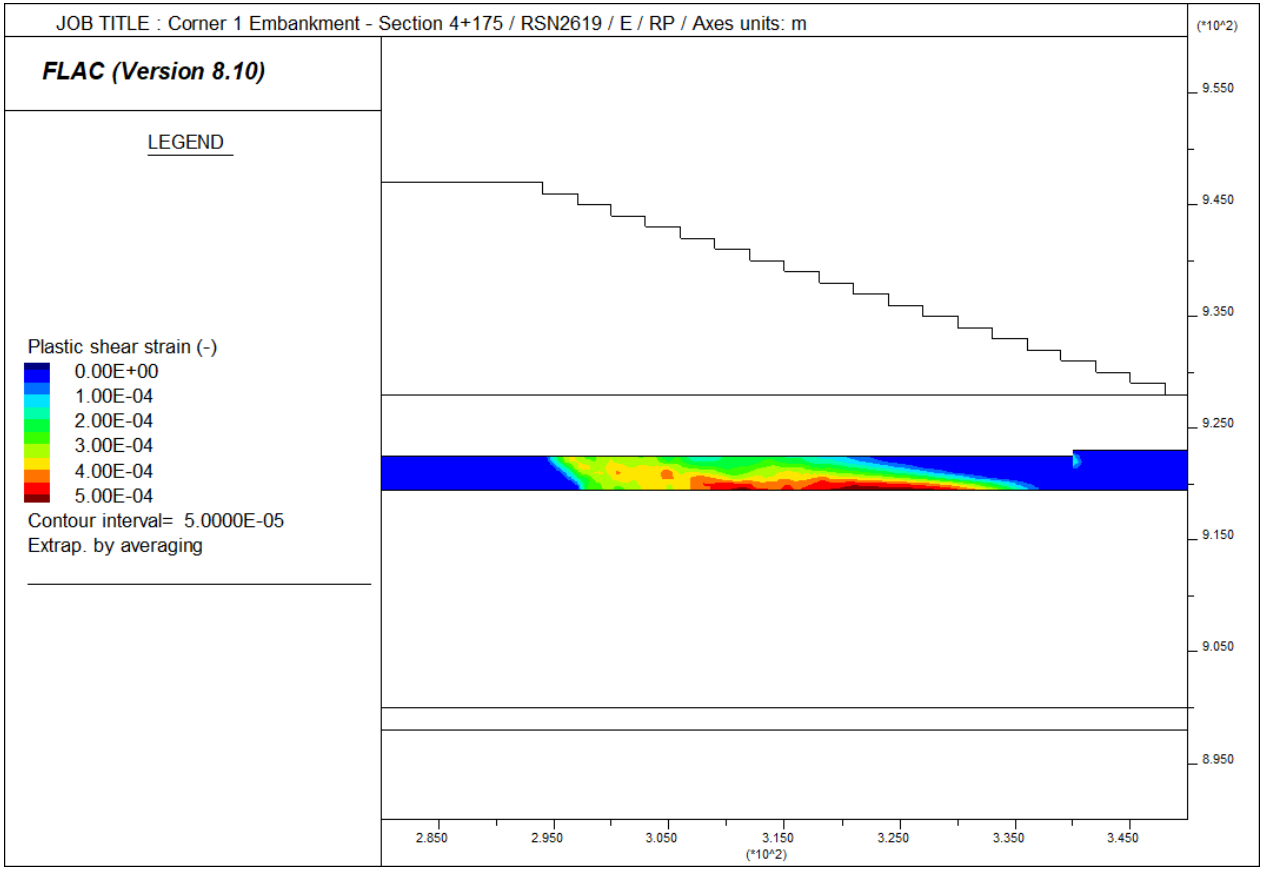

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

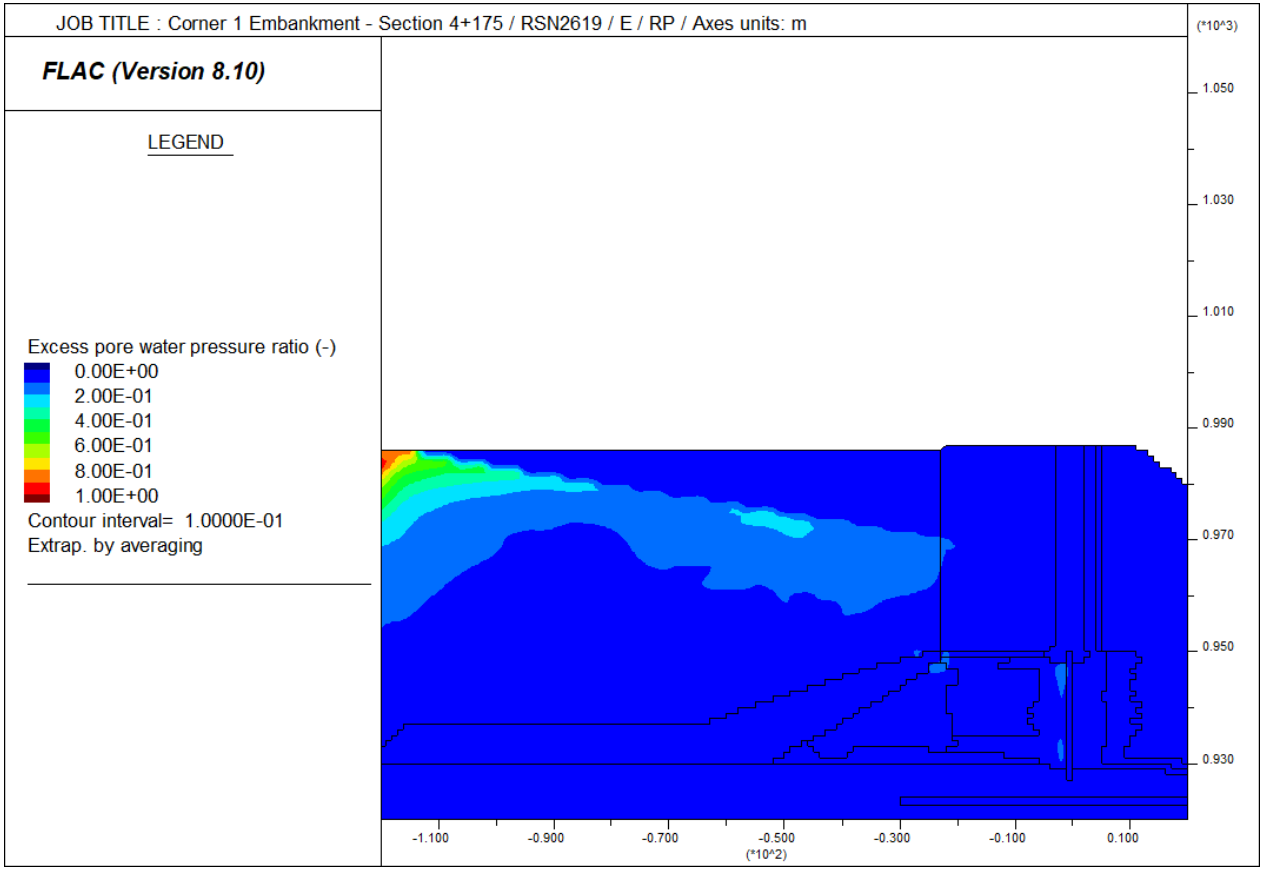

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

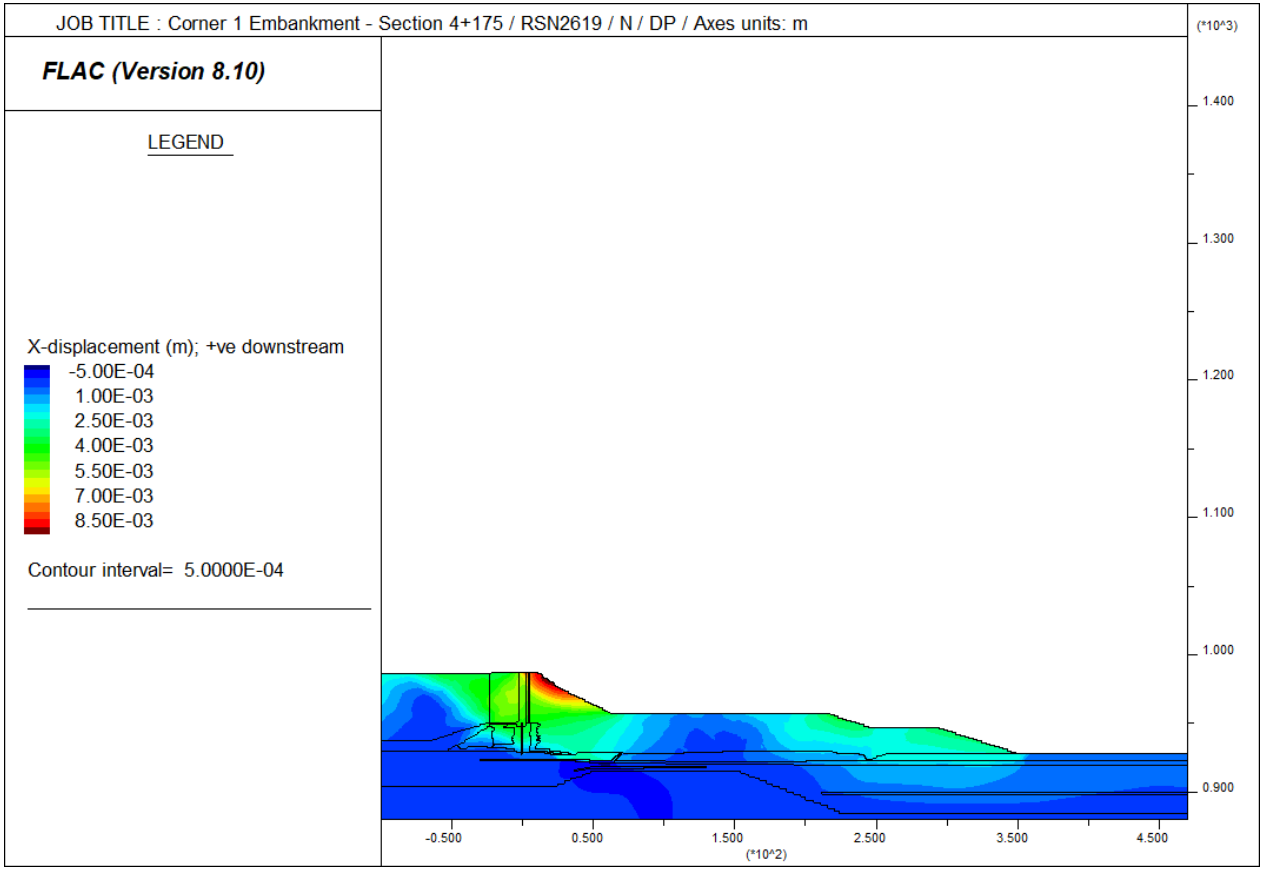

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

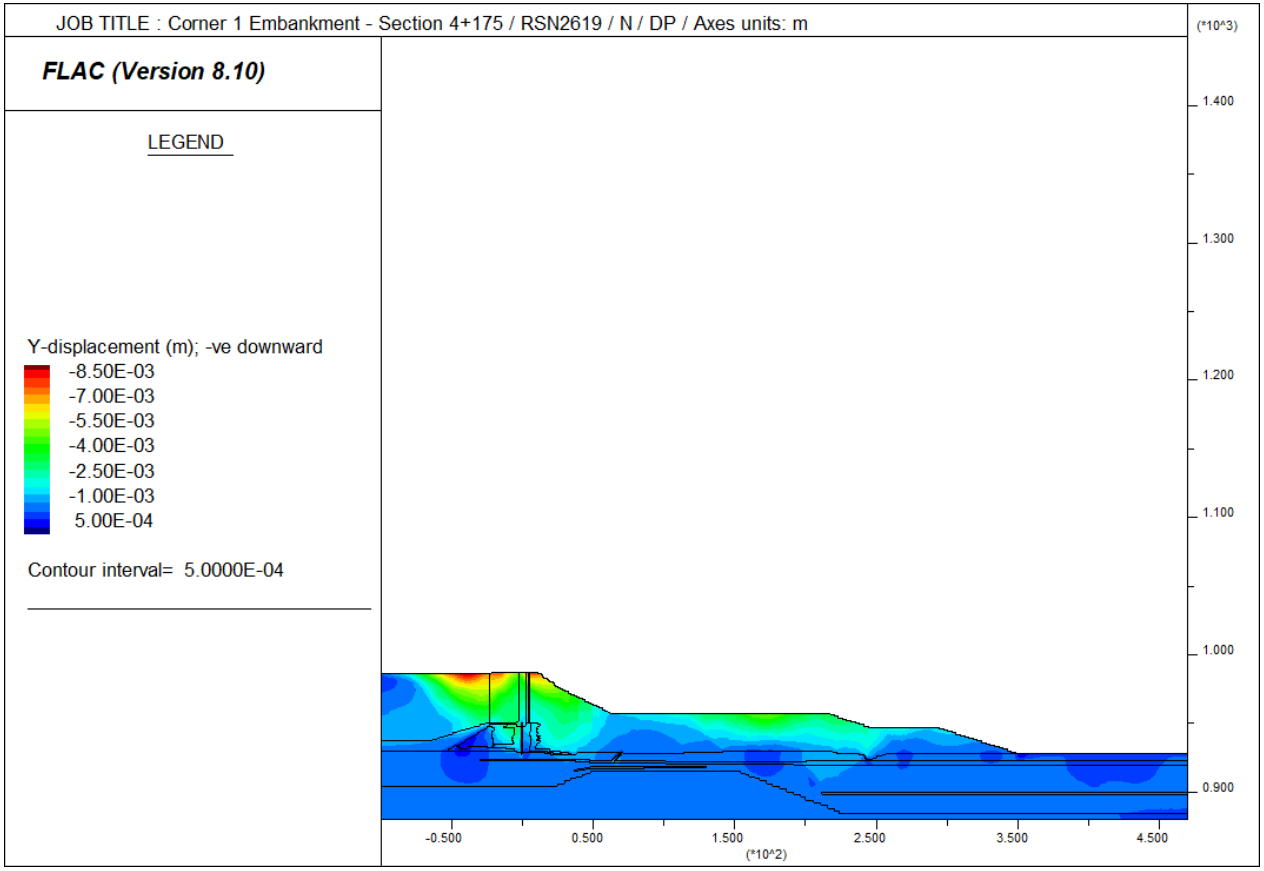

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

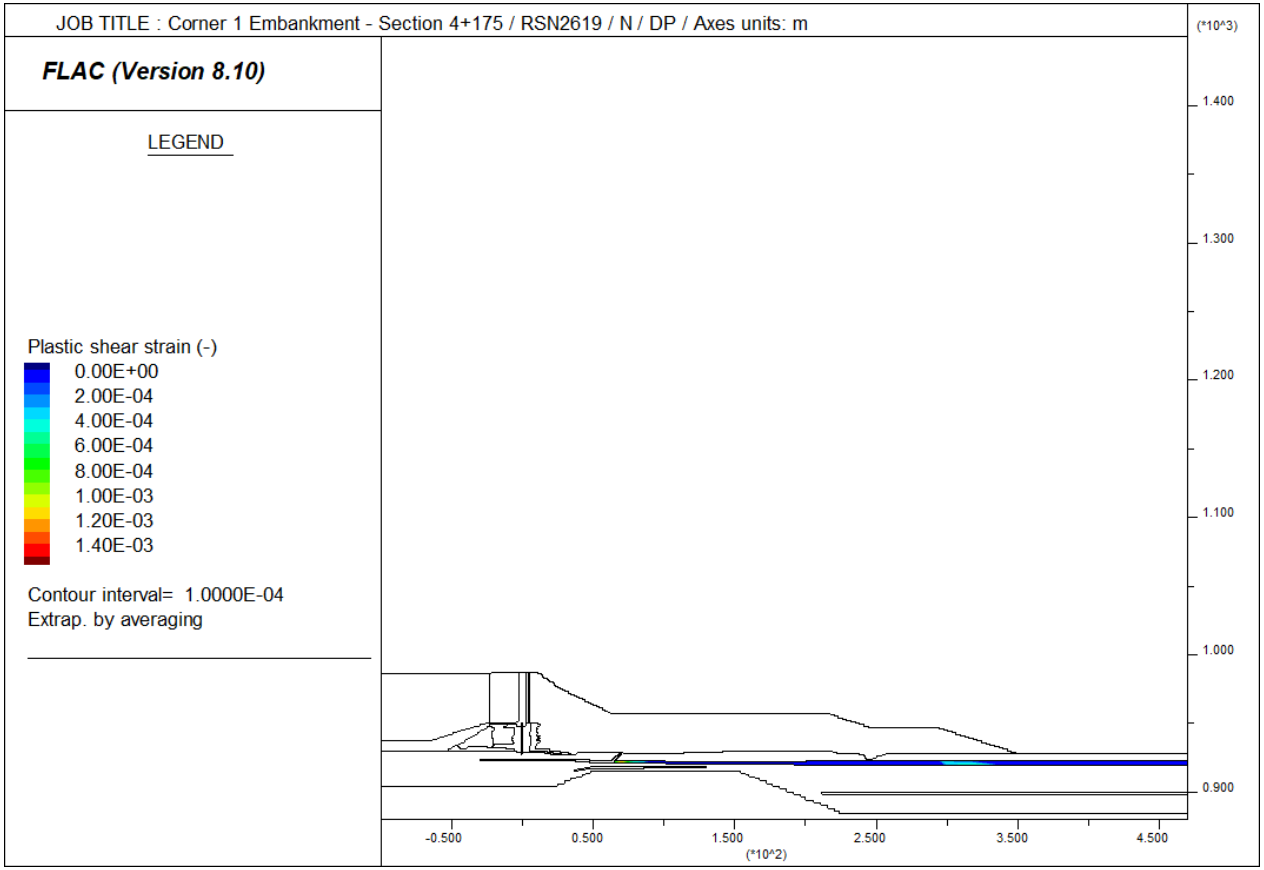

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

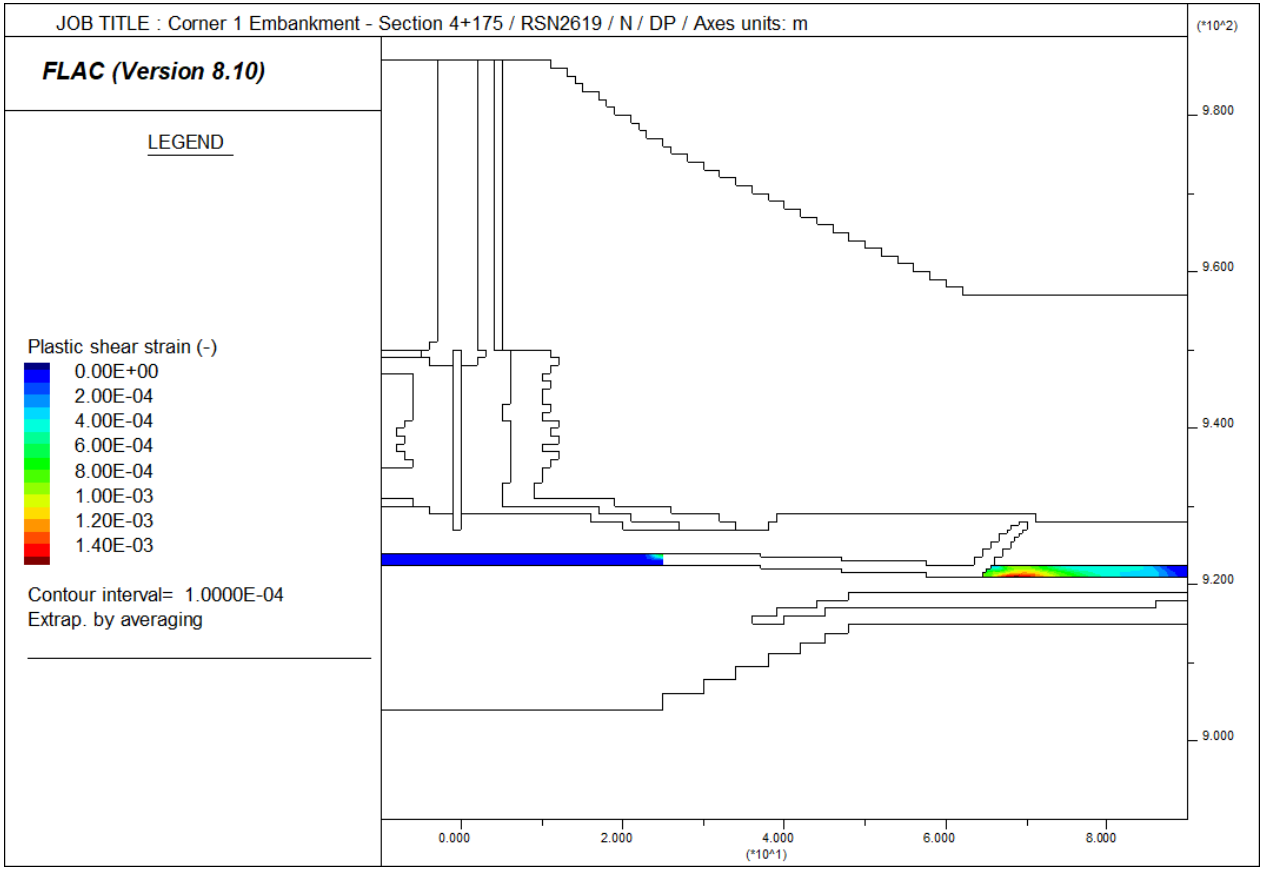

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

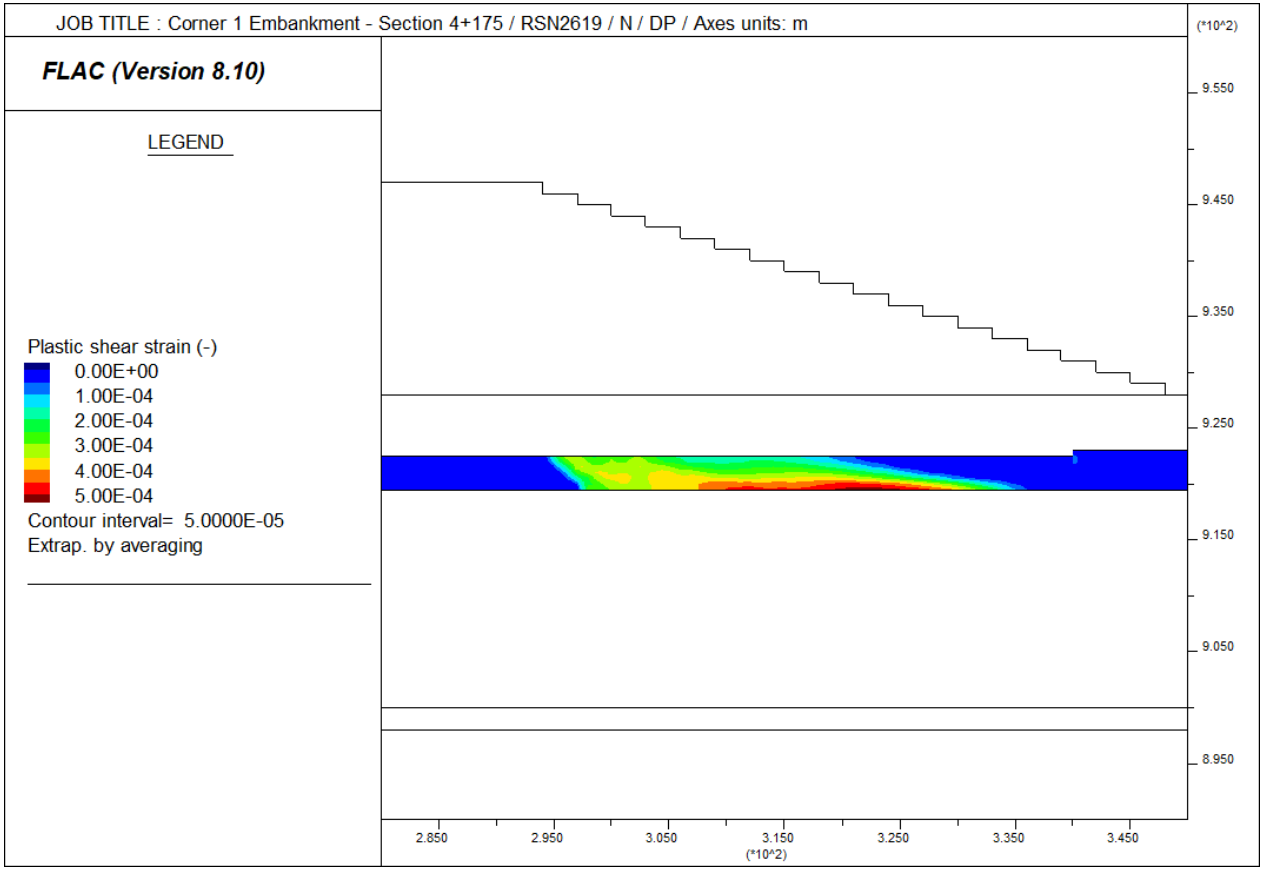

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

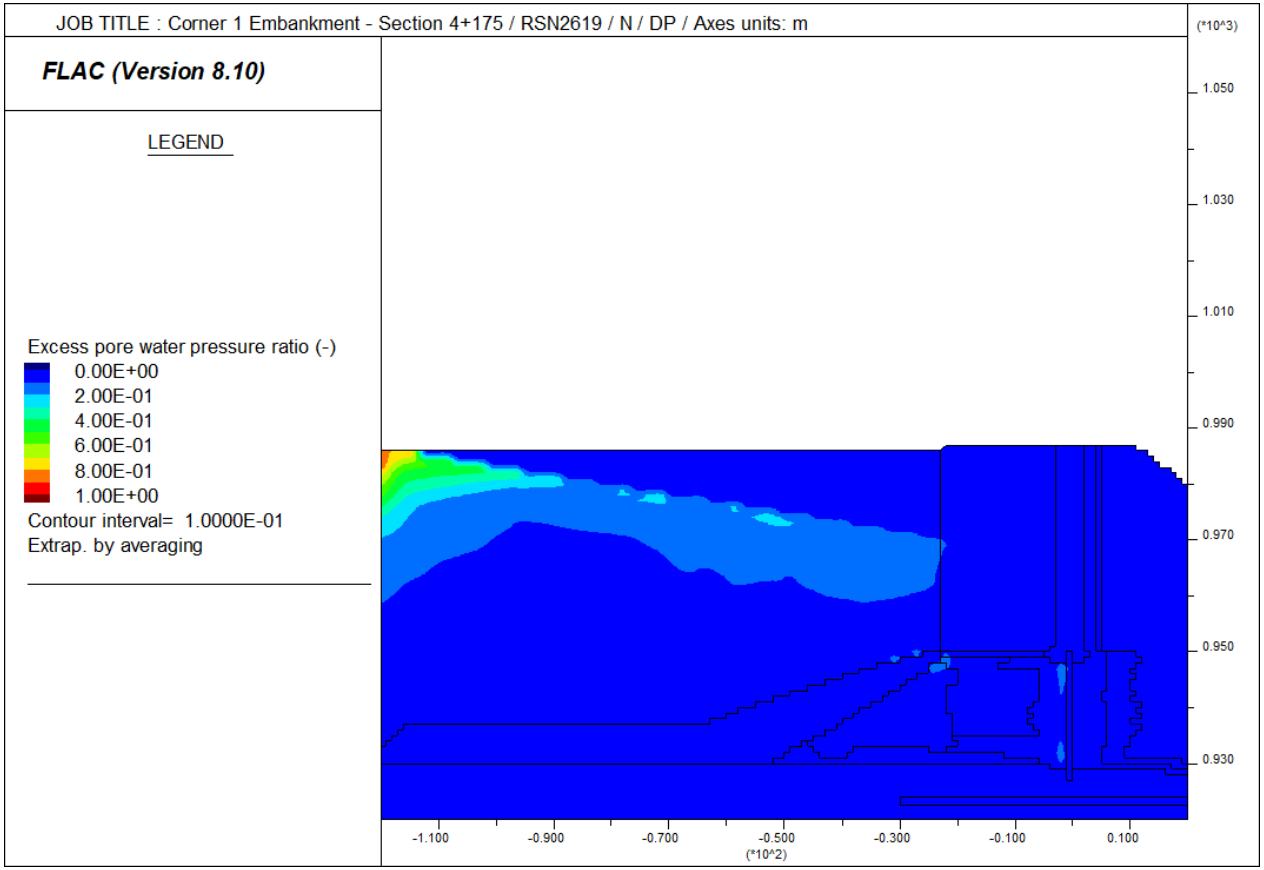

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
-5.00E-04
1.00E-03
2.50E-03
4.00E-03
5.50E-03
7.00E-03
8.50E-03
Contour interval= 5.0000E-04
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

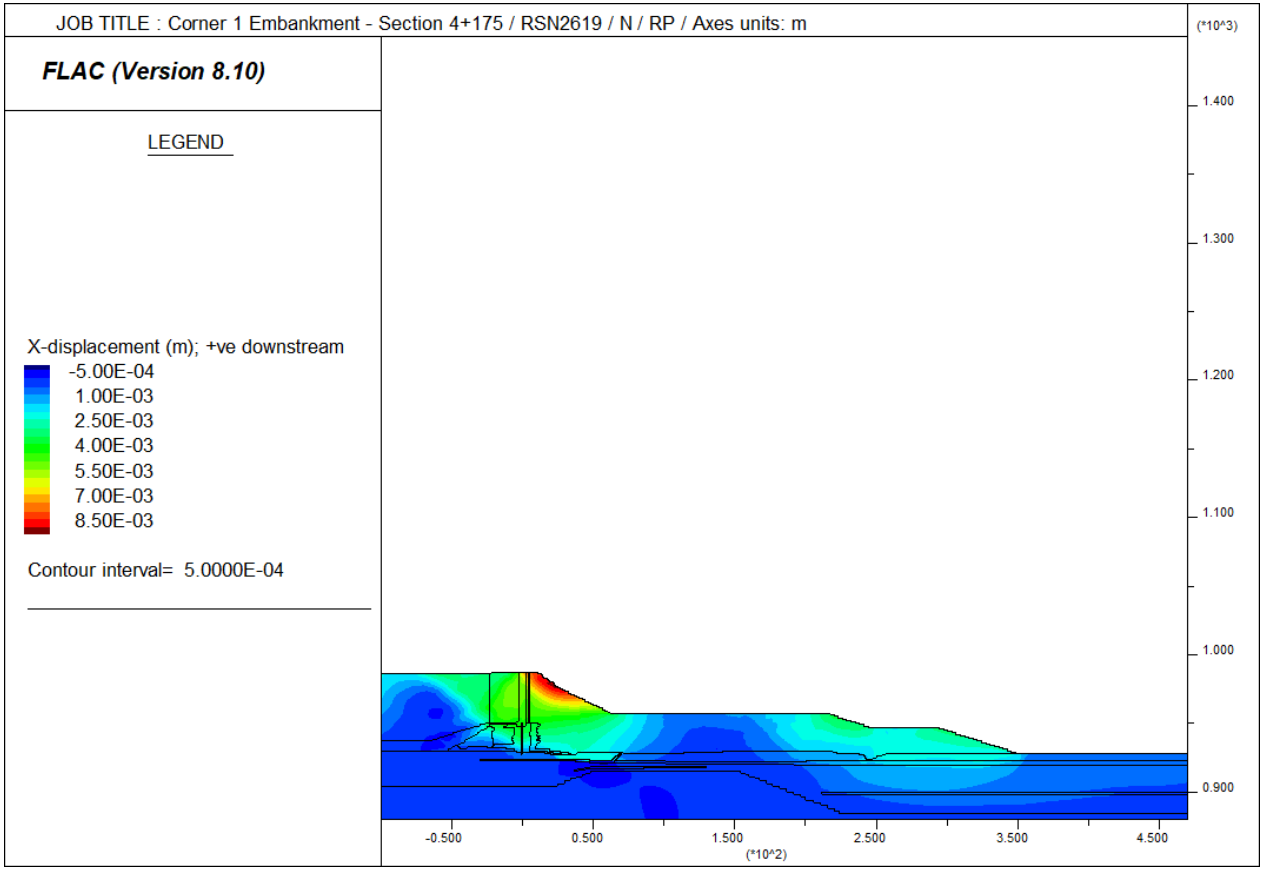

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-8.50E-03
-7.00E-03
-5.50E-03
-4.00E-03
-2.50E-03
-1.00E-03
5.00E-04
Contour interval= 5.0000E-04
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

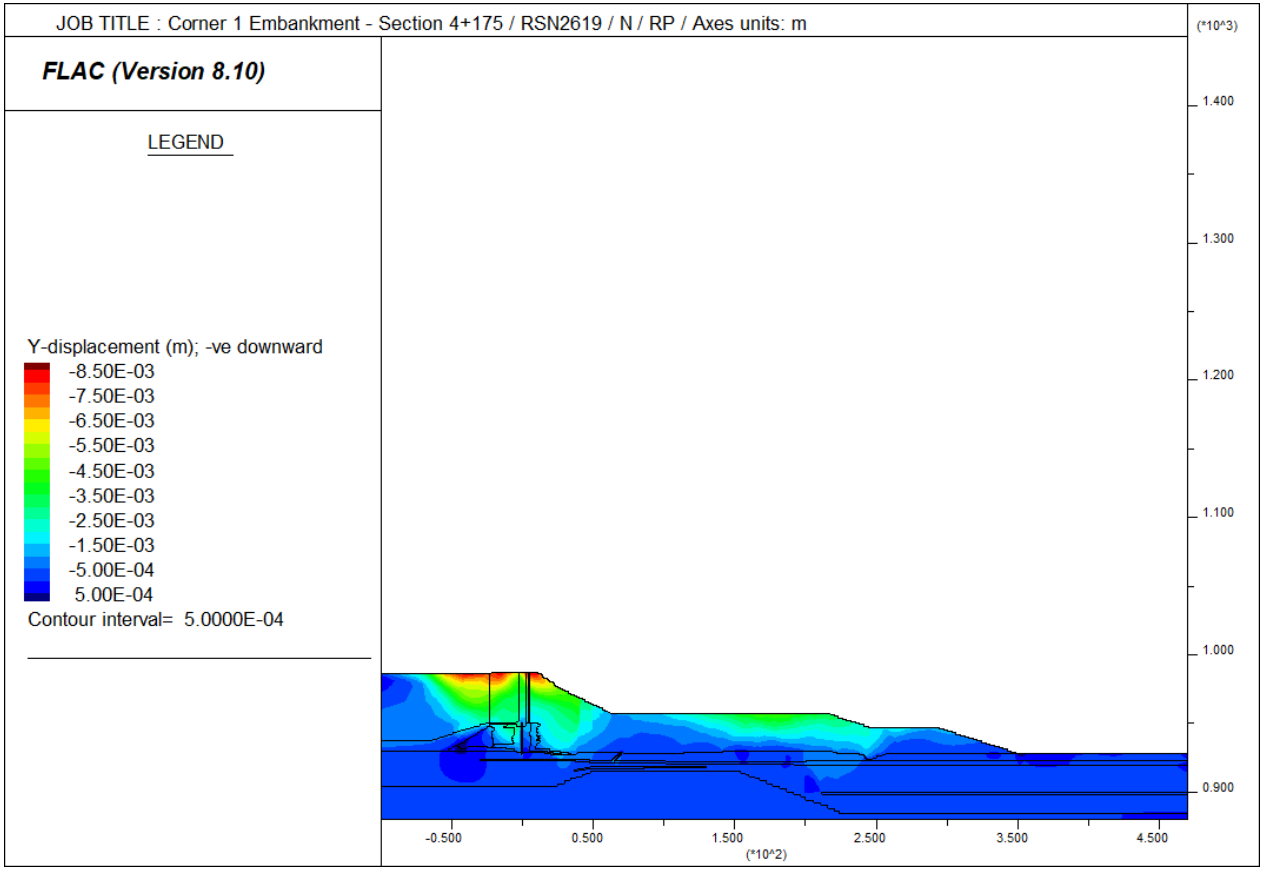

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

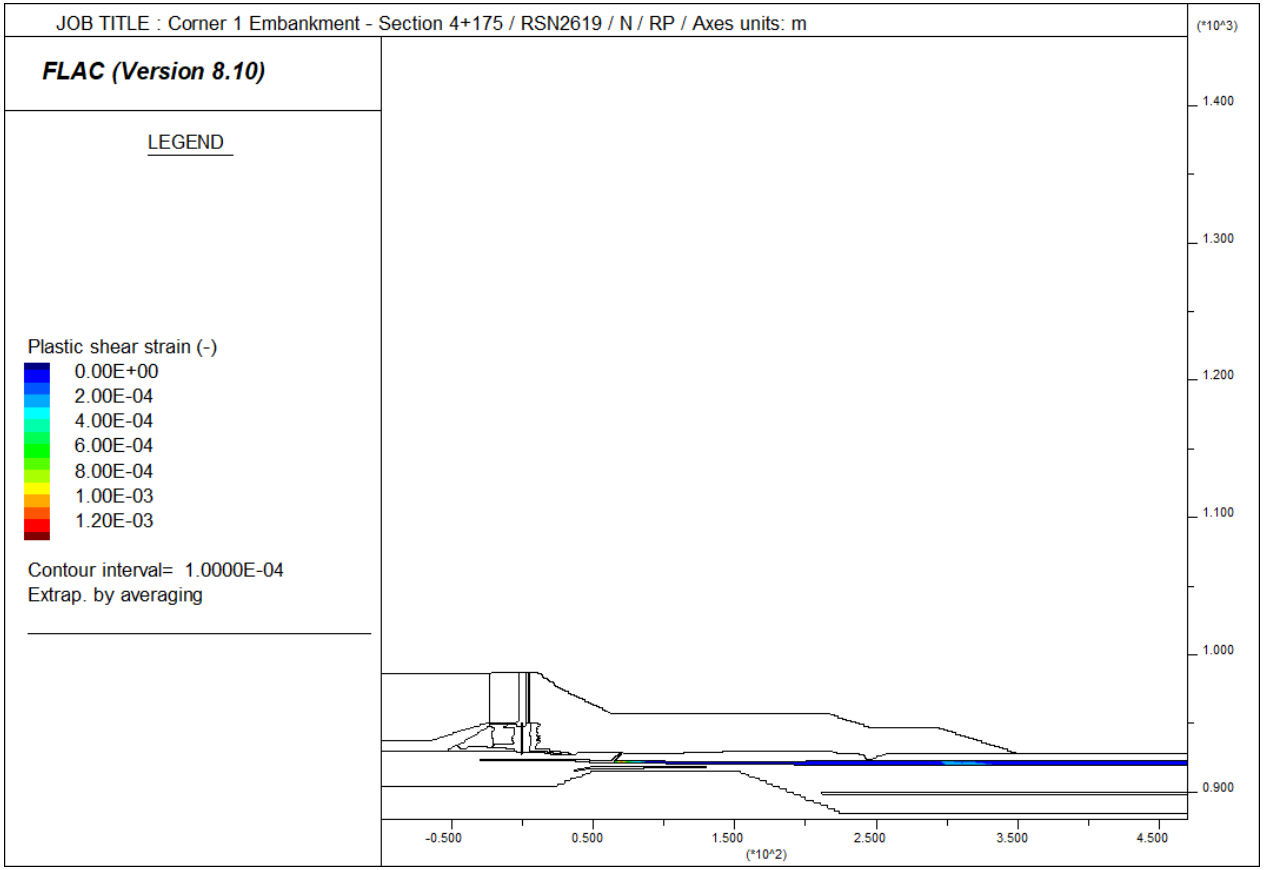

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

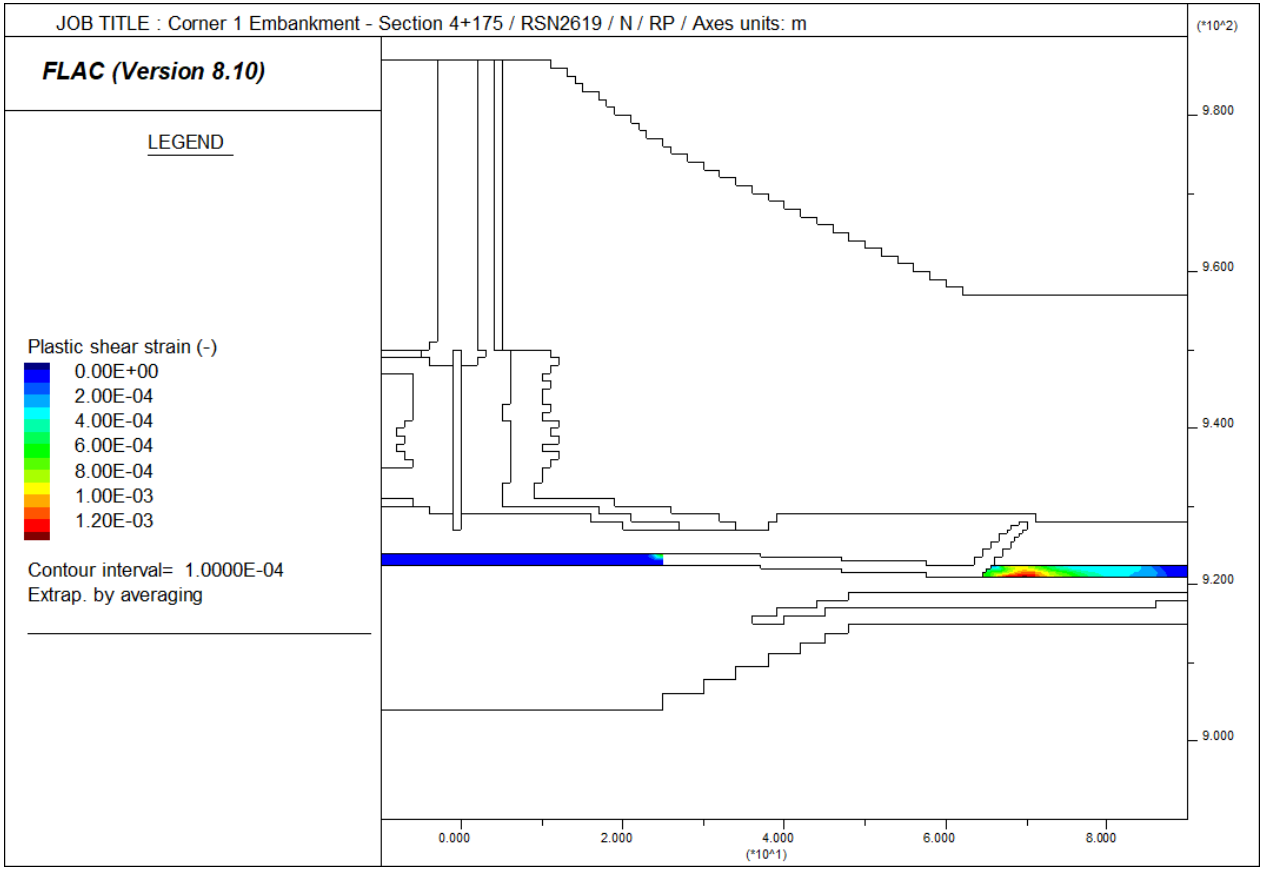

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

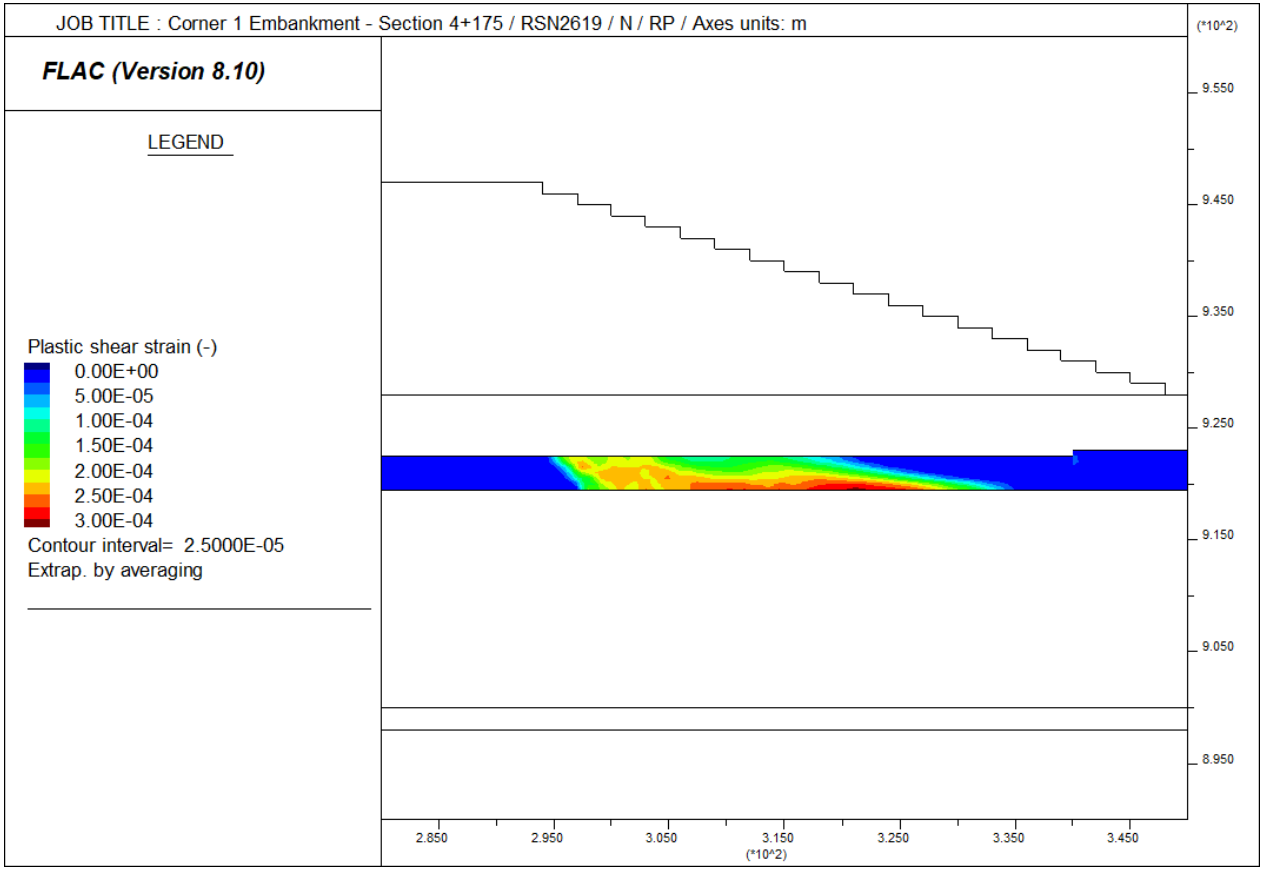

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

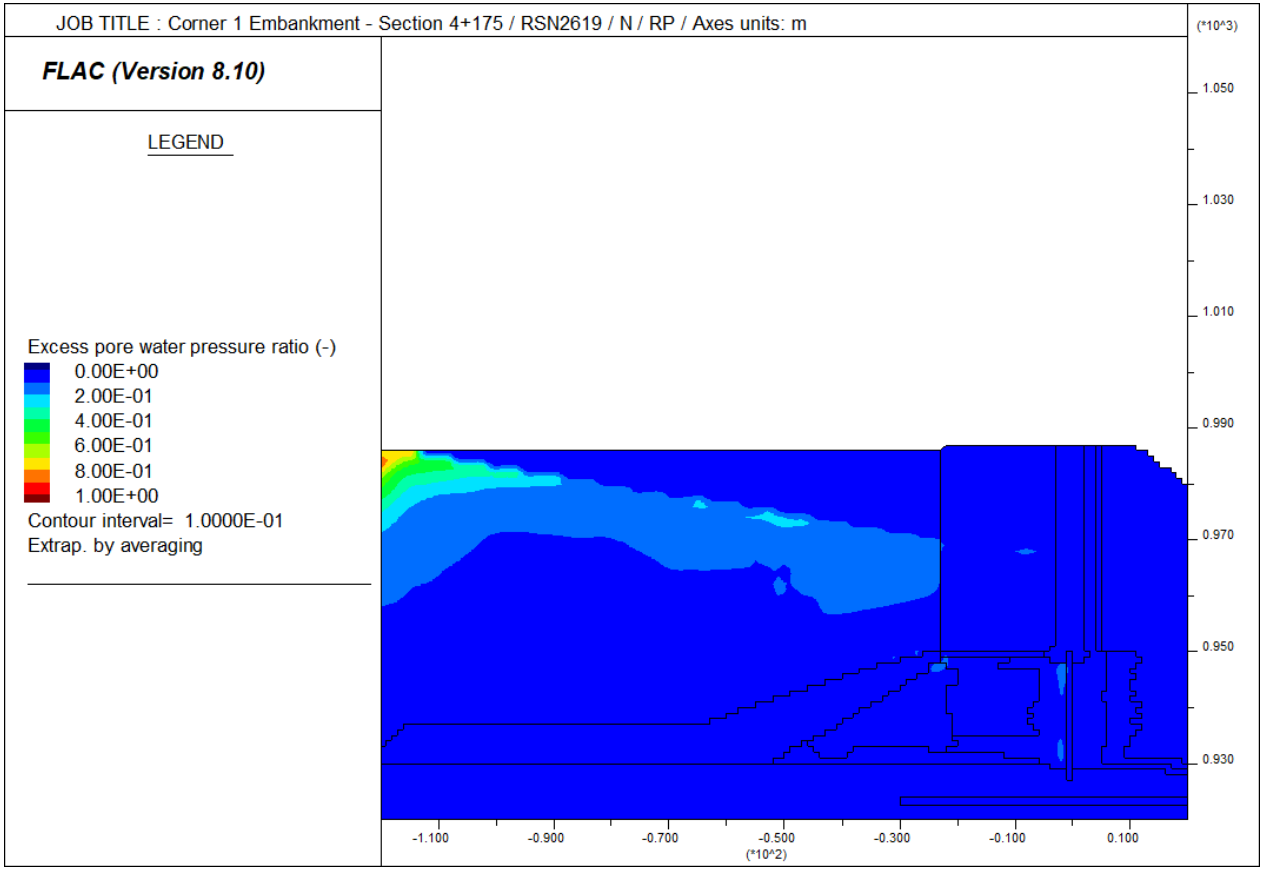

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
-5.00E-04
1.00E-03
2.50E-03
4.00E-03
5.50E-03
7.00E-03
8.50E-03
Contour interval= 5.0000E-04
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

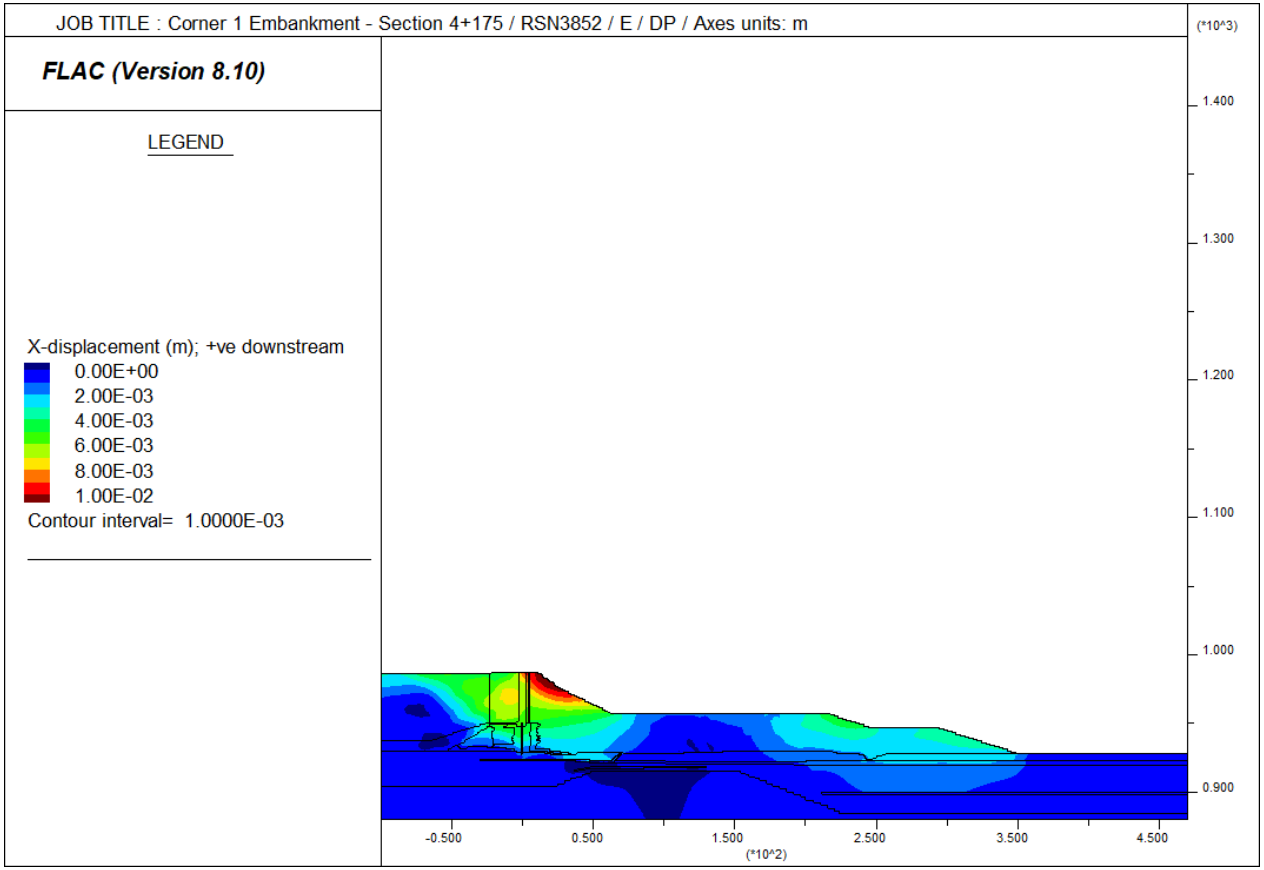

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-8.50E-03
-7.50E-03
-6.50E-03
-5.50E-03
-4.50E-03
-3.50E-03
-2.50E-03
-1.50E-03
-5.00E-04
5.00E-04
Contour interval= 5.0000E-04
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

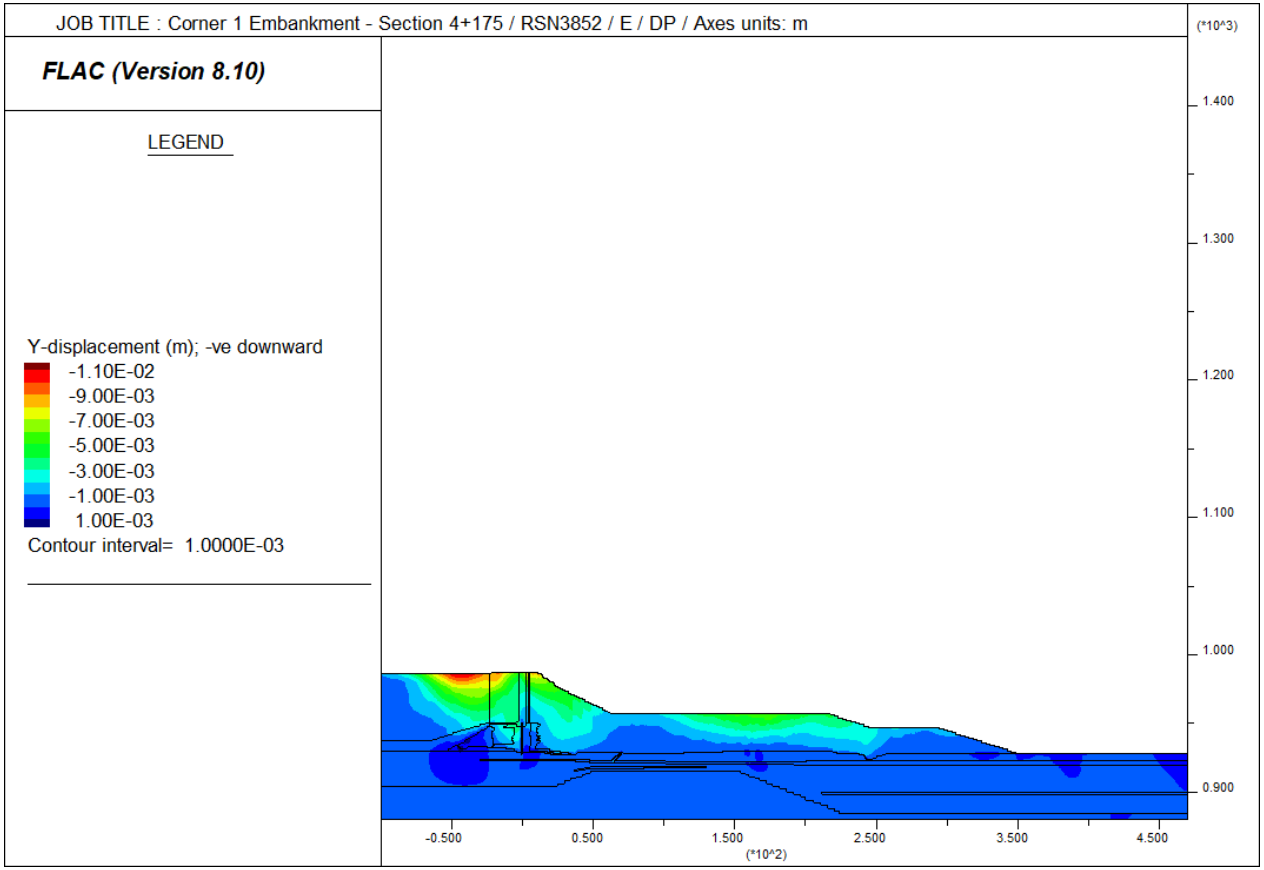

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

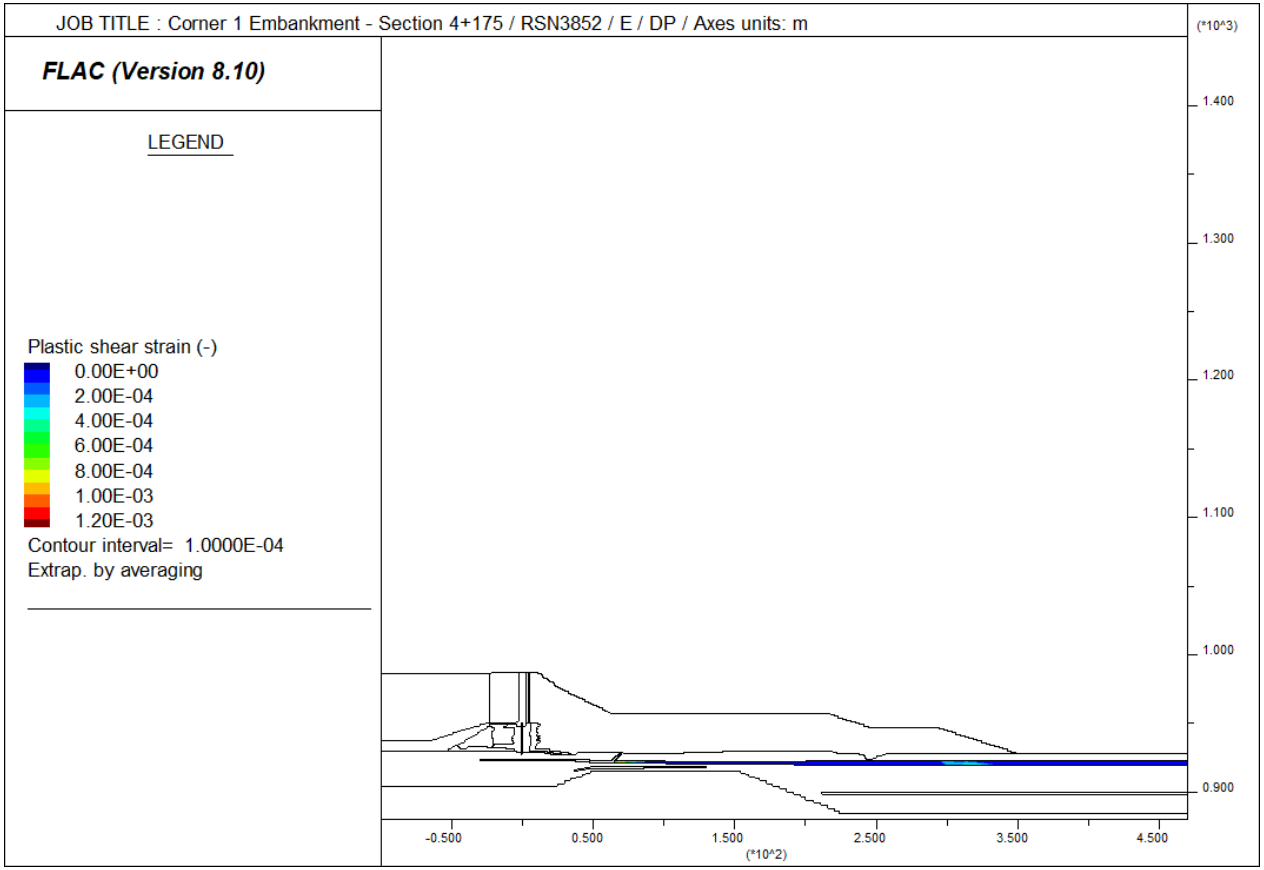

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

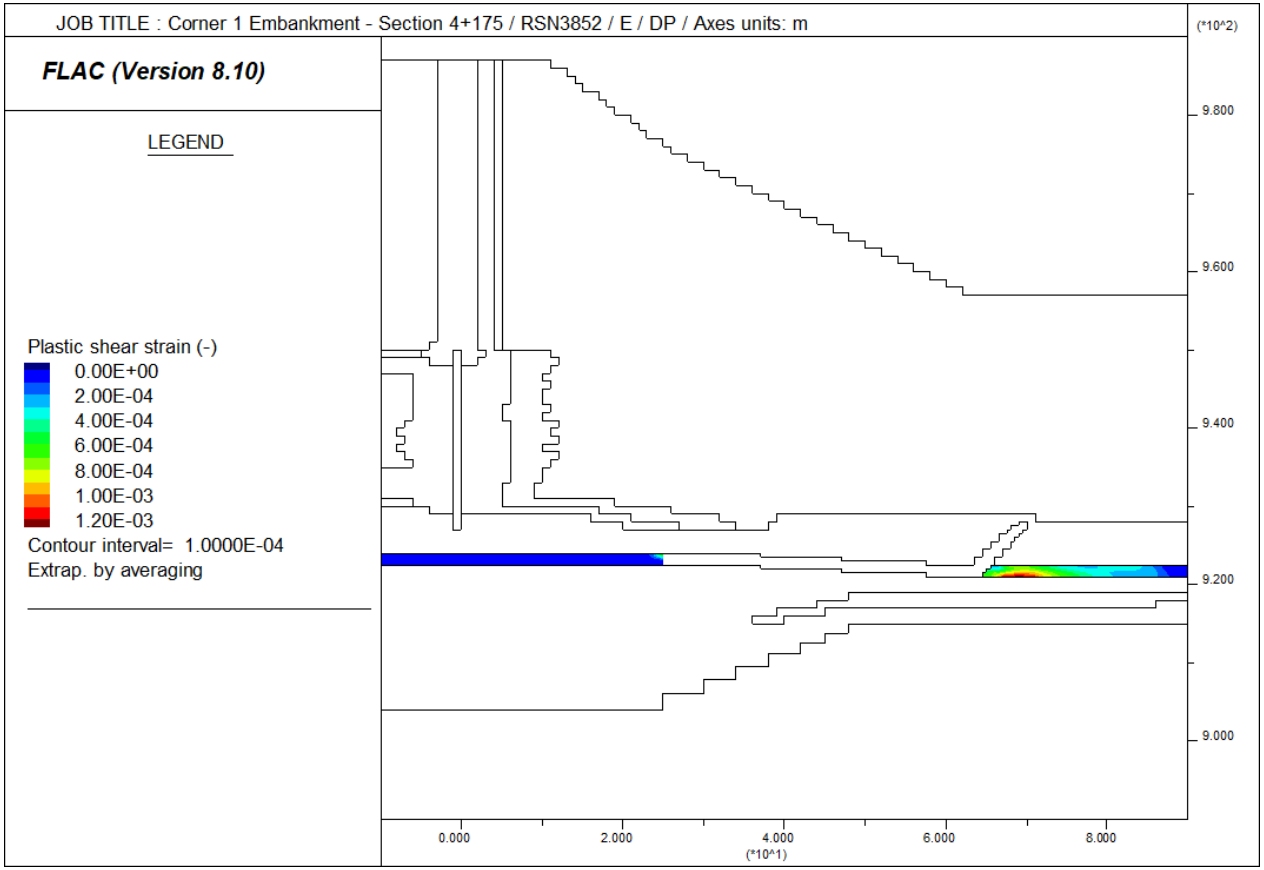

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-05
1.00E-04
1.50E-04
2.00E-04
2.50E-04
3.00E-04
Contour interval= 2.5000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

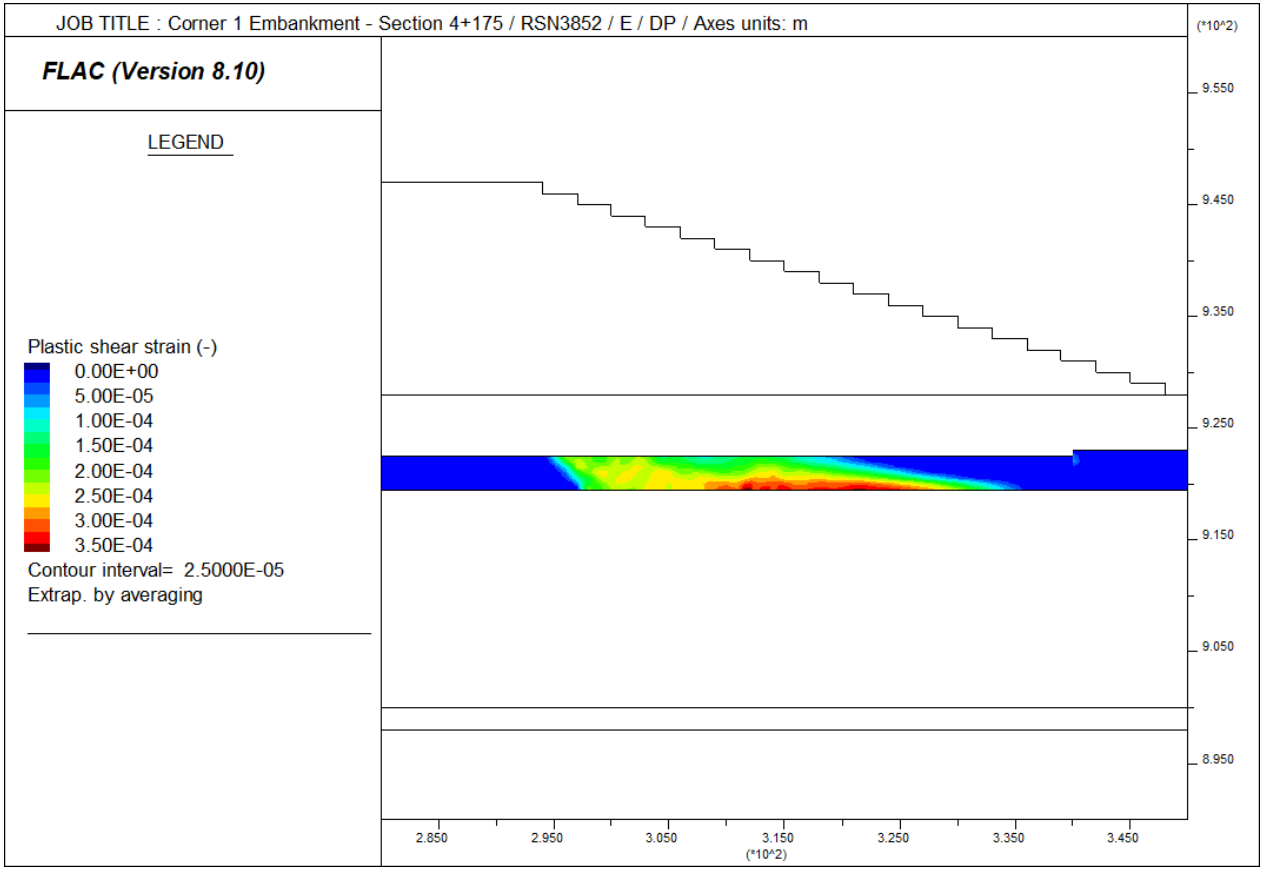

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN2619 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

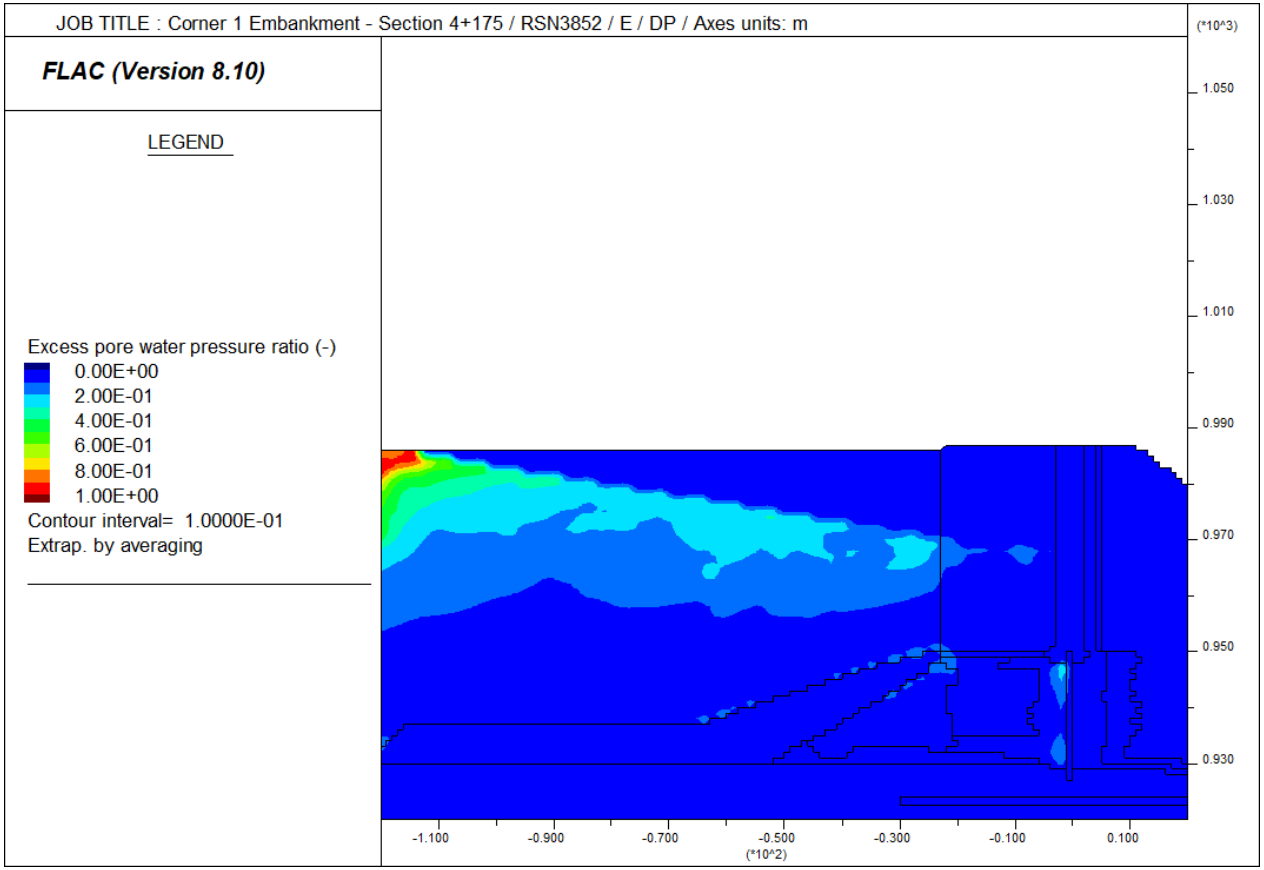

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

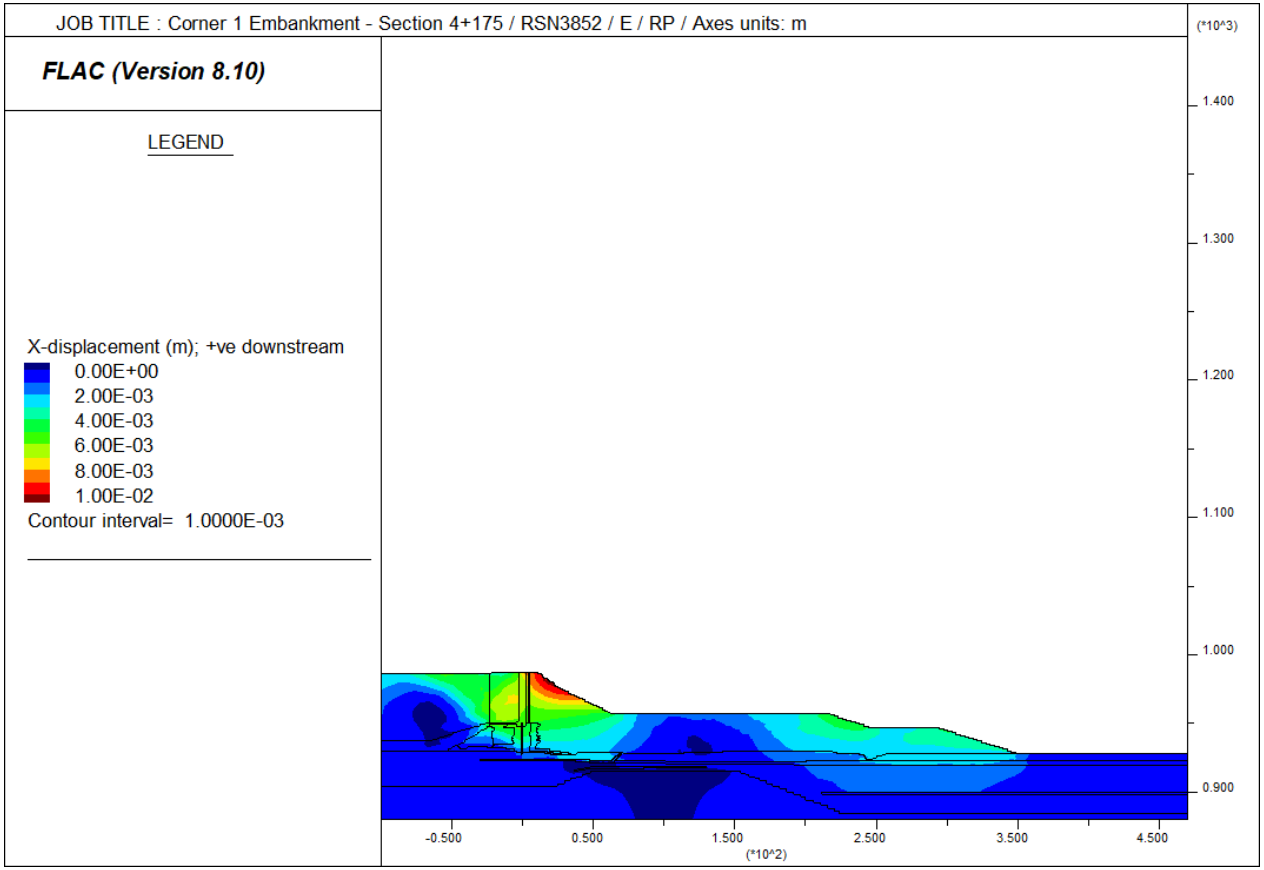

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

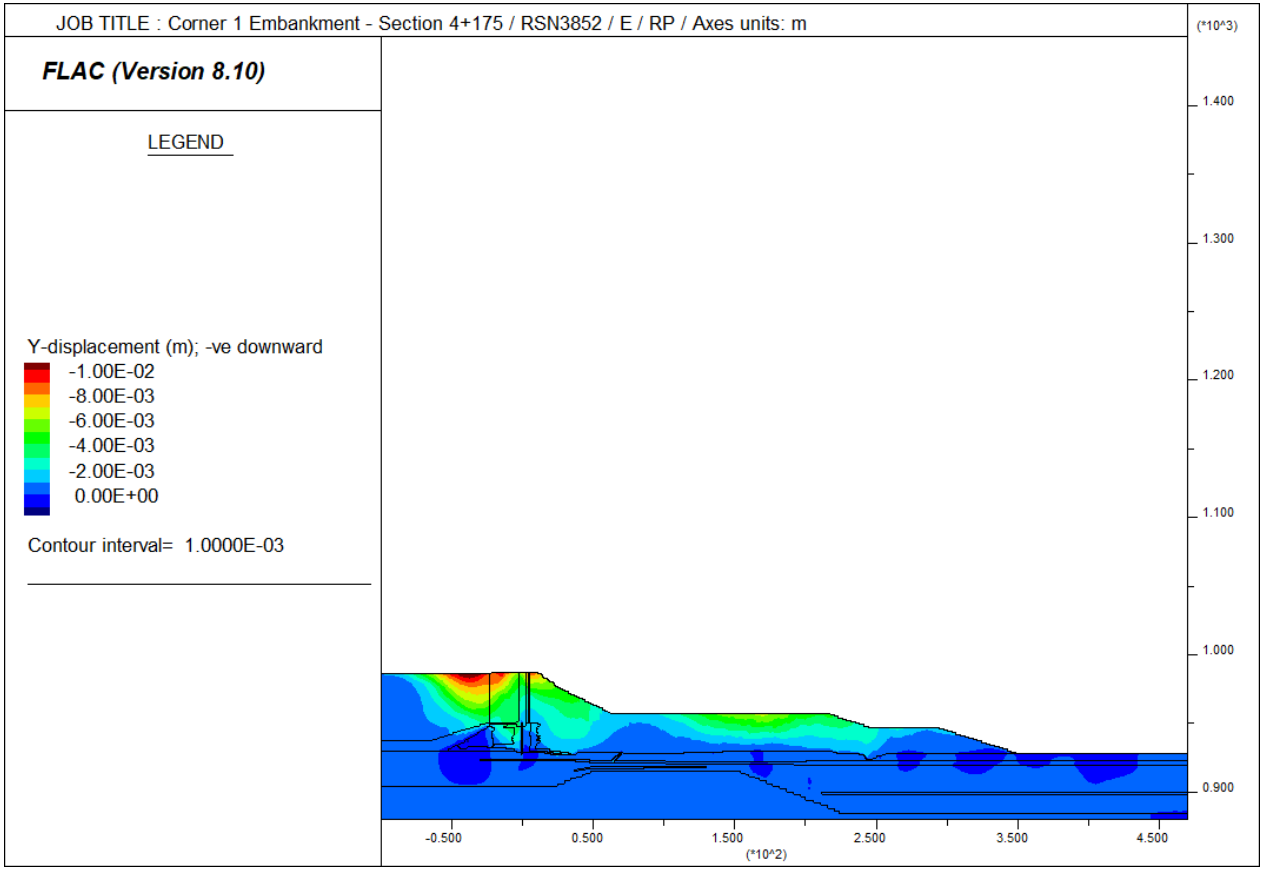

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

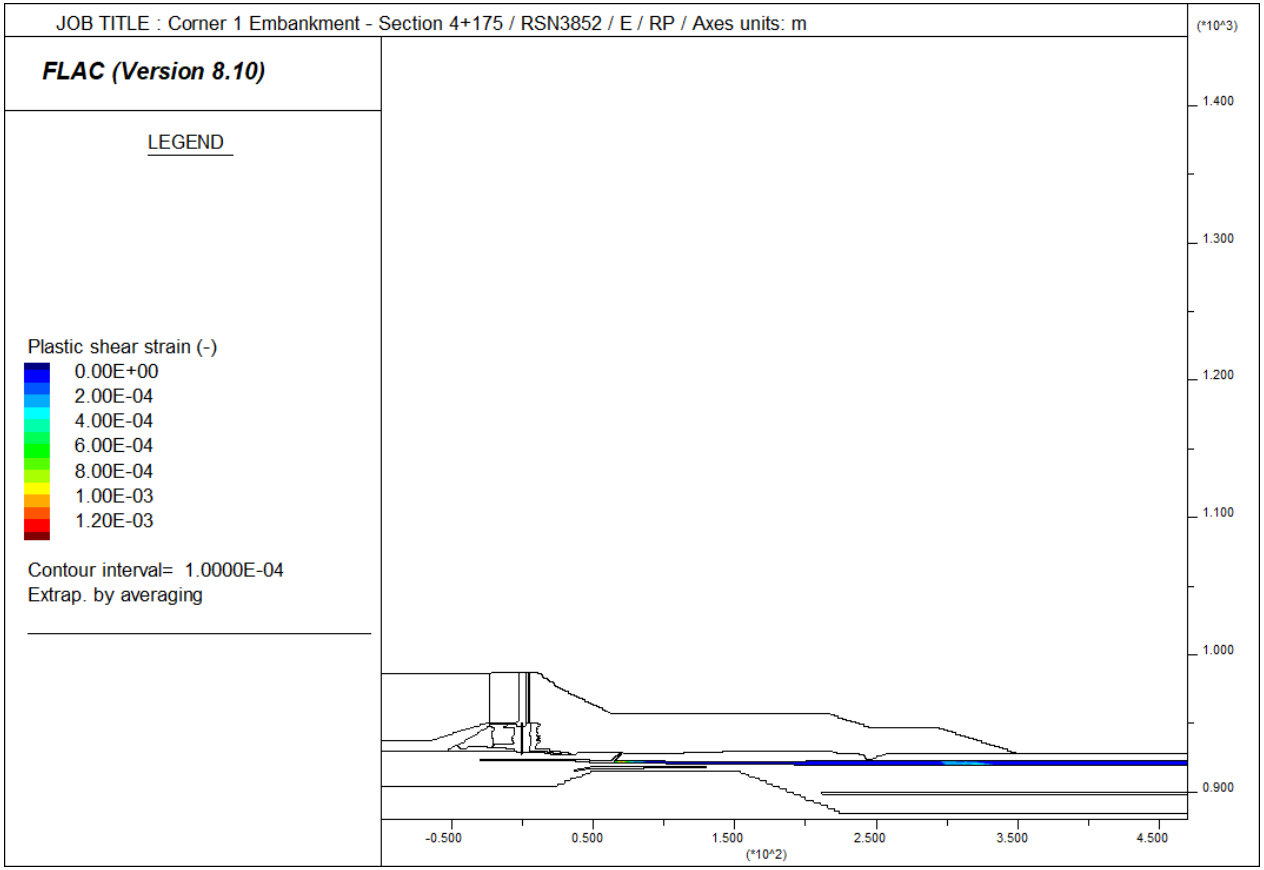

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

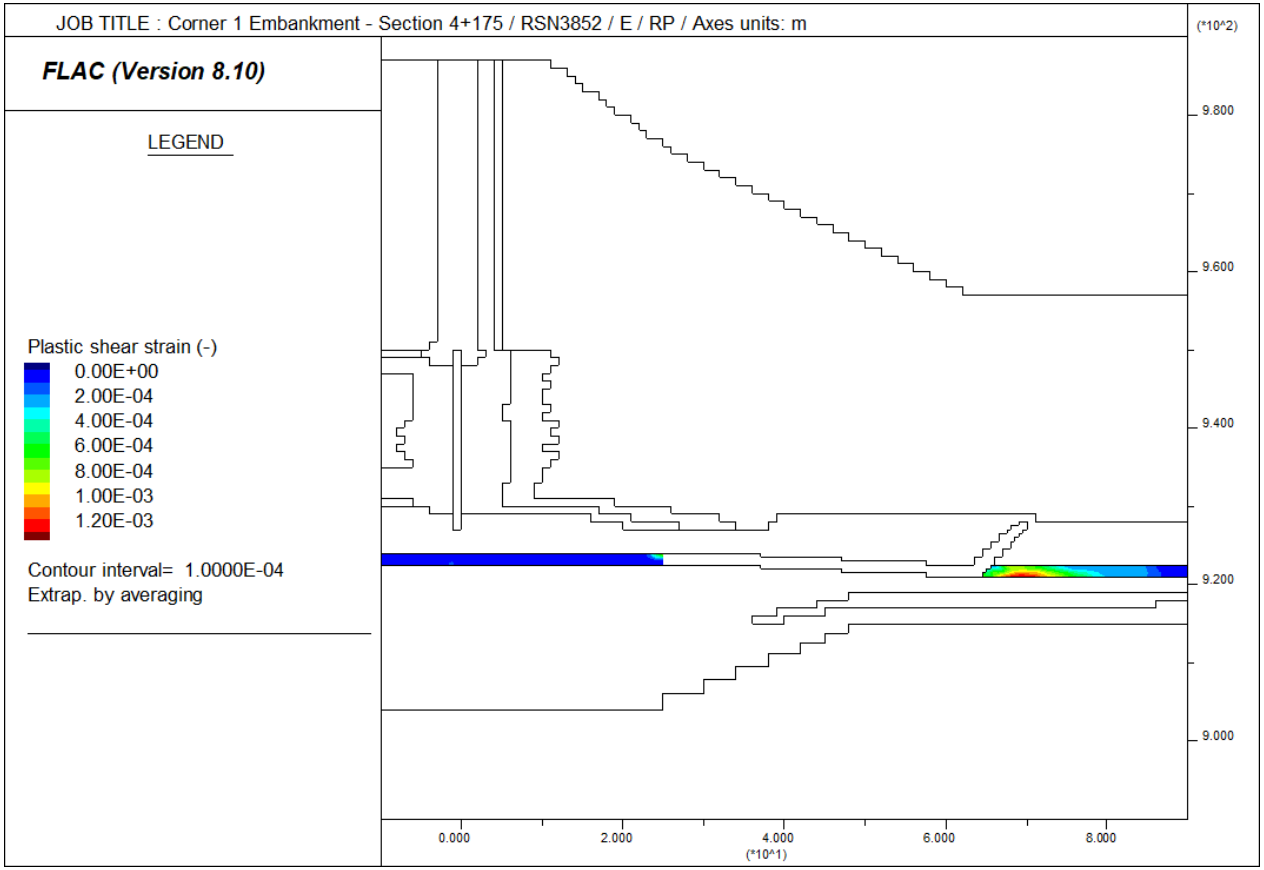

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-05
1.00E-04
1.50E-04
2.00E-04
2.50E-04
3.00E-04
3.50E-04
Contour interval= 2.5000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

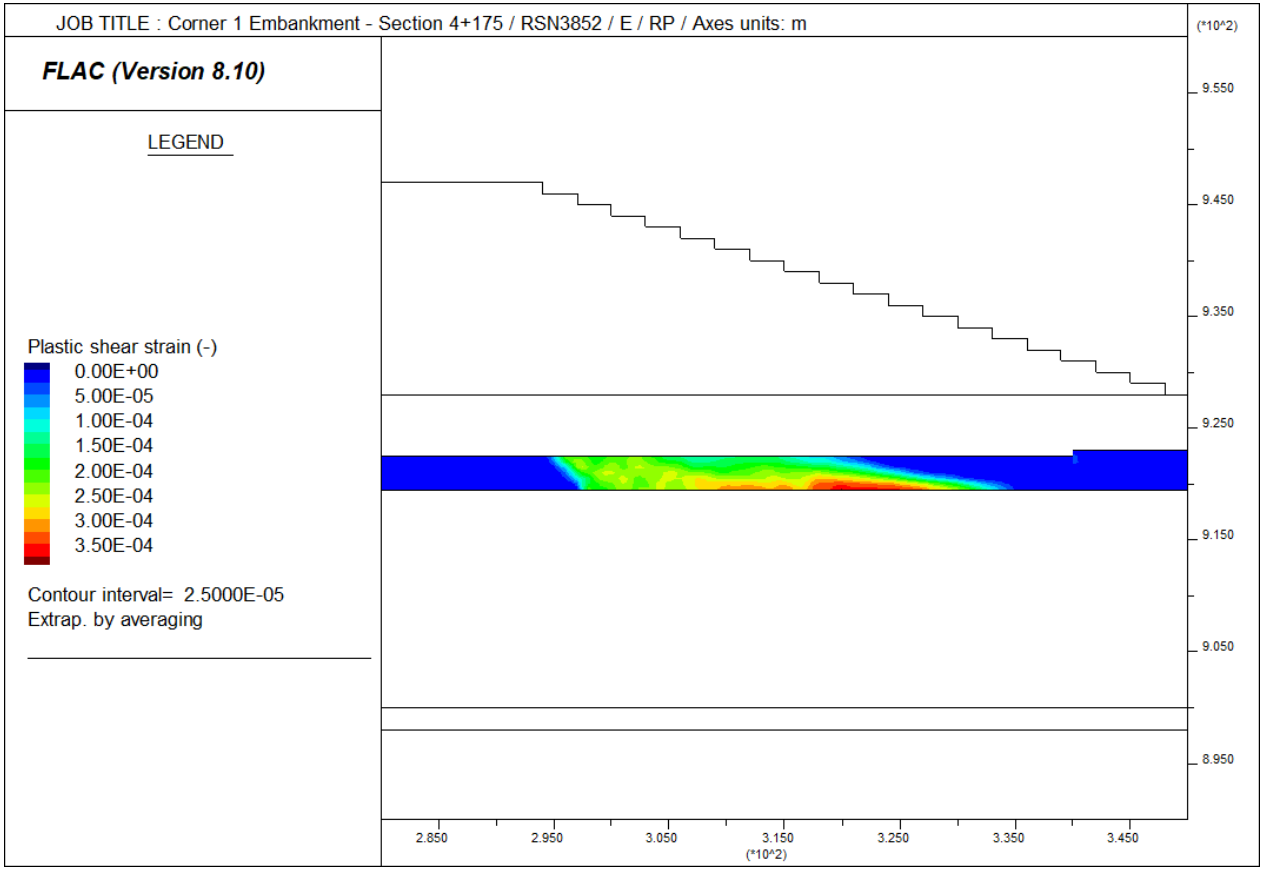

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

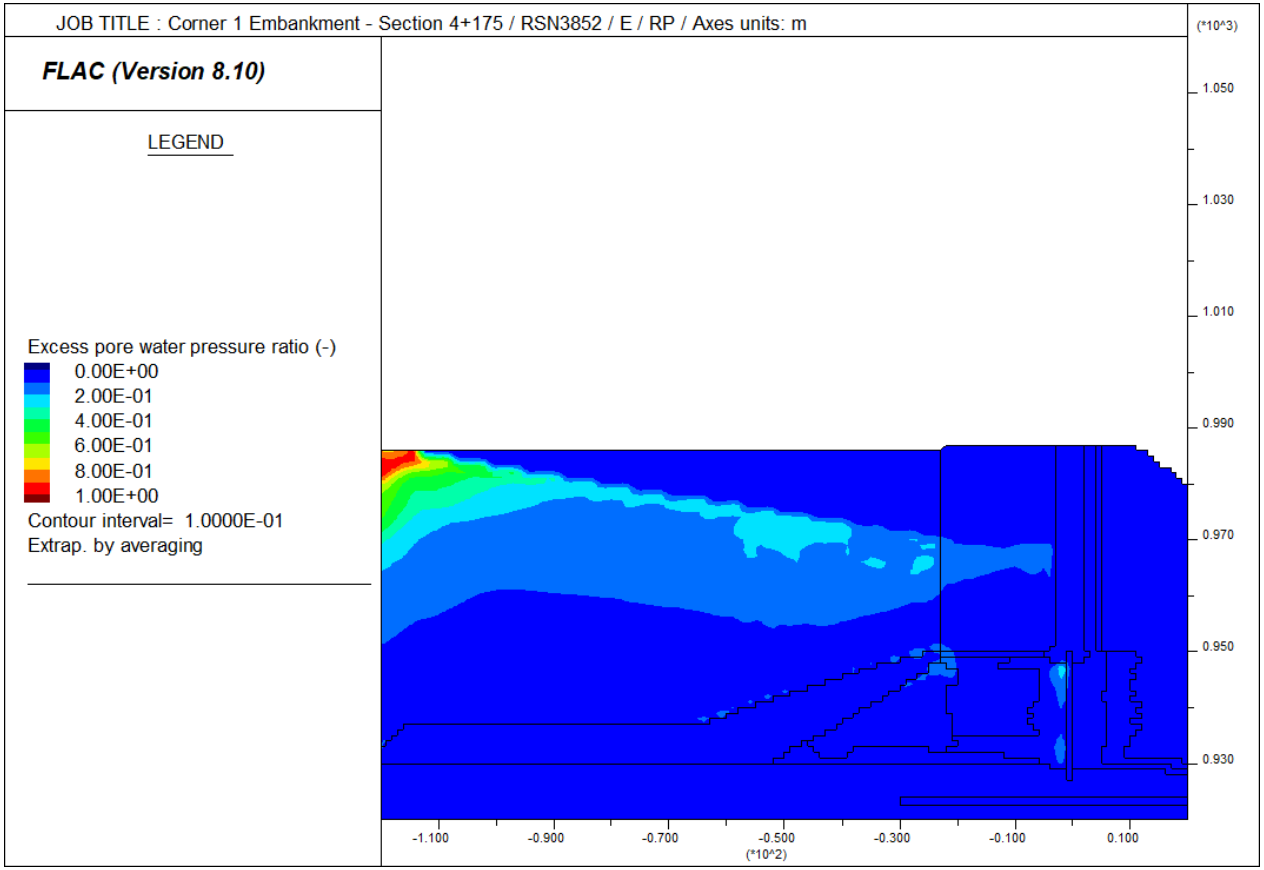

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

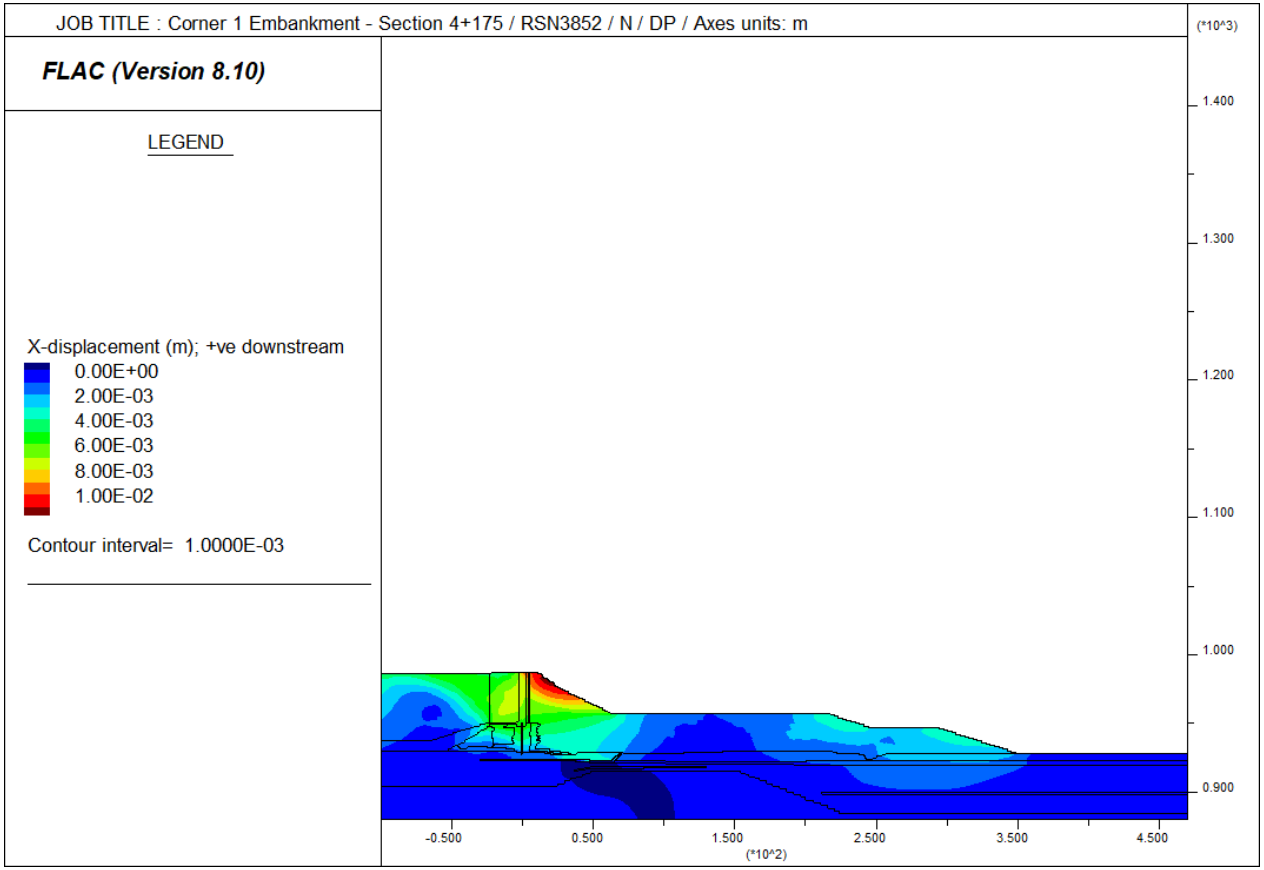

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.00E-02
-8.00E-03
-6.00E-03
-4.00E-03
-2.00E-03
0.00E+00
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

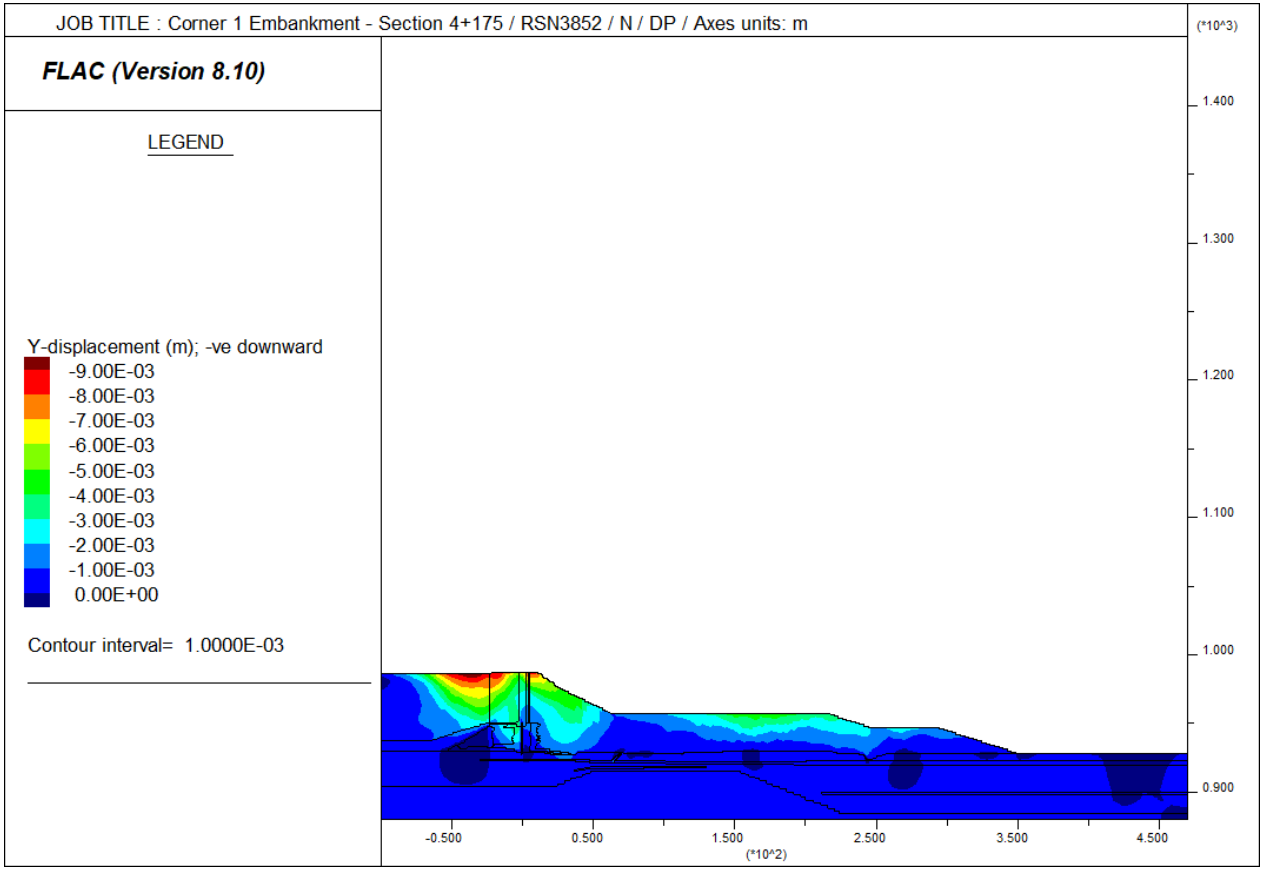

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

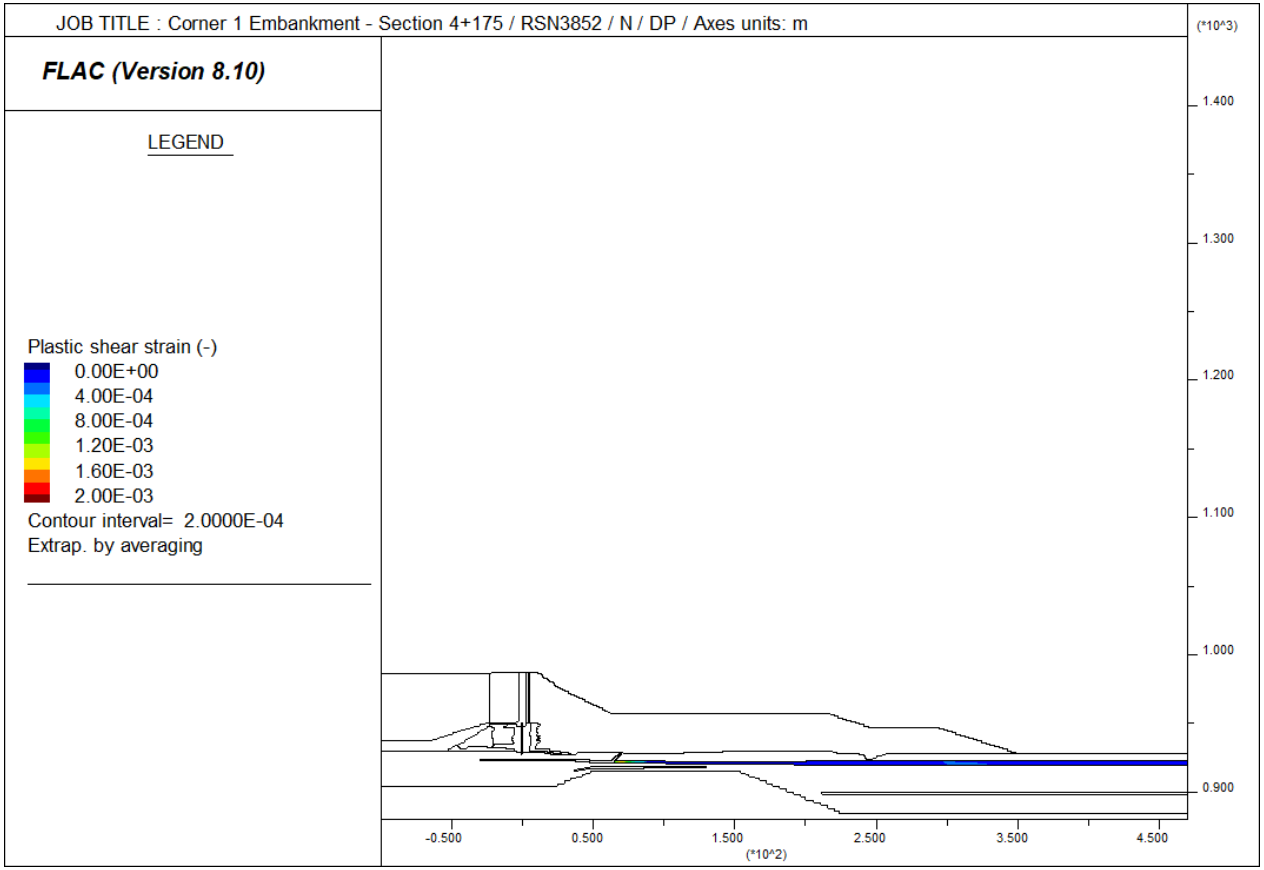

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

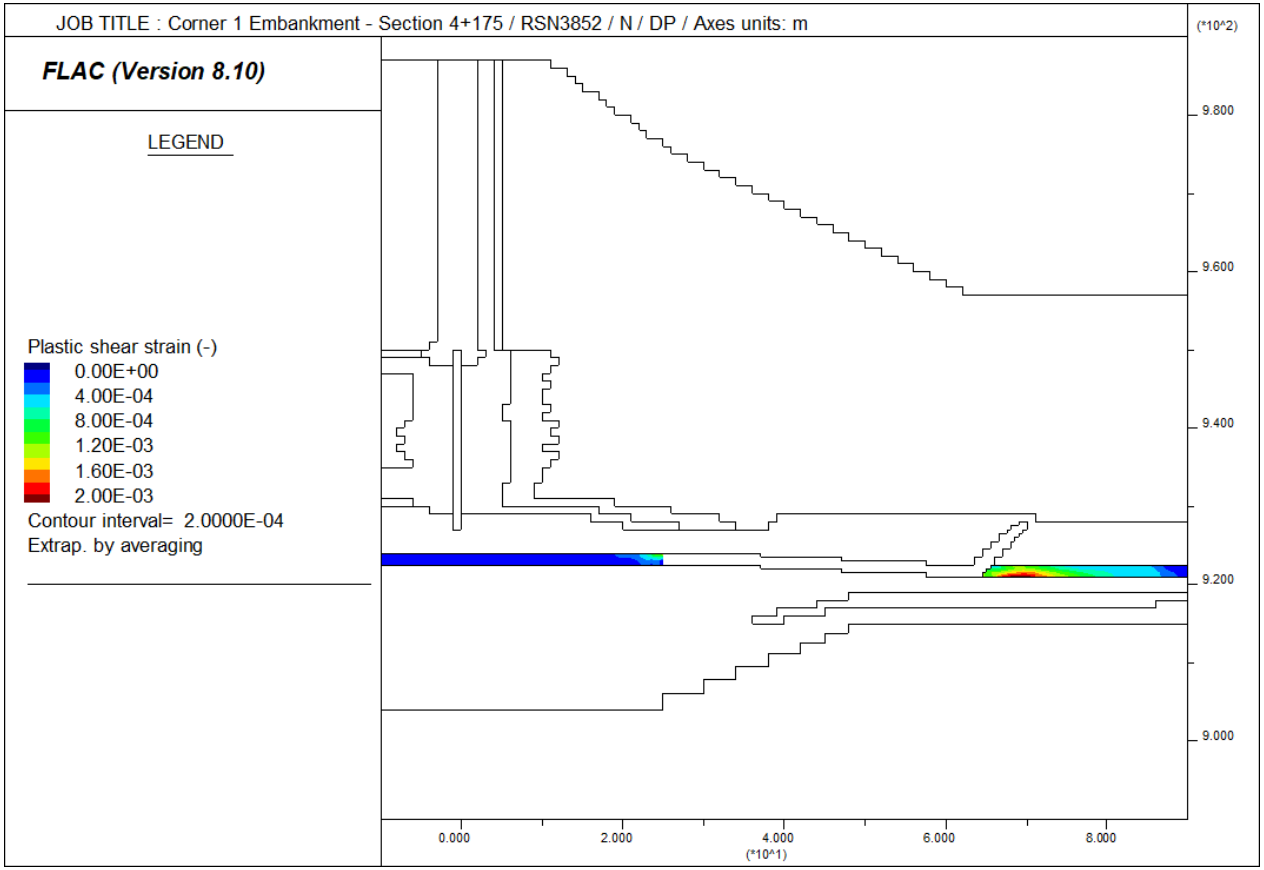

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-05
1.00E-04
1.50E-04
2.00E-04
2.50E-04
3.00E-04
3.50E-04
Contour interval= 2.5000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

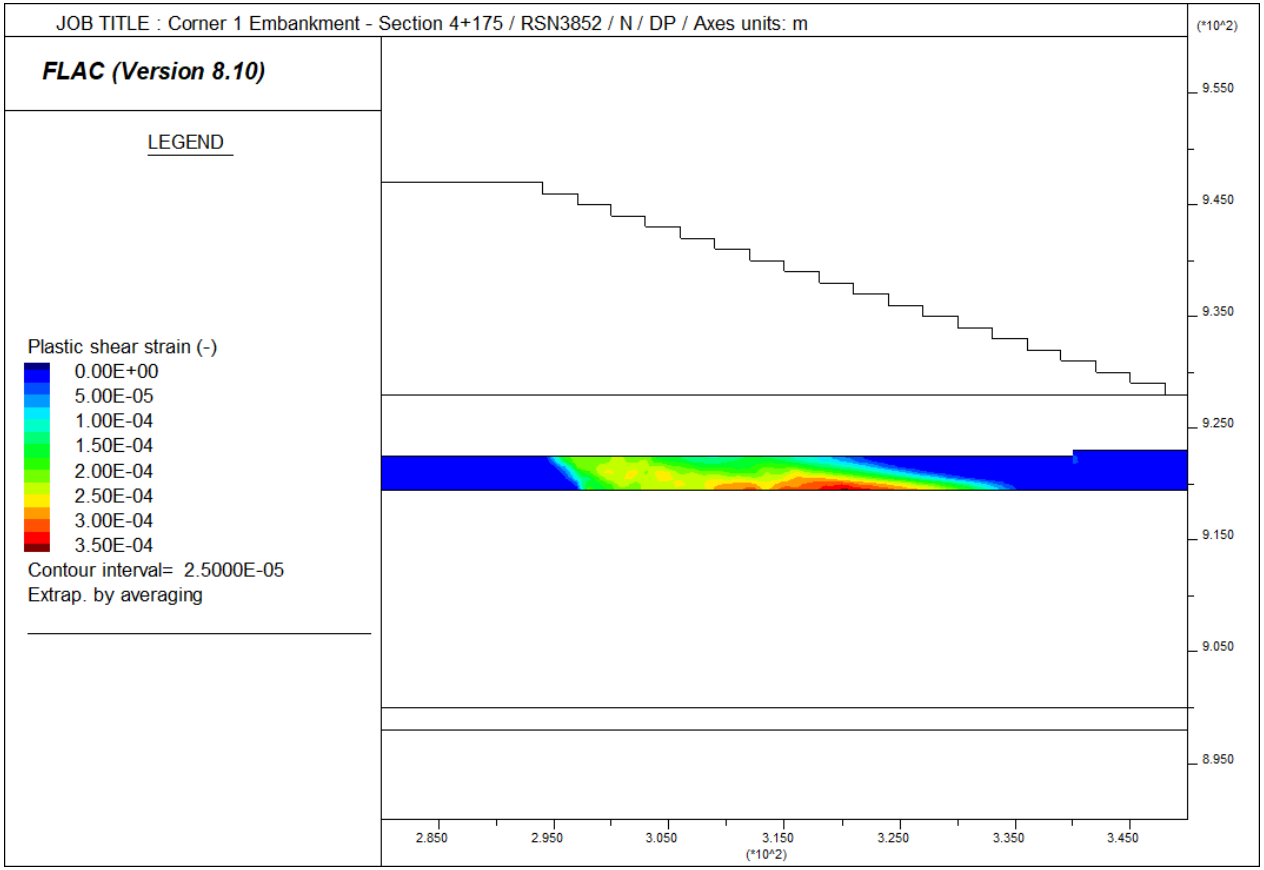

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

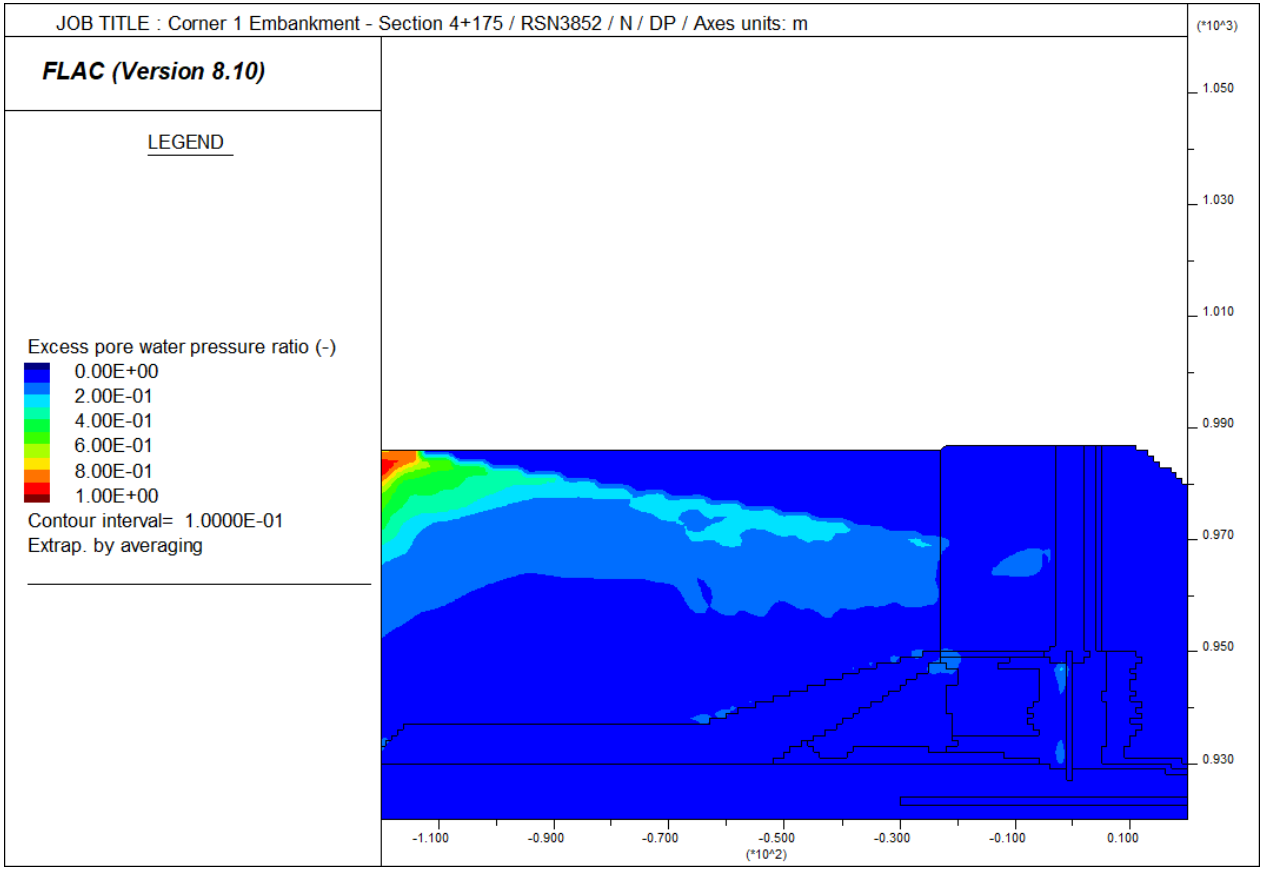

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

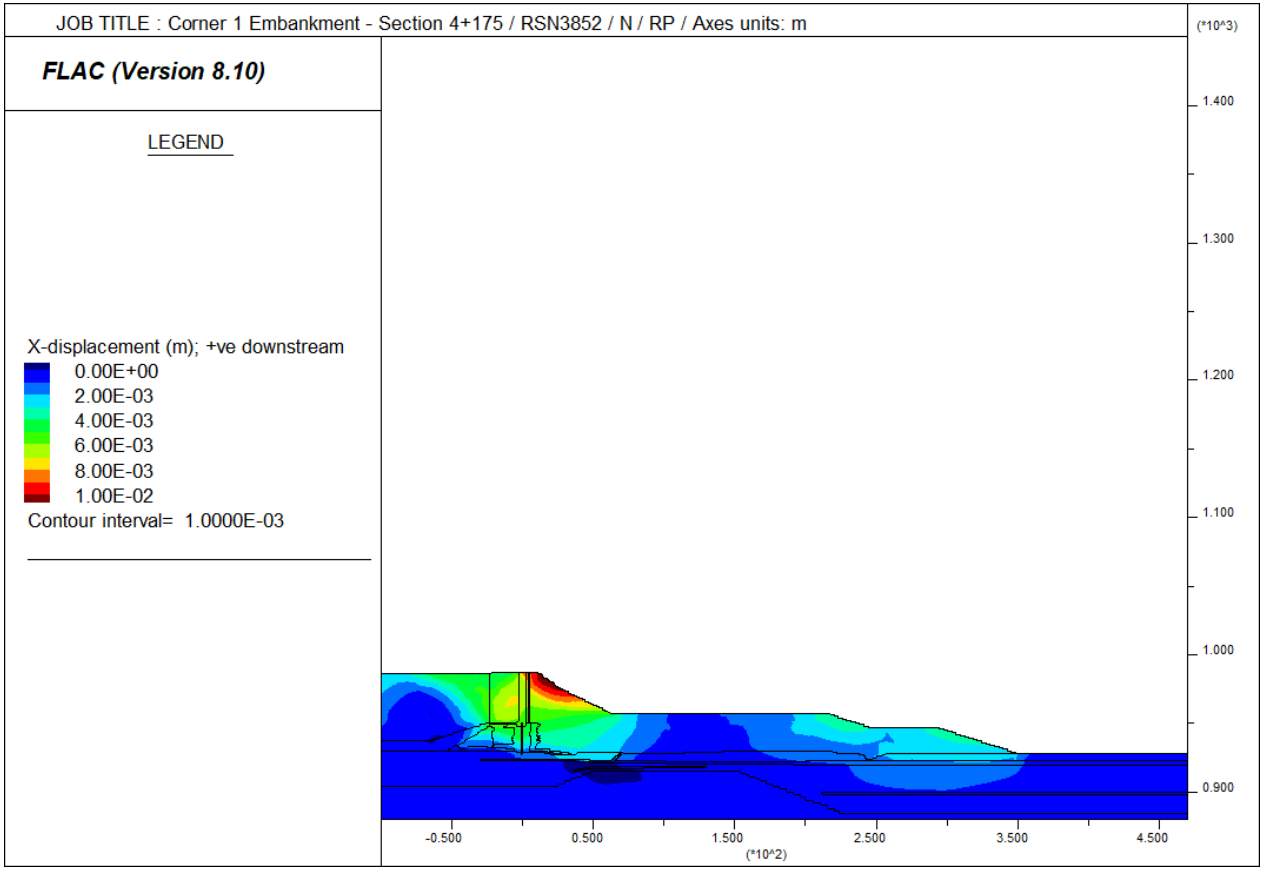

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-9.00E-03
-8.00E-03
-7.00E-03
-6.00E-03
-5.00E-03
-4.00E-03
-3.00E-03
-2.00E-03
-1.00E-03
0.00E+00
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

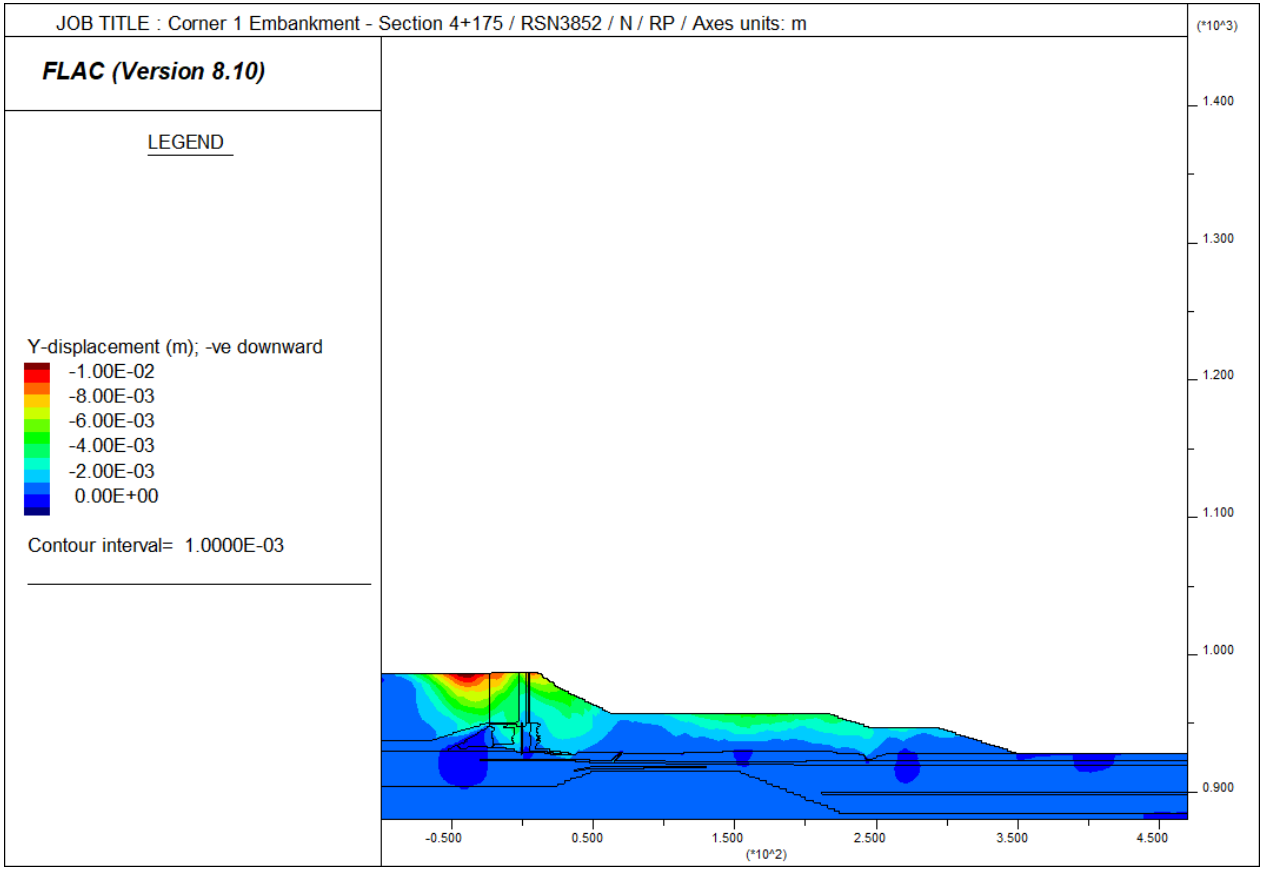

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-04
8.00E-04
1.20E-03
1.60E-03
2.00E-03
Contour interval= 2.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

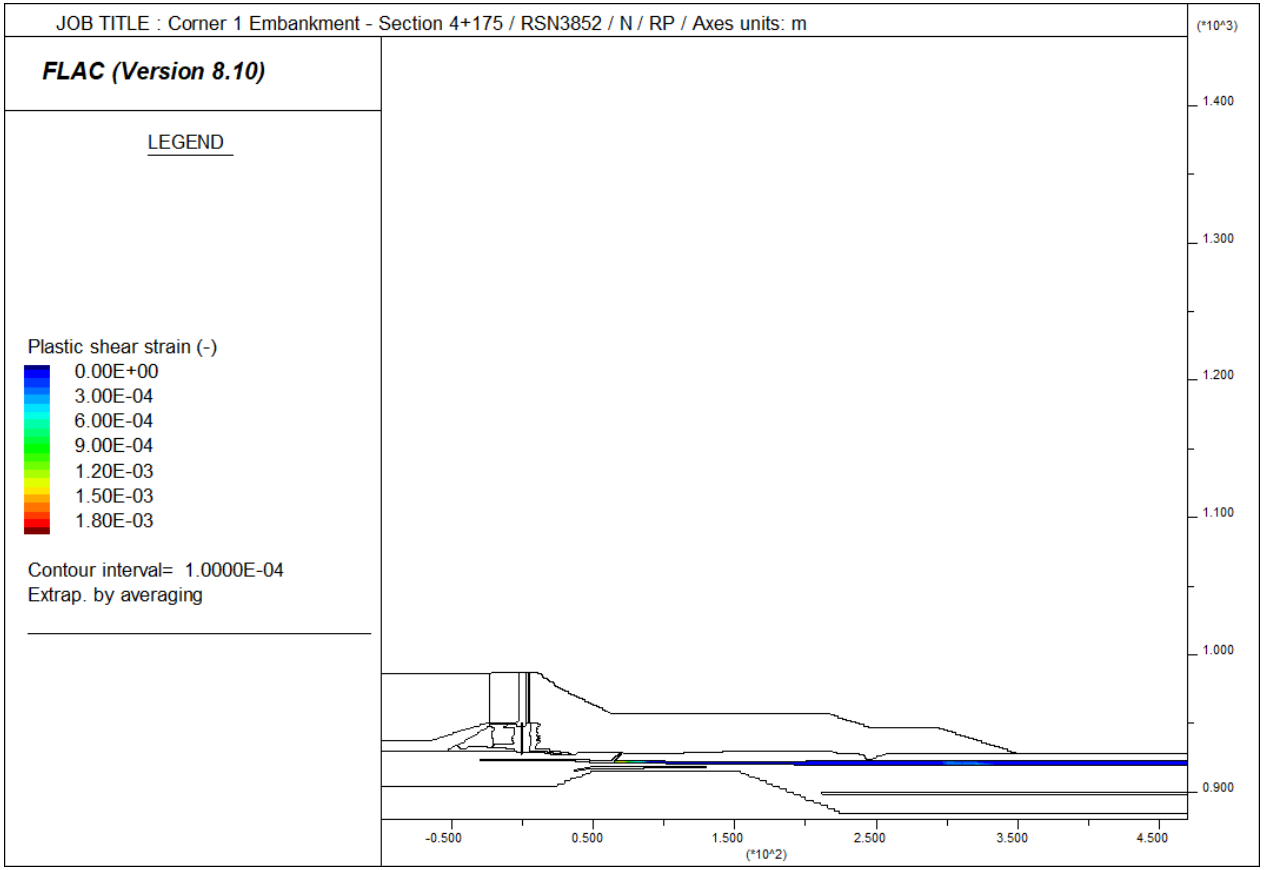

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-04
8.00E-04
1.20E-03
1.60E-03
2.00E-03
Contour interval= 2.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

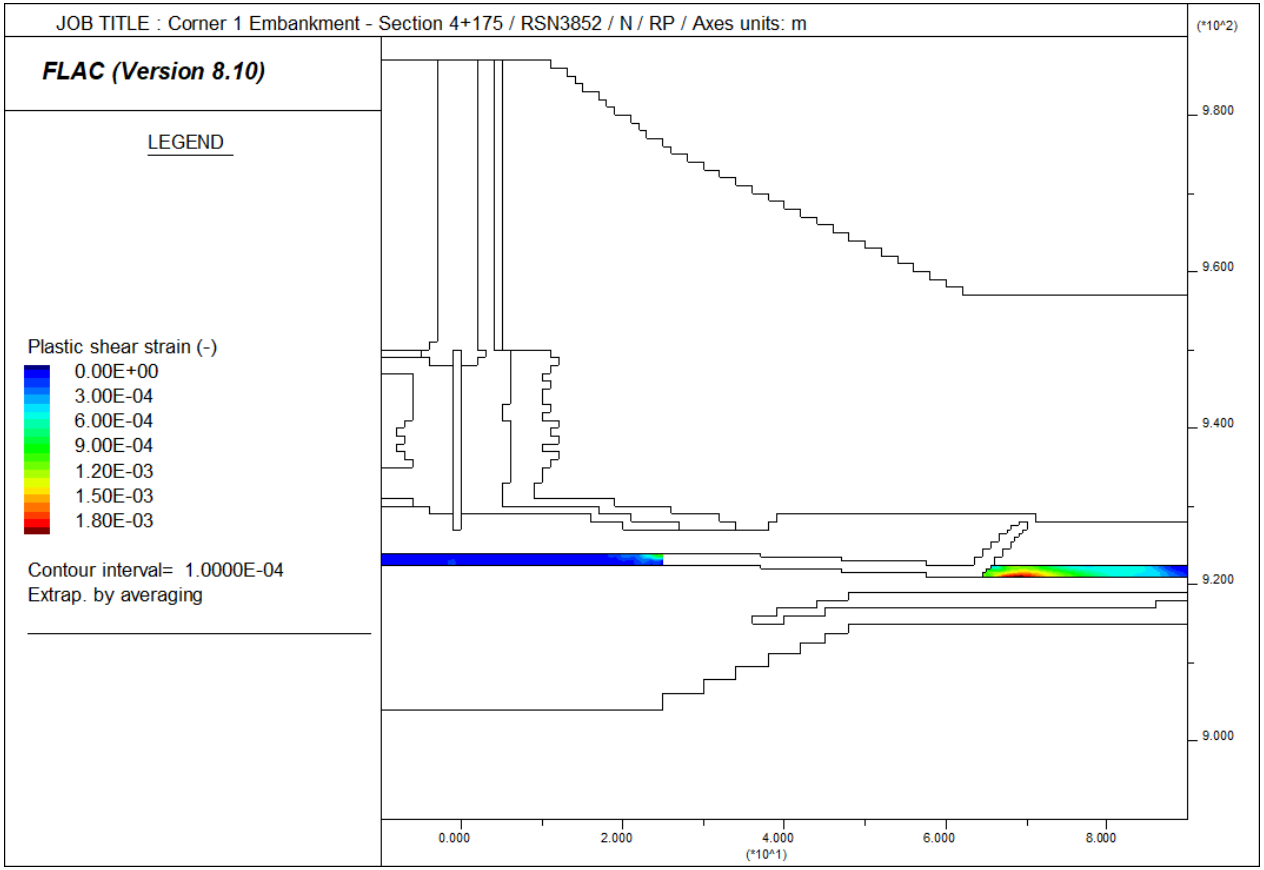

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-05
1.00E-04
1.50E-04
2.00E-04
2.50E-04
3.00E-04
3.50E-04
Contour interval= 2.5000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

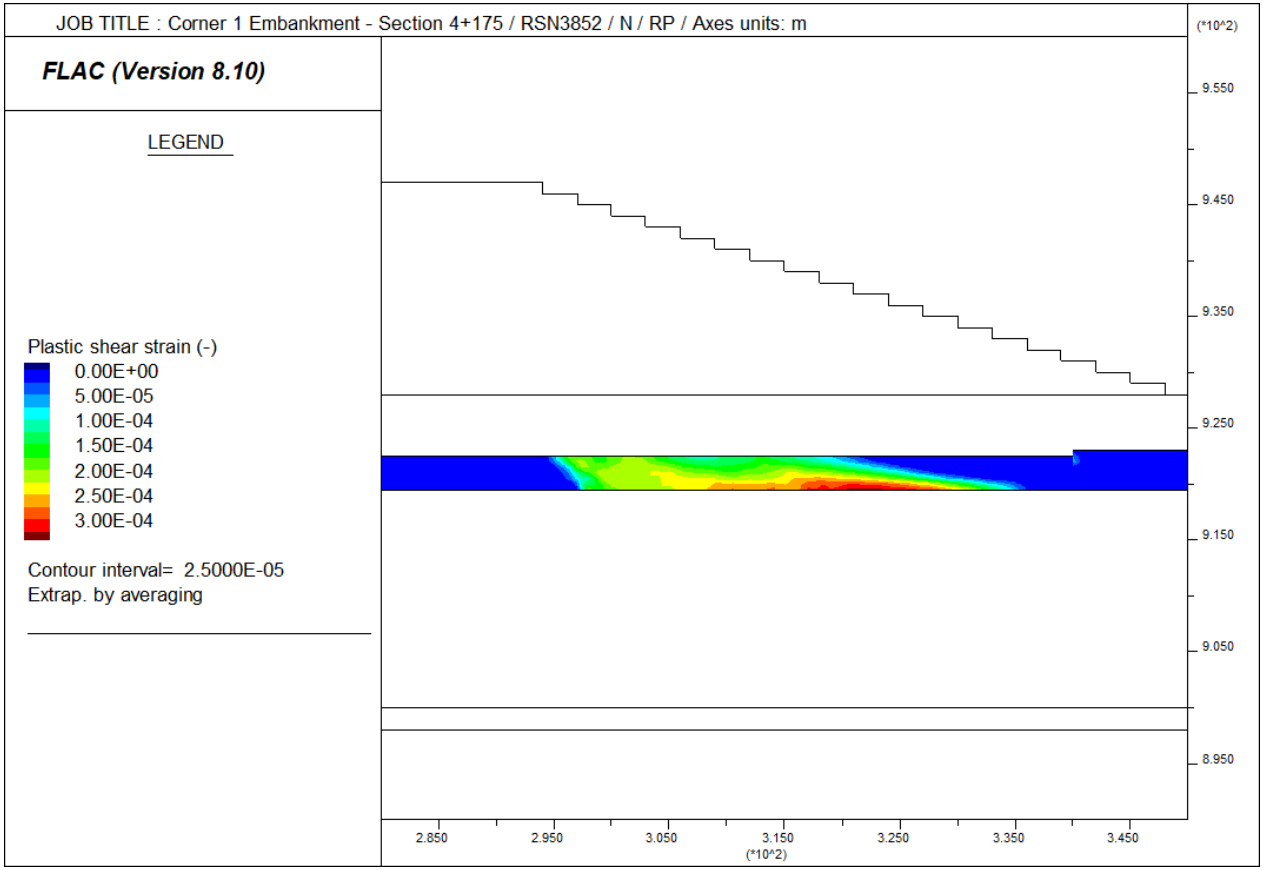

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

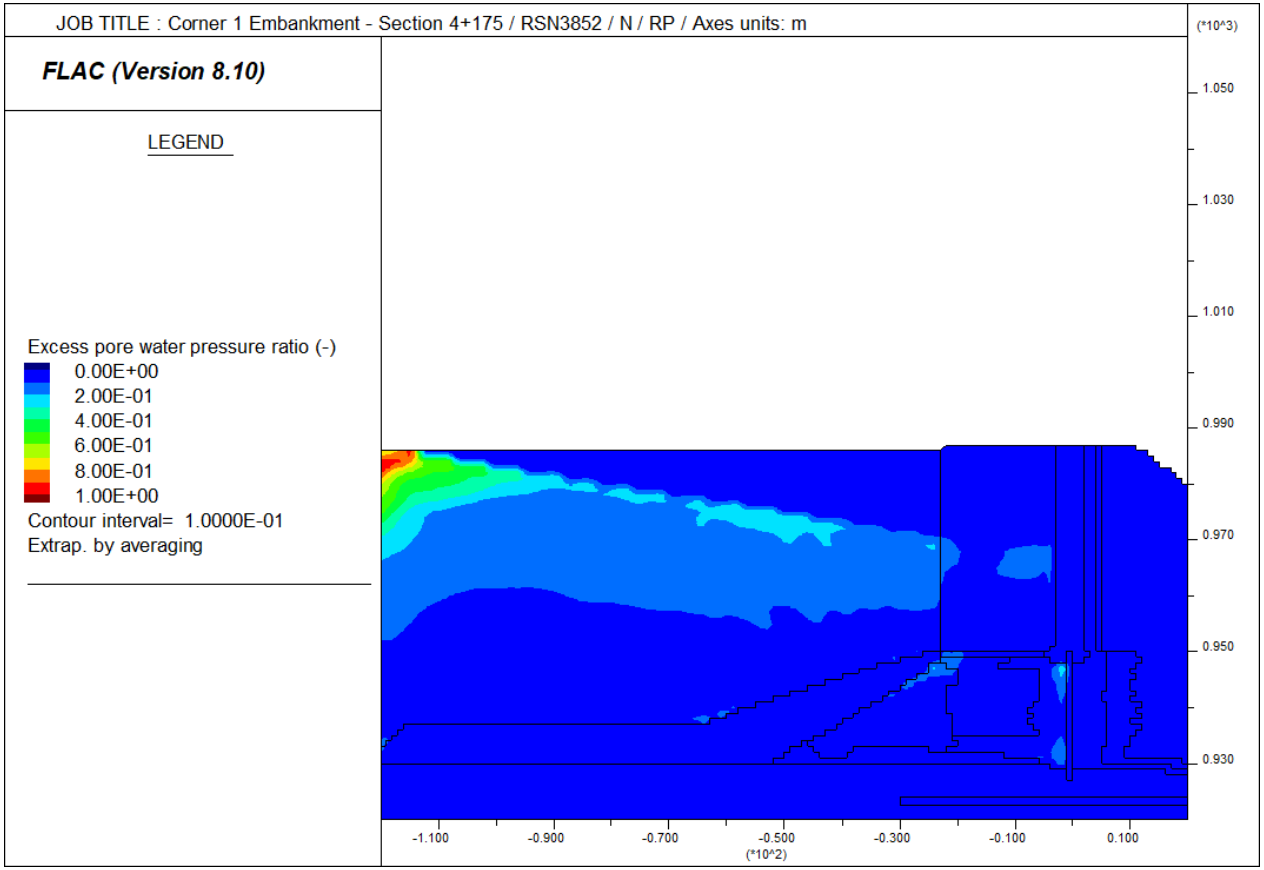

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

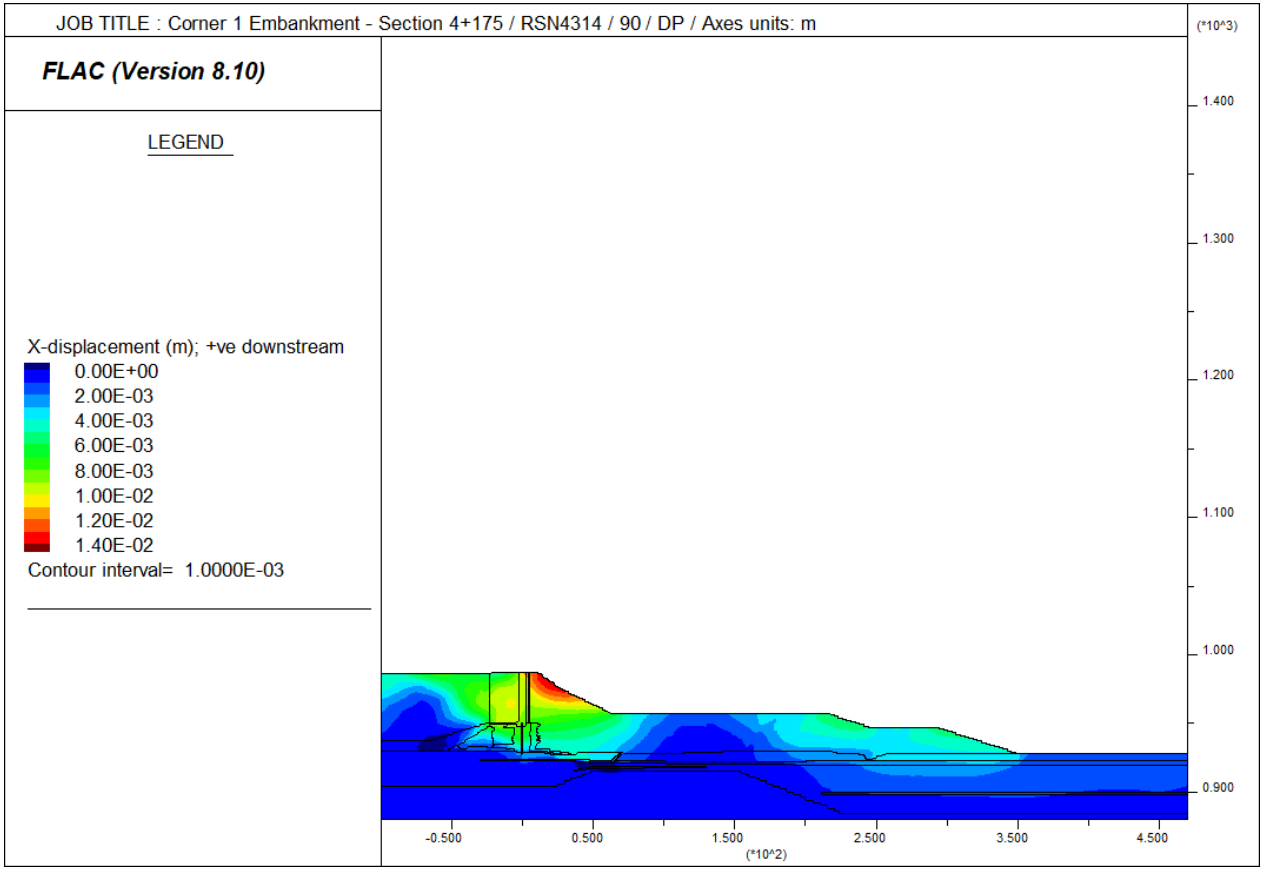

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.00E-02
-8.00E-03
-6.00E-03
-4.00E-03
-2.00E-03
0.00E+00
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

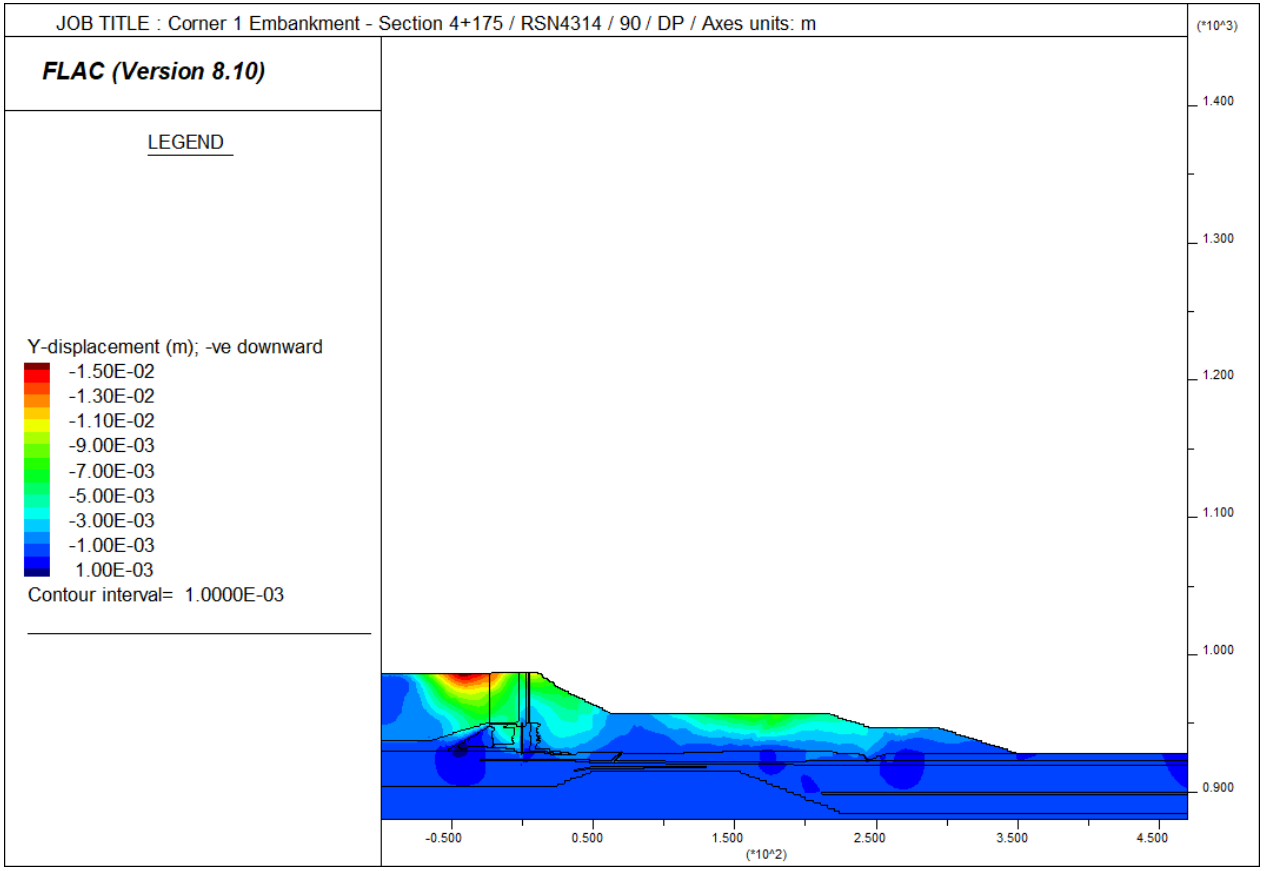

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
3.00E-04
6.00E-04
9.00E-04
1.20E-03
1.50E-03
1.80E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

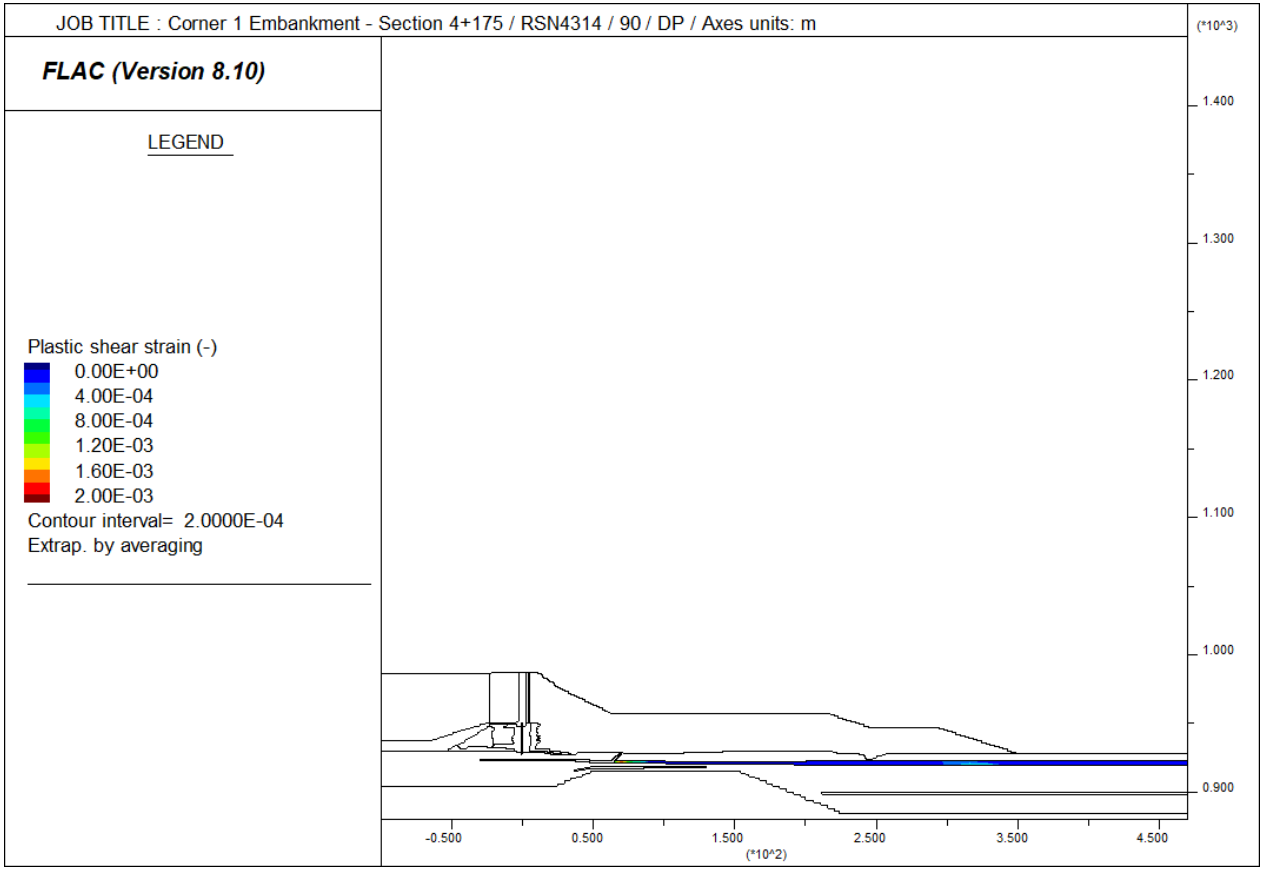

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
3.00E-04
6.00E-04
9.00E-04
1.20E-03
1.50E-03
1.80E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

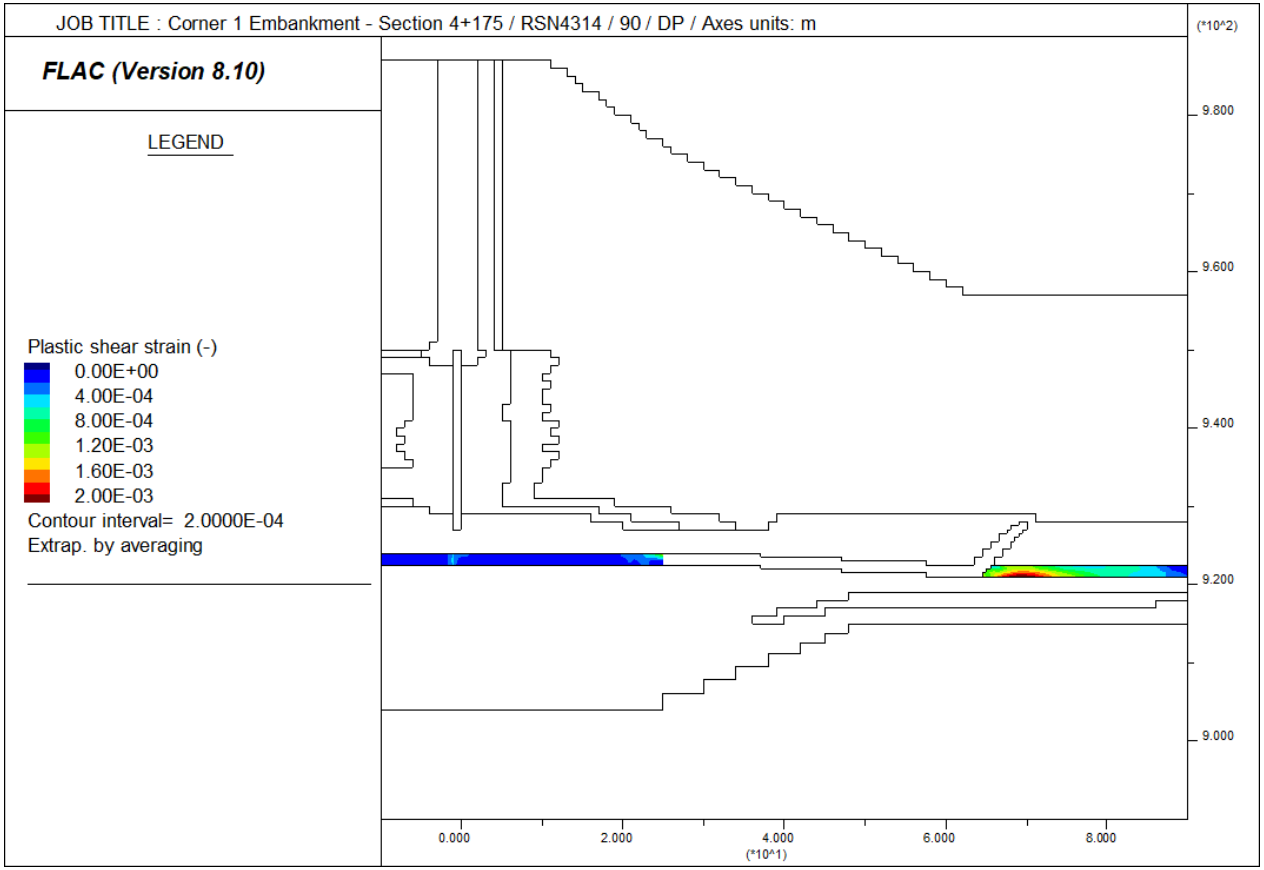

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-05
1.00E-04
1.50E-04
2.00E-04
2.50E-04
3.00E-04
Contour interval= 2.5000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

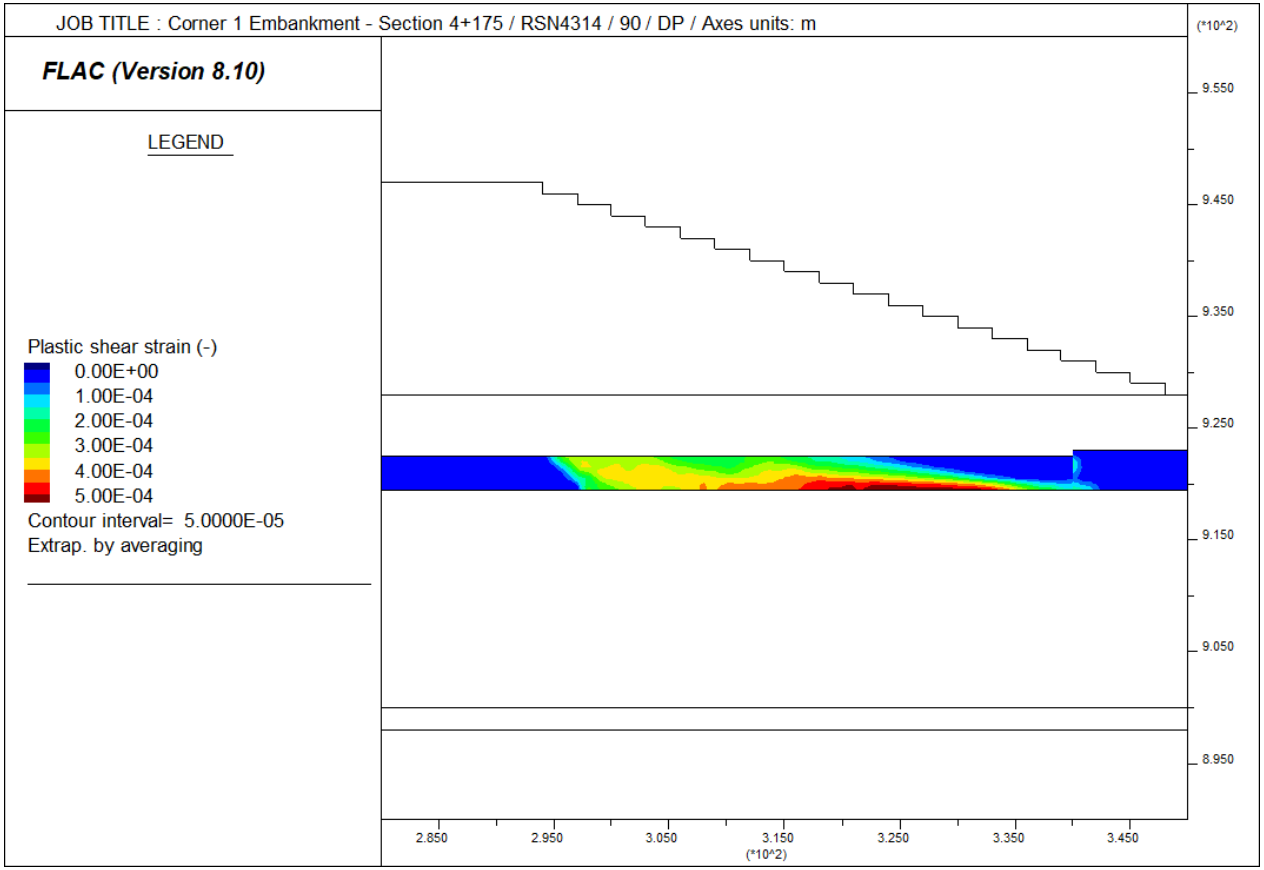

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN3852 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

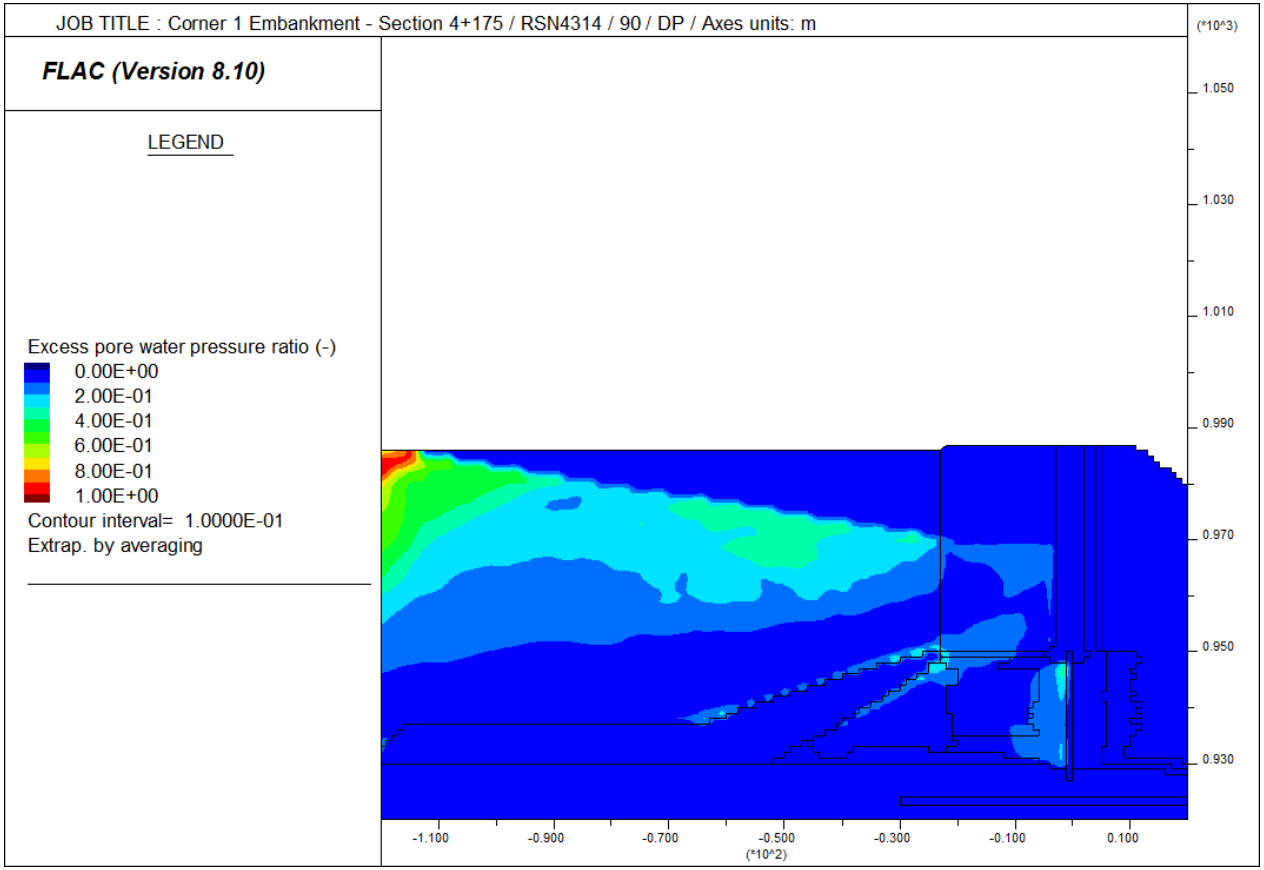

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

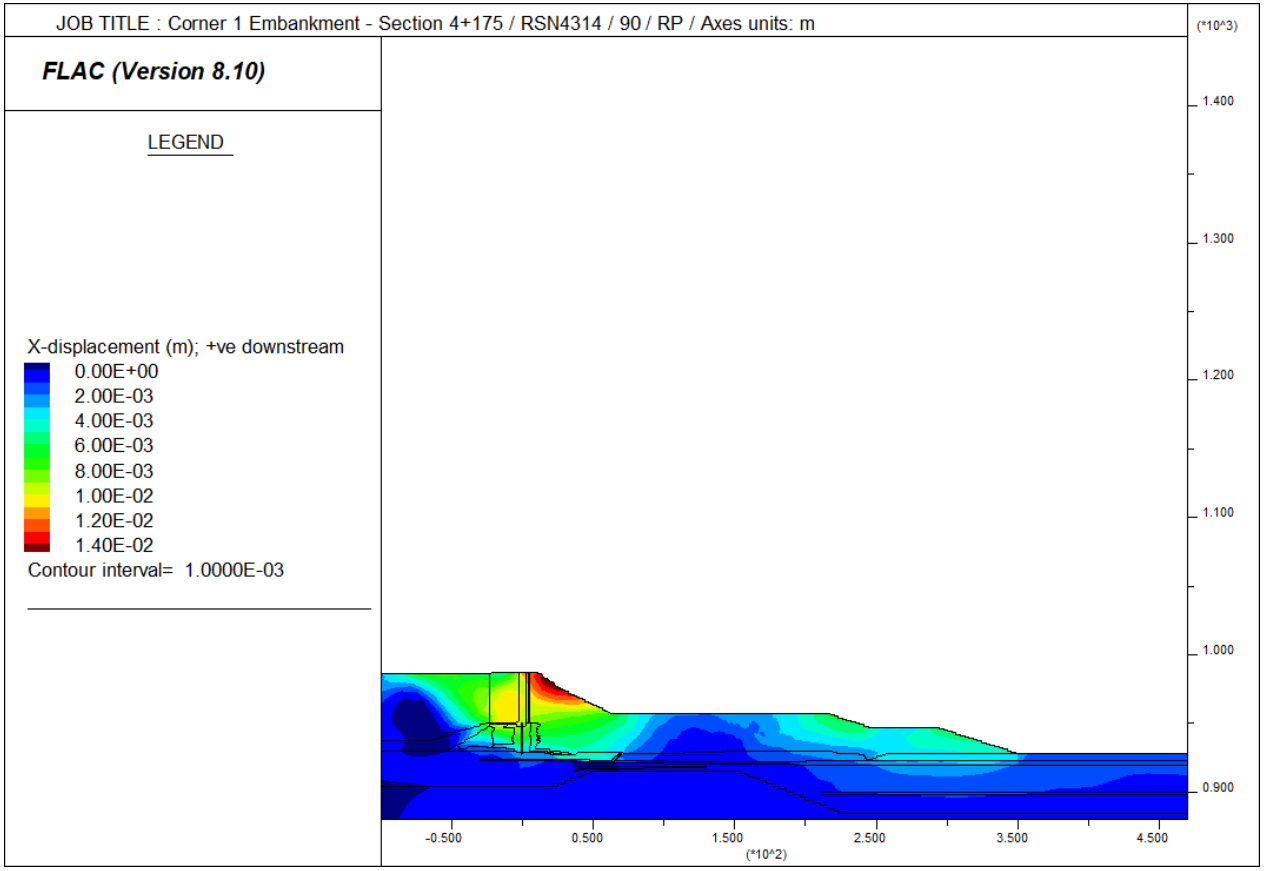

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.50E-02
-1.30E-02
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

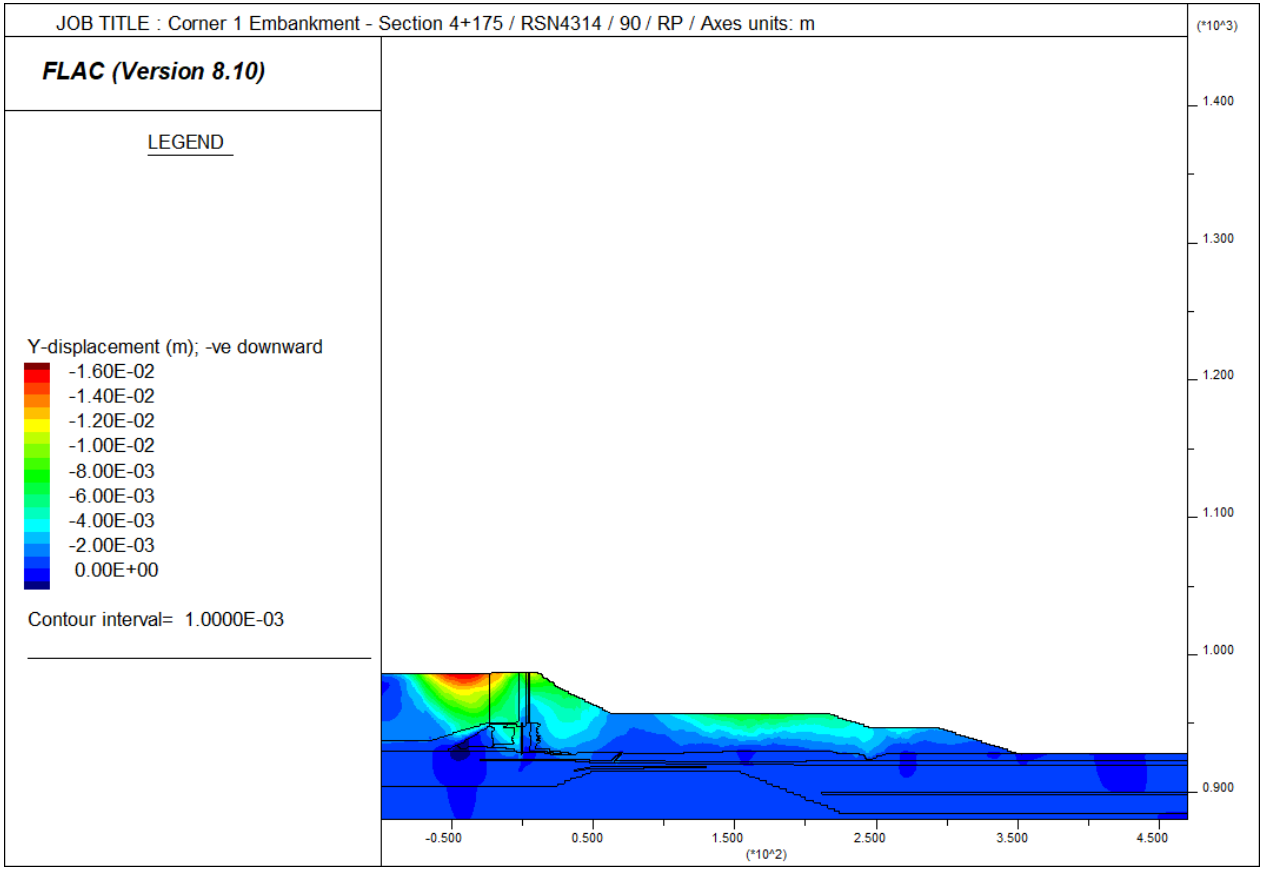

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-04
8.00E-04
1.20E-03
1.60E-03
2.00E-03
Contour interval= 2.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

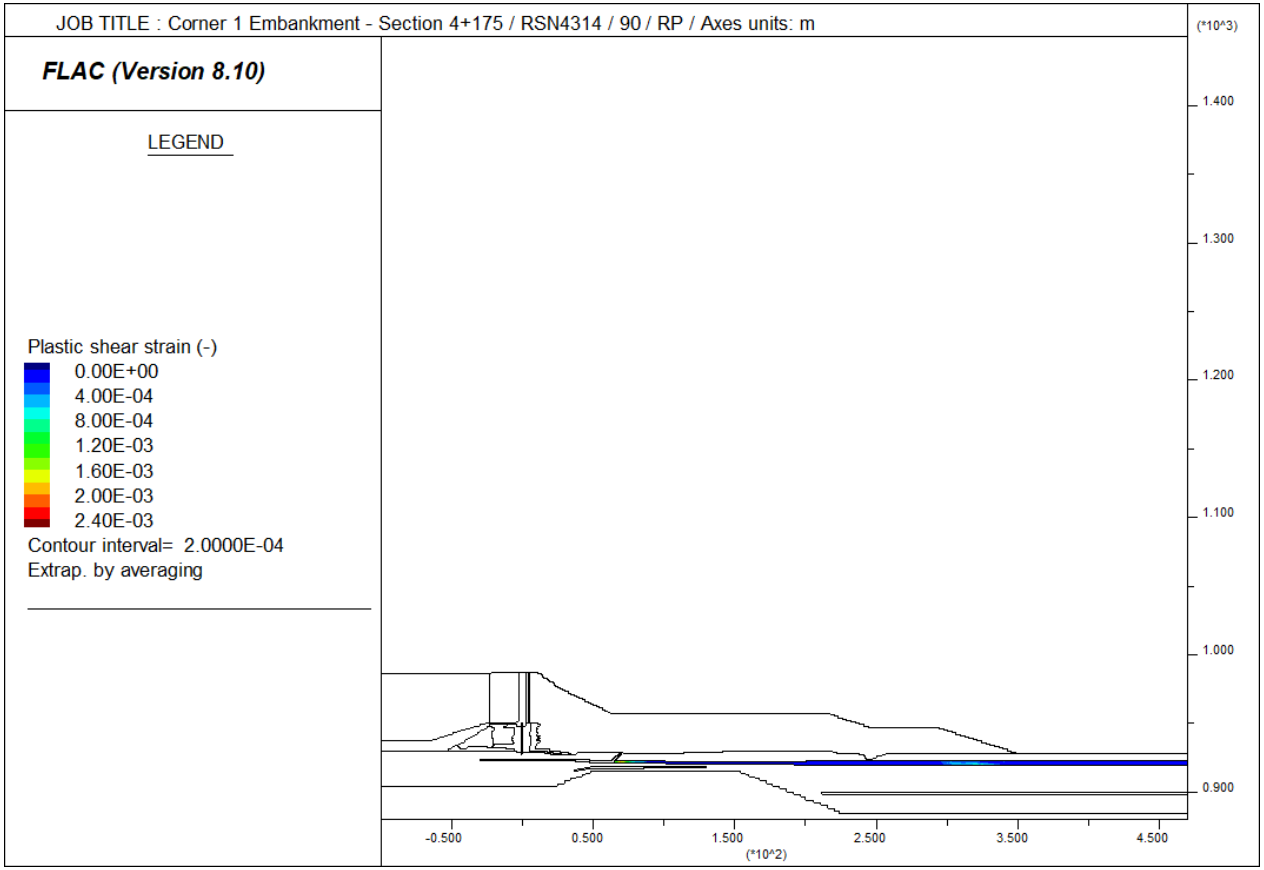

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-04
8.00E-04
1.20E-03
1.60E-03
2.00E-03
Contour interval= 2.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

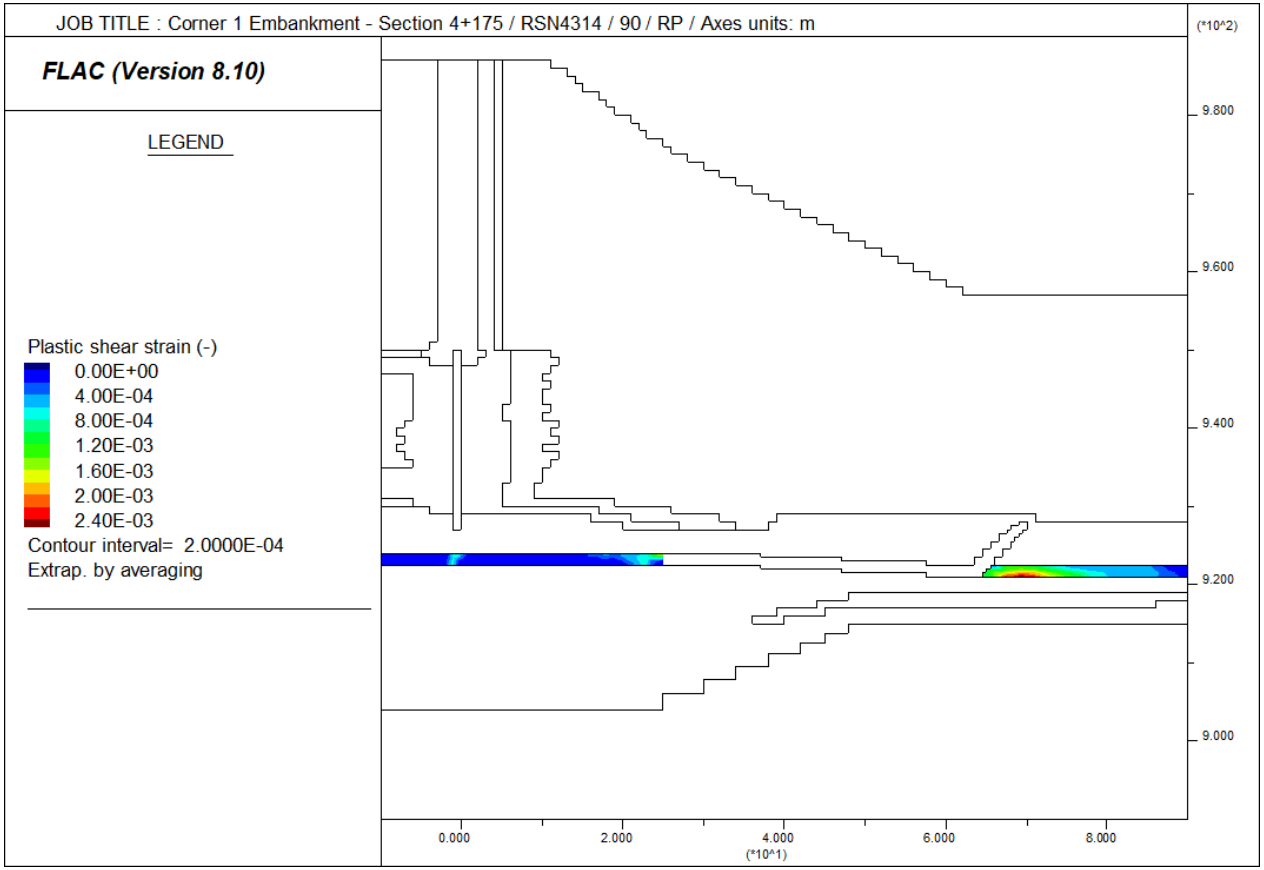

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

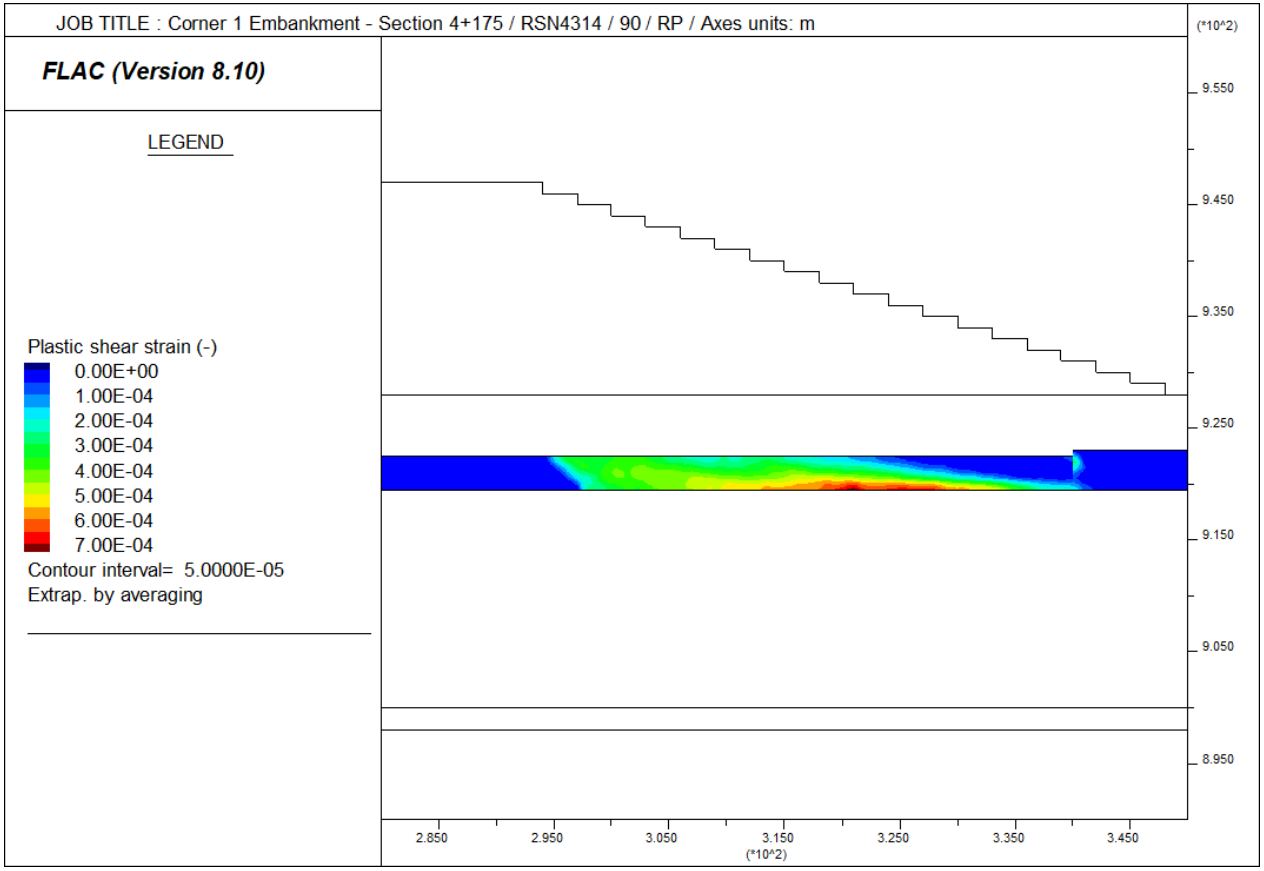

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 90 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

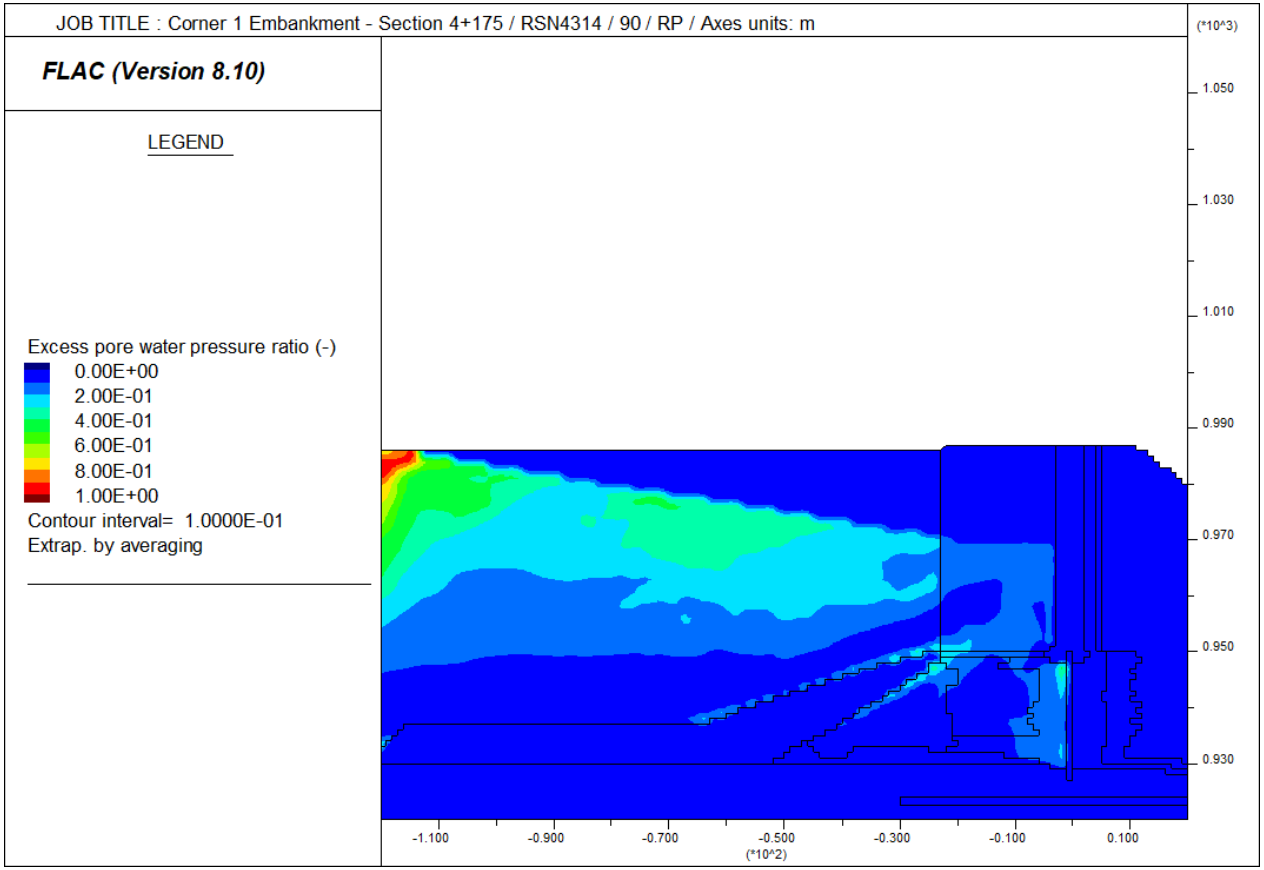

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

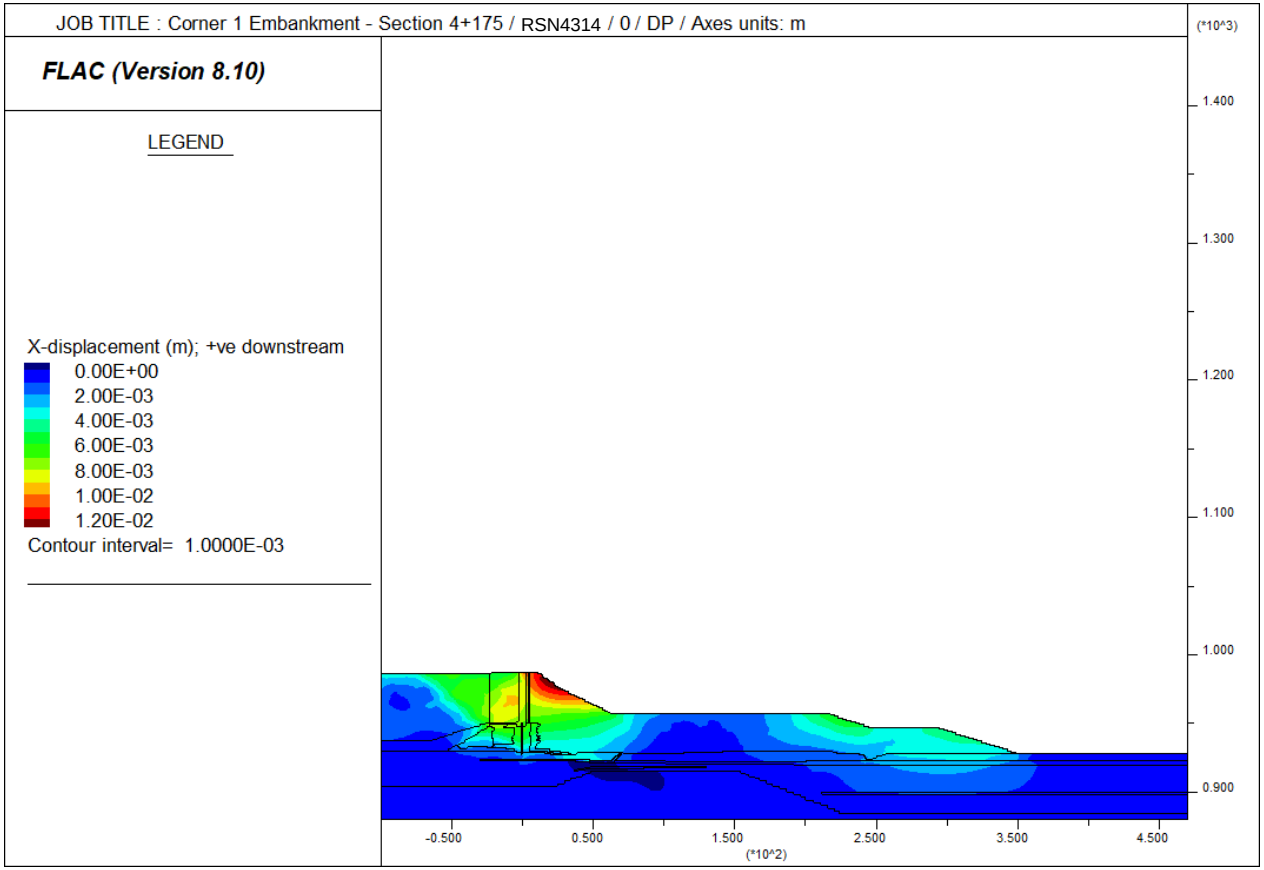

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.60E-02
-1.40E-02
-1.20E-02
-1.00E-02
-8.00E-03
-6.00E-03
-4.00E-03
-2.00E-03
0.00E+00
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

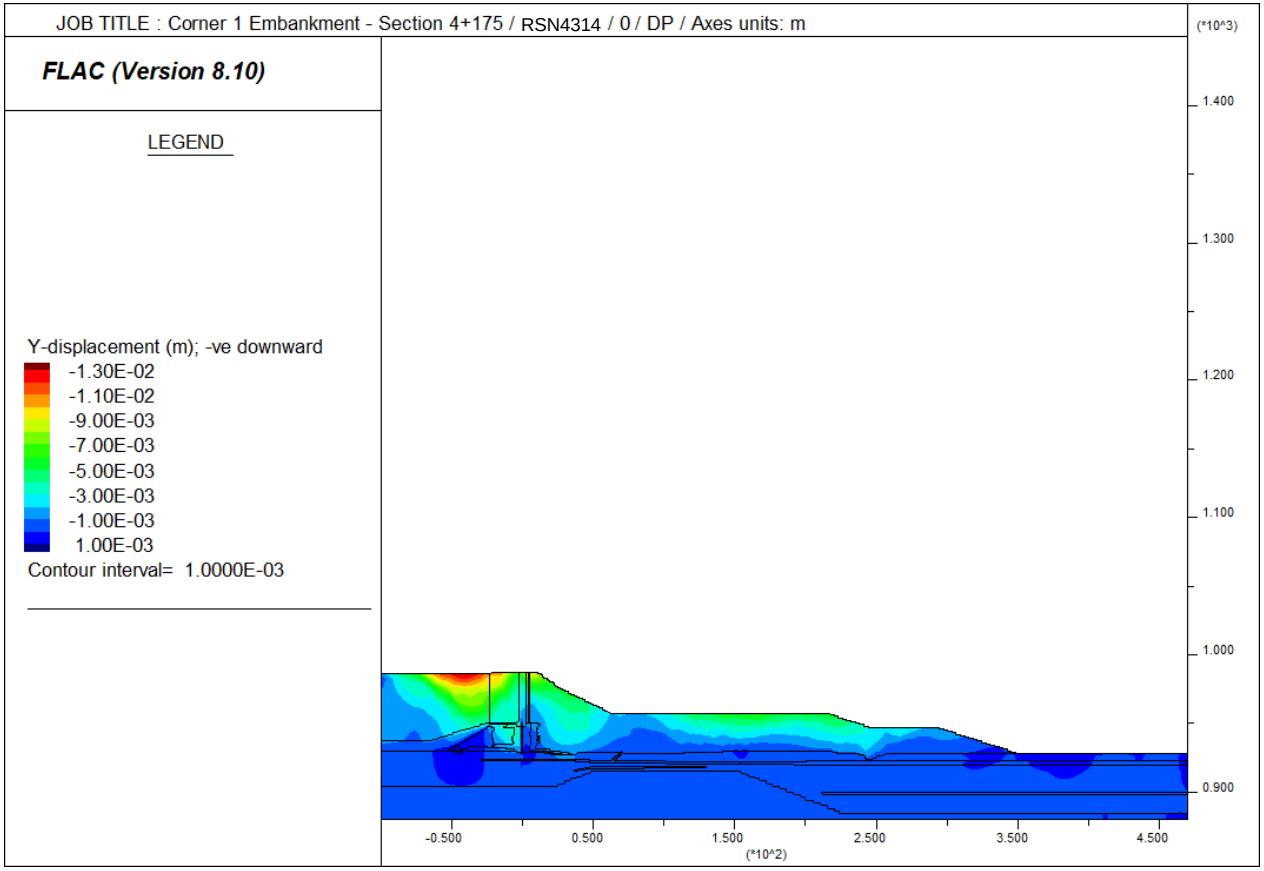

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-04
8.00E-04
1.20E-03
1.60E-03
2.00E-03
2.40E-03
Contour interval= 2.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

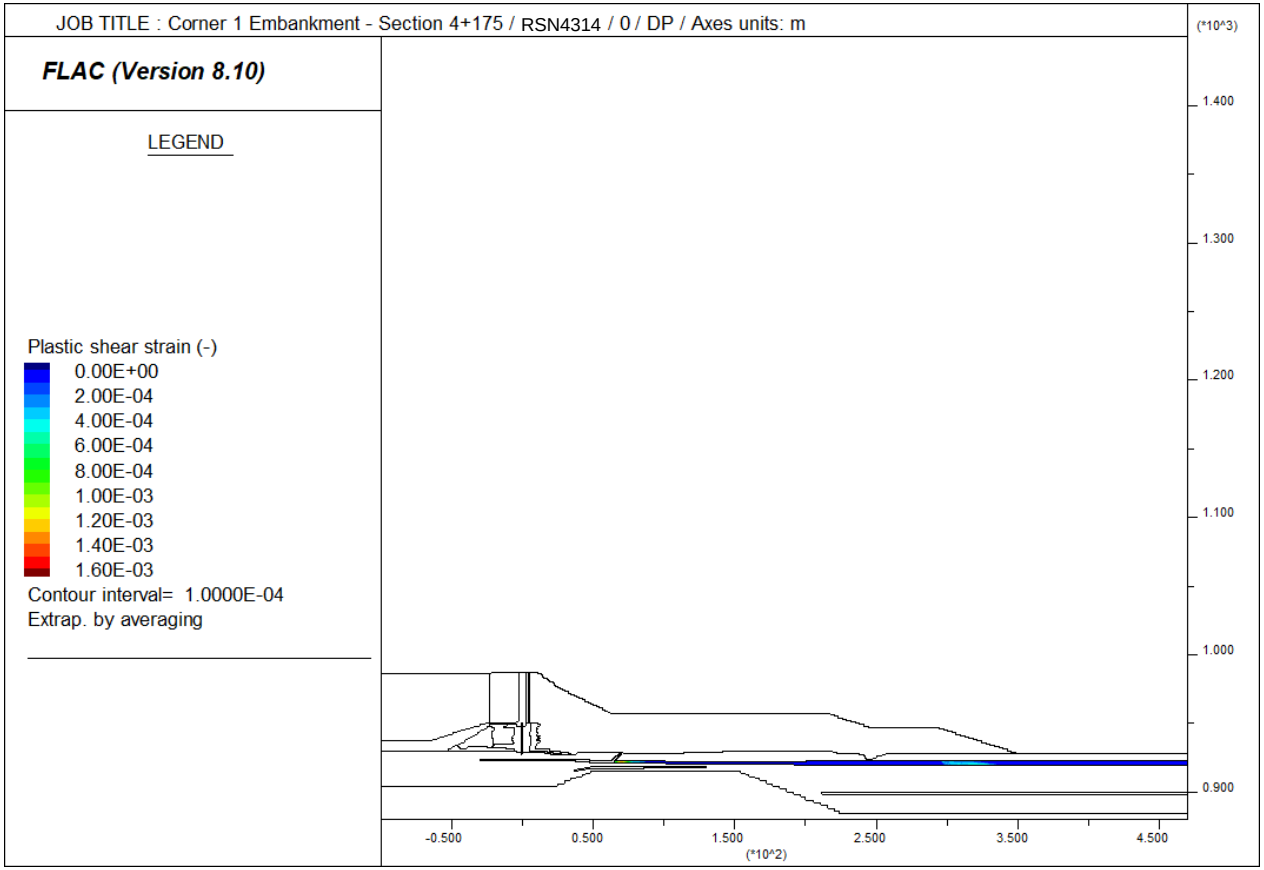

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-04
8.00E-04
1.20E-03
1.60E-03
2.00E-03
2.40E-03
Contour interval= 2.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

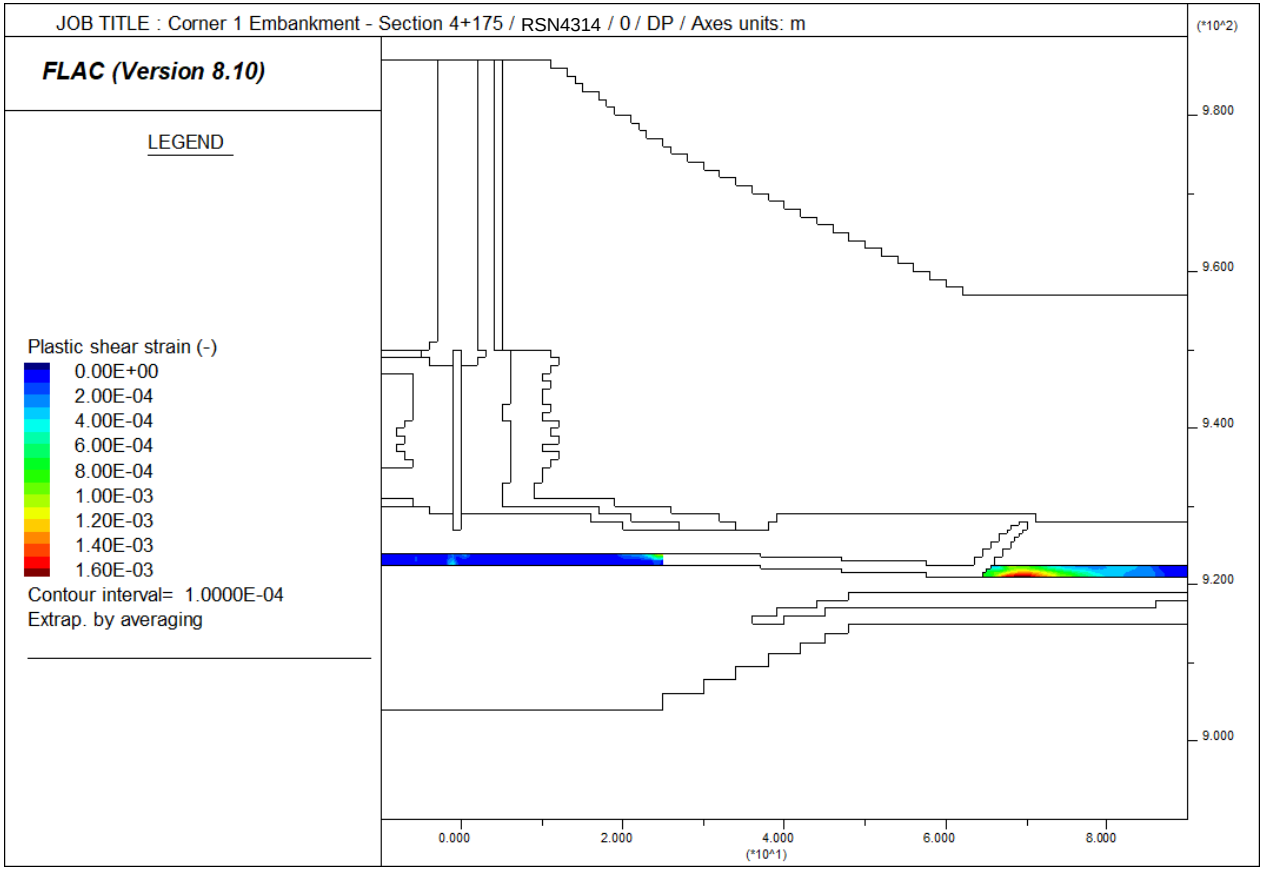

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
7.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

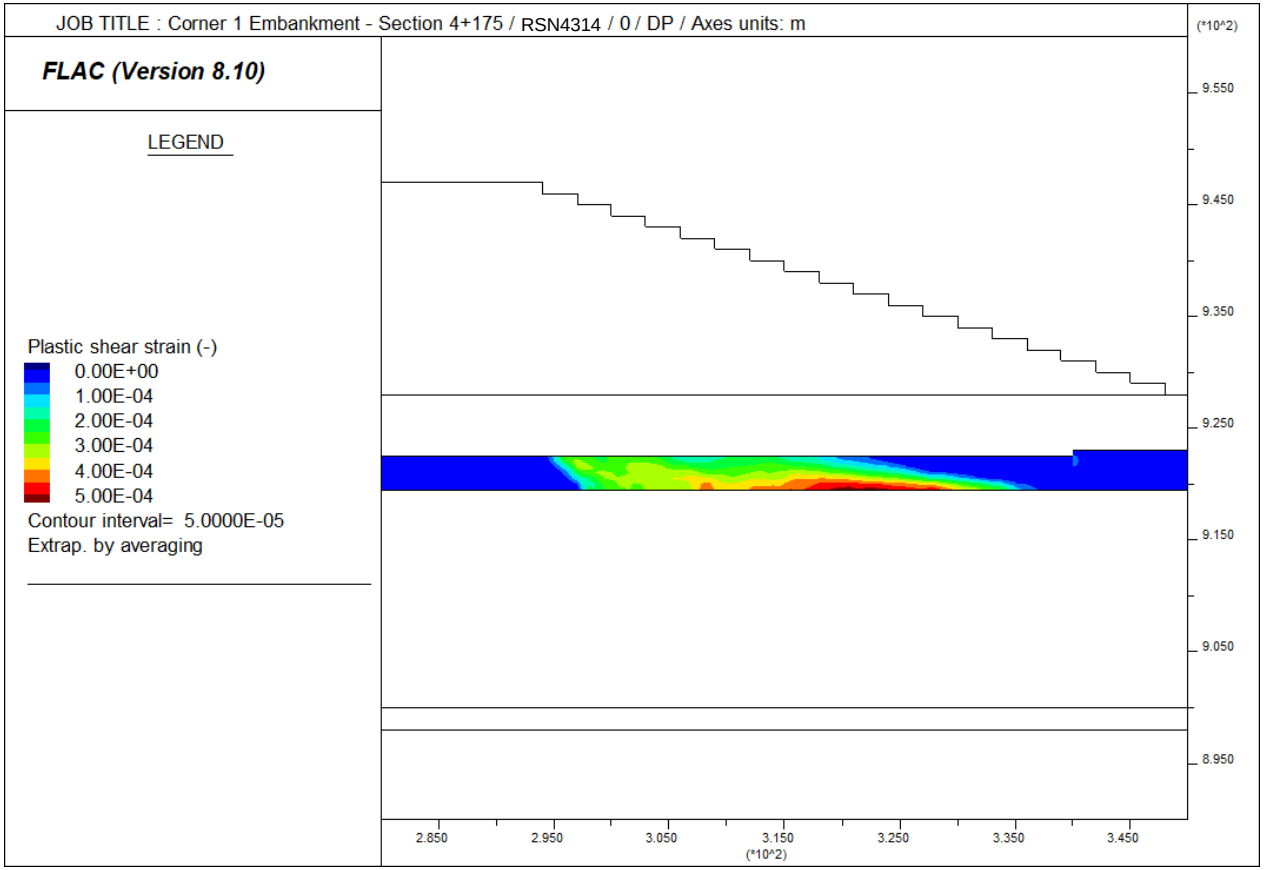

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 90 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

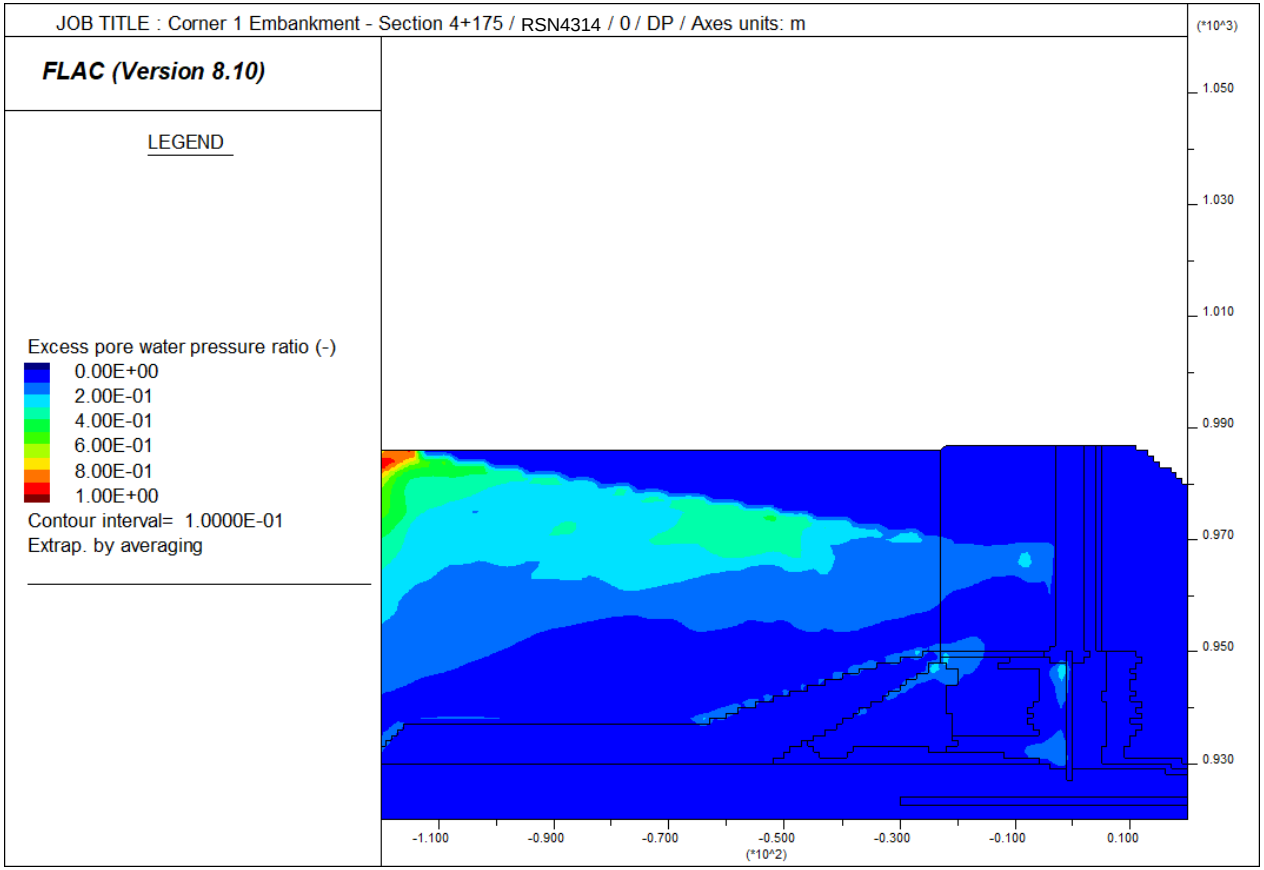

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

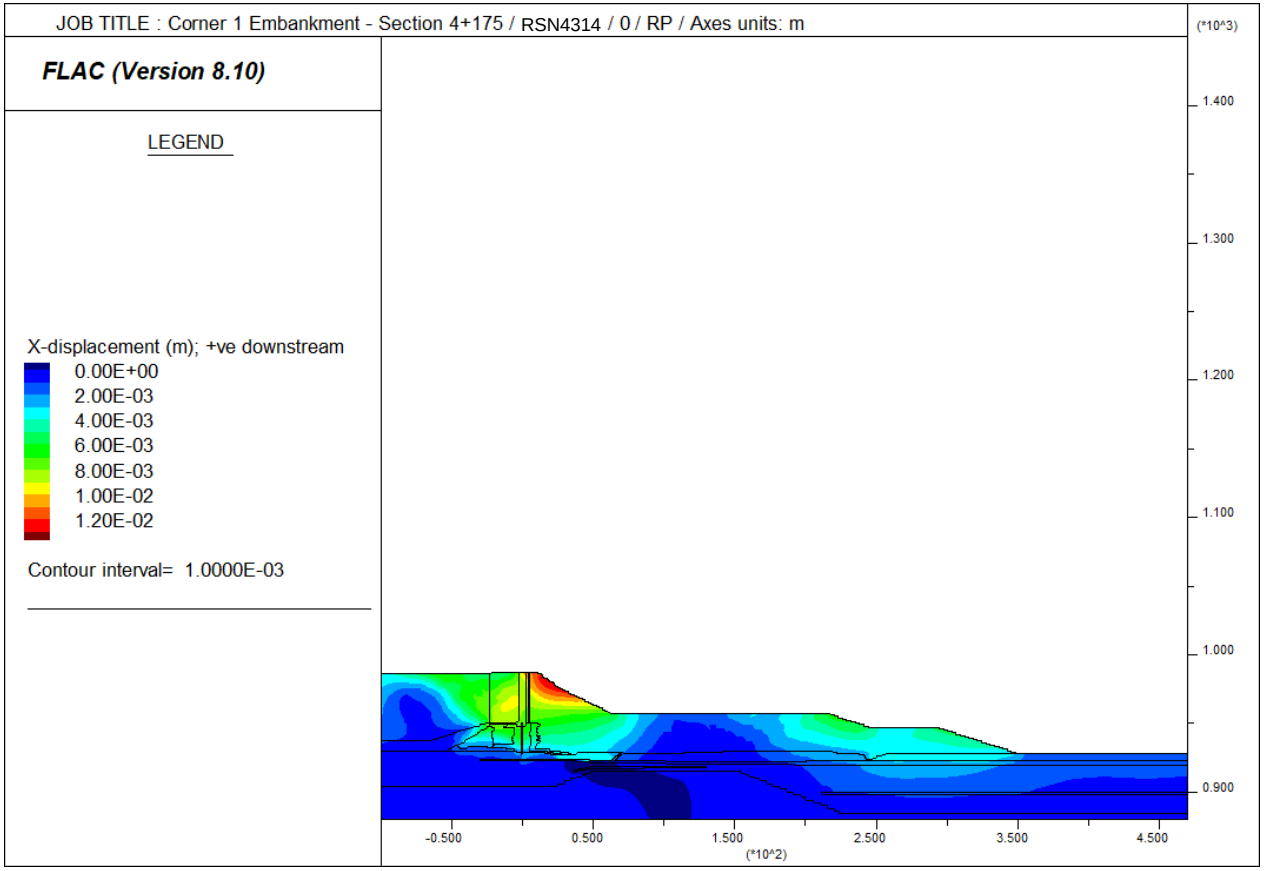

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.30E-02
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

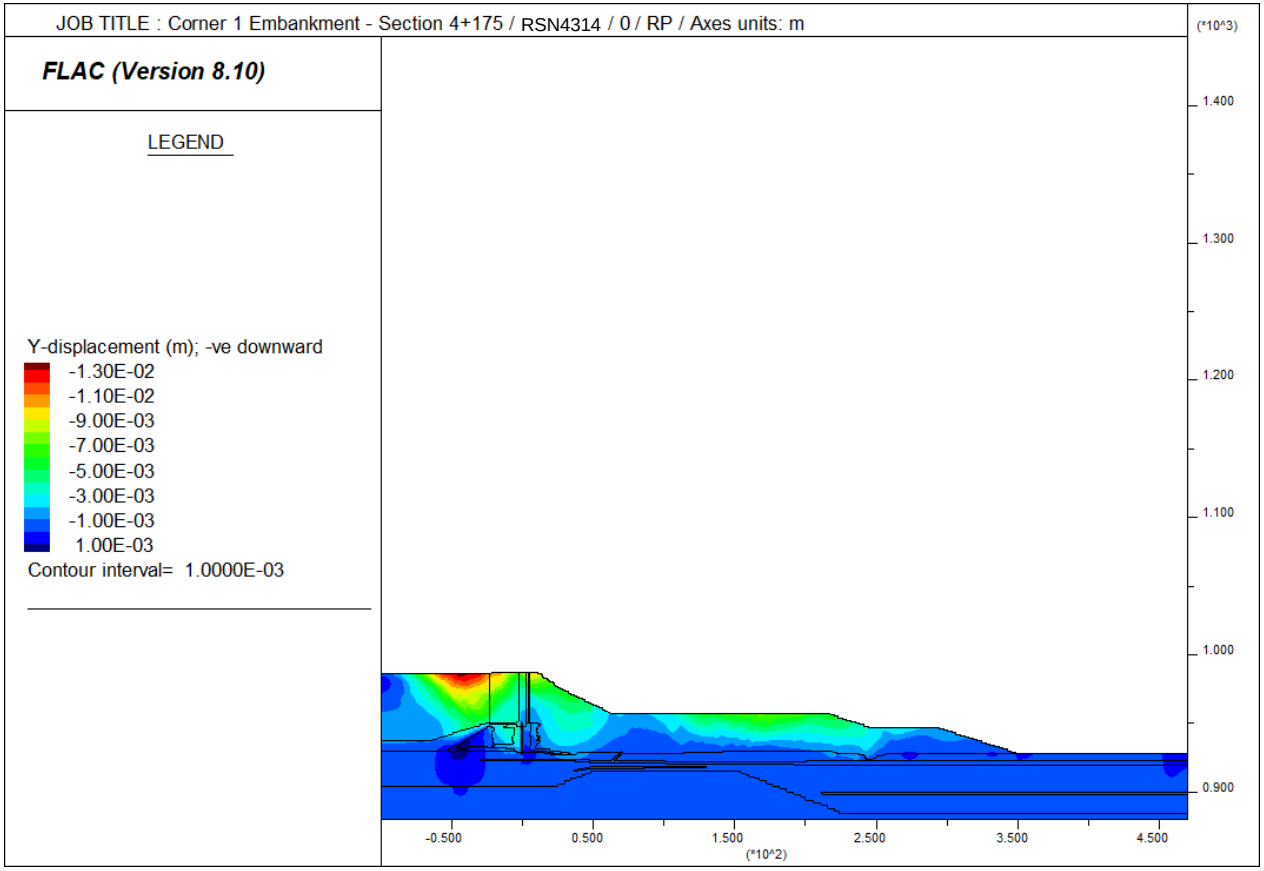

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

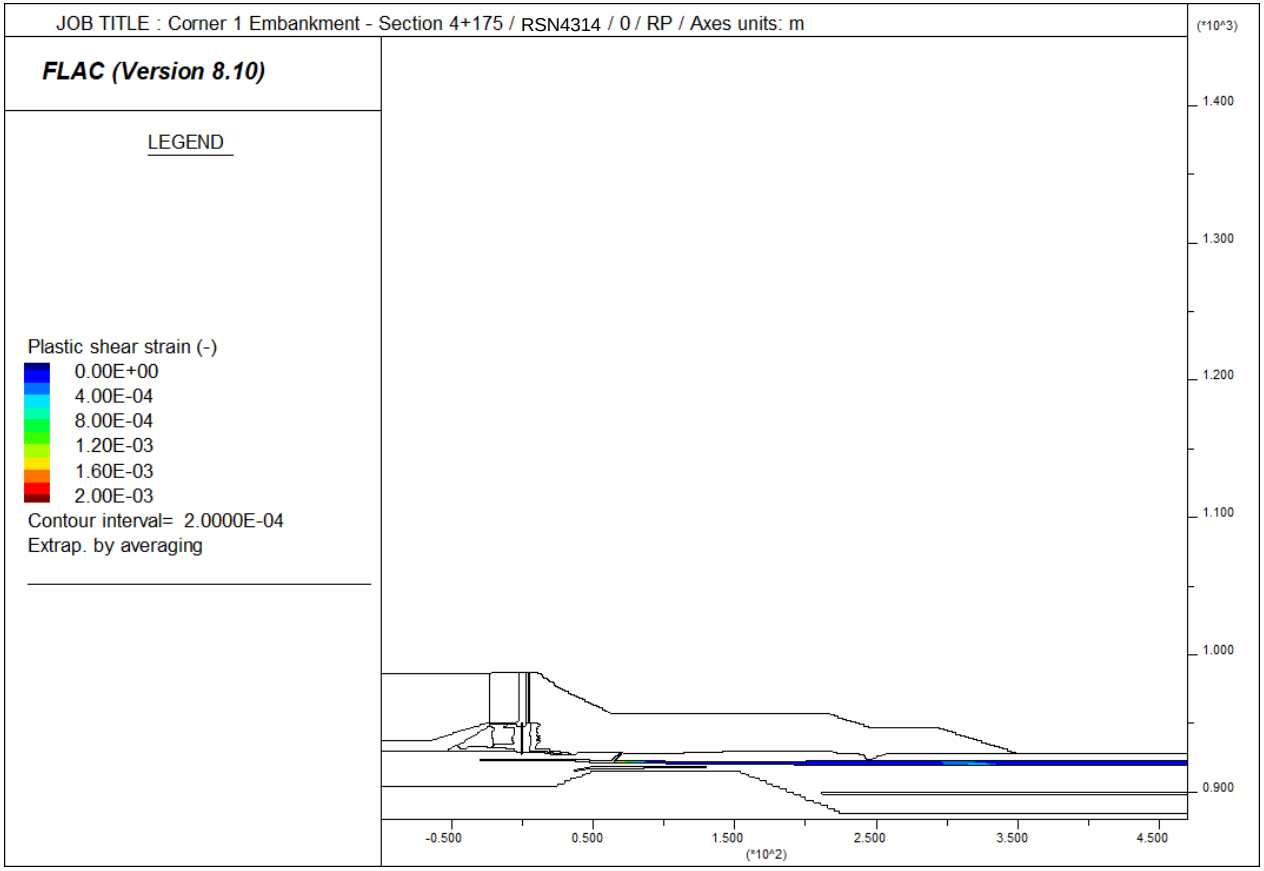

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

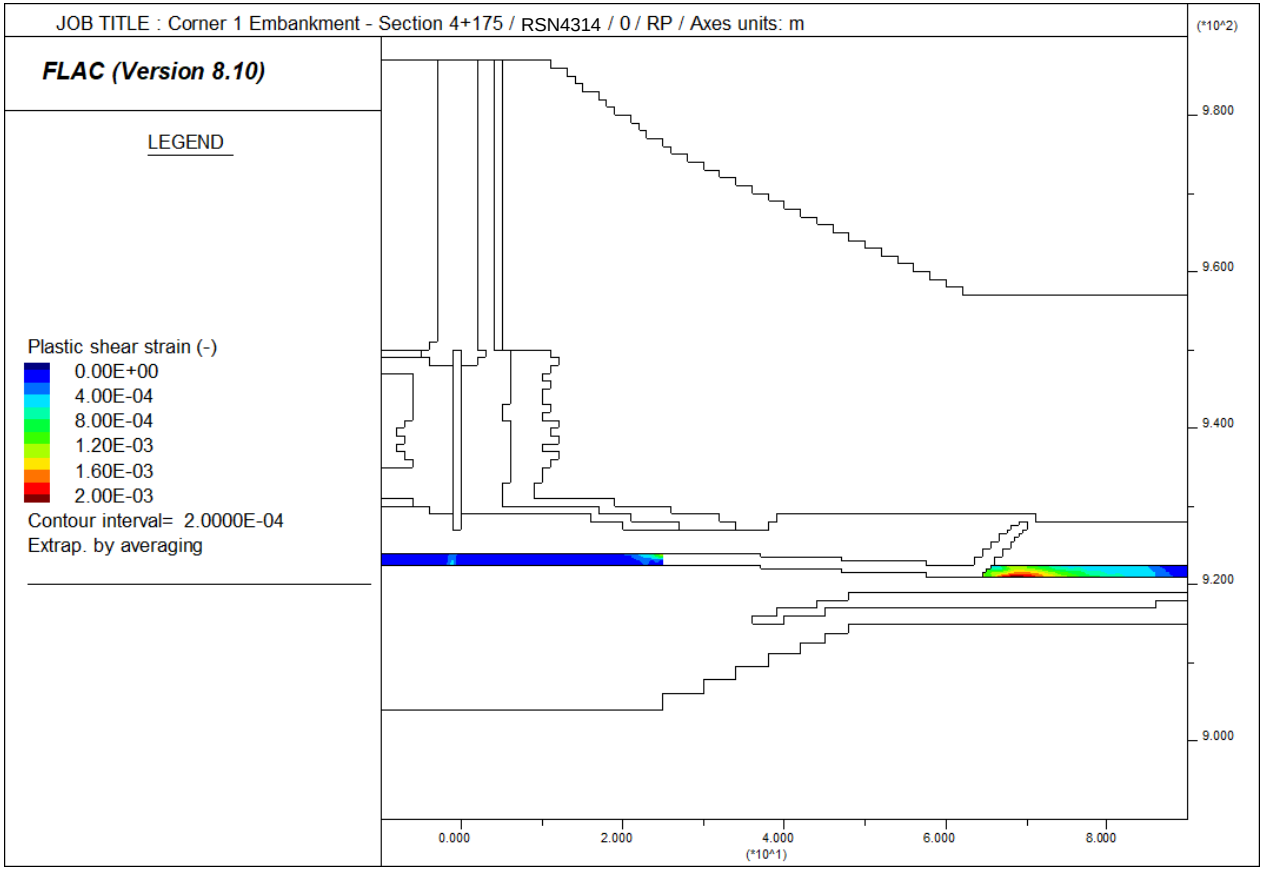

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

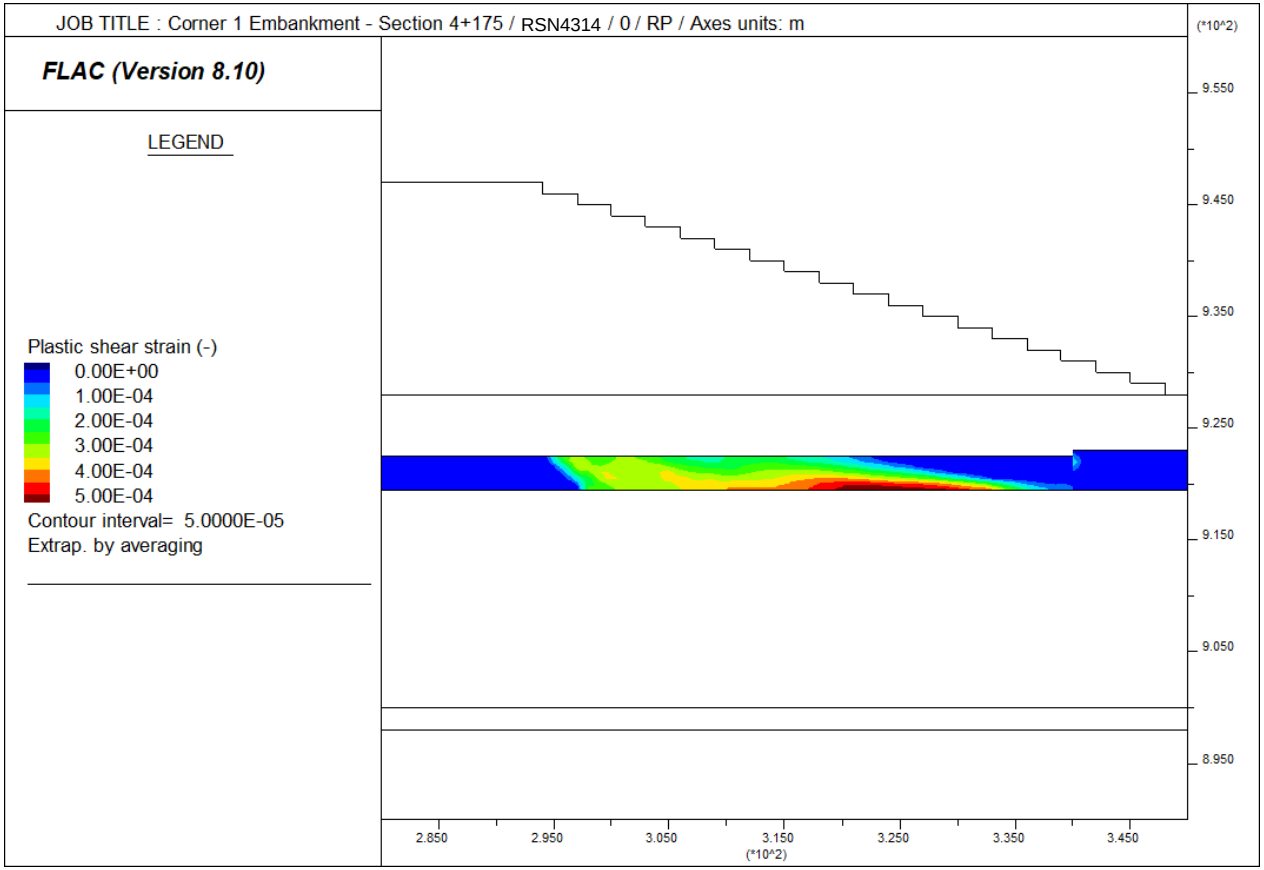

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 0 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

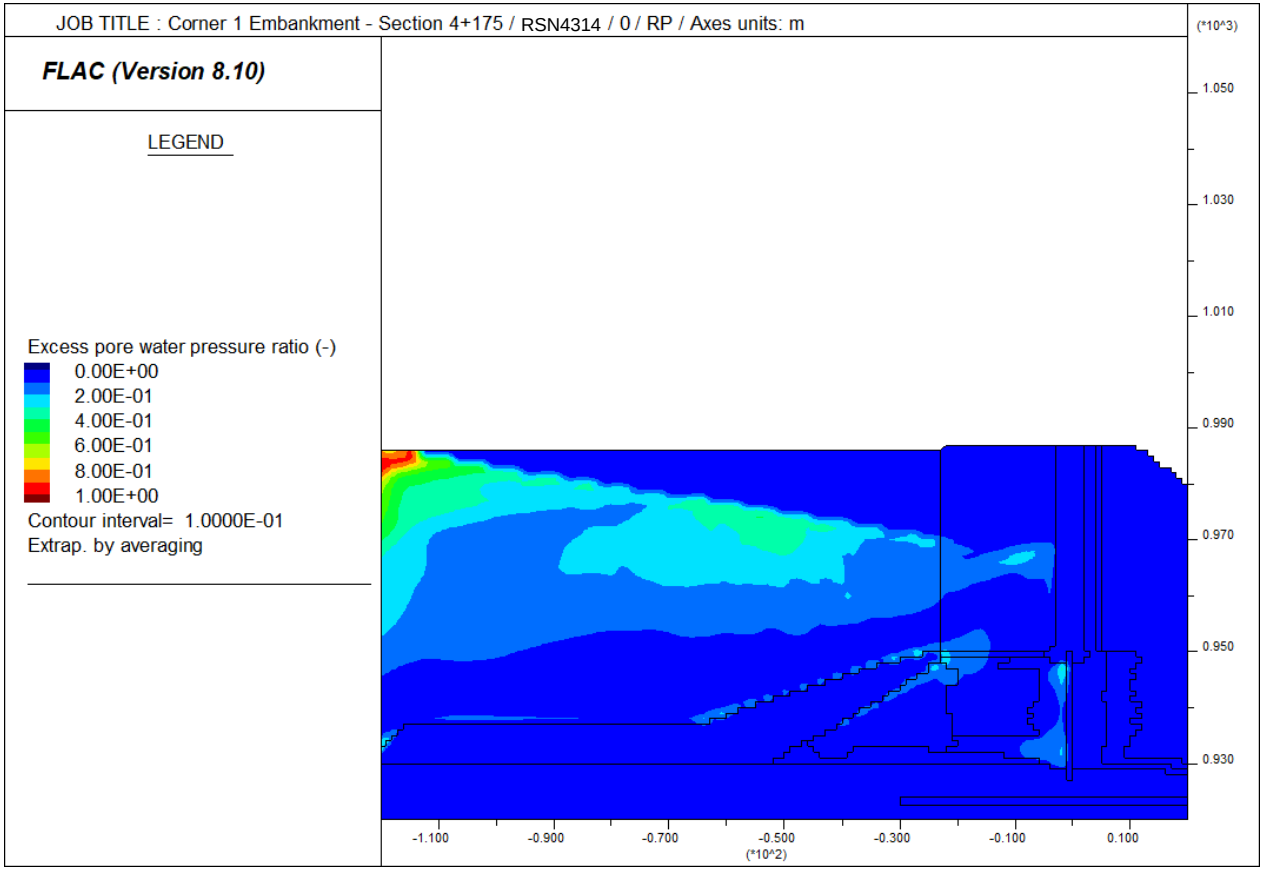

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

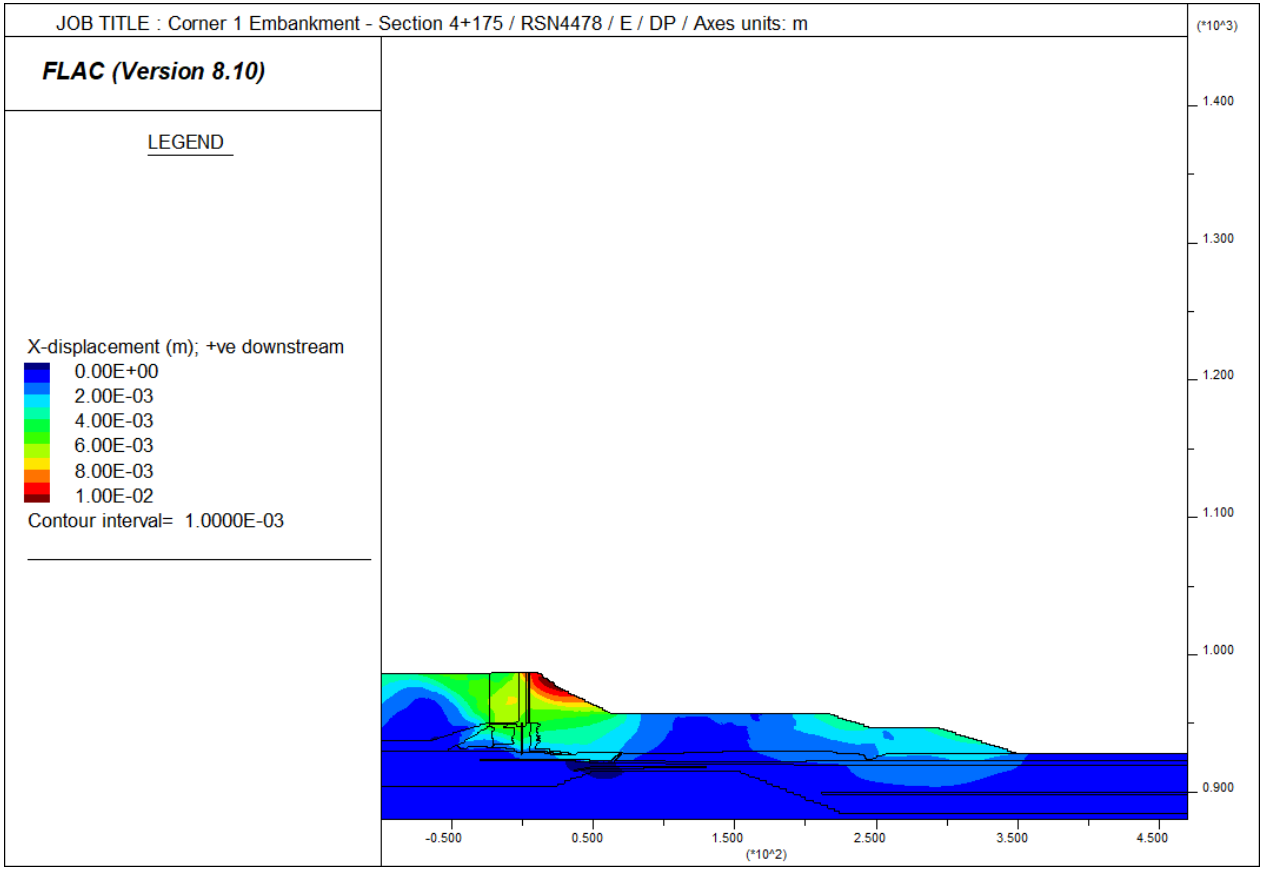

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.30E-02
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

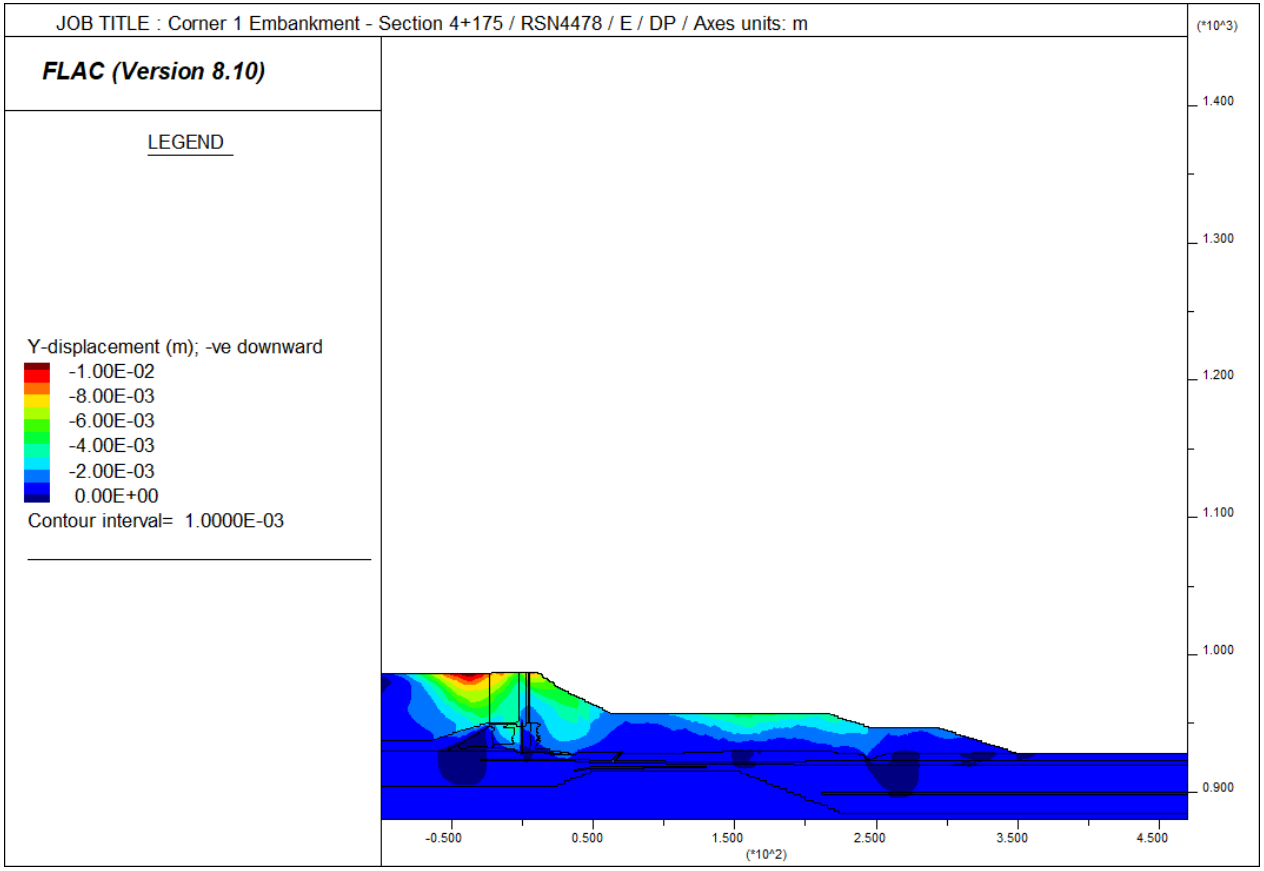

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-04
8.00E-04
1.20E-03
1.60E-03
2.00E-03
Contour interval= 2.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

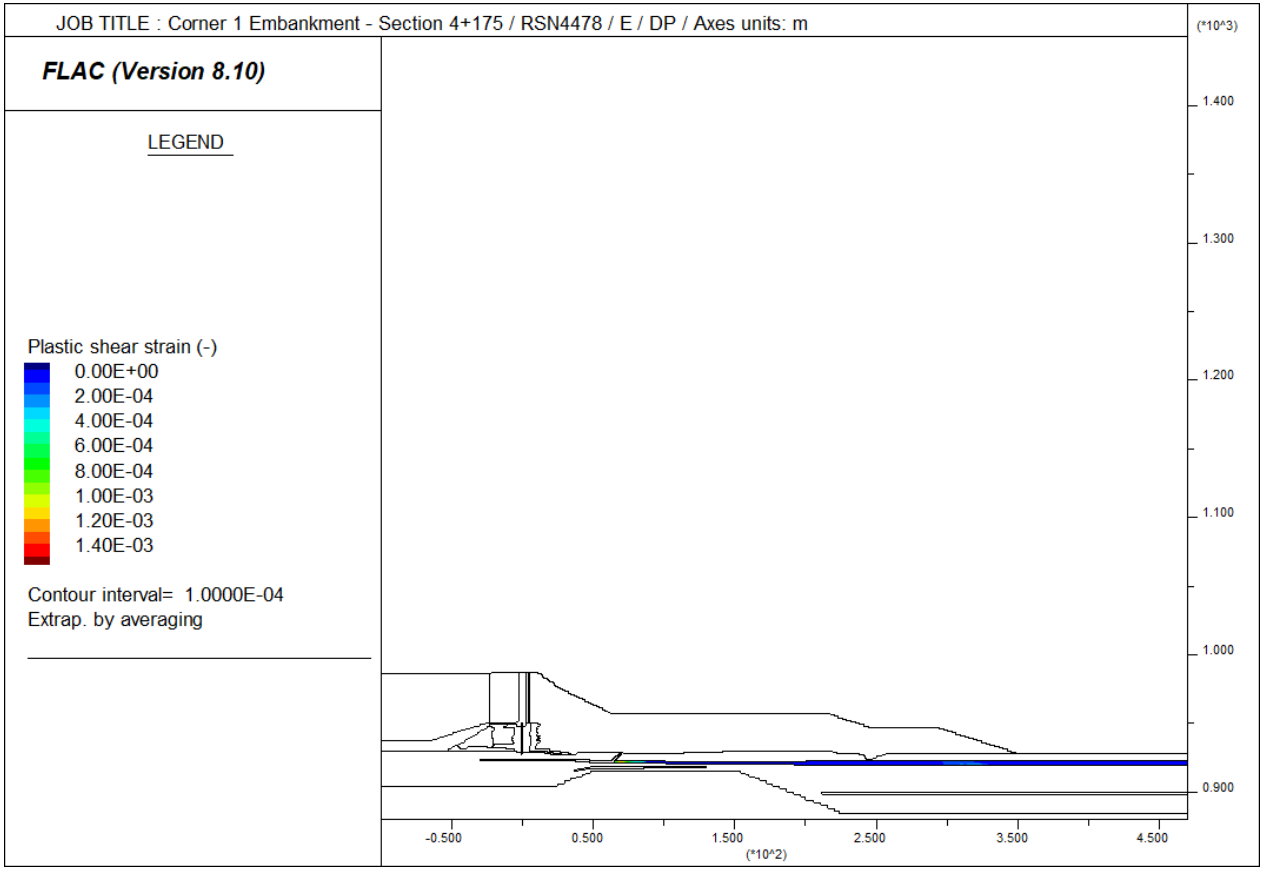

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-04
8.00E-04
1.20E-03
1.60E-03
2.00E-03
Contour interval= 2.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

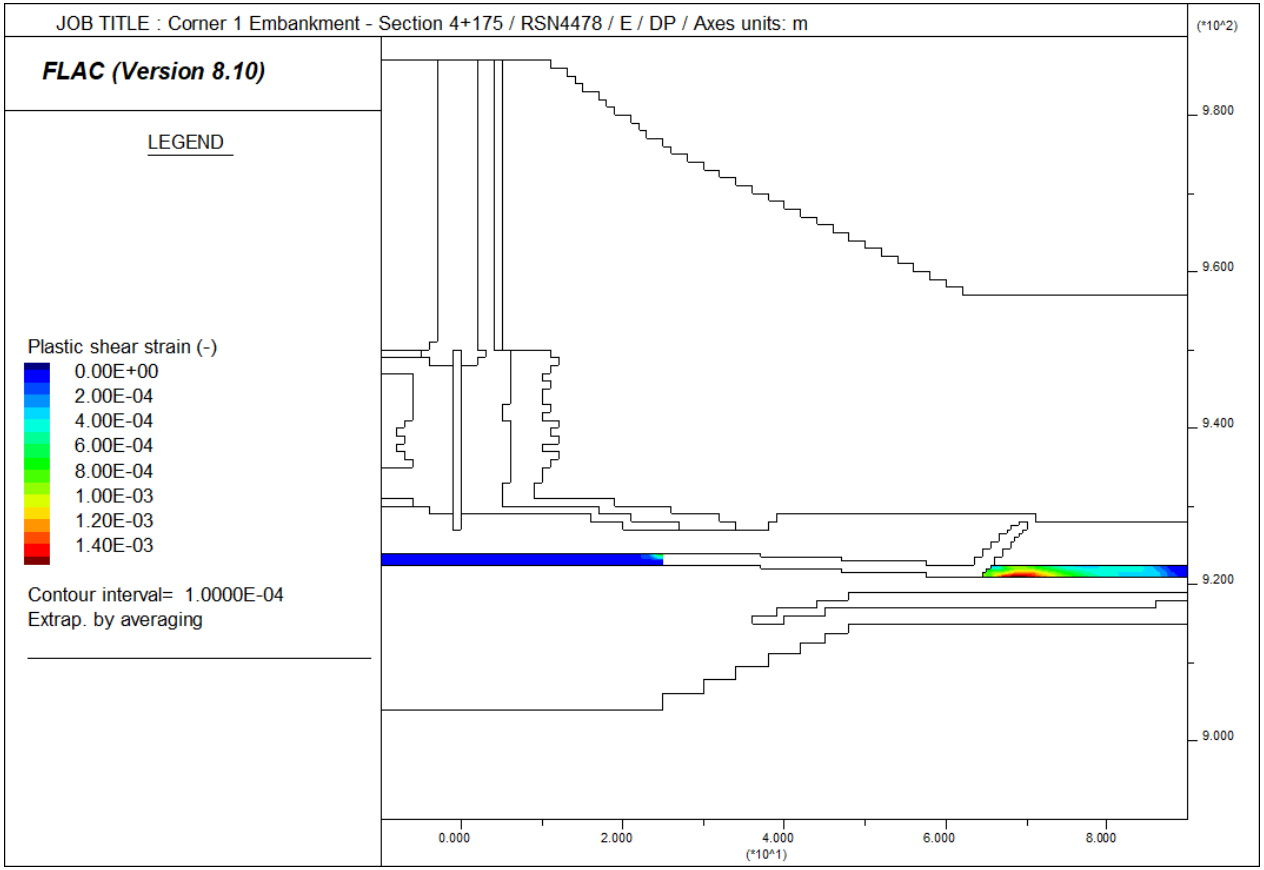

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

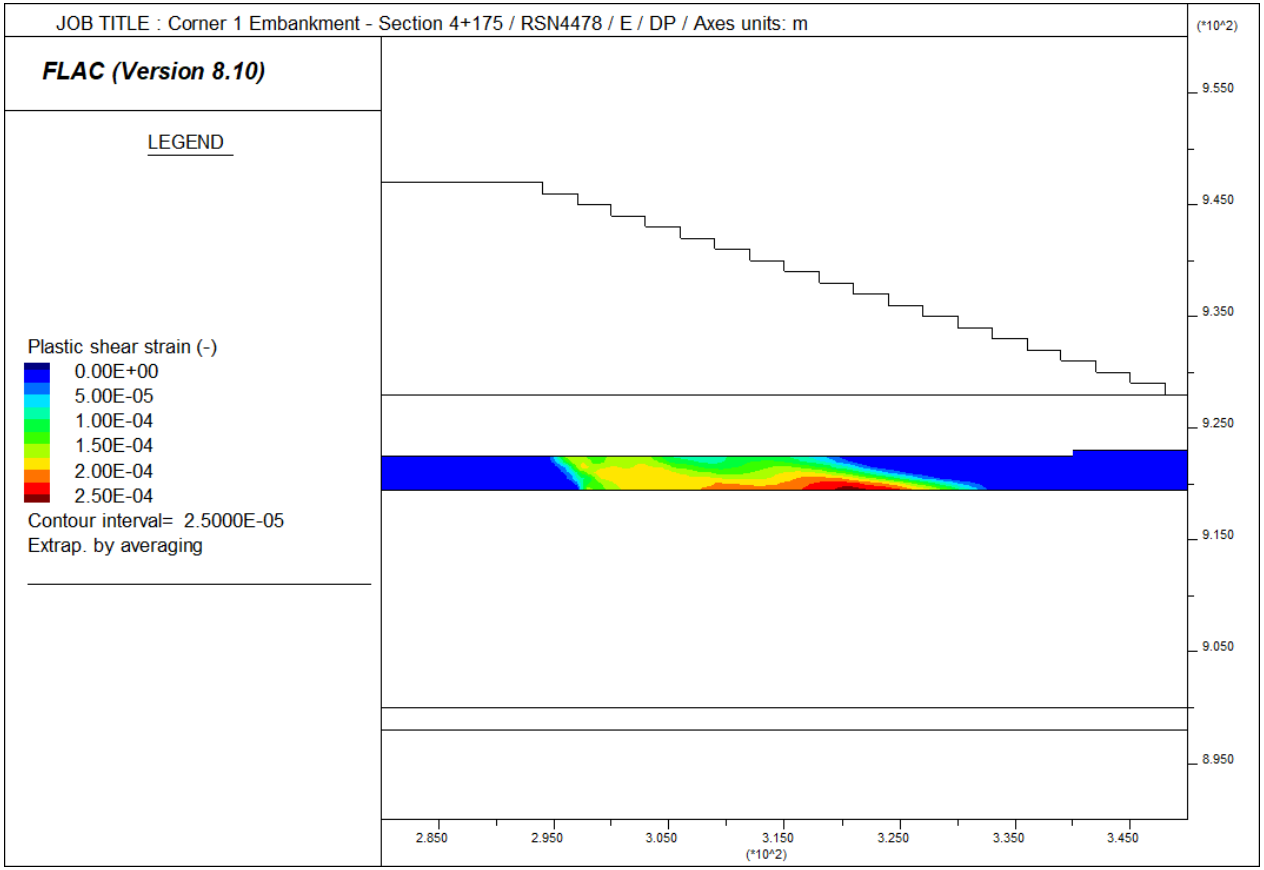

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4314 / 0 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

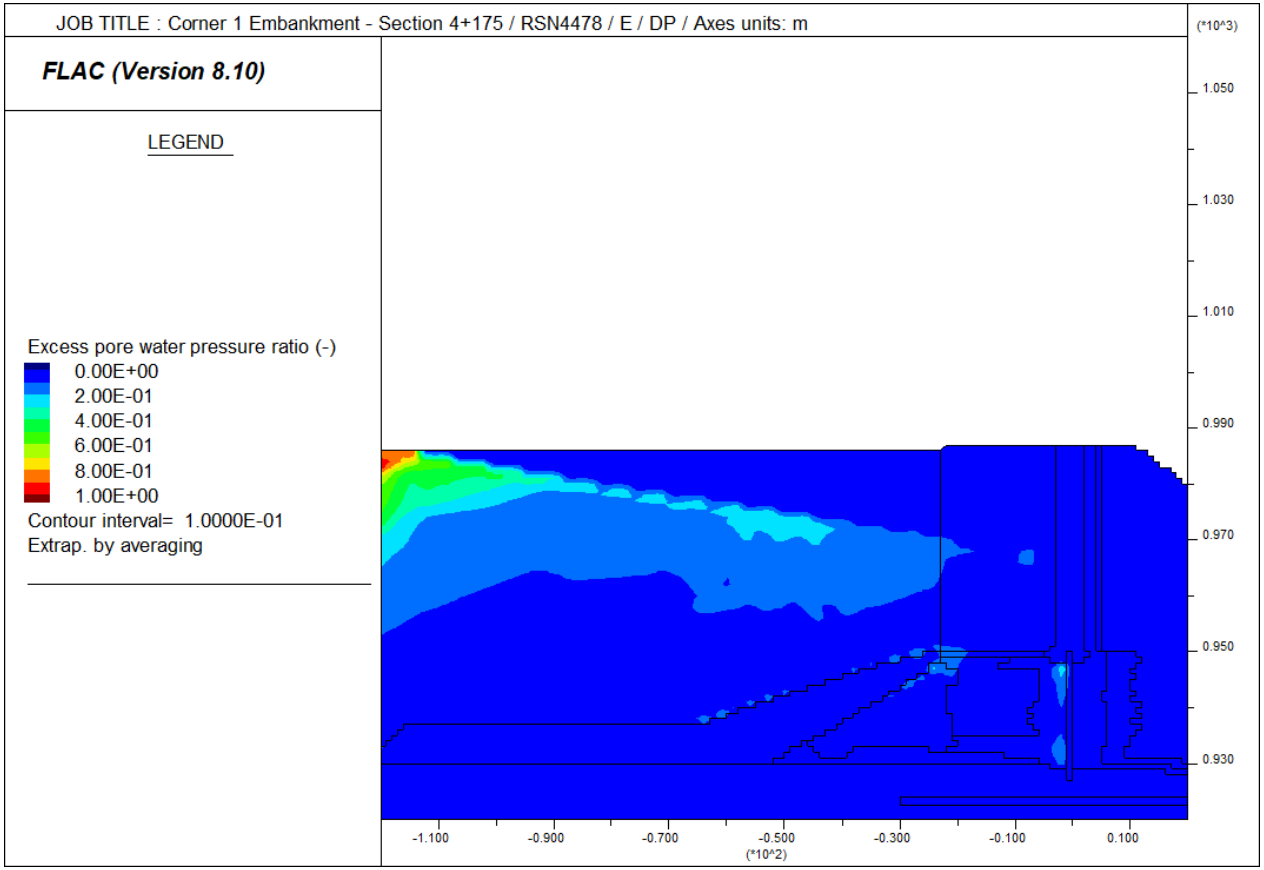

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

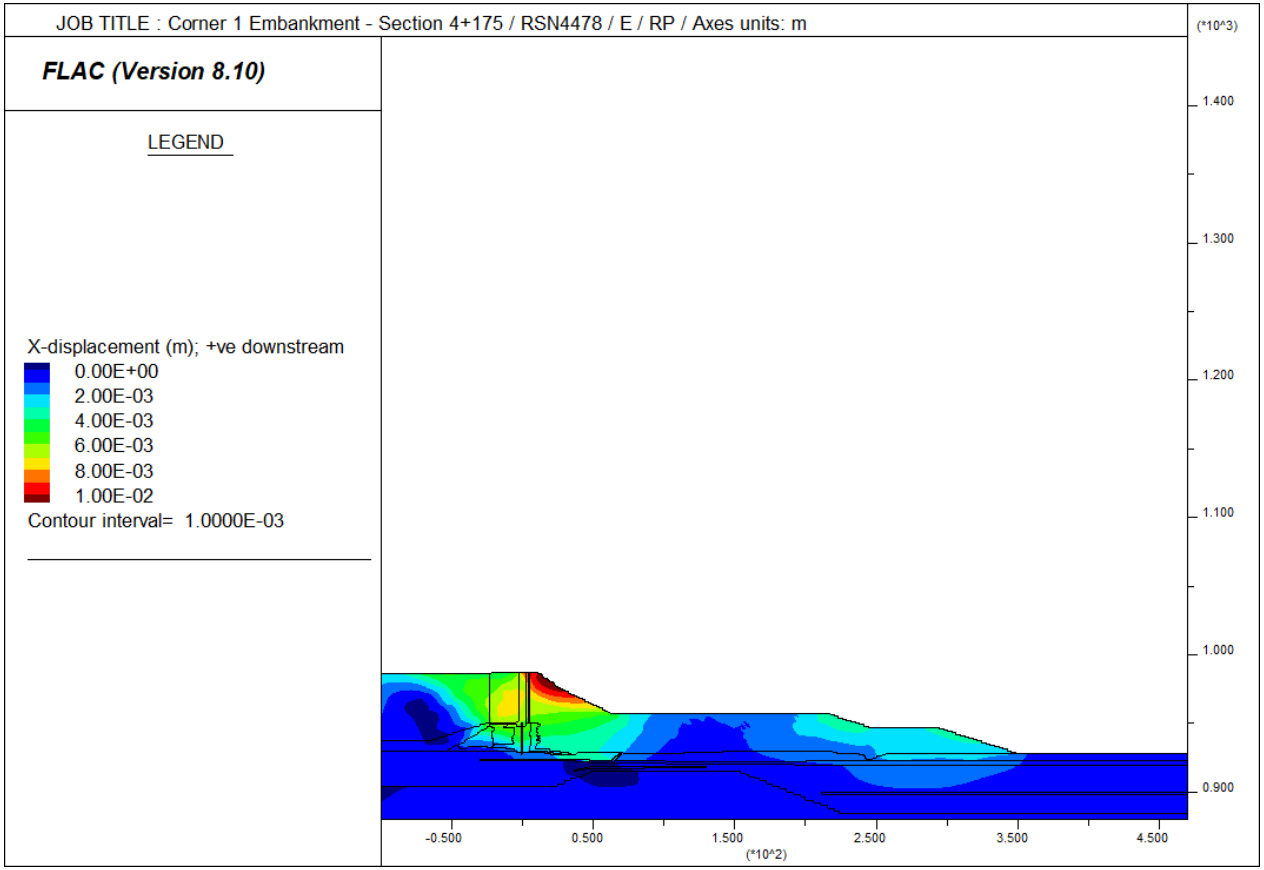

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.00E-02
-8.00E-03
-6.00E-03
-4.00E-03
-2.00E-03
0.00E+00
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

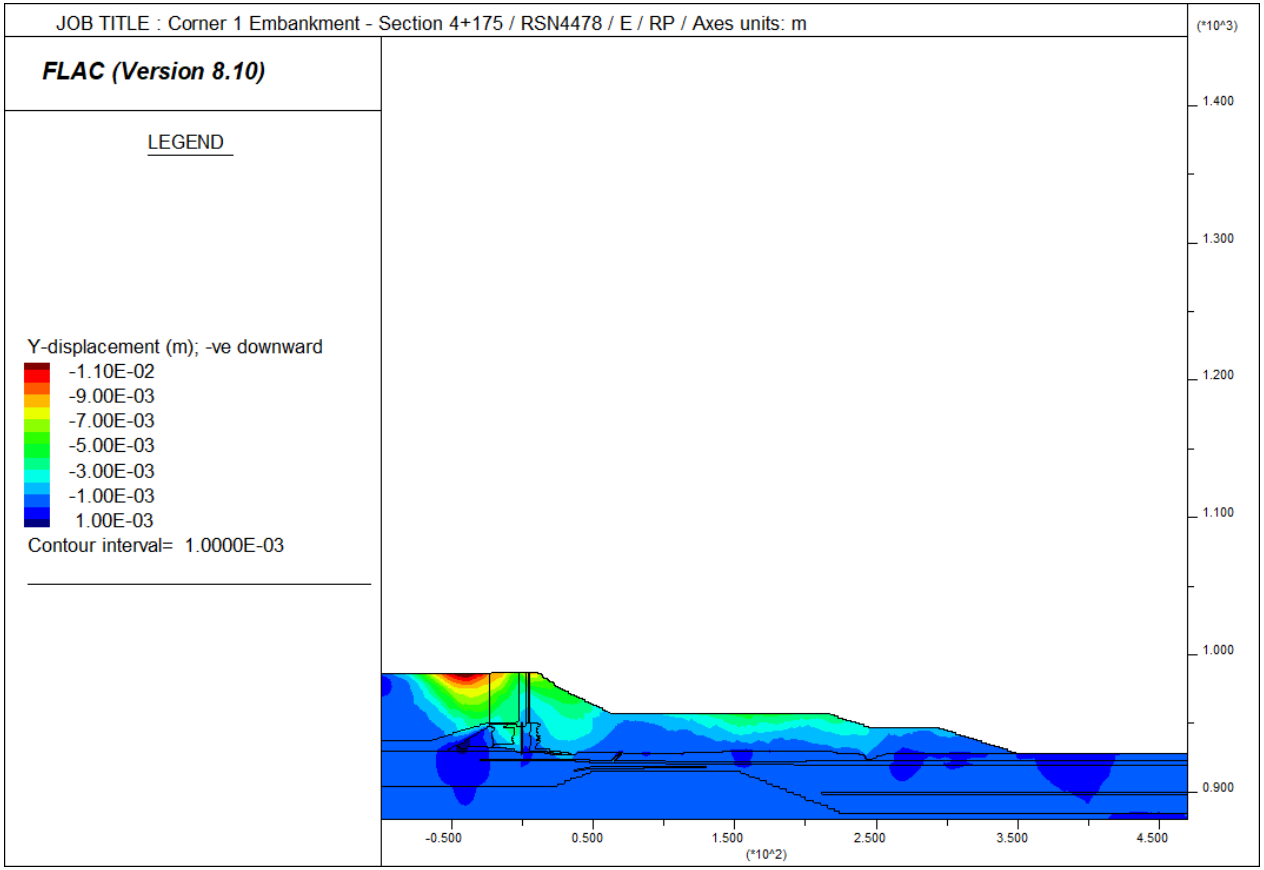

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

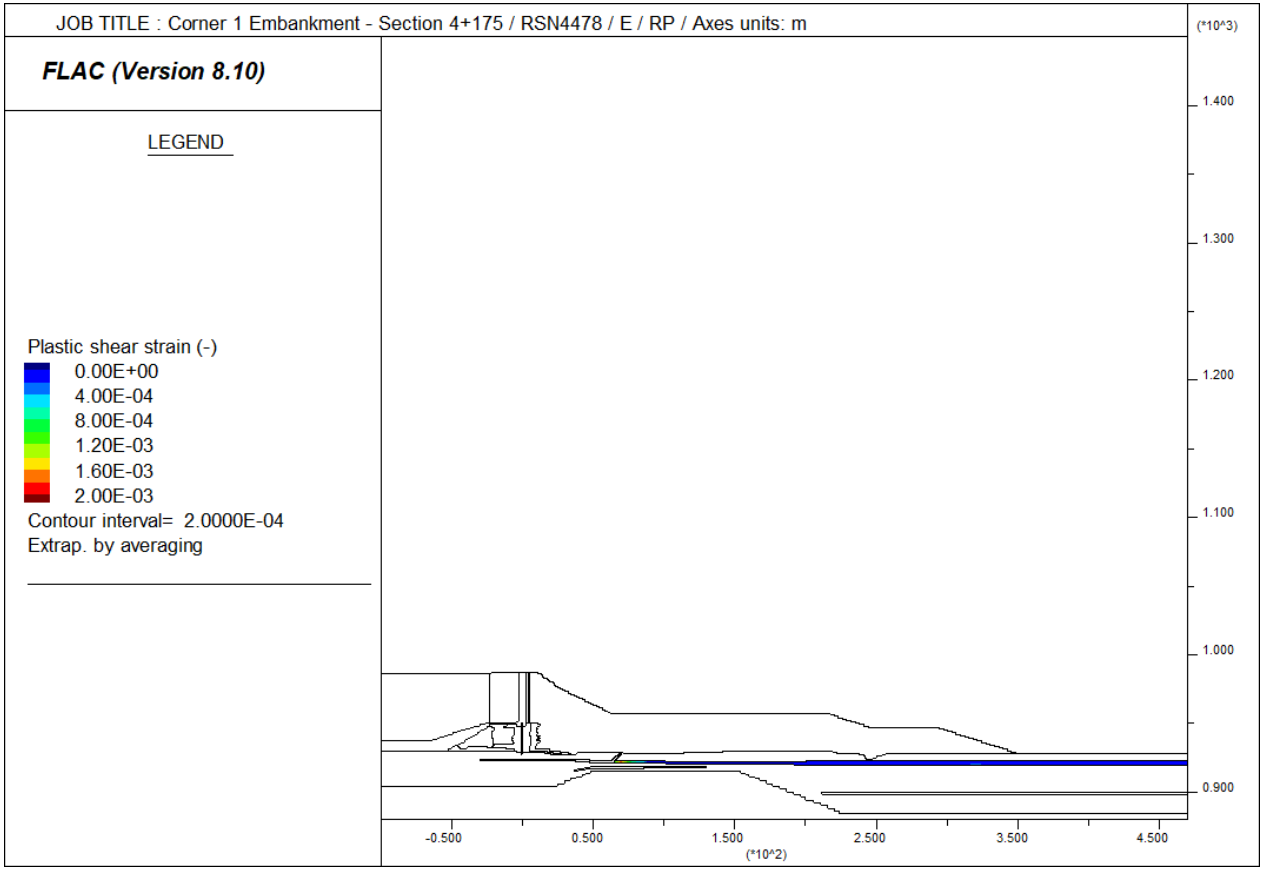

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

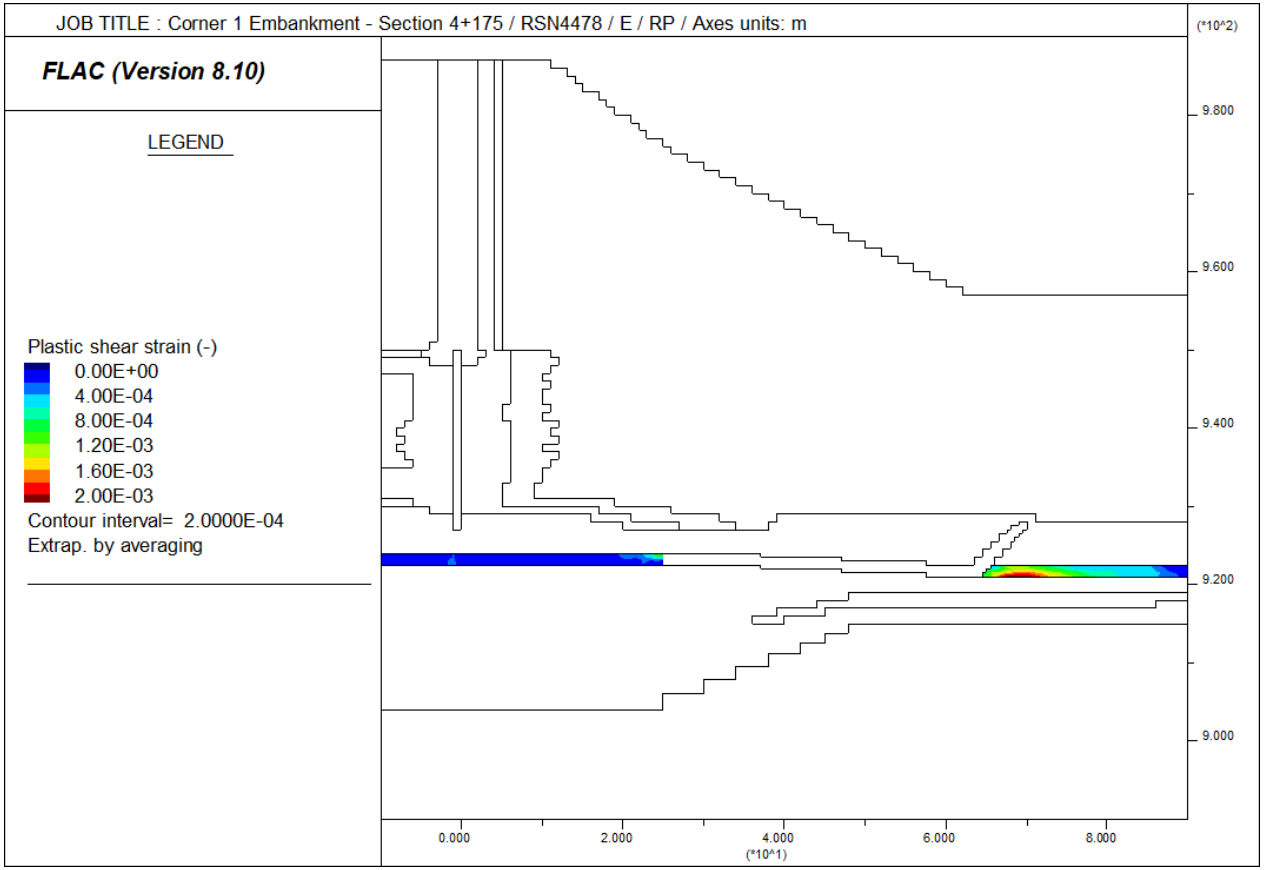

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-05
1.00E-04
1.50E-04
2.00E-04
2.50E-04
Contour interval= 2.5000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

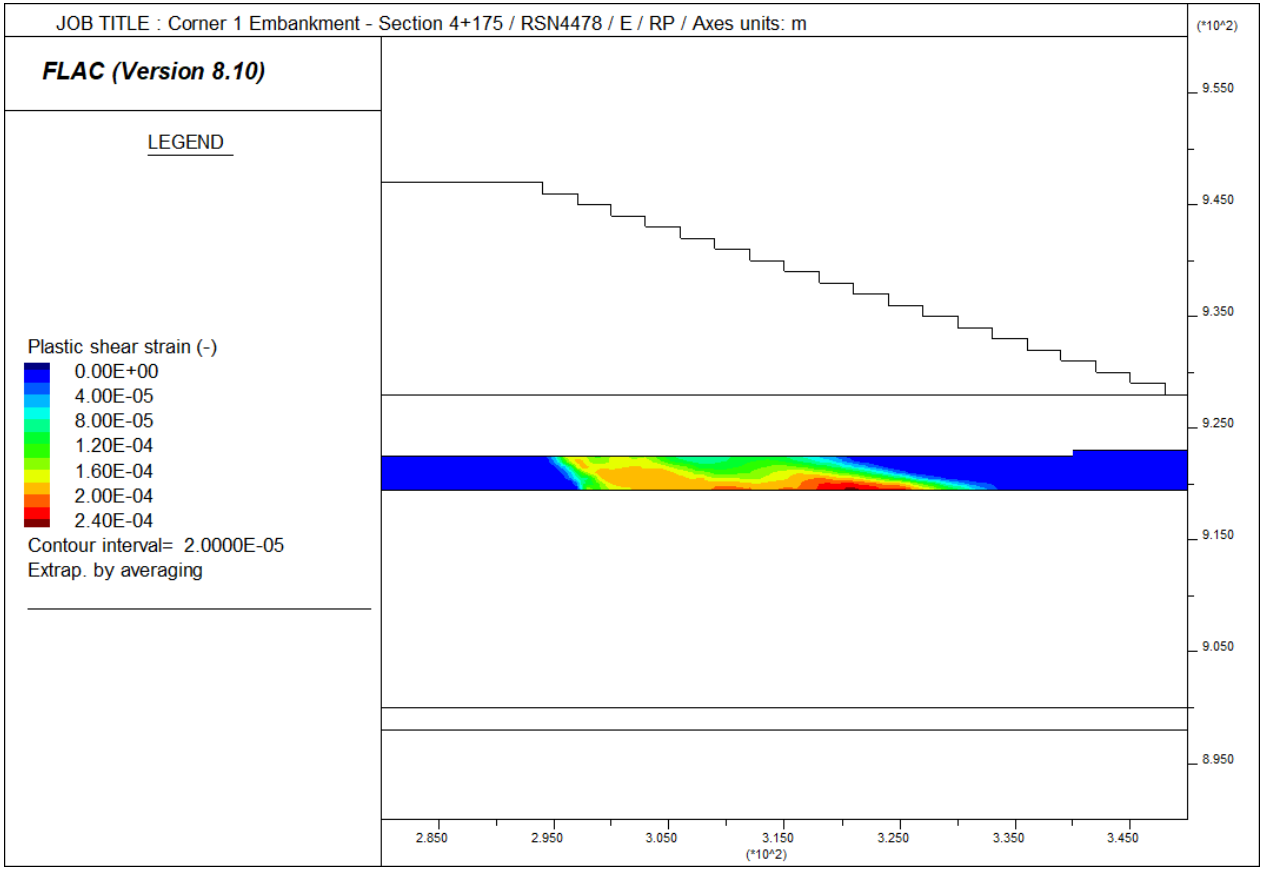

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / E / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

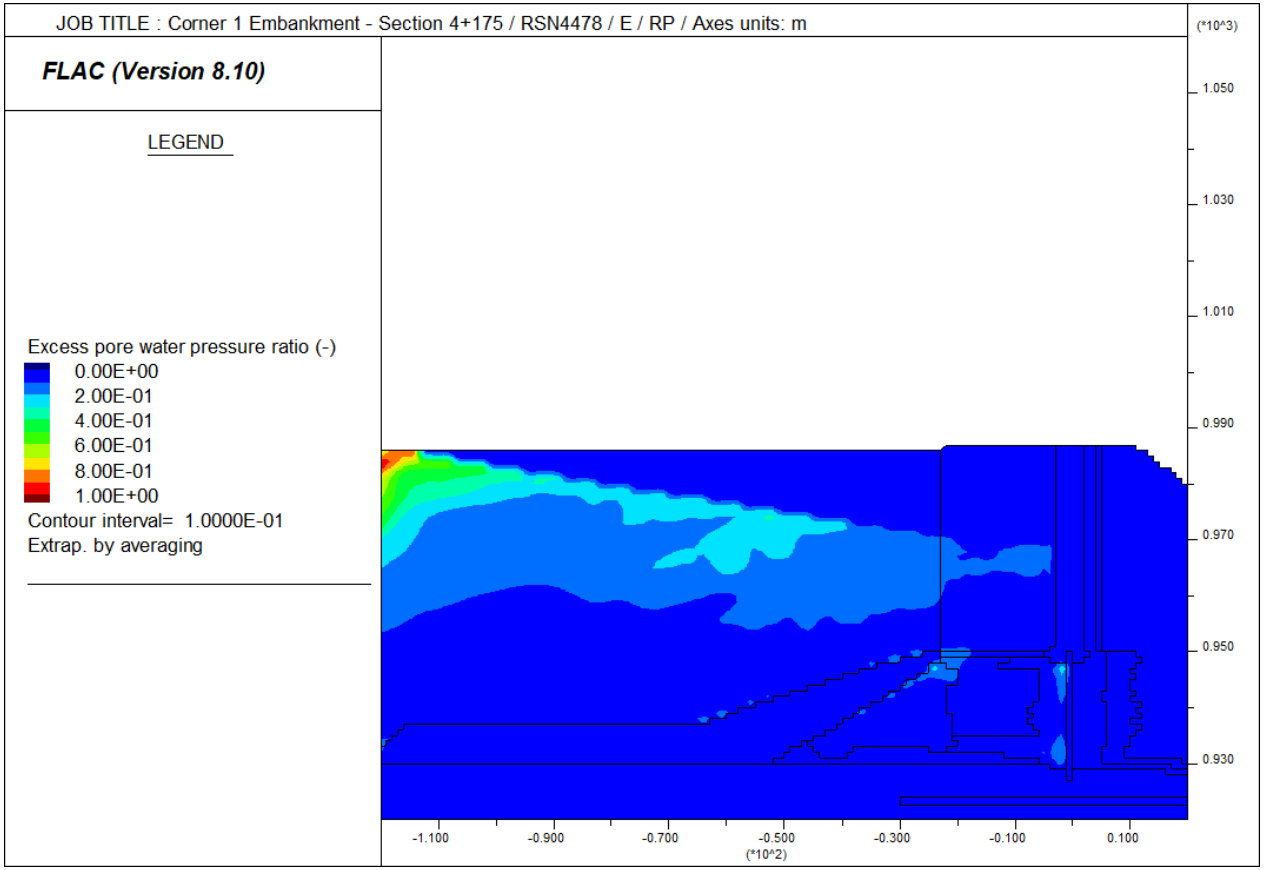

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

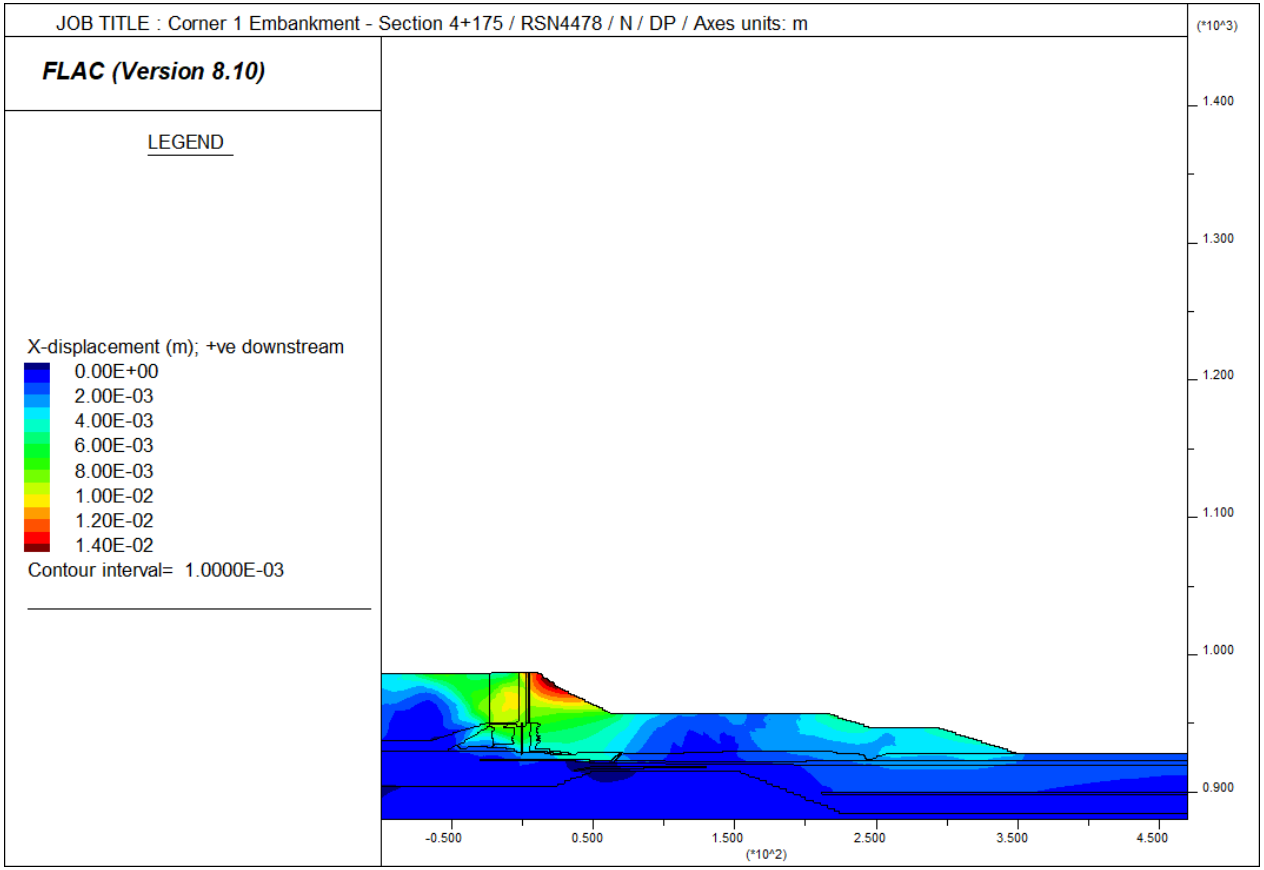

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

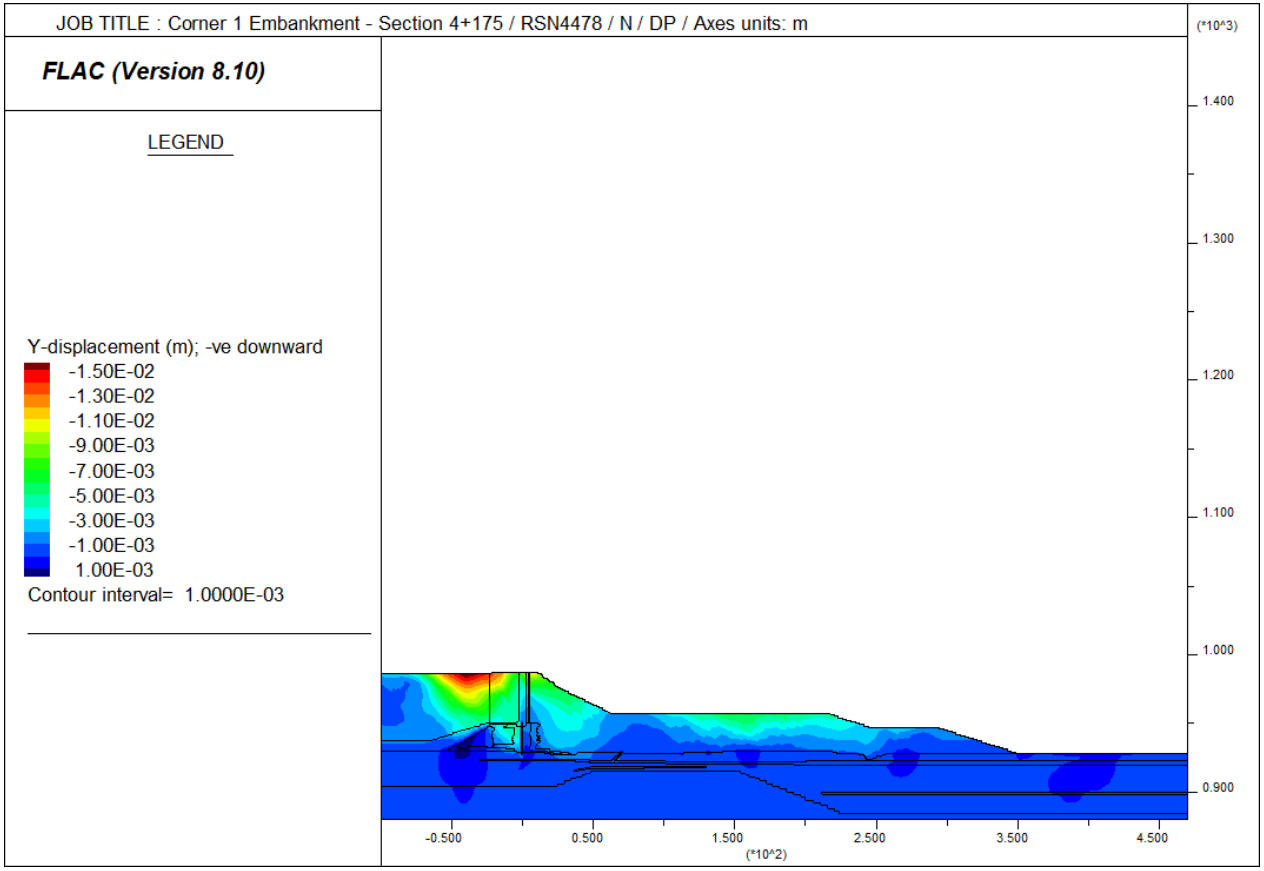

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-04
8.00E-04
1.20E-03
1.60E-03
2.00E-03
Contour interval= 2.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

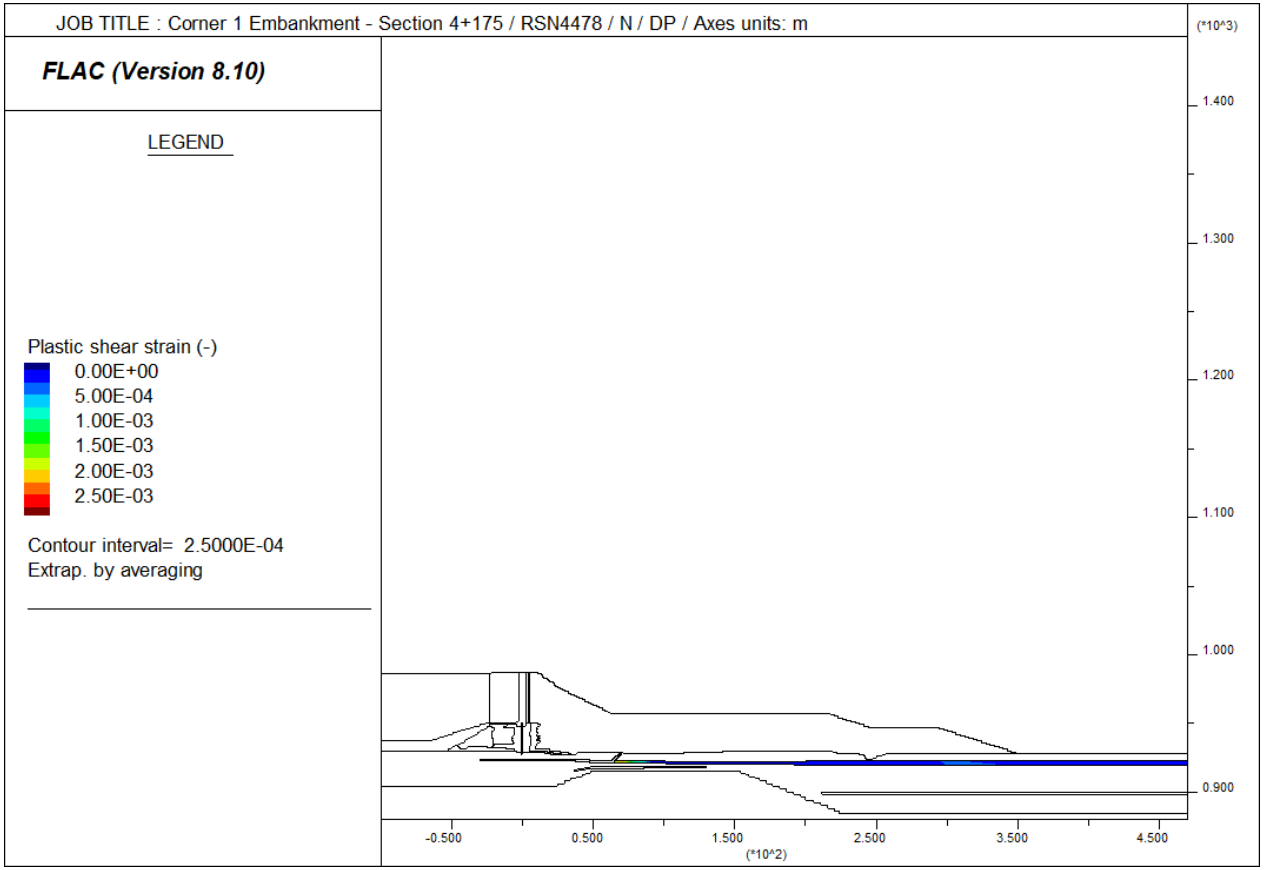

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-04
8.00E-04
1.20E-03
1.60E-03
2.00E-03
Contour interval= 2.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

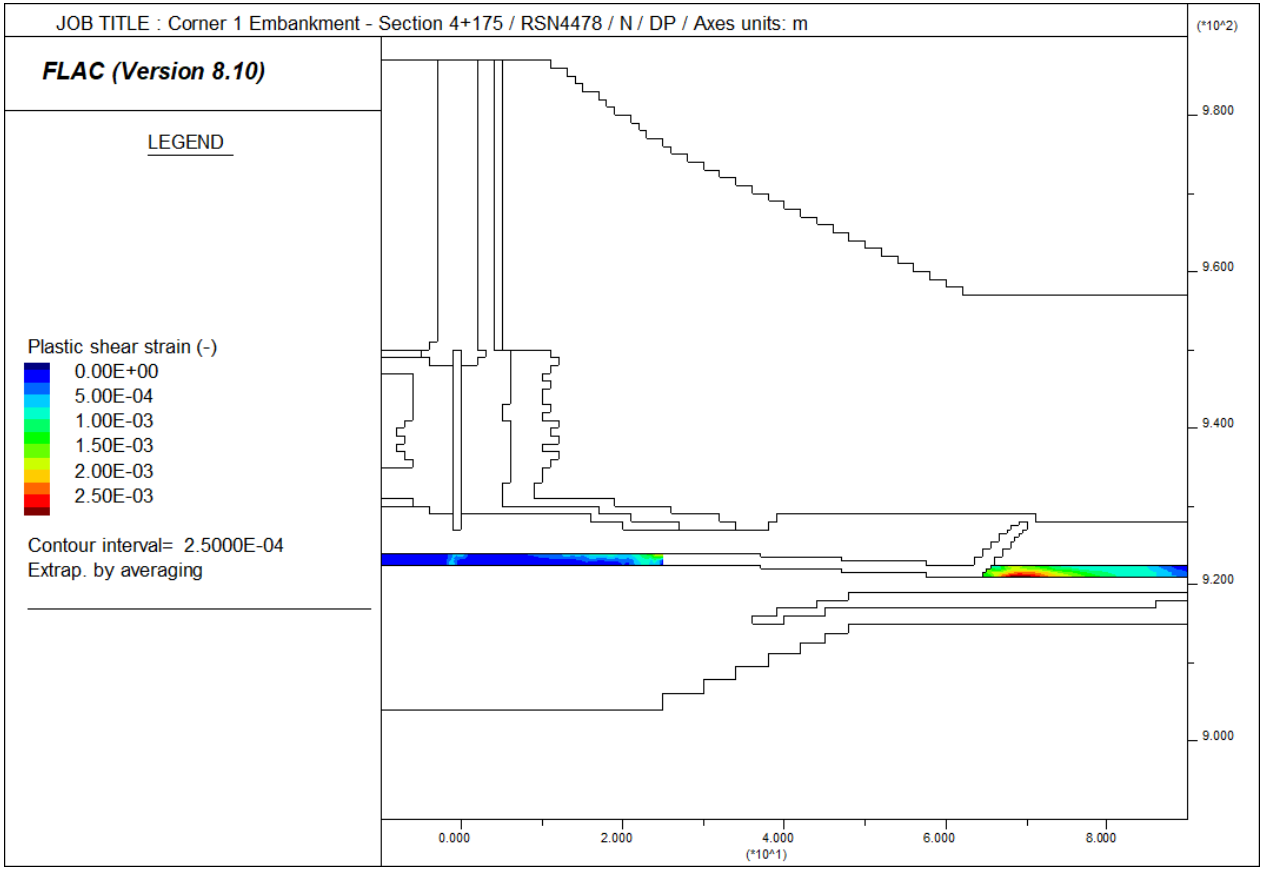

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-05
8.00E-05
1.20E-04
1.60E-04
2.00E-04
2.40E-04
Contour interval= 2.0000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

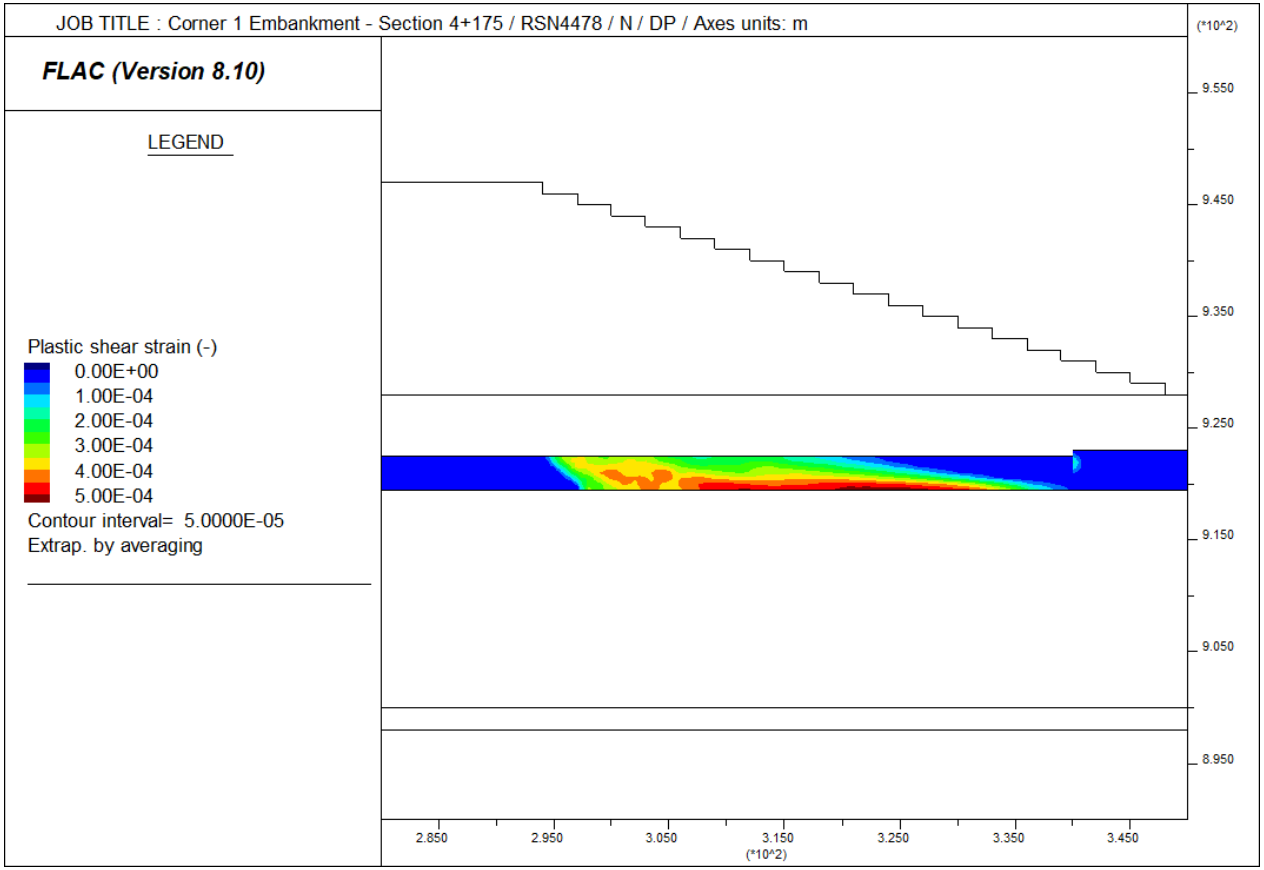

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / E / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

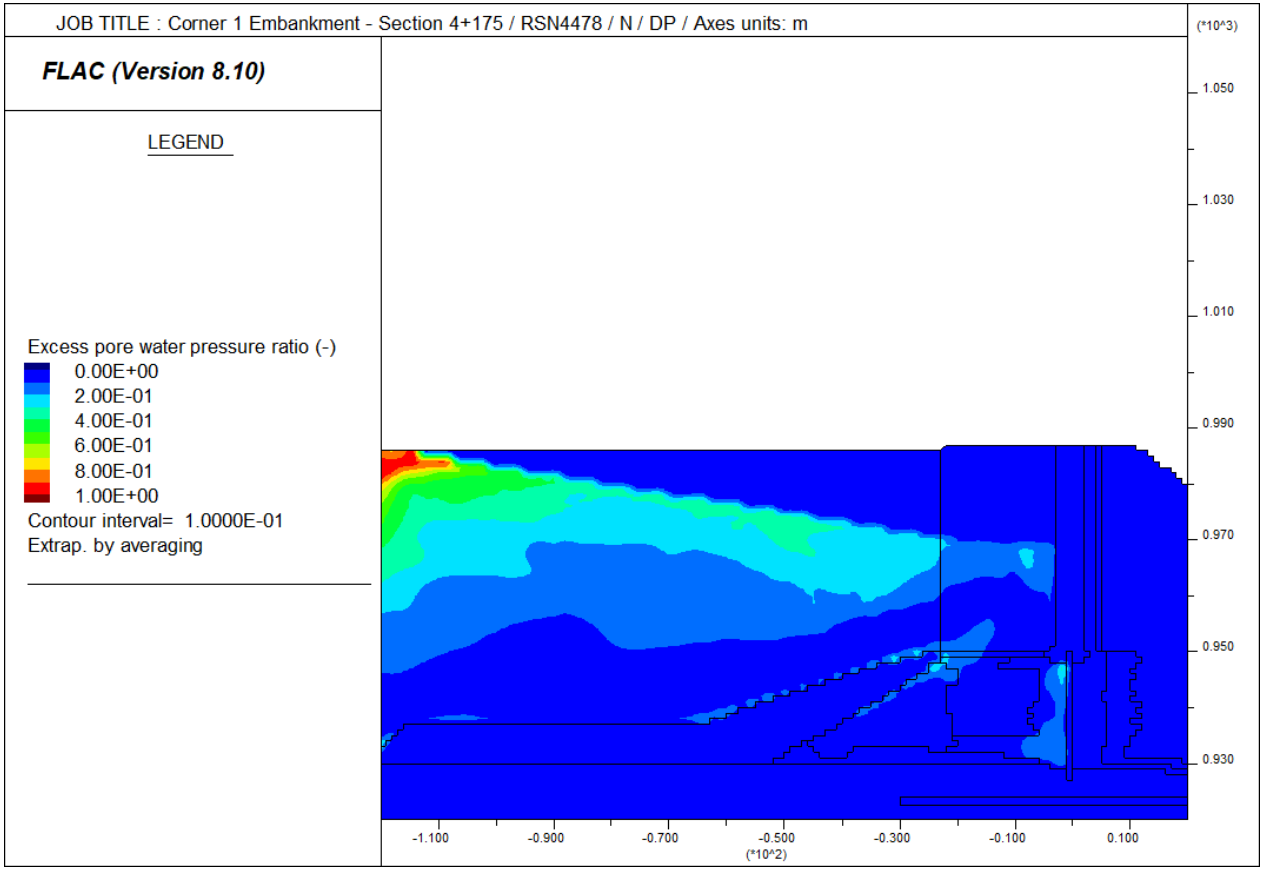

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
1.40E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

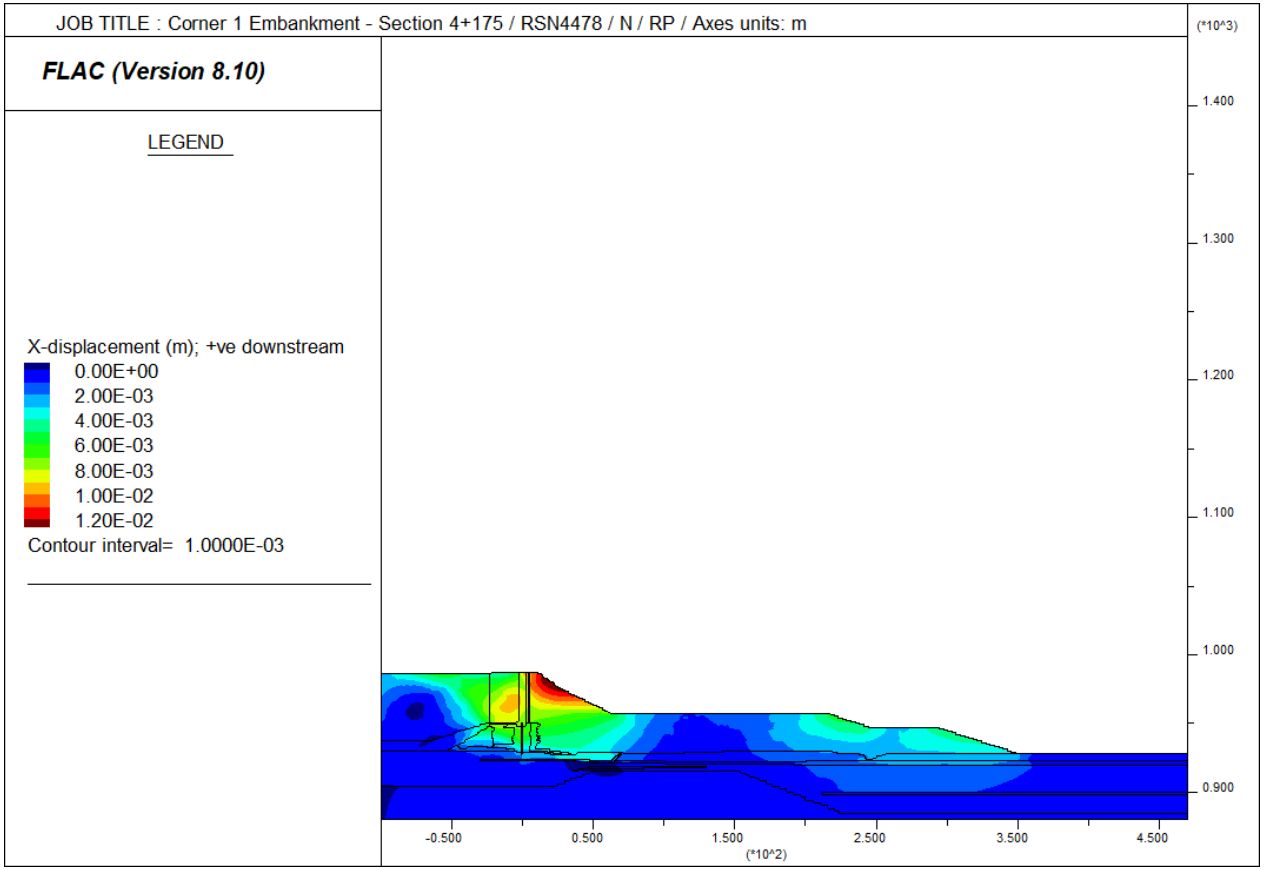

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.50E-02
-1.30E-02
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

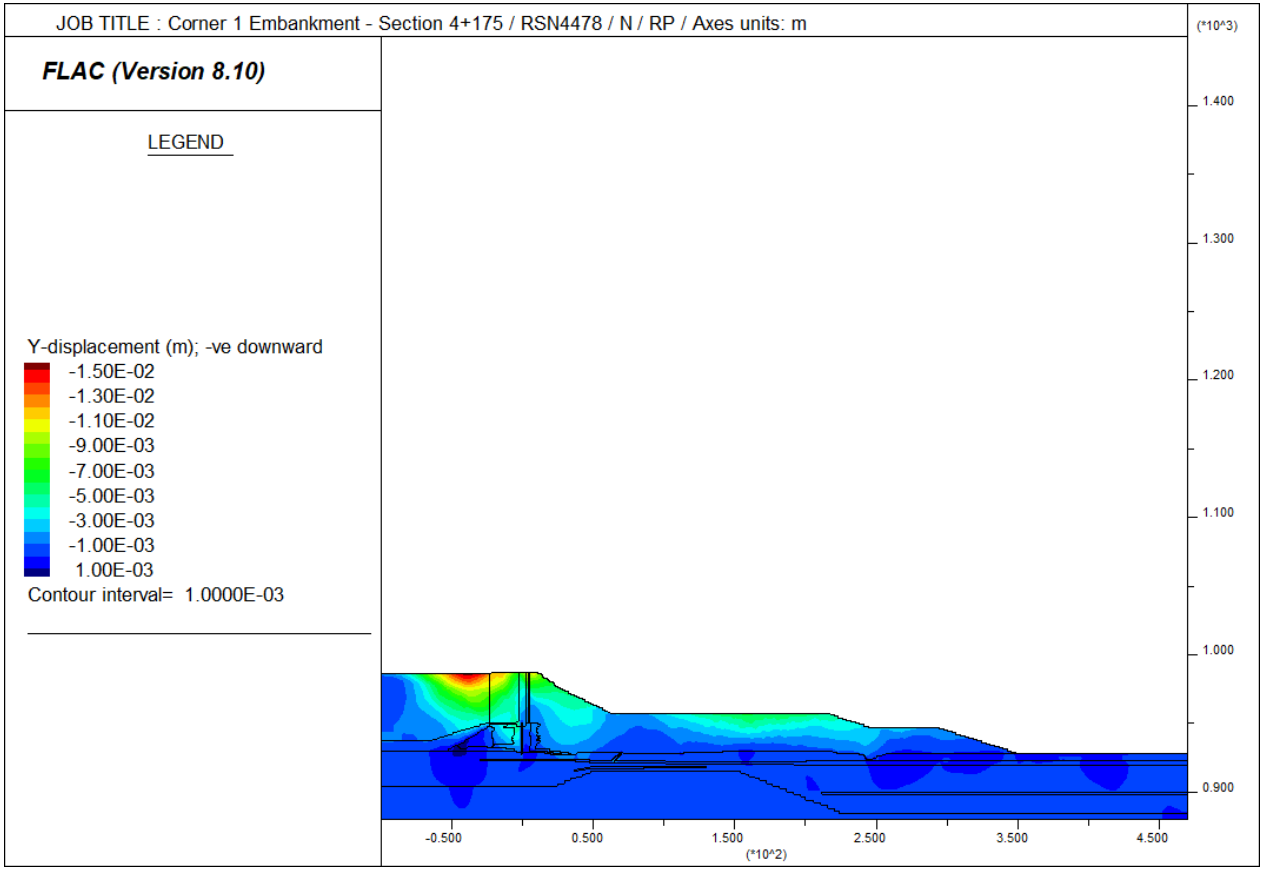

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

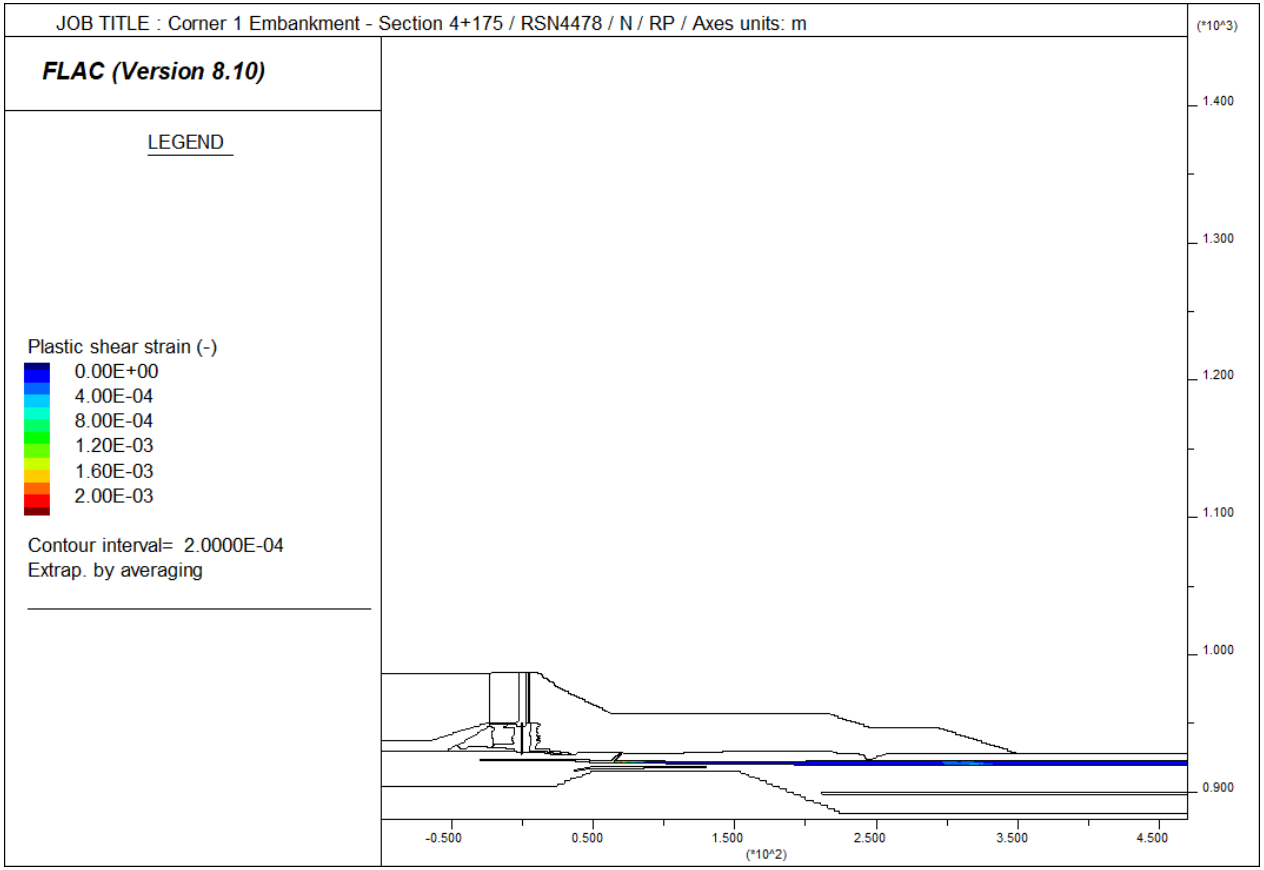

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

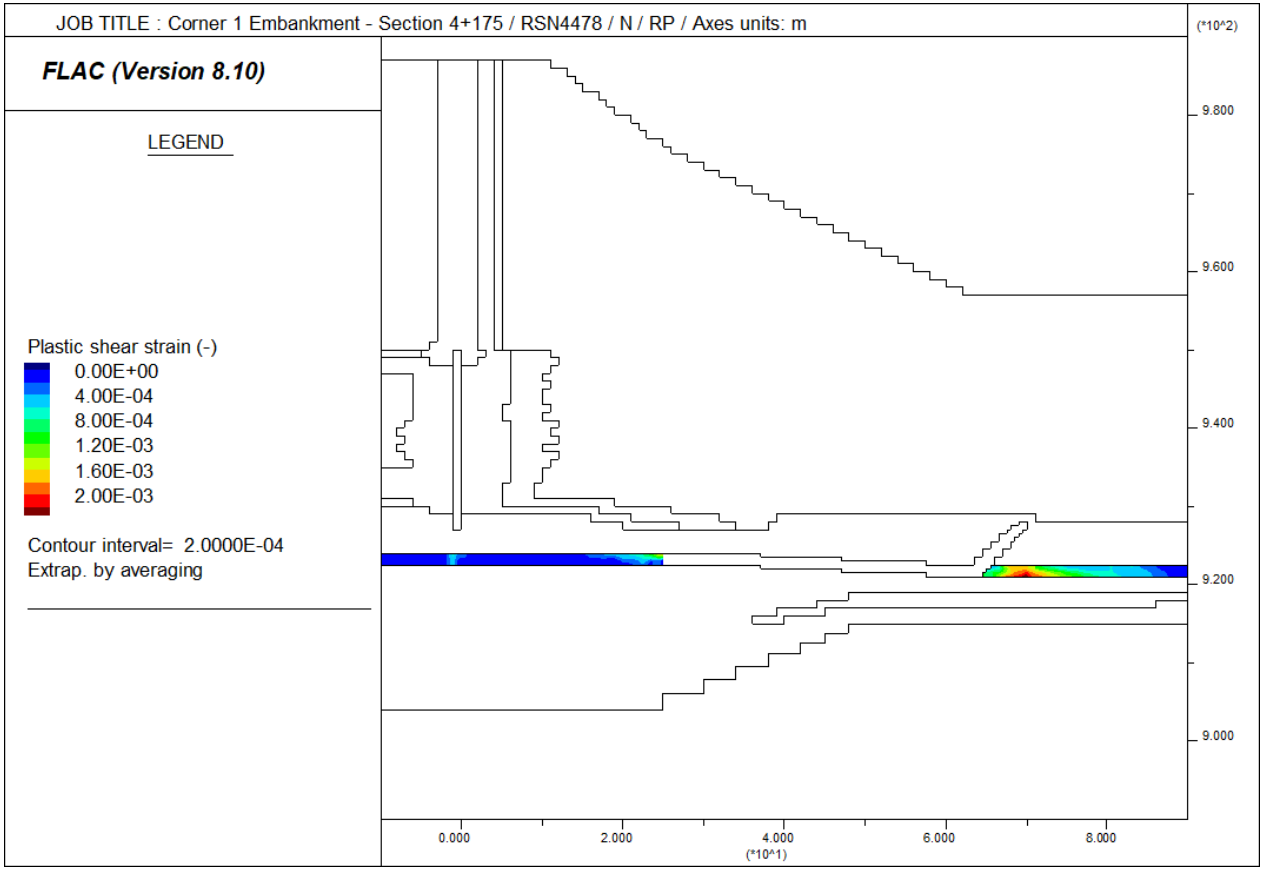

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

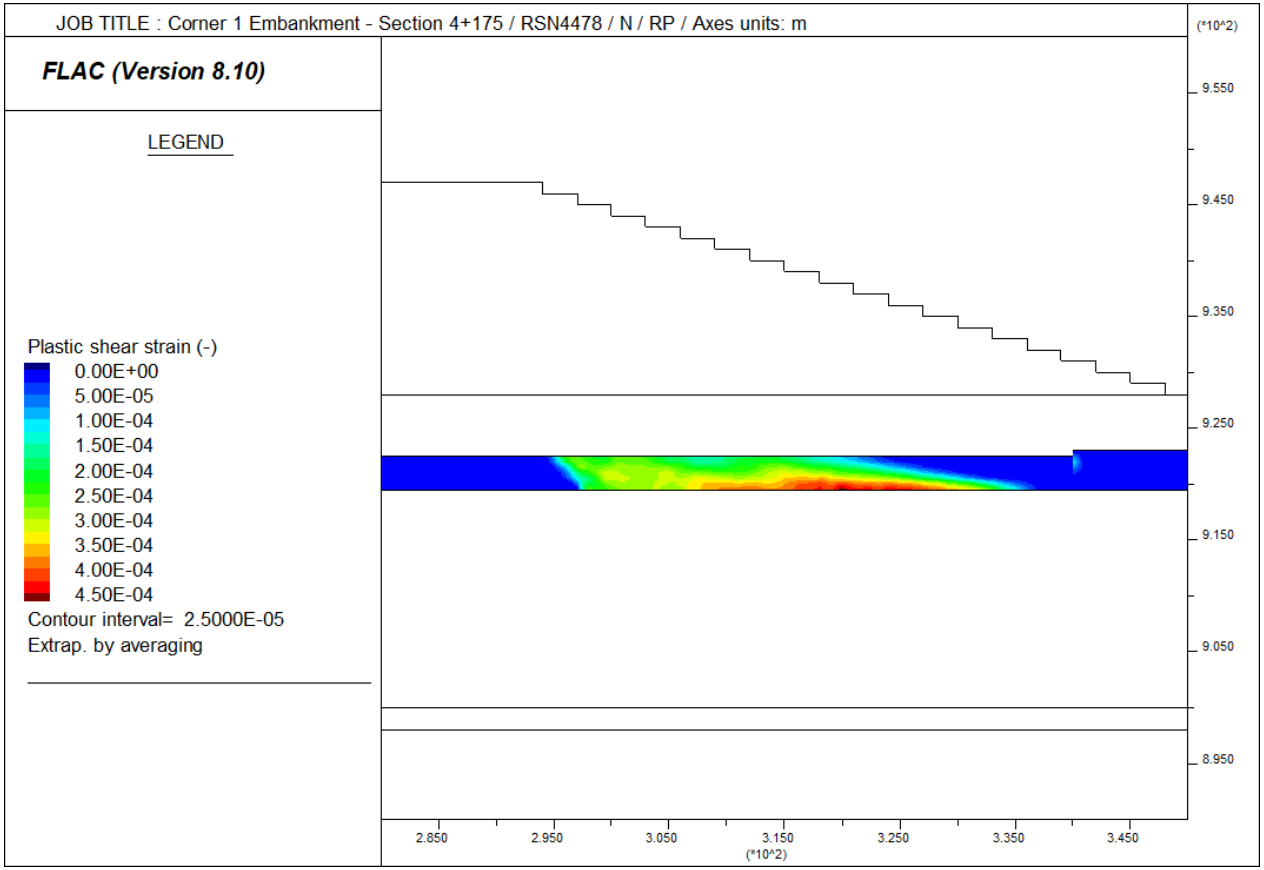

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / N / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

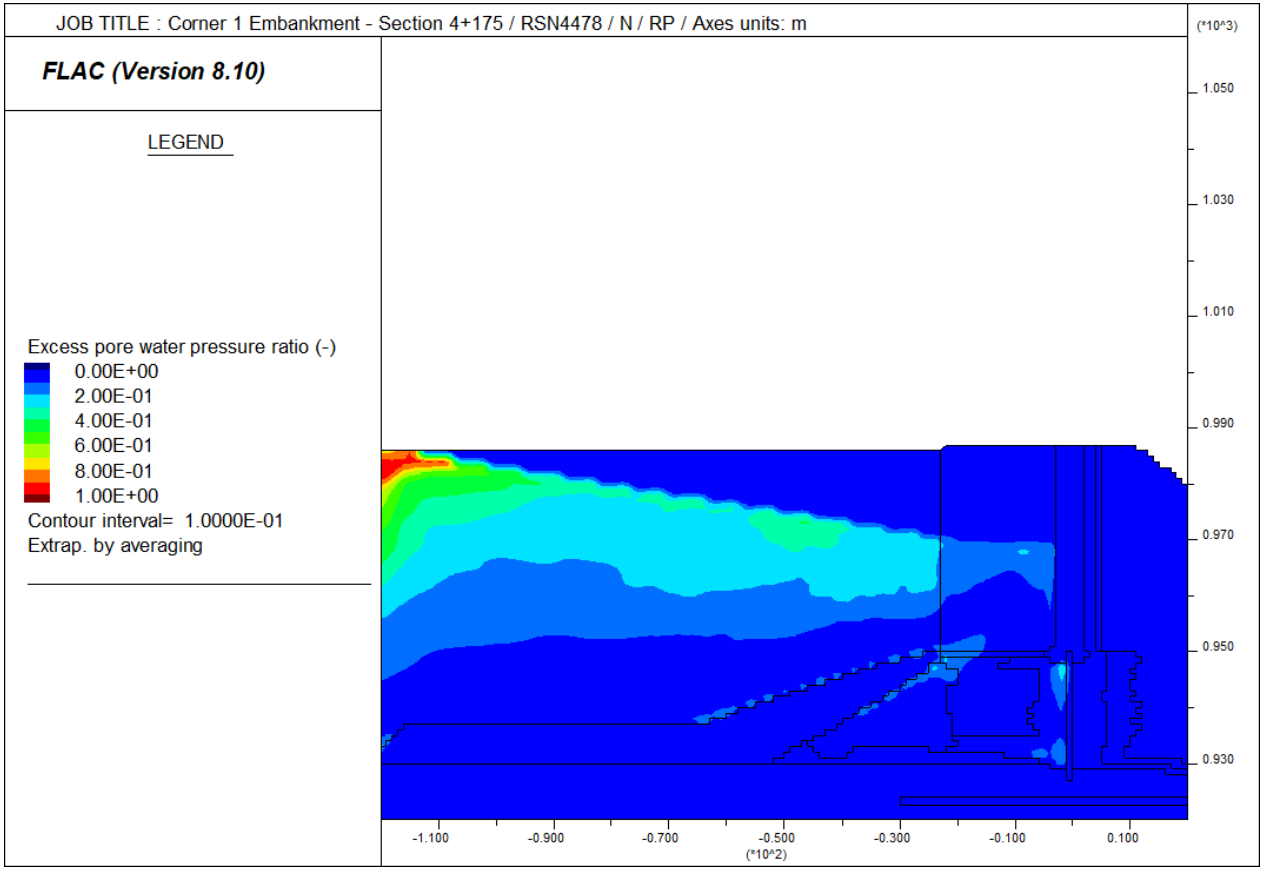

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
2.00E-03
4.00E-03
6.00E-03
8.00E-03
1.00E-02
1.20E-02
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

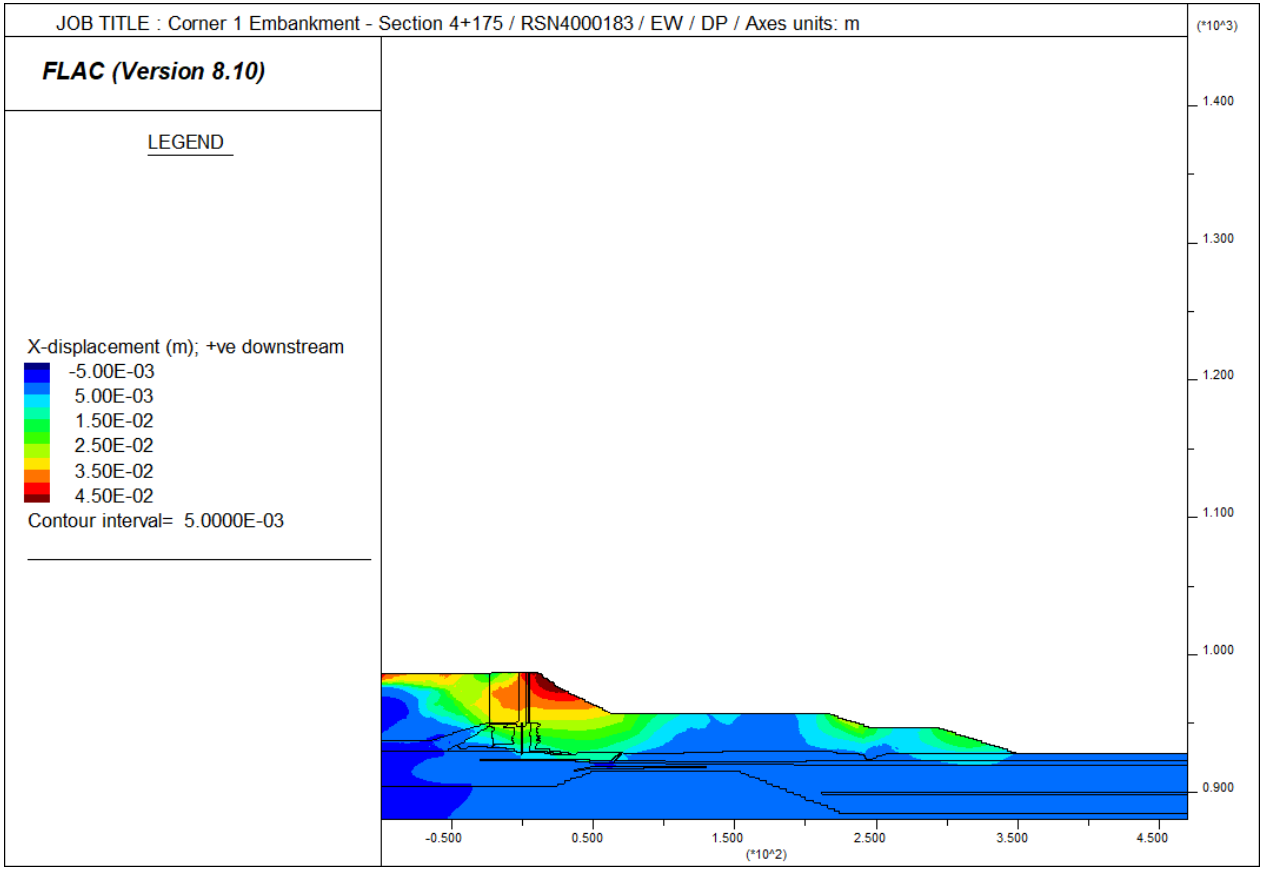

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-1.50E-02
-1.30E-02
-1.10E-02
-9.00E-03
-7.00E-03
-5.00E-03
-3.00E-03
-1.00E-03
1.00E-03
Contour interval= 1.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

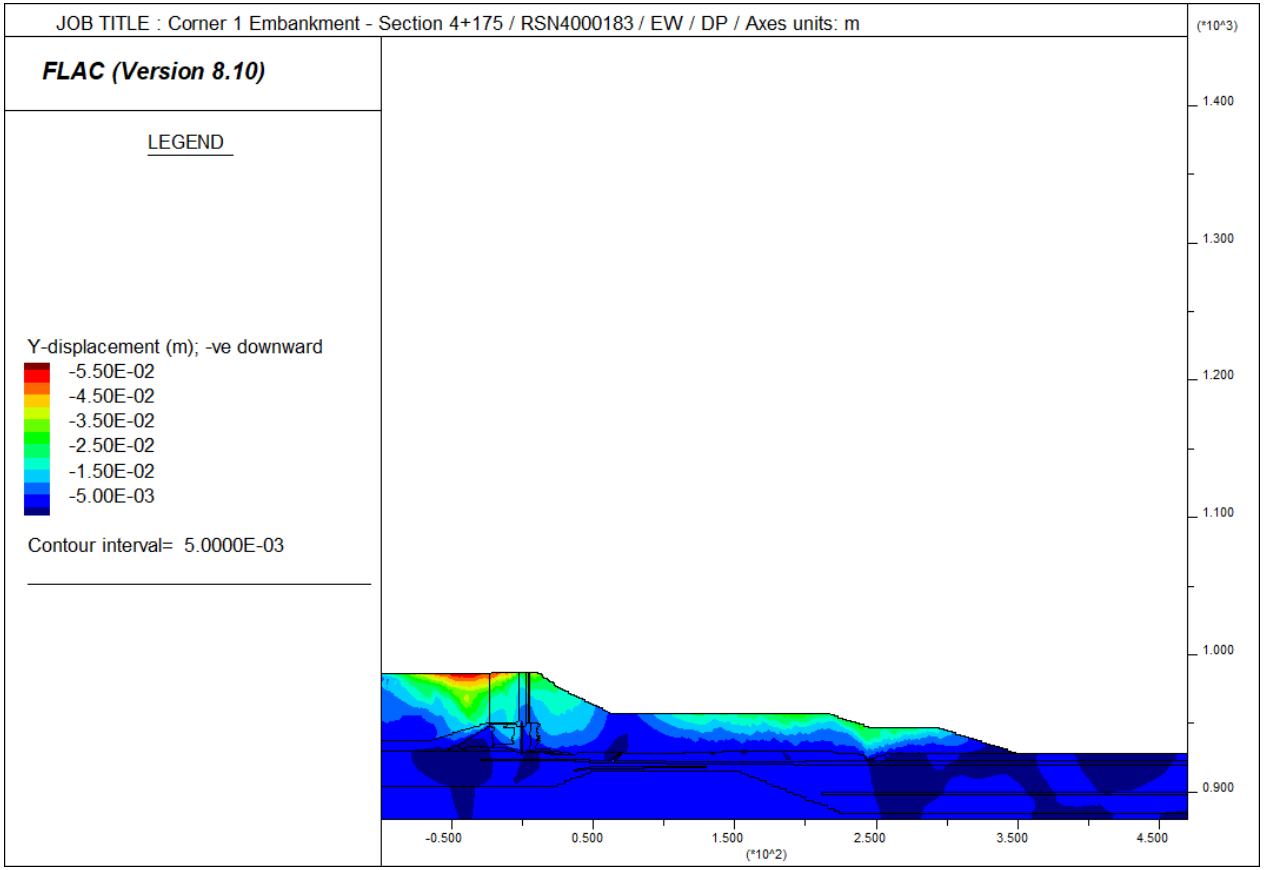

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-04
8.00E-04
1.20E-03
1.60E-03
2.00E-03
Contour interval= 2.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

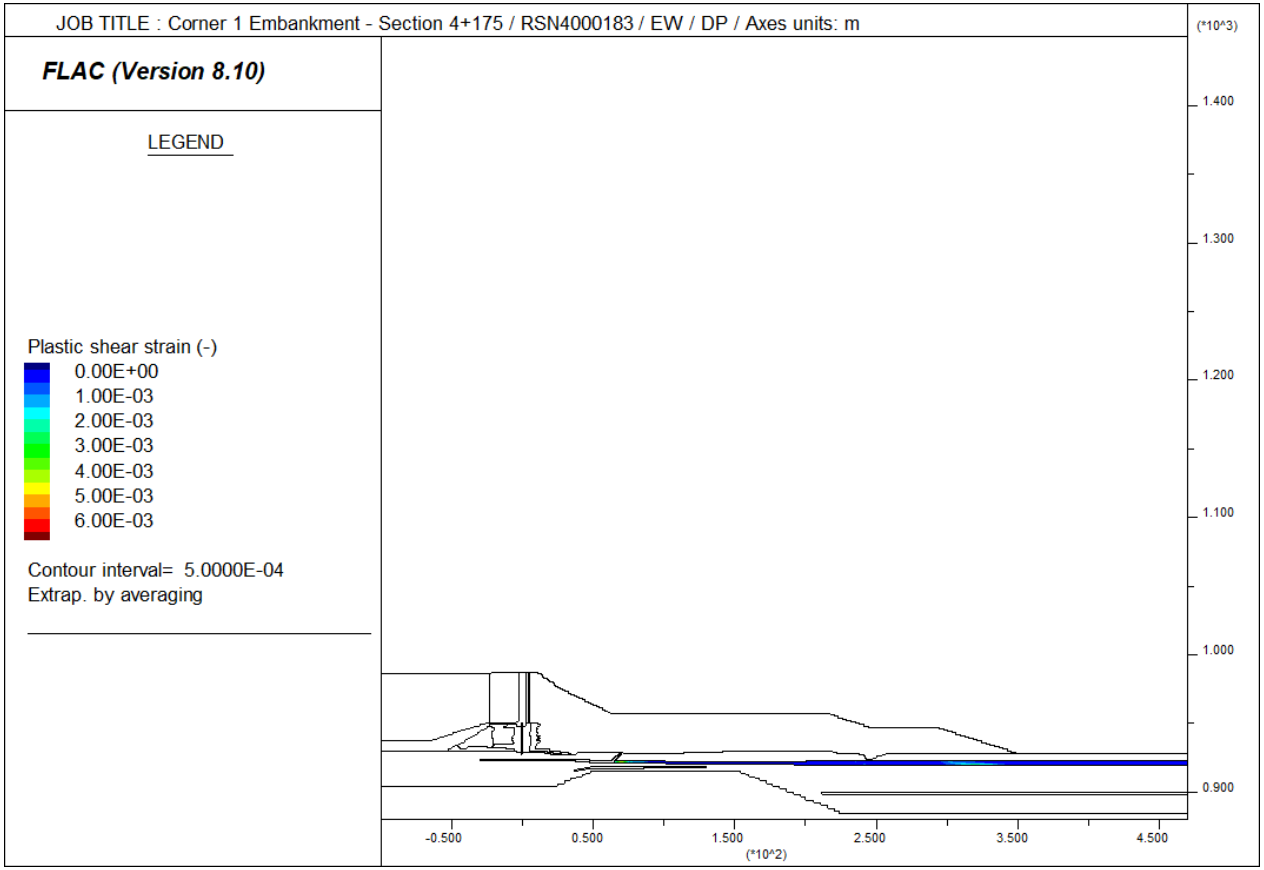

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
4.00E-04
8.00E-04
1.20E-03
1.60E-03
2.00E-03
Contour interval= 2.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

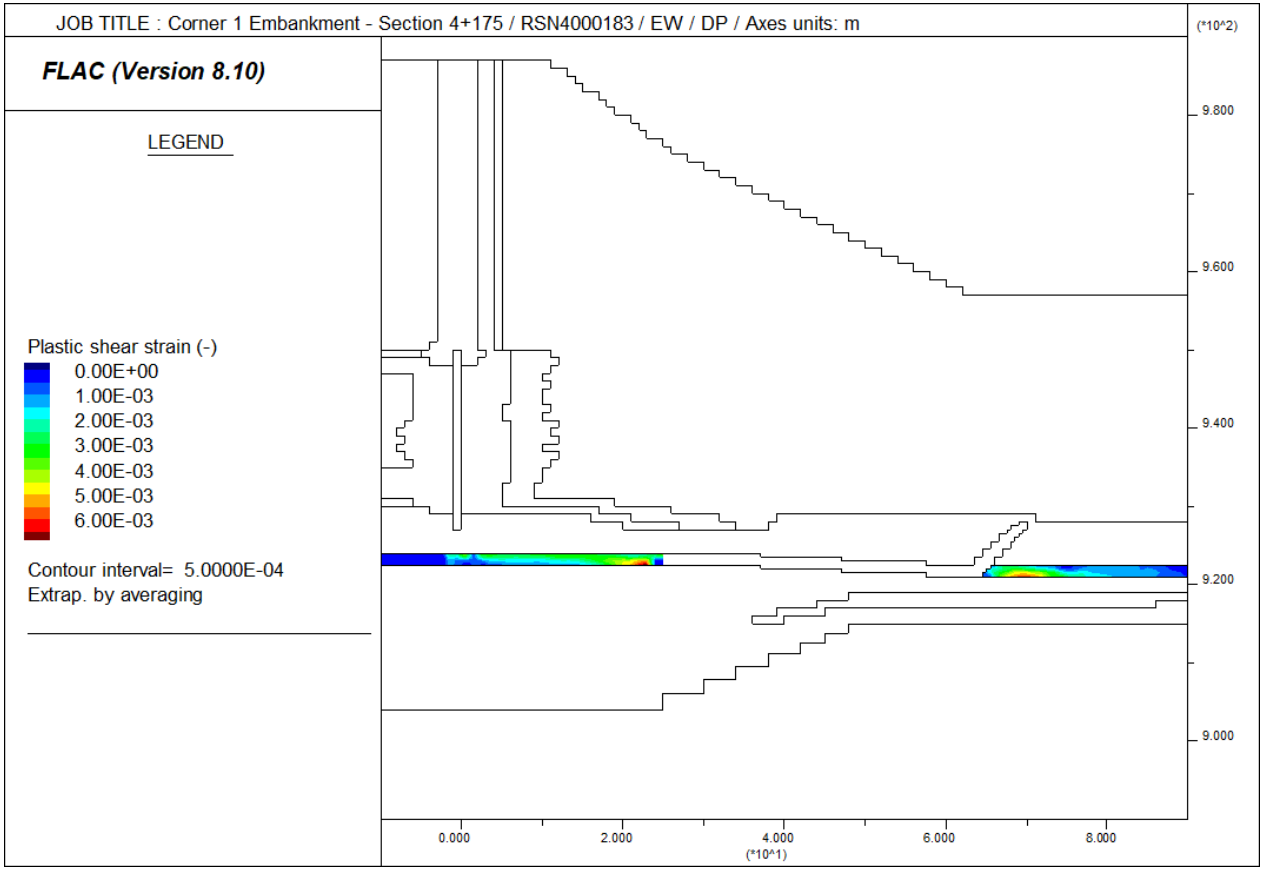

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-05
1.00E-04
1.50E-04
2.00E-04
2.50E-04
3.00E-04
3.50E-04
4.00E-04
4.50E-04
Contour interval= 2.5000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

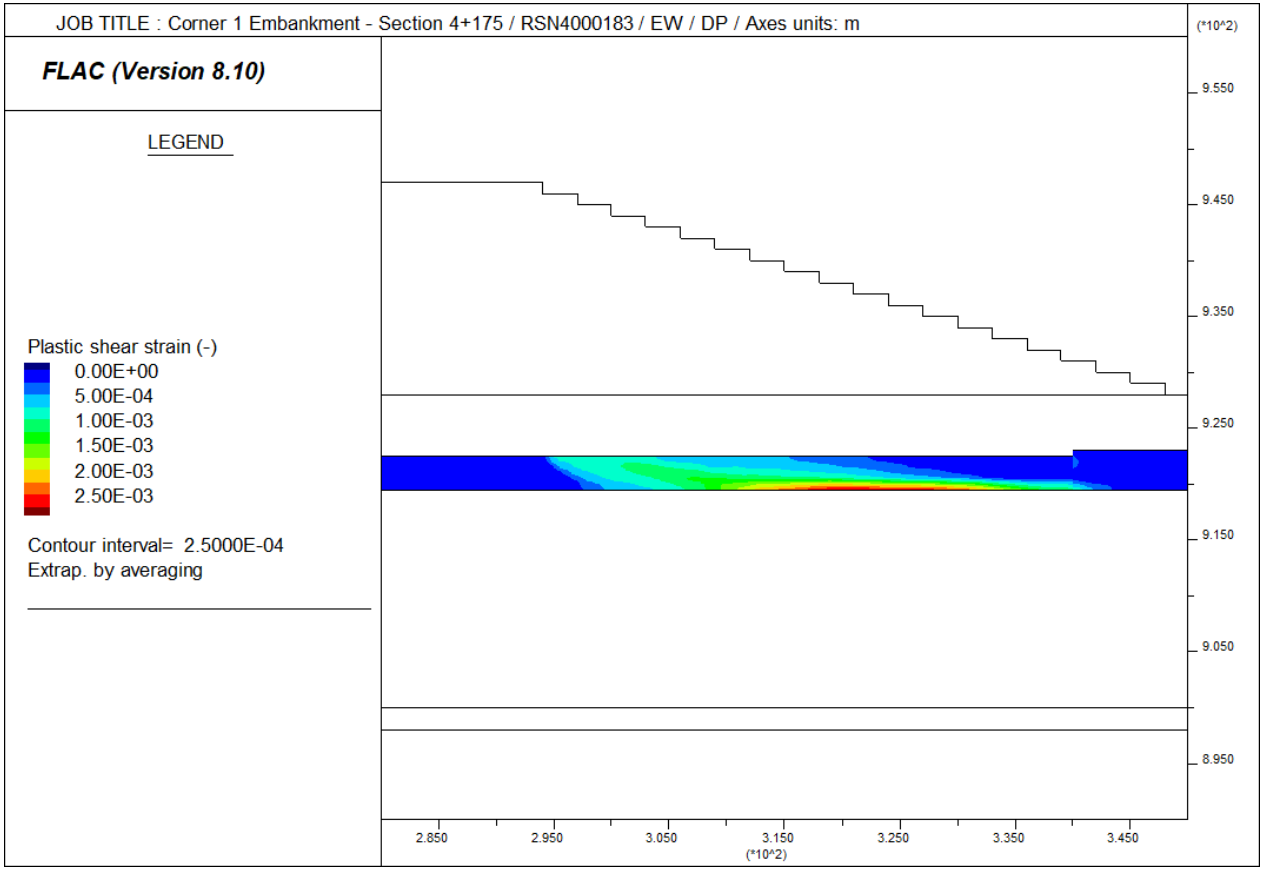

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4478 / N / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

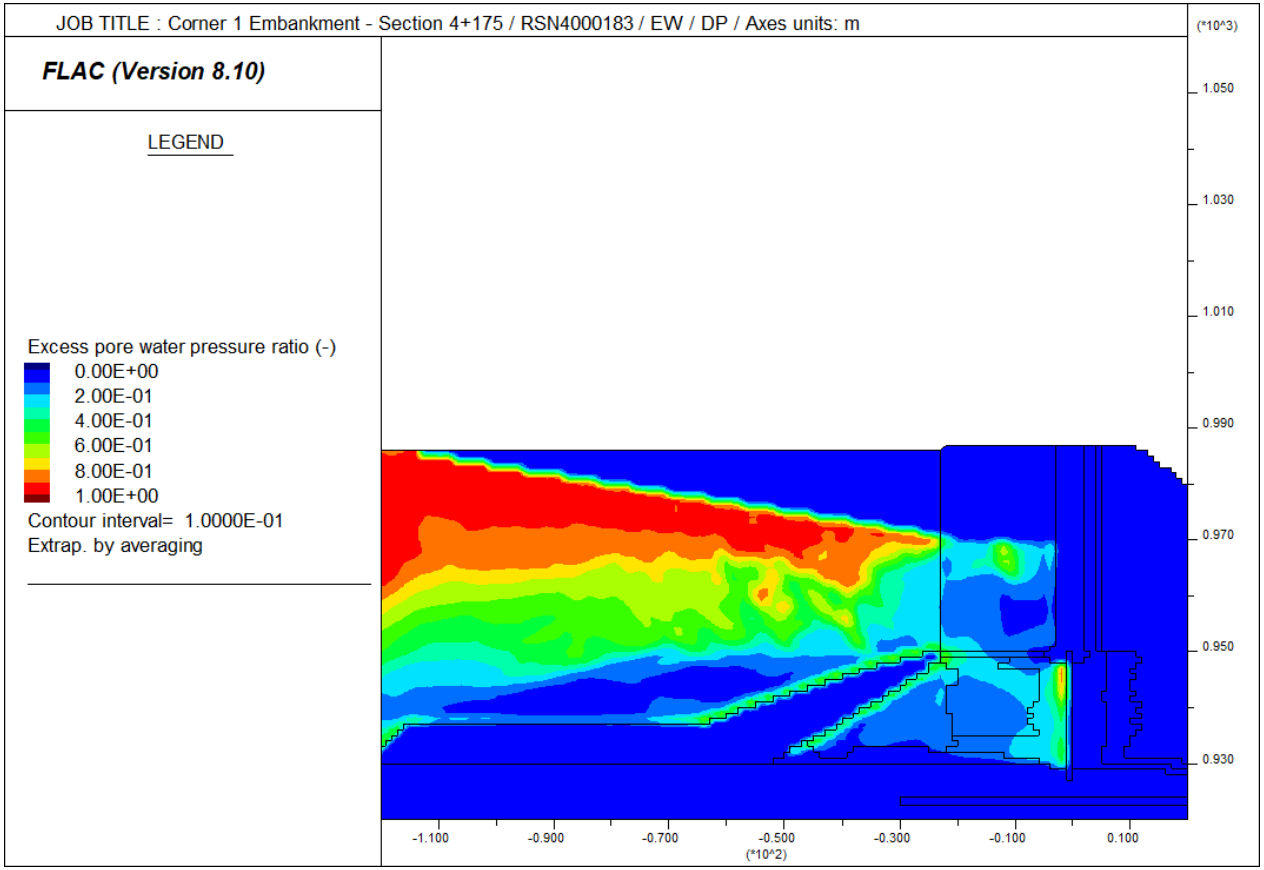

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / EW / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
-5.00E-03
5.00E-03
1.50E-02
2.50E-02
3.50E-02
4.50E-02
Contour interval= 5.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

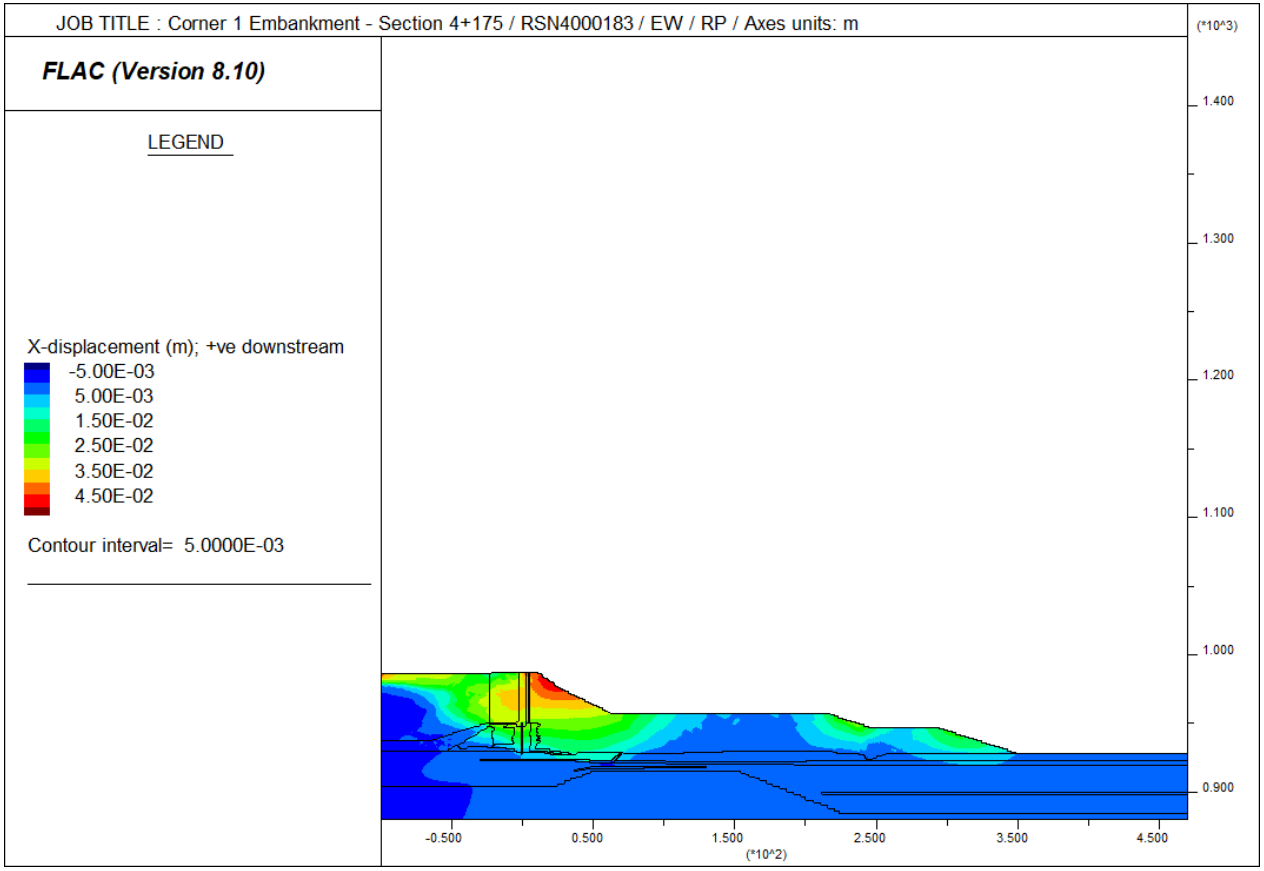

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / EW / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-5.50E-02
-4.50E-02
-3.50E-02
-2.50E-02
-1.50E-02
-5.00E-03
Contour interval= 5.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

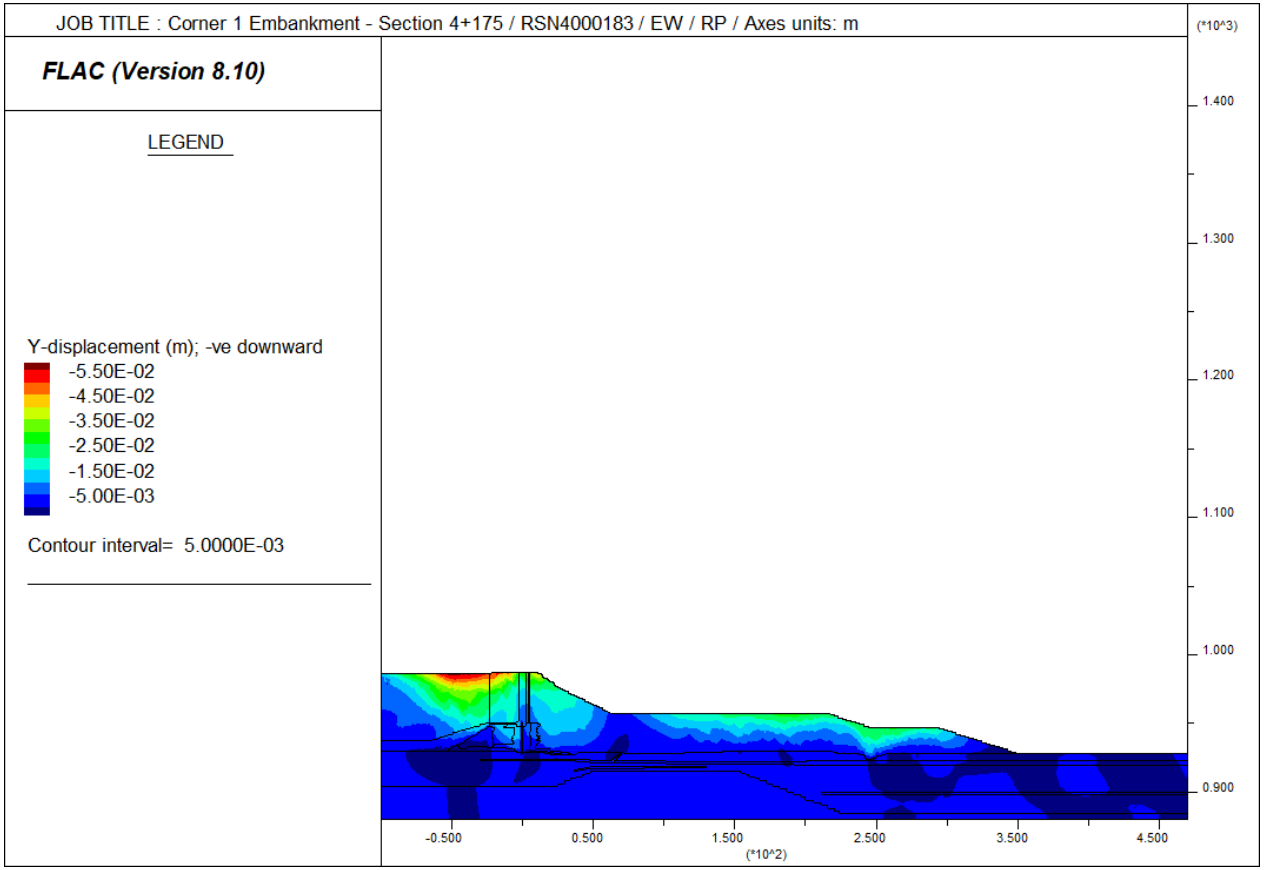

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / EW / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-03
2.00E-03
3.00E-03
4.00E-03
5.00E-03
6.00E-03
Contour interval= 5.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

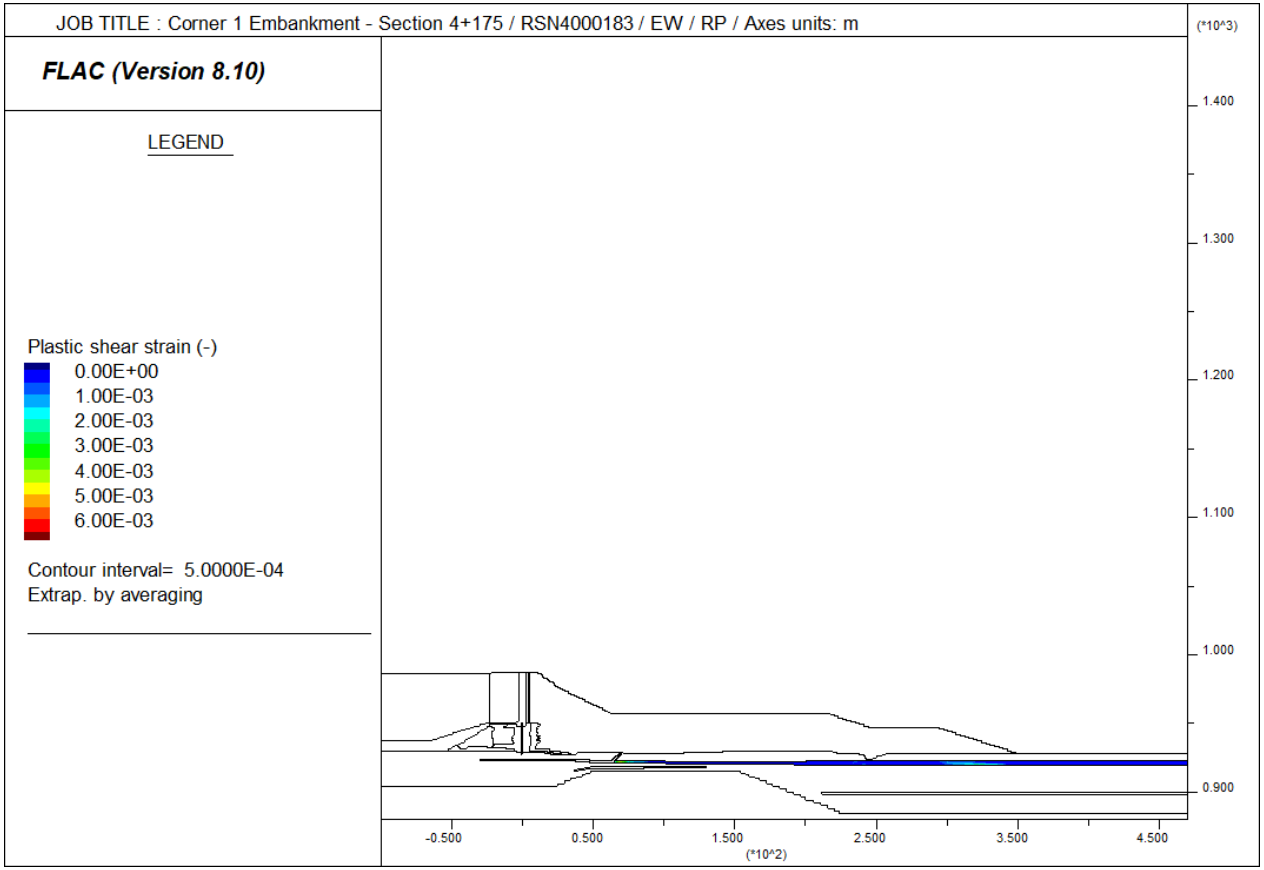

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / EW / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-03
2.00E-03
3.00E-03
4.00E-03
5.00E-03
6.00E-03
Contour interval= 5.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

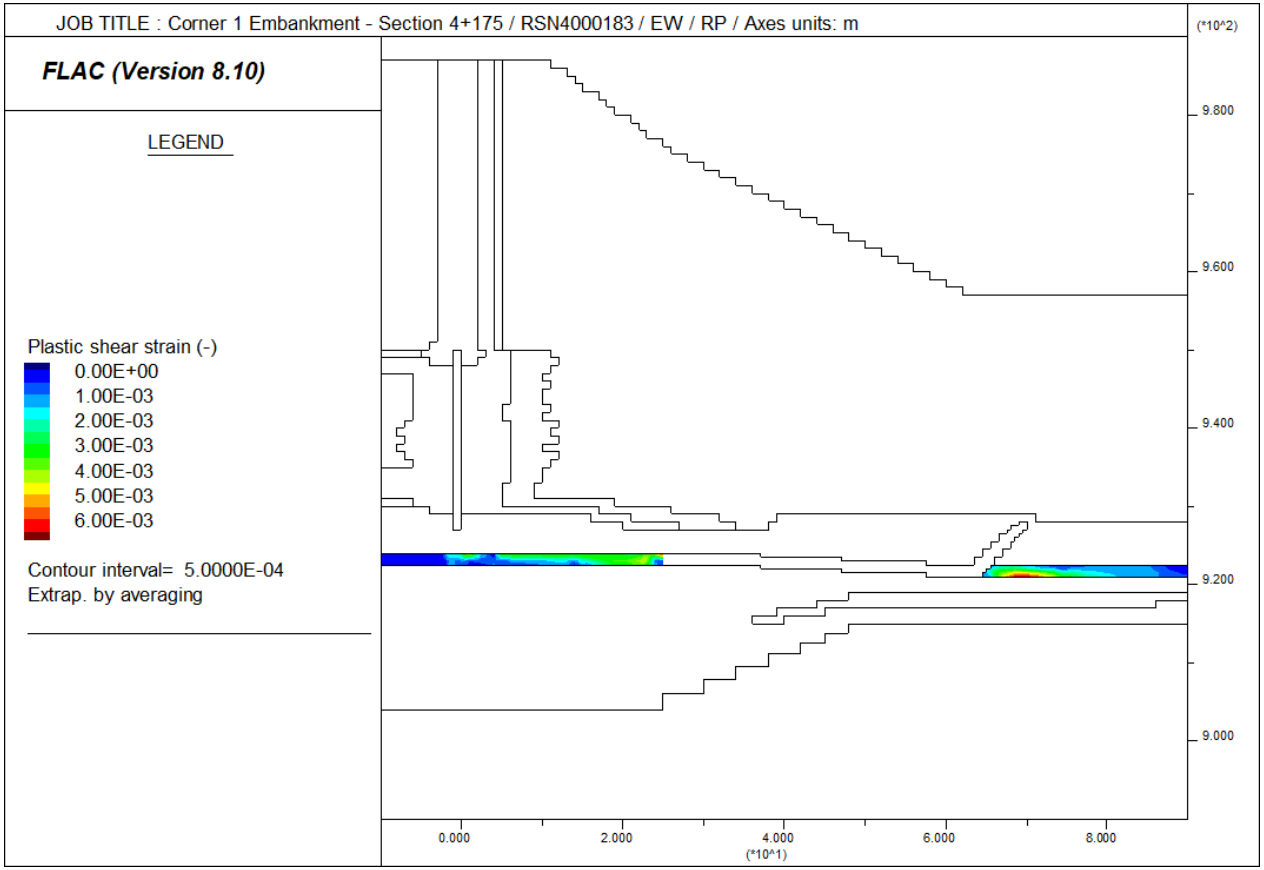

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / EW / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

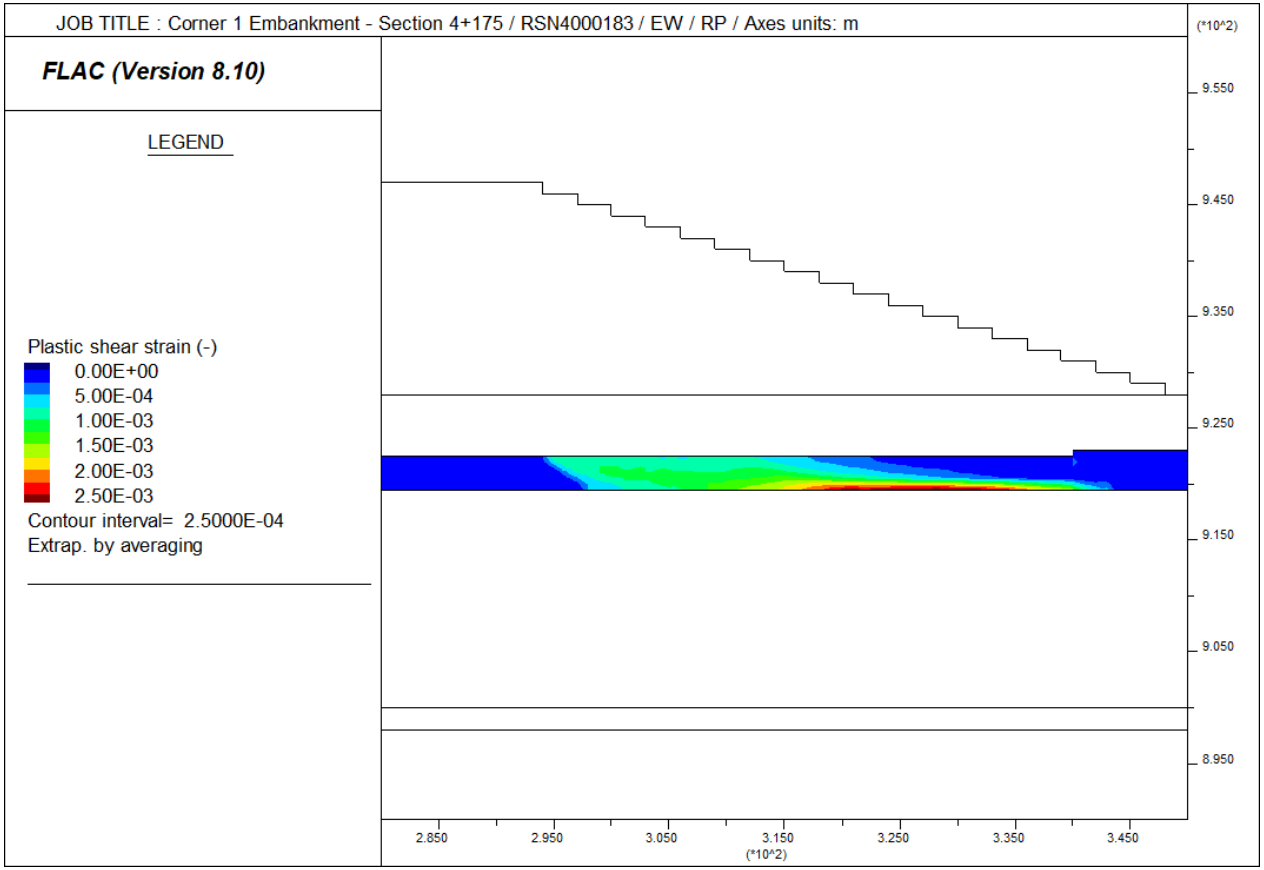

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / EW / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

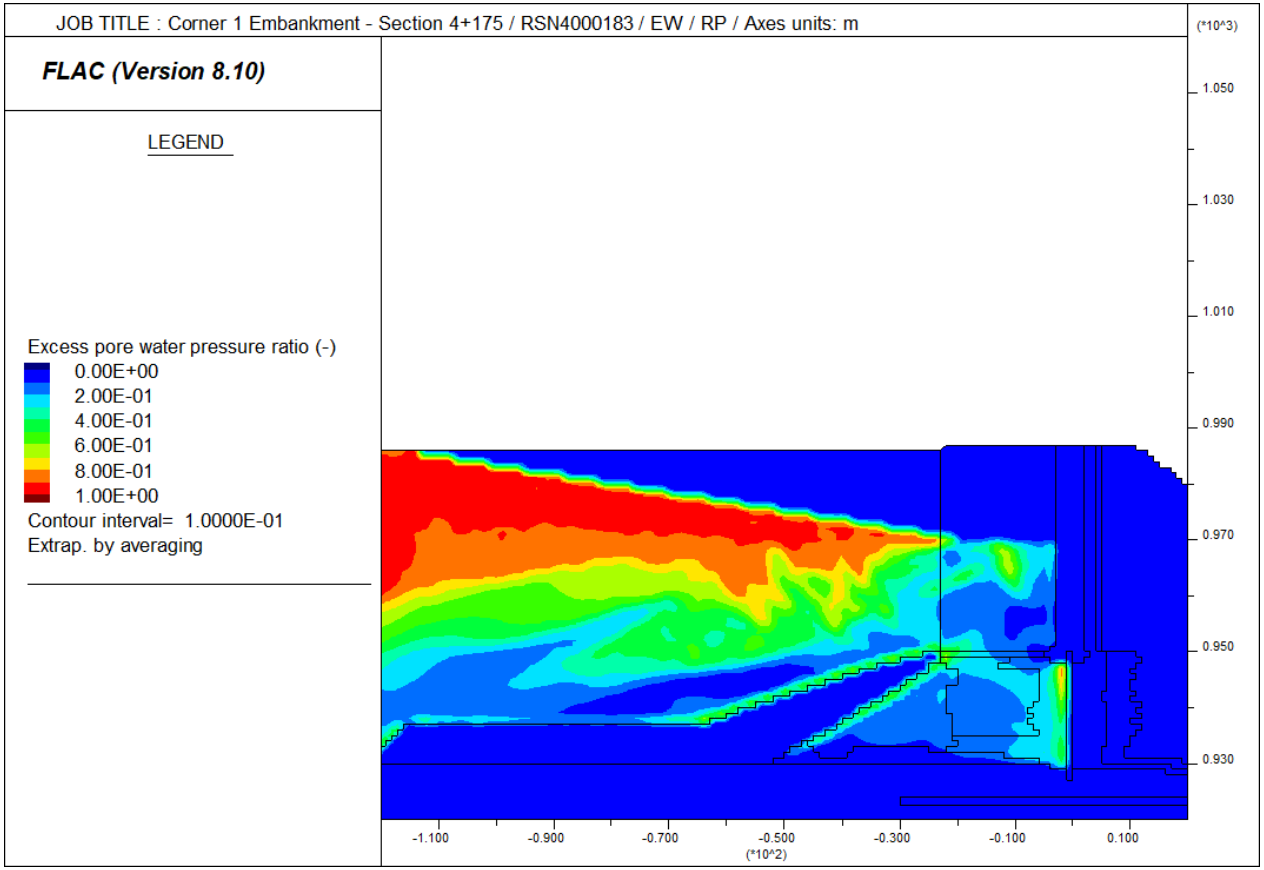

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / EW / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
-5.00E-03
5.00E-03
1.50E-02
2.50E-02
3.50E-02
4.50E-02
Contour interval= 5.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

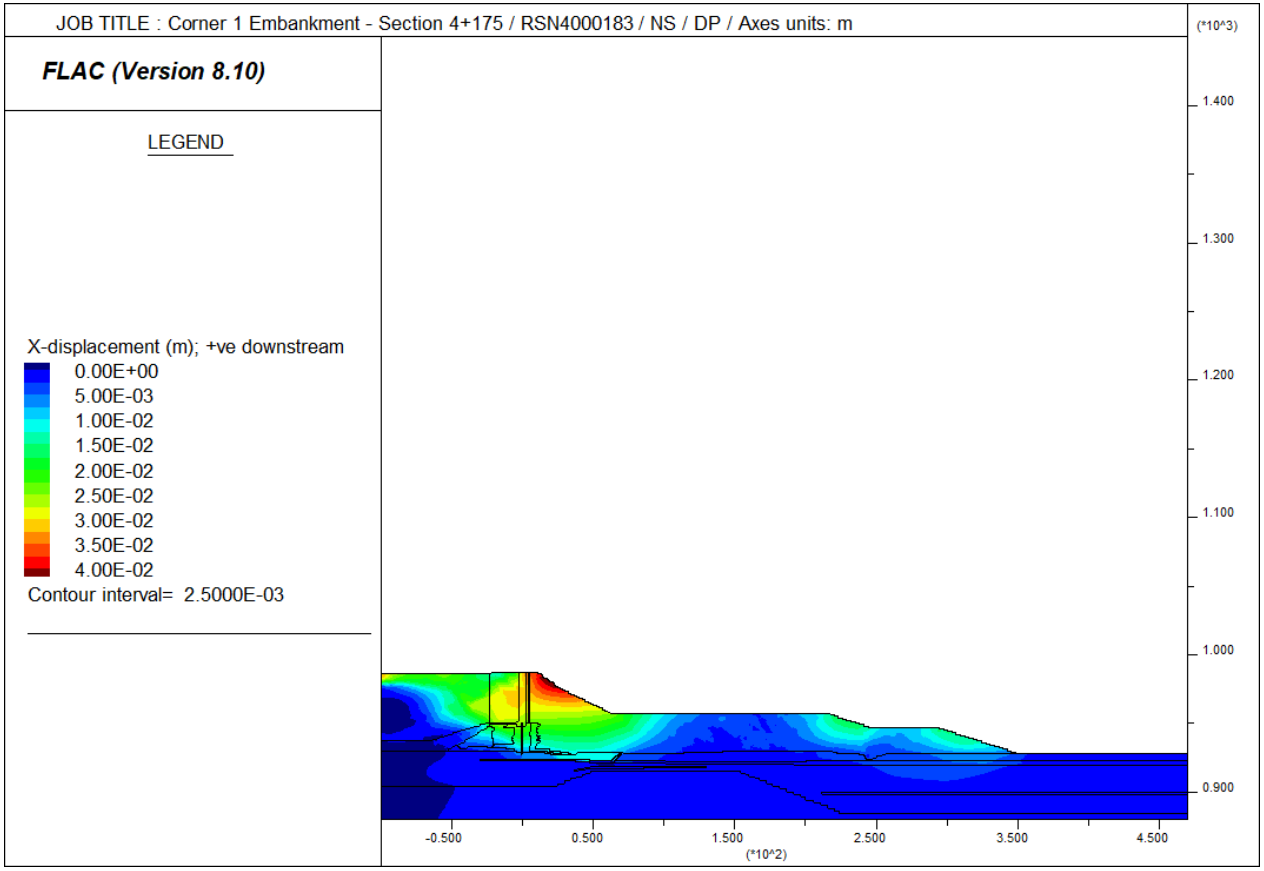

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / EW / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-5.50E-02
-4.50E-02
-3.50E-02
-2.50E-02
-1.50E-02
-5.00E-03
Contour interval= 5.0000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

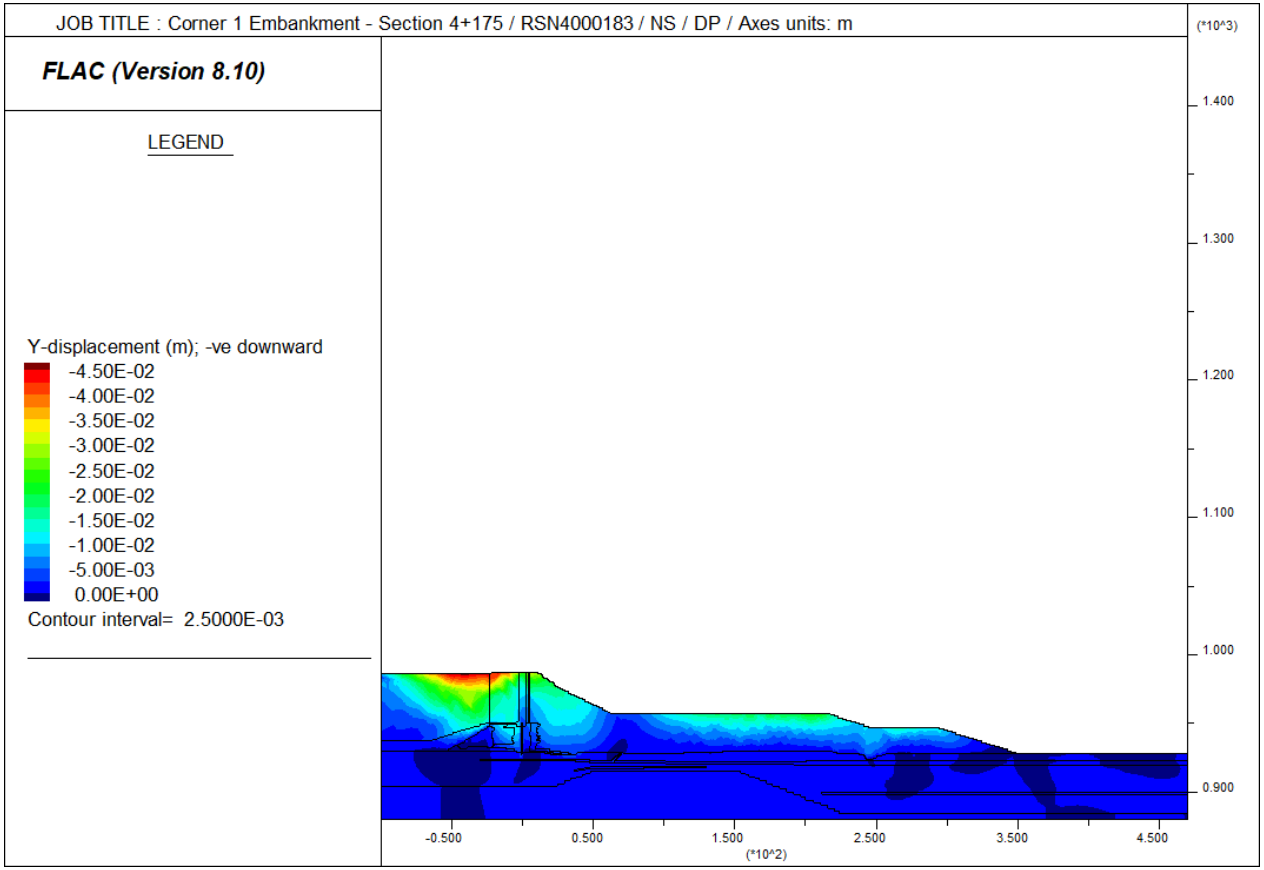

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / EW / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-03
2.00E-03
3.00E-03
4.00E-03
5.00E-03
6.00E-03
Contour interval= 5.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

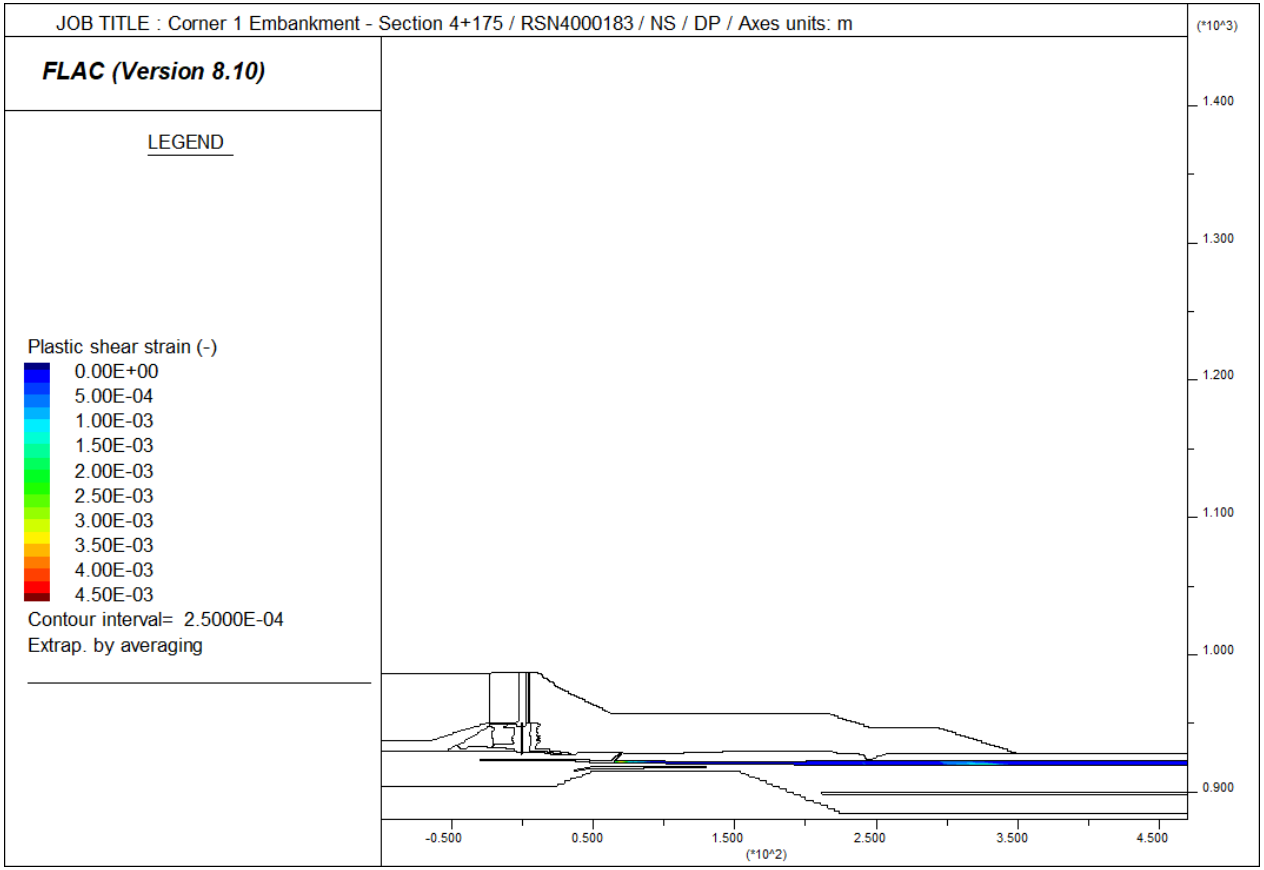

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / EW / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-03
2.00E-03
3.00E-03
4.00E-03
5.00E-03
6.00E-03
Contour interval= 5.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

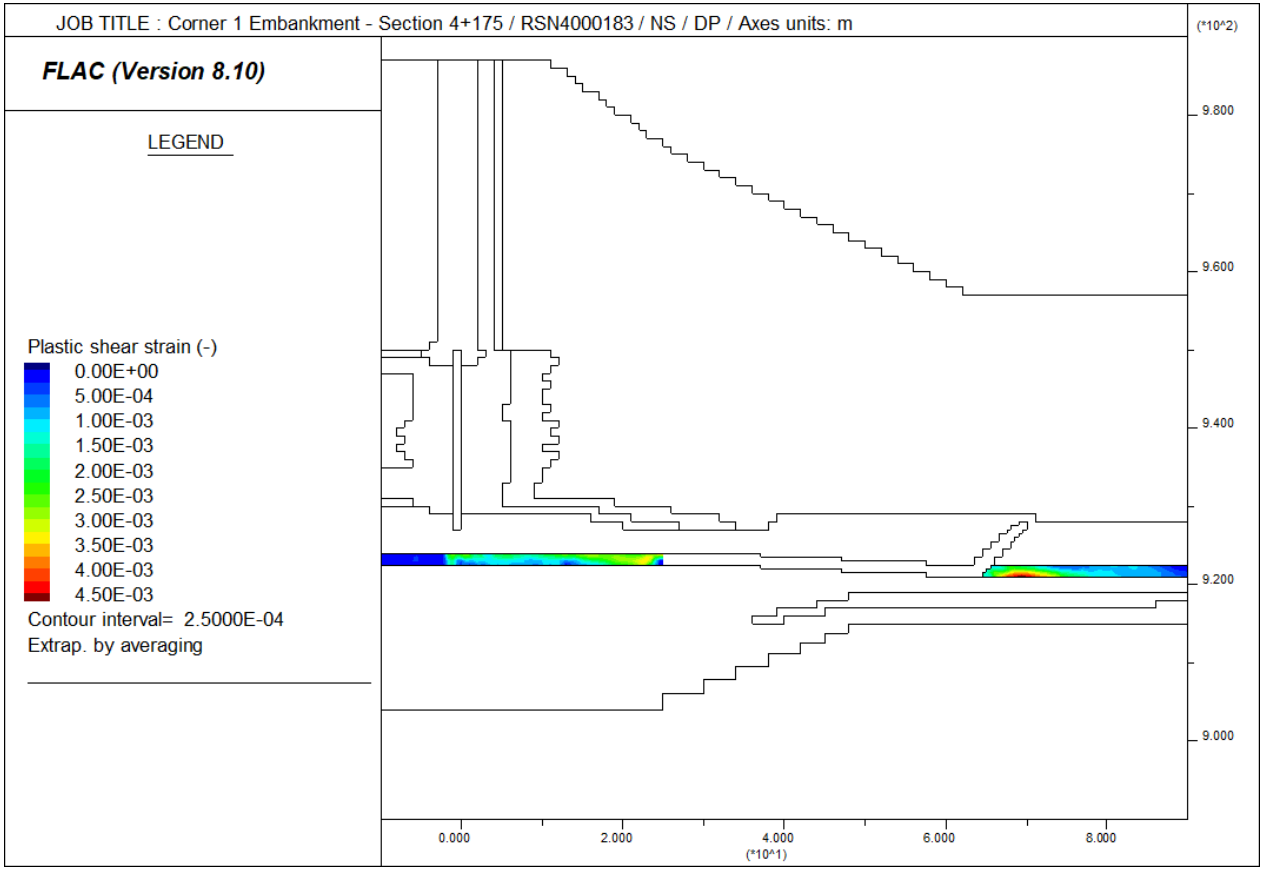

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / EW / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

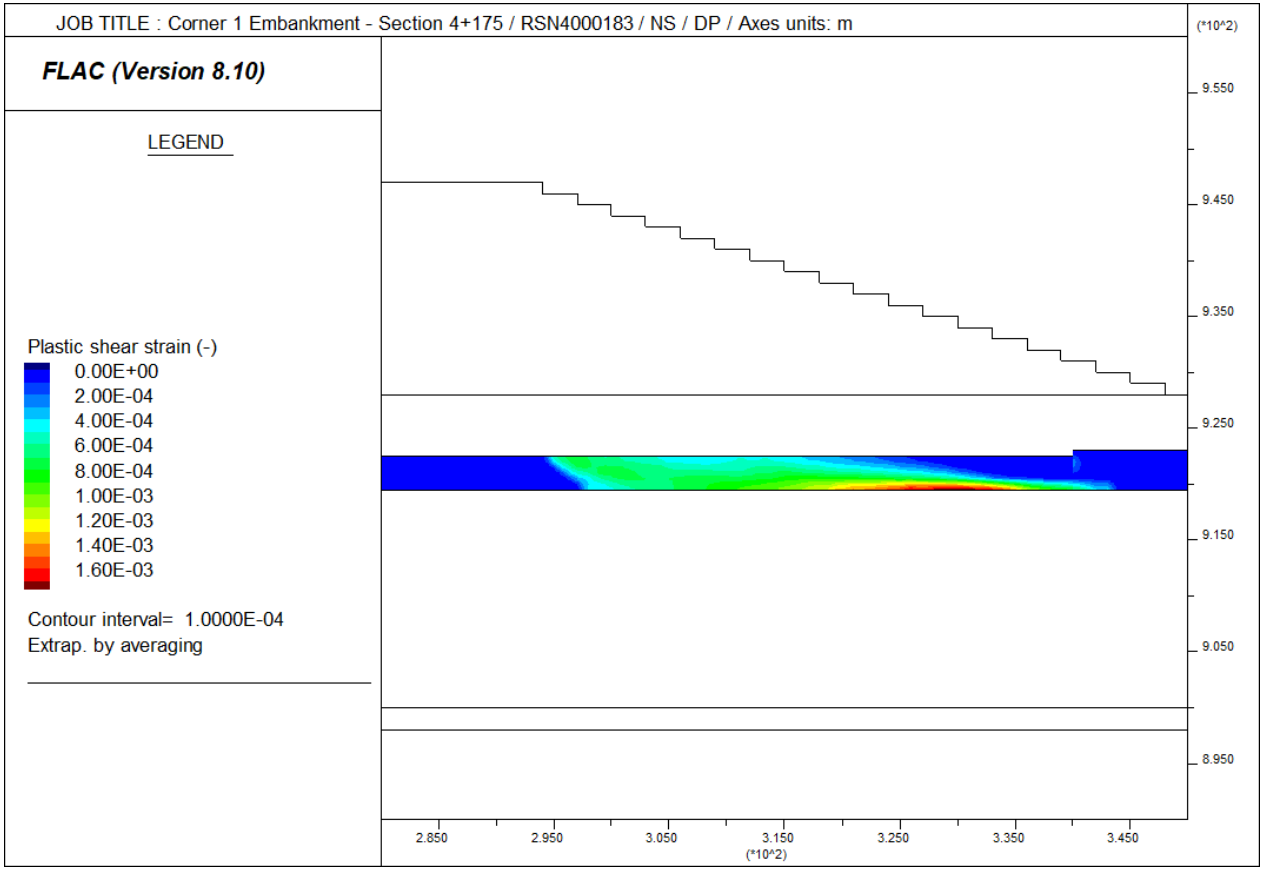

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / EW / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

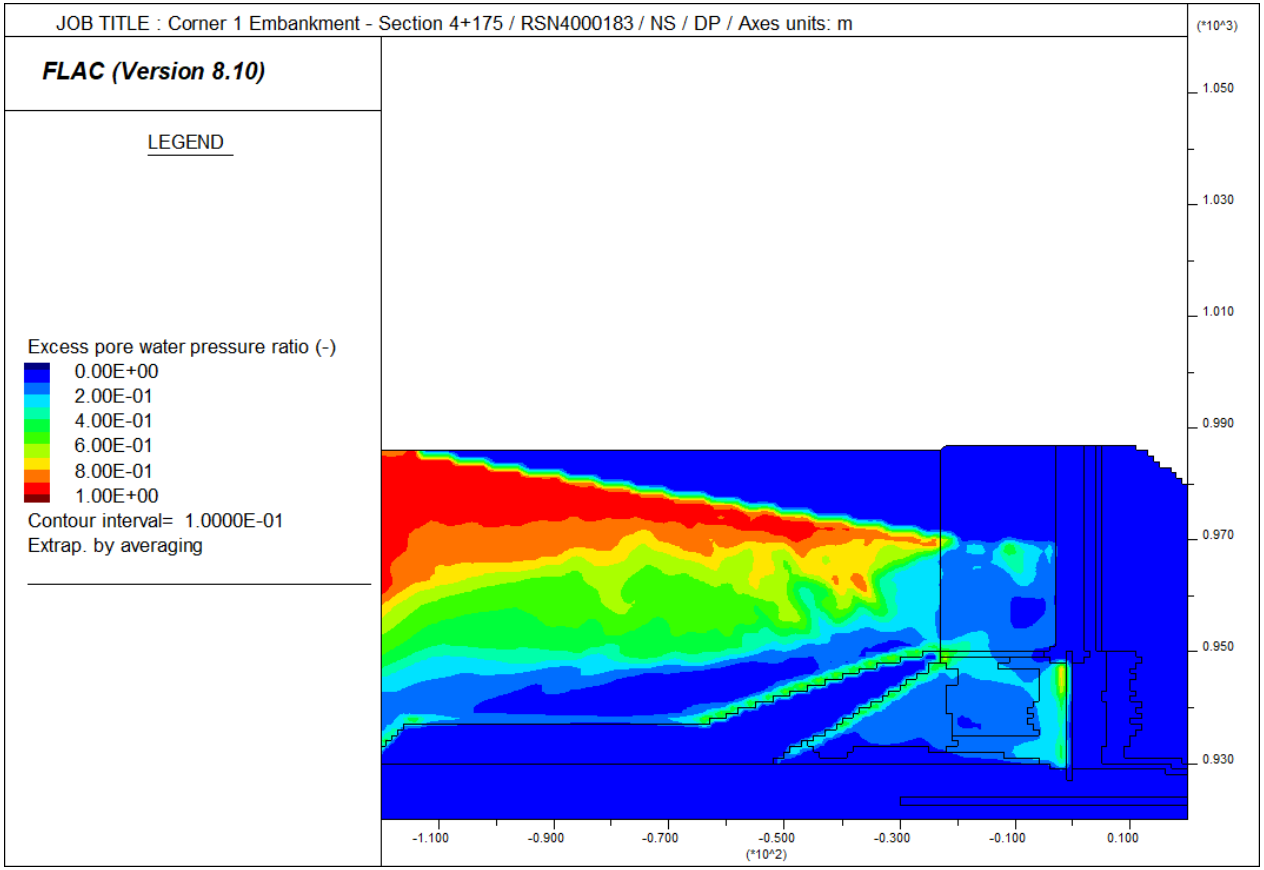

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / NS / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
5.00E-03
1.00E-02
1.50E-02
2.00E-02
2.50E-02
3.00E-02
3.50E-02
4.00E-02
Contour interval= 2.5000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

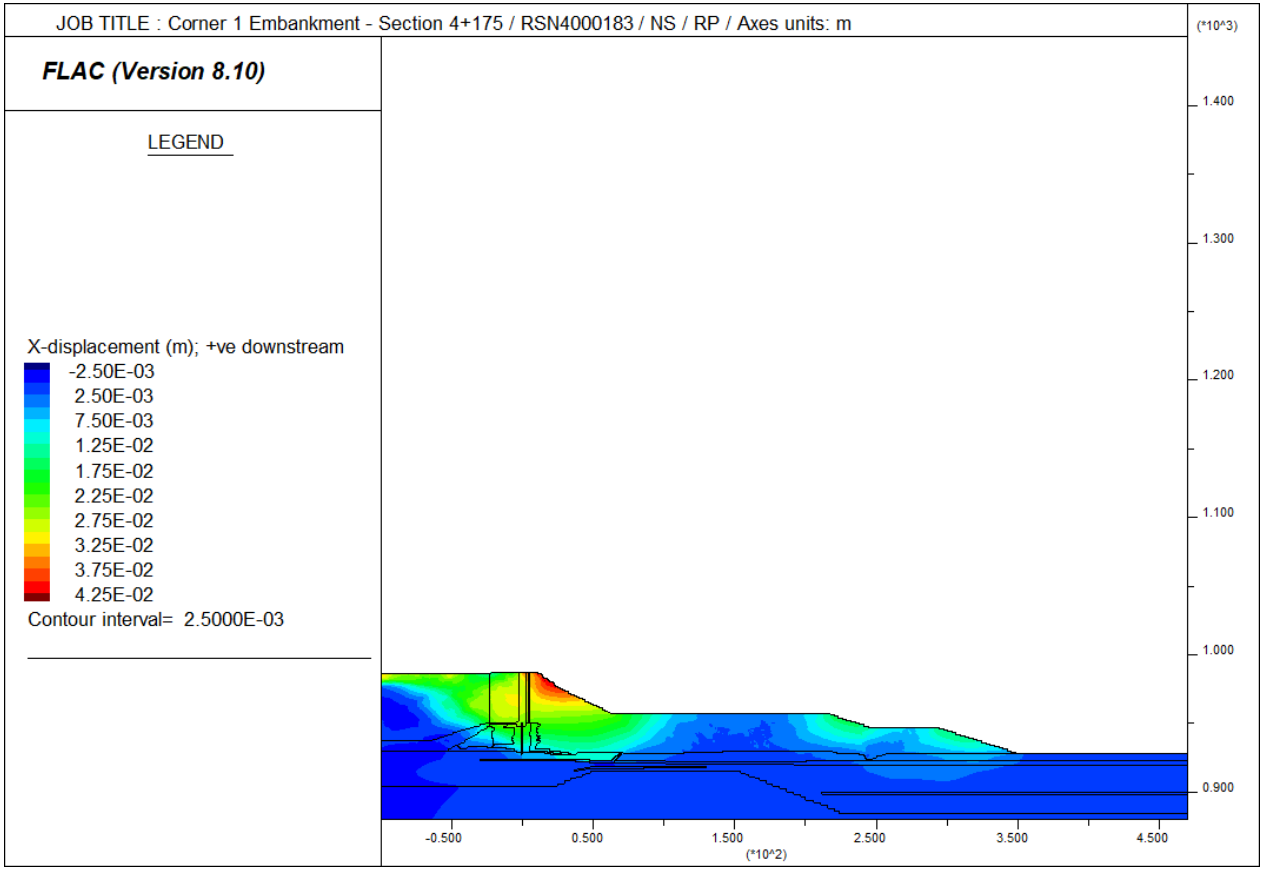

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / NS / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-4.50E-02
-4.00E-02
-3.50E-02
-3.00E-02
-2.50E-02
-2.00E-02
-1.50E-02
-1.00E-02
-5.00E-03
0.00E+00
Contour interval= 2.5000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

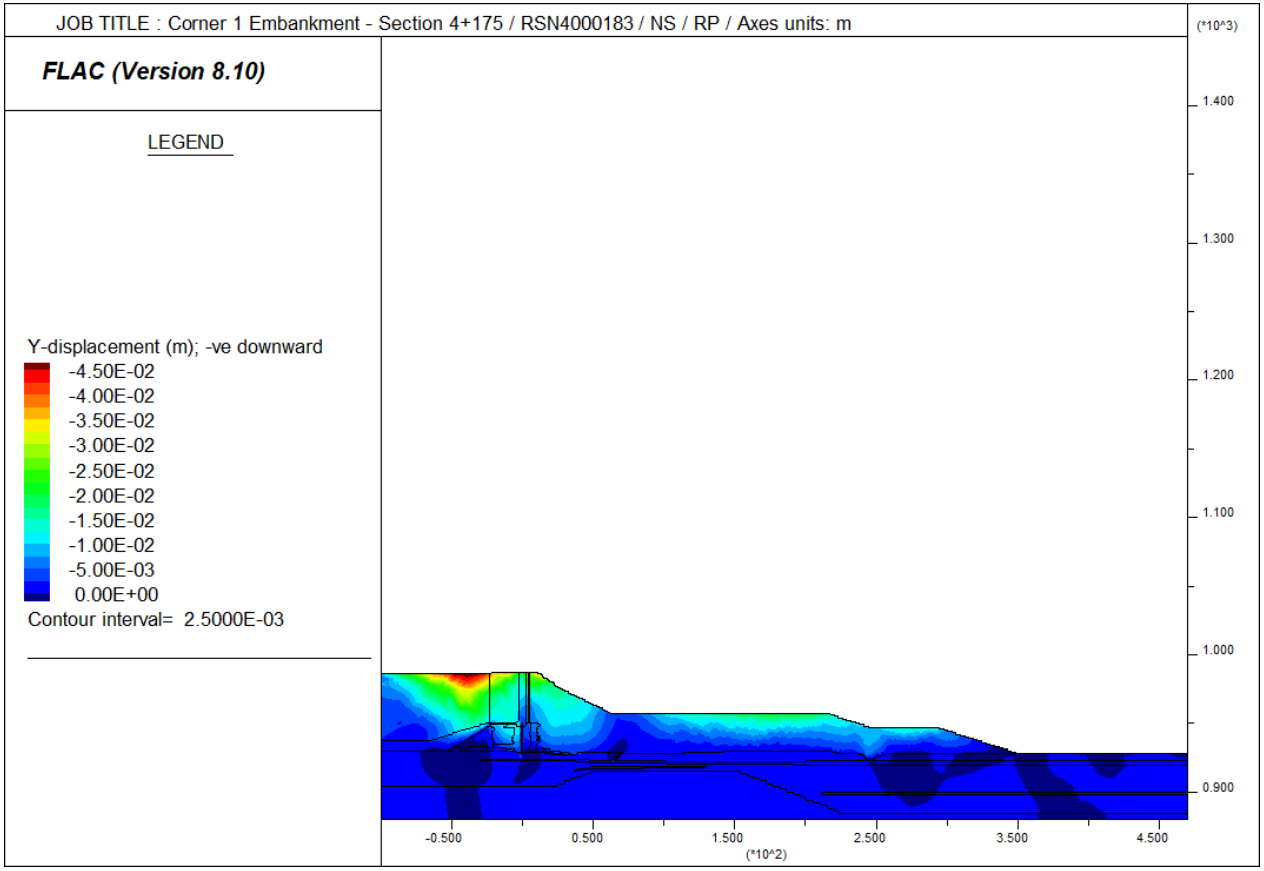

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / NS / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
3.50E-03
4.00E-03
4.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

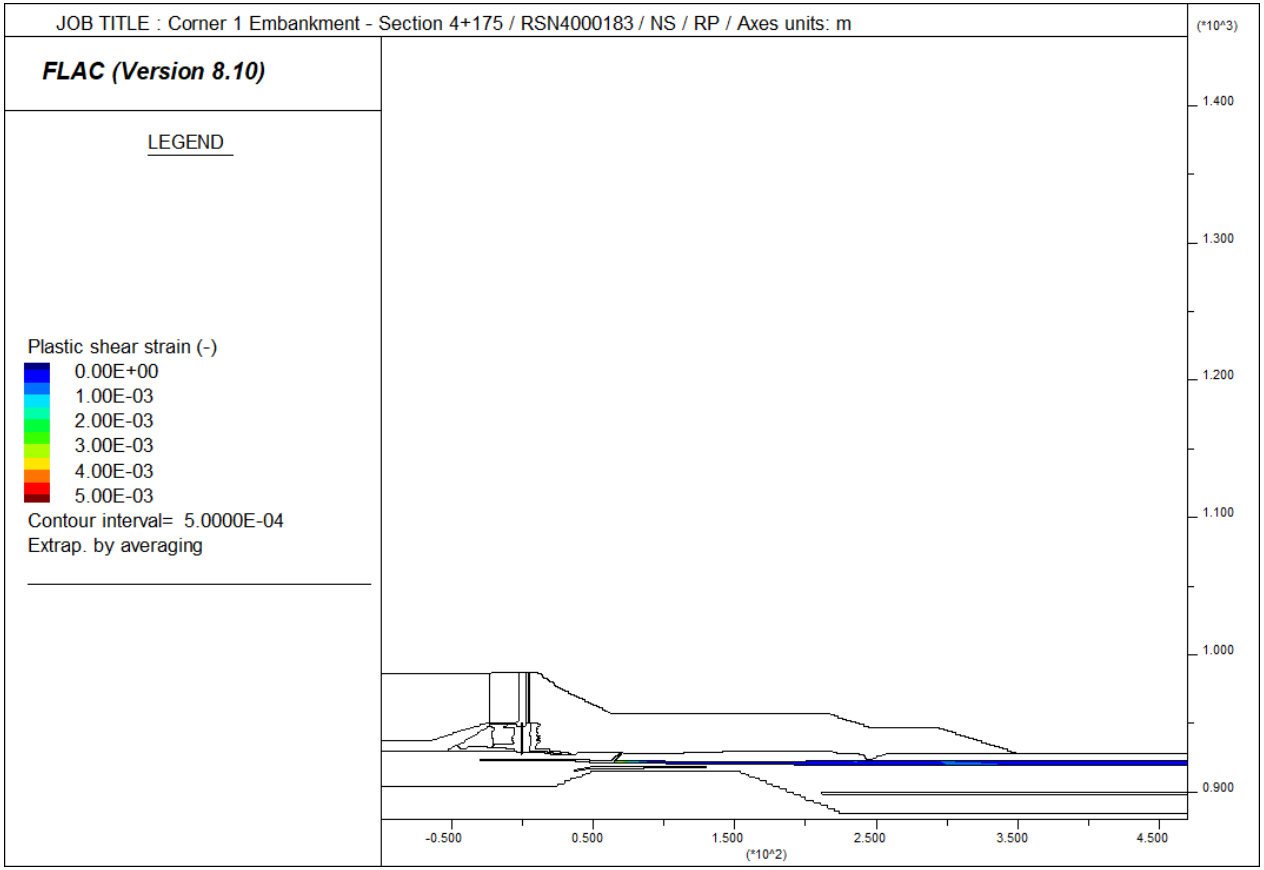

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / NS / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
3.50E-03
4.00E-03
4.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

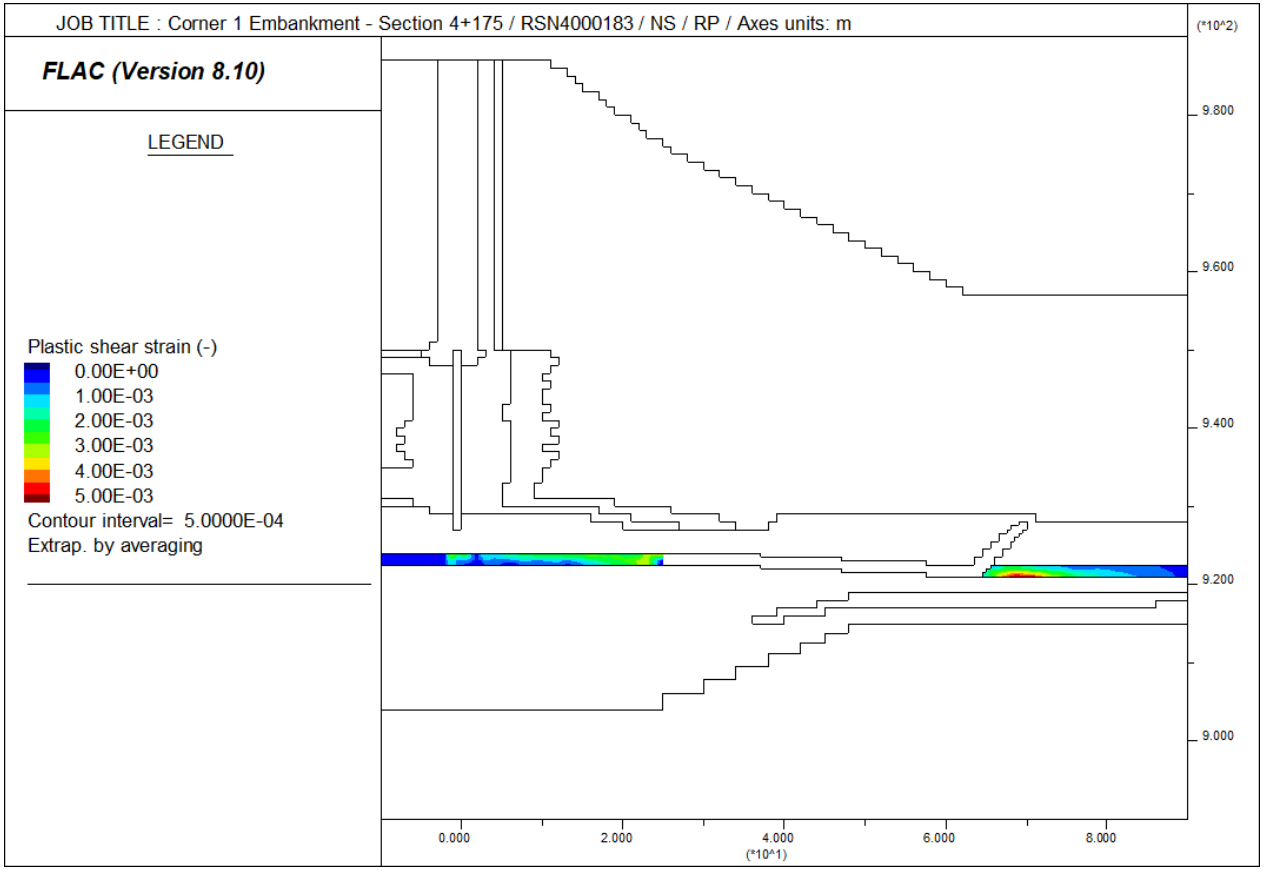

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / NS / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

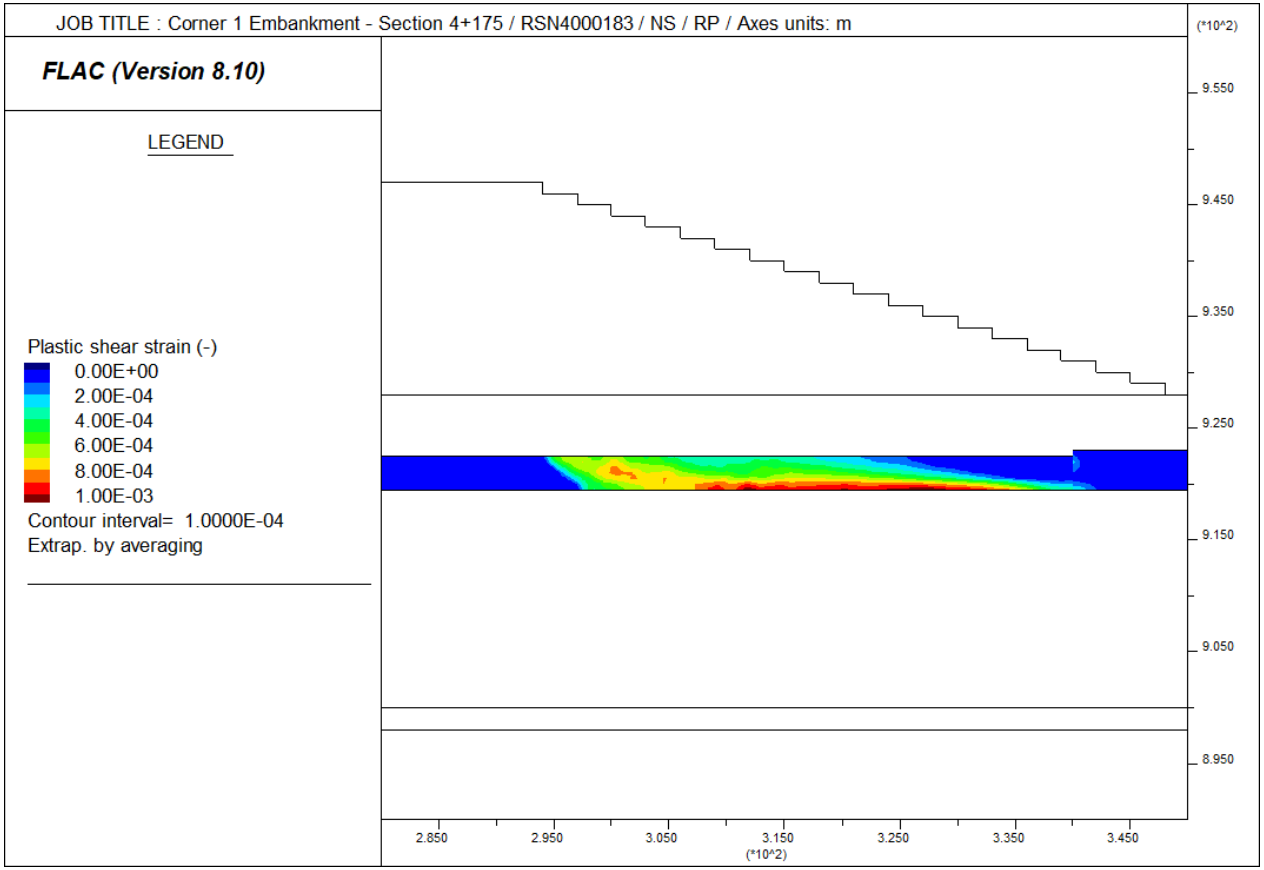

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / NS / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

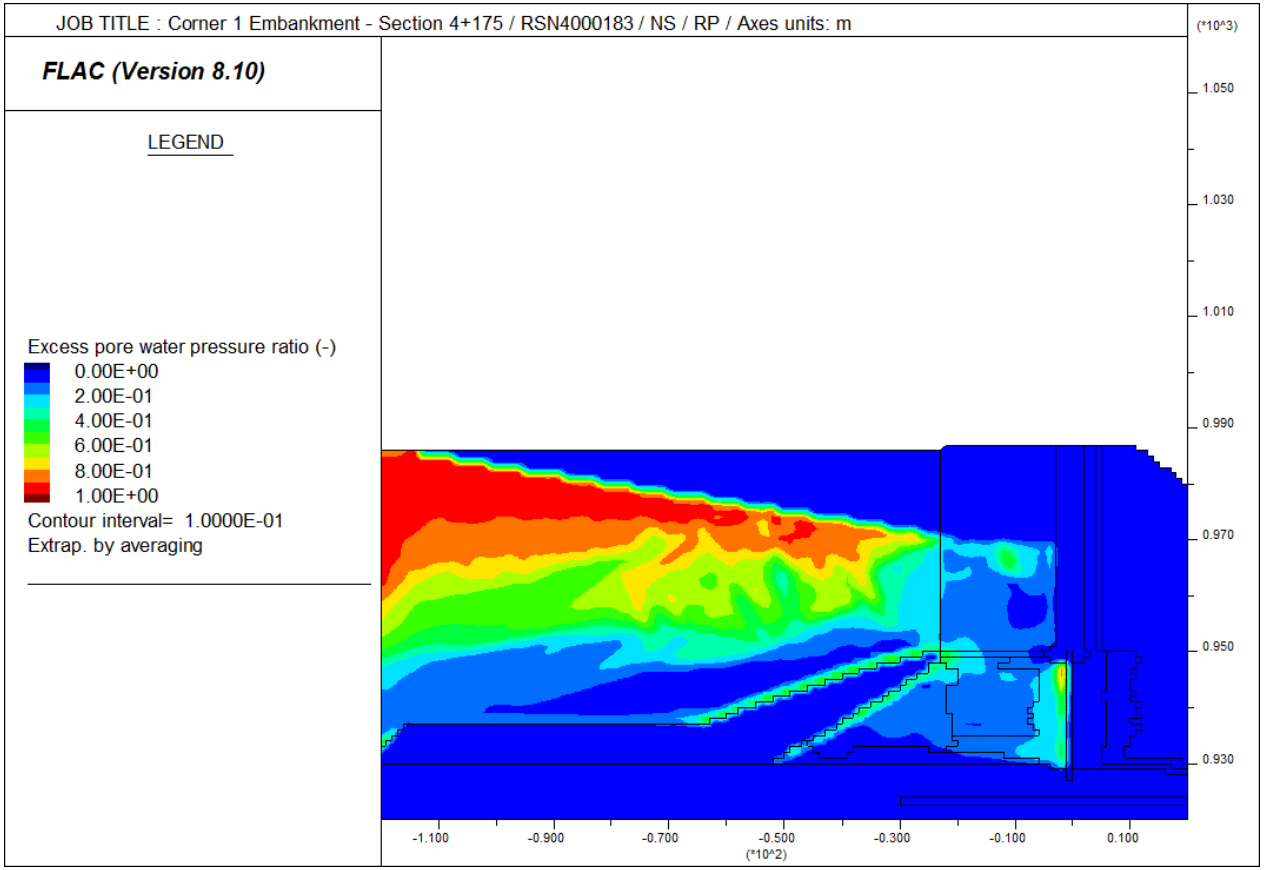

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / NS / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
-2.50E-03
2.50E-03
7.50E-03
1.25E-02
1.75E-02
2.25E-02
2.75E-02
3.25E-02
3.75E-02
4.25E-02
Contour interval= 2.5000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

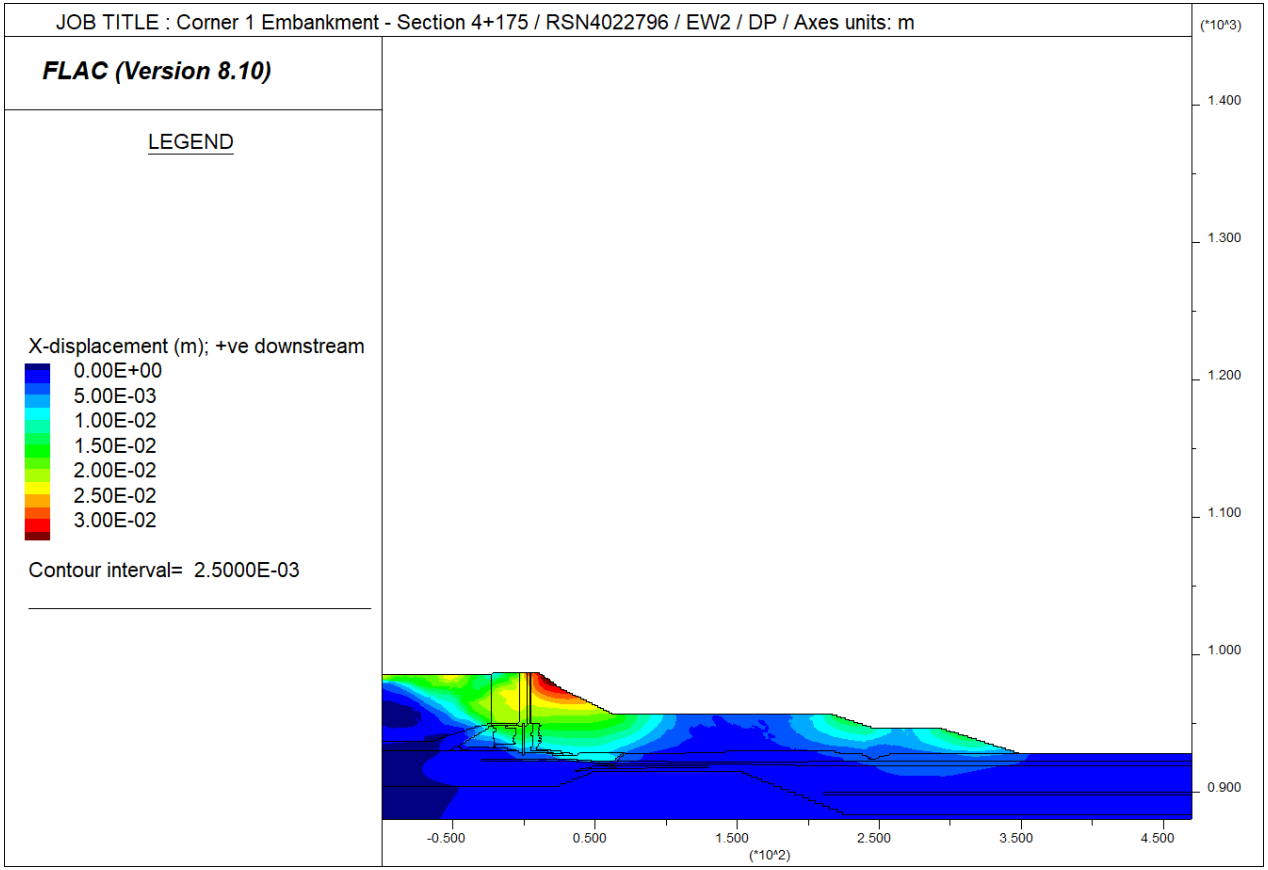

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / NS / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-4.50E-02
-4.00E-02
-3.50E-02
-3.00E-02
-2.50E-02
-2.00E-02
-1.50E-02
-1.00E-02
-5.00E-03
0.00E+00
Contour interval= 2.5000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

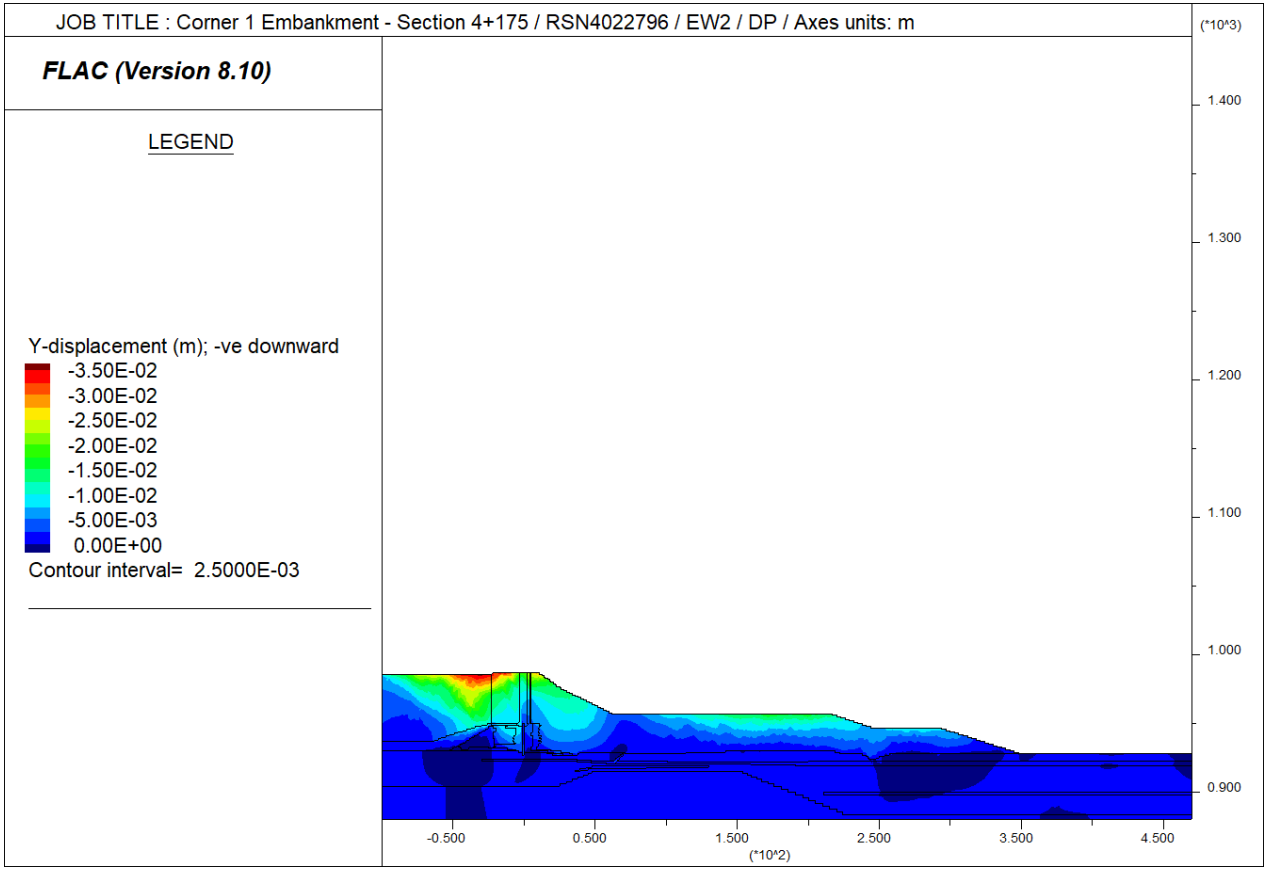

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / NS / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-03
2.00E-03
3.00E-03
4.00E-03
5.00E-03
Contour interval= 5.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

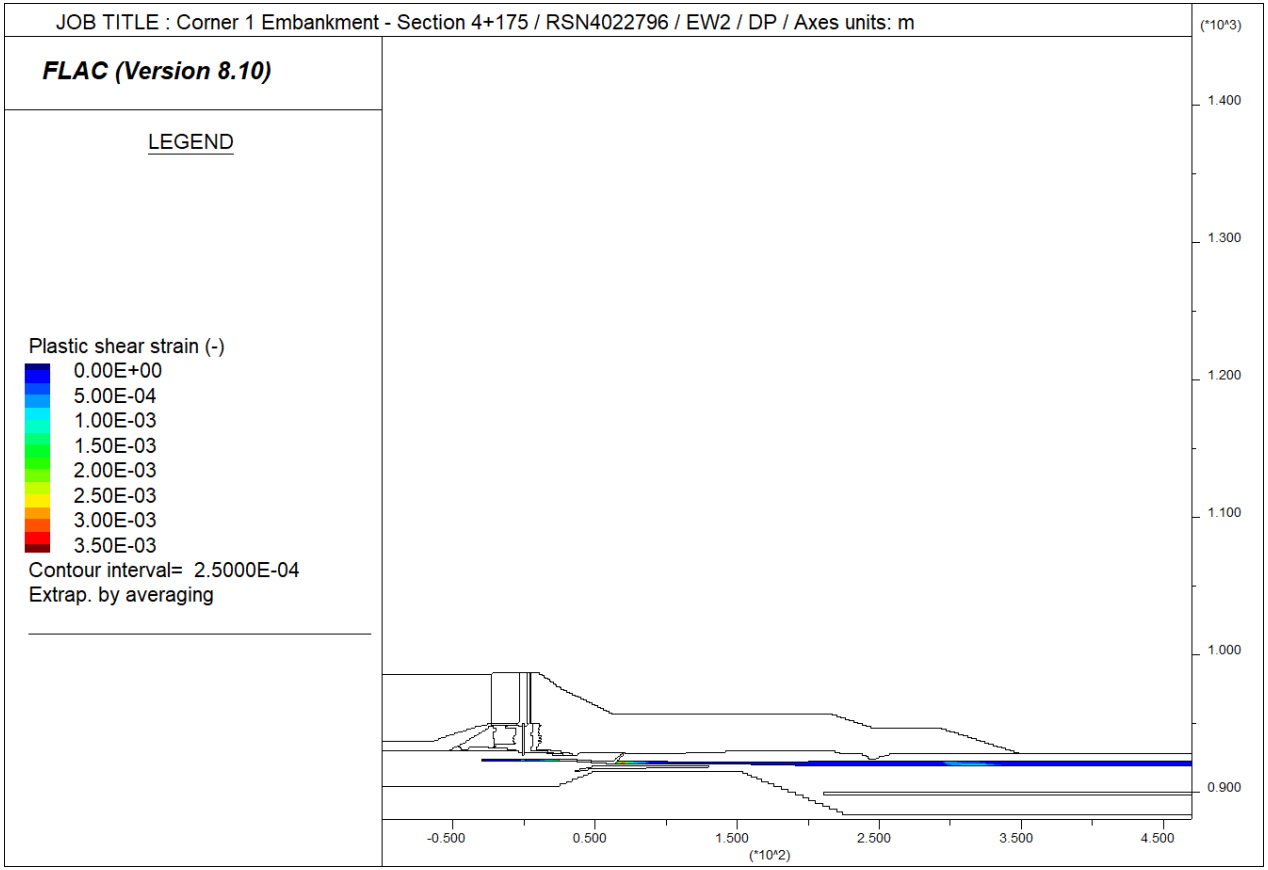

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / NS / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-03
2.00E-03
3.00E-03
4.00E-03
5.00E-03
Contour interval= 5.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

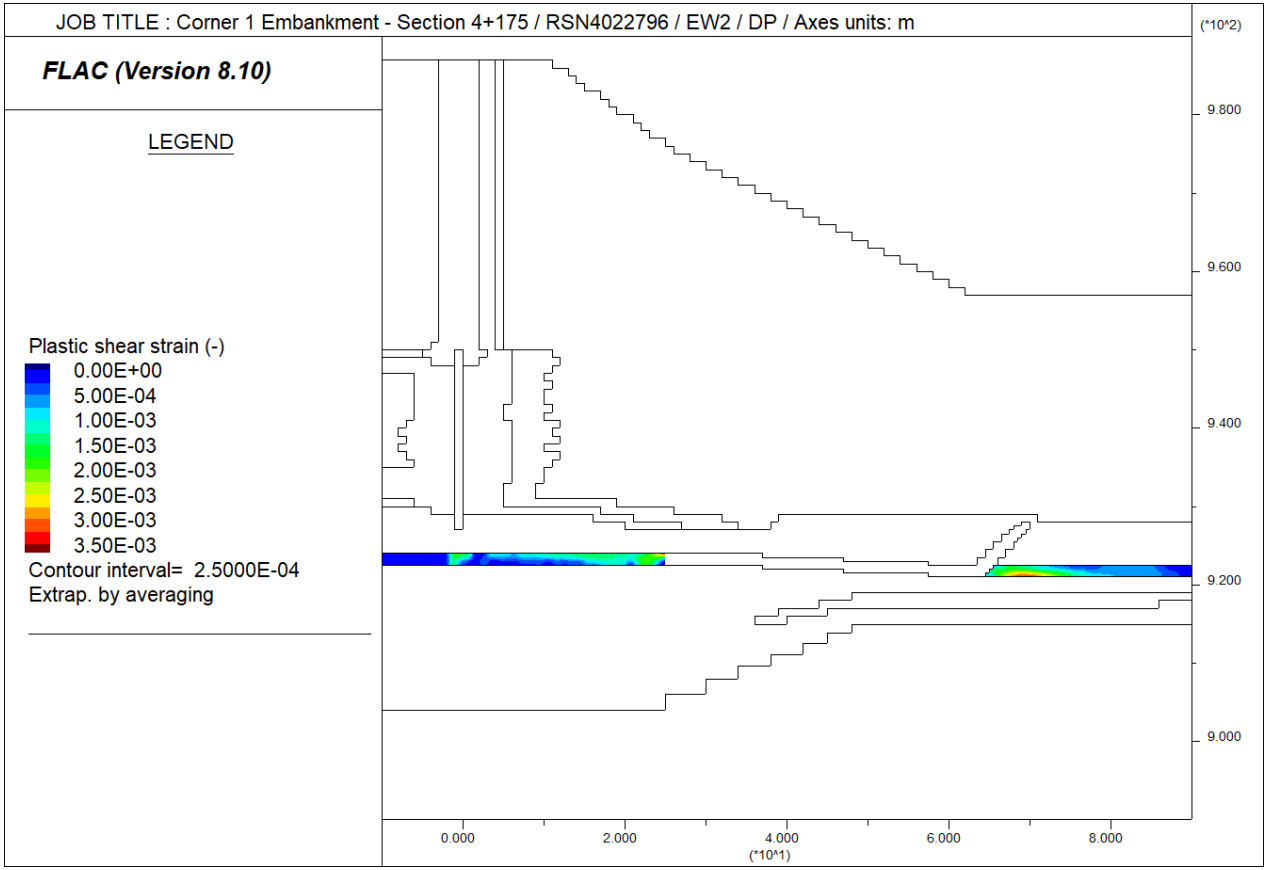

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / NS / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

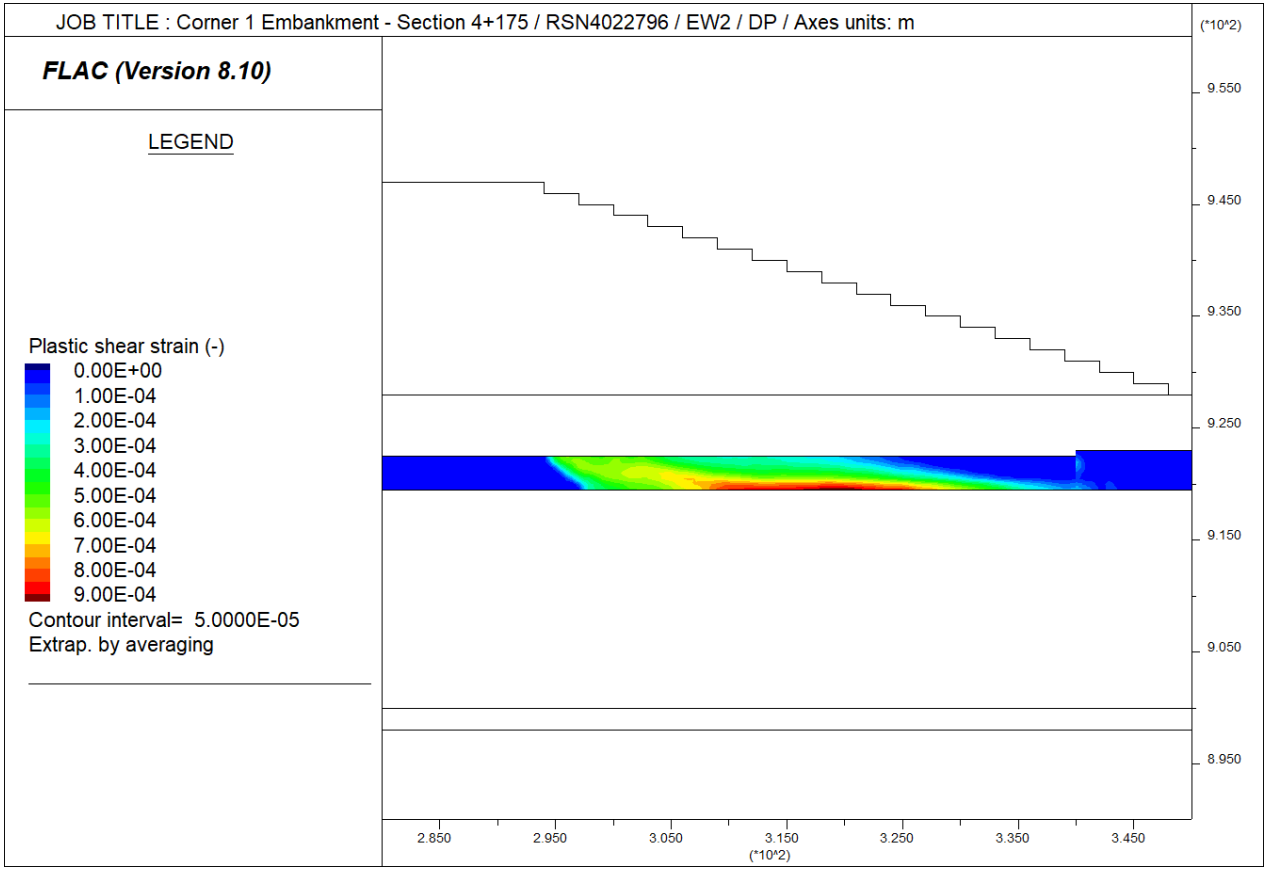

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4000183 / NS / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

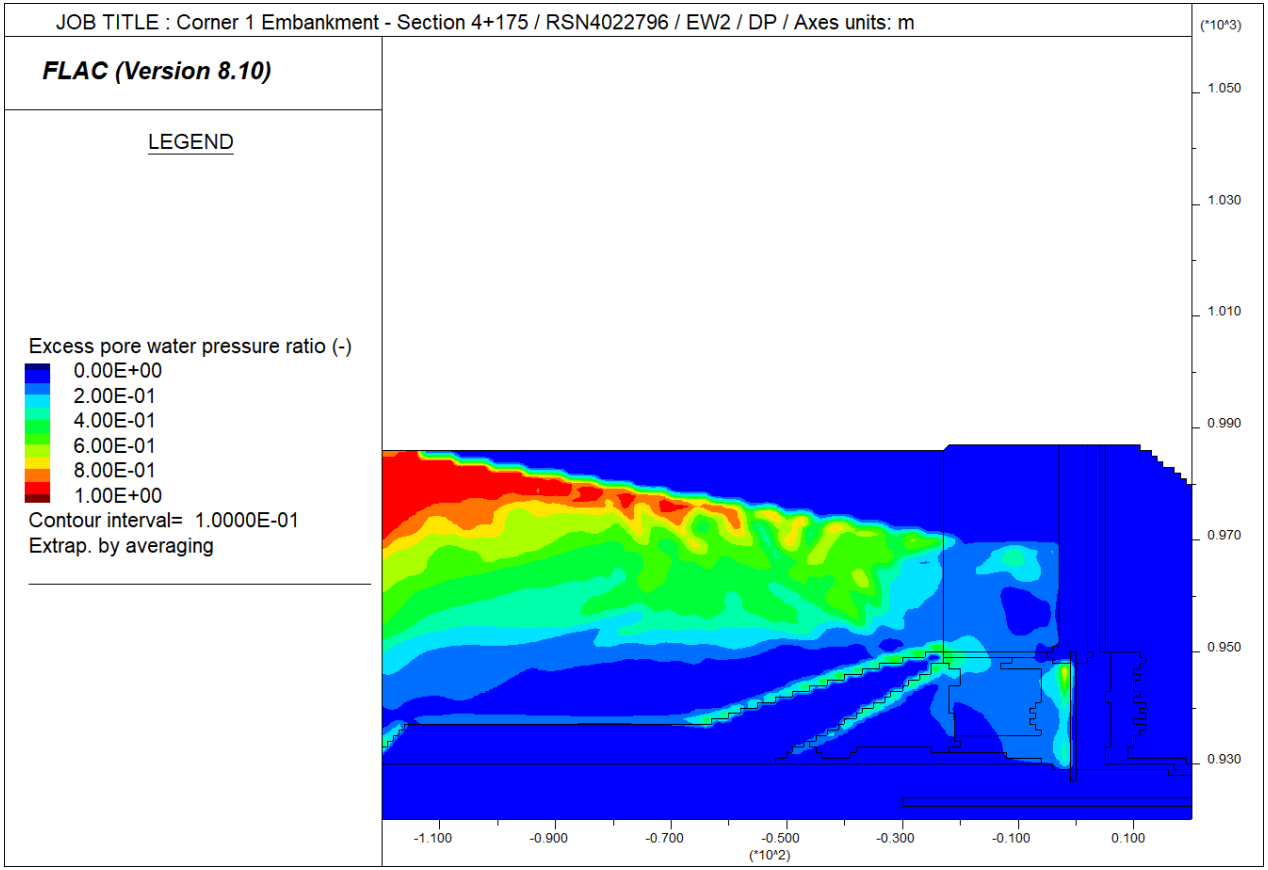

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / EW2 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
5.00E-03
1.00E-02
1.50E-02
2.00E-02
2.50E-02
3.00E-02
Contour interval= 2.5000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

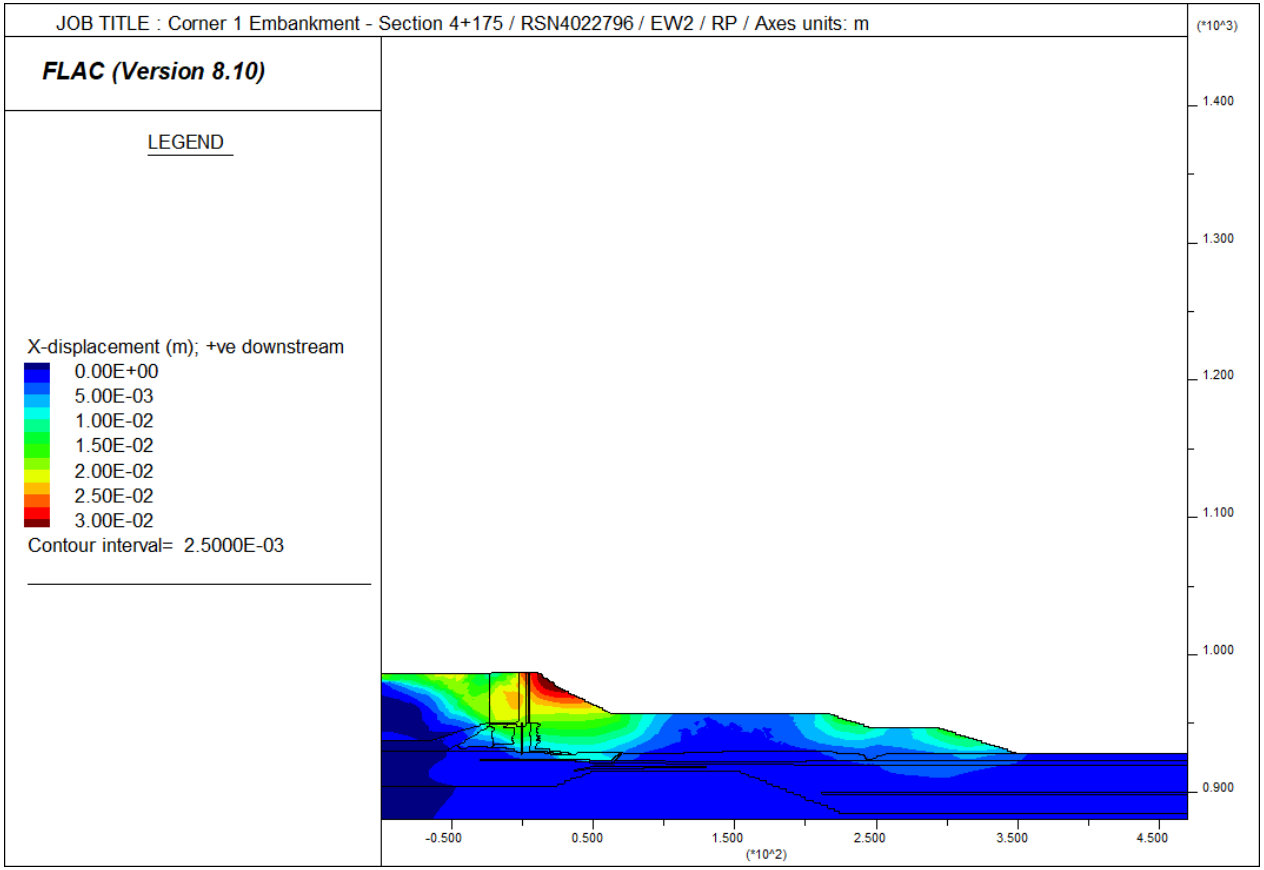

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / EW2 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-3.50E-02
-3.00E-02
-2.50E-02
-2.00E-02
-1.50E-02
-1.00E-02
-5.00E-03
0.00E+00
Contour interval= 2.5000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

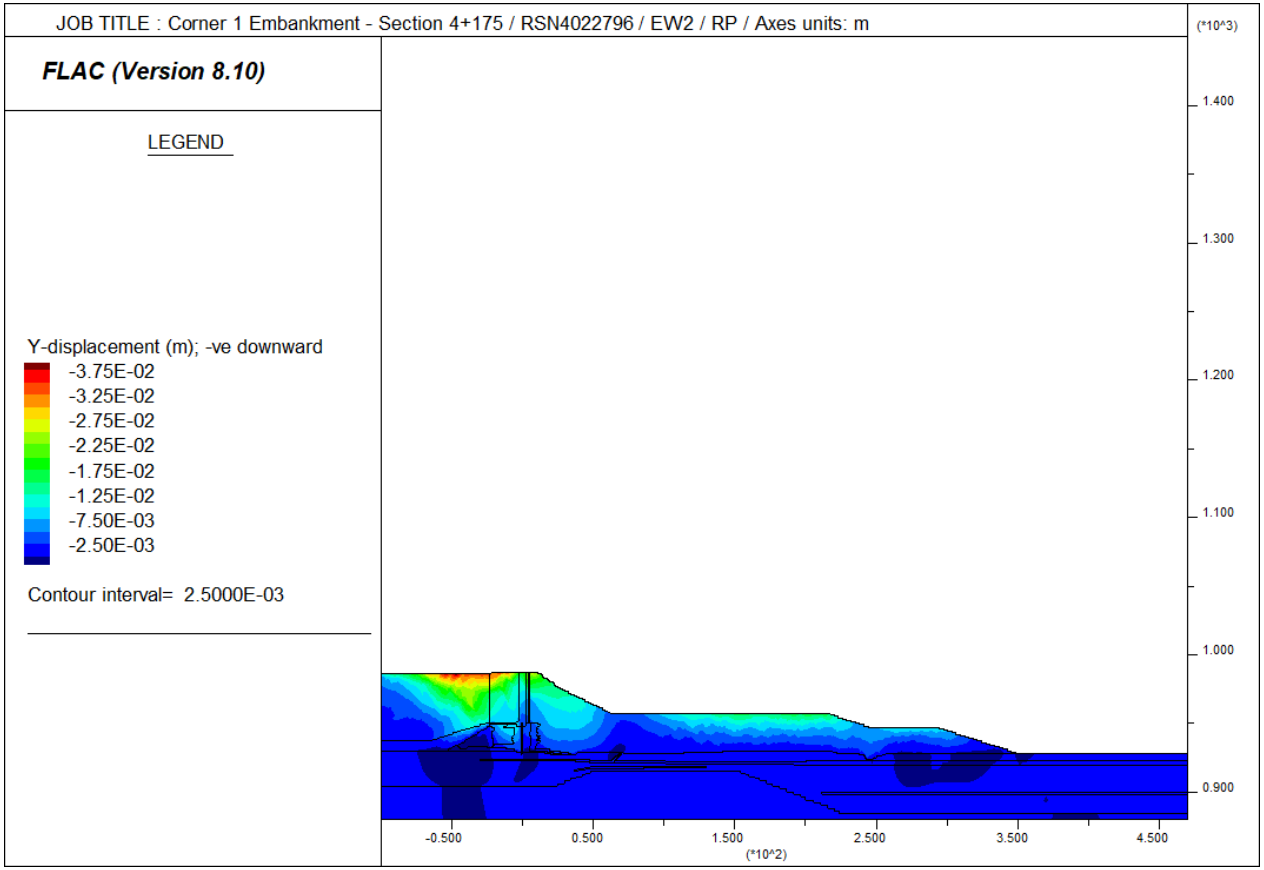

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / EW2 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
3.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

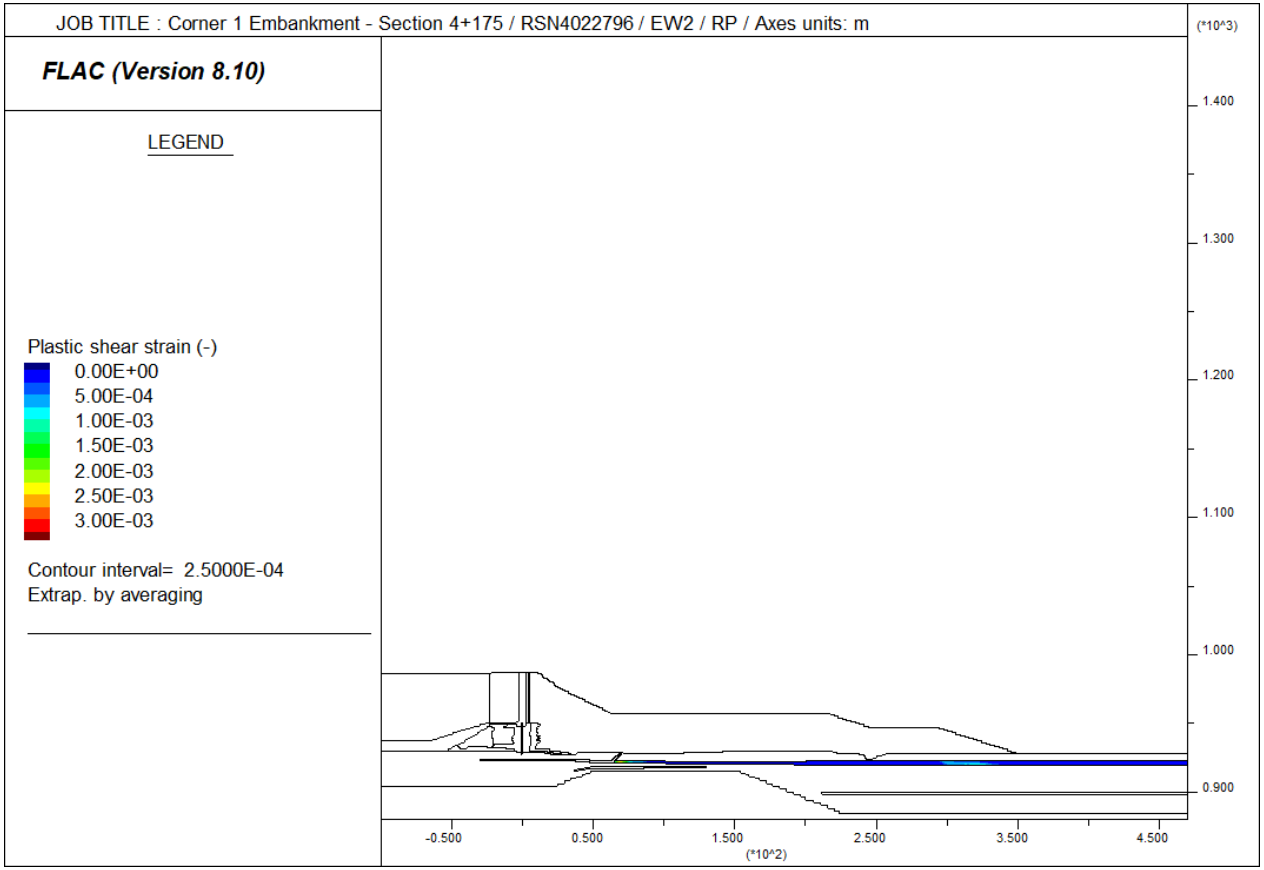

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / EW2 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
3.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

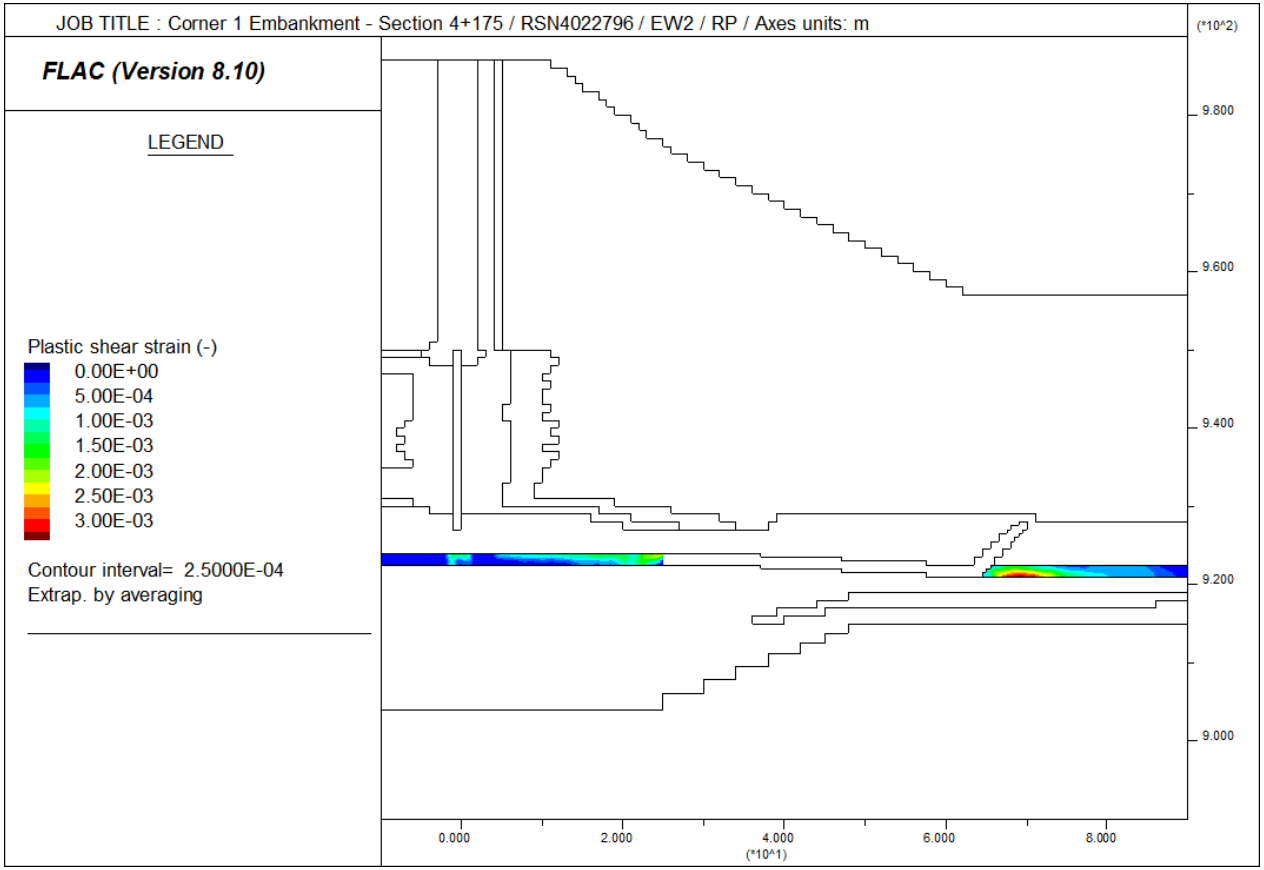

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / EW2 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
7.00E-04
8.00E-04
9.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

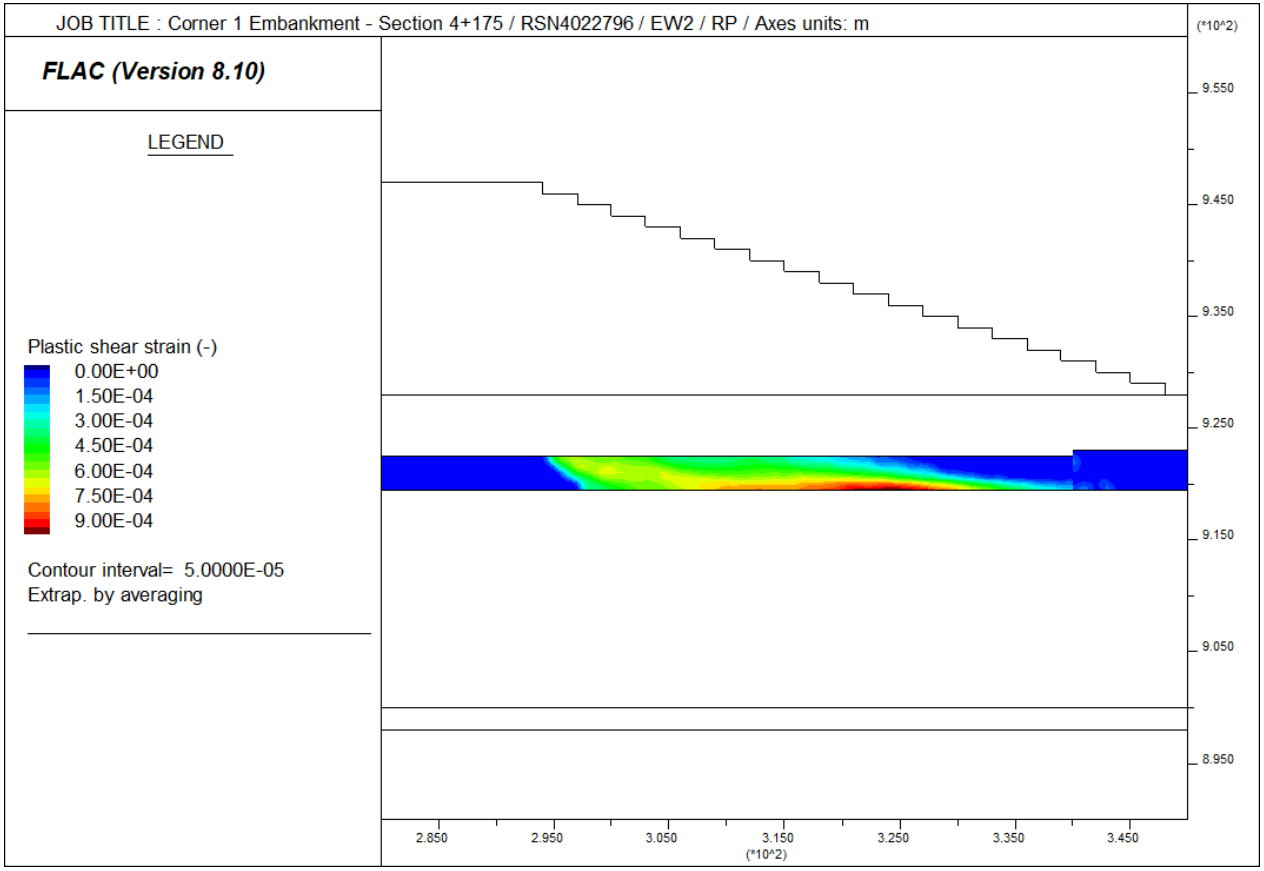

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / EW2 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

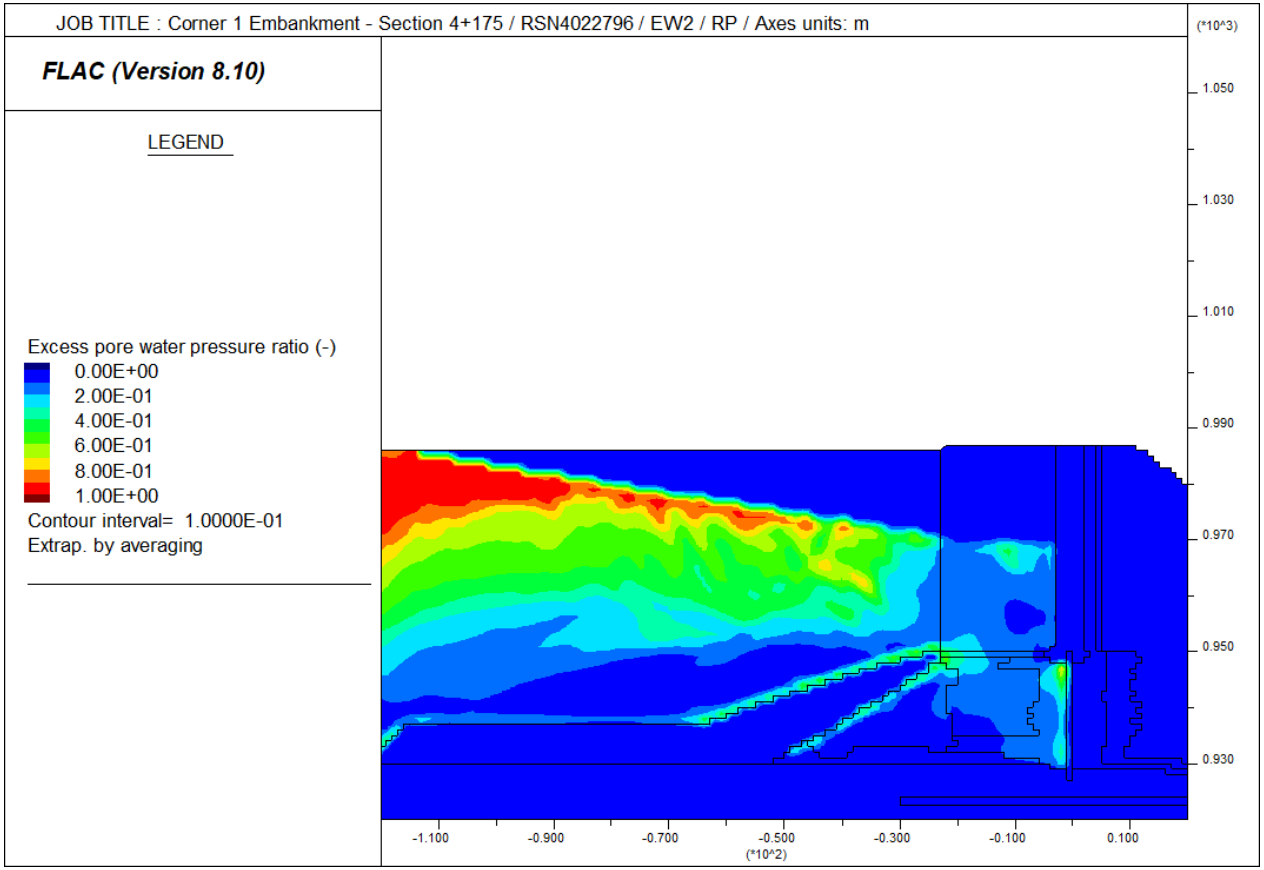

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / EW2 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
5.00E-03
1.00E-02
1.50E-02
2.00E-02
2.50E-02
3.00E-02
Contour interval= 2.5000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

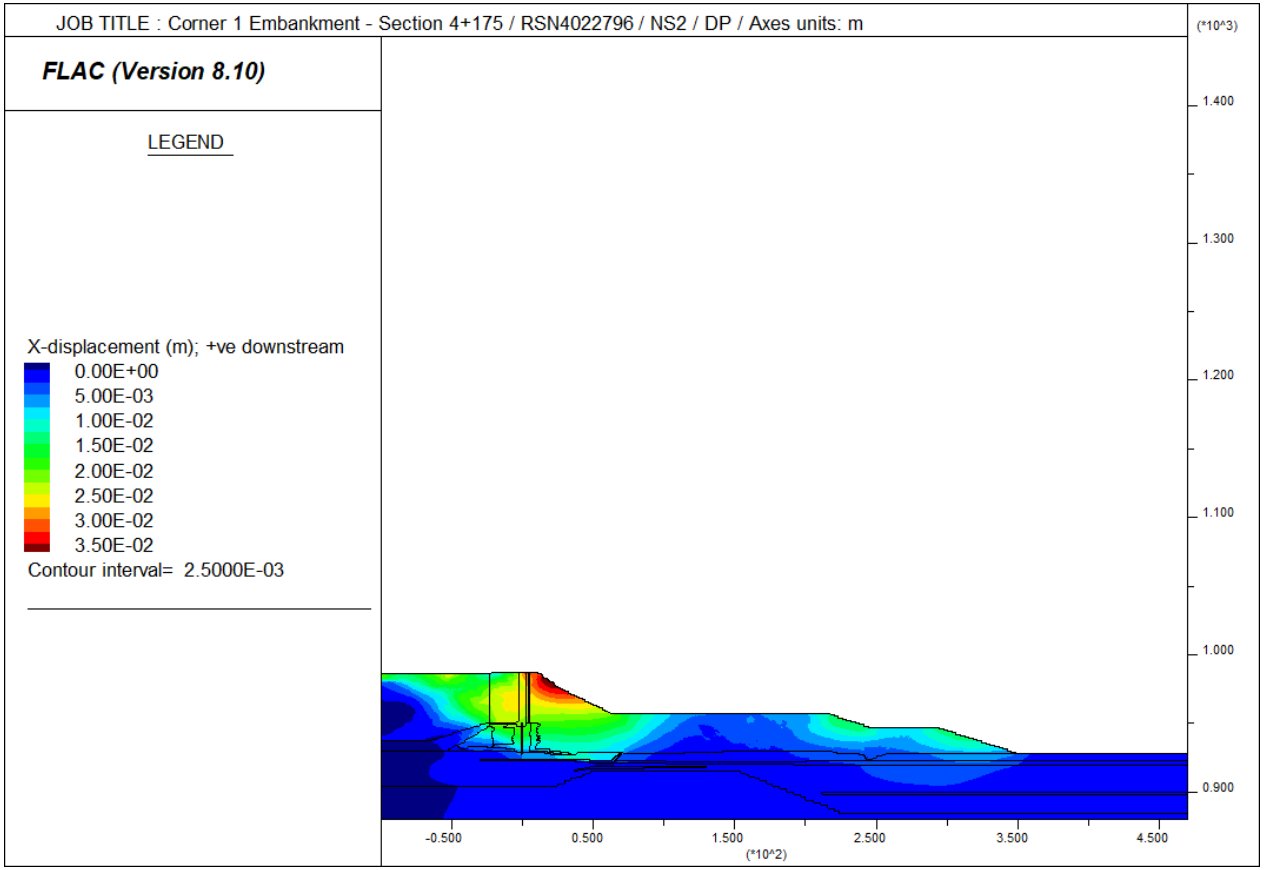

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / EW2 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-3.75E-02
-3.25E-02
-2.75E-02
-2.25E-02
-1.75E-02
-1.25E-02
-7.50E-03
-2.50E-03
Contour interval= 2.5000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

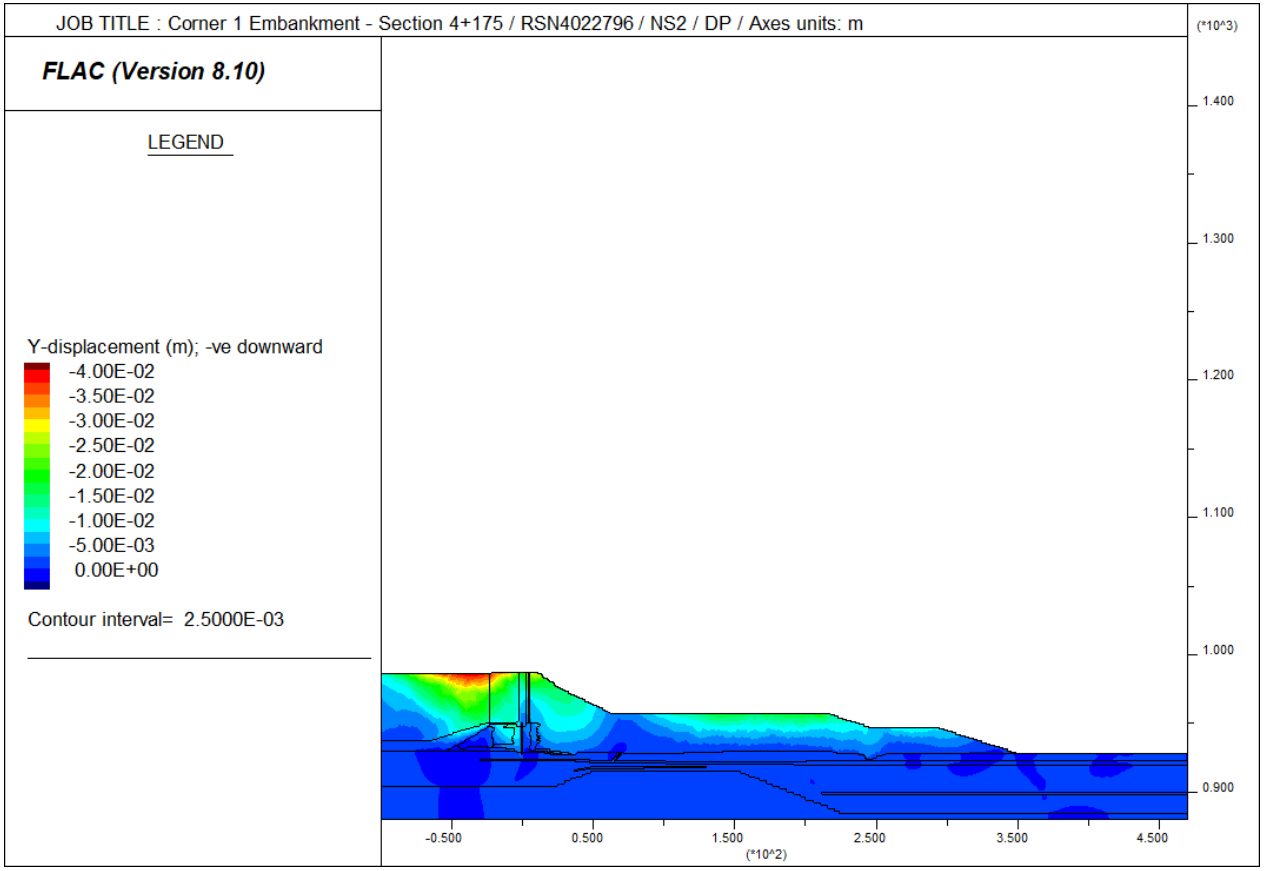

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / EW2 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

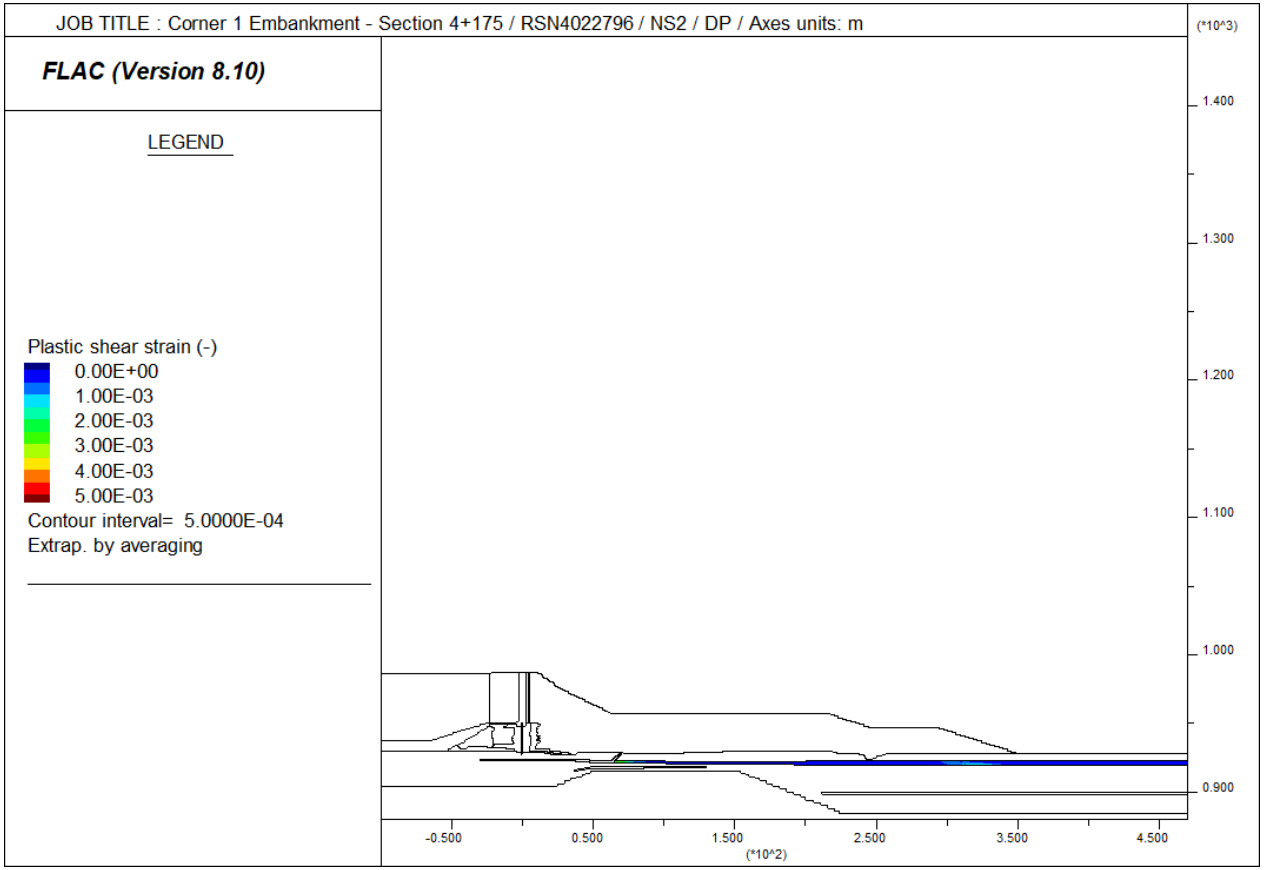

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / EW2 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

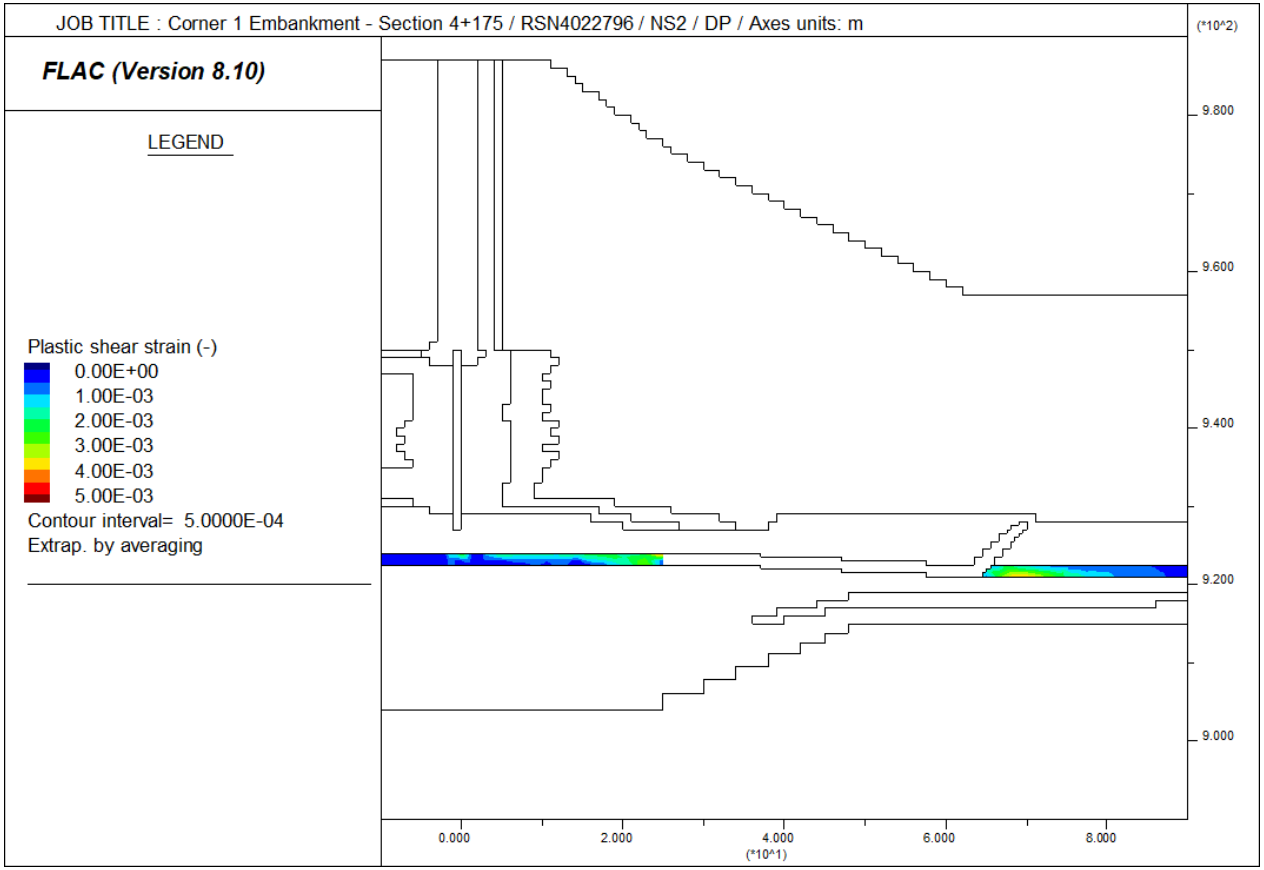

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / EW2 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.50E-04
3.00E-04
4.50E-04
6.00E-04
7.50E-04
9.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

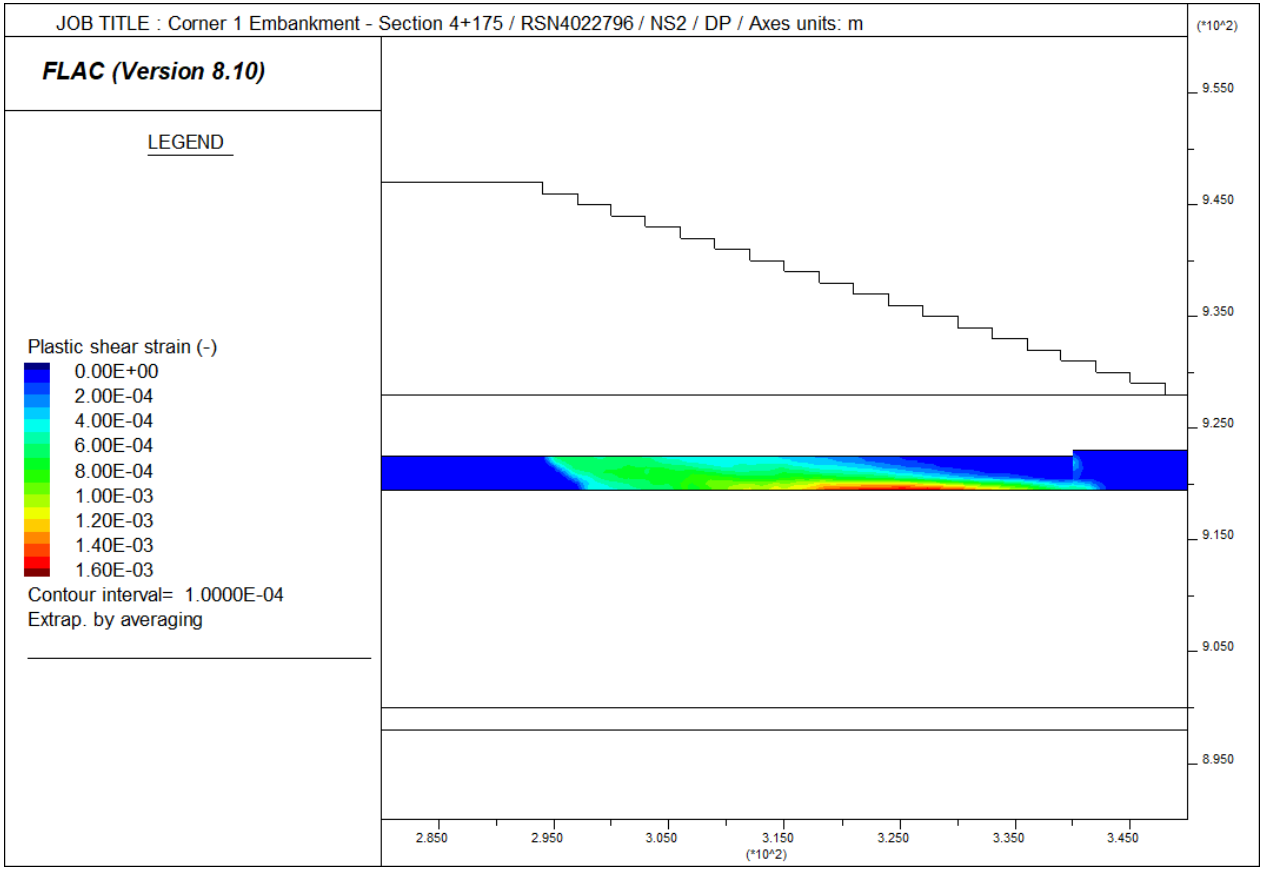

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / EW2 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

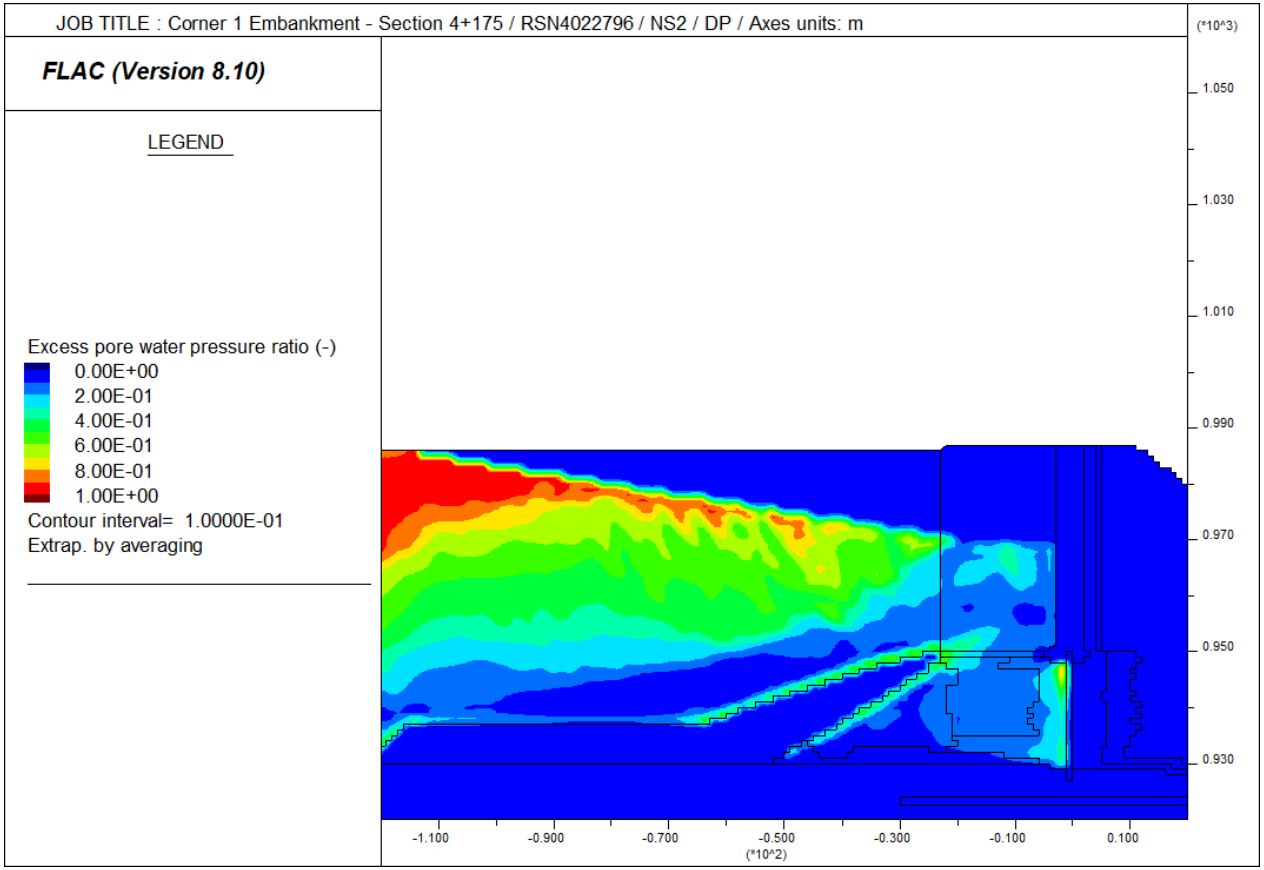

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / NS2 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
5.00E-03
1.00E-02
1.50E-02
2.00E-02
2.50E-02
3.00E-02
3.50E-02
Contour interval= 2.5000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

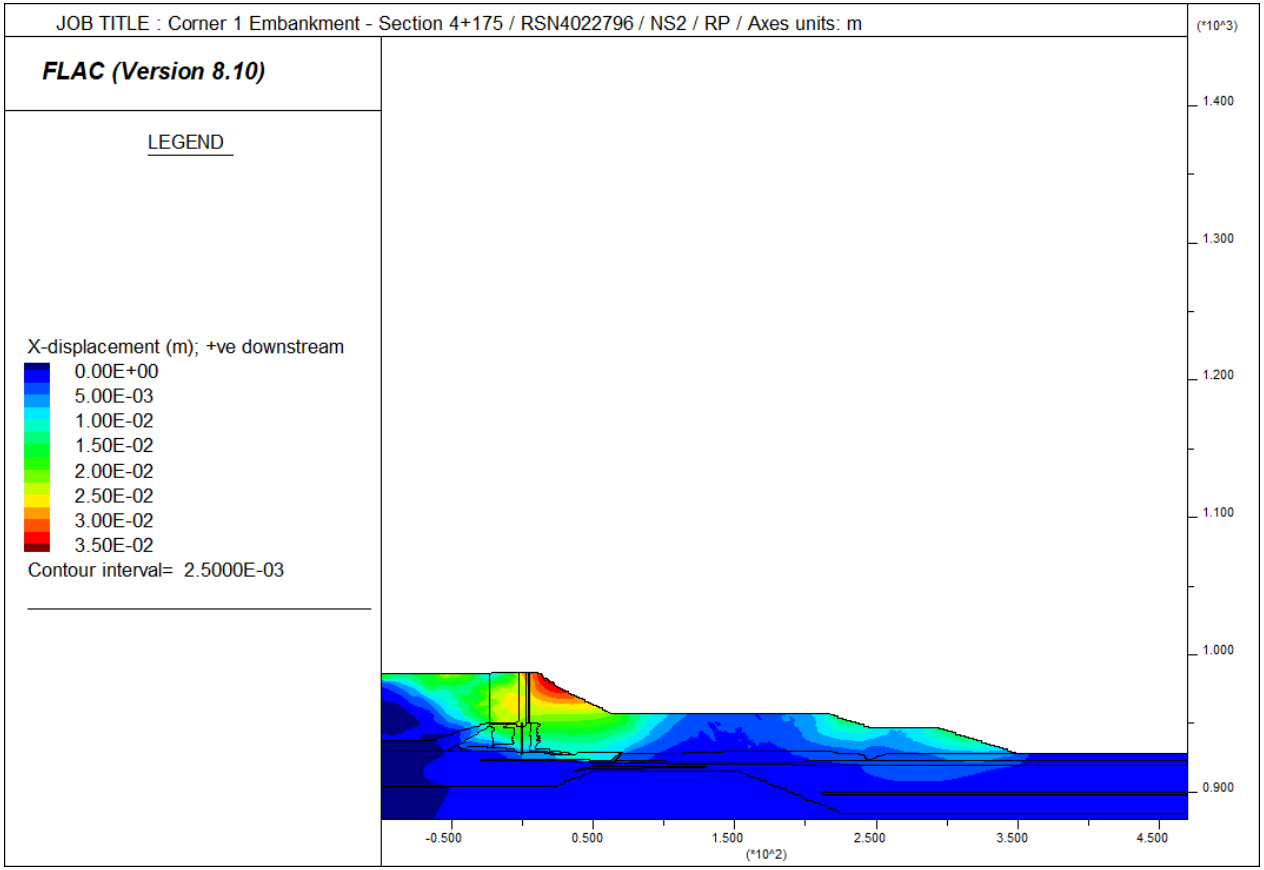

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / NS2 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-4.00E-02
-3.50E-02
-3.00E-02
-2.50E-02
-2.00E-02
-1.50E-02
-1.00E-02
-5.00E-03
0.00E+00
Contour interval= 2.5000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

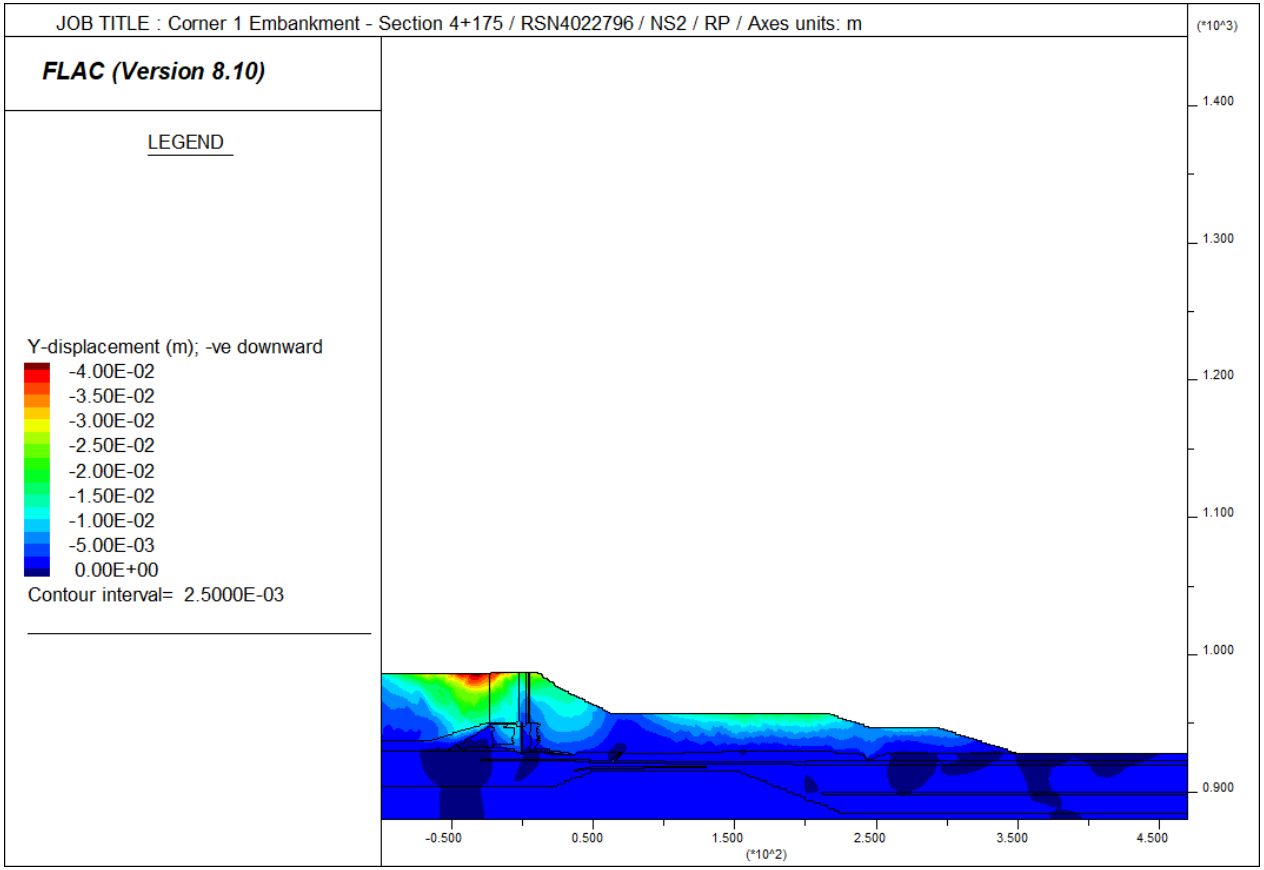

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / NS2 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-03
2.00E-03
3.00E-03
4.00E-03
5.00E-03
Contour interval= 5.0000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

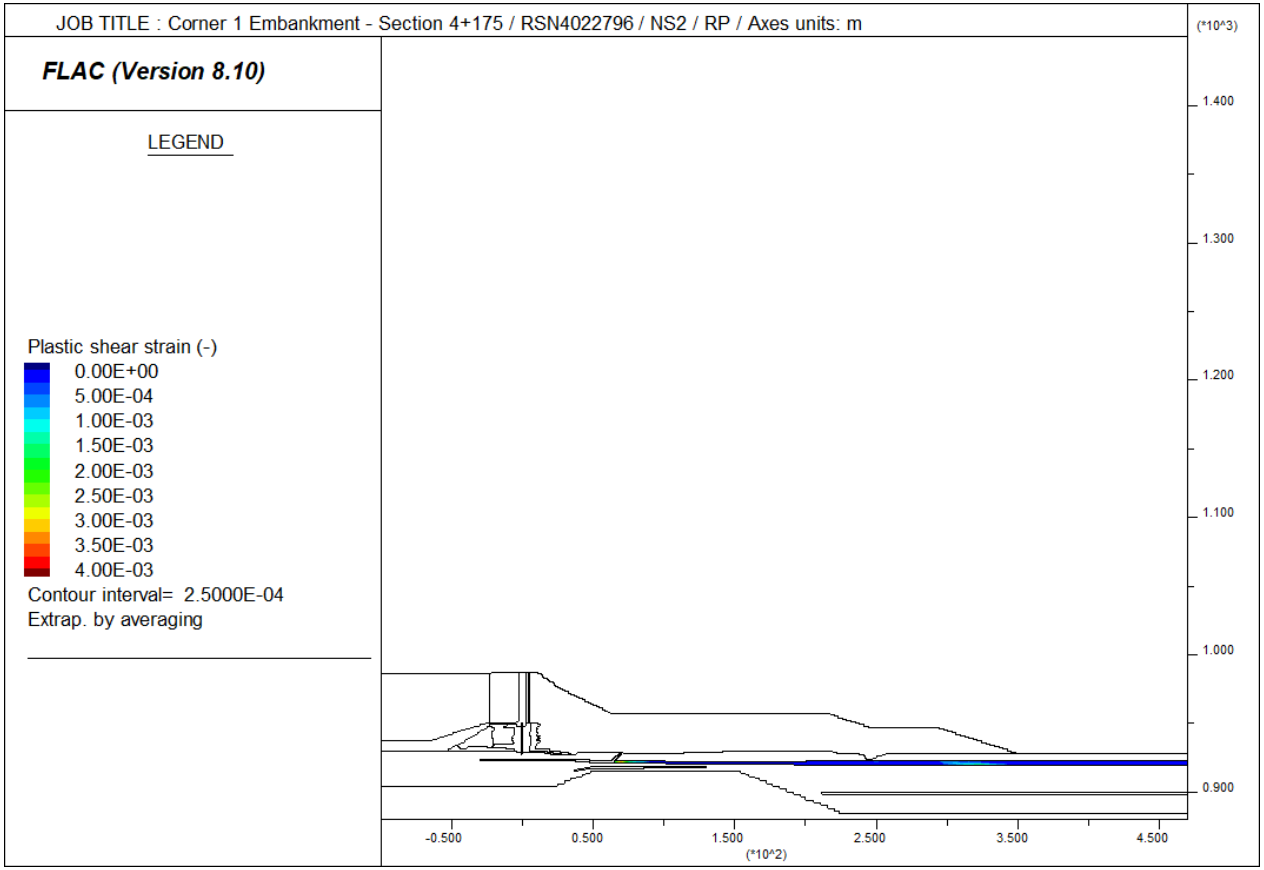

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / NS2 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-03
2.00E-03
3.00E-03
4.00E-03
5.00E-03
Contour interval= 5.0000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

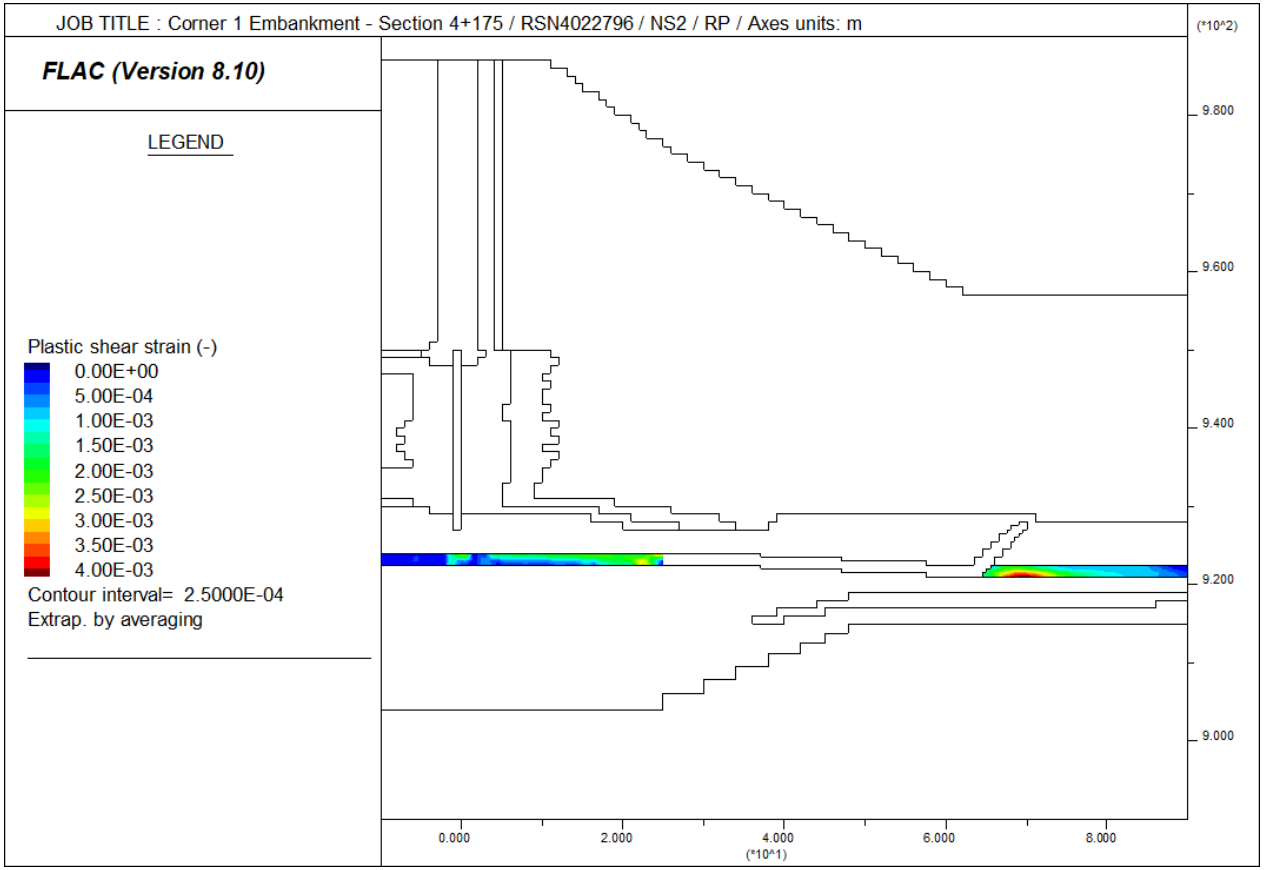

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / NS2 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

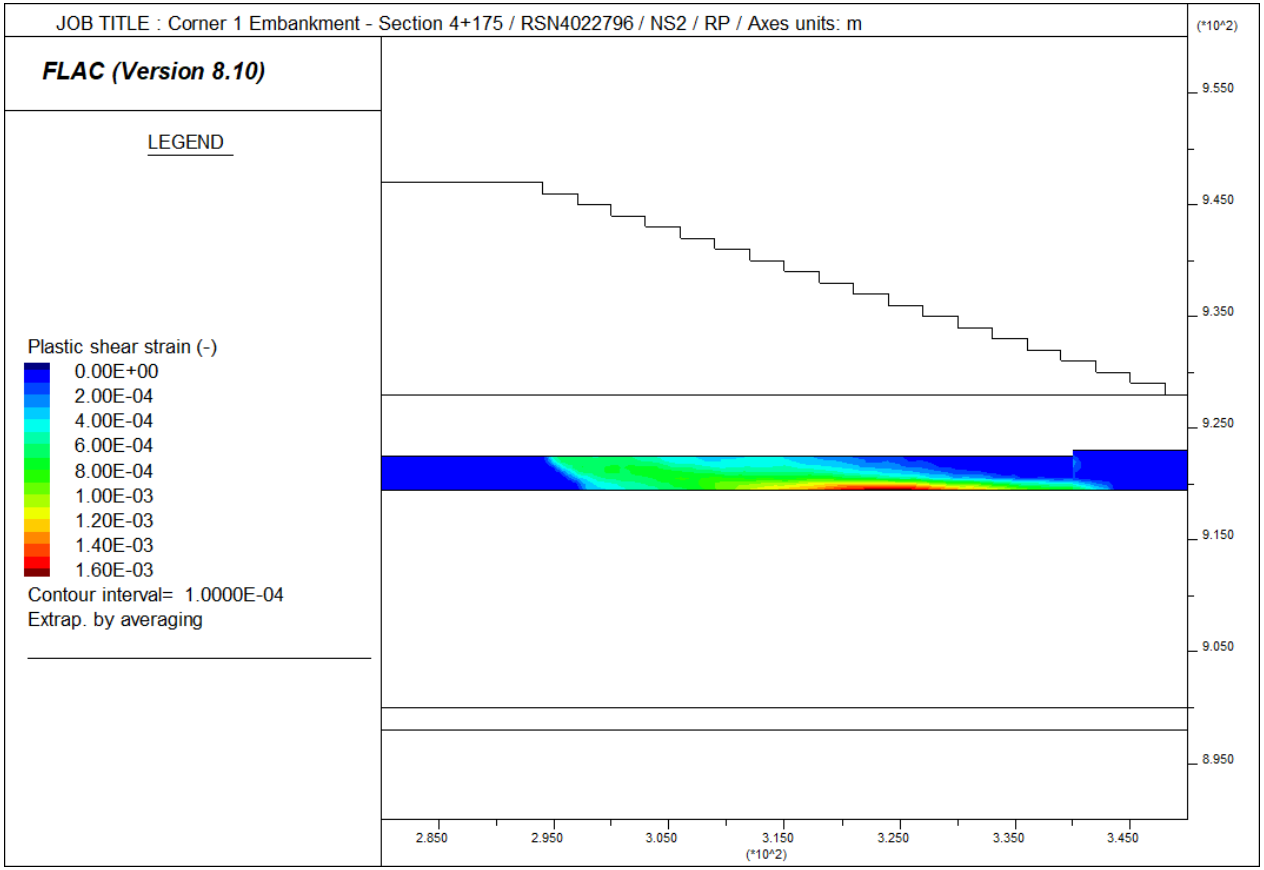

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / NS2 / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

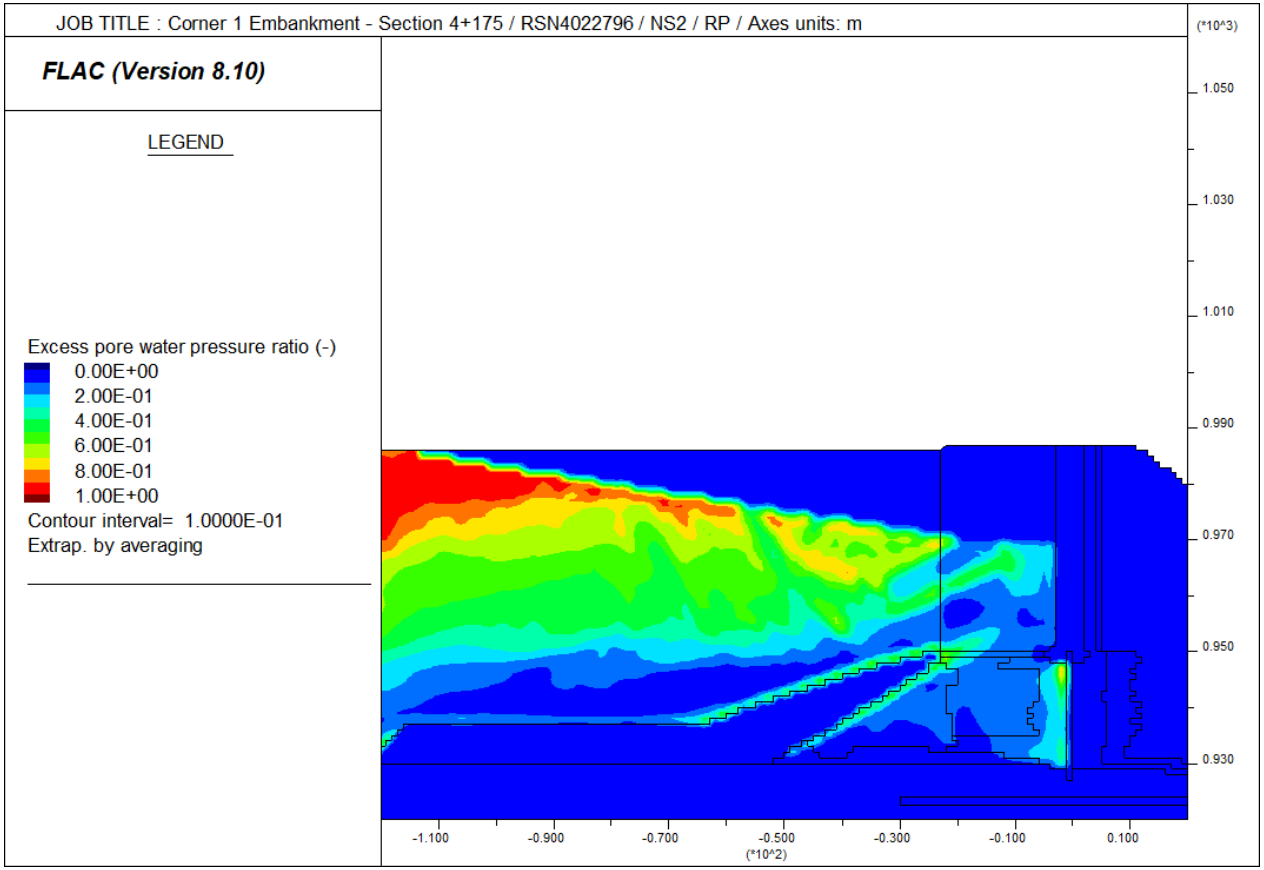

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / NS2 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
5.00E-03
1.00E-02
1.50E-02
2.00E-02
2.50E-02
3.00E-02
3.50E-02
Contour interval= 2.5000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

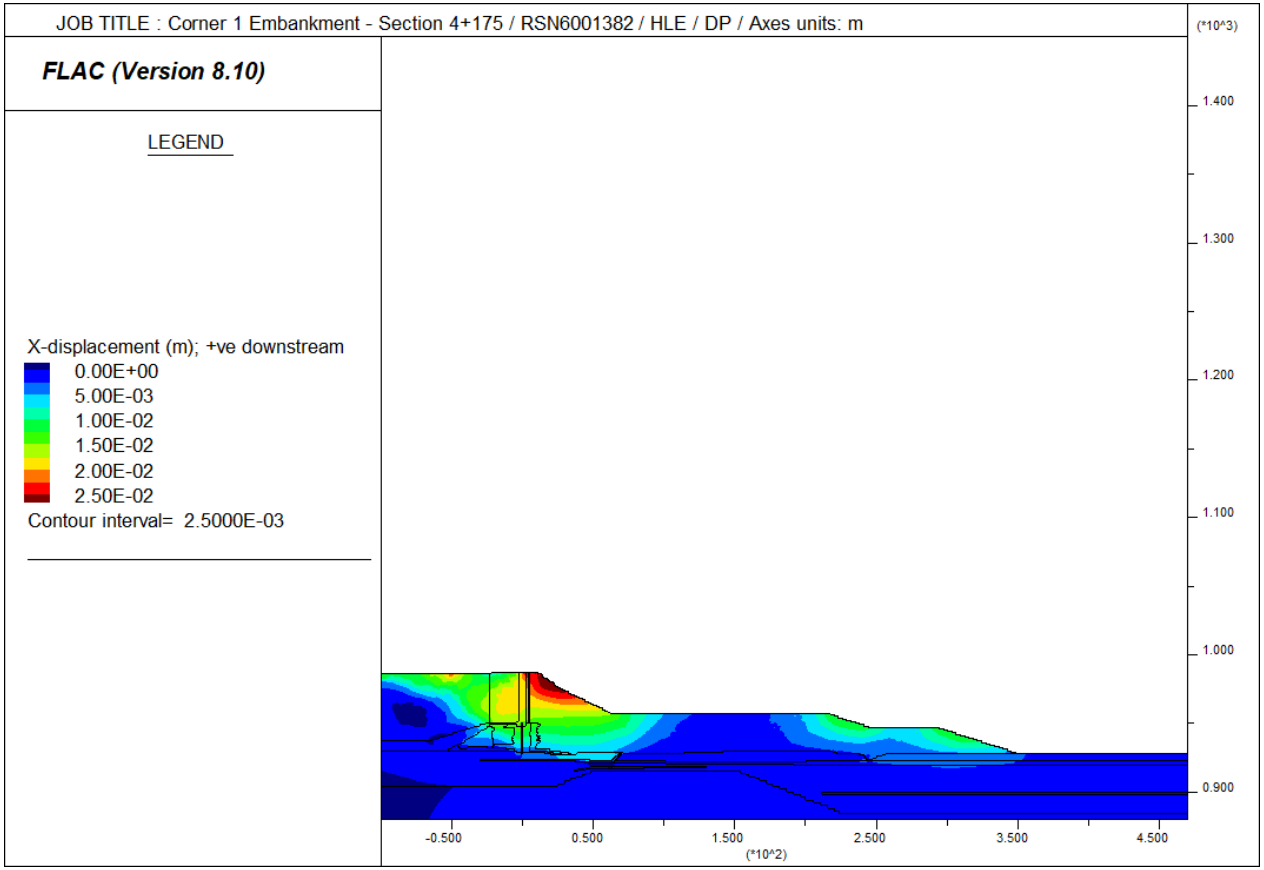

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / NS2 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-4.00E-02
-3.50E-02
-3.00E-02
-2.50E-02
-2.00E-02
-1.50E-02
-1.00E-02
-5.00E-03
0.00E+00
Contour interval= 2.5000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

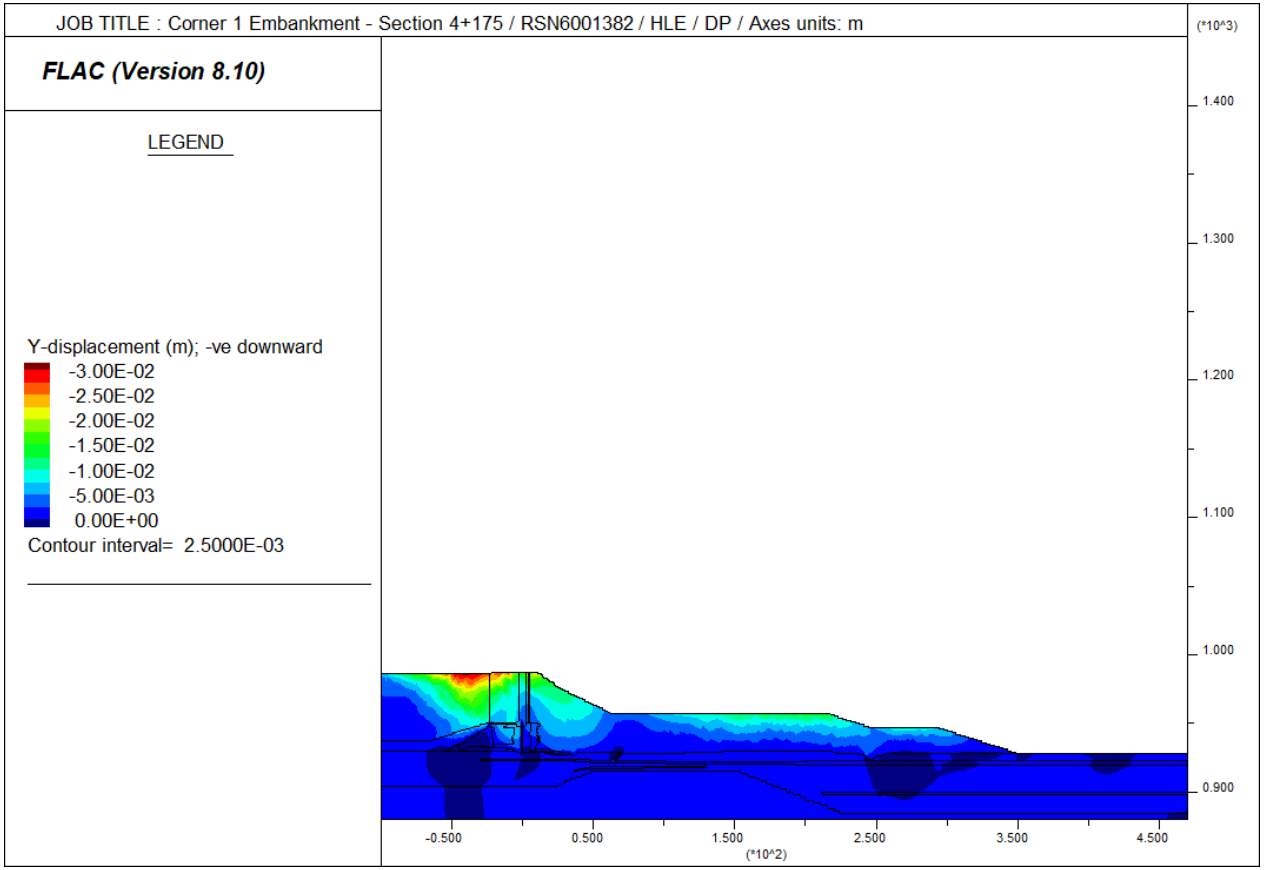

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / NS2 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
3.50E-03
4.00E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

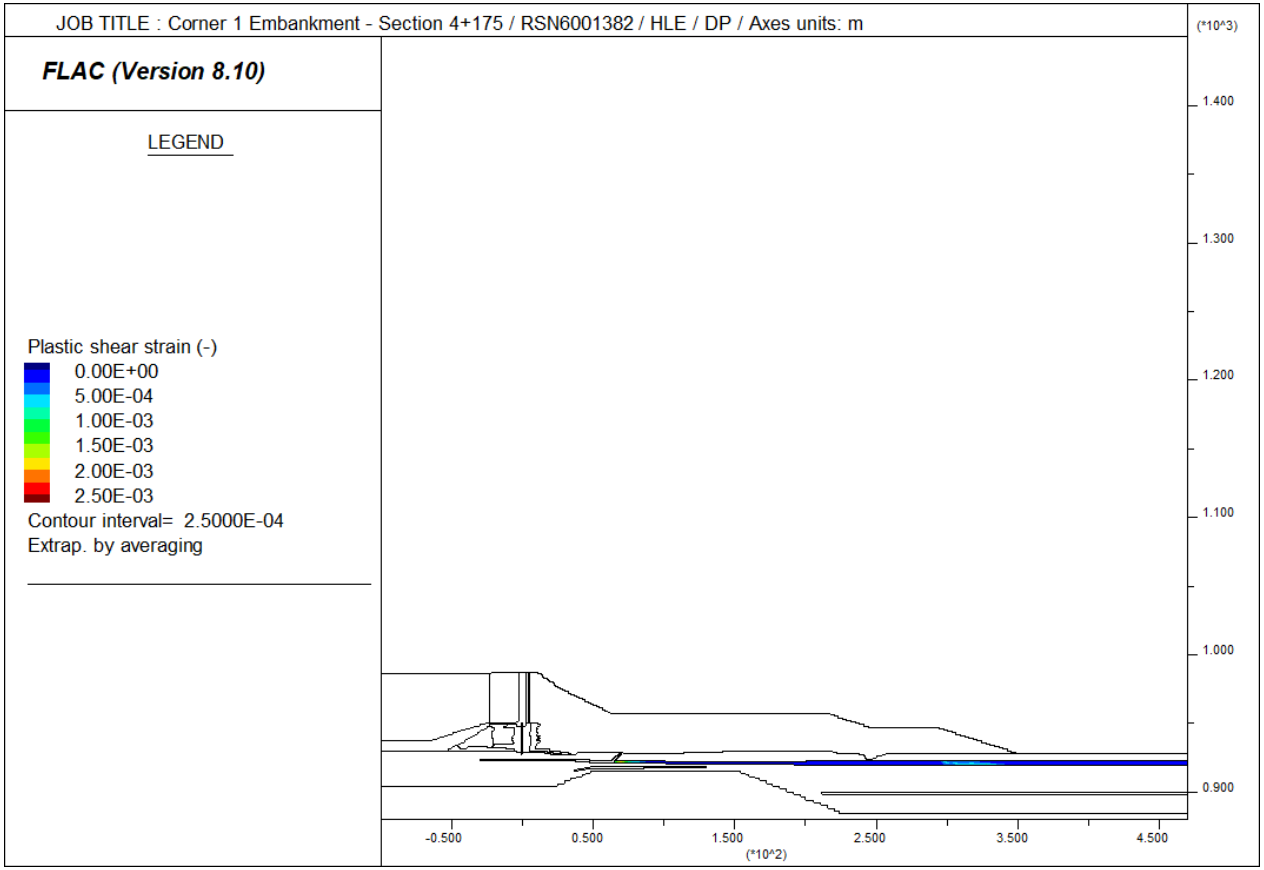

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / NS2 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
3.50E-03
4.00E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

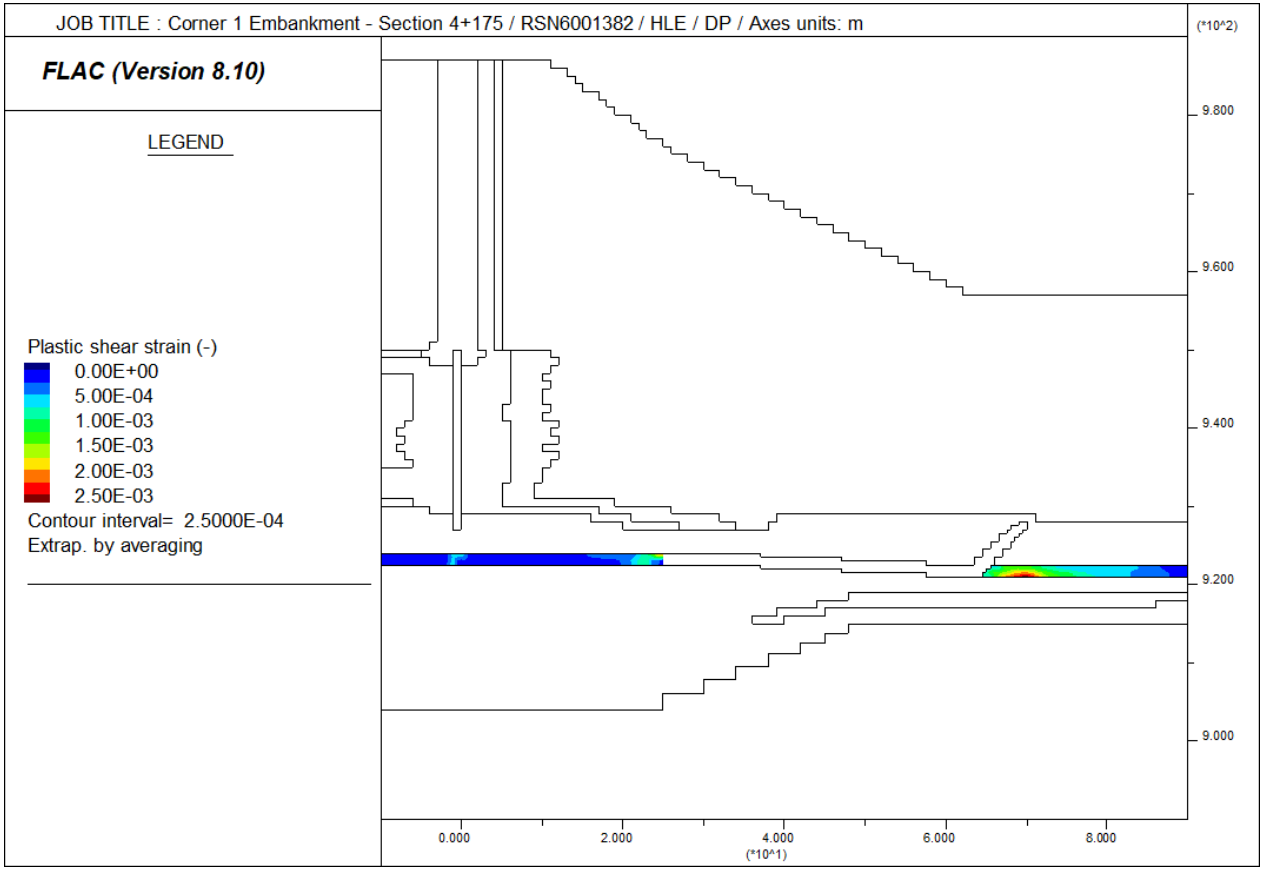

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / NS2 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
1.20E-03
1.40E-03
1.60E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

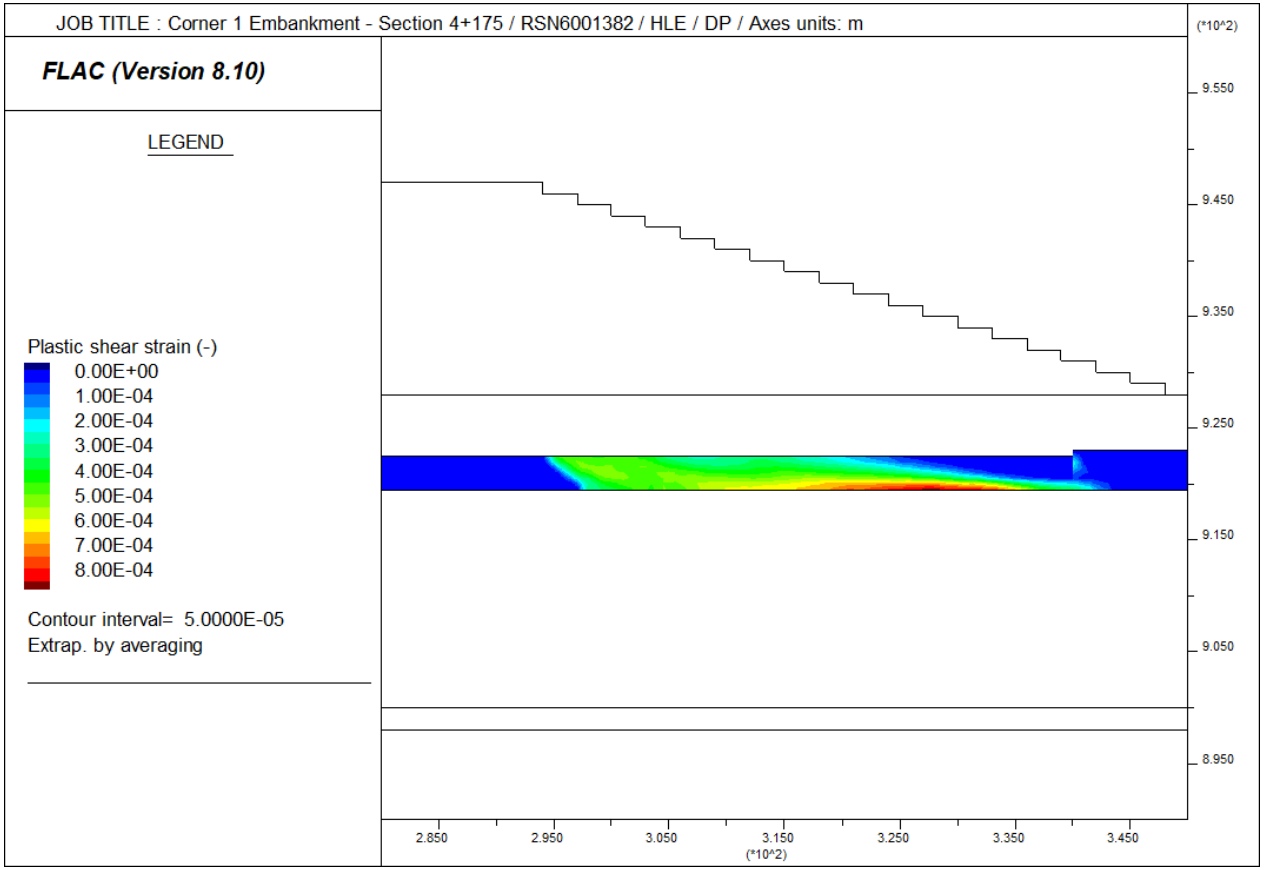

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN4022796 / NS2 / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

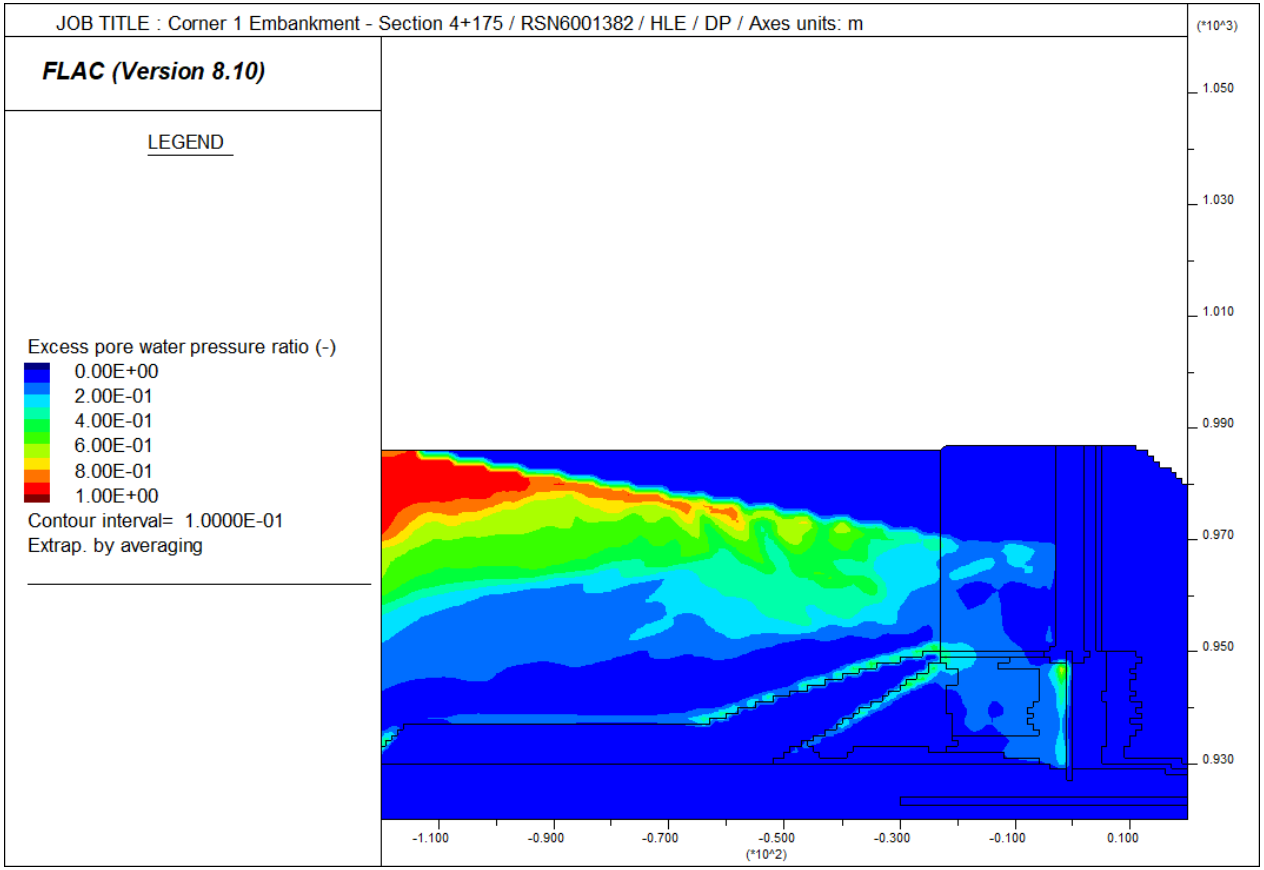

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLE / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
5.00E-03
1.00E-02
1.50E-02
2.00E-02
2.50E-02
Contour interval= 2.5000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

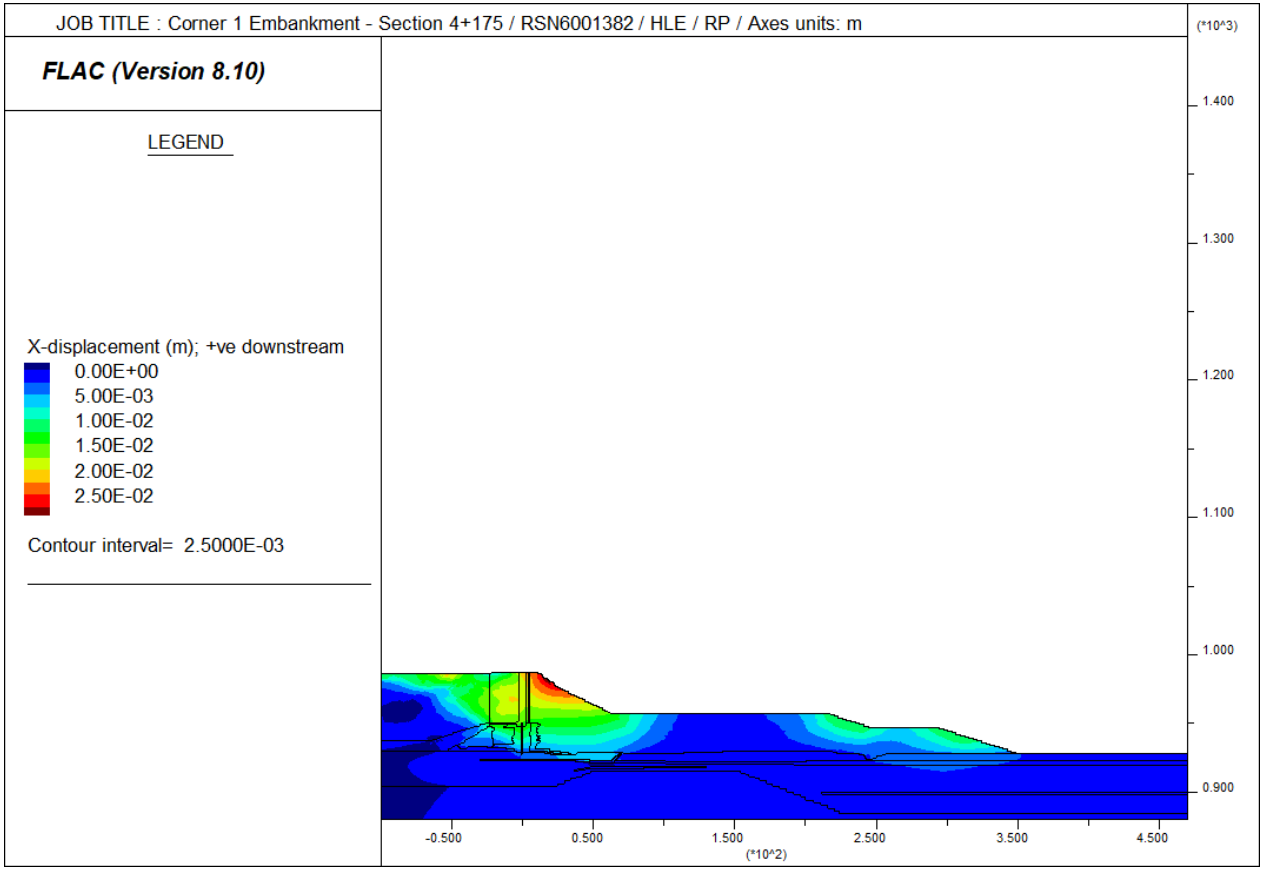

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLE / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-3.00E-02
-2.50E-02
-2.00E-02
-1.50E-02
-1.00E-02
-5.00E-03
0.00E+00
Contour interval= 2.5000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

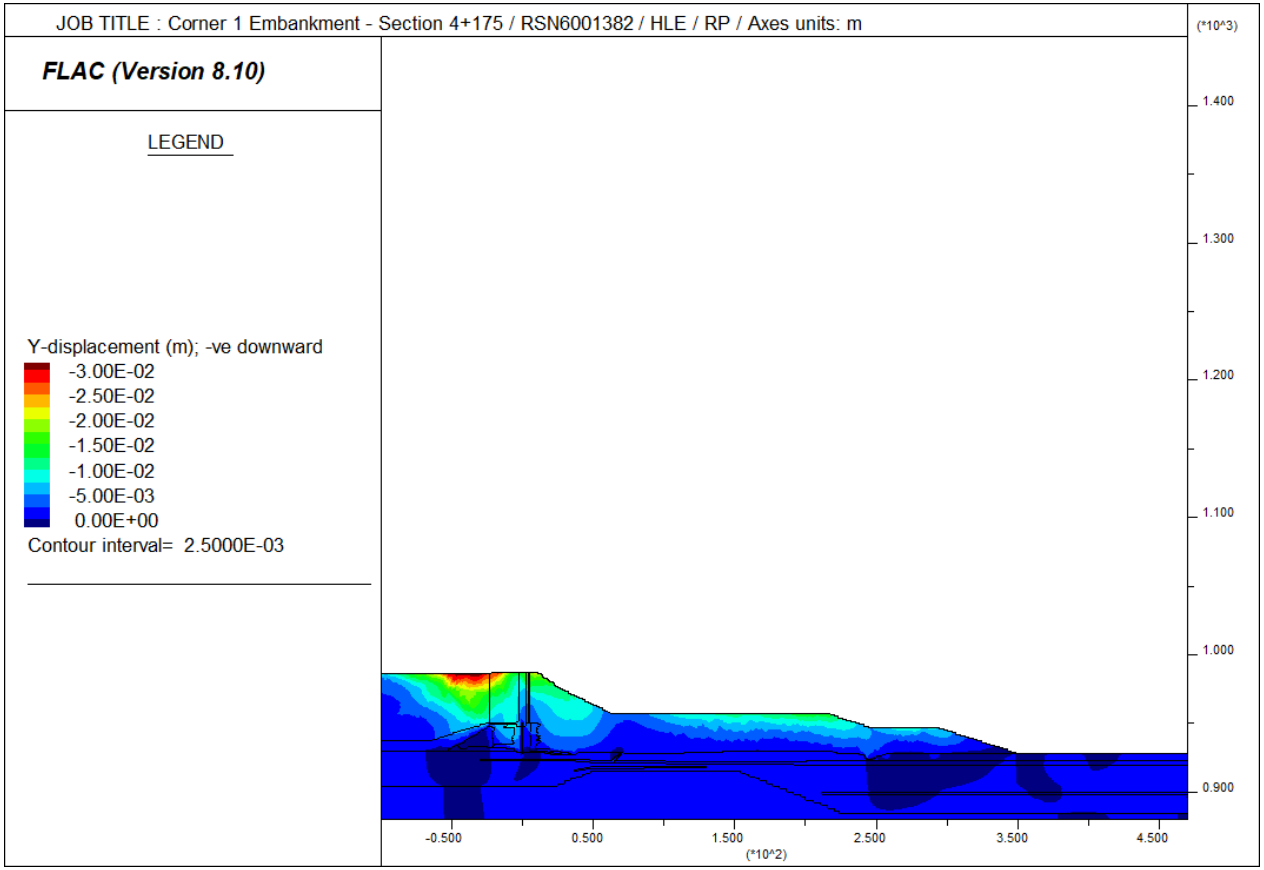

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLE / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

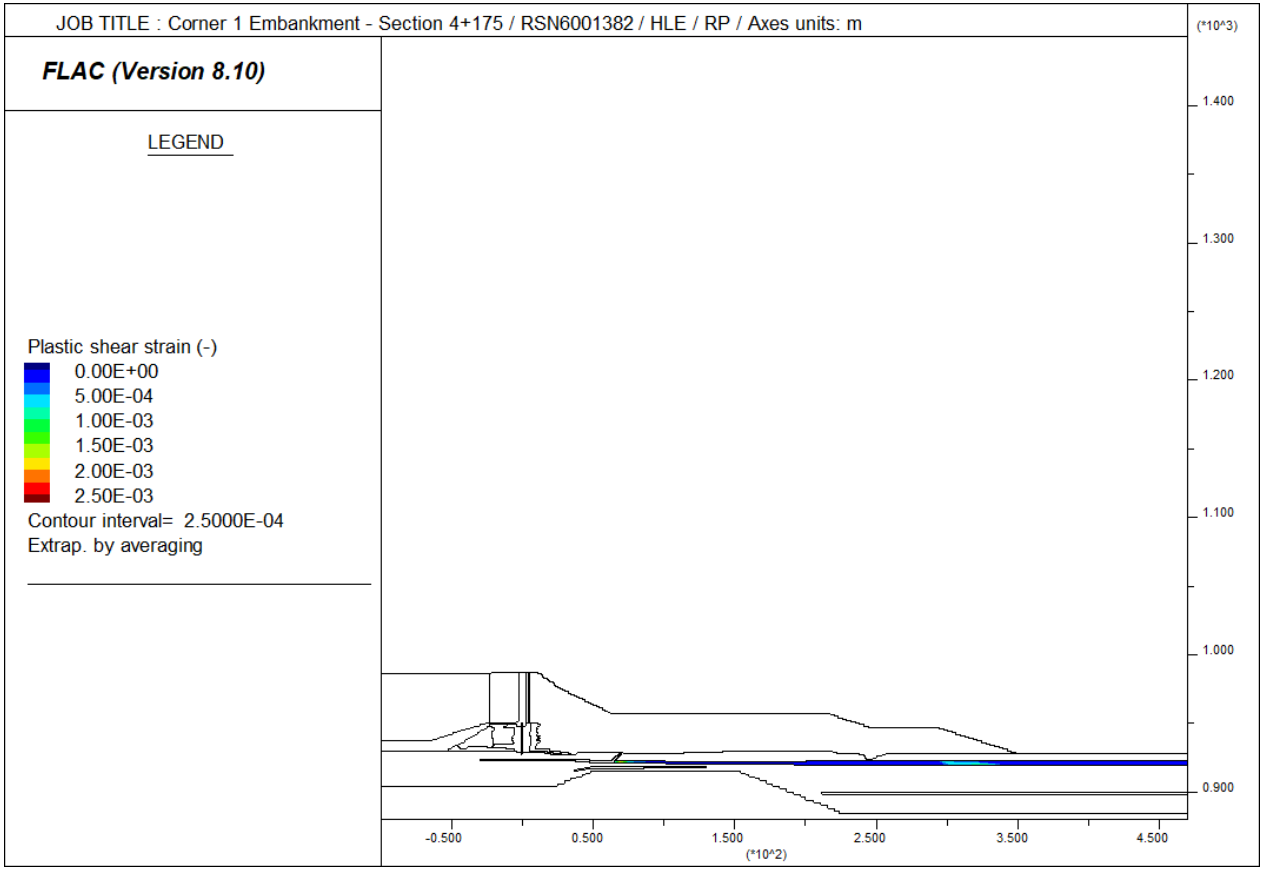

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLE / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

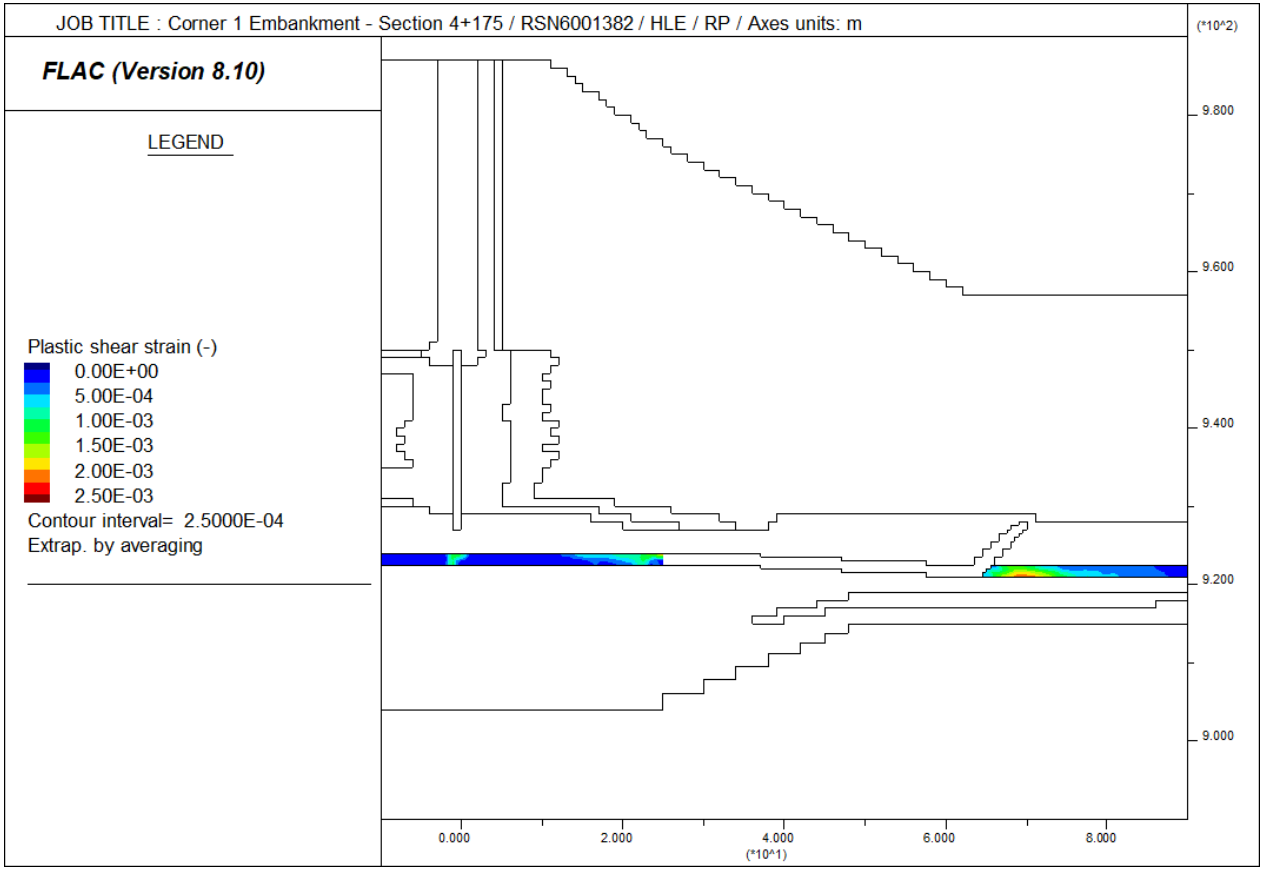

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLE / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.00E-04
2.00E-04
3.00E-04
4.00E-04
5.00E-04
6.00E-04
7.00E-04
8.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

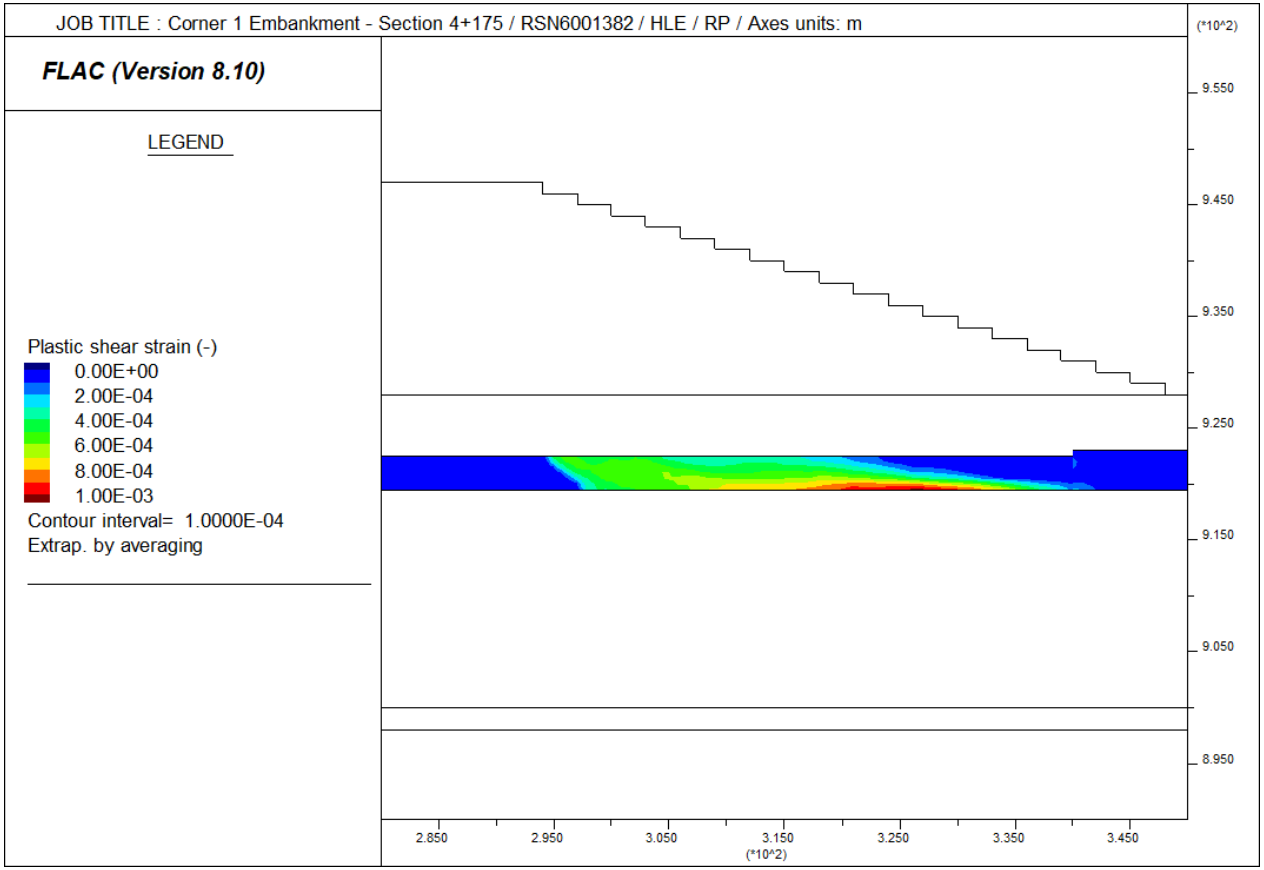

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLE / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

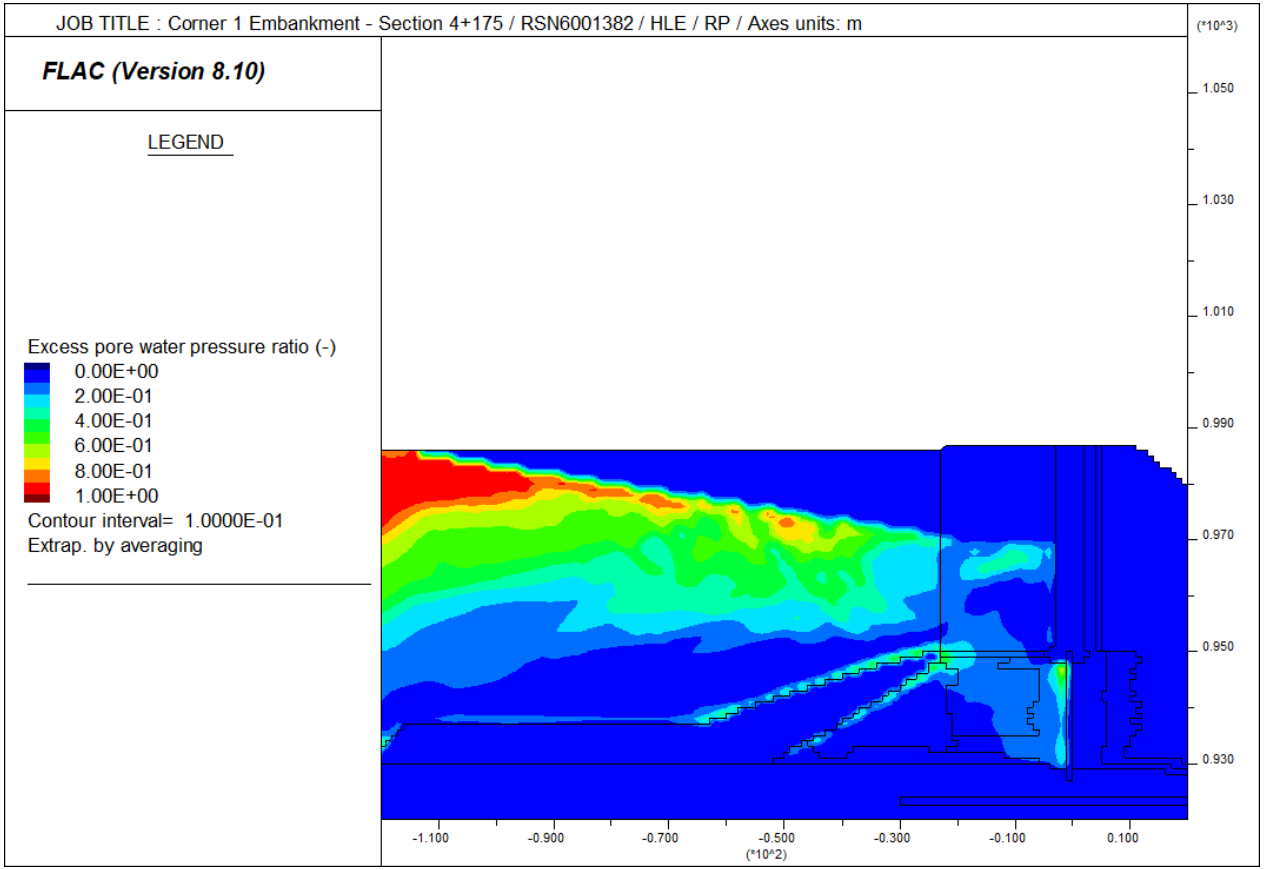

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLE / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
5.00E-03
1.00E-02
1.50E-02
2.00E-02
2.50E-02
Contour interval= 2.5000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

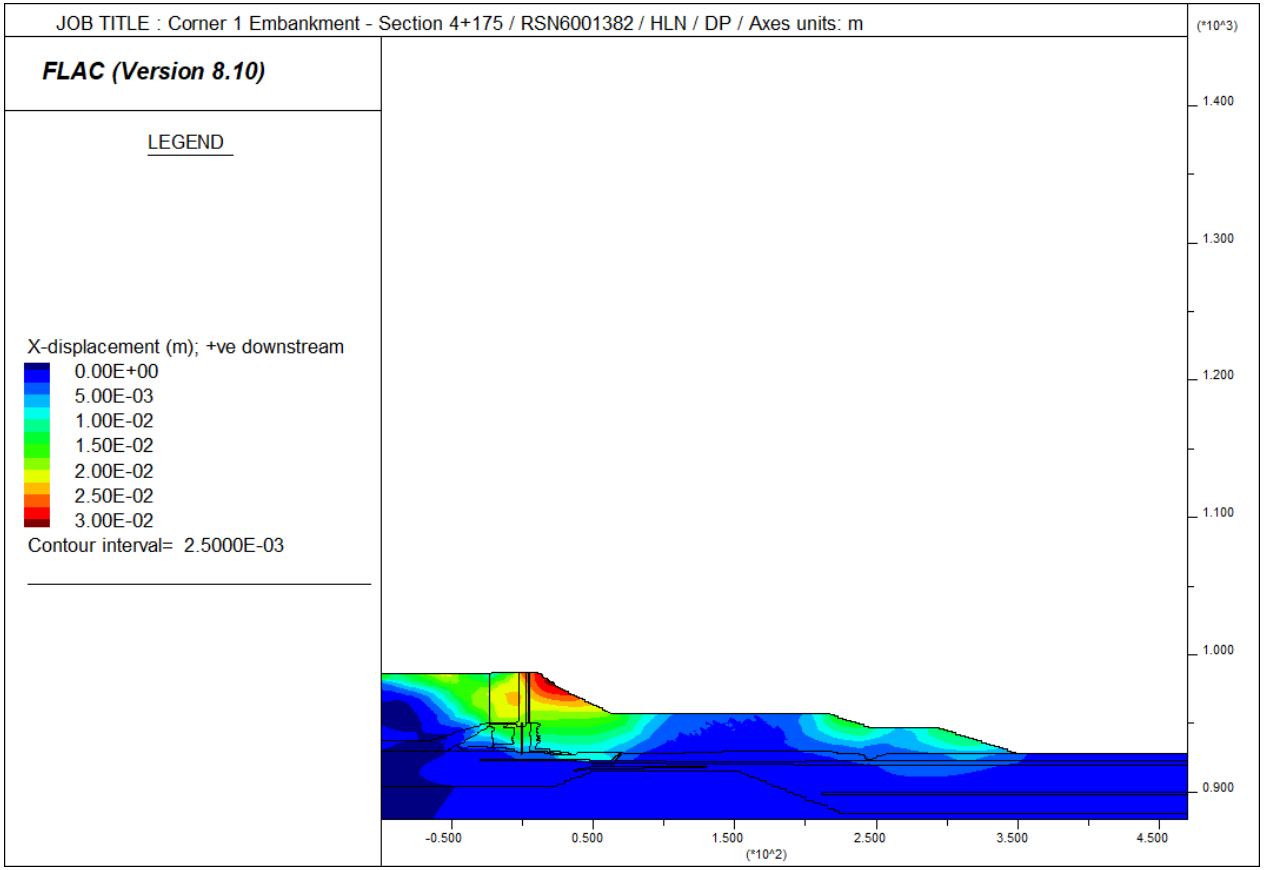

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLE / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-3.00E-02
-2.50E-02
-2.00E-02
-1.50E-02
-1.00E-02
-5.00E-03
0.00E+00
Contour interval= 2.5000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

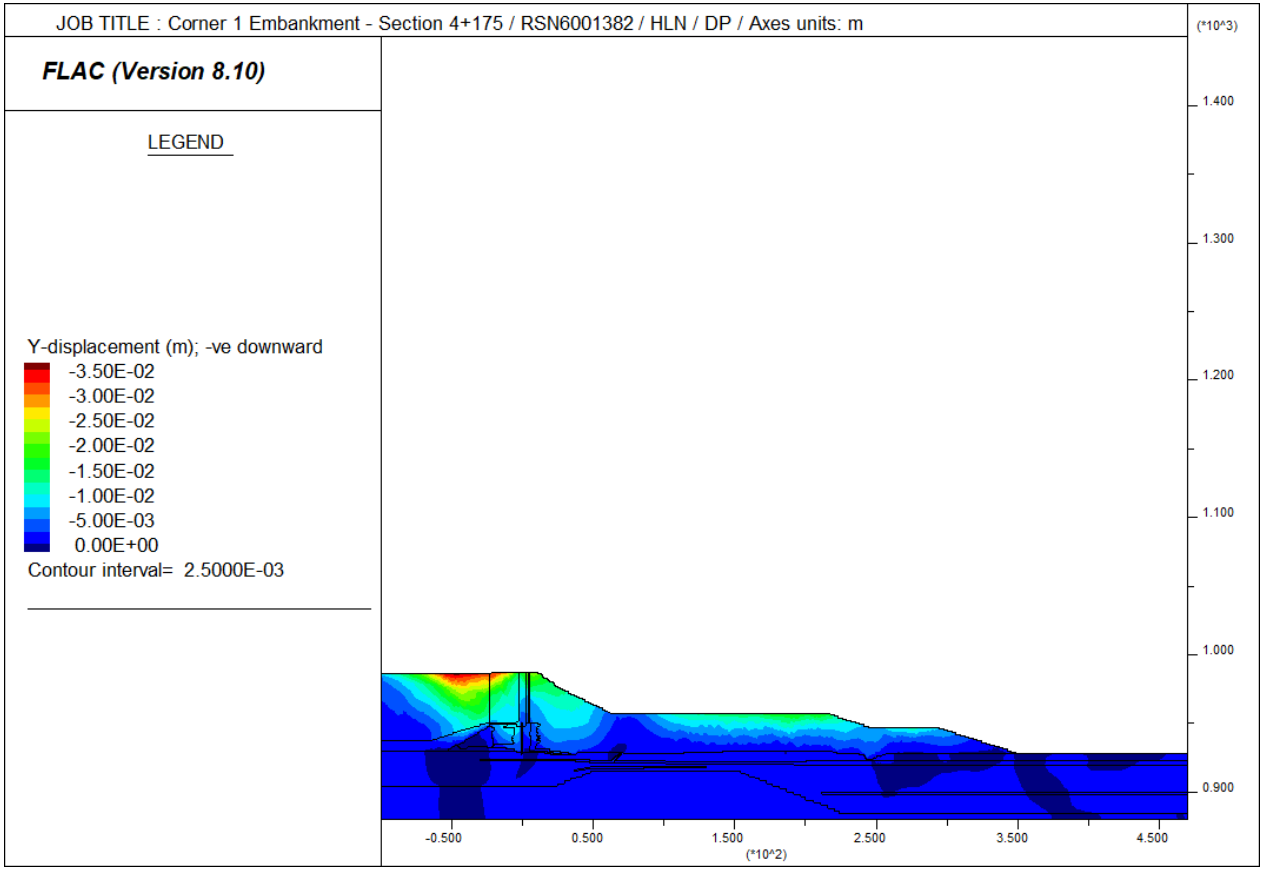

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLE / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

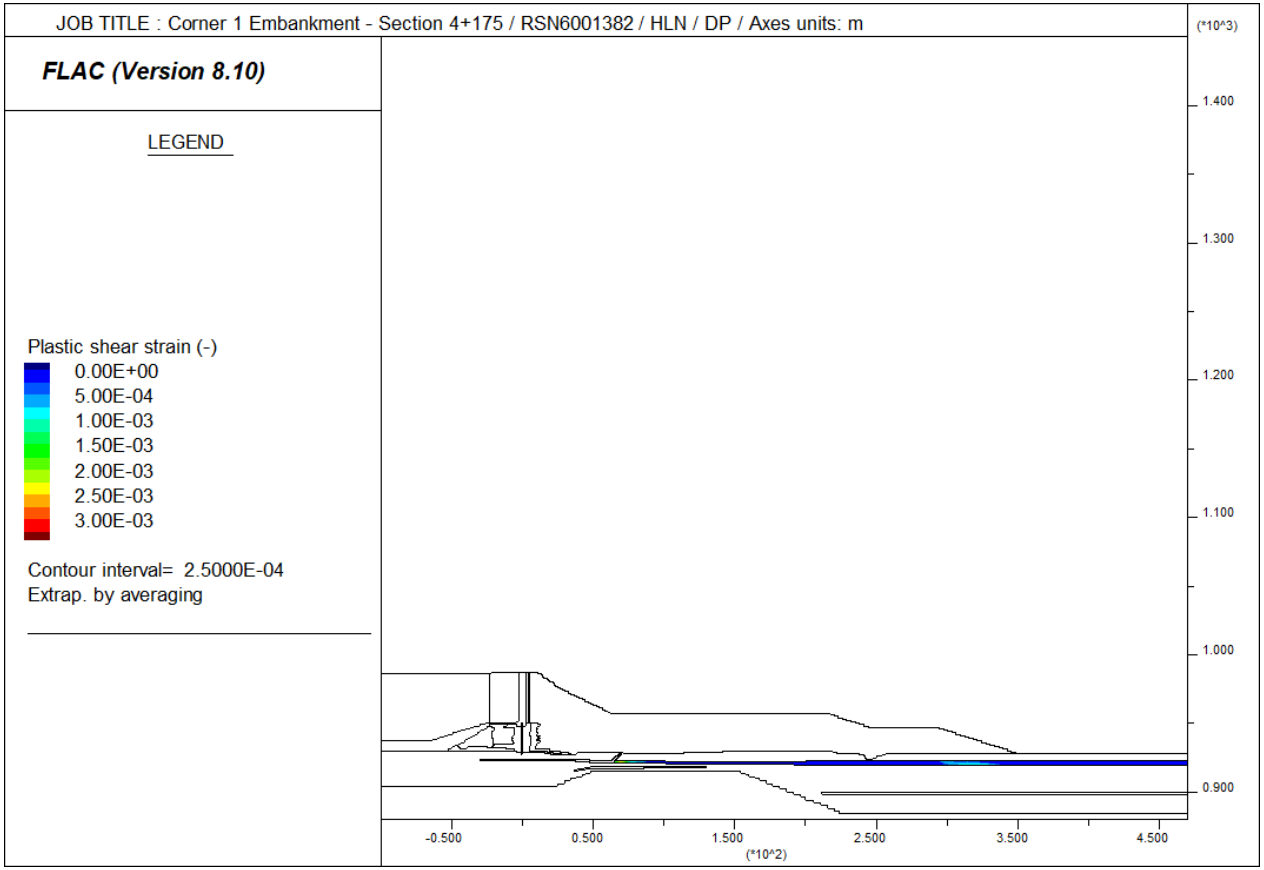

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLE / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

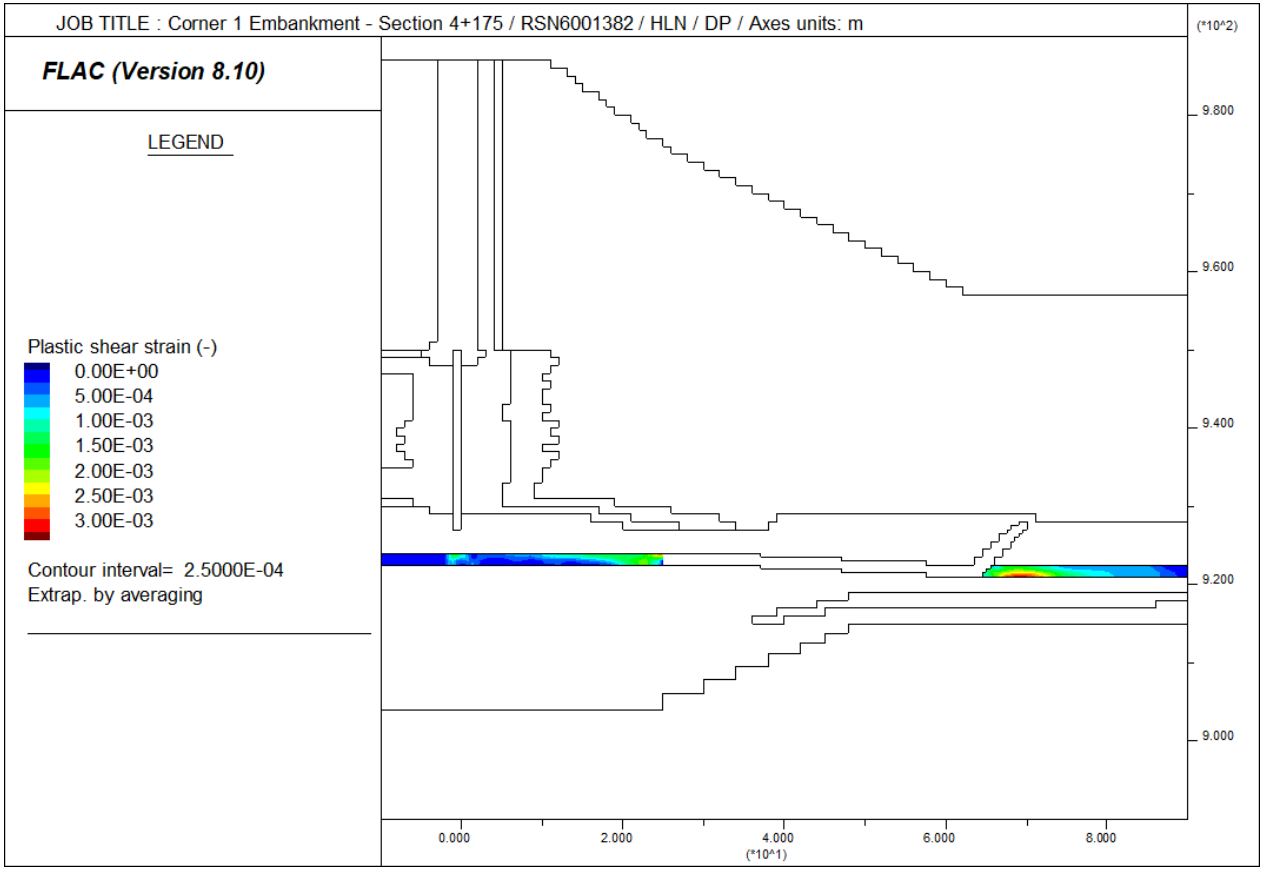

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLE / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

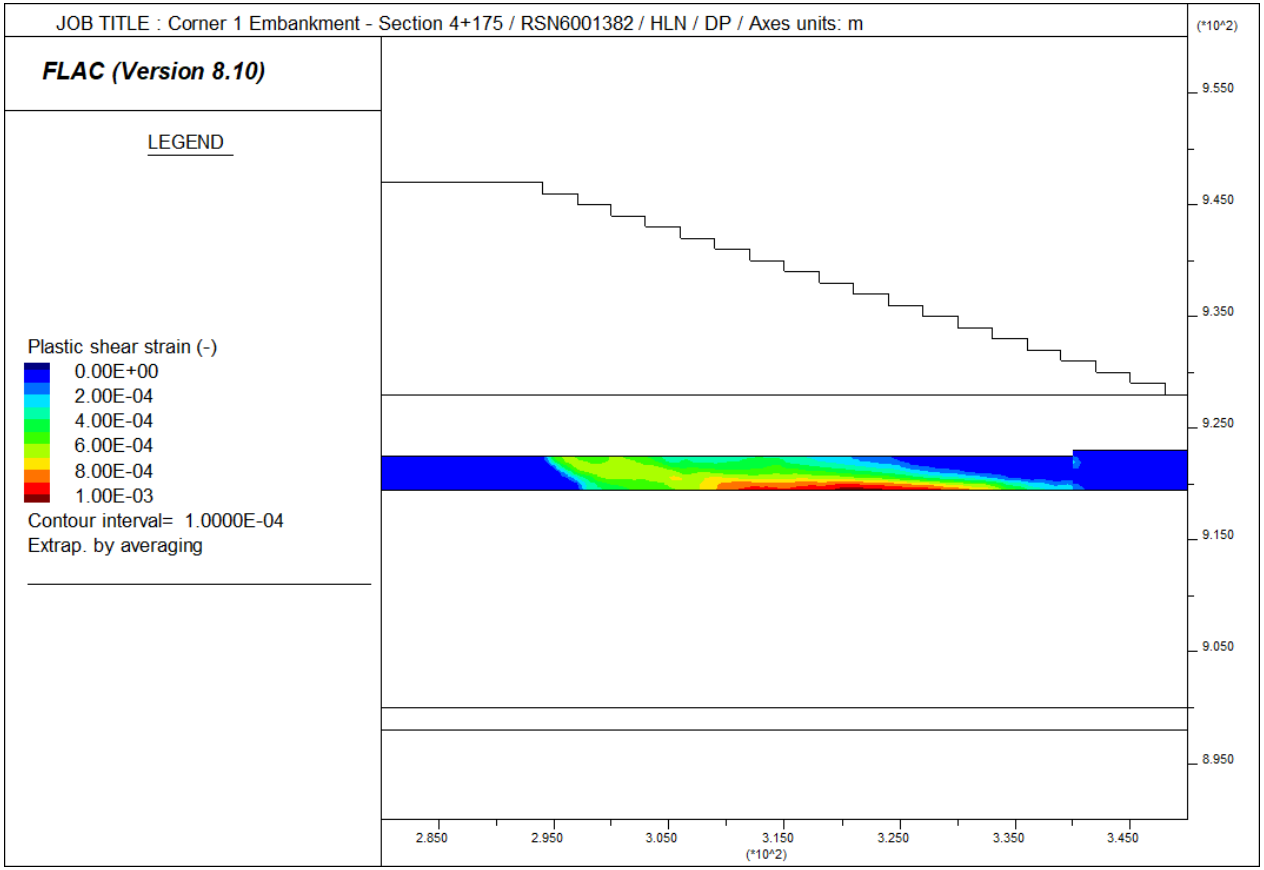

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLE / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

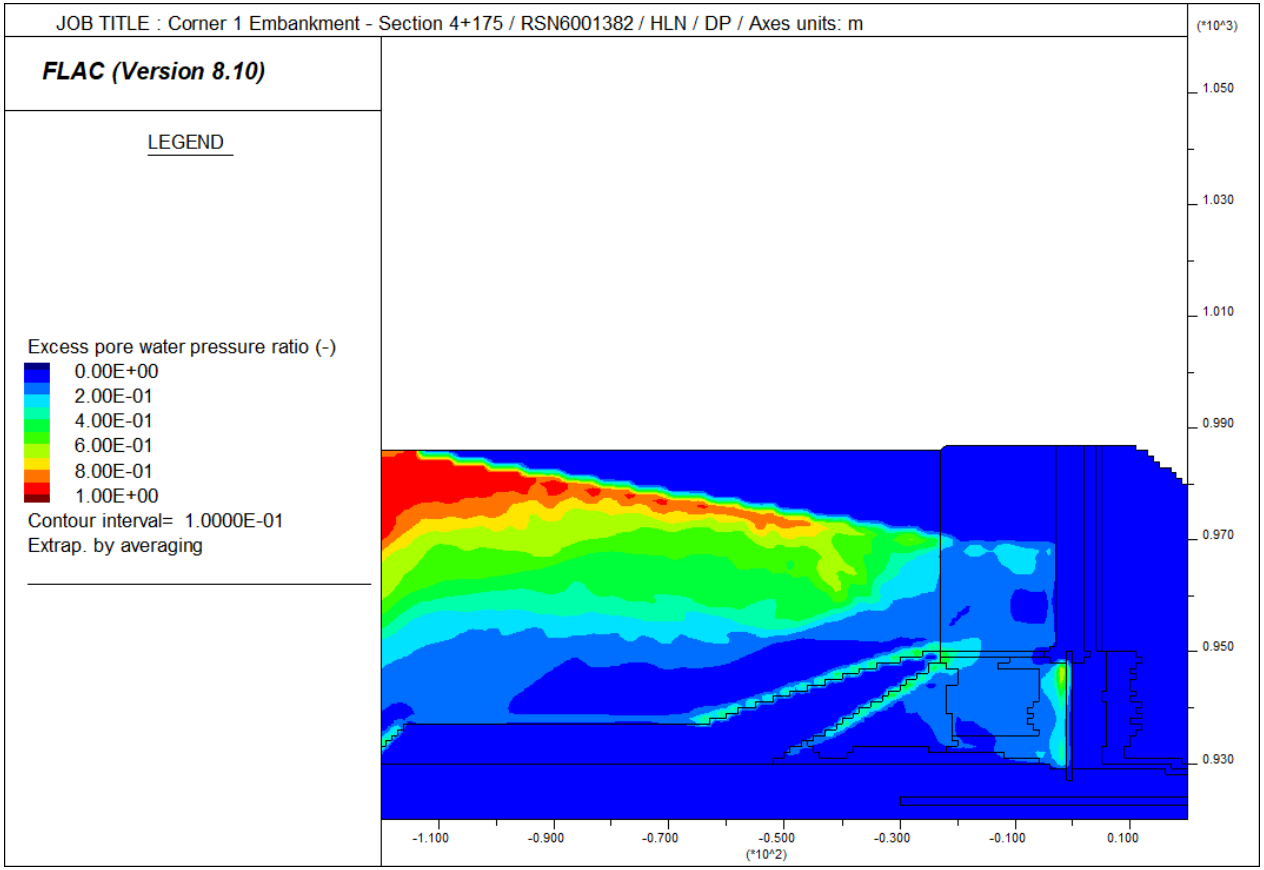

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLN / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
5.00E-03
1.00E-02
1.50E-02
2.00E-02
2.50E-02
3.00E-02
Contour interval= 2.5000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

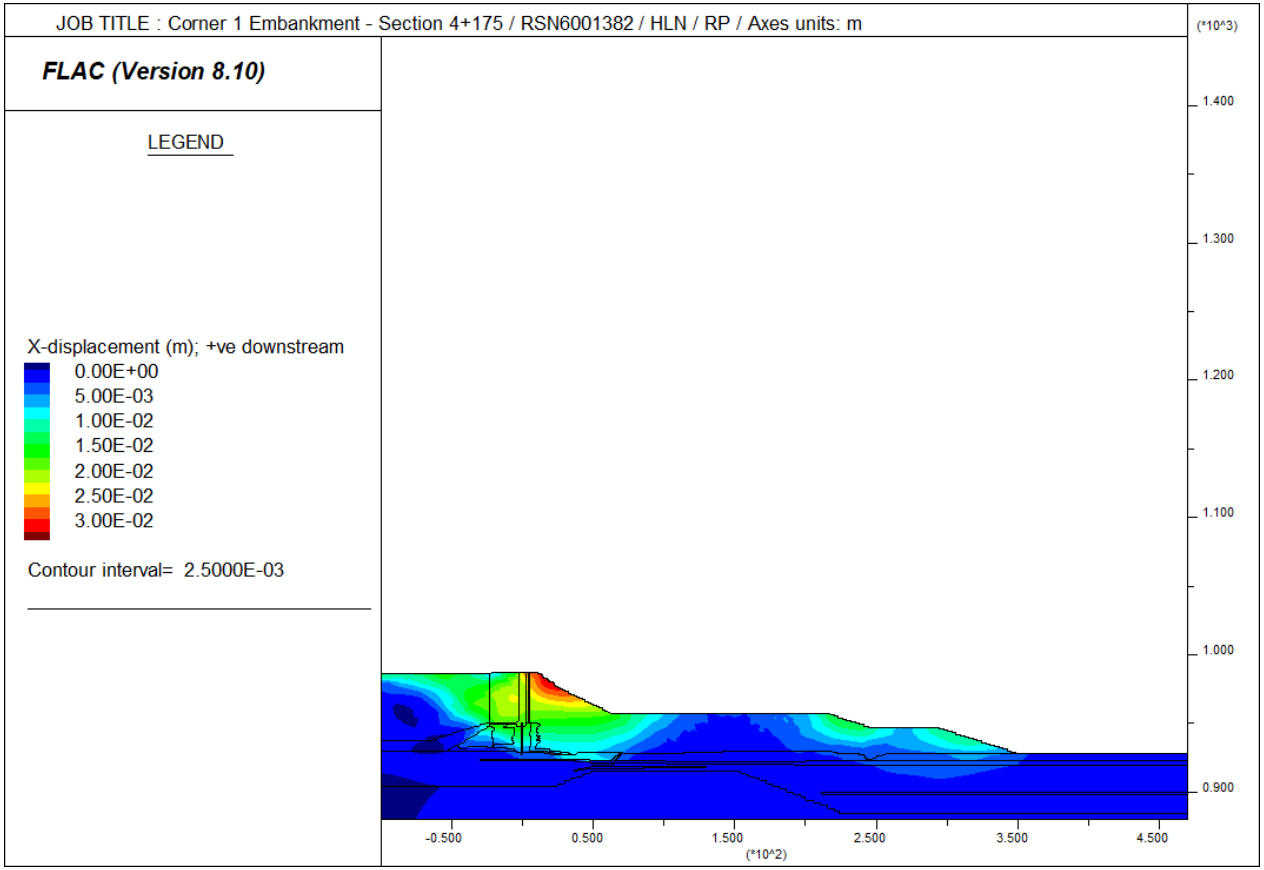

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLN / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-3.50E-02
-3.00E-02
-2.50E-02
-2.00E-02
-1.50E-02
-1.00E-02
-5.00E-03
0.00E+00
Contour interval= 2.5000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

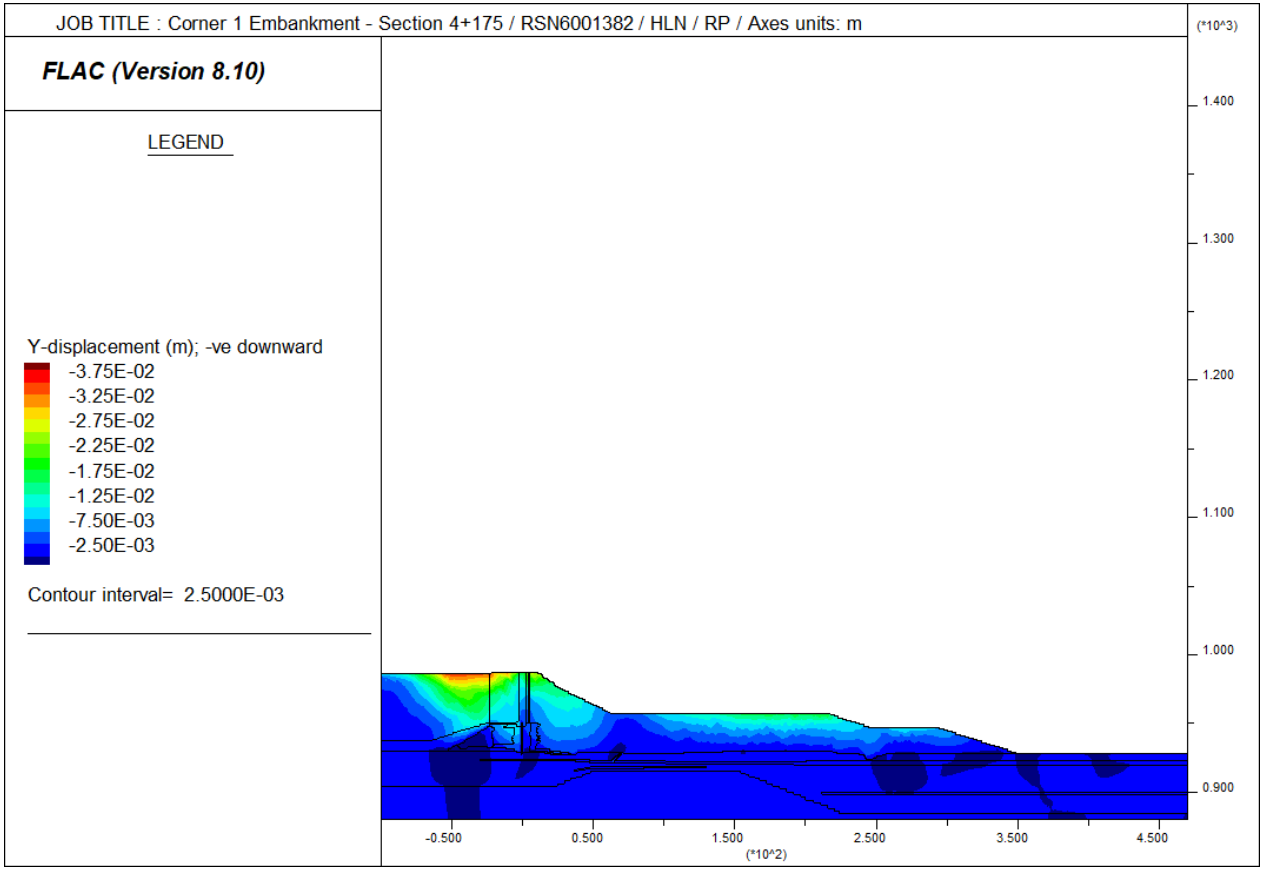

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLN / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)

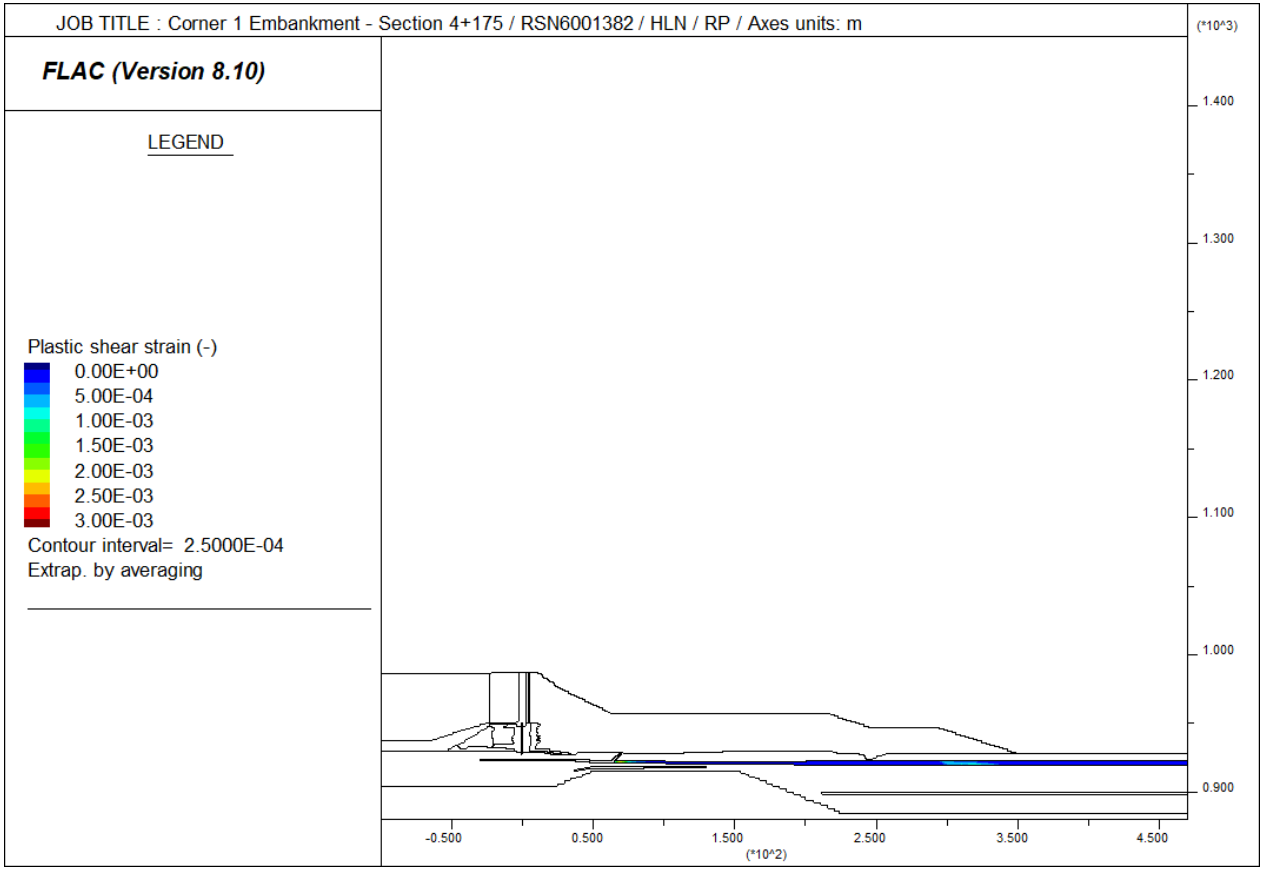

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLN / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)

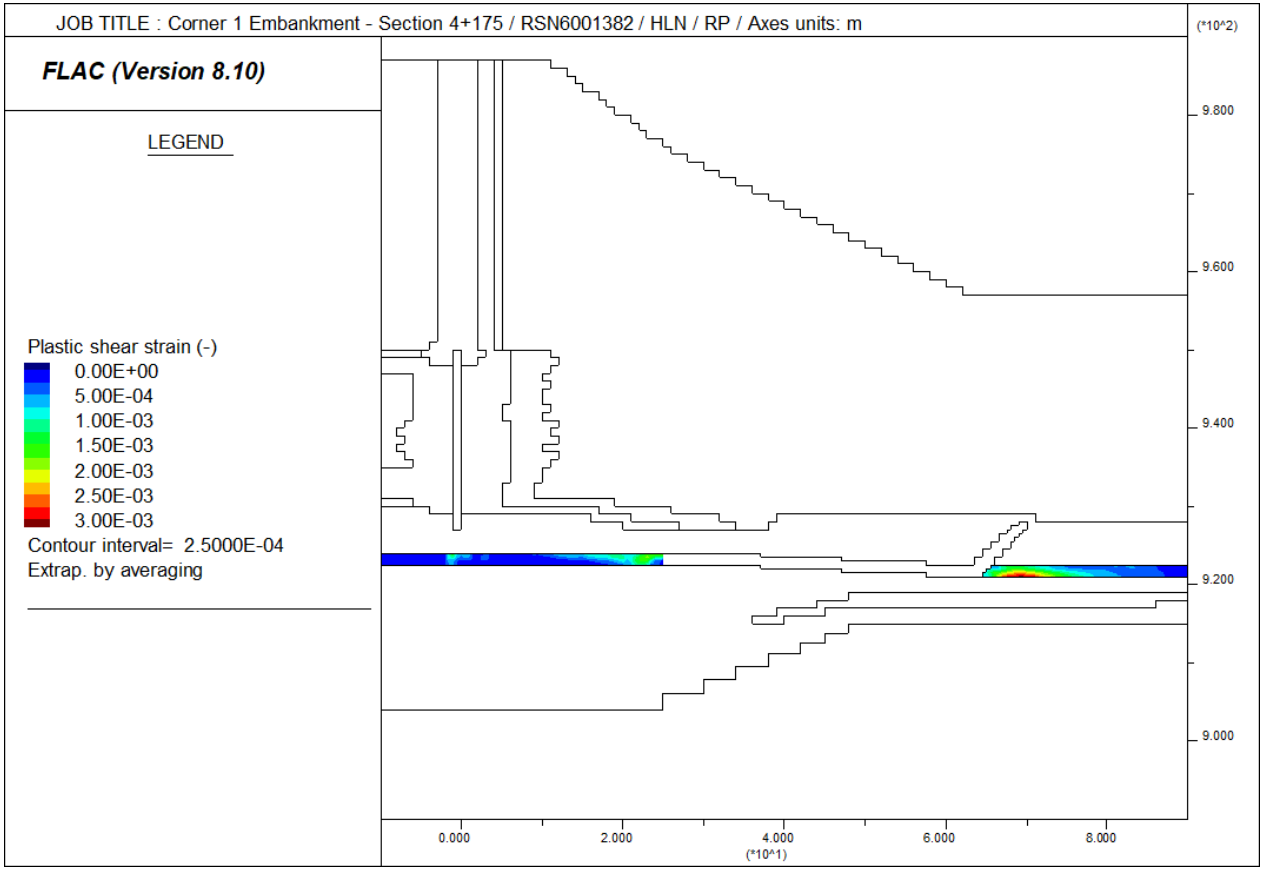

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLN / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
2.00E-04
4.00E-04
6.00E-04
8.00E-04
1.00E-03
Contour interval= 1.0000E-04
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)

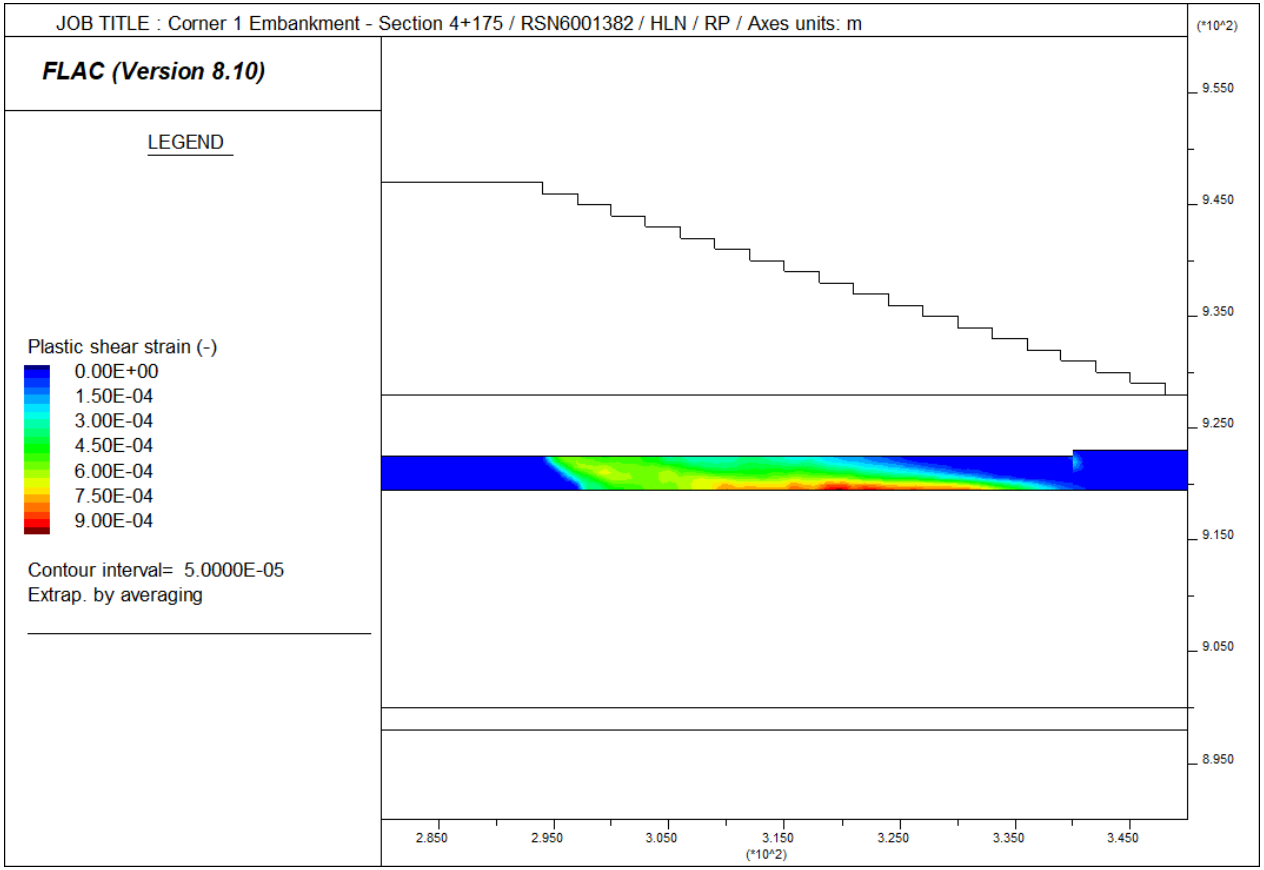

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLN / DP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

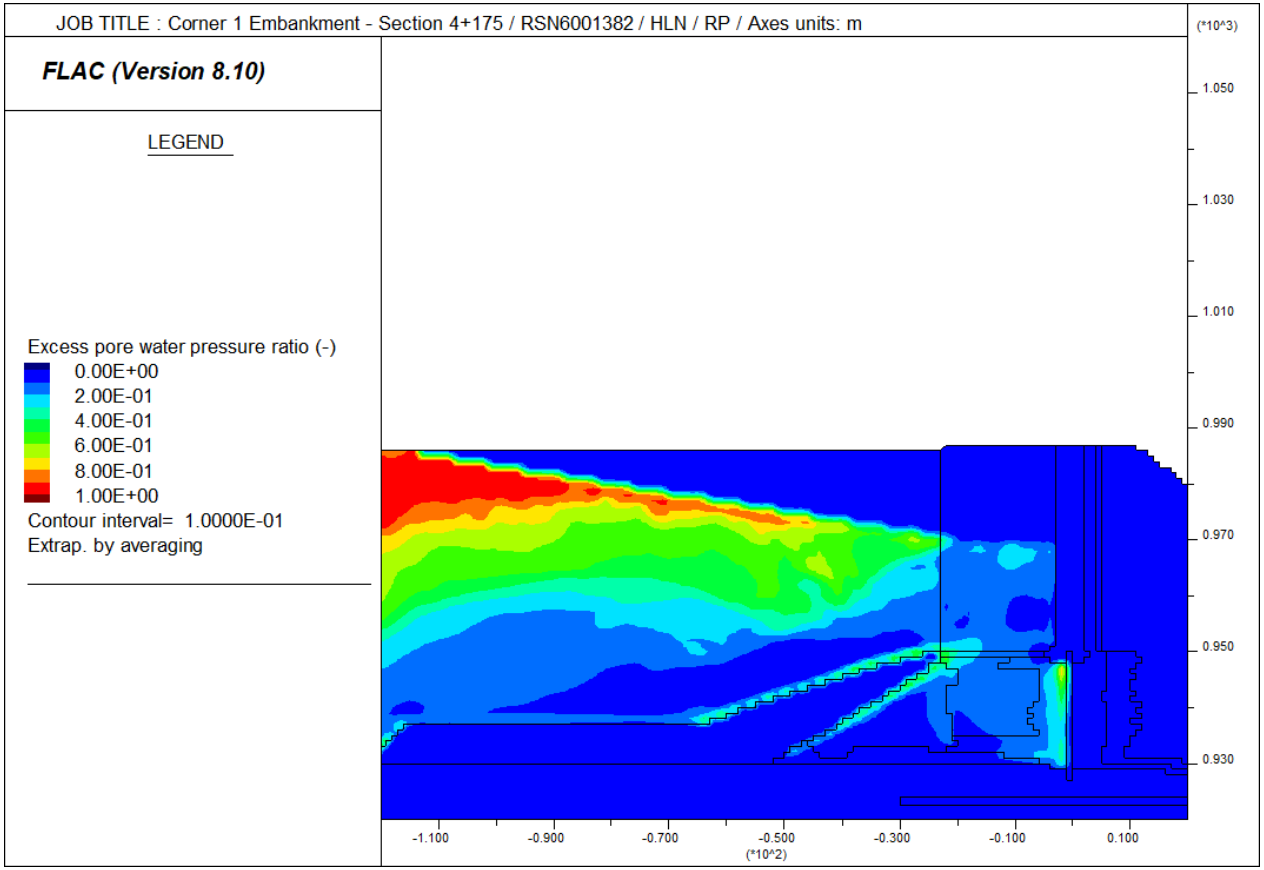

JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLN / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
X-displacement (m); +ve downstream
0.00E+00
5.00E-03
1.00E-02
1.50E-02
2.00E-02
2.50E-02
3.00E-02
Contour interval= 2.5000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)


JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLN / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Y-displacement (m); -ve downward
-3.75E-02
-3.25E-02
-2.75E-02
-2.25E-02
-1.75E-02
-1.25E-02
-7.50E-03
-2.50E-03
Contour interval= 2.5000E-03
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)


JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLN / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^3)
1.400
1.300
1.200
1.100
1.000
0.900
-0.500
0.500
1.500
2.500
3.500
4.500
(*10^2)


JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLN / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
5.00E-04
1.00E-03
1.50E-03
2.00E-03
2.50E-03
3.00E-03
Contour interval= 2.5000E-04
Extrap. by averaging
(*10^2)
9.800
9.600
9.400
9.200
9.000
0.000
2.000
4.000
6.000
8.000
(*10^1)


JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLN / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Plastic shear strain (-)
0.00E+00
1.50E-04
3.00E-04
4.50E-04
6.00E-04
7.50E-04
9.00E-04
Contour interval= 5.0000E-05
Extrap. by averaging
(*10^2)
9.550
9.450
9.350
9.250
9.150
9.050
8.950
2.850
2.950
3.050
3.150
3.250
3.350
3.450
(*10^2)


JOB TITLE : Corner 1 Embankment - Section 4+175 / RSN6001382 / HLN / RP / Axes units: m
FLAC (Version 8.10)
LEGEND
Excess pore water pressure ratio (-)
0.00E+00
2.00E-01
4.00E-01
6.00E-01
8.00E-01
1.00E+00
Contour interval= 1.0000E-01
Extrap. by averaging
(*10^3)
1.050
1.030
1.010
0.990
0.970
0.950
0.930
-1.100
-0.900
-0.700
-0.500
-0.300
-0.100
0.100
(*10^2)

APPENDIX I

Water Management Design

TECHNICAL MEMORANDUM

DATE July 10, 2025 **Reference No.** CA0047730.8440-019-TM-Rev0-31153

TO Matt O'Leary
Mount Polley Mining Corporation

CC Jesse Maddaloni, Germán Pizarro, and Andrew McIntosh

FROM Anna Makarenko, Nasim Hossein, and Curtis VanWerkhoven

EMAIL anna.makarenko1@wsp.com; nasim.hosseini@wsp.com; curtis.vanwerkhoven@wsp.com

TAILINGS STORAGE FACILITY RAISE TO ELEVATION 987 M DESIGN – FREEBOARD AND WATER LEVEL ANALYSIS – MOUNT POLLEY MINE

1.0 INTRODUCTION

The Mount Polley Mine is a copper and gold mine operated by Mount Polley Mining Corporation (MPMC), a subsidiary of Imperial Metals Corporation. The site is located approximately 56 km northeast of Williams Lake, British Columbia, between Polley Lake and Bootjack Lake. The Mount Polley Mine began production in 1997.

To support future operations, the Tailings Storage Facility (TSF) at Mount Polly mine is planned for a raise. This technical memorandum, prepared by WSP Canada Inc. (WSP), provides hydrologic input for the design of the TSF freeboard and inflow design flood (IDF), facilitating the planned elevation increase from 974 m to approximately 987 m. The TSF is a non-release facility with no emergency spillway, designed to retain the IDF entirely within its storage capacity.

The purpose of this technical memorandum is as follows:

- Assess a minimum freeboard that needs to be maintained at all times to prevent overtopping of the TSF by wave action.
- Estimate inflow volumes generated by the design event.
- Determine the water level at which pumping of site water to the TSF must cease.

2.0 BACKGROUND

During normal operations, the TSF will be managed by maintaining the pond volume within the operating range for reclaim water and make-up water. Deposition of tailings will be planned to maintain the pond away from the embankment and against the natural ground on the western perimeter.

During freshet and high flow events, surplus water from water management structures will be temporarily detained primarily in the Wight Pit and secondarily in the TSF. The inflows that directly contribute to the TSF are from precipitation on the direct footprint of the TSF and runoff from the catchment directly above the TSF.
A contribution to TSF supernatant volume is site contact water pumped from the Central Collection Sump. However, a fundamental basis of the water management plan is to not accumulate water on site year over year within the TSF by treating and discharging water.

3.0 DESIGN CRITERIA AND INPUTS FOR IDF ASSESSMENT

The TSF water management criteria for raising the existing TSF from elevation 974 m to the elevation required to contain the life of mine (LoM) tailings (approximately 987 m) are described in the TSF technical design basis memorandum document (WSP 2025a). The inputs to the TSF freeboard and water level assessment are summarized in Table 1.

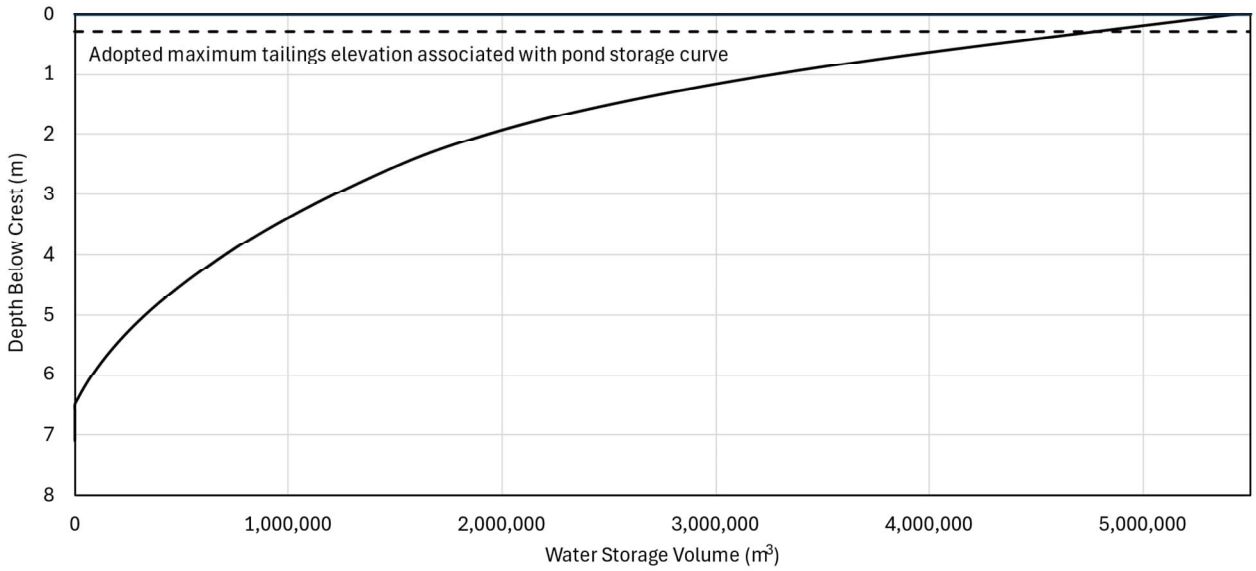
Table 1: Tailings Storage Facility Freeboard and Inflow Design Volumes Inputs Summary

Item No.	Item Description	Design Basis	Reference/Rationale
1	Catchment area	Delineated based on topography using 2023 LiDAR contours. Horizontal datum is UTM Zone 10 NAD83 CSRS and vertical datum is relative to local tailings grid.	Provided by MPMC (Fullerton 2024)
2	TSF IDF	IDF volume will be estimated considering the governing PMF, determined to be the spring PMP rainfall plus snowmelt.	Section 3.3
3	Critical duration of IDF	Evaluated using the IDF volumes for durations from 24 hour to 30 days and extraction rates from the TSF provided by MPMC.	Section 3.3
4	Snowmelt depth component of the IDF	Snowmelt estimated using PMP and 1:100-year April temperature.	Section 3.4
5	Volume required to store TSF IDF	Maximum volume required to be stored for IDF durations from 24 hour to 30 days with maximum extraction pumping of 100,000 m^3/d starting on day 4.	Section 4.0
6	Normal freeboard	No overtopping by 95% of waves caused by the most critical wind with a frequency of 1:1,000 year with reservoir at maximum normal elevation.	CDA (2013)
7	Minimal freeboard	No overtopping by 95% of waves caused by the most critical wind when the reservoir is at its maximum level during the IDF.	CDA (2013)
8	Climate change consideration	Considered to be not significant during operations.	Climate change considerations are not included for operational design, due to estimated mine life being completed in 2031.

TSF = tailings storage facility; IDF = inflow design flood; PMF = probable maximum flood; PMP = probable maximum precipitation; UTM = Universal Transverse Mercator; NAD83 = North American Datum of 1983; CSRS = Canadian Spatial Reference System.

3.1 Tailings Storage Facility Storage Curve

A tailings storage capacity analysis was conducted for the TSF raise to elevation 987 m (WSP 2025b).
The shape of the tailings surface and the pond storage curve remain about constant during the operations phase, for raises from 974 m to 987 m, due to the embankment being raised following the centreline method and the relatively small footprint expansion of the tailings basing towards the natural ground to the west of the facility.
The tailings storage capacity considers a 0.3 m tailings freeboard, defined as the vertical distance between the TSF crest and the maximum tailings elevation, a 0.5% sub-aerial tailings slope, a 2% sub-aqueous tailings slope and a 1.5 Mm^3 pond size (WSP 2025b).



m = metre; m^3 = cubic metre.

Figure 1: Tailings Storage Facility Stage Storage Curve

3.2 Catchment Characteristics

The water inflows to the TSF that are not pumped and therefore not in the direct control of the operator are as follows:

- precipitation on the direct footprint of the TSF
- runoff from the catchment directly above the west side of the TSF

These catchment areas that directly contribute to the TSF are provided in Table 2 and shown in Figure 2.
This catchment delineation is used as input to assess TSF freeboard requirements.

At the TSF dam elevation of 970 m, the quarry area may contribute to the TSF. However, as the dam elevation increases from approximately 970 to 972 meters, the ditch surrounding the biosolids will lie at a lower elevation than the TSF crest. Any ditch, berm, or road upstream of the biosolids that could divert flow from the quarry towards the TSF is anticipated to be decommissioned as part of the biosolids relocation process. Additionally, the embankment elevation above 974 meters will impede the TSF northwest catchment.

Table 2: Tailings Storage Facility Catchment Areas

Catchment	Watershed Area (km^2)
TSF upstream	0.5
TSF	2.5

TSF = tailings storage facility; km^2 = square kilometres.



Figure 2: TSF Catchment Areas

3.3 Probable Maximum Precipitation

Based on the *Health, Safety and Reclamation Code for Mines in British Columbia* (MCM 2024), the TSF is ranked as a high consequence of failure facility (WSP 2025a). For a high consequence dam, MCM (2024) specifies an IDF with an annual exceedance probability of one third of the way between the 1:1000-year event and the PMF. For conservatism and consistency with WSP's best practice the IDF for the TSF was selected as the PMF.

An assessment was carried out in accordance with CDA (2013) to determine the governing storm type. Both the spring PMF and the summer/fall PMF scenarios were considered. The analysis concluded that the spring PMF, derived from the spring PMP rainfall combined with 1:100-year snowmelt events, is the governing scenario.

The spring PMP depths for the durations of 24 hours and 3 days were calculated with the Hershfield method (WMO 2009). The spring PMP depths for durations of 2-day and longer than 3 days were derived using a ratio-based approach. The ratios of 3-day PMP to other durations (e.g., 10-day) were determined from the Williams Lake A station data, assuming the duration ratios from this station are representative at the site. PMP depths used to estimate inflows to the TSF for various durations are presented in Table 3

Table 3: Spring Probable Maximum Precipitation Depths

Duration (climatological days[a])	Spring PMP (mm)
1	192[b]
2	259[c]
3	272[b]
4	287[c]
5	289[c]
6	303[c]
7	323[c]
8	361[c]
9	378[c]
10	412[c][d]
15	462[c]
20	552[c]
30	665[c]

(a) Daily PMP values were converted to climatological daily values using the adjustment factors for climate day (Hopkinson 2001).

(b) WSP 2022.

(c) Estimated using a ratio-based approach.

(d) The estimated 10-day Spring PMP value was determined using a ratio-based approach, rather than the 10-day Spring PMP provided in the 2022 Baseline Climate Report (WSP 2022). This decision was made because the ratio was derived from data at the William Lake Station, which provides a longer and more consistent record from a single source.

3.4 Snowmelt

The snowmelt was determined using an energy balance method based on net longwave radiation, net shortwave radiation, and sensible and latent heat fluxes (Dunne and Leopold 1978), noting that the snowmelt is assumed to occur under cloudy skies. Consistent with runoff patterns observed on site during freshet, the snowmelt is expected to occur between March and May with a relatively greater proportion of melting happening in April.

The snowmelt (mm/day) for return period event for different durations (t) is estimated using Equation 1:

$$M_{R-t} = 1.42T_a + 2.5 + \frac{R_t T_a C_W}{L} + 0.0059 T_a u_2 \qquad \textbf{(Equation 1)}$$

The input parameter values for Equation 1 are summarized in Table 4.

Table 4: Snowmelt Parameter Input Values

Parameter	Description	Value	Rationale
R_t	Rainfall depth in mm for return period event duration t, averaged over the duration of the storm.	Spring PMP values provided in Table 3 Table 3	To estimate snowmelt generated by spring PMP.
T_a	Air temperature in °C over the return period event duration.	See Table 5	1:100-year average daily air temperature for April for different durations were derived from frequency analysis of temperature data for the month of April (WSP 2022).
u_2	Wind speed in km/day	225 km/day (2.6 m/s)	Average April wind speed; tailings storage facility inflow design flood technical memorandum (Golder 2017).
C_W	Specific heat of water in cal/g/°C	1 cal/g/°C	Assumed
L	Latent heat of fusion of ice in cal/g	80 cal/g	Assumed

PMP = probable maximum precipitation.

The 1:100-year average temperature for different durations (provided in Table 5) were derived from frequency analysis of temperature data for the month of April. The estimated snowmelt depths are summarized in Table 5.

Table 5: PMP Plus 1:100 Year Snowmelt Depth

Duration (days)	1:100-year April Temperature (°C)	1:100-year Snowmelt (mm)	PMP plus 1:100-year Snowmelt (mm)
1	16.3	87	279
2	15.9	144	402
3	15.1	184	456
4	14.6	222	509
5	14.8	269	558
6	14.3	306	609
7	14.2	349	672
8	13.6	381	742
9	12.6	394	772
10	12.2	421	833
15	10.6	428[(a)]	889
20	9.9	428[(a)]	980
30	8.7	428[(a)]	1,093

(a) Snowmelt is limited to 1:100-year snowpack in April that was derived from frequency analysis of snowpack data for the months of March and April from 1998-2021.

°C = degrees Celsius; mm = millimetre.

4.0 IDF ASSESSMENT – REQUIRED STORAGE DURING PMF

The 2024 HSRC requires review and determination of the site-specific controlling event duration for the TSF facility. For the TSF, consideration of the IDF (based on scenarios of frequency, intensity, and duration) and operational dewatering capacity is required to identify controlling events. The key considerations for the assessment process are as follows:

a) **Evaluating IDF Volumes:** Assessed the IDF volumes for durations up to 30 days (1, 2, 3, 5, 7, 10, etc.).

b) **Assessing Extraction Rates to define the controlling duration:** The TSF pump out rate capacity of 100,000 m^3/d (provided by MPMC) was considered. This maximum extraction rate is the sum of pumping rates from the TSF to the TSF Booster (at 80,000 m^3/d) and the CCS to the TSF pump that could be reversed to drawdown the TSF during the IDF event (at 20,000 m^3/d).

c) **Timing of Extraction:** The extraction at full capacity was assumed to commence on day 4 of the storm event due to the following considerations:

- Potential issues during an extreme storm event such as power outages, infrastructure damage, access challenges, or operational constraints.
- Uncertainty knowing or determining that an extreme storm event has started or is ongoing.
- The distribution of rainfall was not considered over storm events with duration longer than 1 day. For example, in a 7-day PMF, the largest storm (1-day maximum) could occur in the middle or any day within the duration. If the largest rainfall doesn't occur on the first day, it may delay the initiation of extraction or switching of pumps.

The PMF inflow volumes to the TSF were estimated using the simple rainfall-runoff method as shown in Equation 2:

$$Q = C \cdot P \cdot A \qquad \textbf{Equation (2)}$$

where Q (M-m^3) is the PMF inflow volume to the TSF, C (unitless) is the runoff coefficient which was assumed to be 0.93 (aligned with the HEC-HMS model results for the 72-hour PMF), P (mm) is total rainfall and snowmelt depth (PMP plus 1:100 year snowmelt as presented in Table 5), and A (km^2) is the total catchment area (as presented in Table 2).

The cumulative storage required in the TSF was estimated as the cumulative PMF inflow minus the cumulative TSF outflow based on the extraction rate for durations up to 30 days (1, 2, 3, 5, 7, 10, etc.). The estimated governing PMF inflow volumes (spring event) to TSF and pumped outflows from TSF are provided in Table 6.

Based on this analysis, the controlling event for TSF design was identified as a 10-day duration, which governs the maximum storage volume required in the TSF. The maximum storage required for a critical duration 10-day spring PMP is 1.62 M-m^3 if extraction starts on day 4 at a daily rate of 100,000 m^3/d.

Table 6: TSF Inflows and Outflows during the Spring PMP Rainfall plus Snowmelt Events for Durations from 1 Day to 30 Days

Duration (climatological days)	Cumulative Spring PMF Volume (M-m^3)	Cumulative TSF Outflows (M-m^3)	Cumulative Required TSF Storage Volume (M-m^3)
1	0.78	No extraction[(a)]	0.78
2	1.12	No extraction[(a)]	1.12
3	1.27	No extraction[(a)]	1.27
4	1.42	0.10	1.32
5	1.55	0.20	1.35
6	1.70	0.30	1.40
7	1.87	0.40	1.47
8	2.07	0.50	1.57
9	2.15	0.60	1.55[(b)]
10	2.32	0.70	1.62
15	2.48	1.20	1.28
20	2.73	1.70	1.03
30	3.05	2.70	0.35

(a) The extraction of the PMF inflow requires stopping slurry deposition and reversing the CCS to TSF pump to achieve a maximum pumping capacity of 100,000 m^3/d from the TSF.

(b) The reduction in required storage from 8 to 9 days, followed by an increase from 9 to 10 days, is due to statistical variability in the PMP events. This reflects a brief period where the pumping rate exceeds the inflow, causing a slight deviation from the linear trend. Durations of 11 and 12 days were also assessed, with required storage volumes less than the 10-day event.

5.0 FREEBOARD

The freeboard for a water-retaining structure can be defined as the minimum vertical distance between the still pool reservoir level and the crest of the retaining structure (CDA 2013, 2019). This distance needs to be maintained at all times to prevent overtopping of the containing structure by waves resulting from wind and wave set-up and run-up. The Canadian Dam Association provides the following definitions to calculate the freeboard (CDA 2013):

- *Normal freeboard* is the difference in elevation between the dam crest and the maximum operating water level of the facility. The normal freeboard is required to protect the structure from overtopping by 95% of waves caused by wind with an annual exceedance probability of 1:1,000-year event with the reservoir at maximum normal elevation.
- *Minimum freeboard* is the difference in elevation between the dam crest and the maximum water level that would result from the peak design inflow. The minimum freeboard is required to protect the structure from overtopping by 95% of waves caused by the most critical wind when the reservoir is at its maximum level during the inflow design flood (IDF). The wind for the high consequence dam has an annual exceedance probability of a 1:2-year event.

The freeboard calculations follow the procedures and equations discussed in CDA (2013, 2019). Wind speeds, pond depth, and dam slope geometry were considered to determine the greatest wave uprush value for the normal and minimum freeboard scenarios.

Wave run-up was calculated using the random wave run-up height on gentle slope method by Mase (1989). The freeboard calculation inputs, and the corresponding normal and minimum freeboard are shown in Table 7. As mentioned in Section 3.1, the deposited tailings surface and shape remain about constant during the operations phase, for raises from 974 m to 987 m, due to the method used to raise the embankment and the relatively small footprint expansion of the tailings towards the west. Therefore, the cross section along the fetch length for the TSF dam raise of 979.3 m was used to estimate the average water wave uprush calculation.

Table 7: Tailings Storage Facility Required Freeboard Values

Description	Unit	Minimum	Normal
Design wind speed	m/s	23 (1:2-year)	32 (1:1,000-year)
Dam crest elevation	m	TSF raise from 974 m to 987 m	TSF raise from 974 m to 987 m
Maximum water elevation Below Dam crest	m	0.7[(c)]	1.8[(d)]
Fetch length	km	1.8	1.2
Average water depth	m	2.53	2.45
Beach Slope	m/m	0.005[(a)]	0.005[(a)]
Wave height	m	0.58	0.73
Wind setup	m	0.08	0.1
Wave run-up[(b)]	m	0.24	0.29
Wave uprush (setup and run-up)	m	0.32	0.39

(a) The beach slope is less than the minimum slope recommended by Mase (1989). The lowest recommended slope of 1/30 was used in the wave run-up estimation.

(b) Calculated using the method by Mase (1989).

(c) To contain wave uprush from 1:2-year wind plus contingency.

(d) To contain 1.62 M-m^3 volume, wave uprush from 1:1000-year wind plus contingency.

IDF = inflow design flood; m = metre; m/s = metre per second; m/m = metre per metre; km = kilometre.

A 0.7 m freeboard is considered in the analysis for both minimum and normal freeboard requirements. This accounts for the wave uprush, as well as a freeboard contingency to account for uncertainty due to settlement, crest irregularities, and construction tolerances for crest (ANCOLD 2012).

6.0 SUMMARY

The IDF for the TSF was estimated using the critical duration of 10-day PMP (412 mm) plus snowmelt (421 mm). The runoff volume generated by the IDF was 2.32 million m^3 (Section 4.0). The required IDF storage using the documented extraction rates is 1.62 million m^3 (Section 4.0).

The freeboard calculations follow the procedures and equations discussed in CDA (2013, 2019). A minimum freeboard of 0.7 m is considered to account for wave run-up and wind setup and a contingency (Section 5.0).

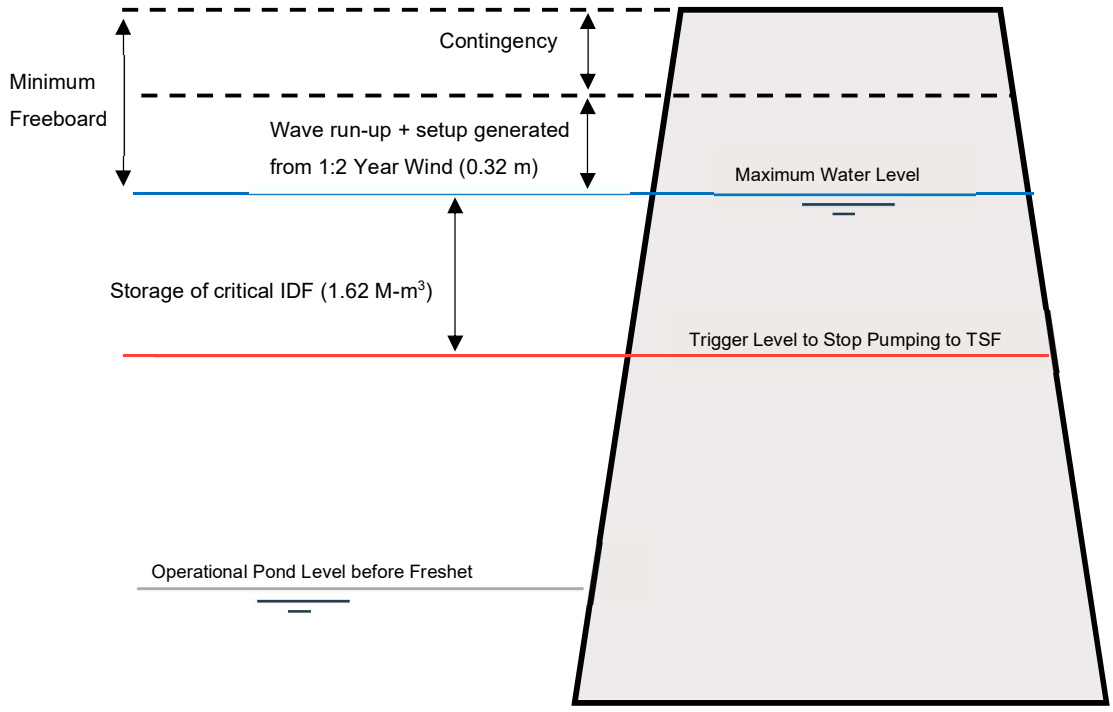
The water level and inflow volume model results for the TSF are summarized in Table 8. The results presented in Table 8 are applicable to all interim dam raises from a crest elevation of 974 to 987 m, as the deposited tailings surface and shape stays about consistent with that presented in the rating curve in Figure 1 due to the embankment raise following the centreline method and the tailings footprint not changing in the west direction. The tailings deposition method is expected to be adjusted a few years before the end of operations.

Table 8: Tailings Storage Facility with Water Level and Inflow Volume Results for Dam Raises for Crest Elevations from 974 m to 987 m

Parameters	Values
Dam crest elevation (m)	TSF raise from 974 m to 987 m
IDF storage volume (million m^3)	1.62
Freeboard (water level below crest during IDF) (m)	0.7
Trigger water level to stop pumping site water to the TSF (Depth below Crest) (m)	1.8
Normal operational pond volume range (million m^3)	0.75-1.5

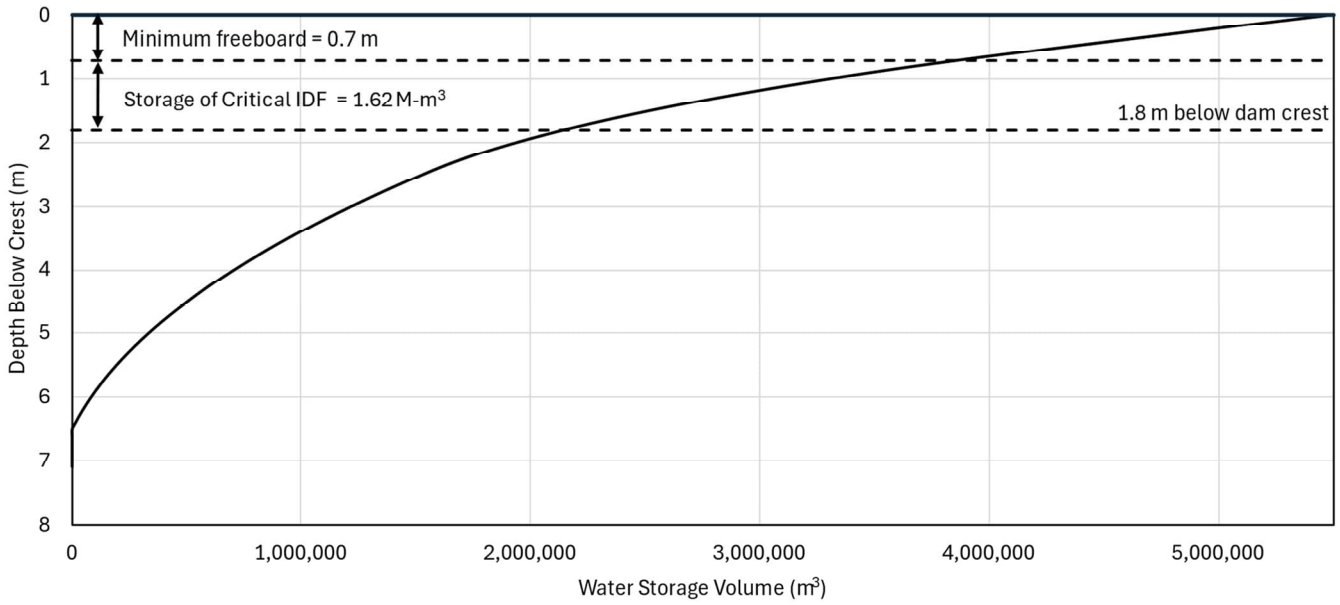
IDF = inflow design flood; TSF = tailings storage facility; m = metre; m^3 = cubic metre.

Figure 3 presents the IDF design events in relation to the TSF embankment. Figure 4 presents the design events and corresponding elevations in relation to the TSF storage curve as shown in Section 3.1.



IDF = inflow design flood; PMF = probable maximum flood; TSF = tailings storage facility; m = metre; M-m^3 = million cubic metre.

Figure 3: Design Events in Relation to Tailings Storage Facility Embankment



IDF = inflow design flood; m = metre; M-m^3 = million cubic metre.

Figure 4: Design Events in Relation to the Tailings Storage Facility Storage Curve

7.0 CLOSURE

The reader is referred to the Study Limitations section, which follows the text and forms an integral part of this memorandum.

We trust that the information presented herein meets the current MPMC requirements. Please do not hesitate to contact the undersigned with any questions or concerns.

WSP Canada Inc.

PERMIT TO PRACTICE #1000200
Engineers & Geoscientists BC

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
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https://wsponline.sharepoint.com/sites/gld-10023g/2025 deliverables1/ca0047730.8440 deliverables/002_issued/019-tm-31153-tsf 987m raise – freeboard and water level analysis/rev0/ca0047730.8440-019-tm-rev0-31153-tsf freeboard for tsf 987 m raise _25.docx

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WSP. 2025b. *Tailings Storage Facility – Detailed Design to Elevation 987 m*. WSP Doc. No. *CA0047730.8440-004-R-RevA-51293*. Submitted June 20, 2025.

STUDY LIMITATIONS

WSP Canada Inc. (WSP) has prepared this document in a manner consistent with that level of care and skill ordinarily exercised by members of the engineering and science professions currently practising under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this document. No warranty, express or implied, is made.

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This limitations statement is considered an integral part of this report.

APPENDIX J

Type I Independent Review Checklist and Signoff

INDEPENDENT REVIEW MEMO

TO: Sophie Bainbridge; Germán Pizarro

FROM: Fernando F. Junqueira, D.sc., M.Sc., P.Eng.

SUBJECT: **Independent Review of Mount Polley Mine Tailings Storage Facility Detailed Design to Elevation 987 m**

DATE: July 7, 2025

Introduction

This memorandum is in response to your request for undertaking an independent review of the Mount Polley Mine Tailings Storage Facility Detailed Design to Elevation 987 m. This memo contains the scope of review, review limitations and assumptions, and the EGBC Type 1 Independent Review sheet signed and sealed.

This review was centered on the following Report and associated Appendixes.

- WSP. 2025. Draft Tailings Storage Facility – Detailed Design to Elevation 987 m, Mount Polley Mine. Prepared for Mount Polley Mining Corporation. WSP Doc. No. CA0047730.8440-004-R-RevA-51293

The review was completed following guidelines by EGBC included in:

- Engineers & Geoscientists British Columbia, 2023,Guide To The Standard For Documented Independent Review Of High-Risk Professional Activities Or Work, Version 2.0

Following review of the design documentation, a meeting with the EoR and Deputy EoR was arranged where comments were provided by the reviewer, and clarifications were made by the EoR team. The discussions in this meeting constitute an integral part of the review process.

Limitations of This Review

The primary focus of this review was on the adequacy and completeness of the concept, approach, analyses, and documentation of the TSF 987 m detailed design package. Independent review of calculations and models was not conducted, however this review checked for evidence of senior review of all engineering analyses and design components.

Although this independent review was conducted on a draft version of the design package, it is assumed that the final version does not include any major changes to the design components or methodology.

Independent Review Conclusion

Based on the review of the design documentation and conversations with the EoR team, this independent reviewer concludes that the detailed design of the Mount Polley Mine Tailings Storage Facility to Elevation 987 m was completed adequately using sound engineering principles. Comments on specific aspects of the design process are provided in the EGBC Independent Review sheet below.

EGBC Review Document

CHECKLIST AND SIGNOFF FOR AN INDEPENDENT REVIEW OF HIGH-RISK PROFESSIONAL ACTIVITIES OR WORK

RE: Mount Polley Mine TSF Detailed Design to Elevation 987 m

Mount Polley Mine
British Columbia, Canada

PROFESSIONAL OF RECORD
German Pizarro-Sala, P.Eng.

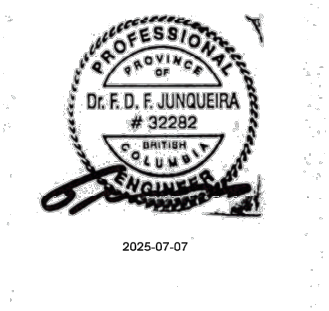
WSP Canada, Inc

Permit to Practice number

Address of firm

ITEM	REVIEWED	REMARKS
	INITIALS	
Criteria for carrying out Professional Activities or Work	ℱℱℊ	Project design basis and design criteria established and documented
Applicable codes, standards, and other requirements (laws, regulations, design requirements, etc.)	ℱℱℊ	Applicable regulations and guidelines stated and used to develop criteria and guidance for design
Geographical and/or environmental conditions and requirements	ℱℱℊ	Site geotechnical and hydrotechnical conditions are documented. Site climatic conditions are defined, and foundation investigations were carried out, documented and results used in design.
Assumptions for Professional Activities or Work	ℱℱℊ	Integrated with the Design Criteria, Design Basis sections.
Concept for Professional Activities or Work	ℱℱℊ	This work is detailed design for construction. Concept was completed as part of previous stages of work. Report includes Siting and Technology review.
Test and analysis procedures and results	ℱℱℊ	Report includes details on site investigation, material testing, and Engineering analyses including stability, seepage. deformation, internal erosion, water management and TSF storage capacity calculations.
Quality control and quality analysis procedures	ℱℱℊ	Quality assurance and controls are included as part of the Technical Specifications document. attached as an appendix.

ITEM	REVIEWED	REMARKS
Calculations or analysis of representative elements	FFJ	Reviews of the data and modelling in engineering design analyses were conducted by senior engineers in each area, as evidenced in the design documentation and confirmed by the EoR Team. This satisfies that these reviews were completed by qualified personal. This Independent Reviewer did not review the specific modelling or calculation work.
Review of representative details	FFJ	Review of the Design Report was completed, comments/questions/recommendations presented to the EoR and Deputy EoR, and responses and actions taken were appropriate.
Integration of third-party components and artifacts	FFJ	The EoR indicated that third-party consultants were not involved in the detailed design of the Mt. Polley TSF 987 m Raise.
Representation of output (e.g., drawings, reports, spreadsheets, models)	FFJ	Drawings and cross sections were reviewed and were clear and appropriate for use.
Hazards (current and future) identified in the Risk Assessment	FFJ	Risk assessment was provided as a Failure Modes and Effects Assessment. This was adequate for use.
Adequacy and implementation of mitigation measures	FFJ	Mitigations within the design were appropriate to the client's risk tolerance and applicable guidance.
Concerns discussed with the Professional of Record	FFJ	Concerns were discussed and resolved.
For global, repetitive, or iterative design, recommendation for intervals of Independent Review	FFJ	N/A



Date: 07/07/2025)

INDEPENDENT REVIEWER
Fernando F. Junqueira. D.sc., M.Sc., P.Eng.

WSP Canada, Inc.

Permit to Practice number

Address of firm
840 Howe Street, Vancouver

Signature

WSP Canada Inc.
Engineers & Geoscientists BC
Permit #1000200



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APPENDIX 1-3: AUTHOR STATEMENTS

BRITISH COLUMBIA | Ministry of Environment and Climate Change Strategy

Conflict of Interest Disclosure Statement

A qualified professional [1] providing services to either the Ministry of Environment and Climate Change Strategy ("ministry"), or to a regulated person for the purpose of obtaining an authorization from the ministry, or pursuant to a requirement imposed under the *Environmental Management Act,* the *Integrated Pest Management Act* or the *Park Act* has a real or perceived conflict of interest when the qualified professional, or their relatives, close associates or personal friends have a financial or other interest in the outcome of the work being performed.

A real or perceived conflict of interest occurs when a qualified professional has

a) an ownership interest in the regulated person's business;

b) an opportunity to influence a decision that leads to financial benefits from the regulated person or their business other than a standard fee for service (e.g. bonuses, stock options, other profit sharing arrangements);

c) a personal or professional interest in a specific outcome;

d) the promise of a long term or ongoing business relationship with the regulated person, that is contingent upon a specific outcome of work;

e) a spouse or other family member who will benefit from a specific outcome; or

f) any other interest that could be perceived as a threat to the independence or objectivity of the qualified professional in performing a duty or function.

Qualified professionals who work under ministry legislation must take care in the conduct of their work that potential conflicts of interest within their control are avoided or mitigated. Precise rules in conflict of interest are not possible and professionals must rely on guidance of their professional associations, their common sense, conscience and sense of personal integrity.

Declaration

I Chris Dodd, as a member of BC Association of Professional Archaeologists declare

Select one of the following:

☒ Absence from conflict of interest

Other than the standard fee I will receive for my professional services, I have no financial or other interest in the outcome of this application.
I further declare that should a conflict of interest arise in the future during the course of this work, I will fully disclose the circumstances in writing and without delay to Morgan Dyas, erring on the side of caution.

☐ Real or perceived conflict of interest

Description and nature of conflict(s):

_____

_____

_____

I will maintain my objectivity, conducting my work in accordance with my Code of Ethics and standards of practice.

In addition, I will take the following steps to mitigate the real or perceived conflict(s) I have disclosed, to ensure the public interest remains paramount:

_____

_____

_____

Further, I acknowledge that this disclosure may be interpreted as a threat to my independence and will be considered by the statutory decision maker accordingly.

This conflict of interest disclosure statement is collected under section 26(c) of the *Freedom of Information and Protection of Privacy Act* for the purposes of increasing government transparency and ensuring professional ethics and accountability. By signing and submitting this statement you consent to its publication and its disclosure outside of Canada. This consent is valid from the date submitted and cannot be revoked. If you have any questions about the collection, use or disclosure of your personal information please contact the Ministry of Environment and Climate Change Strategy Headquarters Office at 1-800-663-7867.

Signature:

X _____

Witnessed by:

X _____

Print name: Chris Dodd

Print name: Danielle Findlay

Date: November 17, 2025

[1]*Qualified Professional, in relation to a duty or function under ministry legislation, means an individual who*

a) is registered in British Columbia with a professional association, is acting under that organization's code of ethics, and is subject to disciplinary action by that association, and

b) *through suitable education, experience, accreditation and knowledge, may reasonably be relied on to provide advice within his or her area of expertise, which area of expertise is applicable to the duty or function.*

BRITISH COLUMBIA | Ministry of Environment and Climate Change Strategy

Declaration of Competency

The Ministry of Environment and Climate Change Strategy relies on the work, advice, recommendations and in some cases decision making of qualified professionals[1], under government's professional reliance regime. With this comes an assumption that professionals who undertake work in relation to ministry legislation, regulations and codes of practice have the knowledge, experience and objectivity necessary to fulfill this role.

1. Name of Qualified Professional: Chris Dodd

   Title: Principal Archaeologist

2. Are you a registered member of a professional association in B.C.? ☒ Yes ☐ No

   Name of Association: BC Association of Professional Archaeologists Registration #: N/A

3. Brief description of professional services:

   Provision of archaeological input and technical advice as it relates to the application.

This declaration of competency is collected under section 26(c) of the *Freedom of Information and Protection of Privacy Act* for the purposes of increasing government transparency and ensuring professional ethics and accountability. By signing and submitting this statement you consent to its publication and its disclosure outside of Canada. This consent is valid from the date submitted and cannot be revoked. If you have any questions about the collection, use or disclosure of your personal information please contact the Ministry of Environment and Climate Change Strategy Headquarters Office at 1-800-663-7867.

Declaration

I am a qualified professional with the knowledge, skills and experience to provide expert information, advice and/or recommendations in relation to the specific work described above.

Signature: Witnessed by:

X _____ **X** _____

Print Name: Chris Dodd Print Name: Danielle Findlay

Date signed: November 17, 2025

[1] *Qualified Professional, in relation to a duty or function under ministry legislation, means an individual who*

a) is registered in British Columbia with a professional association, is acting under that organization's code of ethics, and is subject to disciplinary action by that association, and

b) *through suitable education, experience, accreditation and knowledge, may reasonably be relied on to provide advice within his or her area of expertise, which area of expertise is applicable to the duty or function.*

Ministry of
Environment and
Climate Change Strategy

Conflict of Interest Disclosure Statement

A qualified professional [1] providing services to either the Ministry of Environment and Climate Change Strategy ("ministry"), or to a regulated person for the purpose of obtaining an authorization from the ministry, or pursuant to a requirement imposed under the *Environmental Management Act,* the *Integrated Pest Management Act* or the *Park Act* has a real or perceived conflict of interest when the qualified professional, or their relatives, close associates or personal friends have a financial or other interest in the outcome of the work being performed.

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a) an ownership interest in the regulated person's business;

b) an opportunity to influence a decision that leads to financial benefits from the regulated person or their business other than a standard fee for service (e.g. bonuses, stock options, other profit sharing arrangements);

c) a personal or professional interest in a specific outcome;

d) the promise of a long term or ongoing business relationship with the regulated person, that is contingent upon a specific outcome of work;

e) a spouse or other family member who will benefit from a specific outcome; or

f) any other interest that could be perceived as a threat to the independence or objectivity of the qualified professional in performing a duty or function.

Qualified professionals who work under ministry legislation must take care in the conduct of their work that potential conflicts of interest within their control are avoided or mitigated. Precise rules in conflict of interest are not possible and professionals must rely on guidance of their professional associations, their common sense, conscience and sense of personal integrity.

Declaration

I Alannah Gray Hobbard, as a member of Engineers + Geoscientists BC declare

Select one of the following:

☒ Absence from conflict of interest

Other than the standard fee I will receive for my professional services, I have no financial or other interest in the outcome of this permit application for Mount Polley.
I further declare that should a conflict of interest arise in the future during the course of this work, I will fully disclose the circumstances in writing and without delay to Morgan Dyas, erring on the side of caution.

Ministry of
Environment and
Climate Change Strategy

☐ Real or perceived conflict of interest

Description and nature of conflict(s):

I will maintain my objectivity, conducting my work in accordance with my Code of Ethics and standards of practice.

In addition, I will take the following steps to mitigate the real or perceived conflict(s) I have disclosed, to ensure the public interest remains paramount:

Further, I acknowledge that this disclosure may be interpreted as a threat to my independence and will be considered by the statutory decision maker accordingly.

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Signature:

X

Print name: Alannah Gray Hubbard

Date: Nov 17, 2025

Witnessed by:

X

Print name: My Wall

[1]*Qualified Professional, in relation to a duty or function under ministry legislation, means an individual who*

a) is registered in British Columbia with a professional association, is acting under that organization's code of ethics, and is subject to disciplinary action by that association, and

b) through suitable education, experience, accreditation and knowledge, may reasonably be relied on to provide advice within his or her area of expertise, which area of expertise is applicable to the duty or function.

BRITISH COLUMBIA
Ministry of Environment and Climate Change Strategy

Declaration of Competency

The Ministry of Environment and Climate Change Strategy relies on the work, advice, recommendations and in some cases decision making of qualified professionals[1], under government's professional reliance regime. With this comes an assumption that professionals who undertake work in relation to ministry legislation, regulations and codes of practice have the knowledge, experience and objectivity necessary to fulfill this role.

1. Name of Qualified Professional Hannah Gray Hubbard

   Title Senior Geological Engineer

2. Are you a registered member of a professional association in B.C.? ☒ Yes ☐ No

   Name of Association: Engineers + Geoscientists BC Registration # 48028

3. Brief description of professional services:

   Open pit + waste rock dump slope stability

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Declaration

I am a qualified professional with the knowledge, skills and experience to provide expert information, advice and/or recommendations in relation to the specific work described above.

Signature:

X

Print Name: Hannah Gray Hubbard

Date signed: Nov 17, 2025

Witnessed by:

X

Print Name: My Wall

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☐ Real or perceived conflict of interest

Description and nature of conflict(s):

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Signature:

X _____

Print name: Drew Kaiser

Witnessed by:

X _____

Print name: Gavin Black

Date: November 17, 2025

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Ministry of
Environment and
Climate Change Strategy

Conflict of Interest Disclosure Statement

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A real or perceived conflict of interest occurs when a qualified professional has

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d) the promise of a long term or ongoing business relationship with the regulated person, that is contingent upon a specific outcome of work;

e) a spouse or other family member who will benefit from a specific outcome; or

f) any other interest that could be perceived as a threat to the independence or objectivity of the qualified professional in performing a duty or function.

Qualified professionals who work under ministry legislation must take care in the conduct of their work that potential conflicts of interest within their control are avoided or mitigated. Precise rules in conflict of interest are not possible and professionals must rely on guidance of their professional associations, their common sense, conscience and sense of personal integrity.

Declaration

I Drew Kaiser, as a member of College of Applied Biology declare

Select one of the following:

☒ Absence from conflict of interest

Other than the standard fee I will receive for my professional services, I have no financial or other interest in the outcome of this permit amendment application.
I further declare that should a conflict of interest arise in the future during the course of this work, I will fully disclose the circumstances in writing and without delay to Ministry of Critical Minerals, erring on the side of caution.

BRITISH COLUMBIA | Ministry of Environment and Climate Change Strategy

Declaration of Competency

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1. Name of Qualified Professional: Drew Kaiser

   Title: Senior Principal Biologist

2. Are you a registered member of a professional association in B.C.? ☒ Yes ☐ No

   Name of Association: College of Applied Biology Registration # 2332

3. Brief description of professional services:

   Review of Ecosystems and Vegetation section, and overall review of permit amendment application.

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Declaration

I am a qualified professional with the knowledge, skills and experience to provide expert information, advice and/or recommendations in relation to the specific work described above.

Signature:

X

Print Name: Drew Kaiser

Witnessed by:

X

Print Name: Gavia Black

Date signed: November 17, 2025

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BRITISH COLUMBIA | Ministry of Environment and Climate Change Strategy

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Declaration

I Donald Kidd, as a member of Engineers & Geoscientists BC declare

Select one of the following:

☑ Absence from conflict of interest

Other than the standard fee I will receive for my professional services, I have no financial or other interest in the outcome of this application.
I further declare that should a conflict of interest arise in the future during the course of this work, I will fully disclose the circumstances in writing and without delay to Morgan Dyas, erring on the side of caution.

BRITISH COLUMBIA | Ministry of Environment and Climate Change Strategy

☐ Real or perceived conflict of interest

Description and nature of conflict(s):

NA

I will maintain my objectivity, conducting my work in accordance with my Code of Ethics and standards of practice.

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Signature:

X D. Kidd

Print name: Donald Kidd

Date: 17th November 2025

Witnessed by:

X THachey

Print name: Tryphena Hachey

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BRITISH COLUMBIA | Ministry of Environment and Climate Change Strategy

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1. Name of Qualified Professional Donald Kidd

   Title Senior Water Resources Engineer

2. Are you a registered member of a professional association in B.C.? ☑ Yes ☐ No

   Name of Association: Engineers & Geoscientists BC Registration # 45522

3. Brief description of professional services:

   Reviewer of Water Management Infrastructure Design Work.

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Declaration

I am a qualified professional with the knowledge, skills and experience to provide expert information, advice and/or recommendations in relation to the specific work described above.

Signature:

X D.A. Kidd

Print Name: Donald Kidd

Date signed: 17th November 2025

Witnessed by:

X THartley

Print Name: Tryphena Hartley

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Ministry of Environment and Climate Change Strategy

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1. Name of Qualified Professional Claire Kisko

Title Ecologist

2. Are you a registered member of a professional association in B.C.? [X] Yes ☐ No

Name of Association: British Columbia Institute of Agrologists Registration # 4595

3. Brief description of professional services:

Provision of technical input and support as it relates to ecological components of the application.

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Declaration

I am a qualified professional with the knowledge, skills and experience to provide expert information, advice and/or recommendations in relation to the specific work described above.

Signature:

X 

Print Name: Claire Kisko

Witnessed by:

X 

Print Name: Thompson Hyggen

Date signed: November 13, 2025

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Ministry of Environment and Climate Change Strategy

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Declaration

I Claire Kisko_____, as a member of British Columbia Institute of Agrologists_____ declare

Select one of the following:

☒ Absence from conflict of interest

Other than the standard fee I will receive for my professional services, I have no financial or other interest in the outcome of this application_____.
I further declare that should a conflict of interest arise in the future during the course of this work, I will fully disclose the circumstances in writing and without delay to Morgan Dyas_____, erring on the side of caution.

☐ Real or perceived conflict of interest

Description and nature of conflict(s):

_____

_____

_____

I will maintain my objectivity, conducting my work in accordance with my Code of Ethics and standards of practice.

In addition, I will take the following steps to mitigate the real or perceived conflict(s) I have disclosed, to ensure the public interest remains paramount:

_____

_____

_____

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Signature:

X _____

Print name: Claire Kisko

Date: November 13, 2025

Witnessed by:

X _____

Print name: Thompson Hyggen

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BRITISH COLUMBIA | Ministry of Environment and Climate Change Strategy

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Declaration

I Jorden Laskosky as a member of The British Columbia Institute of Agrologists declare

Select one of the following:

☐ Absence from conflict of interest

Other than the standard fee I will receive for my professional services, I have no financial or other interest in the outcome of this Mount Polley 987 m TSF Raise Application.
I further declare that should a conflict of interest arise in the future during the course of this work, I will fully disclose the circumstances in writing and without delay to Morgan Dyas, erring on the side of caution.

☐ Real or perceived conflict of interest

Description and nature of conflict(s):

_____

_____

_____

I will maintain my objectivity, conducting my work in accordance with my Code of Ethics and standards of practice.

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_____

_____

_____

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Signature: 

X _____

Witnessed by:

X _____

Print name: Jorden Laskosky

Print name:

Date: 17 November 2025

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BRITISH COLUMBIA | Ministry of Environment and Climate Change Strategy

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1. Name of Qualified Professional Jorden Laskosky

   Title Mine Closure and Reclamation Specialist

2. Are you a registered member of a professional association in B.C.? ☑ Yes ☐ No

   Name of Association: British Columbia Institute of Agrologists Registration #

3. Brief description of professional services: Mine closure and reclamation planning and soils

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Declaration

I am a qualified professional with the knowledge, skills and experience to provide expert information, advice and/or recommendations in relation to the specific work described above.

Signature: Witnessed by:

X _____ **X** _____

Print Name: Jorden Laskosky Print Name: _____

Date signed: Nov 17 2025

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BRITISH COLUMBIA | Ministry of Environment and Climate Change Strategy

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Declaration

I **Shauna Litke**, as a member of **Engineers and Geoscientists of BC**
declare

Select one of the following:

☒ Absence from conflict of interest

Other than the standard fee I will receive for my professional services, I have no financial or other interest in the outcome of this Application.

I further declare that should a conflict of interest arise in the future during the course of this work, I will fully disclose the circumstances in writing and without delay to Morgan Dyas, erring on the side of caution.

Ministry of Environment and Climate Change Strategy

☐ Real or perceived conflict of interest

Description and nature of conflict(s):

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Signature: This signature has been scanned. The author has given permission for its use on this document. The original signature is held on file.

X _____

Print name: Shauna Litke

Date: November 19, 2025

Witnessed by:

X _____

Print name: Lara Sirotic

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Ministry of Environment and Climate Change Strategy

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1. Name of Qualified Professional: Shauna Litke

   Title: Senior Consultant

2. Are you a registered member of a professional association in B.C.? ☒ Yes ☐ No

   Name of Association: EGBC Registration #: 49392

3. Brief description of professional services:

   Assessment of ML/ARD potential, development of geochemical source terms, and development of ML/ARD Monitoring Plan and ML/ARD Management Plan

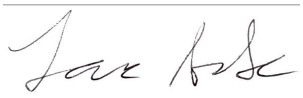
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Declaration

I am a qualified professional with the knowledge, skills and experience to provide expert information, advice and/or recommendations in relation to the specific work described above.

Signature: 
This signature has been scanned. The author has given permission for its use on this document. This original signature is held on file.

X _____

Witnessed by: 

X _____

Print Name: Shauna Litke

Print Name: Lara Sirotic

Date signed: November 19, 2025

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BRITISH COLUMBIA | Ministry of Environment and Climate Change Strategy

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e) a spouse or other family member who will benefit from a specific outcome; or

f) any other interest that could be perceived as a threat to the independence or objectivity of the qualified professional in performing a duty or function.

Qualified professionals who work under ministry legislation must take care in the conduct of their work that potential conflicts of interest within their control are avoided or mitigated. Precise rules in conflict of interest are not possible and professionals must rely on guidance of their professional associations, their common sense, conscience and sense of personal integrity.

Declaration

I Jesse Maddaloni, MASc, PEng, as a member of EGBC declare

Select one of the following:

☒ Absence from conflict of interest

Other than the standard fee I will receive for my professional services, I have no financial or other interest in the outcome of this Application.
I further declare that should a conflict of interest arise in the future during the course of this work, I will fully disclose the circumstances in writing and without delay to Morgan Dyas, erring on the side of caution.

☐ Real or perceived conflict of interest

Description and nature of conflict(s):

_____

_____

_____

I will maintain my objectivity, conducting my work in accordance with my Code of Ethics and standards of practice.

In addition, I will take the following steps to mitigate the real or perceived conflict(s) I have disclosed, to ensure the public interest remains paramount:

_____

_____

_____

Further, I acknowledge that this disclosure may be interpreted as a threat to my independence and will be considered by the statutory decision maker accordingly.

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Signature:

X _____

Print name: Jesse Maddaloni

Witnessed by:

X _____

Print name: Andrew Lee

Date: November 17, 2025

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a) is registered in British Columbia with a professional association, is acting under that organization's code of ethics, and is subject to disciplinary action by that association, and

b) *through suitable education, experience, accreditation and knowledge, may reasonably be relied on to provide advice within his or her area of expertise, which area of expertise is applicable to the duty or function.*

Ministry of Environment and Climate Change Strategy

Declaration of Competency

The Ministry of Environment and Climate Change Strategy relies on the work, advice, recommendations and in some cases decision making of qualified professionals[1], under government's professional reliance regime. With this comes an assumption that professionals who undertake work in relation to ministry legislation, regulations and codes of practice have the knowledge, experience and objectivity necessary to fulfill this role.

1. Name of Qualified Professional: Jesse Maddaloni, MASc, PEng

   Title: Senior Mechanical Engineer, Team Lead - Mine Water Treatment

2. Are you a registered member of a professional association in B.C.? ☒ Yes ☐ No

   Name of Association: EGBC Registration #: 36620

3. Brief description of professional services:

   Water management planning

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Declaration

I am a qualified professional with the knowledge, skills and experience to provide expert information, advice and/or recommendations in relation to the specific work described above.

Signature: 

X _____

Print Name: Jesse Maddaloni

Witnessed by: 

X _____

Print Name: Andrew Lee

Date signed: November 17, 2025

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Ministry of Environment and Climate Change Strategy

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d) the promise of a long term or ongoing business relationship with the regulated person, that is contingent upon a specific outcome of work;

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Declaration

I Steve Mitchell, as a member of _____ declare

Select one of the following:

☑ Absence from conflict of interest

Other than the standard fee I will receive for my professional services, I have no financial or other interest in the outcome of this TSF raise to 987 m application.
I further declare that should a conflict of interest arise in the future during the course of this work, I will fully disclose the circumstances in writing and without delay to Morgan Dyas, erring on the side of caution.

☐ Real or perceived conflict of interest

Description and nature of conflict(s):

_____

_____

_____

I will maintain my objectivity, conducting my work in accordance with my Code of Ethics and standards of practice.

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Signature:

X Steve Mitchell

Print name: Steve Mitchell

Witnessed by:

X Megan Mitchell

Print name: Megan Mitchell

Date: November 17, 2025

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BRITISH COLUMBIA | Ministry of Environment and Climate Change Strategy

Declaration of Competency

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1. Name of Qualified Professional: Steve Mitchell

   Title: Senior Water Quality Modeller

2. Are you a registered member of a professional association in B.C.? ☐ Yes ☑ No

   Name of Association: _____ Registration # _____

3. Brief description of professional services:

   Senior water quality modelling of the Mount Polley Mine site

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Declaration

I am a qualified professional with the knowledge, skills and experience to provide expert information, advice and/or recommendations in relation to the specific work described above.

Signature:

x Steve Mitchell

Print Name: Steve Mitchell

Witnessed by:

x Megan Mitchell

Print Name: Megan Mitchell

Date signed: November 17, 2025

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Ministry of
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Declaration

I Daniel Mullen, as a member of EGBC declare

Select one of the following:

☒ Absence from conflict of interest

Other than the standard fee I will receive for my professional services, I have no financial or other interest in the outcome of this Application.
I further declare that should a conflict of interest arise in the future during the course of this work, I will fully disclose the circumstances in writing and without delay to Morgan Dyas, erring on the side of caution.

Ministry of
Environment and
Climate Change Strategy

☐ Real or perceived conflict of interest

Description and nature of conflict(s):

_____

_____

_____

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Signature:

X _____

Print name: Daniel Mullen

Date: November 17, 2025

Witnessed by:

X _____

Print name: Crystal Lawrence

[1]*Qualified Professional, in relation to a duty or function under ministry legislation, means an individual who*

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BRITISH COLUMBIA
Ministry of Environment and Climate Change Strategy

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1. Name of Qualified Professional Daniel Mullen

   Title Experienced Water Resources Engineer

2. Are you a registered member of a professional association in B.C.? ☒ Yes ☐ No

   Name of Association: EGBC Registration # 174082

3. Brief description of professional services:

   Surface Water Management

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Declaration

I am a qualified professional with the knowledge, skills and experience to provide expert information, advice and/or recommendations in relation to the specific work described above.

Signature:

x [signature]

Print Name: Daniel Mullen

Witnessed by:

x [signature]

Print Name: Crystal Lawrence

Date signed: November 17, 2025

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BRITISH COLUMBIA | Ministry of Environment and Climate Change Strategy

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Declaration

I Lee Nikl, as a member of College of Applied Biologist

declare

Select one of the following:

☒ Absence from conflict of interest

Other than the standard fee I will receive for my professional services, I have no financial or other interest in the outcome of this Application for Permit Amendment.

I further declare that should a conflict of interest arise in the future during the course of this work, I will fully disclose the circumstances in writing and without delay to Morgan Dyas, erring on the side of caution.

BRITISH COLUMBIA | Ministry of Environment and Climate Change Strategy

☐ Real or perceived conflict of interest

Description and nature of conflict(s):

_____

_____

_____

I will maintain my objectivity, conducting my work in accordance with my Code of Ethics and standards of practice.

In addition, I will take the following steps to mitigate the real or perceived conflict(s) I have disclosed, to ensure the public interest remains paramount:

_____

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Signature:

x L. Nikl

Print name: Lee Nikl

Date: Nov. 17, 2025

Witnessed by:

x Donna Nikl

Print name: Donna Nikl

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BRITISH COLUMBIA | Ministry of Environment and Climate Change Strategy

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1. Name of Qualified Professional Lee Nikl

   Title Senior Technical Director, Env. Sci.

2. Are you a registered member of a professional association in B.C.? ☒ Yes ☐ No

   Name of Association: College of Applied Biol. Registration # 601

3. Brief description of professional services:

   Review of Mount Polley Application for TSF lift to 987m, Water Quality + Water Modelling.

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Declaration

I am a qualified professional with the knowledge, skills and experience to provide expert information, advice and/or recommendations in relation to the specific work described above.

Signature:

x L. Nikl

Print Name: Lee Nikl

Witnessed by:

x D. Nikl

Print Name: Donna Nikl

Date signed: Nov. 17, 2025

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Ministry of
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Declaration

I GERMÁN PIZARRO-SALA, as a member of EGBC declare

Select one of the following:

☒ Absence from conflict of interest

Other than the standard fee I will receive for my professional services, I have no financial or other interest in the outcome of this APPLICATION.
I further declare that should a conflict of interest arise in the future during the course of this work, I will fully disclose the circumstances in writing and without delay to MORGAN DYAS, erring on the side of caution.

Ministry of
Environment and
Climate Change Strategy

☐ Real or perceived conflict of interest

Description and nature of conflict(s):

_____

_____

_____

I will maintain my objectivity, conducting my work in accordance with my Code of Ethics and standards of practice.

In addition, I will take the following steps to mitigate the real or perceived conflict(s) I have disclosed, to ensure the public interest remains paramount:

_____

_____

_____

Further, I acknowledge that this disclosure may be interpreted as a threat to my independence and will be considered by the statutory decision maker accordingly.

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Signature:

X _____

Print name: GERMÁN R. ZAPATA-SALA

Witnessed by:

X _____

Print name: Connor Jones

Date: NOV. 17, 2025

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BRITISH COLUMBIA | Ministry of Environment and Climate Change Strategy

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1. Name of Qualified Professional GERMÁN RIZZARDO-SACA

   Title PRINCIPAL GEOTECHNICAL ENGINEER

2. Are you a registered member of a professional association in B.C.? ☒ Yes ☐ No

   Name of Association: EGBC Registration # 40077

3. Brief description of professional services:

   TAILINGS DAM ENGINEERING

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Declaration

I am a qualified professional with the knowledge, skills and experience to provide expert information, advice and/or recommendations in relation to the specific work described above.

Signature:

X

Print Name: GERMÁN RIZZARDO-SACA

Witnessed by:

X

Print Name: Connor Jones

Date signed: NOV. 17, 2025

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BRITISH COLUMBIA

Ministry of
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Climate Change Strategy

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Declaration

I Connie Romano, as a member of EGBC
declare

Select one of the following:

☒ Absence from conflict of interest

Other than the standard fee I will receive for my professional services, I have no financial or other interest in the outcome of this M-200 Permit Amendment Applic. - E1 987m TSF
I further declare that should a conflict of interest arise in the future during the course of this work, I will fully disclose the circumstances in writing and without delay to
Morgan Dyas, erring on the side of caution.

BRITISH COLUMBIA

Ministry of
Environment and
Climate Change Strategy

☐ Real or perceived conflict of interest

Description and nature of conflict(s):

_____

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_____

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Signature:

x C Romano

Print name: Connie Romano

Date: Nov. 17, 2025

Witnessed by:

x U. Mayer

Print name: Ulrich Mayer

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Ministry of Environment and Climate Change Strategy

BRITISH COLUMBIA

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1. Name of Qualified Professional Connie Romano

Title Senior Hydrogeologist

2. Are you a registered member of a professional association in B.C.? ☑ Yes ☐ No

Name of Association: EGBC Registration # 25728

3. Brief description of professional services:

Reviewer of application sections involving groundwater quantity/quality and hydrogeological modelling

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Declaration

I am a qualified professional with the knowledge, skills and experience to provide expert information, advice and/or recommendations in relation to the specific work described above.

Signature:

X C. Romano

Print Name: Connie Romano

Witnessed by:

X U. Mayr

Print Name: Ulrich Mayer

Date signed: Nov. 17, 2025

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BRITISH COLUMBIA | Ministry of Environment and Climate Change Strategy

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A real or perceived conflict of interest occurs when a qualified professional has

a) an ownership interest in the regulated person's business;

b) an opportunity to influence a decision that leads to financial benefits from the regulated person or their business other than a standard fee for service (e.g. bonuses, stock options, other profit sharing arrangements);

c) a personal or professional interest in a specific outcome;

d) the promise of a long term or ongoing business relationship with the regulated person, that is contingent upon a specific outcome of work;

e) a spouse or other family member who will benefit from a specific outcome; or

f) any other interest that could be perceived as a threat to the independence or objectivity of the qualified professional in performing a duty or function.

Qualified professionals who work under ministry legislation must take care in the conduct of their work that potential conflicts of interest within their control are avoided or mitigated. Precise rules in conflict of interest are not possible and professionals must rely on guidance of their professional associations, their common sense, conscience and sense of personal integrity.

Declaration

I Tanya Seebacher, as a member of College of Applied Biologists declare

Select one of the following:

☒ Absence from conflict of interest

Other than the standard fee I will receive for my professional services, I have no financial or other interest in the outcome of this Application.
I further declare that should a conflict of interest arise in the future during the course of this work, I will fully disclose the circumstances in writing and without delay to Morgan Dyas, erring on the side of caution.

☐ Real or perceived conflict of interest

Description and nature of conflict(s):

_____

_____

_____

I will maintain my objectivity, conducting my work in accordance with my Code of Ethics and standards of practice.

In addition, I will take the following steps to mitigate the real or perceived conflict(s) I have disclosed, to ensure the public interest remains paramount:

_____

_____

_____

Further, I acknowledge that this disclosure may be interpreted as a threat to my independence and will be considered by the statutory decision maker accordingly.

This conflict of interest disclosure statement is collected under section 26(c) of the *Freedom of Information and Protection of Privacy Act* for the purposes of increasing government transparency and ensuring professional ethics and accountability. By signing and submitting this statement you consent to its publication and its disclosure outside of Canada. This consent is valid from the date submitted and cannot be revoked. If you have any questions about the collection, use or disclosure of your personal information please contact the Ministry of Environment and Climate Change Strategy Headquarters Office at 1-800-663-7867.

Signature:

X Tanya Seebacher

Print name: Tanya Seebacher

Witnessed by:

X [signature]

Print name: Reas Larson

Date: Nov. 17 2025

[1]*Qualified Professional, in relation to a duty or function under ministry legislation, means an individual who*

a) is registered in British Columbia with a professional association, is acting under that organization's code of ethics, and is subject to disciplinary action by that association, and

b) through suitable education, experience, accreditation and knowledge, may reasonably be relied on to provide advice within his or her area of expertise, which area of expertise is applicable to the duty or function.

BRITISH COLUMBIA | Ministry of Environment and Climate Change Strategy

Declaration of Competency

The Ministry of Environment and Climate Change Strategy relies on the work, advice, recommendations and in some cases decision making of qualified professionals[1], under government's professional reliance regime. With this comes an assumption that professionals who undertake work in relation to ministry legislation, regulations and codes of practice have the knowledge, experience and objectivity necessary to fulfill this role.

1. Name of Qualified Professional Tanya Seebacher

   Title Senior Biologist

2. Are you a registered member of a professional association in B.C.? ☒ Yes ☐ No

   Name of Association: College of Applied Biologists Registration # 2191

3. Brief description of professional services:

   Ecosystems and wildlife

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Declaration

I am a qualified professional with the knowledge, skills and experience to provide expert information, advice and/or recommendations in relation to the specific work described above.

Signature:

x Tanya Seebacher

Print Name: Tanya Seebacher

Witnessed by:

x

Print Name: Reas Larson

Date signed: Nov 17, 2025

[1] *Qualified Professional, in relation to a duty or function under ministry legislation, means an individual who*

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BRITISH COLUMBIA | Ministry of Environment and Climate Change Strategy

Conflict of Interest Disclosure Statement

A qualified professional [1] providing services to either the Ministry of Environment and Climate Change Strategy ("ministry"), or to a regulated person for the purpose of obtaining an authorization from the ministry, or pursuant to a requirement imposed under the *Environmental Management Act,* the *Integrated Pest Management Act* or the *Park Act* has a real or perceived conflict of interest when the qualified professional, or their relatives, close associates or personal friends have a financial or other interest in the outcome of the work being performed.

A real or perceived conflict of interest occurs when a qualified professional has

a) an ownership interest in the regulated person's business;

b) an opportunity to influence a decision that leads to financial benefits from the regulated person or their business other than a standard fee for service (e.g. bonuses, stock options, other profit sharing arrangements);

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Qualified professionals who work under ministry legislation must take care in the conduct of their work that potential conflicts of interest within their control are avoided or mitigated. Precise rules in conflict of interest are not possible and professionals must rely on guidance of their professional associations, their common sense, conscience and sense of personal integrity.

Declaration

I **Stephen Day**, as a member of **Engineers and Geoscientists of BC**
declare

Select one of the following:

☒ Absence from conflict of interest

Other than the standard fee I will receive for my professional services, I have no financial or other interest in the outcome of this Application.

I further declare that should a conflict of interest arise in the future during the course of this work, I will fully disclose the circumstances in writing and without delay to Morgan Dyas, erring on the side of caution.

☐ Real or perceived conflict of interest

Description and nature of conflict(s):

_____

_____

_____

I will maintain my objectivity, conducting my work in accordance with my Code of Ethics and standards of practice.

In addition, I will take the following steps to mitigate the real or perceived conflict(s) I have disclosed, to ensure the public interest remains paramount:

_____

_____

_____

Further, I acknowledge that this disclosure may be interpreted as a threat to my independence and will be considered by the statutory decision maker accordingly.

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Signature:

X _____

Print name: Stephen Day

Date: November 19, 2025

Witnessed by:

X _____

Print name: Lara Sirotic

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BRITISH COLUMBIA | Ministry of Environment and Climate Change Strategy

Declaration of Competency

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1. Name of Qualified Professional: Stephen Day

   Title: Corporate Consultant

2. Are you a registered member of a professional association in B.C.? ☒ Yes ☐ No

   Name of Association: EGBC Registration #: 18467

3. Brief description of professional services:

   Assessment of ML/ARD potential, development of geochemical source terms, and development of ML/ARD Monitoring Plan and ML/ARD Management Plan

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Declaration

I am a qualified professional with the knowledge, skills and experience to provide expert information, advice and/or recommendations in relation to the specific work described above.

Signature:

X _____

Print Name: Stephen Day

Witnessed by

X _____

Print Name: Lara Sirotic

Date signed: November 19, 2025

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BRITISH COLUMBIA | Ministry of Environment and Climate Change Strategy

Conflict of Interest Disclosure Statement

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A real or perceived conflict of interest occurs when a qualified professional has

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f) any other interest that could be perceived as a threat to the independence or objectivity of the qualified professional in performing a duty or function.

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Declaration

I Emily West (Print First and Last Name), as a member of College of Applied Biologists (Insert Name of Professional Association) declare

Select one of the following:

☒ Absence from conflict of interest

Other than the standard fee I will receive for my professional services, I have no financial or other interest in the outcome of this TSF Raise to 987 application (Insert Project/Contract/work/etc.).
I further declare that should a conflict of interest arise in the future during the course of this work, I will fully disclose the circumstances in writing and without delay to Morgan Dyas (Insert Ministry Contact Name), erring on the side of caution.

☐ Real or perceived conflict of interest

Description and nature of conflict(s):

I will maintain my objectivity, conducting my work in accordance with my Code of Ethics and standards of practice.

In addition, I will take the following steps to mitigate the real or perceived conflict(s) I have disclosed, to ensure the public interest remains paramount:

Further, I acknowledge that this disclosure may be interpreted as a threat to my independence and will be considered by the statutory decision maker accordingly.

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Signature:

X Emily M. West

Print name: Emily M. West

Date: November 18, 2025

Witnessed by:

X

Print name: Laura McFarlan

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BRITISH COLUMBIA | Ministry of Environment and Climate Change Strategy

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1. Name of Qualified Professional: Emily West

   Title: Vegetation Ecologist

2. Are you a registered member of a professional association in B.C.? ☒ Yes ☐ No

   Name of Association: College of Applied Biologists Registration #: 3271

3. Brief description of professional services:

   I am a vegetation ecologist with specialized training and applied experience in Terrestrial Ecosystem Mapping, wetland delineation and classification, rare plant surveys and conservation, and ecological restoration. My work supports a variety of regulatory submittals and project deliverables.

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Declaration

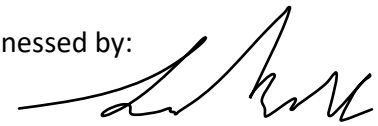
I am a qualified professional with the knowledge, skills and experience to provide expert information, advice and/or recommendations in relation to the specific work described above.

Signature:

X 

Print Name: Emily M. West

Witnessed by:

X 

Print Name: Laura McFarlan

Date signed: November 18, 2025

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