

September 25, 2020

Mr. Brandon Fessler  
Nordic Valley Ski Resort  
3567 Nordic Valley Way  
Eden, Utah 84310

Subject: Geotechnical Engineering Study- Addendum 1  
Proposed Nordic Valley Ski Lift Expansion  
About 3567 Nordic Valley Way  
Eden, Utah  
CMT Project Number: 14998

Mr. Fessler:

## **INTRODUCTION**

A geotechnical report has recently been completed for this project by CMT Engineering Laboratories Inc. (CMT) dated September 3, 2020<sup>1</sup>. The findings in the completed report indicated that the proposed locations of lift tower poles 5, 6, and 9 were located within relatively steep sloping areas which were as steep as about 41 degrees (1.15 Horizontal to 1.0 Vertical). The representative slope stability analysis provided in the referenced report for these steep tower locations indicated unsuitable safety factors through the given tower locations without significant foundation alterations and the insertion of a concrete cut off trench extending to bedrock directly down slope of each tower.

However, since the time of the report the proposed locations of towers 5, 6, and 9 have been moved upslope and downslope (see the revised Figure 3 Attached to this addendum letter) to locations where the sloping conditions at the new tower locations are at about 22 degrees (2.5 Horizontal to 1.0 Vertical) or shallower. Additional slope stability analysis have been completed along the added cross section E-E and cross section A-A ( See revised figure 3 attached) which indicate that if towers 6 and 9 are placed a minimum 50 feet upslope of the crest where the slope increases from about 22 degrees to about 41 degrees, then they will be located within zones meeting the minimum factors of safety (1.5 for static conditions and 1.0 for seismic conditions). The graphical stability results for the revised tower 6 location, which is representative, are attached as Figures 21 through 24. Tower 5 has been moved downhill to a similarly flatter sloped area.

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<sup>1</sup> "Geotechnical Engineering Services, Proposed Nordic Valley Ski Lift Expansion, about 3567 Nordic Valley Way, Eden, Utah, CMT Project No. 14998, Dated September 3, 2020.

**RECOMMENDATIONS**

If towers 5, 6 and 9 are moved as shown on the revised figure 3, attached, and placed a minimum of 50 feet upslope of the crest where the slope increases from about 22 degrees to about 41 degrees, then it is our opinion that the new tower alignment will meet the minimum factors of safety for slope stability.

All other recommendations provided in the referenced geotechnical report remain applicable.

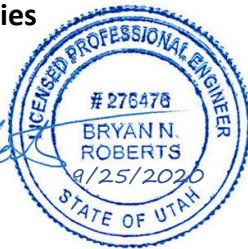
**CLOSURE**

This addendum must be attached to the original geotechnical study dated September 3, 2020. We appreciate the opportunity to provide geotechnical services on your project. Please call with any questions at 801-870-6730.

Sincerely,  
**CMT Engineering Laboratories**



Bryan N. Roberts, P.E.  
Senior Geotechnical Engineer

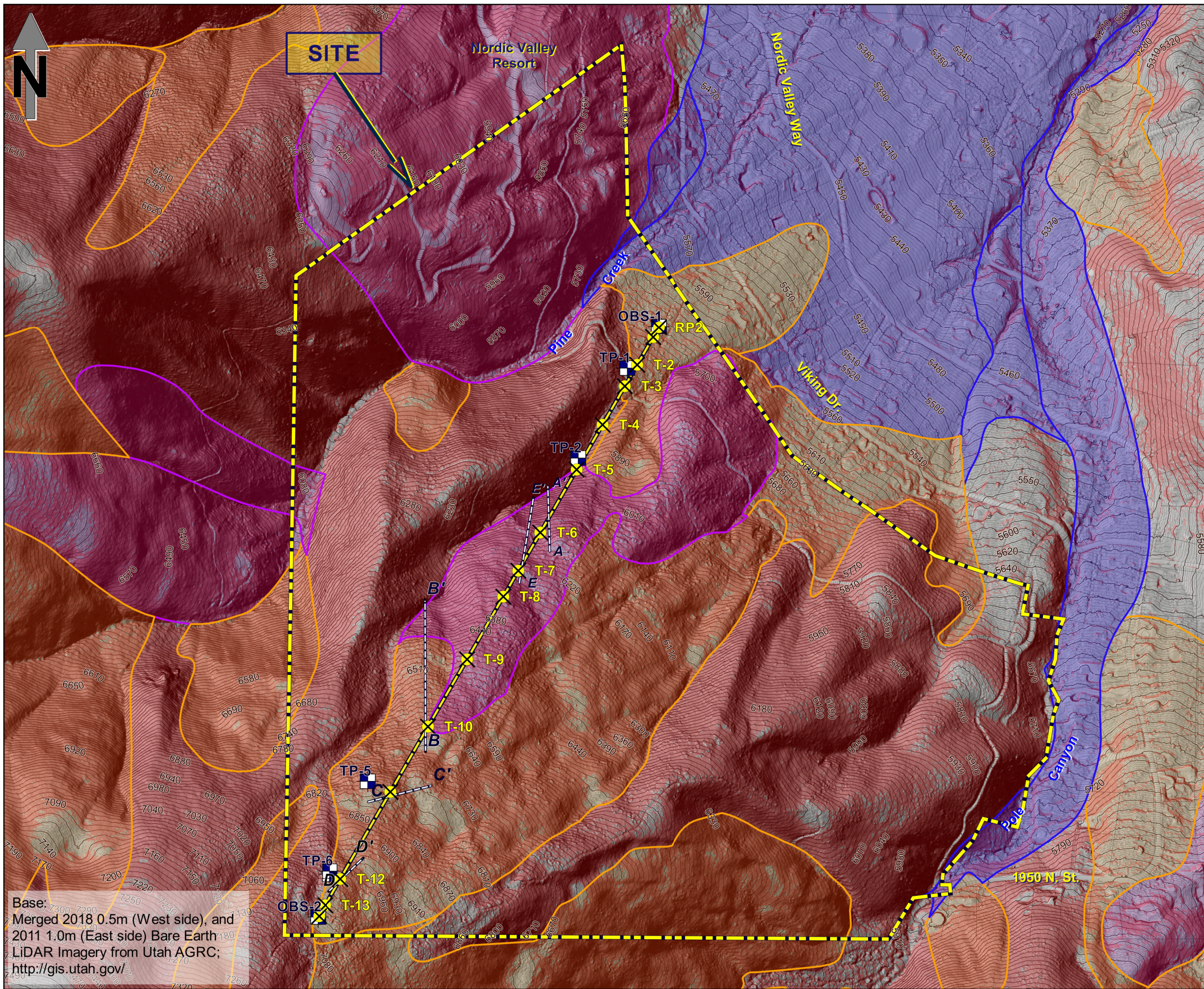


**Reviewed by:**



Andrew M. Harris, P.E.  
Geotechnical Division Manager

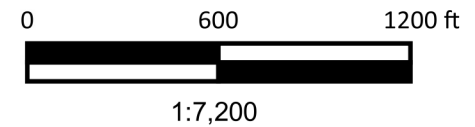
Addressee (email)



Base: Merged 2018 0.5m (West side), and 2011 1.0m (East side) Bare Earth LiDAR Imagery from Utah AGRC; <http://gis.utah.gov/>

### Explanation

- Proposed High Speed Six Lift
- Proposed Towers\_9.24.20\_Rev
- Geologic Hazard Overlay\***
- Alluvial Fan Debris Flow Processes Hazards
- Mass Movement, Slump, Soil Creep Hazards
- Mass Movement, Block Failure Hazards
- \*from 2020, GCS Geoscience Geologic Reconnaissance
- Slope Gradients**
- 25 to 30 Percent Slopes
- Greater than 30 Percent Slopes
- Index Contour
- Test Pits and Excavation Observation Locations
- Slope Stability Analysis Line

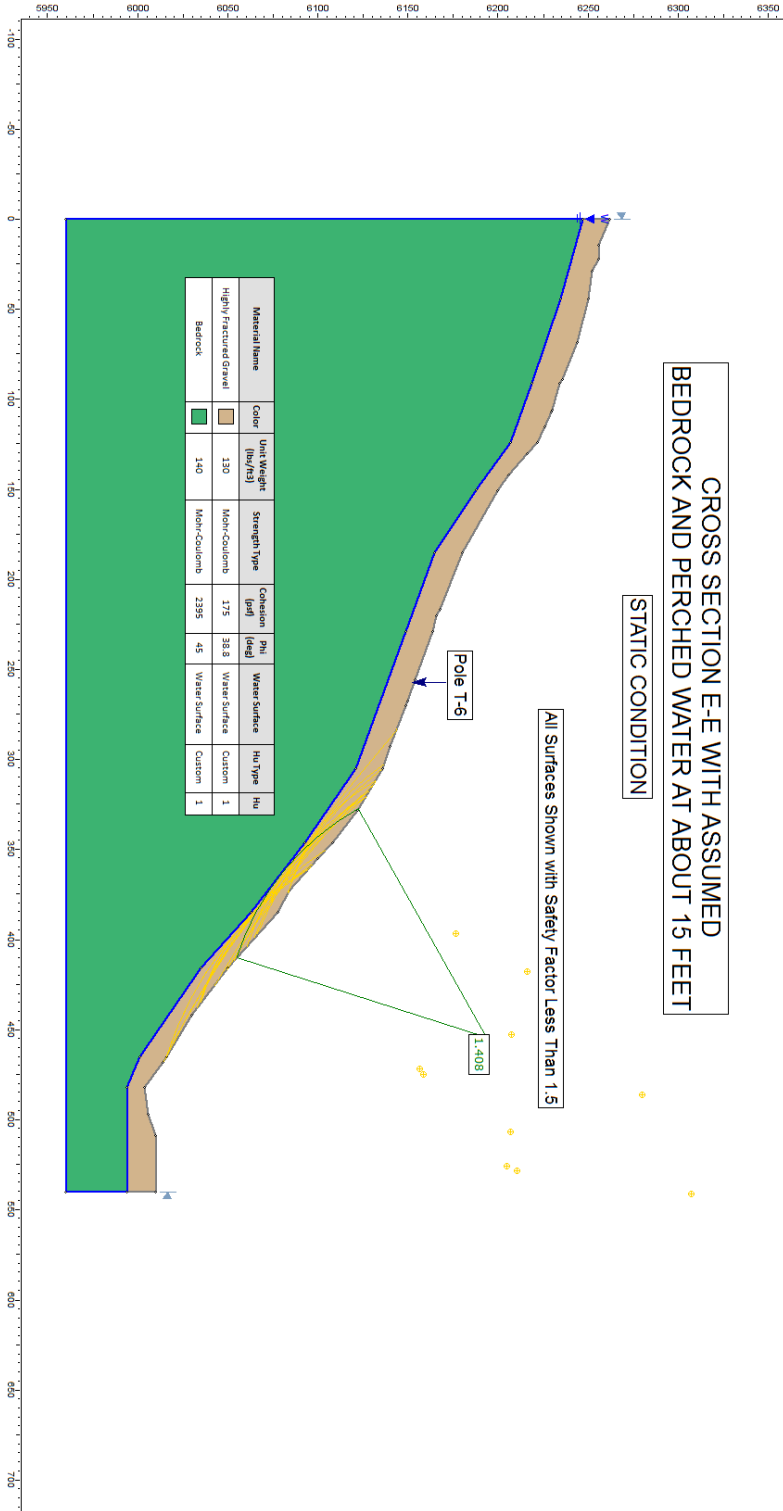


# STABILITY RESULTS

## NORDIC VALLEY LIFT EXPANSION

### Cross Section E-E (TOWER 6 REVISED LOCATION)

#### STATIC



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NORDIC VALLEY LIFT 5

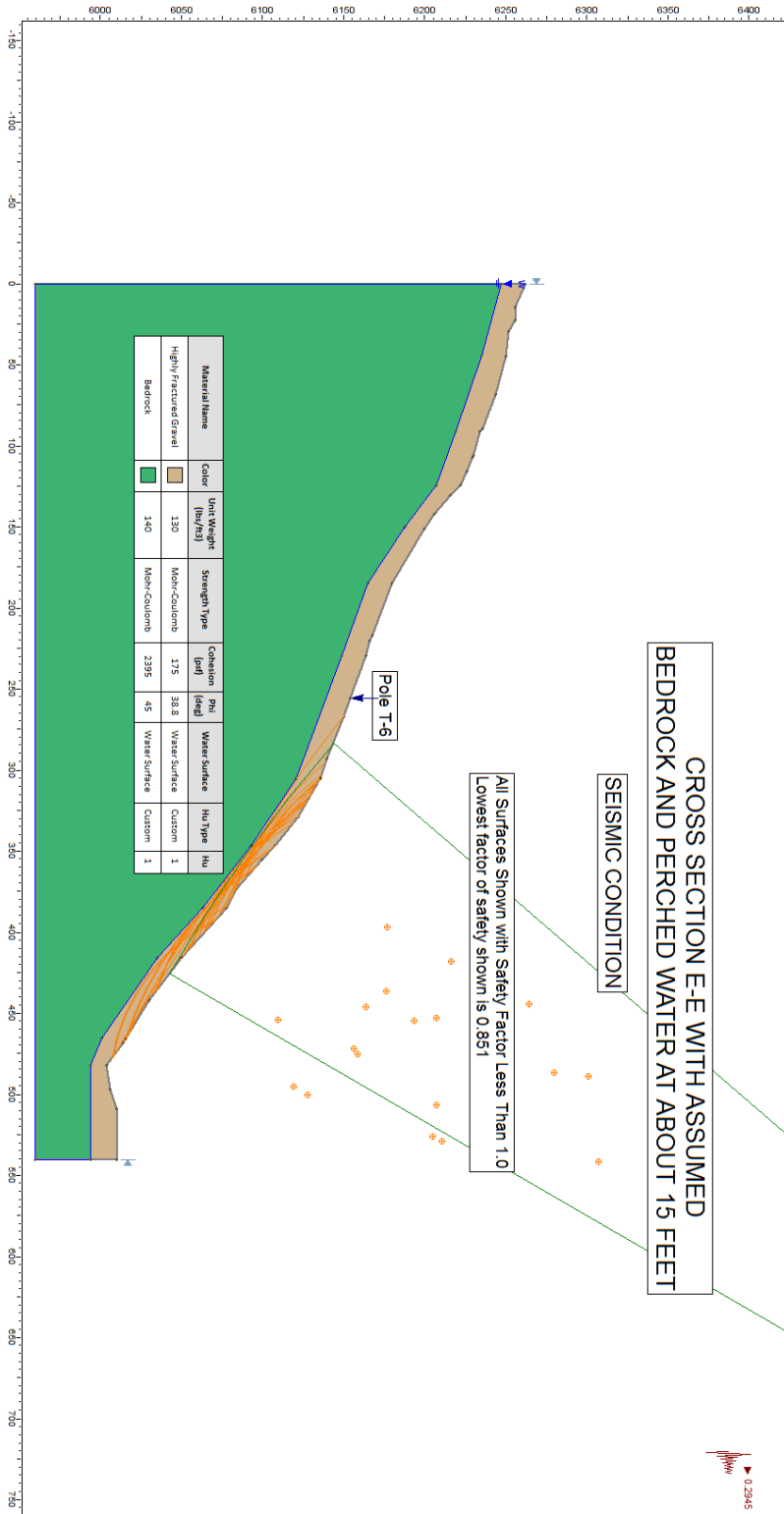
FIGURE NO.: 21

# STABILITY RESULTS

## NORDIC VALLEY LIFT EXPANSION

### Cross Section E-E (TOWER 6 REVISED LOCATION)

#### SEISMIC



PROJECT NO.: 14998

NORDIC VALLEY LIFT 5

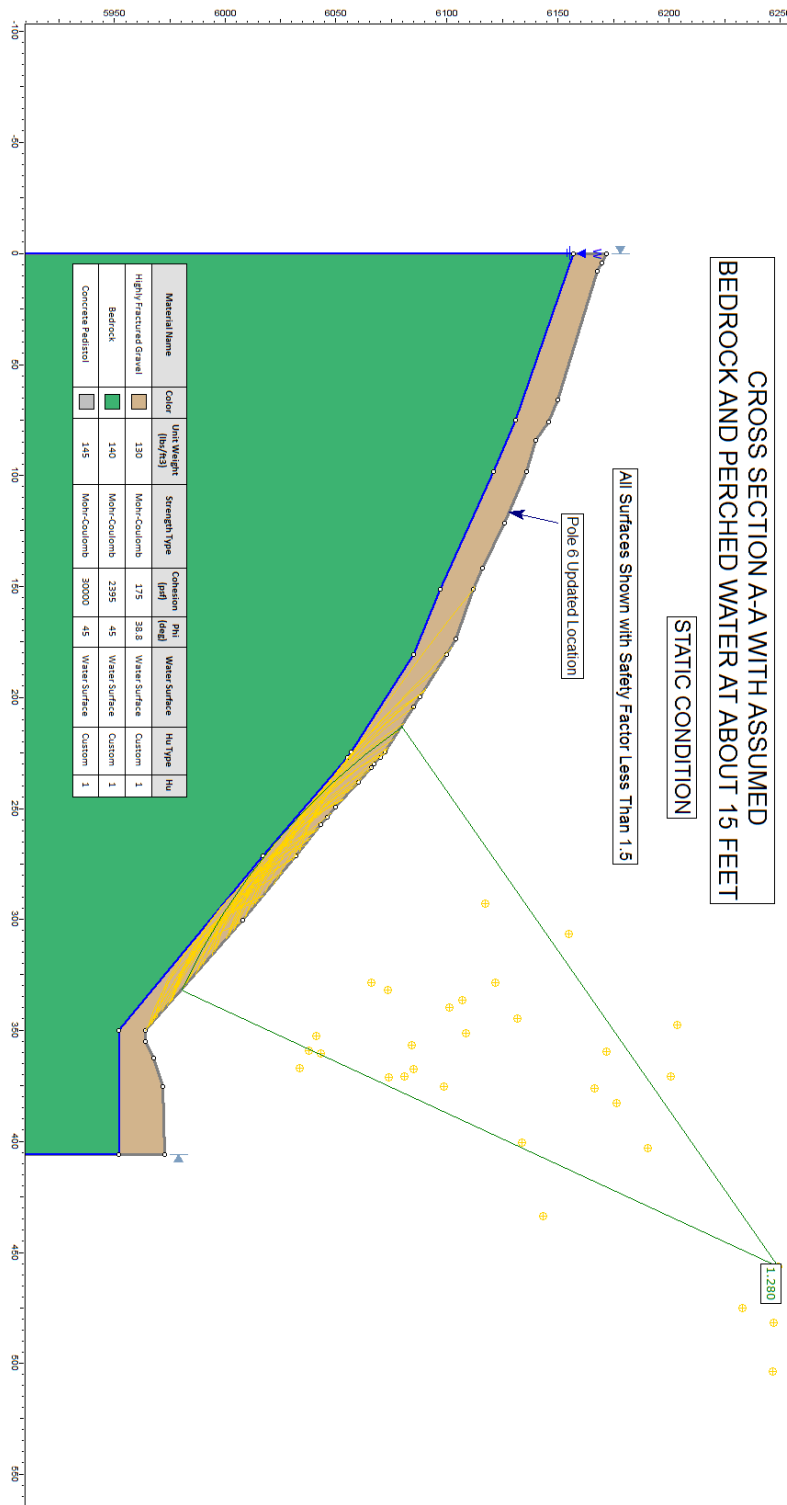
FIGURE NO.: 22

# STABILITY RESULTS

## NORDIC VALLEY LIFT EXPANSION

### Cross Section A-A (TOWER 6 REVISED LOCATION)

#### STATIC



PROJECT NO.: 14998

NORDIC VALLEY LIFT 5

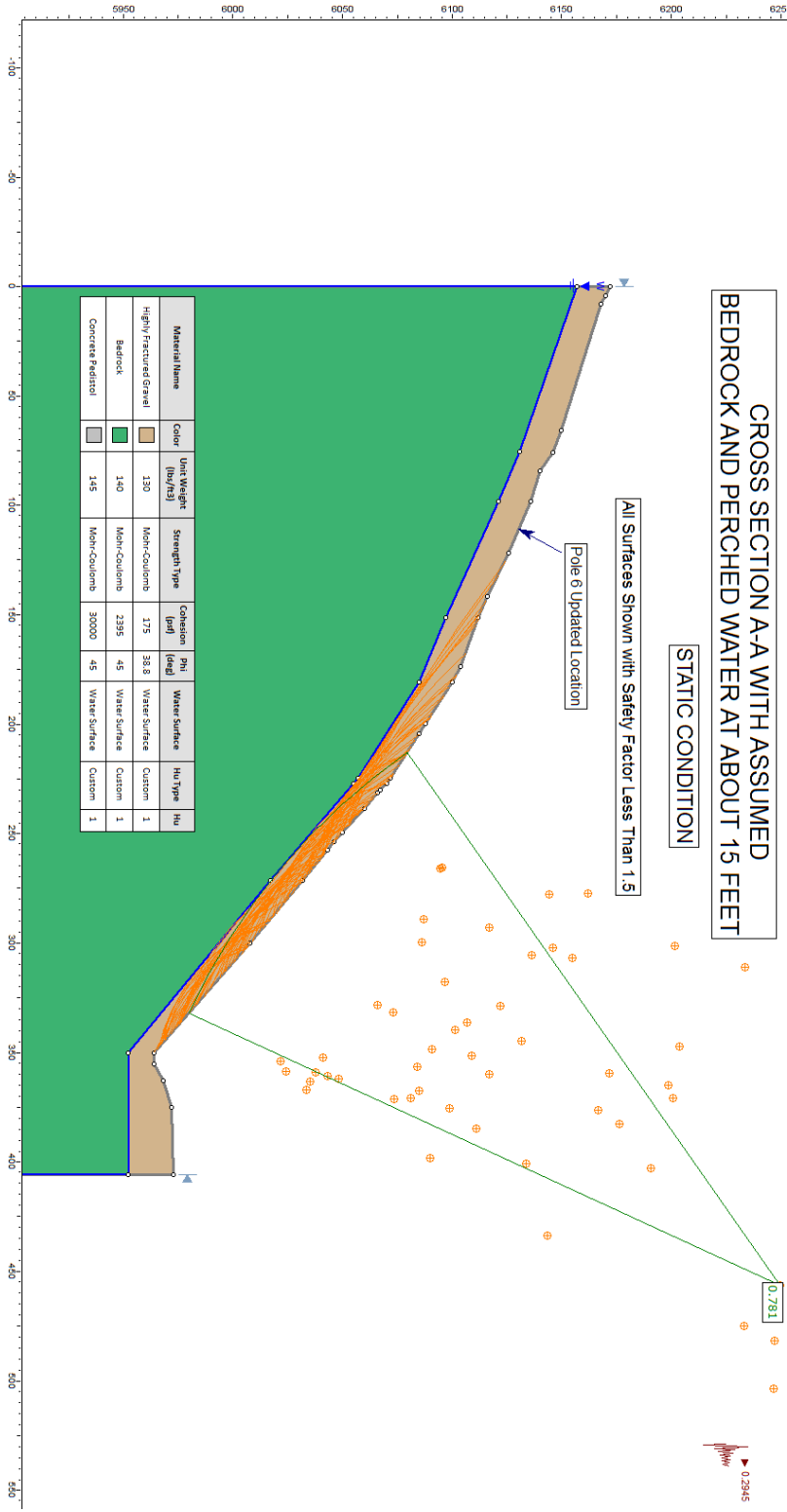
FIGURE NO.: 23

# STABILITY RESULTS

## NORDIC VALLEY LIFT EXPANSION

### Cross Section A-A (TOWER 6 REVISED LOCATION)

#### SEISMIC



**PROJECT NO.:** 14998

**NORDIC VALLEY LIFT 5**

**FIGURE NO.:** 24