Summary of ITD Comments on July 15, 2025 Report & GPI Responses:

Page 1, Comment #1:

"List all standards and specifications referenced in this report (e.g., AASHTO LRFD Bridge Design Specifications, ITD Standard Specifications for Highway Construction). Include edition number and/or adoption year to identify the version of the referenced material used in the report"

- GPI Response: The references and specifications used in our evaluation and report preparation are provided in Section 230.10 of this report.

Page 1, Comment #2:

"road elevation and height above streambed or existing ground, height of existing fills, and ground-slope behind proposed retaining structures."

- GPI Response: The report has been modified to include narrative regarding these details.

Page 1, Comment #3:

"how much embankment widening is planned? how many lanes with width and shoulders existing vs planned."

- GPI Response: The report has been modified to include narrative regarding these details.

Page 1, Comment #4:

"mse"

- GPI Response: The report has been modified to include this descriptor for the planned retaining walls.

Page 1, Comment #5:

"MSE"

- GPI Response: The report has been modified to include this descriptor for the planned retaining walls.

Page 1, Comment #6:

“how long are these walls? if several suggest putting his information in a table with approximate start and end station, example below”

- GPI Response: The report has been modified to include tables summarizing wall length and configuration.

Page 1, Comment #7:

“Existing structures and approaches should also be described, and how will they be affected by this project. there is a bridge at the north end of this project BK 21470. are there previous investigations and/or other project reports? need to be referenced if so.”

- GPI Response: The report has been modified to include a summary of existing infrastructure features along the alignment.

Page 2, Comment #1:

“how were the boring and test pit locations surveyed? and by whom?”

- GPI Response: GPI recorded the location of each boring with a commercially available global positioning system (GPS) unit with an accuracy of less than 1.0-foot.

Page 2, Comment #2:

“elevations to reference ground surface? without ground surface elevation the term "below ground surface" doesn't mean much

- GPI Response: Recorded ground surface elevation at each boring and test pit location were added to the report.

Page 2, Comment #3:

“ground water if encountered?”

- GPI Response: Groundwater was not encountered in our explorations.

Page 2, Comment #4:

“Per ITD Materials Manual retaining wall borings should extend twice the height of the wall, did these borings extend below the bottom of the wall?

- GPI Response: Exploratory borings and test pits nearest the planned MSE wall alignments were extended to refusal on dense bedrock.

Page 2, Comment #5:

"Provide details of how the ring sample was collected (size, method, storage and handling etc.)?

- GPI Response: The following text was added to the report: "…relatively undisturbed soil samples were collected via 2.5-inch inside diameter, 6.0-inch long steel tubes advanced vertically into the soil. Relatively undisturbed samples were capped in the field and placed in a secondary, water-tight container to be stored upright during transport to the laboratory."

Page 3, Comment #1:

"ground water if encountered?"

- GPI Response: Groundwater was not encountered in our explorations.

Page 3, Comment #2:

"in accordance with ASTM D2488"

- GPI Response: This ASTM reference was added to the report text.

Page 3, Comment #3:

"classification standard?"

- GPI Response: The classification standard used was ASTM D 2488. See response to previous comment.

Page 3, Comment #4:

"standard split spoon or modified California sampler? if modified California sampler what was the conversion method to approximate N values?"

- GPI Response: Split spoon sampler size has been clarified in the report text. As stated in our original report, the SPT N-value blow counts reported are field values and have not been corrected for overburden pressure or for dilation effects on the sample.

Page 3, Comment #5:

"in accordance with"

- GPI Response: This comment has been addressed in the revised report text.

Page 4, Comment #1:

“ASTM testing for collapse potential of "loess" described in borings?”

- GPI Response: Consolidation testing to assess collapse potential was not included as part of our approved and authorized scope.

Page 4, Comment #2:

“T-99? which method?”

- GPI Response: Tests were re-run on remaining samples, referencing AASHTO T-99 Method A.

Page 4, Comment #3:

“what are the test standards?”

- GPI Response: AASHTO test standards are referenced in the updated report.

Page 4, Comment #4:

“this belongs in introduction”

- GPI Response: This text was moved into the introduction section of the modified

Page 4, Comment #5:

“what is shallow?”

- GPI Response: The modified report text was clarified to estimate this drainage ditch at less than 2-feet deep.

Page 4, Comment #6:

“overhead low voltage power is visible from Google earth street view with feeders to residences, any other utilities on the surface?”

- GPI Response: The report has been modified to include a brief description of observed utilities along the alignment. Keller’s project narrative includes a more detailed summary of utilities.

Page 4, Comment #7:

“elevation?”

- GPI Response: Our opinion is referencing depth below ground surface is a more useful description for topsoil thickness. This is because the topsoil thickness was

relatively consistent along the alignment (i.e. 0.2 to 1.0-foot) as opposed to the ground surface elevation which varies by hundreds of feet along the alignment.

Page 4, Comment #8:

"Use consistency to describe silt and clay, unless it acts as a non plastic material with no cohesion (need testing to determine that) density is used to describe sand and gravel."

- GPI Response: The report text was modified to reference consistency of fine-grained soil.

Page 4, Comment #9:

"describe slopes of west side of road, most appear to be cut slopes"

- GPI Response: We provide a description of the cut slopes along the west side of Gun Club Road in the "Project Summary" section of the report.

Page 5, Comment #1:

"how was soil determined to be loess? no testing for collapse potential in listed tests or in appendices"

- GPI Response: Some near surface soil at the site was classified as loess based on our visual observations, experience with similar soil conditions in the project vicinity, index laboratory test results, as well as surface geologic mapping in the "Surficial Geologic Map of the Lewiston Orchards North Quadrangle and Part of the Clarkston Quadrangle, Nez Perce Couty Idaho." Othberg, K.L., Breckenridge, R.M., & Weisz, D.W. Idaho Geologic Survey, 2003.

  Consolidation/collapse potential testing was not included in our authorized and approved scope. However, loess does typically exhibit some collapse potential. This is why GPI recommended compaction at the subgrade prior to wall foundation construction.

Page 5, Comment #2:

"need elevations for all these depths or they dont mean much"

- GPI Response: Our opinion is referencing depth below ground surface is a more useful description for uncontrolled fill thickness. This is because the fill thickness varied within a specific range along the alignment (i.e. 2.5 to 9.0-feet) as opposed to the ground surface elevation which varies by hundreds of feet along the alignment.

Page 5, Comment #3:

“RQD?”

- GPI Response: No rock coring was performed to obtain core samples and thus calculate rock quality designation (RQD).

Page 5, Comment #4:

“placed on "loess" without determining collapse potential?”

- GPI Response: Loess soil likely does maintain some collapse potential. This is why GPI recommended the native soil subgrades be compacted to Class A requirements.

Page 6, Comment #1:

“geotechincal engineer of record provides graphs for service, strength, and extreme limit states as a function of effective footing width, not the contractor. contractor will only provide applied load of their wall”

- GPI Response: The MSE wall geotechnical design recommendations have been updated in the modified report.

Page 6, Comment #2:

“if loess you will need to over excavate, moisture treat, and compact to class a minimum of 2' to break up the soil structure that can collpase”

- GPI Response: Keller’s current design includes over-excavating 1-foot below the wall foundation, compacting the exposed subgrade to Class A requirements, then placing 1-foot of compacted Rack Cap as levelling course for the wall to bear on. This essentially will result in 2 feet of compacted material below the wall foundation. GPI’s opinion is this is an acceptable construction approach to reduce soil collapse potential below the wall.

Page 6, Comment #3:

“ITD”

- GPI Response: This has been included in the modified report.

Page 6, Comment #4:

"Geotechnical engineer of record provides recommended resistance factors."

- GPI Response: The MSE wall geotechnical design recommendations have been updated in the modified report.

Page 6, Comment #5:

"total settlement?, differential settlement?"

- GPI Response: The MSE wall geotechnical analyses have been updated in the modified report to include estimated settlement.

Page 6, Comment #6:

"resistance factors for shear resistance to sliding?"

- GPI Response: The MSE wall geotechnical design recommendations have been updated in the modified report.

Page 6, Comment #7:

"Note: rock cap is too granular to test, will be done by a method spec if using rock embankments in 205.03.F.2. who will observe to make sure this happens?"

- GPI Response: GPI is not responsible for selecting or specifying a firm to observe and document construction materials or activities.

Page 6, Comment #8:

"what about over excavating native material defined as loess? absent any testing to determine collapse potential it needs to be over excavated and recompacted to class A standards"

- GPI Response: Keller's current design includes over-excavating 1-foot below the wall foundation, compacting the exposed subgrade to Class A requirements, then placing 1-foot of compacted Rack Cap as levelling course for the wall to bear on. This essentially will result in 2 feet of compacted material below the wall foundation. GPI's opinion is this is an acceptable construction approach to reduce soil collapse potential below the wall.

Page 6, Comment #9:

“guard rail loading?”

- GPI Response: The modified report recommends contractor’s design include guardrail loading.

Page 6, Comment #10:

“is this deeper than frost depth? does this allow for a 4' bench in front of the wall?”

- GPI Response: Local Frost depth for foundations in Lewiston is 2.0 Feet. Keller’s design is developed to establish room for a minimum 4-foot bench in front of the wall.

Page 7, Comment #1:

“these parameters are provided for bridge abutment walls and rigid retaining walls, why providing this?”

- GPI Response: The MSE wall geotechnical design recommendations have been updated in the modified report.

Page 8, Comment #1:

“the Geotechnical Engineering Report makes recommendations, what does this sentence mean?”

- GPI Response: The MSE wall geotechnical design recommendations have been updated in the modified report.

Page 8, Comment #2:

“MSE walls are designed governed by Special provision. why repeat this information outside the introduction or when referencing a specific aashto LRFD section?”

- GPI Response: The MSE wall geotechnical design recommendations have been updated in the modified report.

Page 8, Comment #3:

“recommendations?”

- GPI Response: The MSE wall geotechnical design recommendations have been updated in the modified report.

Page 8, Comment #4:

“recommend using?”

- GPI Response: The MSE wall geotechnical design recommendations have been updated in the modified report.

Page 8, Comment #5:

“so GPI is writing themselves in extra construction support work scope in the GER? what is the point of this disclaimer?”

- GPI Response: The MSE wall geotechnical design recommendations have been updated in the modified report.

Page 8, Comment #6:

“moisture, organic content, percent passing 200 are all defined in the projects special provisions for the contractor”

- GPI Response: The MSE wall geotechnical design recommendations have been updated in the modified report.

Page 8, Comment #7:

“this will be determined based on testing from the contractors material source for imported material or from lab testing for native material.”

- GPI Response: The MSE wall geotechnical design recommendations have been updated in the modified report.

Page 8, Comment #8:

“is this derrived from testing?”

- GPI Response: The MSE wall geotechnical design recommendations have been updated in the modified report.

Page 8, Comment #9:

“recommend a single value or need to provide project stationing where specific values are applicable”

- GPI Response: The MSE wall geotechnical design recommendations have been updated in the modified report.

Page 8, Comment #10:

"we typically see this table presented like this for contractor designed MSE walls"

- GPI Response: The MSE wall geotechnical design recommendations have been updated in the modified report.

Page 9, Comment #1:

"not for the contractor to decide, corrosion rates are spelled out in MSE wall special provisions. ALL metal is designed for 0.8 mils annual corrosion for 75 year design life plus the initial galvanization"

- GPI Response: The MSE wall geotechnical design recommendations have been updated in the modified report.

Page 9, Comment #2:

"reinforced zone? no need to specify unit weight since that is determined contractor source testing submitted to the project during contractors MSE wall design is accepted. also don't need to specify internal friction angle because a minimum of 34 degrees in required in the SP"

- GPI Response: The MSE wall geotechnical design recommendations have been updated in the modified report.

Page 9, Comment #3:

"MSE?"

- GPI Response: This typographical comment has been addressed in the modified report.

Page 9, Comment #4:

"formatting"

- GPI Response: This formatting comment has been addressed in the modified report.

Page 9, Comment #5:

"why reprint load factors when they need to be in accordance with the most current version of AASHTO LRFD? if this project sits on the shelf for 5 years they will likely be different than what is in this table"

- GPI Response: The MSE wall geotechnical design recommendations have been updated in the modified report.

Page 10, Comment #1:

"why reprinting these resistance factors? just reference the applicable AASHTO section"

- GPI Response: The MSE wall geotechnical design recommendations have been updated in the modified report.

Page 10, Comment #2:

"formatting?"

- GPI Response: This formatting comment has been addressed in the modified report.

Page 10, Comment #3:

"Geotecnhincal Engineer of Record needs to provide bearing capacity analysis and present bearing capacity charts as a function of effective footing width for service, strength, and extreme limit states. contractor's MSE wall designer will need to provide a design that does not exceed values presented in this report"

- GPI Response: The MSE wall geotechnical design recommendations have been updated in the modified report.

Page 10, Comment #3:

"Geotechnical Engineer of Record performs global stability for critical case, if compound stability is needed the contractor;s MSE wall designer will perform that analysis"

- GPI Response: The MSE wall geotechnical design recommendations have been updated in the modified report.

Page 10, Comment #4:

"this report is not preliminary, when will final be submitted?"

- GPI Response: The modified report is the final submittal.

Page 10, Comment #5:

"not the purpose of this report. need to make recommendations in this report"

- GPI Response: The MSE wall geotechnical design recommendations have been updated in the modified report.

Page 10, Comment #6:

", external, and where applicable compound stability"

- GPI Response: The MSE wall geotechnical analyses have been updated in the modified report.

Page 10, Comment #7:

"doesnt need to, just the most critical sections whose evaluation will envelope the other wall sections"

- GPI Response: The MSE wall geotechnical analyses have been updated in the modified report.

Page 10, Comment #8:

"what methods? modified bishop, simplified janbu, spencer? global stability is presented with factor of safety"

- GPI Response: The MSE wall geotechnical analyses have been updated in the modified report.

Page 10, Comment #8:

"are plans available? this sentence is worded like the author isnt sure what the max height is"

- GPI Response: This language has been updated in the modified report.

Page 11, Comment #1:

"present in factor of safety. need to be stable to 1.5 static and 1.1 seismic"

- GPI Response: The MSE wall geotechnical analyses have been updated in the modified report.

Page 11, Comment #2:

"when will final be ready?"

- GPI Response: The modified report is the final submittal.

Page 11, Comment #3:

"mse"

- GPI Response: This typographical comment has been addressed in the modified report.

Page 11, Comment #4:

"formatting"

- GPI Response: This formatting comment has been addressed in the modified report.

Page 11, Comment #5:

"why D if rock is encountered very shallow?"

- GPI Response: GPI selected Site Class D based on the results of exploration, noting that much of the planned retaining walls will be situated over soil subgrades. Conservatively, we selected Site Class D, which results in higher design ground acceleration for use in our slope stability analysis.

Page 11, Comment #6:

"very long time ago"

- GPI Response: This typographical error has been corrected in the modified report.

Page 12, Comment #1:

"for"

- GPI Response: This comment has been addressed in the modified report.

Page 13, Comment #1:

"elevations"

- GPI Response: Our opinion is referencing depth below ground surface is a more useful description for bedrock. This is because the bedrock depth varied within a specific range along the alignment (i.e. 7.5 to 12.0-feet) as opposed to the ground surface elevation which varies by hundreds of feet along the alignment.

Page 13, Comment #2:

"does this match granular subbase defined in section 703?"

- GPI Response: Referencing ITD Standard Specifications Table 703.11, Granular Subbase must have 100% passing a 4-inch screen, which is equivalent to 0.33 feet.

Page 14, Comment #1:

"how much? where (by stationing)?"

- GPI Response: It is not possible to delineate exactly where or how much additional overexcavation will be required to remove uncontrolled fill beneath all wall alignments.

Page 14, Comment #2:

"special provisions ARE definitely required for the MSE walls and Reinforced Soil Slopes. contact ITD HQ Anthony Beauchamp or Tyler Coy"

- GPI Response: Keller has included a Special Provision document governing MSE Wall design and construction into the project documents.

Plate 6, Comment #1:

"4' bench?"

- GPI Response: Keller's design is developed to establish room for a minimum 4-foot bench in front of the wall.

Plate 6, Comment #2:

"minimum reinforcement lengths?"

- GPI Response:

Page 27 of 52 (Boring log B-23073A-1):

"need a surface elevation for depth to have meaning across the project (Typ)"

- GPI Response: Ground surface elevation has been added to the boring and test pit logs in the modified report.

Page 45 of 52 (Proctor Test B-23073A-1 @ 1.5 – 2.0:

"wrong test, table 3 says T-180 but should be T-99 (typ)"

- GPI Response: The correct test has been added to the modified report.

Page 48 of 52 (Direct Shear Test TP-23073A-2 @ 6.5 – 7.0:

"wrong test, table 3 says AASHTO T236"

- GPI Response: The correct test has been added to the modified report.

Figure C.1 - Sheet 50 of 52 – Comment 1:

"table 3 is as low as 100, global stability needs to be evaluated at the critical section, that may include a shorter wall with weaker soil parameters. is this the critical section?"

- GPI Response: The modified report includes updated analysis results with consistent soil parameters.

Figure C.2 - Sheet 51 of 52 – Comment 1:

"present in factor of safety, need 1.5 static and 1.1 seismic"

- GPI Response: The modified report includes updated analysis results with the requested FOS format.

Figure C.2 - Sheet 51 of 52 – Comment 2:

"Did you also look at non-circular failure mechanisms?"

- GPI Response: The MSE wall geotechnical analyses have been updated in the modified report to evaluate block specified failure pathways.

Figure C.3 - Sheet 52 of 52 – Comment 1:

"present in factor of safety, need 1.5 static and 1.1 seismic"

- GPI Response: The MSE wall geotechnical analyses have been updated in the modified report.

Figure C.3 - Sheet 52 of 52 – Comment 1:

"Should be 0.07 to account for adjusted PGA due to site class D"

- GPI Response: The MSE wall geotechnical analyses have been updated in the modified report.