Loureiro
Engineering • Construction • EH&S • Energy
Waste • Facility Services • Laboratory

November 21, 2024

Town of Ledyard
Planning & Zoning Commission
741 Colonel Ledyard Highway
Ledyard, CT 06339-1511

Attn: Marcelle Wood, Chairman Planning and Zoning Commission

RE: Response to October 16, 2024 Correspondence from CLA Engineers, Inc. to Town of Ledyard Planning & Zoning Commission
1761 and 1737 Route 12, Gales Ferry, Connecticut
Commission Number: 45JC2.06

Dear Mr. Wood:

On behalf of our client, Gales Ferry Intermodal, LLC, Loureiro Engineering Associates Inc. (LEA) has prepared this letter in response to the project grading and project review comments prepared by CLA Engineers, Inc. (CLA), dated October 16, 2024. This document maintains the same numeric assignment as the CLA correspondence and presents the comments in italics followed by LEA's response in plain text. Revised plans and Stormwater Management Report are attached to this response letter.

1. *Benching of the rock face is a common practice for rock excavations. In our opinion, the rock face would not constitute a "bank" based on 8.16.N.4 of the Zoning Regulations, and would not be required to be graded to a 3:1 slope.*

   Response: Acknowledged.

2. *CLA recommends that the Applicant/Owner provide the Town with an as-built survey of the excavation at the completion of each phase.*

   Response: This condition has been added as note 9 to the Site Notes on Drawing C-1, Notes, Legend, and Abbreviations.

3. *Notes should be added to the plans that the excavation limits and the clearing and grubbing limits for each phase should be staked in the field by a licensed surveyor prior to the start of work for each phase.*

   Response: A note indicating that clearing, grubbing and excavation limits shall be staked out by a licensed land surveyor prior to the start of work in each phase has been added as note 3 to the Construction Sequence on Drawing C-1, Notes, Legend, and Abbreviations.

Loureiro
Engineering • Construction • EH&S • Energy
Waste • Facility Services • Laboratory

4. *A seed mix for temporary stockpile areas and a requirement for how long after soil placement the seed mix should be installed should be provided on the plans.*

   Response: Soil stockpile stabilization measures, including seed mix guidelines and installation for stockpiles that will be inactive for more than 15 days, have been added to notes in note 5 to the Maintenance of Erosion Control Devices on Drawing C-1, Notes, Legend, and Abbreviations.

   Seed mix for permanent vegetative cover shall be applied to an area within 7 days of establishment of final grade, in accordance with CT Soil Erosion and Sediment Control Guidelines. This requirement has been added to note 20 of the Soil Erosion and Sediment Control Construction Sequence notes on Drawing C-1, Notes, Legend, and Abbreviations.

5. *Where will fueling of excavation equipment and vehicles take place? Measures for spill prevention should be called out on the plans.*

   Response: Equipment fueling will take place on a concrete fueling pad to the north of excavation activities. The pad will be constructed with a positive limiting barrier and a dedicated spill kit drum for spill containment. Spill kit locations have been added to Drawing C-13, Conceptual Processing Operations. A detail for the positive limiting barrier has been added to Drawing C-9, Details 2.

6. *A material specification or gradation should be provided for the structural fill to be placed over the rock floor. The stormwater calculations appear to attribute Hydrologic Soil Group (HSG) A to the final floor indicating a high rate of permeability. The material specified should ensure that the HSG A rating can be accomplished.*

   Response: Structural evaluation of soil will be performed prior to construction of new buildings by a geotechnical engineer.

   As excavated overburden will be stockpiled and reused to backfill the site, existing HSG classification group areas were used under new conditions as the HSG associated with Hinckley loamy sand (HSG A). Additionally, compaction due to construction activities will be remediated using the Soil Restoration process outlined on Sheet C-8, Details. Note that only a portion of the Site is modelled with HSG A soils, as existing soils in other areas are classified as HSG D.

7. *Construction details for drainage culvert trenches, drainage structures, and the hydrodynamic separator should be provided.*

   Response: Typical details for a drainage manhole, storm sewer trench, and the Contech CS-5 hydrodynamic separator have been added to Drawing C-9, Details 2.

8. *A construction detail for the perimeter fence should be provided.*

   Response: A construction fence detail has been added to Drawing C-9, Details 2.

Loureiro
Engineering • Construction • EH&S • Energy
Waste • Facility Services • Laboratory

9. *Sheet C-2: A more detailed narrative or construction sequence for the conversion of temporary sediment basins to the permanent water quality basins should be provided. How will the subsoil be protected from the migration of fines during use as a temporary sediment basin?*

   Response: Additional conversion information is now included in Temporary Sediment Basins note 3.D. under Maintenance of Erosion Control Devices on Sheet C-1, Notes, Legend, and Abbreviations. Additional material and soil restoration is specified to protect the water quality basin from migrated fines.

10. *Sheet C-5: Outlet Control Structure OCS-2 call-out indicates a 2" diameter orifice, the Stormwater Management Report indicates a 6" diameter orifice.*

    Response: The callout for OCS-2 on Drawing C-5, Grading and Drainage, has been revised to show a 6" diameter orifice.

11. *Sheet C-6: Will the temporary frac-tank and pumping be used only during the phase 1 excavation work? or the duration of the project? How will the pump(s) and frac-tank be sized and maintained?*

    Response: The frac tank is only planned for use in Phase 1 until additional measures are installed. As Phase 1 is stabilized and other temporary SESC controls are installed, runoff will be able to be controlled without the frac tank. However, the frac tank can be moved to other phases if needed.

    The temporary fractionalization tank and weir tanks are to be sized by the contractor and will be maintained per manufacturer specifications. The minimum tank volume shall be equal to the maximum flow rate in gallons per minute multiplied by 90 minutes minimum retention time. Total tank volume can be achieved with multiple tanks in parallel. This equation to size the tanks has been added to note 4.C of the SESC Narrative on Drawing C-1.

12. *Sheet C-8: The "Typical Water Quality Basin Outlet Control Structure" detail depicts a 12"x12" weir in the structure. This is not included on the plan call-outs or in the Stormwater Management Report. A 6" underdrain is also depicted, but is not included on the plan call-outs or in other details.*

    Response: The Typical Water Quality Basin Outlet Control Structure detail has been revised on Drawing C-8, Details, to more accurately depict proposed outlet control structures specific to this site.

13. *Sheet C-8: Additional detail should be included on the "Section Through Sediment Basin and Riser". In particular the surface treatment and subsoil section information.*

    Response: Additional site-specific detail including surface treatment and subsoil information has been added to the Section Through Sediment Basin and Riser detail.

Loureiro
Engineering • Construction • EH&S • Energy
Waste • Facility Services • Laboratory

14. *Sheet C-12 (was C-11): The material for the 30" subsoil to be placed on the bench planting area should be specified on the plans.*

    Response: The soil used for bench plantings will be reused excavated overburden material, similar to the other landscaped portions of the Site. Soil amendment may be required for material used in the 30" subsoil layer to improve planting growth. Topsoil between the plantings will be seeded with final vegetative cover in a similar manner to the floor of the Site.

15. *Sheet C-12 (was C-11): Specifics on the bench plantings should be provided on the plans. Minimum tree sizes, spacing, and species should be provided.*

    Response: Details on tree planting size, species, and spacing has been added to the Typical Rock Bench Planting Plan on Drawing C-12, Final Closure & Landscape Plan.

16. *Sheet C-12 (was C-11): A call-out on this sheet indicates the floor is to be stabilized with crushed stone. Elsewhere in the plans it is indicated that the final surface is to be topsoil and seed. This should be clarified.*

    Response: Once subgrade is achieved in Phases 1 & 2, the floor will be temporarily stabilized with crushed stone to facilitate stabilized access to other phases. Final surfacing will include this layer being covered with subsoil, topsoil, and vegetative cover. The callout on Drawing C-12, Final Closure & Landscape Plan, has been updated to reflect the final layered materials as visually depicted and called out in the Typical Cross Section Excerpt Excavation Floor and Wall cross section.

17. *Stormwater Management Report: Changes to runoff volume from the excavation site should be quantified. Will there be any negative impacts downstream from any changes in runoff volume?*

    Response: Due to the difference in runoff curve numbers (CN) and low infiltration rate of loam surfacing as defined by the 2024 CT Stormwater Quality Manual compared to existing wooded area, there will be an increase in runoff volume between existing and new conditions. However, the new stormwater management system meets Town of Ledyard Ordinance #300-017 requirements, matching or reducing rate of discharge, and time to peak discharge. The use of infiltration basins and a hydrodynamic separator, in addition to reducing surficial slopes of the site from approximately 40% to 1.5%, will mitigate impacts to points of discharge. See the Stormwater narrative, including storm water quality Section 4, Stormwater Management Evaluation.

Loureiro
Engineering • Construction • EH&S • Energy
Waste • Facility Services • Laboratory

18. *Stormwater Management Report: Calculations for the required Water Quality Volumes (WQV) for each watershed have been provided. It is not clear in the data provided if this volume is stored and retained onsite in the water quality basins. A summary or table outlining the required WQV and WQV provided and retained in each basin should be provided.*

    Response: Storage tables indicating that the WQV is retained and infiltrated below each basin's low-level orifice are now included in Stormwater Report Appendix E. Section 4.3 Water Quality of the Stormwater Management Report indicates that the WQV will be fully retained and infiltrated on-site without discharging.

19. *Stormwater Management Report: Sizing and treated flow rate capacity information for the hydrodynamic separator should be provided.*

    Response: Site acreage, peak flows, and water quality flows were provided to the manufacturer Contech for the sizing of an appropriate hydrodynamic separator. A sizing sheet provided by Contech has been added to Appendix E of the Stormwater Management Report.

We appreciate the time and effort expended in reviewing this application and trust our responses meet your satisfaction. Please contact me if you have any addition questions or need additional information in support of the comments above.

Sincerely,

LOUREIRO ENGINEERING ASSOCIATES, INC.

George F. Andrews, P.E.
Principal Engineer, Civil Engineering

cc: Alan Perrault, Gales Ferry Intermodal, LLC
Harry Heller, Heller, Heller & McCoy
Kyle Haubert, P.E, CLA Engineers, Inc.

Attachments