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Land Use Department



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December 15, 2024

Mr. Marty Wood, Chairman
 Planning and Zoning Commission
 Town of Ledyard
 741 Colonel Ledyard Highway
 Ledyard, Connecticut 06339

RE: Application PZ11-SUP and PZ#12-CAM
 Gales Ferry Intermodal, LLC
 1737 & 1761 Connecticut Route 12
 Gales Ferry, Connecticut

Dear Mr. Wood and Members of the Planning and Zoning Commission,

This is in response to the letter from Loureiro Engineering of November 21, 2024 and the site plans which have been revised to 11/13/24. I have the following concluding comments.

Executive Summary:

- A. The stormwater management basins and design computations are not in compliance with the CT DEEP 2023 Storm Water Quality Manual and will result in increased pollutant loads being discharged from the site which will reach the Thames River.
- B. The erosion and sedimentation control plan are not in compliance with the CT DEEP 2023 Guidelines for Soil Erosion and Sediment Control and will result in the discharge of turbid water during the excavation period.

Letter by Loureiro Engineering:

1. The response by the applicant notes that there will be plenty of overburden during Phase 1 to install temporary sediment basins. This has not been demonstrated as the two temporary sediment traps (TST) shown for Phase 1 shows one at elevation 14'-19' which is roughly 70' below the existing grade and the second TST is shown at 16' to 23' which is roughly 130' below existing grade. These two TST's cannot be constructed without removal of all the trees, stripping of the topsoil, loam, underlying non-organic soil and blasting a significant amount of ledge. This work exposes the soil to rainfall which causes turbid runoff and there are no measures to protect the downgradient wetlands from the turbid runoff. No TST's are shown for the initial excavation period within Phase 1.
2. This is a mining operation with a discharge to wetlands which are tributary to the Thames River. This requires an Industrial Permit from Connecticut DEEP and not a General

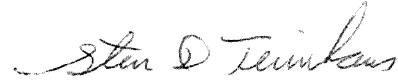
Permit for Construction Activities. The SWPPP for an Industrial Permit must show appropriate erosion and sediment control measures, including temporary sediment traps or basins which are specifically designed for each phase. This has not been done by the applicant.

3. No copy of the written SWPPP has been provided by the applicant to the town for review and comment. This is required for a mining (earth excavation) permit by the CT DEEP.
4. If as claimed by the applicant that the mining is incidental to an Industrial use, then there should be fully detailed plans for the proposed industrial use and an application for the industrial use would have been filed with the Town of Ledyard. This information has not been provided, only a very preliminary conceptual plan for possible industrial use has been provided by the applicant of what could occur in years in the future.
5. It is common engineering knowledge and approach that processed stone (crushed stone with stone dust) when compacted is equivalent to an impervious surface, so the Runoff Curve Number for the gravel roads must be 98 and not somewhere between 75 and 80. To support using a value between 75 and 80, it must be demonstrated that this surface will infiltrate some of the runoff which has not been done.
6. The applicant states that between 11' and 36' of the previously removed overburden will be placed on top of the blasted rock and are claiming that since the overburden was considered a Class A Hydrologic Soil Group (extremely well drained), this material will also be a Class A Hydrologic Soil Group. This is a false and invalid statement. Hydrologic Soil Group designations are based upon naturally occurring soils which take between 100 and 1,000 years to be created in nature. You simply cannot place previously excavated material back on the site and expect the soil to have the same properties as a naturally occurring soil. First, when you cut and then fill soil, you significantly reduce the soil porosity (amount of void space between the soil particles). As the porosity is reduced, the infiltrative capacity is also reduced. Secondly, the placement and spreading of the fill will increase the degree of compaction of the soil, further reducing or eliminating the porosity of the soil. Cut and filled soils are considered Udorthents, which are considered Hydrologic Soil Group D because of the loss of natural soil properties which the natural undisturbed soil would have.
7. The applicant states that the post-excavation stormwater basins will be infiltration basins because they will be in newly filled areas. This is also an invalid statement for the reasons cited in #6 above. Additionally, the applicant has provided no evidence that the filled soil will be suitable for infiltration.
8. Runoff volumes will increase as the filled area cannot in any engineering or environmental sense be considered a Class A soil for the reasons cited in #6 above as well as the fact that the applicant has not provided any evidence that the proposed infiltration basins will function as intended.
9. It is not the responsibility of the contractor to determine the location and size of temporary sediment traps or basins. It is the responsibility of the design professional to prepare a plan which fully complies with the 2024 Guidelines for Soil Erosion and Sediment Control and the 2024 Storm Water Quality Manual developed by the CT DEEP and provides a roadmap and process for the contractor to follow.
10. Infiltration basins are primarily used for addressing water quality of post-development runoff and when used as detention basins also, they have a high rate of failure which has been well documented at conferences presented by the American Society of Civil

Engineers. The basins proposed by the applicant do not comply with the requirements found in Chapter 13, pages 271-277 of the 2024 CT DEEP Storm Water Quality Manual.

Please contact my office if you have any questions concerning this review.

Respectfully submitted,
Trinkaus Engineering, LLC



Steven D. Trinkaus, PE