

133 Keyes Road
Concord, MA 01742



DATE: 08/2/2022

MEMORANDUM

TO: Elizabeth Hughes, Town Planner
COPY: Alan Cathcart, Director of Public Works
VIA: Steve Dookran, P.E., Town Engineer
FROM: Justin Richardson, P.E., Assistant Town Engineer
SUBJECT: 48Y Fitchburg Turnpike: ZBA Special Permit

Concord Public Works (CPW) Engineering Division has reviewed the ZBA Special Permit Application, Plans, Calculations and Reports for 48Y Fitchburg Turnpike prepared by Civil Design Group, LLC, dated June 9, 2022 from the Applicant, Quarry North Road LLC. Engineering reviewed the plans, documents and calculations and provided comments dated July 19, 2022 seen below in bold and dated. The Applicant provided revised supplemental plans, reports, and calculations with a response letter to Engineering's comments, which were dated July 21, 2022, seen below in italics and dated. The Engineering Division offers the following in bold and dated:

Engineering Division Comments:

1. **Please provide a Stormwater Pollution Prevention Plan (SWPPP) and make the appropriate filings with National Pollutant Discharge Elimination System (NPDES) for the site alterations that are to be performed. (7/19/2022)**
 - *The applicant would have no objection to a condition of approval requiring submission of a copy of the SWPPP to the Engineering Department as requested. (7/21/2022)*
 - **Comment has been addressed and this should be a condition of approval. (8/2/2022)**
2. **The traffic analysis provided indicates an increase in traffic, but it is unclear how much of the increased traffic will be traveling eastbound into the Town of Concord. Please include that information in the traffic analysis. (7/19/2022)**
 - *55% of the traffic generated will go east when leaving. See attached figure from MDM TIAS. (7/21/2022)*
 - **Comment has been addressed. (8/2/2022)**
3. **Are stop signs still necessary where Emery Lane and Cold Brook Drive meet Rookery Lane? (7/19/2022)**
 - *The plans have been updated to remove the proposed stop signs at these two locations. (7/21/2022)*
 - **Comment has been addressed. (8/2/2022)**
4. **The inside radius of the roadway at the east and west corners is 30-feet. Please show vehicle turning movements around these curves to prove that delivery trucks (including tractor trailer trucks) and emergency services can make the turns. (7/19/2022)**
 - *The Layout Plan (sheet 5) has been updated to show the turning movements for a tractor trailer, which is the largest of the vehicles to be accommodated. (7/21/2022)*



- The Tractor Trailer Truck does appear to make the turn within the paved area, but it is shown as crossing into the adjacent, opposite direction, travel lane. This development is planned as a private development and therefore is not required to comply with CPW's standard roadway requirements for width and turning radii. It is therefore up to the ZBA to determine if this is an issue that should be addressed. (8/2/2022)

- 5. Rookery Lane will remain private in perpetuity and can never be petitioned for street acceptance by the Town of Concord. Property owners abutting the roadway or an established homeowner's association are responsible for all required maintenance including but not limited to snow removal, roadway maintenance, and drainage maintenance in accordance with the Long Term Operation and Maintenance Plan (LTOMP). (7/19/2022)
 - *These conditions will be incorporated into the governing condominium documents. (7/21/2022)*
 - Comment has been addressed. (8/2/2022)

- 6. Inspection reports from the LTOMP are to be submitted to the CPW Engineering Division annually. (7/19/2022)
 - *The Applicant requests that this condition be removed as Rookery Lane is a private street. (7/21/2022)*
 - This conditions cannot be removed because the long term operation and maintenance is required to be performed and the Engineering Division requires conformation that all maintenance is performed through the inspection reports. (8/2/2022)

- 7. The bio retention area shall comply with CPW Design and Construction Standards, Sections 2.2.4 Structural Best Management Practices, subsections B and C. Currently, the basin does not have an emergency overflow and the appropriate amount of freeboard. (7/19/2022)
 - *The bioretention basin detail has been replaced with the Town of Concord's standard bioretention detail. An emergency overflow system has been added and the freeboard has been adjusted in conformance with the town's standard detail. (7/21/2022)*
 - Comment has been addressed. (8/2/2022)

- 8. The Subsurface Infiltration system is in close proximity to house #6's leach field. Please verify that this meets all State and Local requirements for proximity. (7/19/2022)
 - *The horizontal separation between the leach field for house #6 and the subsurface infiltration system is approximately 20', which exceeds the minimum setbacks requirements of the Concord Board of Health Regulations Chapter 3.00 Section 3.06 as well as 310 CMR 15.211 (Title 5). (7/21/2022)*
 - Comment has been addressed. (8/2/2022)

- 9. Please add Deeps Sump and Hooded Catch Basins to your TSS Removal Calculation Worksheet. Also, add a grass strip to the worksheet for the portions of driveways flowing to the bio-retention basin. (7/19/2022)
 - *The TSS removal tables have been updated to include deep sump hooded catch basins for the infiltration system and vegetated filter strip for the bioretention system. (7/21/2022)*
 - Comment has been addressed. (8/2/2022)



- 10. The stormwater report includes "TABLE 2: PEAK FLOW RATE COMPARISON". A similar table should be included that states the pre and post development volumes of discharge as is required under the Concord Public Works Design & Construction Standards & Details. (7/19/2022)**

 - *A volume comparison table has been added showing no increase in volume from the proposed development. (7/21/2022)*
 - **The table shows an increase in volume of runoff to design point POA-C1 in the 10-year, 25-year, and 100-year storm event. Can more impervious runoff be directed to one of the BMPs or revise the BMP design to infiltrate more runoff so that the volume of runoff is reduced to at least match pre-development volumes to design point POA-C1? (8/2/2022)**

- 11. Please show Time of Concentration information (slope, length, designated) lines on Pre and Post Development Watershed Plans. (7/19/2022)**

 - *Figures 3 and 4 have been updated to show slope and length for the individual segments of the time of concentration paths. (7/21/2022)*
 - **Comment has been addressed. (8/2/2022)**

- 12. The Stormwater Report provided rational method calculations, but Concord Public Works Design & Construction Standards & Details, Section 2 - Drainage Standards requires "rational method for a 100 year frequency storm event and Manning's equation for open channel flow". The Hydraflow SSA shows flow rates in cfs, but it does not show that the 100-year storm event was used. Please update the Hydraflow analysis to include a column for the rainfall event that was used. (7/19/2022)**

 - *The 100 year storm return period is listed in the bottom left corner of the Storm Sewer Summary Report. (7/21/2022)*
 - **Comment has been addressed. (8/2/2022)**

- 13. Was soil testing on site performed in the area of the Bio-Retention basin? And if so, was a Town of Concord representative present to observe the testing? (7/19/2022)**

 - *Soil testing was not performed at the bioretention basin. The modeled infiltration rate for the bioretention basin is based on the more restrictive media soil and as such the underlying soil infiltration rate does not factor into the model. (7/21/2022)*
 - **The soil testing is not just to confirm soil type but also the depth to Seasonal High Ground Water. Soil testing inside the BMP will need to be performed and observed by a Town representative. It is acceptable to Engineering to have this be a condition of approval if the Applicant is willing to accept the liability that if unfavorable soil conditions are found that the drainage system will need to be redesigned and potentially brought back before a Town Board or Commission. (8/2/2022)**

- 14. The Engineering Divisions reserves the right to comment on future submittals related to any new or previously submitted information provided to the Town for review including the Definitive Subdivision Plan and supporting documentation. (7/19/2022)**

 - **Comment still applies. (8/2/2022)**