



**133 Keyes Road  
Concord, MA 01742**

**DATE: 01/06/2021**

## **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: Definitive Subdivision

Concord Public Works (CPW) Engineering Division has reviewed the Definitive Subdivision Application, Plans, Calculations and Reports for 48Y Fitchburg Turnpike prepared by Williams Sparages, dated July 16, 2020 from the applicant Symes Development & Permitting LLC. The Engineering Division provided comments dated October 29, 2020 and these comments can be seen below in plain text. The Applicant or their representative have provided responses to Engineering's comments dated December 22, 2020, seen in italics and have provided updated plans, reports, and calculations with revised dates of December 17, 2020, December 22, 2020 and December 24, 2020. The Engineering Division offers the following additional comments (in bold):

### Engineering Division Comments (09/29/2020):

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.
  - *RESPONSE--A SWPPP will be prepared prior to construction as part of the required NPDES permitting process through the EPA. The applicant has no objection to providing a copy of the SWPPP to the town as a condition of the subdivision decision.*
    - **A condition of approval should be that the applicant submit the SWPPP to the Engineering Division and Natural Resources Commission for review. This comment has been addressed.**
2. Please submit Operation and Maintenance Plan logs and inspection report to Concord Public Works Engineering Division annually.
  - **Comment was not addressed in the response letter, but this can be a condition of approval.**
3. Please provide traffic impact study on the development for the increase in traffic to Fitchburg Turnpike (Route 117) eastbound into the Town of Concord.
  - *RESPONSE--No use has been proposed with this application. The applicant has done a traffic analysis for up to six residential units, filed herewith.*
    - **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.**



4. Please state the roadway speed that is intended for this Subdivision Roadway.
  - *RESPONSE--The proposed speed limit will be 20 miles-per-hour. Speed limit signs have been added to sheet 6 (Layout Plan).*
    - **This comment has been addressed.**
  
5. The roadway layout at the east and west corner of the roadway does not provide the adequate radius of curvature required in the Town of Concord Subdivision Rules and Regulations Section 6.8. The applicant should either request a waiver or revised the roadway layout to provide the appropriate radius of curvature based on the roadway speed.
  - *RESPONSE--The required radius of curvature of 225' has been provided for both horizontal curves along Rookery Lane. The above-described locations represent the intersections of Rookery Lane with Emery Lane at the western end and Cold Brook Drive at the eastern end. Both intersections provide the required 30' curb radii in accordance with Section 6.8.1 of the Subdivision Regulations, intersect at nearly right angles in accordance with Section 6.8.9 of the Subdivision Regulations, and maintain an appropriate leveling area in accordance with Section 6.8.9 of the 12 Subdivision Regulations. Furthermore, both legs of both intersections will be stopcontrolled with appropriate signage and pavement markings.*
    - **These two locations are not a typical intersection because neither roads extend past the point of intersection, but there is no requirement in the Subdivision Rules and Regulations that require either street to continue. Please explain why these intersections are designed as stop controlled intersections and not a continuous loop. Additionally, are these stop controls enforceable by Concord Police Department or Sudbury Police Department?**
  
6. Locating the drainage/infiltration system under the roadway is not within the Concord Public Work's Standards. As a result, this street will remain private and cannot be petitioned for street acceptance. Furthermore, the Applicant shall provide detailed information on their plan for maintenance of the roadway and all utilities.
  - *RESPONSE--An Operation and Maintenance Plan addressing the drainage/infiltration system was included as part of the submitted stormwater report. Rookery Lane is proposed to be privately owned and maintained in perpetuity. The owner of the roadway will be responsible for maintenance, repair, and upkeep of the roadway and associated infrastructure including utilities and the stormwater management system.*
    - **Comment has been addressed as long as the following two conditions of approval are included. First, the Rookery Lane will remain private in perpetuity and can never be petitioned for street acceptance by the Town of Concord. Second, the owner of the property is responsible for all required maintenance including but not limited to snow removal, and is required to submit the inspection reports from the operation and maintenance plan to the Engineering Division annually.**
  
7. The units/houses are not shown on any of the plans that are provided so it is difficult to determine if the proposed drainage areas are accurately drawn. Please provided more information on the Sudbury side of the development.

- *RESPONSE--No housing is proposed with this application, as the ultimate use to which the land may be put in Concord has not been determined, and a number of possible uses are allowable under Concord Zoning. Drainage in the Town of Sudbury has been approved as part of their site plan and stormwater process for the Cold Brook Crossing project. The approved Cold Brook Crossing residences have been added to this plan for contextual purposes as requested.*
  - **If housing is proposed in the future and the driveways, roofs, and/or lawns drain onto the roadway the drainage calculations will need to be resubmitted to account for the additional flow into the closed drainage system. Also, it is unclear from the plans where the roof runoff from the structures in the Town of Sudbury discharges. If they discharge to downspouts on the lawn runoff would enter the drainage system on Rookery Lane, and this is not included in the calculations. Please provide more information related to roof runoff in the Town of Sudbury.**
  
- 8. The Stormwater Report referenced rational “Using the rational method to determine peak runoff flows, the proposed conveyance system is designed for the 25-year storm event, but Concord Public Works Design & Construction Standards & Details, Section 2 - Drainage Standards Required “rational method for a 100 year frequency storm event and Manning’s equation for open channel flow. Please provide updated calculations.
  - *RESPONSE--Conveyance system modeling for the 100-year storm is included in the enclosed updated stormwater report.*
    - **The Hydraflow analysis shows flow rates in cfs but it does not show how this rate was derived in using the 100-year storm event. Please update the Hydraflow analysis to include a column for the rainfall event that was used.**
  
- 9. Concord Public Works Design & Construction Standards & Details, Section 2 - Drainage Standards Required calculations for the 2 year, 10 year, 25 year, and 100 year frequency. Please add calculations for the 25 year storm.
  - *RESPONSE--HydroCad modeling for the 25-year storm frequency is included in the enclosed updated stormwater report.*
    - **Comment has been addressed.**
  
- 10. A revised stormwater report will need to be provided when/if the lot created by this roadway is developed with impervious features.
  - *RESPONSE—Acknowledged*
    - **Comment is acknowledged and addressed. This should be a condition of approval.**
  
- 11. Concord Public Works Design & Construction Standards & Details, Section 2 - Drainage Standards Required catch basin spacing of 250 feet maximum. The plans show a spacing of 300 feet. Please revised the catch basin and drain manhole layout.
  - *RESPONSE--The proposed catch basins have been adjusted so that the spacing between catch basins does not exceed 250 feet.*
    - **Comment has been addressed.**

12. Soil testing on site was performed. Was a Town of Concord representative present to observe the testing?
  - *RESPONSE—Soils testing is complete and witnessed by Town of Concord. The additional test pit logs are included in the enclosed updated stormwater report*
    - **Comment has been addressed.**
13. Concord Public Works – Highway and Grounds Division will not provide snow removal or any other maintenance services to this road as it does not connect to any of the Town of Concord's roadways (Rookery Lane on the plans).
  - *RESPONSE—Acknowledged, Privately maintained roads.*
    - **Comment is acknowledged and addressed.**
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.

Engineering Division Comments (01/06/2021):

1. **On sheet 7 the inset plan shows the outfall pipe with two bends. This does not comply with Concord Public Works Design & Construction Standards & Details. There should be Manholes at each bend location.**
2. **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.**
3. **Only some of the plans were revised on 12/17/20. Please confirm that the remainder of the plan set has not been changed.**
4. **On sheet 6 the street tree at the intersection of Rookery Lane and Cold Brook Drive will block the line of sight for a person turning right onto Cold Brook Drive. Please relocate the street tree.**
5. **The street lights are shown in close proximity to the street trees on the utility plan please show the location of the lighting conduit so that it is clear that the street trees are not in conflict with the lighting conduit.**
6. **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.**

