

CITY OF NEWTON
ENGINEERING DIVISION

MEMORANDUM

To: Jennifer Steel, Conservation Commission Administrator

From: John Daghlian, Associate City Engineer

Re: Notice of Intent – 56 Farwell Street (Subdivision)

Date: September 26, 2017

CC: Lou Taverna, PE, City Engineer
MWRA

In reference to the above-proposed Definitive Subdivision, I have the following comments, for a plan entitled:

*Definitive Plan of Land
Proposed Private Way off Farwell Street
Newton, MA
Prepared By: MetroWest Engineering Inc.
Dated: August 18, 2017*

Executive Summary:

Turtle Lane LLC, 77 Oldham Rd, Newton, proposes to subdivide the existing lot at #56 Farwell Street into 6 lots. The city's Assessor database (*section-block-lot: 21-1-12*), indicates an existing 92,790 square foot lot, with a 50 foot frontage (approximately 2.1 acres) located in Nonantum. The proposed subdivision entails creating six single family lots and a private way from this parcel.



The property is bound on the north by the Charles River, to the west, east, and south by residential homes and Farwell Street. There are two existing Massachusetts Water Resources Authority (MWRA) large diameter sanitary sewer interceptor mains that traverse the site from west to east. The two trunk lines are a 42" diameter relief sewer main and a 42" x 48" oval main. These two trunk lines transmit sewage from Newton and suburbs west of Newton to the Deer Island Wastewater Treatment plant. The applicant proposes to construct a roadway and install utilities over these trunk lines; as of this memo the applicants have NOT applied to the MWRA for an access easement nor to install utilities within the easement. Any work within the easement must obtain an 8M permit from the Authority.

The engineer of record has designed a stormwater collection system that complies with the City Stormwater Policy; however, the systems designed for the roof runoff during flooding events will be submerged; the location of these system should be located upstream of the flood plain. Additionally, some of the test pits are beyond the 25-foot requirement from each system; therefore additional testing will be required before approval.

Lots 2, 3, 4, and 5 are within the flood plain of the Charles River, which is elevation 21.27feet; accordingly, these homes foundations/basements will be designed with "*flow through*" louvers; thus these basements are uninhabitable, nor can be used to place mechanical equipment. The concern with this is that as time passes the homeowners may decide to "board up" and close these louvers to reclaim the lost space of their basements; this would be a loss of "flood storage space" that the design relies on for compensatory storage and takes credit. It would be environmentally better to build these homes on piers to allow true free flow and provide permeant flood storage.

A Compensatory Flood Storage table is provided, however; detail volume calculations and graphic clarification plan is needed for confirmation. Additionally a portion of the site falls under redevelopment standards and states that "*redevelopment project ... provides significant improvements to the riverfront areas;*" *the proposed project will decrease the amount of degraded riverfront*". A clarification plan & site sections would be beneficial to clearly delineate these areas as well as confirmation for *Standard (a)*.

The proposed roadway is design without any curbing and is graded to allow stormwater runoff to sheet flow to the edge of the pavement and into an infiltration trench that is to be placed along the southern edge of the roadway & directly over the sewer mains. My concern is three-fold; first, *infiltrating stormwater directly over sewer pipe is a bad idea* as the additional water can be a source of infiltration to the sewer pipes. Second, with snow banks along the edge of the roadway, it will restrict sheet flow and may cause roadway flooding. It would be better to install catch basins with deep sumps and oil/water separators & hooded outlets to collect the runoff and then infiltrate away from the sewer mains. Finally without curbing to preserve the edge of the asphalt, and when vehicles park along the edge of the roadway, and constant traversing over the asphalt will eventually break up and cause erosion of the road and potentially undermine the road base (as see below).



Pavement derogation due to a lack of curbing

The proposed grassy swale that will receive excess surface runoff from the roadway is considered by some as “*country drainage*” but is also acts as a trash collector. The grassy swale will channelize stormwater flow and direct it towards the rear of Lot 6; my concern is two-fold; first it will direct a large amount of water near the abutter property; second erosion of the swale will occur over time. The engineer of record needs to demonstrate how the excess water will not impact the abutter at #1 Albemarle Road and address scouring velocity of the swale and long-term performance.

Snow storage areas need to be identified on the plan.

An Operations and Maintenance plan is needed for the proposed infiltration systems and for sweeping of the proposed road, additionally a Homeowner’s Association needs to be formulated and funded with at least \$10,000.00 to inspect, clean and maintain the numerous systems. Additionally someone needs to be responsible to keep the grassy swale clean from trash and debris; otherwise it will end up in the river and in the back yards of lot6 and #1 Albemarle Road.

The access road is only 20-feet wide, when cars or trucks are parked along one side the travel lane will be reduced to 12-feet, additionally with snow bank which can be 2-3 feet wide the road gets even narrower; the standard city road for new developments is 29-feet. Finally, the proposed hammerhead maybe problematic for emergency vehicle trying to turn when vehicles are parked in the roadway.

In proposed developments for which open space preservation is not otherwise provided in applicable zoning ordinances, the Zoning Act or other applicable laws, the Commission may also in appropriate cases require the plan to show provisions for providing open space for light and air. With the proposed subdivision and roadway, the Commission should consider a buffer zone between the neighbors along Anthony Road and Farwell Street which would be of a certain dimension in which no trees are cut, and no grading is performed, and possibly a vegetated planting buffer is provided.

The Commission should take into consideration outdoor lighting specifically along the rear portions of the proposed lots.

General Comments:

1. No street lighting is proposed, street lighting is required under Board of Survey (Granting Authority of Subdivisions).
2. Sharp angle of proposed roadway and existing curve of Farwell Street, this needs modification for turning movements of emergency vehicles.
3. The applicant needs to submit proof of access or easement rights over the existing MWRA Sewer Easement.
4. A letter from the MWRA is needed that indicates that the proposed roadway and traffic loads will not negatively impact the two sewer trunk lines. An 8M permit is required from the MWRA for all construction adjacent to their sewer mains.
5. Based upon a site visit, several trees will need to be cut down for this development. The applicant will have to address any tree cutting in accordance to the City Tree Ordinance. The applicants shall consult with the City's Tree Warden.
6. If the subdivision is approved, the applicant will have to apply for a Utilities Connection Permits with the city DPW.
7. All trench excavation contractors shall comply with Massachusetts General Laws Chapter 82A, Trench Excavation Safety Requirements, to protect the general public from unauthorized access to unattended trenches. Trench Excavation Permit required. This applies to all trenches on public and private property.
8. The contractor is responsible for contacting the Engineering Division and scheduling an appointment 48 hours prior to the date when the utilities will be made available for an inspection of water services, sewer service, and drainage system installation. The utility in question shall be fully exposed for the inspector to view; backfilling shall only take place when the City's Inspector has given their approval.
9. The applicant will have to apply for Street Opening, Sidewalk Crossing, and Utilities Connecting permits with the Department of Public Works prior to any construction.
10. The applicant will have to apply for a Building Permits with the Department of Inspectional Service prior to any construction.
11. Prior to a Certificate of Occupancy permit being issued, an As-Built Plan shall be submitted to the Engineering Division & Conservation Commission in both digital format and in hard copy. The plan should show all utilities and final grades, any easements and final grading.
12. If a Certificate of Occupancy is requested prior to all site work being completed, including final paving, the applicant will be required to post a Certified Bank Check in the amount to cover the remaining work. The City Engineer shall determine the value of the uncompleted work.

This concludes my review, if you have any questions please feel to contact me @ 617-796-1023.