

CITY OF NEWTON
Department of Public Works
ENGINEERING DIVISION

MEMORANDUM

To: Council Marc Laredo, Land Use Committee Chairman

From: John Daghlian, Associate City Engineer

Re: Special Permit – 19-21 Orchard Street

Date: December 13, 2017

CC: Barney Heath, Director of Planning
Jennifer Caira, Chief Planner
Lou Taverna, PE City Engineer
Nadia Khan, Committee Clerk
Neil Cronin, Sr. Planner

In reference to the above site, I have the following comments for a plan entitled:

*19-21 Orchard Street
Newton, MA
Civil Plan
Prepared By: Peter Nolan & Associates
Dated: 12-8-'17*

Executive Summary:

The existing two family dwelling is to be razed and a new two family unit is to be constructed on the site with a larger foot print. The site has a high point of 58' near the easterly property line and a residential home, and slopes towards Charlesbank Road at elevation 49'. The engineer of record has designed a stormwater collection system based on the net impervious surface, and stores the flow in underground chambers. The system does not take into account infiltration due to shallow ledge on site, and relies on an overflow connection to the City's drainage system.

A few items that need to be investigate before allowing the overflow connection. First, the drainage calculations only considers volume, the City policy is to evaluate the

proposed design on volume (cubic feet per second) and rate (acre-feet) of flow. Second, the engineer needs to do a stormwater system analysis on the existing watershed, perform a closed circuit television inspection (CCTV) on the existing City drainage system and determine if there is enough capacity in the system for the additional flow.

The double wide driveway needs a trench drain across the entire width to capture the runoff; the single catch basin will not provide this. Additional grading of the double wide driveway is needed. The proposed storm tech units shall be surrounded by impervious barrier since it is very close to the property line and very shallow. Finally the proposed overflow connection is unacceptable. If an overflow connection is allowed based on the above, it must be at a drain manhole not at the pipe.

Is the water main within Orchard Street accurately located, it appears that the main is on private property?

Construction Management:

1. A construction management plan is needed for this project. At a minimum, it must address the following: staging site for construction equipment, construction materials, parking of construction worker's vehicles, phasing of the project with anticipated completion dates and milestones, safety precautions, emergency contact personnel of contractor. It shall also address any anticipated dewatering during construction, site safety & stability, and impact to abutting properties.
2. Stabilized driveway entrances are needed during construction which will provide a tire wash and mud removal to ensure City streets are kept clean.

Drainage:

1. An Operations and Maintenance (O&M) plan for Stormwater Management Facilities needs to be drafted and submitted for review. Once approved the O&M must be adopted by applicant, incorporated into the deeds; and recorded at the Middlesex Registry of Deeds. A copy of the recording instrument shall be submitted to the Engineering Division.
2. It is imperative to note that the ownership, operation, and maintenance of the proposed drainage system and all appurtenances including but not limited to the drywells, catch basins, and pipes are the sole responsibility of the property owner(s).

Environmental:

1. Has a 21E investigation & report been performed on the site, if so copies of the report should be submitted the Newton Board of Health and the Engineering Division.
2. Are there any existing underground oil or fuel tanks, are they to be removed, if they have been evidence should be submitted to the Newton Fire Department, and Newton Board of Health.

Sewer:

1. The existing water & sewer services to the building shall be cut and capped at the main and be completely removed from the main and the site then properly back filled. The Engineering Division must inspect this work; failure to having this work inspected may result in the delay of issuance of the Utility Connection Permit.
2. Watertown Street is a concrete roadway, restoration of the utility trenches shall be reinforced concrete as originally designed, with two-way epoxy coated rebar; the slab shall be cut back to either a 1/3 or half of the slab depending upon the alignment of the utility trench in relation with the slab(s).
3. With the exception of natural gas service(s), all utility trenches with the right of way shall be backfilled with Control Density Fill (CDF) Excavatable Type I-E, detail is available in the City of Newton Construction Standards Detail Book.
4. All new sewer service and/or structures shall be pressure tested or videotaped after final installation is complete. Method of final inspection shall be determined solely by the construction inspector from the City Engineering Division. All sewer manholes shall be vacuum tested in accordance to the City's Construction Standards & Specifications. The sewer service will NOT be accepted until one of the two methods stated above is completed. All testing MUST be witnessed by a representative of the Engineering Division. A Certificate of Occupancy will not be recommended until this test is completed and a written report is received by the City Engineer. ***This note must be added to the final approved plans.***
5. All sewer manholes shall be vacuum tested in accordance to the City's Construction Standards & Specifications. The sewer service will NOT be accepted until one of the two methods stated above is completed. All testing MUST be witnessed by a representative of the Engineering Division. A

Certificate of Occupancy will not be recommended until this test is completed and a written report is received by the City Engineer. ***This note must be added to the final approved plans.***

6. The sewer manhole rim and invert elevations in Charlesbank Road are required.

Water:

1. All water connections shall be chlorinated & pressure tested in accordance to AWWA and the City of Newton Construction Standards and Specifications prior to opening the connection to existing pipes.
2. Approval of the final configuration of the water service(s) shall be determined by the Utilities Division, the engineer of record should submit a plan to the Director of Utilities for approval

General:

1. 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. *This note shall be incorporated onto the plans*
2. All tree removal shall comply with the City's Tree Ordinance.
3. 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. *This note should be incorporated onto the plans*
4. 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. *This note must be incorporated onto the site plan.*
5. The applicant will have to apply for a Building Permits with the Department of Inspectional Service prior to any construction.
6. Prior to Occupancy Permit being issued, an As-Built Plan shall be submitted to the Engineering Division in both digital format and in hard copy. The plan should

show all utilities and final grades, any easements and final grading, improvements and limits of restoration work. The plan shall also include profiles of the various new utilities, indicating rim & invert elevations, slopes of pipes, pipe material, and swing ties from permanent building corners. ***This note must be incorporated onto the final contract plans.***

7. All site work including trench restoration must be completed before a Certificate of Occupancy is issued. *This note must be incorporated onto the site plan.*

Note: If the plans are updated it is the responsibility of the Applicant to provide all City Departments [Conservation Commission, ISD, and Engineering] involved in the permitting and approval process with complete and consistent plans.