

December 12, 2025

**MUNICIPAL SYSTEMS IMPACT ANALYSIS  
592 WASHINGTON STREET  
WELLESLEY, MA**



**PROJECT SUMMARY:**

The proposed project includes the renovation and reuse of the existing front structure, demolition of the rear additions and full demolition of the rear structure. Work includes an addition to the rear of the existing structure and a change of use to 19 residential condominiums. The addition will include parking at the lower level for 36 vehicles. The proposed project will be 3 stories with full basement.

**Gross Building Area:**

<b>Basement:</b>	<b>14100 sf</b>
<b>First Floor:</b>	<b>14475 sf</b>
<b>Second Floor:</b>	<b>13835 sf</b>
<b><u>Fourth Floor:</u></b>	<b><u>10360 sf</u></b>

**TOTAL:                    52770 Gross Square Feet**

Please find attached a document prepared by Metro West Engineering addressing Domestic Water, Sanitary Sewer and Stormwater Management.

### ***NATURAL GAS***

The proposed development is all electric. There will be no natural gas.

### ***MAXIMUM WATER DEMAND FOR FIRE PROTECTION***

The estimated maximum water flow will be approximately 2,000 GPM.

A new 8" CLDI pipe will be installed in accordance with NFPA 13

### ***ELECTRICAL LOAD***

The building will have one pad mounted transformer. The project demand load will be as follows:

#### **HOUSE LOAD**

Air conditioning:	38 kVA
Lighting:	10 kVA
Site Lighting:	10 kVA
Misc. Load:	100 kVA
2 Elevators	80 kVA
Car Charging: 10 @ 10KW each	100 kVA
Subtotal:	338 kVA

19 Residential Units: 570 kVA

The diversified/demand load is anticipated to be 570 kVA. There will be one 2,000 amp switchboard rated at 120/208volt, 3phase, 4 wire to feed the building.

### ***FIRE ALARM***

The fire alarm service will consist of an underground municipal loop or radio master box that will communicate to the fire department and/or a listed central station.

The fire alarm system will consist of an addressable system. FACP will be in the main Electric room and Annunciator panel will be in the lobby. Detectors will be installed in all electric, telephone, storage, elevator pit and base building support areas. Smoke detectors will be installed at top of each Stairwell. The system will include manual pull stations along with horn/strobe devices along corridors and at egress exits.

The residential units will be provided with low frequency 520Hz horn devices in the sleeping areas and in the living areas of the units. A combination of local carbon monoxide and smoke detectors will be provided in the units per current codes.

**Dual frequency Bi-Directional Antennae system will be provided for the building for fire department and other first responders' communication.**

**Please let us know if you need any additional information.**

Very truly yours,

Michael McKay

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## **Municipal Systems Impact Analysis Report 592 Washington Street Residential Project Wellesley, Massachusetts**

Date: December 8, 2025

### **Prepared By**

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### **Project Site**

The project site is located at 592 Washington Street (Route 16), approximately 200-feet south of the intersection of Church Street and Washington Street. The property is identified in the Town of Wellesley Assessor's Database as Map 124, Lot 17 and is presently improved with two commercial buildings, a surface parking lot, stormwater management system and supporting utilities. The site is bound by Washington Street to the west, a mixed-use property to the north and residential condominiums to the east and south. No wetland resource areas are located within 200-feet of the project site.

### **Project Description**

The proposed project involves converting the anterior building from a commercial building to a multi-family residential development that will provide 19 dwelling units. The project will begin with the demolition of the rear building and existing parking lot followed by the construction of a new three-story addition attached to the east side of the anterior building. The proposed addition has a footprint of approximately 11,774 square feet. The new addition will feature outdoor roof decks, private unit balconies, an elevator and a basement-level parking garage that provides 36 off-street parking spaces and 28 bicycle storage spaces. The parking garage will be accessed by a vehicle ramp located north of the anterior building.

### **Domestic Water**

The existing commercial buildings at 592 Washington Street are serviced by an existing 12-inch water main on Washington Street. The existing water service to the rear building will be removed prior to building demolition. The existing water service to the anterior building will remain in place.

Proposed domestic water usage is estimated to be approximately 4,730 gpd (3.3 gpm).

Municipal Systems Impact Analysis Report  
592 Washington Street, Wellesley, Massachusetts

**Sanitary Sewer**

The subject property is serviced by an eight (8) inch sanitary sewer main within Washington Street. The existing sewer service between the sewer main and the anterior building will remain in place with a new cleanout and sewer connection at the southwest corner of the existing anterior building. The portion of sewer line below the existing building will be abandoned in place while the remaining sewer line and sewer manholes leading to the anterior building and rear building will be disconnected and removed.

The existing sewer service line between the sewer main and the anterior building will be inspected by CCTV to determine condition of pipe prior to reuse. If the existing sewer line is determined to be in poor condition, the existing sewer service shall be replaced.

Proposed sanitary sewage flow as a result of the project is estimated at 4,730 gpd based on average daily flow per 310 CMR 15.000: Title 5. Sewage flow analysis is provided below.

**Table One: Total Number of Bedrooms**

Unit Types:	Number of Units	Number of Bedrooms
One Bedroom Unit	1	1
Two Bedroom Unit	12	24
Three Bedroom Unit	6	18
Total =	19	43

Estimated sewage flow = 43 bedrooms \* (110 gpd/bedroom) = 4,730 gpd

**Stormwater**

**Terrain**

Existing topography is relatively flat with elevations decreasing from higher elevations along the anterior building to lower elevation along the perimeter of the property.

**Impervious Area**

The majority of the property is covered by impervious surfaces with landscape and lawn areas located in the front yard and along the perimeter of the parking lot. The property presently contains 27,969 square feet of impervious area. Redevelopment of the property will reduce impervious area by 7,314 square feet for a total post-development impervious area of 20,655 square feet.

Municipal Systems Impact Analysis Report  
592 Washington Street, Wellesley, Massachusetts

## Stormwater Management

The project site has an existing stormwater management system in place to capture, route and recharge stormwater runoff from the existing parking lot and portions of the building roofs. Stormwater runoff captured by the existing stormwater management system is recharged by precast concrete drywells located along the northern and southern edges of the parking lot.

A new stormwater management system is proposed for the project to capture, treat and recharge stormwater runoff from proposed impervious areas. The new stormwater management system will consist of area drains, junction boxes, trench drains, catch basins, roof downspouts, roof drains, drain lines, two precast concrete drywells and a subsurface infiltration system. The primary subsurface infiltration system consists of 28 Shea precast concrete leaching chambers surrounded by two-feet of double-washed stone. The subsurface infiltration system is located in the front yard of the property, approximately 21-feet west of the existing anterior building. Stormwater runoff from the garage ramp, outdoor patio area and front roof half of the proposed building will be captured, treated and discharged into the primary infiltration system. The remaining roof half and the side lawn areas will be captured and recharged back through two precast concrete drywells located along the northern and southern sides of the proposed building.

The goal of the proposed stormwater management system is to reduce runoff rates and volumes for all design storms compared to the existing conditions and to promote groundwater recharge through the use of drywells and a subsurface infiltration system. Overall reductions in runoff rates and volumes can be found in the comparison tables below, and in the submitted stormwater report.

**Table Two: Pre-Development vs. Post-Development Peak Runoff Rates**

Design Point	2-Year Storm (3.30 Inches)		10-Year Storm (5.20 Inches)		25-Year Storm (6.40 Inches)		100-Year Storm (8.20 Inches)	
	Exist. (cfs)	Prop. (cfs)	Exist. (cfs)	Prop. (cfs)	Exist. (cfs)	Prop. (cfs)	Exist. (cfs)	Prop. (cfs)
Design Point A	0.19	0.00	0.35	0.01	0.45	0.02	0.60	0.04
Design Point B	0.01	0.00	0.09	0.04	0.18	0.08	0.35	0.59
Design Point C	0.69	0.18	1.12	0.58	1.40	0.73	1.81	0.98
Design Point D	0.62	0.34	1.06	0.48	1.33	0.73	1.72	1.09
Design Point E	0.12	0.00	0.23	0.01	0.30	0.02	0.40	0.06
Total	1.62	0.18	2.84	1.09	3.65	1.43	4.87	2.34

Municipal Systems Impact Analysis Report  
592 Washington Street, Wellesley, Massachusetts

**Table Three: Pre-Development vs. Post-Development Total Runoff Volumes**

Design Point	2-Year Storm (3.30 Inches)		10-Year Storm (5.20 Inches)		25-Year Storm (6.40 Inches)		100-Year Storm (8.20 Inches)	
	Exist. (cf)	Prop. (cf)	Exist. (cf)	Prop. (cf)	Exist. (cf)	Prop. (cf)	Exist. (cf)	Prop. (cf)
Design Point A	616	4	1,175	43	1,542	82	2,102	158
Design Point B	86	34	417	197	713	349	1,244	771
Design Point C	2,199	495	3,877	1,410	4,941	2,035	6,543	3,030
Design Point D	1,978	212	3,571	1,186	4,594	1,840	6,139	2,916
Design Point E	400	2	768	61	1,011	131	1,381	271
Total	5,280	748	9,808	2,897	12,800	4,437	17,409	7,147

The reduction of impervious area and the increase in onsite groundwater recharge demonstrates significant reductions in both peak runoff rates and total runoff volumes leaving the project site.

Please feel free to contact me should you have any questions or if you require any additional information.

Sincerely yours,



Christopher Cantin, P.E.  
For MetroWest Engineering, Inc.  
Project Engineer