

MBL Land Development & Permitting, Corp.

Land Development, Transportation & Environmental Solutions

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January 27, 2022

Randolph Planning Board
Randolph Town Hall
41 South Main Street
Randolph, MA 02368

Re: Development Impact Statement – 33 Mazzeo Drive Car Wash

Dear Members of the Planning Board,

MBL Land Development & Permitting Corp. has prepared this Development Impact Statement on behalf of the applicant New England Realty Trust for the construction of the proposed Car Wash facility at 33 Mazzeo Drive.

Environmental Impact

The project is located at 33 Mazzeo Drive in Randolph, Massachusetts on the north side of the street between Thomas Patten Drive and West Street. This property is referenced as Block B, Lot 18..12A on Assessors Map 57 and contains a total area of 0.825 acres. The existing site is comprised of a single-family house on the north side of the property and a 1-story garage on the south side of the property with broken pavement and concrete areas. The site does not lie within a flood area, as shown on the F.E.M.A. Flood insurance rate map (F.I.R.M.) for Norfolk county, Massachusetts, Map Number 25021C0216E, Community Number 250251, Panel 0216, having an effective date of July 17, 2012. The site is not located within a NHESP Priority Habitat of Rare Species or an Estimated Habitat of Rare Wildlife according to the Massachusetts Natural Heritage Atlas, 14th Edition effective August 2017. This site is located within a Public Watershed Supply Outstanding Resource Water Critical Area.

The Soil Conservation Survey for Norfolk County indicates that the entirety of the site is located within Soil Map Unit 422B – Canton Fine Sandy Loam, 0-8% slopes, extremely stony. This soil type has a Hydrologic Soil Group of B. The site topography ranges from elevation 100 at the high point on the north side of the site to elevation 91 at the south side of the site. The site slopes are generally between 1-15%.

The proposed site development consists of the construction of a 6,000 S.F. car wash building with associated site access, parking, utilities, and a stormwater management system. To mitigate the quality and quantity of stormwater runoff discharging from the site, the stormwater management system has been designed to collect, treat and control flows leaving the site. The proposed stormwater management system will consist of a series of deep sump hooded catch basins, drain manholes, and water quality units that will convey stormwater runoff to the two subsurface

recharge chamber systems located within the site parking lot. The stormwater management system has been designed to reduce peak flows from the existing conditions to the proposed conditions for all storm events. From an environmentally sensitive perspective, the aforementioned measures result in a low impact design that promotes on-site groundwater recharge while preserving the natural hydrologic conditions.

To limit potential impacts to the resource areas, erosion and sedimentation control Best Management Practices (BMPs) consisting of a Filter Mitt erosion control barrier will be installed between the edge of work and the resource areas. The erosion control barrier shall be inspected and maintained throughout construction and not removed until construction is complete and all disturbed areas have been stabilized. In addition, silt sack inlet protection shall be utilized on all proposed catch basins and a stabilized construction exit shall be installed to stop any sediment from being tracked into the roadway.

Community Impact

A community impact assessment was performed to ensure that the proposed project will not result in any negative impacts to the adjacent community.

Zoning

The site is located within the Great Bear Swamp Highway District and is abutted by this district on the East, South, and Southwest; the site is abutted by the Residential Single Family High Density District on the Northwest and North.

Impact to Abutters

The building is set back approximately 34 feet from Mazzeo Drive, and the nearest abutting property line lies approximately 10 feet from the furthestmost edge of the building. To ensure that the adjacent residential district is not impacted a 6' tall Vinyl Fence is proposed around the perimeter of the property in this area. Additionally, a 346-foot long retaining wall is proposed around the site perimeter with a max height of 6 feet to ensure that no grading takes place off site and the adjacent sites remain undisturbed. It should be noted that the proposed grade is lower than the existing grade and the retaining wall will be higher on the abutter properties' sides.

Site Parking

The proposed parking lot located on site consists of 18 parking spaces, and an additional 17 cars will be able to queue at the right one-way entrance driveway. This is enough to accommodate customers and to ensure that there will be no backup onto Mazzeo Drive.

Gross floor area is defined in the Randolph Zoning Bylaws as "The sum of the gross horizontal areas of the several floors of a building measured from the exterior face of exterior walls, or from the center line of a wall separating two (2) buildings, but not including interior parking spaces, loading space for motor vehicles, or any space where the floor-to-ceiling height is less than six (6) feet." The interior tunnel of the car wash building can be classified as an interior loading space for motor vehicles; therefore, this tunnel area was excluded from the gross floor area calculations for the parking factor and an gross floor area of 1,950 was used to determine the required amount of parking spaces.

Historical Site Impact

Per the Massachusetts Cultural Resource Information System (MACRIS) this site does not lie in proximity to any historic properties or areas.

Trash Storage and Pickup

The proposed dumpster area will be enclosed by a 6' vinyl fence near the center of the site behind a parking space and is only to be accessed by the dumpster truck after the car wash operational hours when the adjacent parking spaces are empty.

Site Lighting

An outdoor lighting plan has been prepared by SK & Associates. The lighting design made efforts to minimize glare and light spillover to neighboring properties: a maximum of .2 foot candles at the northern and eastern site boundaries and 1.3 foot candles at the southern site boundary are the only areas where light spills off-site. The Please refer to the Photometric Plan on Sheet SL1 of the Site Plans.

Traffic Impact

The project is located on the north side of the Mazzeo Drive between Thomas Patten Drive and West Street. Mazzeo Drive is a public two-lane roadway with a single lane of travel designated for each direction.

In 2019, a two-way traffic spot study was performed by the Massachusetts Department of Transportation along Warren Street between Route 24 and Route 28. The spot count was performed approximately 0.09 miles east of the site. Please refer to Figure 1 below.

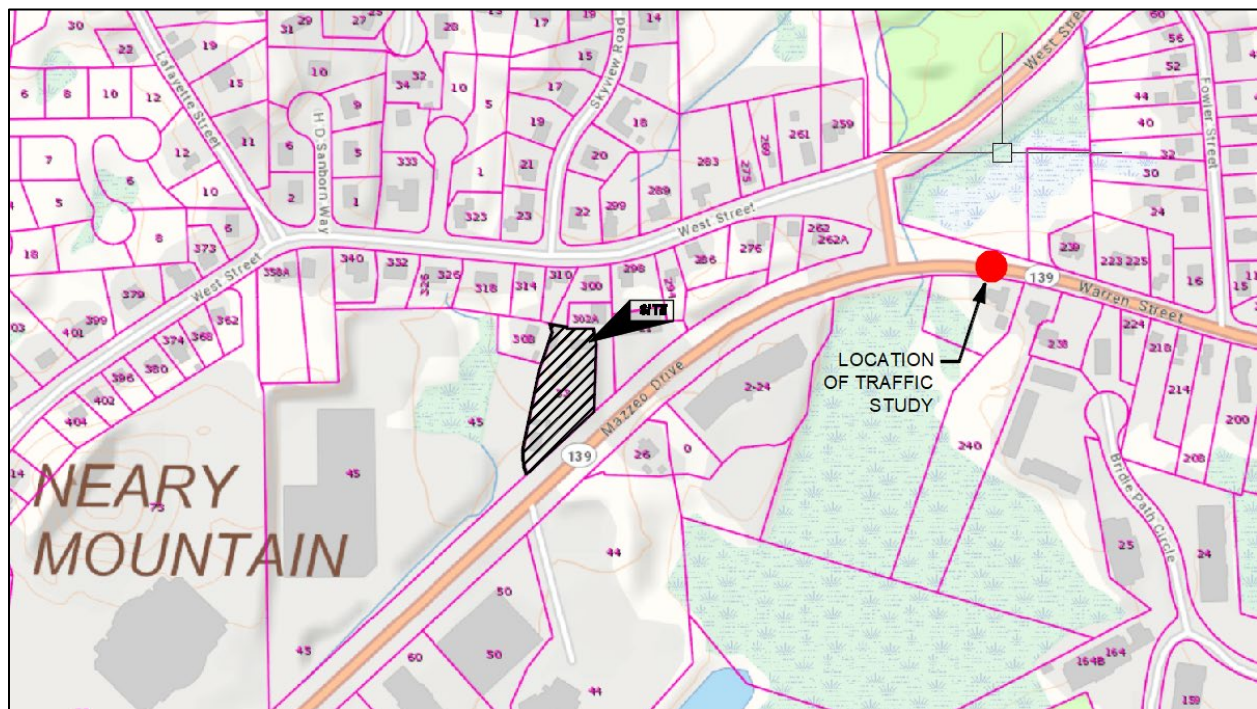
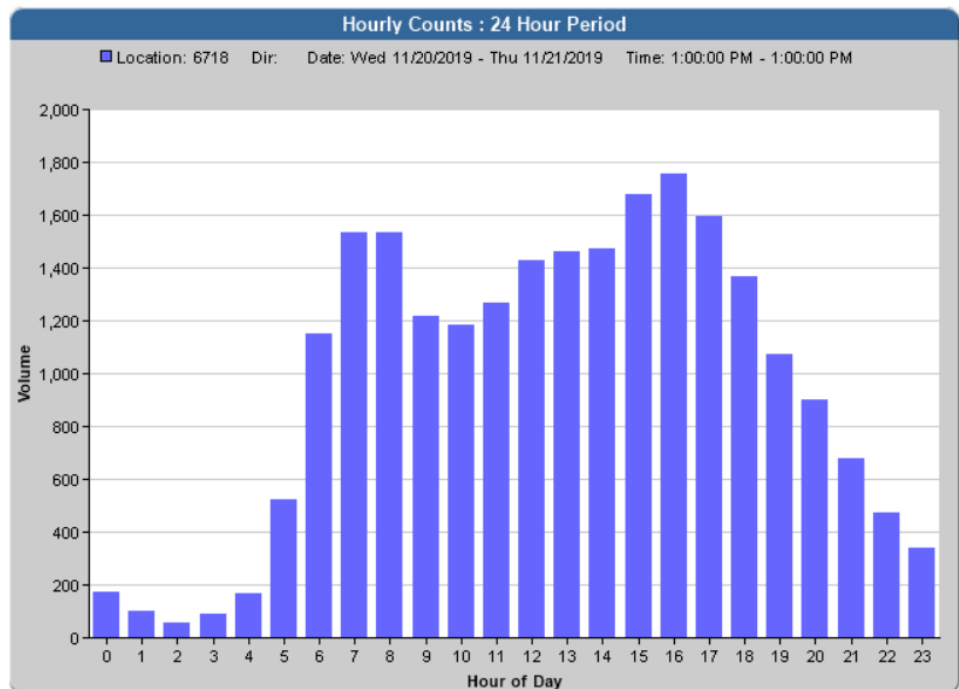


Figure 1: Location of Traffic Study

The length of this spot study was 24 hours and took place from 1 PM on November 20, 2019 to 1 PM on November 21, 2019. The recorded parameters for this study include the Average Annual Daily Traffic (AADT) and Vehicle Volume Count. The results of this study can be found in Figures 2-3.

INTERVAL:15-MIN					
Time	15-min Interval				Hourly Count
	1st	2nd	3rd	4th	
0:00-1:00	64	46	38	25	173
1:00-2:00	28	27	20	26	101
2:00-3:00	14	16	15	13	58
3:00-4:00	21	13	23	32	89
4:00-5:00	22	25	57	62	166
5:00-6:00	94	130	142	157	523
6:00-7:00	195	269	339	347	1,150
7:00-8:00	343	401	435	354	1,533
8:00-9:00	362	418	395	361	1,536
9:00-10:00	347	316	264	290	1,217
10:00-11:00	272	316	272	321	1,181
11:00-12:00	332	302	321	313	1,268
12:00-13:00	361	372	357	340	1,430
13:00-14:00	372	364	362	361	1,459
14:00-15:00	335	400	368	371	1,474
15:00-16:00	392	427	439	418	1,676
16:00-17:00	462	419	439	433	1,753
17:00-18:00	494	397	369	332	1,592
18:00-19:00	331	393	317	327	1,368
19:00-20:00	277	278	273	246	1,074
20:00-21:00	238	214	212	236	900
21:00-22:00	208	182	159	129	678
22:00-23:00	137	133	106	96	472
23:00-24:00	91	101	97	50	339
Total					23,210
AADT					22,604
AM Peak					07:30-08:30 1,569
PM Peak					16:15-17:15 1,785



Figures 2 & 3: 24 Hour Vehicle Volumes
Source: MassDOT TDMS – Location ID 6718

The peak hourly volume for this location was 1,753 vehicles, which was observed between 4 PM and 5 PM. Of these 1,753 vehicles, 923 traveled in the northbound direction and 830 traveled in the southbound direction.

In order to estimate the number of trips that could be generated by the project, statistics published by the Institute of Transportation Engineers (ITE) in Trip Generation for similar land uses were examined. The ITE trip generation statistics represent compilations of data from studies/projects throughout the United States collected over the past 40+ years on trip generation characteristics for different types of land uses. The data has been compiled to provide transportation analysts with guidelines in forecasting 24 hour and peak hour volumes for the specified land use.

Please see Table 1 below for the expected traffic generation of the project based on trip generation rates provided in the ITE Trip Generation Manual, 10th Edition, for Land Use Code 948 – Automated Car Wash. These trip rates were applied to the project to estimate the volume of daily and peak hour traffic likely to be generated by the project.

Table 1: Trip Generation Data

Time Period	Enter %	Exit %	Average Rate (Per 1000 Sq. Ft. GFA)
Weekday – Single Hour PM Peak, Adjacent Street Traffic	50	50	14.20
Weekday – Single Hour PM Peak, Site Generated Traffic	50	50	11.66

The total Gross Floor Area (GFA) of the car wash building is 6,000 square feet, so the average rate per unit listed in the table above was multiplied by a factor of 6 in order to obtain representative volumes. The proposed traffic volume at the project site during the evening peak hour of a typical weekday is expected to reach 70 vehicles. The proposed volume at the PM peak hour after incorporating the additional traffic generated by the project is projected to be 1,823 vehicles. The 70 vehicles generated by the proposed site development are estimated to impact the total traffic volume

by 3.9%. Since the traffic impacts of the project are measured under peak volume conditions and the increase in trips during these time periods is not significant, the project will likely not have a material impact on traffic operations.

Utilities

The existing utilities on site that connect to the garage and house buildings are to be disconnected and removed. The proposed utilities on site consist of electric, water, sewer, and drainage provisions.

Underground electric conduits will run from the proposed building and tie into the existing utility pole at Mazzeo Drive. The existing utility pole number 6 located in front of the site is to be relocated to avoid site access interference.

Water services will run from the proposed building and tie into the existing water main located in the right-of-way in front of the site. The existing fire hydrant at the front of the site is to remain.

The runoff from the car wash operation inside the building will be captured and partially recycled by a water reclaim system comprised of 3 2,000 gallon tanks. As water is used in the wash process it will flow from floor drains to these 3 tanks which will settle out sediment. A portion of this water will then be pumped back into the building through a Velocity VRC100 reclaim system to be reused in the wash process. These tanks then will overflow to a 2,000 gallon oil-water separator to settle out any additional sediment before being routed to the municipal sewer system via the existing stub on-site.

The drainage structures will consist of 7 catch basins and 3 water quality units which will convey storm water runoff to the subsurface recharge chamber systems.

Site Operation

The hours of operation for the car wash and vacuums would be no earlier than 7 AM to not later than 10 PM.

A central vacuum system from Vacutech will be utilized, with sound levels not exceeding 73 decibels. A sound level meter reading report is attached; it should be noted that this study was conducted in open-air conditions.

During normal operation hours the site will only be accessible by the 12' wide entrance to the far east. The center site access will only be utilized as an exit route; a vehicular barrier (model Giotto-30 BT) on a magnetic loop will automatically raise and lower to allow vehicles to exit, and a remote-controlled vehicular barrier (model Giotto-30 BT) will remain lowered to prevent entrance access for customers. This barrier will be raised for dumpster truck and fire truck access as needed during normal hours of operation, and after 8PM these barriers will be raised until the site opens the next morning.

Please don't hesitate to contact us with any questions and concerns or should you need additional information.

Respectfully,

MBL Land Development & Permitting Corp.



Brian M. Dunn
President/Project Director



Tracy L. Duarte, PE
Project Manager

Attachments:

- Site Planset – Dated 1/27/2022 – Provided by MBL Land Development & Permitting Corp.
- Sound Level Meter Readings – Provided by Vacutech
- Giotto-30 BT Vehicular Barrier Spec Sheet



SOUND LEVEL METER READINGS

MODEL: FT-DD-T440HP4 (40hp VACSTAR TURBINE VACUUM PRODUCER)

READING ONE: 73 DB-A, 3 FEET FROM TURBINE @ 45° ANGLE
AND NO BACKGROUND NOISE OR OUTSIDE INTERFERENCE.

READING TWO: 69 DB-A, 10 FEET FROM TURBINE @ 45° ANGLE
AND NO BACKGROUND NOISE OR OUTSIDE INTERFERENCE.

READING THREE: 54 DB-A, 20 FEET FROM TURBINE @ 45° ANGLE
AND NO BACKGROUND NOISE OR OUTSIDE INTERFERENCE.

READING FOUR: 38 DB-A, 30 FEET FROM TURBINE @ 45° ANGLE
AND NO BACKGROUND NOISE OR OUTSIDE INTERFERENCE.

NOTE: THESE READINGS WERE TAKEN OUTSIDE IN THE OPEN ON A CONCRETE SLAB.

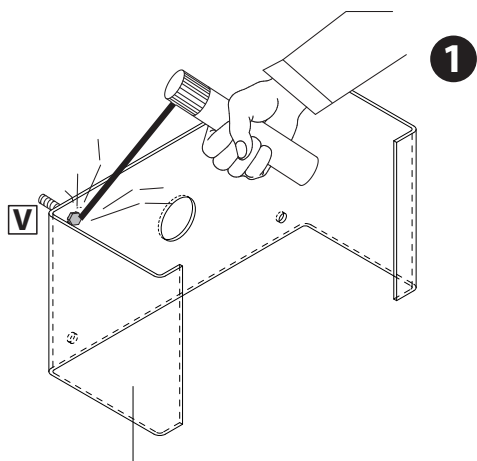
SOUND LEVEL METER USED:

SIMPSON MODEL #40003 – MSHA APPROVED.
MEETS OSHA & WALSH-HEALY REQUIREMENTS FOR NOISE CONTROL.
CONFORMS TO ANSI S1.4-1983, IEC 651 SPECS FOR METER TYPE.

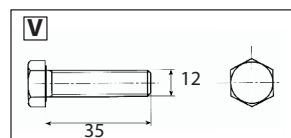
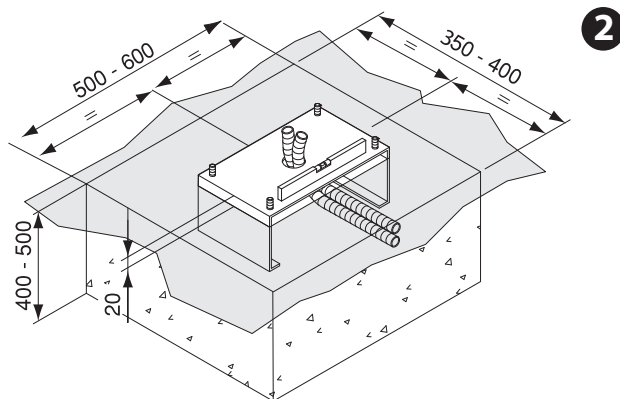
Vacutech
1350 Hi-Tech Drive, Sheridan WY, 82801
PHONE: (800) 917-9444 FAX: (303) 675-1988
EMAIL: info@vacutechllc
WEB SITE: vacutechllc.com

Con scavo di fondazione: // With foundation plate embedded in ground: // Avec tranchée de fondation: //
Mit Fundamentgraben: // Con excavación de cimentación: // Met uitgraving:

B1

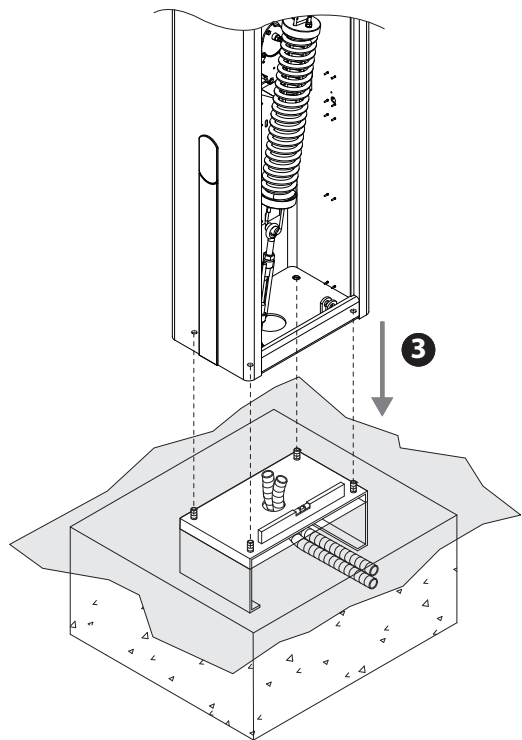


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Nicht im Lieferumfang
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Con tiranti: // With anchor bolts: // Avec tirants: // Mit Ankerbolzen: // Con tirantes: // Met spankabels:

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