GOTHAM

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0 North Mountain Drive
Traffic, Parking, and Driveway Analysis

This Memo evaluates the anticipated impacts of a single family home proposed to be built at 0 North Mountain Drive in Dobbs Ferry, New York on the neighborhood as a result of the additional traffic that this use will generate, including parking. This Memo also documents the design and location of the proposed driveway, specifically in terms of impacts on safety for vehicles accessing 0 North Mountain Drive from the driveway.

North Mountain Drive is a Dobbs Ferry Village street with a width of approximately 17 feet to 18 feet from edge of paving to edge of paving, in a right of way with a width of approximately 35 feet, and a length of approximately 1,690 feet from where it intersects with Osceola Avenue and ends at the entry to the Ardsley Country Club. While some sections of North Mountain Drive have curbing, the section of the road in front of the subject property does not have curbing on either side of the street. There are 12 single family parcels accessed from North Mountain Drive, five of which, including the subject property, are currently unimproved.

It is hypothesized that the reason that this public street may be labeled as a “Drive” is because it serves as the primary driveway to the Ardsley Country Club. One could contemplate whether this is a driveway to the Country Club that provides access to a few single family homes or whether this is a street serving a few single family homes, and also provides the primary entry to the Country Club. Since this is a dedicated public street on the Official Map of the Village of Dobbs Ferry, we contend that it is the latter and that the property owner of the subject parcel, which has more than 183 feet of frontage on the public street, has the right to access their property from the public street. The OF-2 Zoning District, within which the subject parcel is located, requires lots with a minimum width of 125 feet and a minimum of 25 feet of frontage on an improved street.

Concerns have been expressed that the volume of traffic generated by the Country Club may result in adverse impacts on the public safety of this use of the Village Street. The Country Club has been in operation for more than 100 years and actually transitions the change from a horse and carriage world to one in which automobiles are the primary method of transportation. The fact that North Mountain Drive is hilly with twists and turns contributes to these concerns.

An inquiry was made to the Dobbs Ferry Police Department to gain an understanding of the performance of North Mountain Drive with its current use, specifically in terms of accidents, does not indicate that there is any particular concern with the safety of this street.

There is no evidence that the existing use and design of North Mountain Drive presents any pressing need for changes to protect life and property as a result of either its current use or its use with the addition of one single family home.

Traffic:

The Institute of Transportation Engineers (ITE) identifies Single Family Detached Units as Use Code 210. This use is anticipated as creating an average of 10.0 trips per day, with a range of between 21.9 trips maximum and 4.3 trips minimum.

A copy of Table 4. Summary of Trip Generation Rates for Land Use Code 210 is included in this Memorandum.

The ITE projects totals of 1 trip for the weekday morning peak hour, 1 trip for the weekday afternoon peak hour, and 1 trip per morning and afternoon peak hour for both Saturday and Sunday. The proposed single family home will not have any measurable impact on the vehicular traffic in this area that would otherwise suggest that further traffic counts are needed for either the use of the road or the Level of Service at affected intersections. Even when there are large events happening at the Country Club, the volume of traffic using this road is considered light.

Parking:

As proposed, the house will have three garage parking spaces and three additional parking spaces in front of the garage. The Zoning Ordinance requires two on-site parking spaces for a single family home. There is room for additional vehicles to be parked in the parking area, albeit with the same inconvenience that any single family home permitting temporary parking of cars blocking other cars would experience to accommodate a special event. There is also space for additional paved parking to be created on the property, but the concerns about stormwater runoff suggest that increasing the number of vehicles parked on site is not justified.

Although the width of the paved street is narrow and not conducive for curbside parking, Section 290-28 On-street parking restrictions in the Dobbs Ferry Village Code does not impose parking restrictions on North Mountain Drive, nor on Osceola Avenue or on Sherman Avenue, which are the streets used to access North Mountain Drive from Washington Avenue. From where it is accessed from Osceola Avenue, there are no other street connections to North Mountain Drive. There are no “No Parking” signs on North Mountain Drive, Osceola, or Sherman Avenues.

Special provisions have been proposed for parking during construction. These are included in the Construction Sequence Notes provided on Gotham’s Sheet GN dated 12/09/2022, as well as in the Gotham Memorandum “Excavation and Mechanical Rock Removal - Mitigation Plan”, dated December 15, 2020. The intent is to use the proposed parking area for the construction vehicles during construction. If it turns out that the number of vehicles coming to the site for construction would exceed the number that can be accommodated in the parking area, the General Contractor is required to make arrangements for off-site parking for the workers, who would then be shuttled to the site.

Driveway Location and Visibility:

The proposed driveway is located at the south corner of the property, which is at the top of the hill in this section of North Mountain Drive, where there are clear site lines in both directions on the road. Photographs have been provided showing the visibility from the center of the driveway 180 feet to the east and 180 feet to the west. Photographs have also been provided showing the visibility from the center of the driveway 100 feet to the east and 100 feet to the west. A Chart has been provided listing stopping distances, including driver reaction time, showing that the visibility for drivers either approaching the driveway or exiting the site is sufficient for vehicles traveling at more than 40 MPH. The posted speed limit on the road is 25 MPH.

There are existing shrubs that are not in good condition located along the north side of the right-of-way in front of the subject property, which need to be removed to improve visibility for a driver exiting the site from further up the driveway in both directions. Repositioning the existing telephone pole at this corner of the property has also been proposed, although this is not mandatory for safe sight lines.

Driveway Design:

The driveway has a minimum width of 12 feet and a taper on both sides, widening the driveway as it connects to the road. The driveway has one section that is relatively steep, with a slope of 12%, but this slope reduces to 5% and then 3% where it blends to the 2% in the road and to 8% and then 4% where it blends to the 2% slope in the parking area in front of the garage. North Mountain Road has a slope of approximately 7% in the vicinity of the subject property The crests and sags in the driveway have vertical curves. All geometries are in compliance with NYS DOT “Residential and Minor Commercial Driveways” issued under EB 16-012 as 608-03, which consists of 9 sheets of drawings dated as approved March 07, 2016 by Richard W. Lee, P.E., Deputy Chief Engineer, NYS DOT. Pertinent Diagrams based on that document have been attached to this memo.

The driveway and parking area have been designed so that there is adequate dimension for vehicles in the parking area so that drivers will be able to turn to have a frontal approach to the road. A concern was expressed about having to back out into the street, but that is not necessary.

The driveway and parking area are proposed to be a macadam top coat of 1.5" on a macadam base coat of 2" on a 4" compacted gravel base on compacted subsoil. Permeable pavers were considered, but discarded on the basis that plowing snow from the steeply sloped driveway would make pavers problematic. Porous asphalt may be considered, if the sub-grade is determined to be of an appropriate type of soil for percolation. If porous asphalt is used, 4" of porous asphalt will be placed on a minimum of 8" of angular, open-graded drain rock, wrapped with non-woven geotextile fabric. With this installation, the rock provides a storage reservoir that temporarily holds water, allowing it to drain slowly into the ground. It should be anticipated that only the parking area where the grade is 2% or less would receive the porous asphalt.

A yard drain is located in the parking area to collect stormwater runoff and there is a trench drain proposed at the base of the driveway to capture and manage stormwater runoff that could otherwise run into the street and points further downstream.

There is sufficient space provided along the retaining wall to the north of the parking area for the storage of snow plowed from the driveway and parking area.

Summary:

The proposed parking area and driveway have been designed to meet all regulatory standards, providing significantly more on-site parking than is required by the Code for the proposed use. Specifically -

1. The driveway has been designed so that vehicles leaving the site will not need to back out into the street.

2. Sufficient parking on-site has been provide to obviate the need for the use of on-street curbside parking.

3. There is adequate visibility on the existing street for a driver exiting the site to see on-coming traffic and for drivers of vehicles on the street to see vehicles entering or exiting the subject property.

4. The steepness, width, and configuration of the driveway is compliant with Dobbs Ferry Standards, as well as the NYS DOT standards.

5. The stormwater management plan and the provisions for snow management are sufficient to avoid any impacts on the parking area, driveway, street or neighboring properties.

View to East
From Driveway Center

< 180 Feet

> 100 Feet

View to West
From Driveway Center

< 180 Feet

> 100 Feet

View of Driveway
Location

< Looking Northwest

> Looking Northeast

Shrubs to be removed in right-of-way; Electric Pole to be repositioned.

Table 4.

SUMMARY OF TRIP GENERATION RATES

Land Use/Building Type Single Family Detached House ITE Land Use Code 210

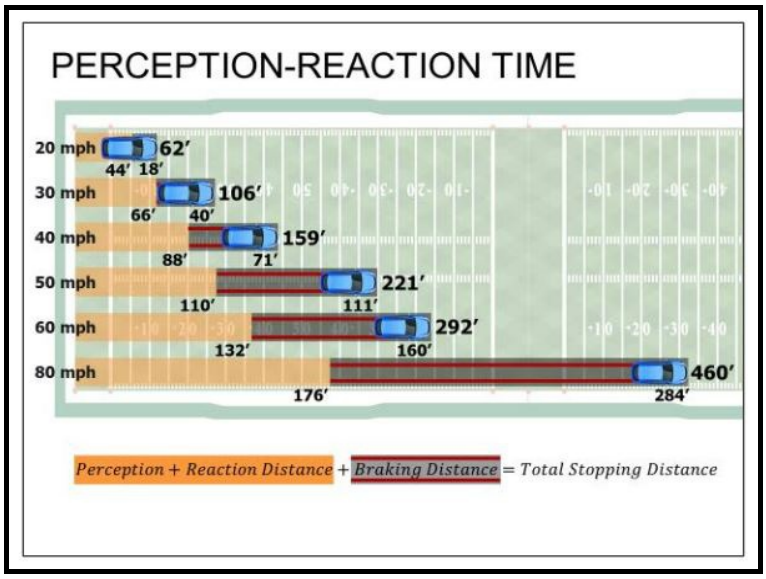
Independent Variable—Trips per Dwelling Unit

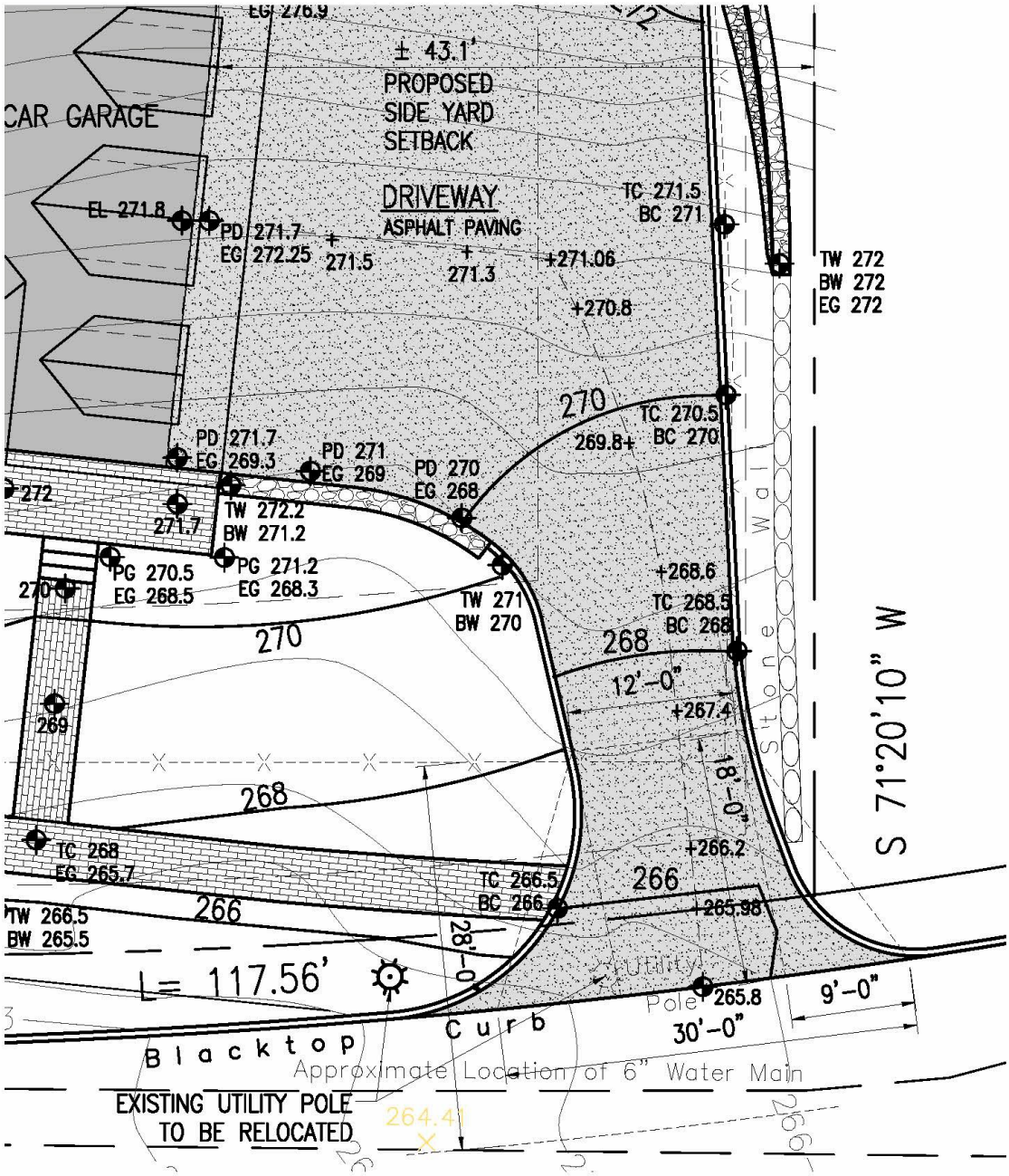
			Average Trip Rate	Maximum Rate	Minimum Rate	Correlation Coefficient	Number of Studies	Average Size of Independent Variable/Study
Average Weekday Vehicle Trip Ends			10.0	21.9	4.3		208	506
Peak Hour of Adjacent Street Traffic	A.M. Between 7 and 9	Enter	0.3	0.6	0.1		37	248
		Exit	0.6	1.7	0.2		38	258
		Total	0.8	2.3	0.4		173	269
	P.M. Between 4 and 6	Enter	0.7	1.8	0.3		38	245
		Exit	0.4	1.2	0.1		38	245
		Total	1.0	3.0	0.4		196	292
Peak Hour of Generator	A.M.	Enter	0.3	0.6	0.1		38	245
		Exit	0.6	1.7	0.2		38	245
		Total	0.8	2.3	0.4		175	271
	P.M.	Enter	0.7	1.8	0.3		40	252
		Exit	0.4	1.2	0.1		38	245
		Total	1.0	3.0	0.4		193	261
Saturday Vehicle Trip Ends			10.1	14.7	6.3		43	292
Peak Hour of Generator		Enter	0.5	1.0	0.4		21	273
		Exit	0.5	0.7	0.3		21	273
		Total	1.0	1.7	0.7		35	296
Sunday Vehicle Trip Ends			8.8	11.7	0.5		38	301
Peak Hour of Generator		Enter	0.5	0.8	0.3		19	252
		Exit	0.5	1.2	0.4		19	252
		Total	1.0	2.0	0.7		34	284

Source Numbers 1, 4, 5, 6, 7, 8, 11, 12, 13, 14, 16, 19, 20, 21, 24, 26, 34, 35, 36, 38, 40, 71, 72 (references appear in the committee's full report, available from ITE).

ITE Technical Committee 6A-6—Trip Generation Rates

Date:



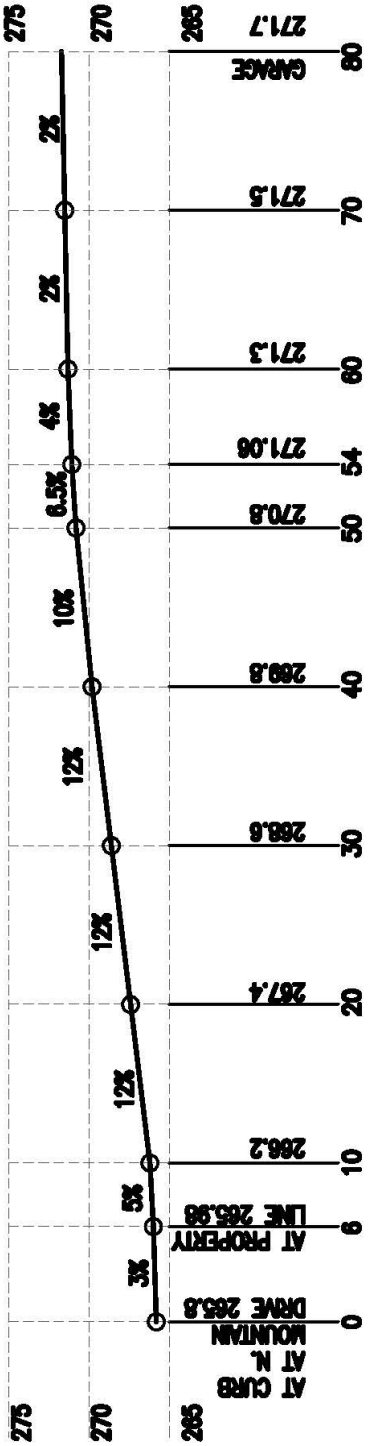


DRIVEWAY OPENING LAYOUT

SCALE : 1/8" = 1'-0"

GRAPHIC SCALE IN FEET

0 4 8 16



PROPOSED DRIVEWAY PROFILE

SCALE : 1" = 10'-0"

GRAPHIC SCALE IN FEET

0 5 10 20