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MEMORANDUM: TO CITY OF KINGSTON PLANNING BOARD
RE: LANDMARK PLACE, 300 FLATBUSH AVENUE
DATE: FEBRUARY 27, 2017

We are pleased to submit the following summaries with respect to traffic, stormwater, sanitary sewage, and water supply.

A. Traffic

ITE Trip Generation Rates (8th Edition) indicate that the pre-existing trip generation at the site was approximately 1,434 daily trips with an AM peak hour of 122 trips and a PM peak hour of 229 trips. (Government Office, 120 employees).

The same ITE Trip Generation model, applied to the proposed use, yields the following (67 one bedroom apartments (34 senior, 33 regular) and 13,600 sf +/- of mixed use/office space):

Total Daily Trips 377
AM Peak Hour 36
PM Peak Hour 40

Conclusion: There will be a significant reduction in traffic generation at the site (as compared to the prior use). Most other potential commercial uses (i.e, convenient store with pump islands, retail center) on the property would yield much higher traffic generation.

B. Stormwater

A Preliminary Stormwater Report was submitted to the Board on February 15, 2017. Pre-Develop and Post-Development Conditions includes 14.86 acres of land, broken down as follows:

	Existing Conditions	Proposed Conditions
Land Cover	(acres)	(acres)
Impervious	2.1	3.0
Grass	3.8	2.9
Forest	8.9	8.9
Total	14.8	14.8

All of the property ultimately drains to the northwest in the wooded portion of the property. Test holes and percolation tests were performed on the site and this indicates that there is significant opportunity to infiltrate stormwater in the deep sand areas at the northeast portion of the property.

Existing vs. Proposed Peak Runoff Results

Stormwater Runoff to Design Point				
	Existing Conditions		Proposed Conditions	
	Peak Runoff	Runoff Volume	Peak Runoff	Runoff Volume
Design Storm	(cfs)	(acre-feet)	(cfs)	(acre-feet)
1-year (2.60")	2.11	0.18	1.33	0.11
10-year (4.68")	5.49	0.58	2.57	0.24
25-year (5.87")	8.48	1.01	3.24	0.37
100-year (8.29")	22.40	2.21	5.48	0.89

While there will be an increase in impervious area as a result of the project, the peak rates of runoff from the site and total volume runoff from the site will be substantially reduced. In addition, stormwater from the new project development areas (and a portion of the existing developed area) will be treated in accordance with the NYSDEC Stormwater Manual. The primary stormwater management facility will be a bio-infiltration basin with groundwater discharge. Other stormwater treatment features will include vegetative swales, infiltration trenches and bio-retention swales.

C. Sanitary Sewer

The site currently has a sanitary sewer connection to the City of Kingston sanitary sewer system on Flatbush Avenue. The site collection system includes the main building and one of the masonry "out buildings", which has a pump system to the main gravity system.

The new project will have a design flow of 110 gallons per day per bedroom, plus the office space portion on the first floor of the new senior building. The total design flow will be 8,170 gallons per day. This represents an increase in flow of 6,500 +/- gallons per day over the prior office use at the site.

Wastewater will be collected and pumped to the City of Kingston gravity sewer on Clifton Avenue (at Meade Street), thus bypassing the Flatbush Avenue sewer main which the City of Kingston has identified as having capacity limitations.

This collection and conveyance design has the objective of redirecting the sanitary flow from the project to an area of the City of Kingston collection system that has adequate capacity. This design approach was confirmed with the City Engineer on February 10, 2017. It involves the installation of a sanitary force main within Clifton Avenue (from Flatbush Avenue to Meade Street). This force main will be installed by directional drilling to minimize disturbance in the city street. Sanitary flow will then be to the Lincoln Street Pump Station which discharges to East Chester Street.

D. Water Supply

Water is currently supplied to the property by the Kingston Water Department. The water supply requirement at the site is expected to increase from 1,600 +/- gallons per day to approximately 8,170 gallons per day. The City of Kingston Water Main in this portion of Flatbush Avenue is a 10 inch Cast Iron Main which flows from the Florence Street Storage Tank. The service line into the property and to the main building is reported to be a 6 inch cast iron main. This main will be re-used for the project, with an addition service tap for the new building.

Respectfully submitted,

BRINNIER AND LARIOS, P.E.

A handwritten signature in black ink that reads "Dennis M. Larios". The signature is written in a cursive style with a horizontal line extending from the end of the name.

Dennis M. Larios, P.E.