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UTILITY ENGINEERING REPORT

2 Troy Street Multi-Tenant Residential Development
Block 4702, Lot 22
Jersey City, Hudson County, NJ

Revised July 22, 2021

Prepared for:

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7/15/21

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INTRODUCTION

Parul Patel (applicant), proposes to construct a new five-story, mixed-use building on a corner lot located at the intersection of Troy Street and Summit Avenue in Jersey City, New Jersey. The property is identified as Lot 22 of Block 4702 and contains 5,005 square feet (0.115 acres). The street address of the property is 2 Troy Street. This report describes the stormwater runoff, sanitary sewer and water demands of the proposed development and addresses compliance with the stormwater management regulations of Jersey City.

The site is situated within Zone R-1, One and Two Family Housing Zone of Jersey City. The property is trapezoidal in shape with 29 feet of frontage along Troy Street and 109 feet of frontage along Summit Avenue. The site is currently occupied by a two-story frame dwelling building. According to the most recent "Revised Preliminary" FEMA Flood Insurance Rate Maps, the property lies in Zone X, outside the 100-year flood zone.

PROPOSED DEVELOPMENT

The subject development entails demolition of the existing building and construction of a new five-story building with ground floor retail and 11mresidential apartment units on the floors above. The unit mix will consist of 4 one-bedroom apartments and 11 two-bedroom units. Parking for 6 vehicles will be provided in a basement level, accessible from a driveway on Troy Street. New water, sewer and storm connections are proposed. The building footprint will occupy approximately 64% of the property. Upon completion, the site will be 73% impervious.

STORMWATER

As stated in the Residential Improvement Standards (RSIS) N.J.A.C. 5:21-7.5, storm water design shall comply with the New Jersey Department of Environmental Protection (NJDEP) Stormwater Management Rules (N.J.A.C. 7:8).The NJDEP regulations for quantity control, quality treatment and groundwater recharge stipulated in N.J.A.C. 7:8 only apply if the project is a "major development". The NJDEP rules define major development as a project that either increases impervious area by 1/4 acre or entails an acre of disturbance. The Jersey City stormwater ordinance define a major development as one that "adds or replaces" more than 1/4 acre of impervious area. The total project area is 0.115 acres, which is less than 1/4 acre. Therefore, the project is not a major development under the NJDEP rules or the Jersey City stormwater ordinance.

Recent revisions to the Jersey City stormwater ordinance have established requirements for a "minor development", which includes projects that increase impervious area by more than 1,00 square feet. The subject development will increase impervious area from 1,700 square feet to 3,500 square feet. Therefore, this project does meet the definition of a "minor development". In accordance with the new ordinance stormwater retention must be provided totaling at least 0.6 gallons per square foot of proposed impervious area. Based on the proposed impervious area of 3.6500 square feet, 2,100 gallons or 2800 cubic feet of retention storage is needed.

The proposed development will include 448 square feet of green roof and a total of 280 square feet of rain garden planters. The combination of green roof and rain gardens will provide the retention volume required to meet the minor development standards.

The proposed building will have internal roof drainage collection which will be connected by an 8" PVC lateral to an existing manhole in the Summit Avenue. This manhole is connected to a 20"x30" oblong brick combined sewer in Summit Avenue. A portion of the roof drainage will be diverted into the proposed rain gardens to maximize the benefit of these features.

As stated above, this project does not meet the definition of major development under the state and stormwater rules, so water quantity and quality control measures are not required. Also, the Jersey City municipal ordinance specifically exempts projects served by the combined sewer system from water quality requirements.

The proposed site is delineated on the State Plan Policy Map as a Metropolitan Planning Area 1 (PA-1). Consequently, according to N.J.A.C. 7:8-5.4(a)2ii and the Jersey City stormwater ordinance section 345-74.4.-F.1b(2), the groundwater recharge requirement does not apply to this project.

SANITARY SEWER

The proposed project will include a total of 2 one-bedroom apartments and 8 two-bedroom apartments. In accordance with New Jersey Department of Environmental Protection (NJDEP) standards in NJAC 7:14A-23, the projected average daily flow from this project will be 2,100 gallons per day (gpd). Assuming the ratio of peak flow to average daily flow is 4, the peak sanitary flow from the site will be approximately 8,400 gpd or 0.013 cubic feet per second (cfs).

It is proposed to construct a new 4" PVC sanitary sewer lateral connecting to the new storm lateral, which will discharge into the existing manhole in Summit Avenue. Connection permits from the Jersey City Municipal Utilities Authority (JCMUA) and the Passaic Valley Sewerage Commission will be required for the new sewer lateral. Since proposed average daily demand will be less than 8,000 gpd, a Treatment Works Approval (TWA) from the New Jersey Department of Environmental Protection will not be required.

WATER

It is proposed to connect a 6" combined fire/domestic water service to the existing 6" water main in Troy Street. Based on New Jersey Residential Site Improvement Standards (RSIS) Table 5.1 for "garden apartments", the proposed project will generate an average domestic water demand of approximately 1,640 gpd. In accordance with standard procedure, fire demand will be calculated and furnished to the JCMUA with the water connection application. At that time, the required water service lateral size can be verified.

Hydrant flow tests will be performed prior to applying for connection permits to verify adequate pressure and flow is available for fire suppression needs. If needed, a booster pump will be provided within the building to achieve the required fire demand flow.