CITY OF
FORT LAUDERDALE

All-America City

February 4, 2020

Luis Betalleluz, P.E.
The BetaJones Group, Inc.
801 Brickell Avenue, Suite 900
Maimi, Florida 33131

Subject: **WATER AND WASTEWATER CAPACITY AVAILABILITY LETTER**
333 Victoria Park – DRC Case No. R18071
323 NE 7th Avenue, Fort Lauderdale, Florida 33301

Dear Mr. Betalleluz,

According to the information submitted, the project consists of a 14-story 53-unit residential building. There are proposed water connections to City of Fort Lauderdale (City) utilities along NE 4th Street to the north of the project site and proposed sewer connections to City utilities within a utility easement to the south of the project site. This project lies within the City's Pump Station (PS) A-17 basin and will increase the average day water demand by approximately 0.009 million gallons per day (MGD) and the average day sewer demand by approximately 0.007 MGD. The following is one of the City's major initiatives near the proposed development:

Project #11901 – Victoria Park B – South Small Watermain Improvements
Estimated Design Completion: Complete
Estimated Construction Completion: July 2021

This project will replace aging and undersized water mains in the Victoria Park neighborhood with new high-density polyethylene (HDPE) water mains. With the understanding that the proposed development will connect to the new 6-inch water main along NE 4th Street and would not seek a Certificate of Occupancy prior to July 2021, we are confident that the described infrastructure improvement will be complete and able to accommodate the proposed project's calculated demands.

Additionally, the gravity sewer main is approximately 50 years old and is of a vitrified clay material. Due to the material and the age of the pipe, it can be reasonably estimated that the pipe is in poor condition. We recommend replacement of approximately 253 linear feet of gravity sewer main spanning between the two existing manholes to the south of the property with a polyvinyl chloride (PVC) pipe.

If Public Works staff issues comments on the proposed flow calculations after the issuance of this capacity availability letter, the consultant shall request a revised letter with the correct approved flow calculations. The determination of capacity availability is based upon tools and data analysis as of the date of this letter. Availability of capacities, as calculated in the attached analysis, is not guaranteed and no existing system capacity shall be considered "committed" for this project until a permit has been issued and all fees have been paid. The City reserves the right to re-evaluate the availability of capacities at the time of permit application. If sufficient capacities are not available, the City may deny the permit application or ask the Owner/Developer to submit an alternate design prior to approval. Information contained in this letter will expire one year from the date issued.

Should you have any questions or require any additional information, please contact me at (954) 828-6126.

Sincerely,

Thomas Lawrence, P.E.
Project Manager II

Enclosures: Water and Wastewater Capacity Analysis
cc: Talal Abi-Karam, P.E., Assistant Public Works Director
Omar Castellon, P.E., Chief Engineer
Dennis Girisgen, P.E., City Engineer
File: Water and Sewer Capacity Letters

City of Fort Lauderdale
Public Works Department
Water and Wastewater Capacity Analysis

333 Victoria Park – DRC Case No. R18071
323 NE 7th Avenue, Fort Lauderdale, Florida 33301

PROJECT AND DESCRIPTION

Construction of a 14-story 53-unit residential building.

DESCRIPTION OF EXISTING UTILITIES

Water: The site is currently served by a 12-inch water main along NE 4th Street north of the project site. See Figure 1.

Wastewater: The site is currently served by a 10-inch gravity sewer main to the south of the project site. See Figure 2.

Pumping Station: The site is served by PS A-17 which is located northeast of the project site along NE 5th Street.

SUMMARY OF ANALYSIS AND REQUIRED ACTION

The existing water and sewer infrastructure will have sufficient capacity to serve the project. The City's improvement project (Victoria Park B – South Small Watermain Improvements) will provide a new 6-inch PVC water main that the development shall utilize instead of the existing 12-inch water main.

Due to the material and the age of the existing gravity sewer main, it can be reasonably estimated that the pipe is in poor condition. We recommend replacement of approximately 253 linear feet of gravity sewer main along the south of the project with a polyvinyl chloride (PVC) pipe.

Figure 1 – City Water Atlas

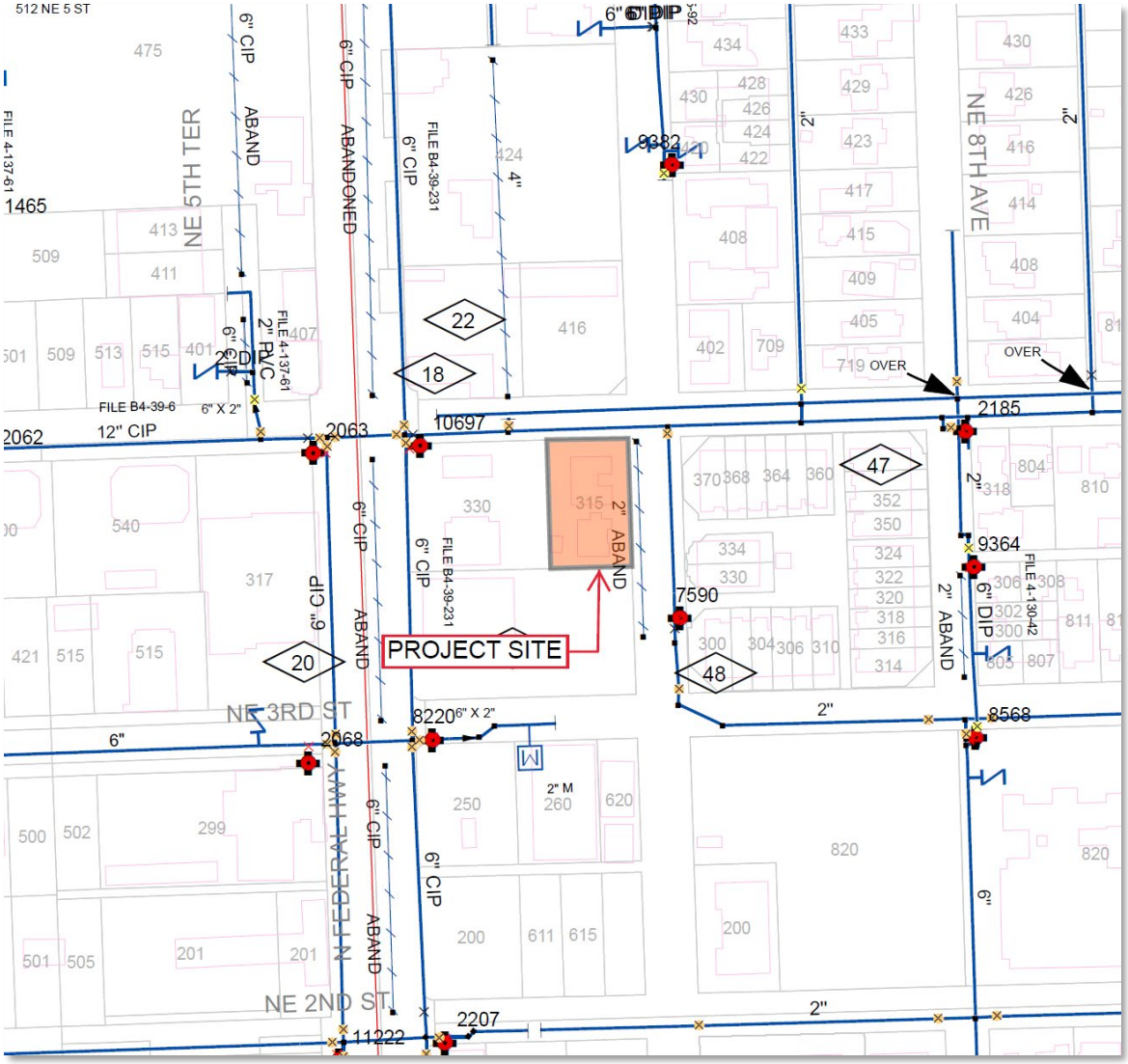
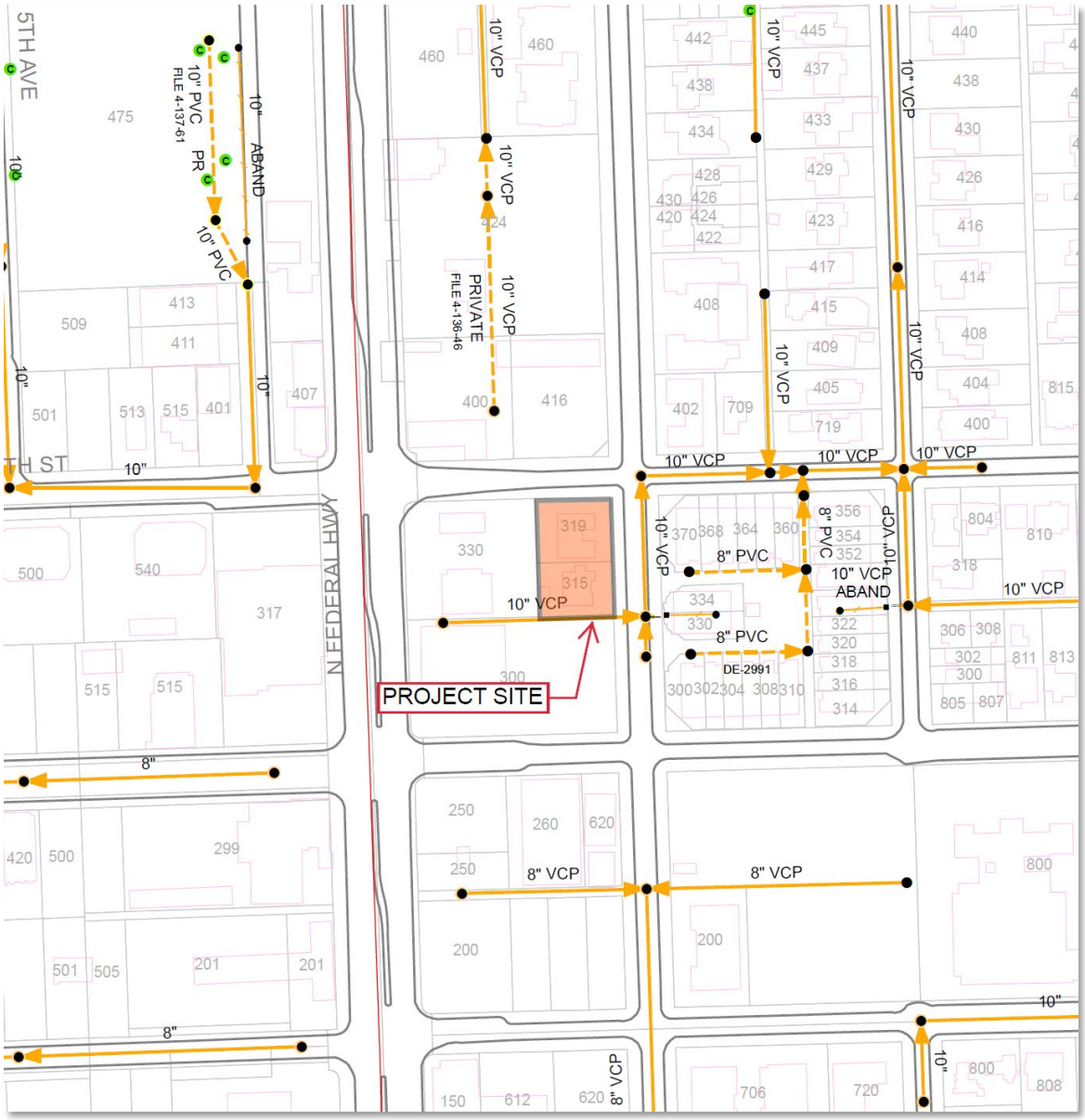


Figure 2 – City Sewer Atlas



WATER CAPACITY ANALYSIS

Requested Demand: Based on the applicant's site plan and building use information, the estimated average day potable water demand is approximately 9,384 gallons per day (GPD), which equates to 0.009 MGD. Average day water use demands are calculated by reducing the calculated max day water use demands by a factor of 1.3 as determined in the City's *Comprehensive Utility Strategic Master Plan*. The max day water use demands are calculated using the City's *Guidelines for the Calculations of Sanitary Sewer Connection Fees* and are based on City Ordinance No. C-19-29.

Evaluation of impact on existing distribution pipe (condition & capacity): According to the site plan, the applicant is proposing to utilize the 12-inch water main along NE 4th Street. The City has an on-going project near the development that will replace aging and undersized water mains in the Victoria Park neighborhood with new HDPE water mains. The development should connect to a new 6-inch HDPE water main along NE 4th Street that has been installed as part of the aforementioned project. The InfoWater hydraulic model was analyzed to determine the impact of this development on the existing and proposed water mains and it was determined that there is capacity to serve the development.

Evaluation of impact of Permitted Water Plant Capacity: The Fiveash and the Peele Dixie Water Treatment Plants are designed to treat 70 MGD and 12 MGD of raw water respectively (82 MGD total). The total permitted Biscayne aquifer water withdrawals for these plants is limited to 52.55 MGD per the South Florida Water Management District (SFWMD) permit number 06-00123-W.

The current twelve-month rolling average production at the two plants is 39.22 MGD. The previously committed demand from development projects in the permitting or the construction stage is 4.972 MGD. Combining these figures with the demand from the proposed project of 0.009 MGD, the required production would be 44.20 MGD. This is less than the allowable withdrawal limit of 52.55 MGD. Therefore, the water plants have sufficient capacity to serve this project. See Figure 3 below.

Recommended Water Infrastructure Improvements: No improvements required. Development shall utilize new 6-inch HDPE water main for water services.

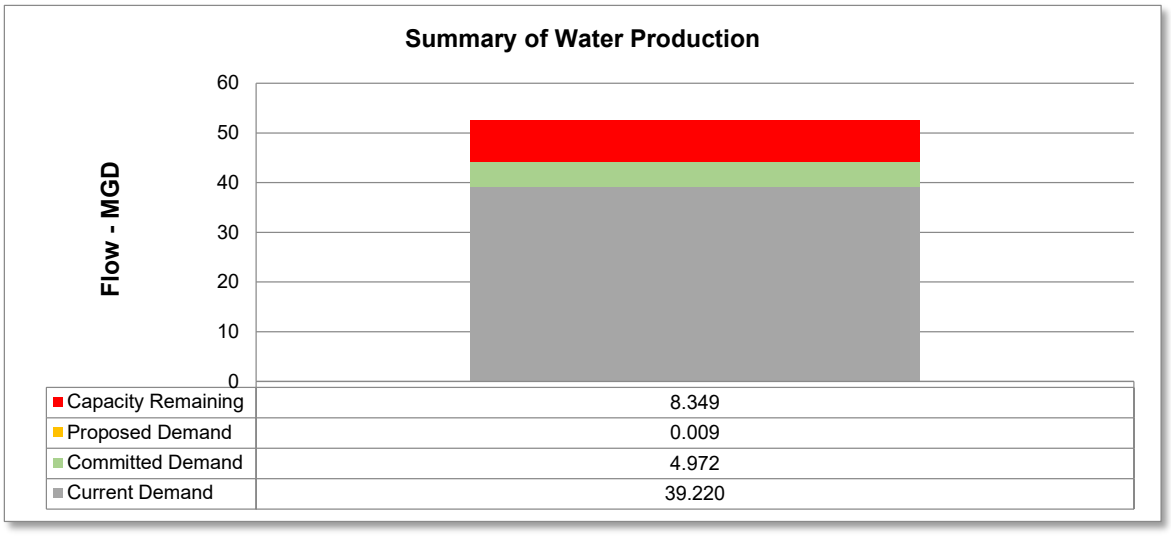


Figure 3

WASTEWATER CAPACITY ANALYSIS

Requested Demand: Based on the applicant's site plan and building use information, the estimated average day sewer use demand is approximately 7,116 GPD, which equates to 0.007 MGD. Average day sewer use demands are calculated using the City's *Guidelines for the Calculations of Sanitary Sewer Connection Fees* and are based on City Ordinance No. C-19-29.

Evaluation of impact on existing collection pipe (condition and capacity): According to the site plan, the applicant is proposing to utilize the 10-inch gravity sewer main to the south of the project.

Manual of Practice (MOP) 60, published by American Society of Civil Engineers (ASCE) for the gravity sewer design and used by the City staff, recommends that pipe diameters 15-inch or less be designed to flow half full during peak flows. The City uses a peak hourly flow factor of 3.0. Accounting for existing flows and based on the tools and information available to the City staff, it has been calculated that the 10-inch and 15-inch diameter pipes downstream of the proposed development will flow less than the ASCE-recommended 50% during peak flows. Therefore, the pipes downstream of the developments are adequate to serve the project.

A review of information available to the City indicates that the gravity sewer main was installed in approximately 1970 and is a vitrified clay pipe. Due to the material of the gravity sewer main and the age of the pipe, it can be reasonably estimated that the pipe is in poor condition.

Evaluation of impact on pumping station: PS A-17 has a duty point of 843 gallons per minute (GPM) and has a Nominal Average Pumping Operating Time (NAPOT) of approximately 3.80 hours per day. Based on projected sewage flows, the pumping run times would increase approximately 9 minutes per day. Additionally, there are other committed flows from proposed developments within the PS A-17 basin resulting in 32 minutes of additional runtime. PS A-17 will have a NAPOT of 4.5 hours once the proposed developments are complete, less than the recommended average of 10 hours per day (see Figure 4 below).

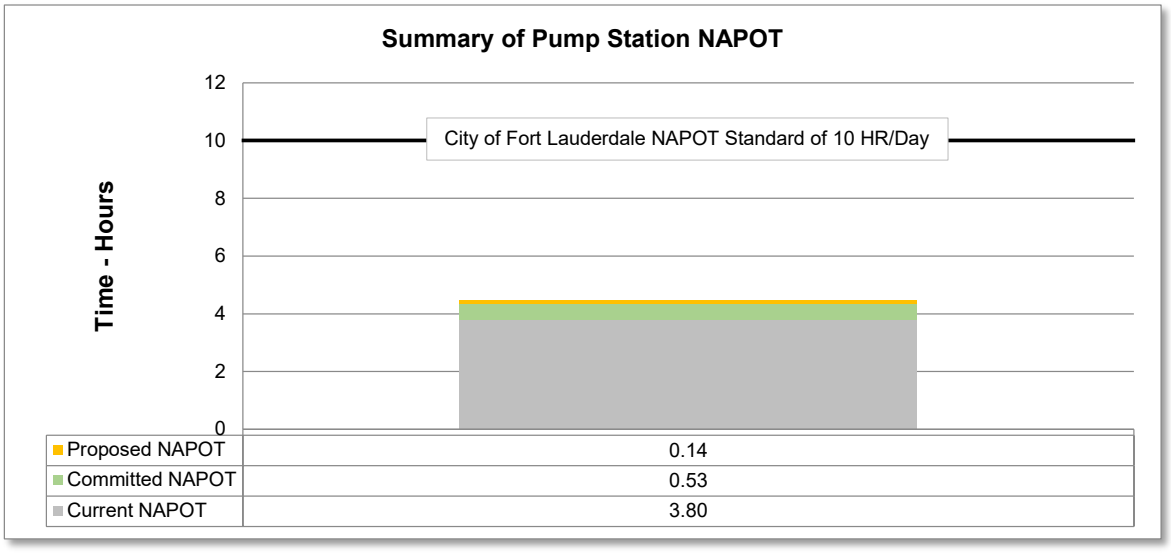


Figure 4

Evaluation of impact of Permitted Wastewater Plant Capacity: The City of Fort Lauderdale owns and operates the George T. Lohmeyer Regional Wastewater Treatment Plant (GTL), which provides wastewater treatment for the City of Fort Lauderdale. The Broward County's Environmental Protection and Growth Management Department's (EPGMD) Environmental Licensing & Building Permitting Division's licensed capacity for GTL is 48 MGD-AADF (Million Gallons per Day – Annual Average Daily Flow). The annual average daily flow (AADF) to the plant is 37.707 MGD. Combining the committed flows for previously approved projects of 4.971 MGD plus the 0.007 MGD net contribution from the project results in a total projected flow of 42.69 MGD. This is less than the permitted treatment plant capacity of 48 MGD. Therefore, the treatment plant has sufficient capacity to serve this project. See Figure 5 below.

Recommended Wastewater Infrastructure Improvements: We recommend replacement of approximately 253 linear feet of gravity sewer main spanning between the two existing manholes to the south of the property with a polyvinyl chloride (PVC) pipe.

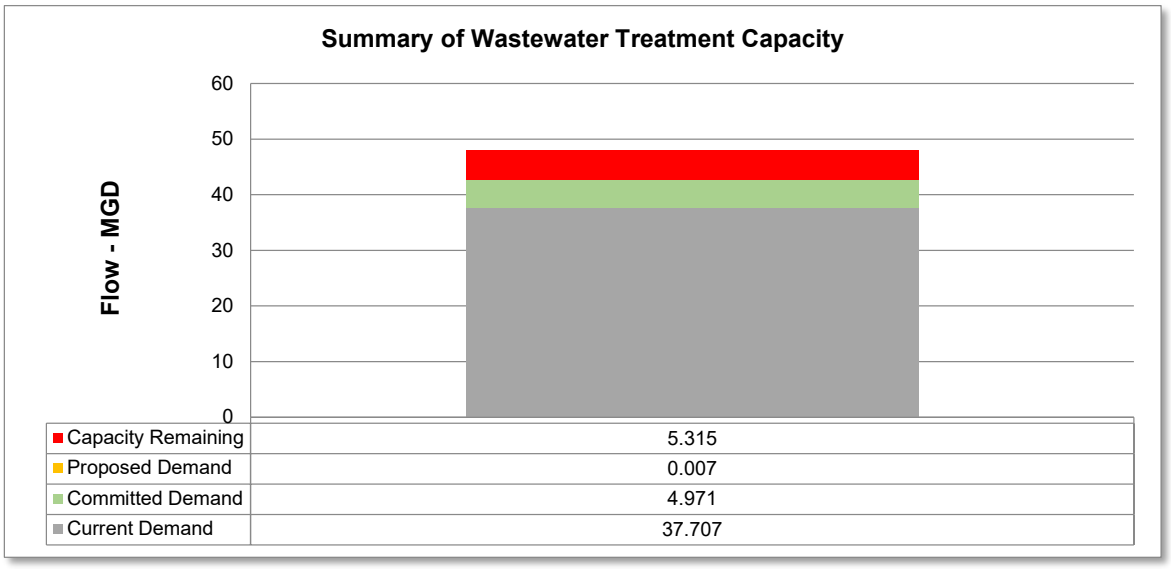


Figure 5