CITY OF
FORT LAUDERDALE

All-America City

August 21, 2020

Keith Mote
Thompson & Associates
412 SE 18th St.
Fort Lauderdale, FL 33316

Subject: **WATER AND WASTEWATER CAPACITY AVAILABILITY LETTER**
**Temporary Fire Station #13 – DRC Case No. PLN-Site-20020002**
**735 N Fort Lauderdale Beach Blvd., Fort Lauderdale, Florida 33304**

Dear Mr. Mote,

According to the information submitted, the project consists of a temporary trailer on a vacant lot. There are proposed water and sewer connections to City of Fort Lauderdale (City) utilities along Vistamar Street. This project lies within the City's Pump Station (PS) D-41 basin and will increase the average day water demand by approximately 0.0003 million gallons per day (MGD) and the average day sewer demand by approximately 0.0001 MGD. The existing water and sewer infrastructure have the capacity to support the proposed development and no improvements are needed.

If there are changes to the proposed development after issuance of this capacity availability letter, the Owner or Owner's authorized representative shall submit a revised request based on the updated plans. Failure to seek approval prior to changing the plans may result in revocation of permit and capacity allocation. 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) 828-5115.

Sincerely,

Gabriel Garcia
Project Manager II

Enclosures: Water and Wastewater Capacity Analysis
cc: Raj Verma, P.E., Public Works Director
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

**Temporary Fire Station #13 – DRC Case No. 20020002**
**735 N Fort Lauderdale Beach Blvd., Fort Lauderdale, Florida 33304**

## PROJECT AND DESCRIPTION

Construction of a temporary trailer on vacant land.

## DESCRIPTION OF EXISTING UTILITIES

**Water:** The site is currently served by an 8-inch water main along Vistamar Street south of the project site. See Figure 1.

**Wastewater:** The site is currently served by an 8-inch gravity sewer main to the south of the project site along Vistamar St. See Figure 2.

**Pumping Station:** The site is served by PS D-41 which is located southwest of the project site along Bayshore Dr.

## SUMMARY OF ANALYSIS AND REQUIRED ACTION

The existing water and sewer infrastructure have the capacity to support the proposed development and no improvements are needed.

**Figure 1 – City Water Atlas**

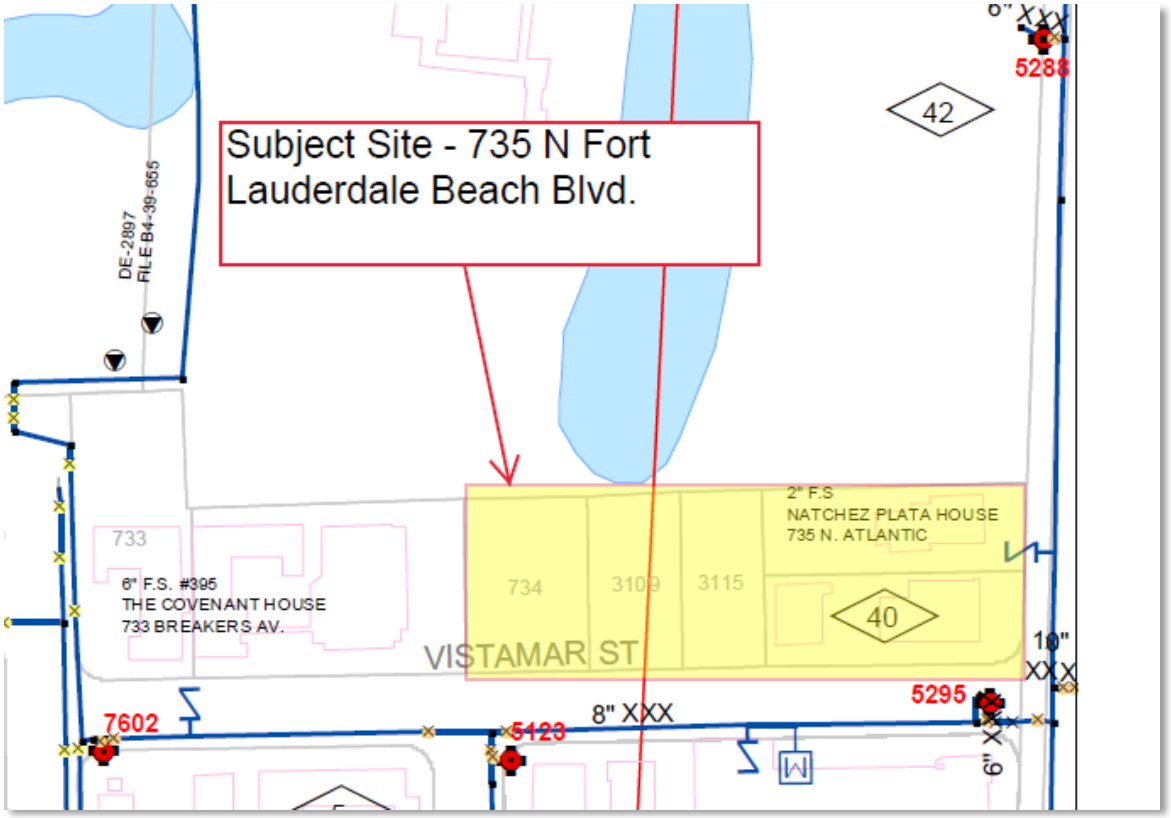
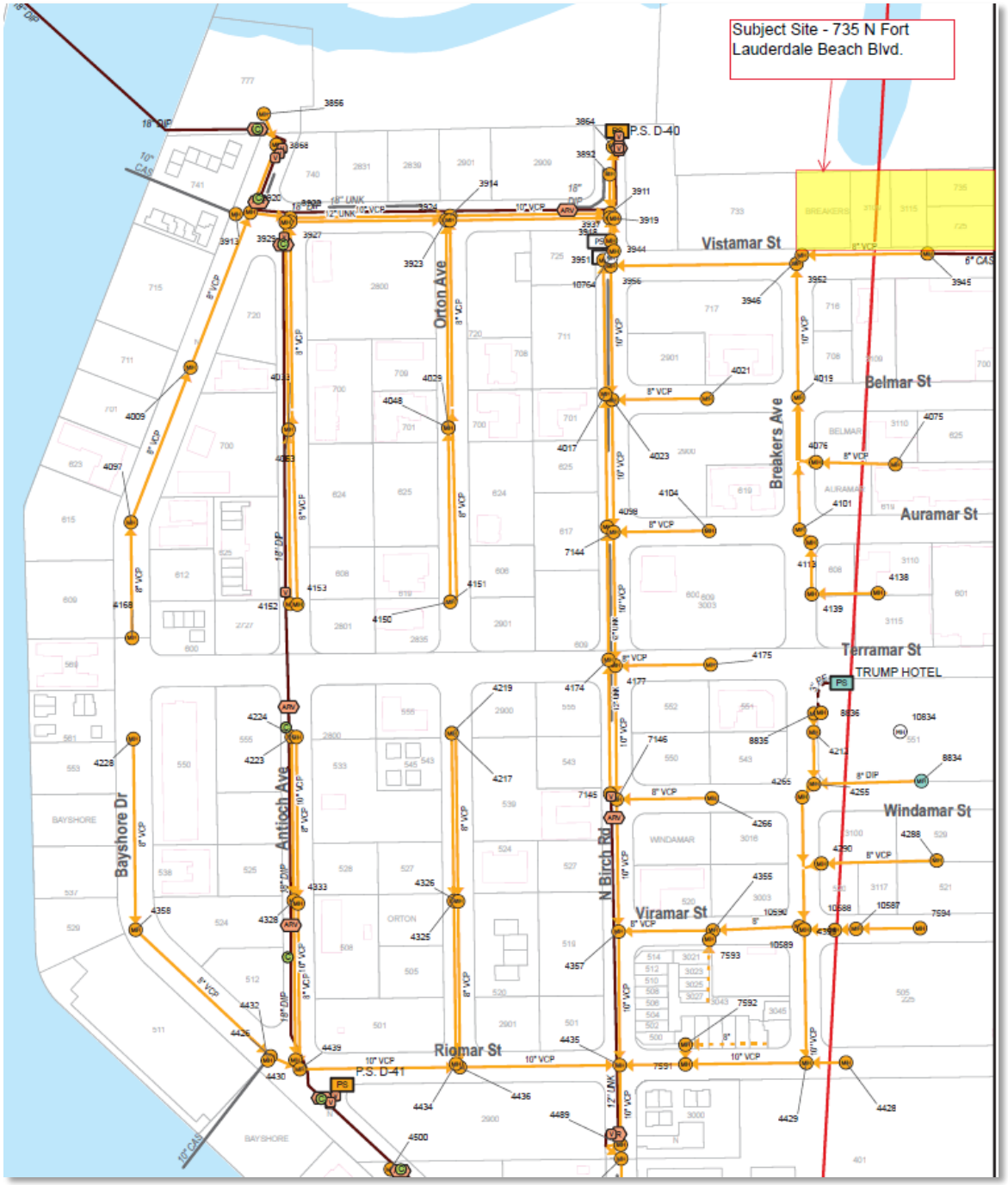


**Figure 2 – City Sewer Atlas**



## 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 316 gallons per day (GPD), which equates to 0.0003 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 8-inch water main along Vistamar Street. The InfoWater hydraulic model was analyzed to determine the impact of this project on the existing 8-inch water main and it was determined that it has capacity to serve the project.

**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 39.08 MGD. The previously committed demand from development projects in the permitting or the construction stage is 4.655 MGD. Combining these figures with the demand from the proposed project of 0.0003 MGD, the required production would be 43.69 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.

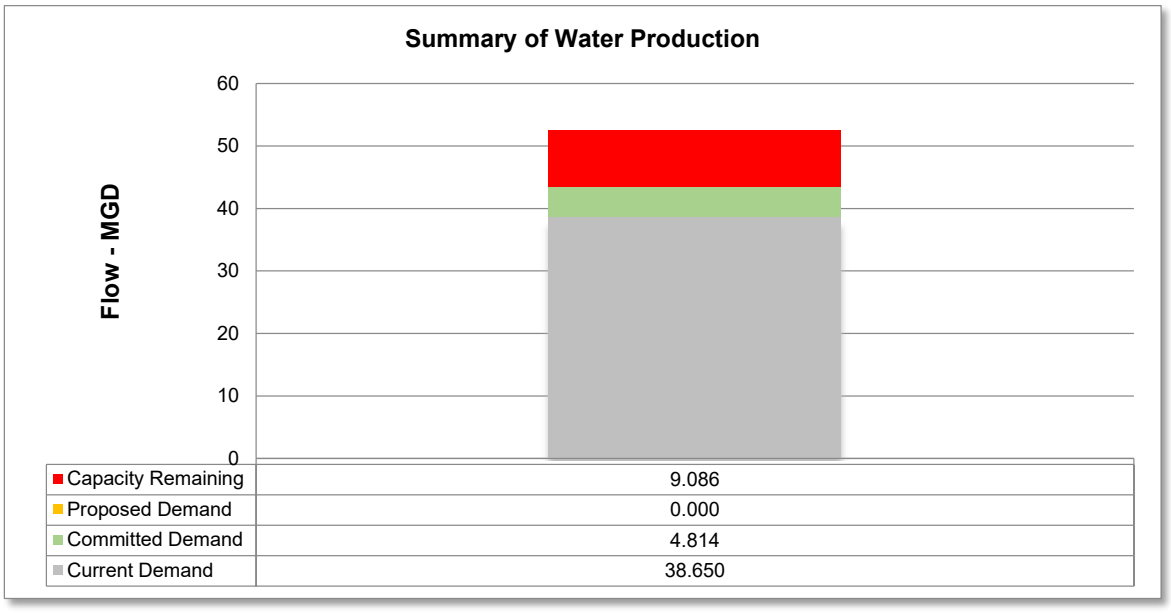



*Figure 3*

## 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 184 GPD, which equates to 0.0002 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 8-inch gravity sewer main to the south of the project along Vistamar Street. 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 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.

**Evaluation of impact on pumping station:** PS D-41 has a duty point of 319 gallons per minute (GPM) and has a Nominal Average Pumping Operating Time (NAPOT) of approximately 13.6 hours per day. Based on projected sewage flows, the pumping run times would increase approximately 0.58 minutes per day. Additionally, there are other committed flows from proposed developments within the PS D-41 basin resulting in 2.66 minutes of additional runtime. PS D-41 will have a NAPOT of 16.27 hours once the proposed developments are complete. While this exceeds the City's limit of 10 hours, the addition of the proposed 0.01 hours is considered negligible amount. Further, it is reasonable to expect the pump station to operate at a higher capacity as increased volume at the pump station will trigger the additional pumps to run, increasing the pump stations operating capacity. See Figure 4 below.

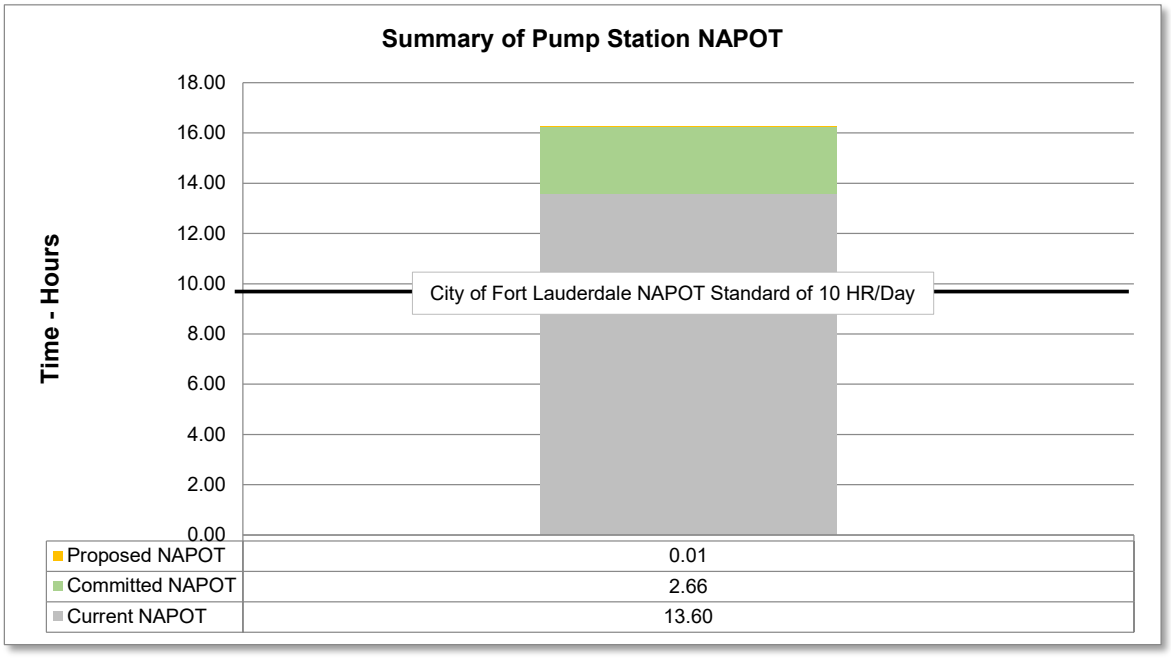



*Figure 4*

**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 38.055 MGD. Combining the committed flows for previously approved projects of 4.655 MGD plus the 0.0001 MGD net contribution from the project results in a total projected flow of 40.6551 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:** No improvements required.

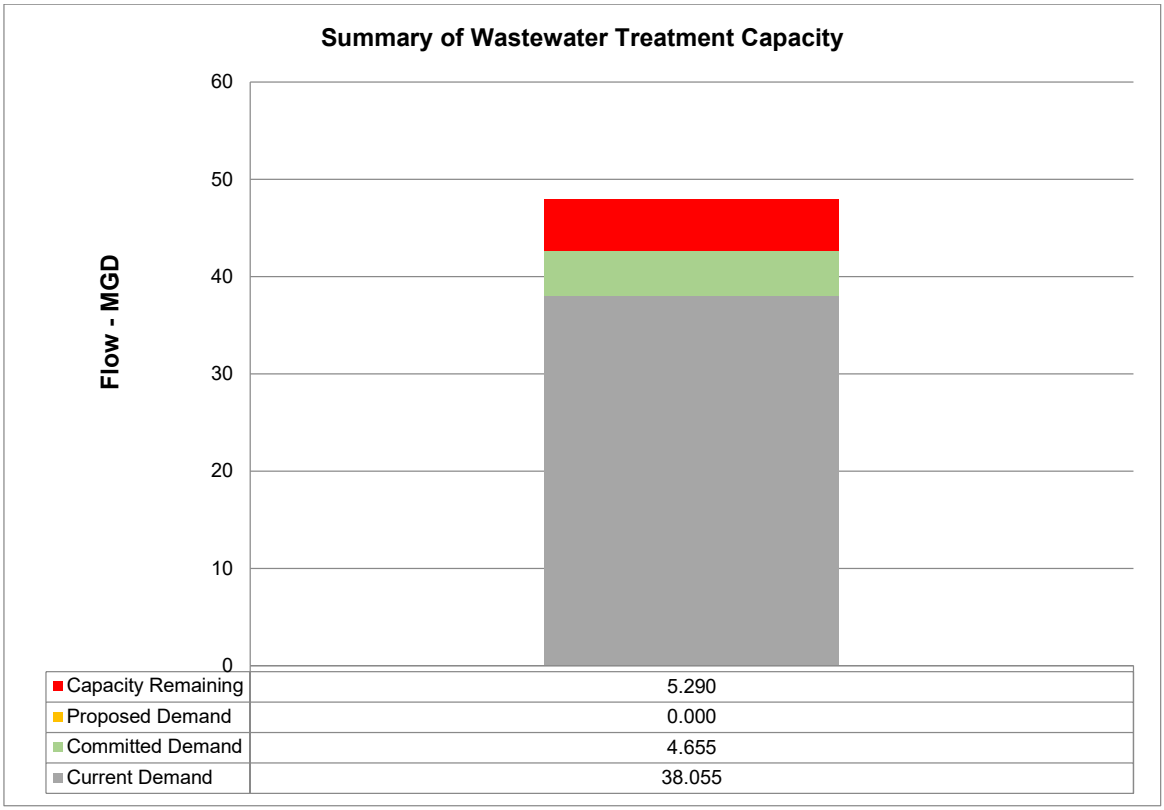



*Figure 5*