January 8, 2019

Marc Isaac,
Flynn Engineering Services, P.A.
241 Commercial Blvd,
Lauderdale-By-The-Sea, Florida 33308

Subject: **WATER AND WASTEWATER CAPACITY AVAILABILITY LETTER**
Residents Inn Fort Lauderdale Beach, DRC R18054
425 Seabreeze Boulevard, Fort Lauderdale, Florida 33315

Dear Mr. Isaac,

According to the site plan submitted, the project consists of constructing a hotel with 150 units to replace the existing parking lot. Water and sewer connections to existing City of Fort Lauderdale (City) utilities are proposed along Seabreeze Boulevard. According to the calculations submitted, the project will increase water and sewer demand by 0.039 million gallons per day (MGD). The Department of Sustainable Development (DSD) will review and approve such flow calculations. Furthermore, if DSD 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) 828-5862.

Sincerely,

Igor Vassiliev, P.E.
Project Manager II

Enclosures: Capacity Analysis Determination
cc: Nancy Gassman, Ph.D., Interim Deputy Public Works Director
Talal Abi-Karam, P.E., Assistant Public Works Director
Omar Castellon, P.E., Assistant City 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 Determination

Residents Inn Fort Lauderdale Beach, DRC R18054
425 Seabreeze Boulevard, Fort Lauderdale, Florida 33315

PROJECT AND DESCRIPTION

Construction of a hotel with 150 units to replace the existing parking lot.

DESCRIPTION OF EXISTING UTILITIES

Water: The site is currently served by a 6-inch water main along Seabreeze Boulevard, see Figure 1.

Wastewater: The site is currently served by a 10-inch gravity sewer on Seabreeze Boulevard, which convey flow downstream to a 15-inch sewer and to Pumping Station D-31(PS D-31).

Pumping Station: The site is served by PS D-31 located at South Birch Road and Las Olas Circle.

SUMMARY OF ANALYSIS AND REQUIRED ACTION

Existing water infrastructure has sufficient capacity to serve the project with no improvements required. Existing wastewater infrastructure has sufficient capacity to serve the project with no improvements required.

Figure 1 – City Water Atlas

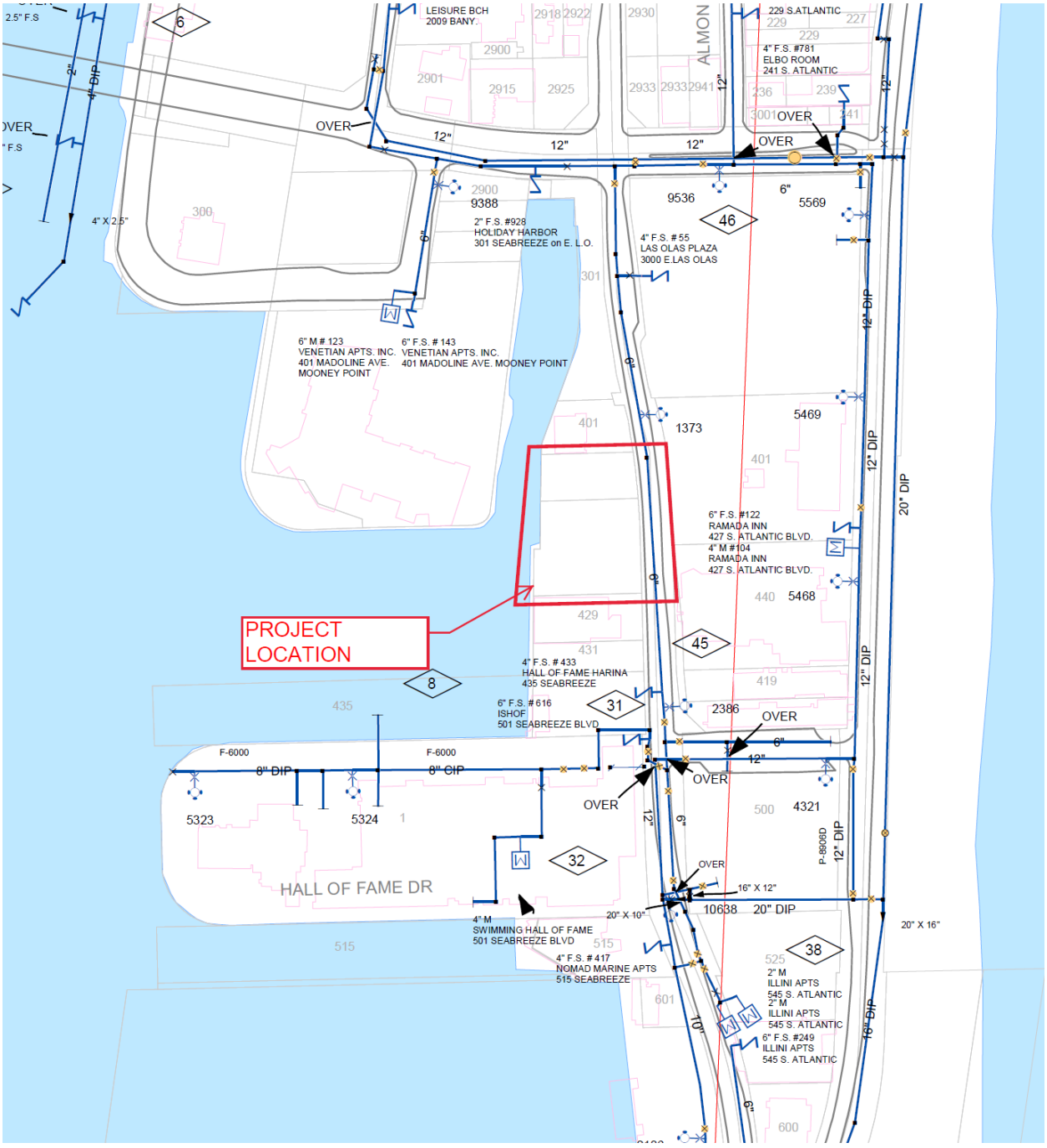
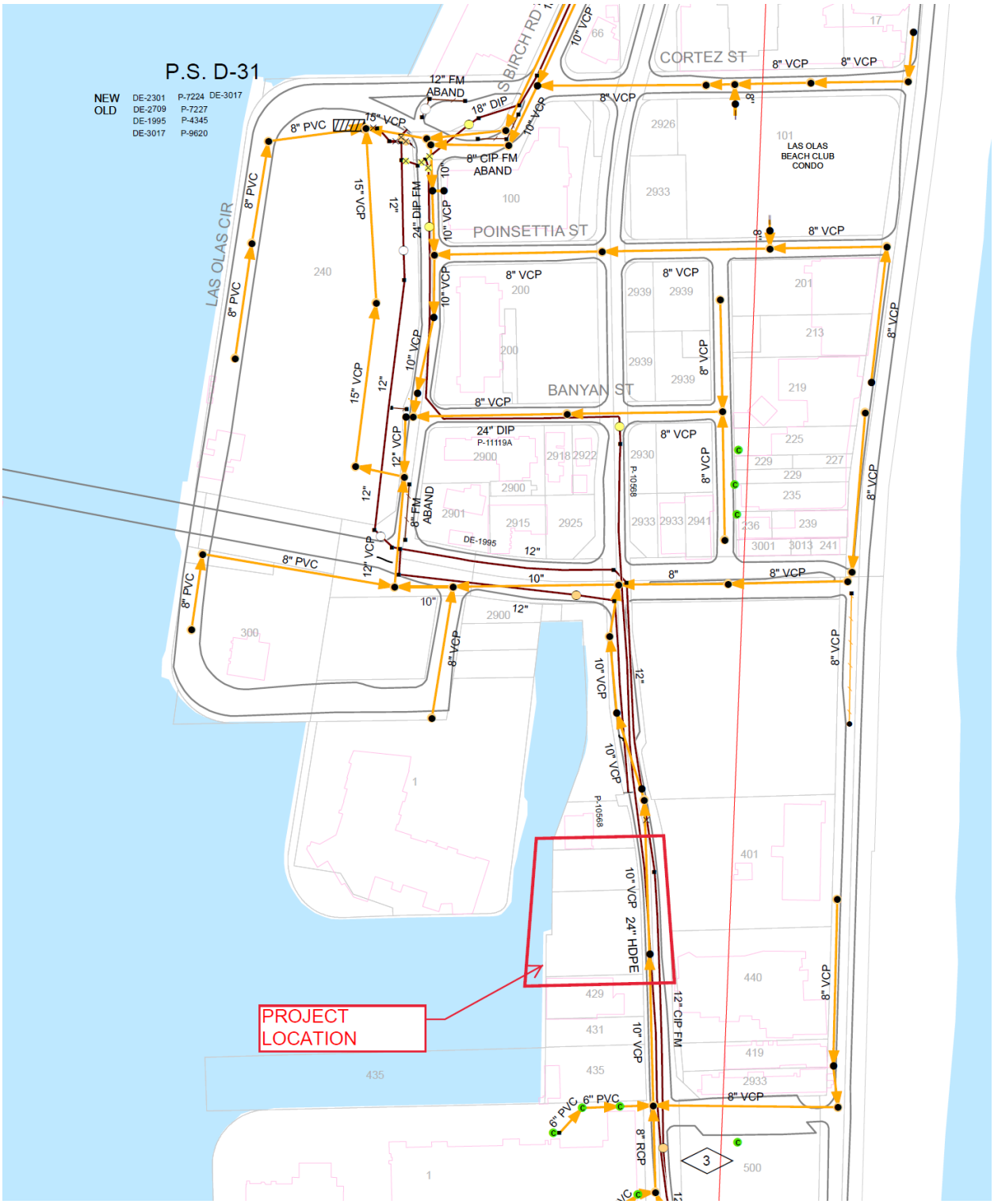


Figure 2 – City Sewer Atlas



WATER CAPACITY ANALYSIS

Requested Demand: Based on the applicant's site plan and building use information the estimated potable water demand is 39,060 gallons per day (GPD), which equates to 0.039 million gallons per day (MGD). Water use demands are calculated based on the City's "*Guidelines for the Calculations of Sanitary Sewer Connection Fees"*.

Evaluation of impact on existing distribution pipe (flow & capacity): According to the site plan the applicant is proposing to utilize the 6-inch water main on Seabreeze Boulevard that connects to a 12-inch water main on East Las Olas Boulevard. The InfoWater hydraulic model was analyzed to determine the impact of this project on the existing 12-inch water main. The existing water main 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.

Based on the current 12-month rolling average the current production at the two plants is 38.99 MGD. The previously committed demand from the development projects in the permitting or the construction stage is 4.719 MGD. Combining these figures with the demand from the proposed project of 0.039 MGD, the required production would be 43.75 MGD. This is less than the allowable withdrawal limit of 52.55 MGD. Therefore, the water plants have sufficient capacity to serve this project.

Recommended Water Infrastructure Improvements: No improvements required.

WASTEWATER CAPACITY ANALYSIS

Requested Demand: Based on the applicant's site plan and building use information the estimated additional potable water demand is 39,060 gallons per day (GPD), which equates to 0.039 MGD (although wastewater is usually 80% of the potable water, a higher, conservative figure has been used for calculations). Sewer use demands are calculated based on the City's "*Guidelines for the Calculations of Sanitary Sewer Connection Fees"*.

Evaluation of impact on existing collection pipe (gravity system capacity): The site is currently served by an 10-inch gravity sewer on Seabreeze Boulevard, which convey flow downstream to a 15-inch sewer and to Pumping Station D-31(PS D-31).

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. Based on the tools and information available to the City staff, it has been determined that the 10-inch sewer can convey the required flow. The City has used a peak hourly flow factor of 3.0, which is higher than 2.2 as noted in the Reiss Report.

Evaluation of impact on pumping station: Pumping Station D-31 (PS D-31) has a capacity of 600 gallons per minute (GPM) as of October 1, 2018, has a Nominal Average Pumping Operating Time (NAPOT) of approximately 4.7 hours per day. Based on projected sewage flows the pumping run times would increase approximately 65 minutes per day for a total of 5.79 hours, which is less than Miami-Dade County's recommended daily average (NAPOT) of 10 hours per day. Therefore, the pumping station has adequate capacity to serve the project.

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 current annual average daily flow (AADF) to the plant is 38.784 MGD. Combining the committed flows for previously approved projects of 4.719 MGD, plus the 0.039 MGD net contribution from the project, provides a total projected flow of 43.54 MGD. This is less than the permitted treatment plant capacity of 48 MGD. Therefore, the treatment plant has sufficient capacity to serve this project.

Recommended Wastewater Infrastructure Improvements: No improvements required.