

**EXHIBIT "B"**

**WATER SUPPLY FACILITIES WORK PLAN (WSFWP) 2025 UPDATE**



# Water Supply Facilities Work Plan (WSFWP) 2025 Update

December 2025 / DRAFT



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## Abbreviations

AADF	annual average daily flow
ASR	aquifer storage and recovery systems
AWIA	America's Water Infrastructure Act
AWS	alternative water supply
BCWPA	Broward County Water Preserve Areas
BCWWS	Broward County Water and Wastewater Services
BMP	best management practices
CERP	Comprehensive Everglades Restoration Project
cfm	cubic feet per minute
CII	Commercial/Industrial/Institutional
CIP	Capital Improvement Program
City	City of Hollywood
City's WTP	City of Hollywood Water Treatment Plant
CO <sub>2</sub>	carbon dioxide
CUP	consumptive use permit
CVAAP	Citywide Vulnerability Assessment and Adaptation Plan
EHR	effluent heat recovery
ESSD	emergency storage and supply diversification
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
F.S	Florida Statutes
GHG	greenhouse gas
GOP	goals, objectives, and policies
gpcd	gallons per capita per day
gpd	gallons per day
gpm	gallons per minute
gpm/ft <sup>2</sup>	gallons per minute per square foot
HET	high efficiency toilet
HLD	high-level disinfection
HLWD-DPU	City Department of Public Utilities
H <sub>2</sub> S	hydrogen sulfide
LORS08	Lake Okeechobee Regulation Schedule
LOS	level of service
LOSOM	Lake Okeechobee System Operating Manual
LS	lime softening
µm	micrometer
MFL	minimum flow and minimum water level
MG	million gallon

mgd	million gallons per day
mg/L	milligrams per liter
MORs	monthly operating reports
MS	membrane softening
NAVD	North American Vertical Datum
NIS	NatureScape Irrigation Services
NPW	non-potable water
NWF	National Wildlife Federation
OOL	ocean outfall legislation
PFAM	population forecast and allocation model
RAA	restricted allocation area
RCAP	regional climate action plan
RO	reverse osmosis
RWA	regional water availability
SFWMD	South Florida Water Management District
SRF	state revolving funds
SRW	South Regional Wellfield
SRWWTP	Southern Regional Wastewater Treatment Plant
USGS	United States Geologic Survey
WRRDA	Water Resources Reform and Development Act
WSFWP	water supply facilities work plan

## SECTION 1 INTRODUCTION

This section presents the local government and statutory overview and the project objective, including a brief description of the content in this report.

### 1.1 Local Government Overview

The City of Hollywood (City) is a coastal municipality located in southeastern Broward County, Florida, situated between Fort Lauderdale to the north and Miami to the south along the Atlantic Ocean. Incorporated in 1925, Hollywood has developed into one of Broward County's largest cities, with 153,859 residents based on 2023 census estimates, spread across roughly 30 square miles. Close to being built-out, the City expects redevelopment to accommodate future population increase. The City operates under a Commission-Manager form of government with a Mayor, six City Commissioners, and a City Manager overseeing daily operations, including the Department of Public Utilities responsible for water supply and distribution. Hollywood falls within the jurisdiction of the South Florida Water Management District (SFWMD) and is subject to regional water resource planning requirements. As a coastal community, the City faces unique water management challenges including saltwater intrusion into groundwater supplies, the impacts of climate change and sea-level-rise, and the need to balance growing demand with sustainable resource management. The City's water system serves Hollywood residents and businesses as well as portions of neighboring municipalities through interlocal service agreements, making regional coordination an essential component of the City's long-term water supply planning efforts.

### 1.2 Statutory Overview

Chapter 163, Part II, Florida Statutes (F.S.), requires local governments to prepare and adopt 10-Year Water Supply Facilities Work Plans into their comprehensive plans within 18 months after the SFWMD approves a regional water supply plan or its update. The 2023-24 Lower East Coast Water Supply Plan Update (2023-24 LEC Plan Update) was adopted by the SFWMD's Governing Board on September 23, 2024. Therefore, local governments within the Lower East Coast Region are required to amend their comprehensive plans and include an updated 10-year Water Supply Facilities Work Plan and related planning elements by March 23, 2026.

The State of Florida requires that the 10-Year Water Supply Facilities Work Plan Update address the development of traditional and alternative water supplies and management strategies, including conservation and reuse. The data and analyses, including population projections and water demands, must span at least a 10-year planning period and be consistent with the 2023-24 LEC Plan Update. The data presented herein are for the planning period through the year 2045.

### 1.3 Objective

The City's Water Supply Facilities Work Plan is incorporated into the Water, Capital Improvements and Infrastructure Sub-Elements of its Comprehensive Plan. Carollo was contracted by the City Department of Public Utilities (HLWD-DPU) to update the City's 2020 Water Supply Facilities Work Plan to represent the year 2025 (WSFWP 2025 Update). The main objective of this update is to ensure that potable water service is available to concurrently support development through the 2045 planning horizon.

### 1.4 Project Overview

This WSFWP 2025 Update identifies water utilities that serve the City's jurisdiction and presents the development of traditional and alternative water supplies, bulk sale agreements, and conservation and reuse programs that are necessary to serve existing and new development for a specific planning period while complying with regulatory requirements. Although this report is referred to as a 10-year work plan, the water demand forecast provided in this document extends to the year 2045, which is consistent with the latest LEC Plan Update.

This City of Hollywood WSFWP 2025 Update builds upon or utilizes the following documents:

- City's 2020 Water Supply Plan Potable Water Sub-Element;
- SFWMD's 2018 LEC Plan Update;
- SFWMD's 2023-24 LEC Plan Update;
- Broward County's Water Supply Facilities Work Plan 2020; and,
- Draft City of Fort Lauderdale Water Supply Facilities Work Plan 2025 Update, dated June 19, 2025.

This WSFWP 2025 Update includes the following items:

- Five-year population and water demand projections through the year 2045 within the City's jurisdiction and HLWD-DPU's service area.
- Assessment of the City's current water supply sources and treatment capacities.
- Identification of alternative water supply projects for implementation including cost and schedule.
- Recognition of the regional water supply planning issues that have the potential to impact the City.
- Identification of water conservation and reuse practices and regulations within the City's service area.
- Identification of the HLWD-DPU capital improvement projects.
- Demonstration that the City has coordinated with other service providers supplying water within the City's jurisdiction (i.e. Broward County Water and Wastewater Services and the City of Fort Lauderdale) to ensure that short- and long-term water supply needs will be met.
- Identification of Goals, Objectives, and Policies (GOP's) required to implement the Work Plan and water supply concurrency requirements.

It should be noted that because the Seminole Tribe of Florida reservation maintains its own water supply system, it is required to prepare its own Water Supply Facilities Work Plan. Detailed water demand projections for its service area are not included in the City's WSFWP 2025 Update.

This report is organized into the following sections.

**Section 1: Introduction** – presents the local government and statutory overview and the project objective, including a brief description of the content in this report.

**Section 2: Water Service Area** – introduces the geographic area served by the HLWD-DPU, other utilities that provide water service within the City of Hollywood, and describes the City's reuse water system customers.

**Section 3: Existing Water Supply System** – characterizes the water infrastructure that serves the Hollywood service area including raw water sources, existing treatment facilities, distribution systems, and associated consumptive use permits.

**Section 4: Reclaimed Water System and Water Conservation Program** – summarizes the reuse water usages and water conservation program within the City. The section demonstrates the City's progress and plan to meet the Ocean Outfall Legislation's feasible reuse requirements.

**Section 5: Data and Analysis of Water Demand Forecast and Supply Adequacy** – presents the methods, data and results of the water demand forecasts within the HLWD-DPU water service area and provides a comparison of future water demand to available water supply. This section demonstrates that the existing water supply permitted quantities, coupled with the City's conservation and reuse practices, will meet projected demands through 2045.

**Section 6: Regional Issues and Intergovernmental Coordination Activities** – summarizes the regional water supply planning issues that have the potential to impact the City. Intergovernmental coordination activities are also reviewed for adequacy and if new activities will be needed because of changes in statutory requirements.

**Section 7: Water Supply Capital Improvements** – identifies the capital improvements required to maintain and build public water supply facilities to serve the existing and new development within the City's jurisdiction.

**Section 8: Comprehensive Plan (Related Amendments)** – includes an assessment of the draft Comprehensive Plan GOPs dated 2025 and identifies any new or revised GOPs, relative to the 2020 Water Supply Plan Potable Water Sub-Element, needed to implement the work plan.

**Section 9: Summary and Conclusions.**

## SECTION 2 WATER SERVICE AREAS

This section introduces the HLWD-DPU geographic service area and identifies the water utilities serving portions of the City. This section also describes the City's reuse water system.

### 2.1 Potable Water Service Areas

The City, located in Broward County Florida, covers approximately 29 square miles bound by the Atlantic Ocean to the east and surrounded by seven cities, one town, a Seminole Tribe of Florida reservation, and unincorporated areas. Figure 2.1 illustrates the City of Hollywood jurisdiction, the HLWD-DPU water service area, and the neighboring municipalities. Except for Port Everglades, the City's jurisdiction is supplied with finished water produced at the City of Hollywood Water Treatment Plant (City's WTP). Port Everglades is supplied by the City of Fort Lauderdale Public Works Department. The City has no plans to expand, contract, or change the geographic location of its water service area. However, it is considering the possibility of establishing an interconnected emergency storage and supply diversification (ESSD) arrangement with the City of Hallandale Beach. There are no domestic self-supplied water systems within the City of Hollywood.

#### 2.1.1 City of Hollywood Potable Water System Service Area

The City's WTP is operated by the HLWD-DPU. In 2024, the City's WTP produced approximately 24.4 million gallons per day (mgd) of potable water. The City's WTP supplies a retail service area, extending over most of the City's jurisdiction, and a wholesale service area covering Broward County Water and Wastewater Services (BCWWS) Districts 3A and 3B/C. In this report, these service areas are referred to as HLWD-DPU water retail area and HLWD-DPU water wholesale area. The BCWWS districts are served under an interlocal resale water agreement between the City and Broward County by which Broward County purchases potable water from HLWD-DPU for resale to its customers.

Beyond the City's jurisdiction, the HLWD-DPU water retail area includes approximately 300 acres in the Town of Davie and 50 acres in the City of Dania Beach. Retail water service to a small area of the Seminole Tribe of Florida reservation that the City previously served was disconnected in recent years.

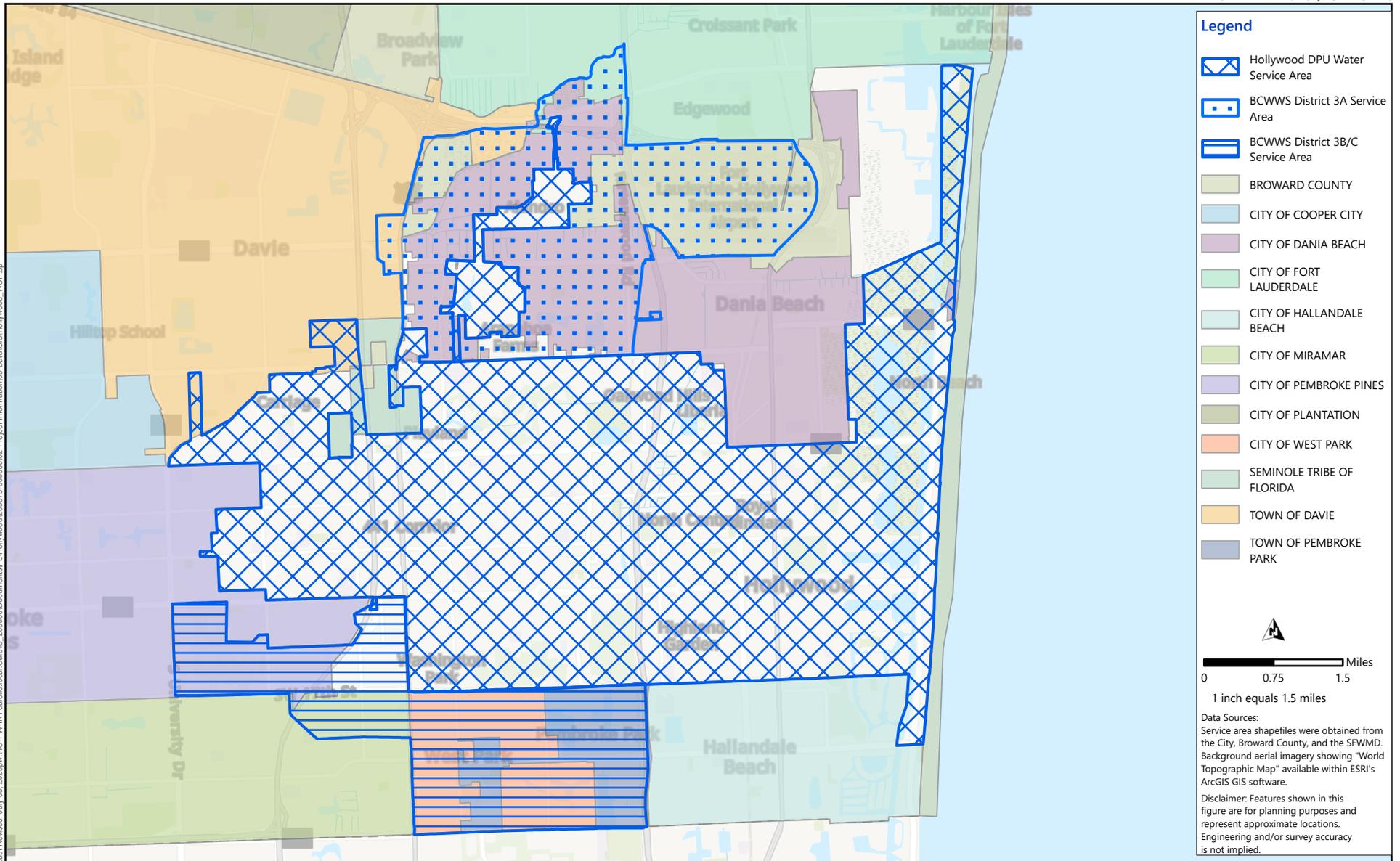
In addition to retail and wholesale water services, HLWD-DPU has an emergency connection with the City of Dania Beach, which withdraws water from the HLWD-DPU system to maintain its system pressure. In 2024, the City supplied only a nominal amount (502,656 gallons total) and only in July to the City of Dania Beach.

## 2.1.2 BCWWS Districts 3A and 3B/3C Service Areas

BCWWS District 3A covers approximately 8 square miles containing portions of the cities of Dania Beach and Fort Lauderdale, the Town of Davie, the Fort Lauderdale-Hollywood International Airport, and unincorporated Broward County. BCWWS District 3A has two wholesale interconnects with HLWD-DPU.

Districts 3B/C are interconnected and connect to HLWD-DPU via two wholesale interconnects each. Like District 3A, they are supplied solely by HLWD-DPU. BCWWS District 3B covers approximately 4-square miles and includes the cities of West Park and Pembroke Park. BCWWS District 3C covers approximately 2 square miles containing portions of the cities of Hollywood, Miramar, and Pembroke Pines. This area of the City of Hollywood consumes about 2.5 percent of the City's water supply, and its water demand is included in the water demand in District 3B/C.

These BCWWS districts fall mainly outside the City's jurisdiction except for the 400-acre southwest corner of the City of Hollywood located south of Hollywood Boulevard and west of State Road 7, which is served by BCWWS District 3C (See Figure 2.1). Small areas in the City's jurisdiction are served by BCWWS District 3A.



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Figure 2.1 City of Hollywood Jurisdiction and Water Service Areas  
CITY OF HOLLYWOOD FLORIDA

### 2.1.3 Port Everglades

Port Everglades purchases potable water from the City of Fort Lauderdale through five metered connections at the following locations.

- 10-inch meter at Southeast 17th Street.
- 12-inch meter at Southeast 20th Street.
- 8-inch meter at Southeast 24th Street.
- 16-inch meter at Southeast Eller Drive / Old South Federal Highway.
- 10-inch meter at 900 Southeast 28th Street.

Port Everglades distributes this potable water to various commercial and industrial users within its boundaries, such as passenger cruise ships, cargo container ships, and commercial businesses.

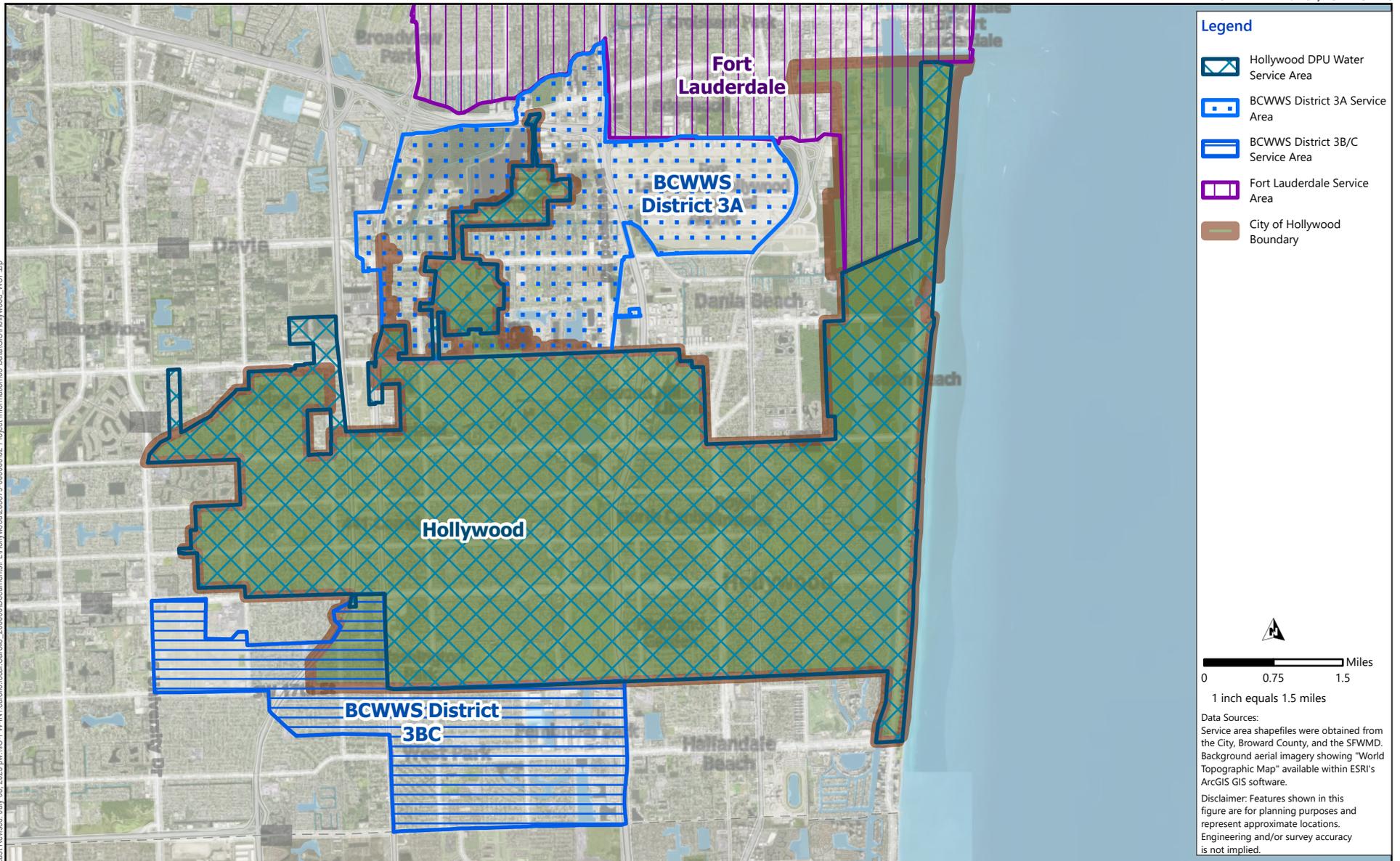
### 2.1.4 Summary of Water Service Areas Supplying the City of Hollywood

In summary, three water utilities supply the City of Hollywood jurisdiction: (1) HLWD-DPU, (2) BCWWS, and (3) the City of Fort Lauderdale Public Works Department. The first two utilities are supplied by the City’s WTP and deliver potable water to the entire City except for Port Everglades, which is supplied by the City of Fort Lauderdale Public Works Department. Table 2.1 tabulates the number of square miles covered by each potable water service area in and out of the City’s jurisdiction, and Figure 2.2 presents their locations. There are no anticipated changes in the size or coverage of these potable water service areas.

Table 2.1 Geographic Size of Water Utility Service Areas in Square Miles

Water Utility Serving the Geographic Area	In the City’s Jurisdiction	Out of City’s Jurisdiction and Served by City’s WTP	Total Served from City’s WTP by Water Service Area
HLWD-DPU (City WTP) to City of Hollywood Customers	26.03	0.38	26.41
HLWD-DPU (City WTP) to BCWWS District 3A Customers	0.00	7.59	7.59
HLWD-DPU (City WTP) to BCWWS District 3B/C Customers	0.64	5.69	6.33
Fort Lauderdale Public Works Department to Port Everglades	2.00	0.00	0.00
<b>Total</b>	<b>28.67</b>	<b>13.66</b>	<b>40.33</b>

*Sourced from GIS estimates delineated based on the 2023-2024 LEC Plan Update. Port Everglades size estimate was sourced from Water Supply Plan Potable Water Sub-Element, City of Hollywood, Florida, January 2015.*



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Figure 2.2 Water Utilities within City of Hollywood  
CITY OF HOLLYWOOD FLORIDA

## 2.2 Reuse Water Customers

HLWD-DPU has implemented a reuse system by making use of secondary treated effluent from its own wastewater service area, and from two of its wholesale wastewater customers, the City of Cooper City and the Town of Davie. HLWD-DPU delivers up to 4.0 mgd, on an annual average daily flow basis (AADF), of blended low-salinity reuse water for irrigation. The chloride levels of this reuse water are within the salt tolerance of local turf grasses and ornamentals. In addition, up to an annual average 4.0 mgd of high-salinity reuse water is used onsite at the City’s Southern Regional Wastewater Treatment Plant for non-potable in-plant uses such as foam control, washdown water, and process make-up water. The system’s effluent filter configurations can be adjusted to increase production.

The existing reuse distribution system serves golf courses, public medians, private developments, athletic complexes and parks that have a relatively large irrigation demand. These customers are the most cost-effective to serve. The City also has a reuse contract agreement with the City of Miramar. Table 2.2 summarizes the capacity and fiscal year (FY) 2023 reuse water flows of the City’s reuse system by type of reuse application.

Table 2.2 City of Hollywood's Reuse System Capacity and FY 2023 Flows

Type of Reuse	Capacity in mgd	FY 2023 Flow in mgd	Acres Irrigated
Use at the Wastewater Treatment Plant <sup>(1)</sup>	4.00	3.29	Not applicable
Golf Course Irrigation <sup>(1)</sup>	2.82	0.554	602.8
Other Public Access Areas <sup>(1)</sup>	0.511	0.063	121.0
Residential Irrigation <sup>(1)</sup>	0.672	0.013	16.0
Contract Reuse (City of Miramar) <sup>(2)</sup>	2.0	2.0	Not applicable
<b>Total</b>	<b>10.003</b>	<b>5.92</b>	<b>739.8</b>

Sources:

(1) Florida Department of Environmental Protection, 2023 Reuse Inventory, December 2024, Appendix D.

(2) Contract reuse agreement.

To increase additional offsite irrigation reuse applications within the City, the City has enacted Ordinance 52.70, titled "Effluent Reuse" to promote reuse water and replace potable water use. This ordinance expands the reuse customer base to include additional residential lawns, golf courses, cemeteries, parks, landscaped areas, highway medians, rights-of-way, and other irrigable areas that are larger than 1 acre and located within 50 feet of the existing reuse system. Detailed list and discussion of connected properties is available in Section 4.1. Table 2.3 summarizes the additional reuse customers from this ordinance (connected and to-be connected) and their estimated water reuse demands as reported in the City’s 2024 Reuse Master Plan Update, which refers to these customers as Phase 1 of the expansion plan.

Other potential irrigation expansion areas were also explored in the 2024 Reuse Master Plan Update study and divided into expansion Phases 2, 3, and 4. However, such expansion would be subject to the availability of suitable-quality effluent supply and require significant treatment, storage, and transmission improvements. It was therefore determined to be not favorable. These expansion phases are discussed in detail in Section 4.1, and their estimated reuse water demands are summarized in Table 2.3 as non-committed potential customers.

Table 2.3 Future Expanded Reuse System Customers

Future Committed Customers from Ordinance 52.70	Estimated Reuse Water Demand (mgd)
Phase 1 – Connected	0.49
Phase 1 – To be connected	0.52
<b>Total – Future Committed</b>	<b>1.01</b>
Future Non-Committed Potential Customers	Estimated Reuse Water Demand (mgd)
Phase 2 – Offsite Irrigation (East of I-95)	0.32
Phase 3 – Offsite Irrigation (East of Turnpike)	0.53
Phase 4 – Offsite Irrigation (West of Turnpike)	1.75
<b>Total – Future Non-Committed</b>	<b>2.6</b>

Source: City of Hollywood 2024 Reuse Master Plan Update

To meet the Ocean Outfall Legislation’s requirement, the City plans to implement an expansion project to increase on-site process reuse. Details of the Ocean Outfall Legislation and the City’s implementation of the expansion are discussed in Section 4.1.

## SECTION 3 EXISTING WATER SUPPLY SYSTEM

This section characterizes the water suppliers including consumptive use permit information, raw water sources, and existing treatment facilities.

As described in Section 2, the City of Hollywood is served, for the most part, by the City's own potable water system. The water suppliers of the City's residents and businesses include the following.

- **City of Hollywood Potable Water System:** Serves most of the City's jurisdiction and several small areas outside of the City as illustrated in Figure 2.1. See Appendix A for the City's water use and water treatment plant's permit (No. 06-00038-W).
- **City of Hollywood Reuse Water System:** Provides irrigation water to customers and non-potable water for in-plant uses at the City's wastewater plant.
- **Broward County BCWWS Water System:** The County purchases finished water supplied by the City of Hollywood from the City's WTP and resells it to a small portion of the City's jurisdiction and to other retail customers in BCWWS District 3A and B/C service areas. See Appendix B for the interlocal agreement for the bulk sale of potable water between Broward County and the City of Hollywood, and Appendix C for its 2004 amendment. See Appendix D for the large user raw water agreement between Broward County and the City of Hollywood, and Appendix E for its 2004 amendment.
- **City of Fort Lauderdale Water System:** Serves Port Everglades.

### 3.1 City of Hollywood Potable Water System

The HLWD-DPU operates the City's potable water system, which includes a raw water supply system, a water treatment plant, and a distribution system. They are described as follows.

#### 3.1.1 Raw Water Supply

The City's WTP treats water from the City's Biscayne Aquifer and Floridan Aquifer wellfields and water from Broward County's Biscayne Aquifer wells at the South Regional Wellfield (SRW). Raw water from the Biscayne Aquifer is of high quality and raw water from the deeper Floridan Aquifer is brackish and requires reverse osmosis (RO) treatment. Table 3.1 lists the City's Biscayne Aquifer and Floridan Aquifer withdrawal wells.

Table 3.1 City of Hollywood's Biscayne Aquifer and Floridan Aquifer Withdrawal Wells

Groundwater Source	Well Name	No. of Wells	Casing Diameter (inches)	Depth of Well (ft.)	Pumping Capacity (gpm)	Pumping Capacity (mgd)	Casing Depth (ft.)
<b>Existing Biscayne Wells</b>							
<b>Southern Wellfield</b>		<b>8</b>			<b>17,400</b>	<b>25</b>	
Biscayne	BW-28	1	10	75	2,400	3.5	60
Biscayne	BW-29	1	10	75	2,400	3.5	60
Biscayne	BW-30	1	24	95	2,100	3	60
Biscayne	BW-31	1	24	80	2,100	3	60
Biscayne	BW-32	1	24	80	2,100	3	55
Biscayne	BW-33	1	24	90	2,100	3	69
Biscayne	BW-34	1	24	86	2,100	3	70
Biscayne	BW-35	1	24	77	2,100	3	60
<b>Western Wellfield</b>		<b>6</b>			<b>12,600</b>	<b>18</b>	
Biscayne	BW-36	1	32	112	2,100	3	90
Biscayne	BW-37	1	32	144	2,100	3	125
Biscayne	BW-38	1	32	150	2,100	3	128
Biscayne	BW-39	1	32	155	2,100	3	135
Biscayne	BW-40	1	32	145	2,100	3	125
Biscayne	BW-41	1	32	150	2,100	3	139
<b>Total Biscayne Wellfield</b>		<b>14</b>			<b>30,000</b>	<b>43</b>	
<b>Existing Floridan Wells</b>							
Floridan	FW-F2	1	12	1,314	1,000	1.4	926
Floridan	FW-F3	1	12	1,185	1,000	1.4	950
Floridan	FW-F4	1	12	1,185	800	1.2	960
Floridan	FW-F5	1	12	1,185	1,100	1.6	920
Floridan	FW-F6	1	16	1,200	1,000	1.4	1,005
Floridan	FW-F7	1	16	1,200	1,000	1.4	1,005
Floridan	FW-F10	1	16	1,300	1,000	1.4	900
Floridan	FW-F13	1	17	1,300	1,000	1.4	1,000
<b>Total Floridan Existing</b>		<b>8</b>			<b>7,900</b>	<b>11.2</b>	
<b>Proposed Future Floridan Wells (Beyond 2019)</b>							
Floridan	FW-F8	1	16	1,300	1,000	1.4	900
Floridan	FW-F9	1	16	1,300	1,000	1.4	900
Floridan	FW-F11	1	16	1,300	1,000	1.4	900
Floridan	FW-F12	1	16	1,300	1,000	1.4	900
Floridan	FW-F14	1	16	1,300	1,000	1.4	900
Floridan	FW-F15	1	16	1,300	1,000	1.4	900
Floridan	FW-F16	1	16	1,300	1,000	1.4	900
Floridan	FW-F17	1	16	1,300	1,000	1.4	900
Floridan	FW-F18	1	16	1300	1,000	1.4	900
Floridan	FW-F19	1	16	1300	1,000	1.4	900
Floridan	FW-F20	1	16	1300	1,000	1.4	900
Floridan	FW-F21	1	16	1300	1,000	1.4	900
Floridan	FW-F22	1	16	1300	1,000	1.4	900
Floridan	FW-F23	1	16	1300	1,000	1.4	900
Floridan	FW-F24	1	16	1300	1,000	1.4	900
<b>Total Floridan Proposed</b>		<b>15</b>			<b>15,000</b>	<b>21</b>	

Source: City of Hollywood Public Utilities Department and South Florida Water Management District, Staff Report for Application No. 070518-17 - Hollywood Water Treatment Plant, April 9, 2008, Table A - Description of Wells

### 3.1.1.1 Biscayne Aquifer

Fresh groundwater from the Biscayne Aquifer is accessed via the City’s wellfields and Broward County’s SRW. The City has two Biscayne Aquifer wellfields called the South and Western (a.k.a. Chaminade) wellfields. Biscayne Wells No. 20 and 21 (BW-20 and BW-21), referred to as the North wellfield, were abandoned and plugged in 2009.

The Southern and Western wellfields are comprised of 14 shallow wells with depths ranging from 75 to 155 feet. The total raw water pumping capacity of the Biscayne wells is currently 30,000 gallons per minute (gpm) (or 43.0 mgd). The total production capacity available from the Biscayne wells significantly exceeds the amount of water that can be withdrawn under the City’s water use permit, which limits maximum-month withdrawals to an average daily withdrawal of 27.03 mgd.

Broward County BCWWS provides raw water to the City from the SRW under a 4-year raw water large user agreement dated 1994 that is automatically renewed every 4 years unless terminated by either party. The SRW supplies raw water from eight production wells and operates under SFWMD CUP No. 06-01474-W, issued in March 2018 and modified on July 10, 2019, with an expiration of December 2065. Table 3.2 summarizes the allocations of the permit. Per the 2023 2024 LEC Plan Update and the above mentioned permit, BCWWS has purchased an alternative water supply capacity of 3.0 mgd from the C 51 Reservoir Project to provide for demands in the BCWWS 3A and 3B/C service area. Under the large user agreement between the City and BCWWS, an annual average daily quantity not to exceed 5.78 mgd is available to the City and the City is required to take or pay for 4.0 mgd. The SRW is in the western part of the County at Brian Piccolo Park.

Table 3.2 BCWWS SRW CUP No. 06-01474-W Allocations

Allocation	Duration	Average Daily (mgd)	Maximum Month (MGM)
Base Condition Allocation	March 2023 – March 2038	11.62	396.13
Total C-51 Offset Allocations	March 2023 – December 2065	5.00	170.33
<b>Total BCWWS SRW Allocation</b>	<b>March 2023 – December 2065</b>	<b>16.62</b>	<b>566.19</b>

Source: Table WS19 of 2025 Broward County Water Supply Facility Work Plan, draft version dated November 2025.

### 3.1.1.2 Floridan Aquifer

Raw water from the Floridan Aquifer, which is a brackish water supply, is accessed via the City’s Floridan wellfield. The Floridan wellfield is comprised of eight wells that extend about 1,185 to 1,314 feet below ground. The total raw water pumping capacity of the active Floridan wells is 7,900 gpm (or 11.2 mgd).

### 3.1.1.3 Water Supply Allocation

The City’s Water Use Permit No. 06-00038-W, issued on April 10, 2008, provides limits to the annual and monthly withdrawals from the City’s two Biscayne Aquifer wellfields and the City’s Floridan Aquifer wellfield. These limitations are summarized in Table 3.2 and were established under the requirements of the District’s Regional Water Availability (RWA) Rule. This Rule limits groundwater withdrawals from the Biscayne Aquifer to the maximum quantity during any consecutive 5 years preceding April 2006 and requires that alternative water supplies be used to meet additional demands. The City of Hollywood’s alternative water supply is the Floridan Aquifer.

The total annual average daily withdrawal limit is 24.80 mgd from the City’s two Biscayne Aquifer wellfields and 8.68 mgd from the Floridan Aquifer. The total allowable withdrawal from these sources is 33.48 mgd. In addition, the City has an agreement with Broward County to purchase 5.78 mgd of Biscayne Aquifer raw water from the County’s SRW. This purchase agreement increases the City’s available raw water supply to 39.26 mgd.

Table 3.3 City of Hollywood Permitted Groundwater Withdrawal Quantities and Contracted Groundwater Quantities from Broward County’s SRW

Water Supply Source	Annual Withdrawal Limit		Maximum Monthly Withdrawal	
	MG	Average Daily mgd	MG	Average Daily mgd
(1)	(2)	(3) = (2) / 365	(4)	(5) = (4) / (365/12)
<b>Biscayne Aquifer:</b>				
Western (Chaminade) Wellfield	5,475	15.00	497.30	16.35
South Wellfield	3,577	9.80	324.90	10.68
Subtotal - Biscayne Aquifer	9,052	24.80	822	27.03
Floridan Aquifer	3,168	8.68	259.00	8.52
Subtotal – City Permitted	12,220	33.48	1,081.00	35.55
Contracted from Broward County SRW	2,153	5.90	240.00	7.89
<b>Total – All Sources</b>	<b>14,330</b>	<b>39.38</b>	<b>1,278.20</b>	<b>43.44</b>

Source: SFWMD Water Use Permit No. 06-00038-W (expires on April 10, 2028), Letter from Broward County to the City of Hollywood dated April 27, 2018, Subject: Hollywood Flow Limitations, and SFWMD Water Use Letter Modification dated March 11, 2020.

The City has established and expanded its Floridan Aquifer water supply and treatment capacity to meet forecasted increases in water demand and to incorporate a more drought-resistant water source that improves water supply reliability.

### 3.1.2 Treatment Processes

The City’s WTP has been in continuous operation for almost 85 years and consists of the following treatment processes:

- Lime Softening (LS).
- Membrane Softening (MS).
- Reverse Osmosis (RO).

Raw water from the City’s Biscayne Aquifer wellfields is treated using LS and MS treatment processes. In addition, some Biscayne Aquifer raw water is blended with the softened water from the LS and MS systems to help balance water quality and efficiently use the available Biscayne Aquifer allocation. Although raw water piping from both Biscayne Aquifer wellfields and the SRW is interconnected at the plant, the MS units reportedly treat a higher percentage of SRW water, which tends to be more highly colored (MS is more effective at reducing color). Raw water from the Floridan Aquifer is treated using the RO treatment process.

Table 3.3 summarizes the existing firm and nominal water treatment capacities of each treatment system. As shown in the table, the existing total firm and nominal water treatment capacities of the City’s water treatment facilities are 40.5 mgd and 46.0 mgd, respectively.

The average treatment losses of the LS, MS, and RO treatments are 2, 13, and 20 percent, respectively. Treatment losses for the LS facility were estimated based on data from water plant Monthly Operating Reports (MORs). Treatment losses for the MS and RO facilities are based on design and operational criteria.

Table 3.4 Water Treatment Processes and Capacities

Treatment System	Units in Service Assumed for Firm Capacity	Existing Firm and Nominal Finished Water Treatment Capacities (mgd)	Treatment Losses
Lime Softening (LS)	Nine units in service out of twelve total	Firm: 22.5 mgd Nominal: 24.0 mgd	2 percent
Membrane Softening (MS)	Six trains in service out of seven total	Firm: 12.0 mgd Nominal: 14.0 mgd	13 percent
Reverse Osmosis (RO)	Three trains in service out of four total	Firm: 6.0 mgd Nominal: 8.0 mgd	20 percent
Total (all three systems)	Described above	Firm: 40.5 mgd Nominal: 46.0 mgd	N/A

Source: City of Hollywood Public Utilities Department and 2007 Water Master Plan.

The City is taking proactive measures to upgrade treatment processes and add capacity to replace aging infrastructure and meet the new PFAS regulatory standards within the required timeframe. To meet both short- and long-term water demands and compliance with PFAS regulations, the City’s 2024 Water Master Plan report identified nanofiltration technology as the most suitable action for the removal of PFAS chemicals and recommended a phased approach to eliminate the LS system and expand the MS and RO membrane systems. The proposed phases are:

- Phase 1 – PFAS Alternatives Evaluation.
- Phase 2A – MS Train Addition – Design.
- Phase 2B – Corrosion Control Study.
- Phase 2C – Preliminary Design Report.
- Phase 2D – MS Train Addition – Construction.
- Phase 3 – MS Train Expansion.
- Phase 4 – Upgrade Existing MS Trains.

### 3.1.2.1 Lime Softening System

The primary water treatment for the LS system is achieved by a process known as fluidized bed crystallization. The City's LS system consists of 12 fluidized bed crystallization units (Spiractors) followed by 18 dual media filters. Each Spiractor has a conservatively estimated capacity of approximately 2.5 mgd, producing a total capacity of 30 mgd and a firm capacity of 22.5 mgd with three Spiractors offline. Lime is stored in silos and is constantly fed to the Spiractors at an approximate rate of 200 milligrams per liter (mg/L). There are a total of six lime silos at the City's WTP (four 50-ton and two 100-ton). The 18 multimedia filters following the Spiractors have a maximum surface loading rate of 2.0 gallons per minute per square foot (gpm/ft<sup>2</sup>), but the plant prefers to conservatively operate its six larger filters at 1.5 gpm/ft<sup>2</sup>.

Using these loading rates, the LS system has a total nominal capacity of 24 mgd and a firm capacity of 22.5 mgd, with the maximum production capacity being limited by the filters. Since the current loading rates are relatively conservative, up-rating the filters may be feasible in the future, if the City has an opportunity to expand its Biscayne Aquifer supply. The capacities of the Spiractors and membrane system (described below) together are adequate to be able to fully utilize the City's Biscayne Aquifer allocation. However, the City is planning to replace the LS system with expansion of the MS and RO systems in the future.

### 3.1.2.2 Membrane Softening System

The City's MS system consists of seven operational treatment trains and three available slots for future installation of additional MS trains. Raw water from the Biscayne Aquifer is treated with sulfuric acid and a proprietary anti-scalant to protect the membranes from scaling. The raw water is filtered through 5 micrometer (µm) cartridge filters prior to entering the membrane to protect against particulate fouling or damage. Each MS skid has a production capacity of 2.0 mgd, and there are seven skids currently in operation. Therefore, the firm capacity of the MS system is 12 mgd and the nominal capacity is 14 mgd.

Each train consists of a feed pump and 54 pressure vessels arranged into a three-stage configuration. Each pressure vessel holds seven membrane elements. Each MS train is designed to operate at 87 percent recovery, which means that approximately 2.3 mgd of feed water is required to produce 2.0 mgd of permeate. The City plans to expand the MS system in the long term.

### 3.1.2.3 Reverse Osmosis System

The City's RO system consists of four RO skids and four available slots to facilitate the installation of additional RO treatment trains. Raw water from the Floridan Aquifer is treated with sulfuric acid and a proprietary anti-scalant to protect the membranes from scaling. The raw water is filtered through 5 µm cartridge filters prior to entering the membrane to protect against particulate fouling or damage. The four RO skids that are currently in place have finished water production capacities of 2.0 mgd and each operate at 80 percent recovery. At this recovery rate, 2.5 mgd of raw water is needed to produce 2.0 mgd of finished water. Therefore, the total finished water capacity of the RO system is 8.0 mgd and the firm capacity is 6.0 mgd. The City plans to expand the RO system in the long term.

### 3.1.2.4 Disinfection System

The City currently uses chloramines to provide primary disinfection and a secondary residual for the distribution system. Sodium Hypochlorite 12 percent solution is added to the water, and a brief sodium hypochlorite contact time is provided prior to the addition of ammonia to form chloramines. The City's Sodium Hypochlorite 12 percent solution is stored in nine (seven 10,000-gallon and two 7,000-gallon) fiberglass storage tanks.

The City's ammonia system consists of two 1,000-gallon ammonia gas storage tanks and four rotameters (three 100-lb/day units and one 250-lb/day unit). To maintain a residual of 4.0 mg/L chloramines, 0.85 mg/L ammonia must be added to maintain a ratio of chlorine to ammonia within a recommended range of 4.5:1 to 5.0:1, with a target of 4.7:1. At this dosage, the ammoniators have the capability to treat 77.6 mgd with all four units in service, and 42.3 mgd with the largest (250 lb/day) rotameter offline.

### 3.1.2.5 Degasifier System

The City's degasifier system reduces the carbon dioxide (CO<sub>2</sub>) levels in both the MS-treated water and RO-treated water and the hydrogen sulfide (H<sub>2</sub>S) levels in RO-treated water, via air stripping. Sulfuric acid is added to lower the pH of the Floridan Aquifer water to aid in H<sub>2</sub>S removal prior to countercurrent air stripping through a packed tower. The MS-treated Biscayne Aquifer water does not require additional pretreatment prior to stripping. The WTP has four forced-draft, packed-tower degasifiers. Each degasifier unit includes an 18,000-cubic feet per minute (cfm) fan, a 13.5-foot diameter by 24 foot overall height tower, and 12 feet of packing. Two degasifiers are designed to remove CO<sub>2</sub> from the MS permeate with discharge of the tower exhaust to the atmosphere. One degasifier is designed to remove H<sub>2</sub>S from the RO permeate with discharge of the tower exhaust to an odor control scrubber. The fourth degasifier is a standby unit for both systems, which can discharge exhaust gas either to the atmosphere or to the odor control scrubber. The degasification system is adequate to treat the MS and RO flows that the plant currently produces. The upgrades to the odor scrubber system allow the plant to run all four of its RO skids without generating nuisance odors.

## 3.1.3 Post-Treatment

Degasified permeate from the MS and RO systems drains to a 250,000-gallon blend tank where it mixes with LS water. The secondary treatment in the blend tank includes addition of sodium hypochlorite, caustic soda, and fluoride. Water from the blend tank is pumped into the onsite ground storage tanks.

## 3.1.4 Storage

The City has 18 million gallons (MG) of total finished water storage capacity including 2 MG stored in two separate 1-MG elevated storage tanks within the distribution system, 11 MG of ground storage on-site at the WTP, and 5 MG of ground storage located at the West Hollywood Storage and Pumping Facility located near Sheridan Street and 68th Avenue. The tankage present at each location is detailed below.

At the plant, a total of five ground storage tanks are available. Water from the blend tank flows into parallel lines that feed two 3.5 MG tanks. Water from these two tanks is discharged into a manifold that feeds three parallel 1.0 MG storage tanks. These three storage tanks then combine into another manifold that feeds a 1 MG high service pumping clearwell. Inclusive of the clearwell, the combined finished water storage inventory (on-site) is 11 MG. The breakdown of the 11 MG on-site finished water storage capacity is indicated below.

- Clearwell: 1 MG.
- Tank No. 2: 1 MG.
- Tank No. 3: 1 MG.
- Tank No. 4: 1 MG.
- Tank No. 5: 3.5 MG.
- Tank No. 6: 3.5 MG.

The on-site finished water storage tanks provide operational storage required to equalize diurnal demands and provide for emergency storage (fire flows). According to the most recent Water Master Plan, they hold approximately six hours flow when all treatment systems are operating at designed capacity. The water levels in the tanks are typically maintained between low (50 percent) and high (85 percent) operating limits to accommodate short-term system changes in the system demand. The tanks are all interconnected and are maintained at the same level.

### 3.1.5 High Service Pumps

The City's WTP has two High Service Pump (HSP) stations that pump finished water from on-site storage tanks at the WTP to the City's distribution system.

The main HSP station, referred to as the high service pump room, houses six split case horizontal centrifugal pumps and their respective motor control centers. The six pumps, aligned in parallel, draw water from clear wells and pump into a common 42-inch discharge header.

The secondary HSP station, referred to as the aeration building pump station, is primarily used to complement the required constant operation of the main pumping station. The ABPS previously housed four horizontal split case pumps that pumped finished water from a 1.0 MG above ground storage tank (Tank No. 2) into a 30-inch discharge header to the distribution system. Two of the four pumps have recently been demolished and engineering design activities are ongoing to modify the facility to a one 5,000 gpm pump configuration to serve as back-up pumping to the primary HSPS.

### 3.1.6 Distribution System

The City's WTP has three discharge mains that supply water into the distribution system transmission lines as follows:

- 24-inch water main (South header);
- 30-inch water main (West header); and
- 20-inch water main (Bypass header).

The City’s water distribution system consists of:

- Approximately 700 miles of water main pipe ranging from 2-inch to 36-inch diameter;
- Two elevated 1.0 MG storage tanks;
- The West Hollywood Pumping and Storage Facility which includes four 1,500 gpm vertical turbine pumps to boost system pressure, chemical dosing to boost system disinfection residual, and two 2.5 mgd aboveground storage tanks; and,
- Approximately 40,000 connections, over 2,500 fire hydrants, and over 7,500 valves.

The piping diameter ranges and lengths are presented in Table 3.4. The distribution system piping is comprised of a variety of materials, including cast iron, galvanized iron, polyvinyl chloride, ductile iron, and asbestos cement.

Table 3.5 City of Hollywood Water Distribution System Pipe Diameters

Diameter (inches)	Approximate Length (miles)
16 to 30	30
6 to 14	480
< 4	200

### 3.2 Broward County BCWWS Potable Water System

Finished water from the City’s WTP is supplied to the BCWWS Districts 3A and 3B/3C. The water customers in these Districts are Broward County’s retail water customers and a small area, less than 1 square mile, is within the City’s jurisdiction. The raw water sources and treatment plant facilities supplying these areas were described previously in this section. The Broward County Water Supply Facilities Work Plan 2020 (2020 BC WSFWP) accounts for the potable water distribution system within the City. Therefore, only a brief description of the areas served by BCWWS in the City is provided under this WSFWP 2025 Update.

See Appendix F for the 2020 BC WSFWP.

### 3.3 City of Fort Lauderdale Potable Water System

According to its Water Supply Facilities Work Plan 2025 Update, the City of Fort Lauderdale provides potable water service to a population of approximately 253,000 residents and 6 wholesale customers in central Broward County. Port Everglades is one of Fort Lauderdale’s wholesale water customers. Fort Lauderdale’s Draft Water Supply Facilities Work Plan 2025 Update (Draft 2025 Fort Lauderdale WSFWP) accounts for Port Everglades’ water demand as part of its overall aggregate demand projection. A brief description of Fort Lauderdale’s potable water system is provided in this subsection based on information in the Draft 2025 Fort Lauderdale WSFWP.

See Appendix G for the Draft 2025 Fort Lauderdale WSFWP.

The City of Fort Lauderdale supplies its retail and wholesale customers with treated raw water from the Prospect wellfield at the Fiveash Water Treatment Plant and from the Dixie wellfield at the Peele-Dixie Water Treatment Plant. Both the Prospect and Dixie wellfields are permitted by the SFWMD under Consumptive Use Permit (CUP) No. 06-00123-W. Both wellfields withdraw raw water from the Biscayne Aquifer.

The Peele-Dixie system supplies Port Everglades. The Dixie wellfield is comprised of eight 2.5-mgd rated wells and has an installed capacity of approximately 20 mgd. The existing CUP limits the maximum-day withdrawal of this wellfield to 15 mgd. The existing Peele-Dixie Water Treatment Plant is a nanofiltration treatment plant placed into service in 2008. The plant has a maximum installed finished water treatment capacity of 12 mgd with all units in service.

## SECTION 4 REUSE WATER SYSTEM AND WATER CONSERVATION PROGRAM

This section characterizes the reuse water usages and water conservation program within the City and the Ocean Outfall Legislation compliance. Intergovernmental coordination efforts are also discussed.

### 4.1 Reuse Water System

Reuse water is a critical component in effectively managing water resources. Effective water management employs diverse water resources to strike an appropriate balance among resource conservation, development cost, and sustainability. Reuse water, when of suitable quality, may be used for many purposes including, but not limited to:

- Irrigation of golf courses, parks, medians, residential lots, school landscaping, and other green space;
- Cooling water and process water;
- Decorative lakes, ponds, and fountains;
- Car washing, toilet flushing, and dust control;
- Agricultural irrigation and irrigation at nurseries;
- Wetlands creation, restoration, and enhancement; and,
- Recharging groundwater aquifers.

The HLWD-DPU operates a reuse water system at the City-owned Southern Regional Wastewater Treatment Plant (SRWWTP), located at 1621 North 14th Avenue. The SRWWTP is permitted to treat 55.5 mgd on an annual average daily flow (AADF) basis. The facility collects, treats, and discharges approximately 42 mgd of secondary-treated wastewater into the Atlantic Ocean and to the underground Boulder Zone via deep injection wells. Since chloride and TDS levels prevent the City from reusing SRWWTP effluent without desalination (RO) treatment, the City has implemented its existing reuse system using the low-salinity effluent exclusively from the Town of Davie and City of Cooper City, which pump their effluent to the SRWWTP under a Large User Effluent Agreement signed in 1985. The reuse system is located at the southeastern portion of SRWWTP and the distribution system is consisted of approximately 10 miles of distribution mains constructed in 1994.

The City's existing water reuse system has a rated capacity of 8.0 mgd to high-level disinfection (HLD) standard. The system is hydraulically separated in which 4.0 mgd is dedicated to offsite landscaping irrigation and 4.0 mgd is dedicated to non-potable onsite in-plant uses such as foam control, washdown water, and process make-up water. The system's effluent filter configurations can be adjusted to favor low saline reclaimed water or non-potable water (NPW) production.

### 4.1.1 Ocean Outfall Legislation

In 2008, the State Legislature promulgated Ocean Outfall Legislation (OOL) which requires that all utilities in the State of Florida eliminate wastewater effluent discharges from their ocean outfalls by 2025, except during peak flow events. The rule also requires that utilities provide technically, economically, and environmentally feasible reuse of 60 percent of a base condition annual average flow by December 31, 2025. The legislation also requires this facility to reduce the mass loading of nitrogen and phosphorus from the outfall by 2018. The City of Hollywood explored effluent disposal options including dual irrigation system and recharge of the Floridan Aquifer, but those options faced significant challenges that limited their feasibility. Ultimately, the City chose to construct a Deep Injection Well System in 2021 to comply with this requirement, allowing use of the Ocean Outfall System only as a backup during high flow events, thereby eliminating the effluent disposal through the outfall. The construction of the Deep Injection Well System is currently being finalized. Testing and commissioning activities are scheduled to follow and go through approximately the first quarter of 2026. The system is projected to be in operation in the second quarter of 2026.

The OOL provides that alternative water supply capacity allocated to meet the utility's water supply needs prior to July 2011 may not be displaced and "stranded". The City has been investing in its Floridan Aquifer supply and treatment system since the mid-1990s and has developed and installed 6.00 mgd of firm RO treatment capacity and 8.68 mgd of Florida Aquifer water supply withdrawal capacity. Consequently, it is not anticipated that reuse may be feasibly utilized to meet anticipated water demand growth through the planning horizon, as that will be fully supplied by its existing Biscayne Aquifer and Floridan Aquifer supply and treatment infrastructure. Also, as explained above, the salinity of the City's wastewater effluent precludes direct reuse without extensive treatment (RO) beyond what is typical for providing irrigation-quality reuse water.

In a status report (mandated by the OOL) to the Governor and State Legislature, the Florida Department of Environmental Protection (FDEP) acknowledged that Hollywood faced unique challenges in its development of a feasible reuse program. The FDEP indicated that it will work with the City to ensure that the most feasible reuse options are implemented by December 31, 2025. The City developed a refined functional reuse compliance plan and closely coordinated with the FDEP to solicit its input at various stages during the development phase.

In a letter dated January 13, 2016, the FDEP documented the results of its evaluation and identified the elements of the City's plan that constitute feasible reuse. The FDEP findings were based on reviewing documents and studies furnished by the City and the outcomes of meetings between the FDEP and the City. Key elements of the City's compliance plan that were determined to constitute feasible reuse and meet the OOL legislative requirements and their status included the following:

- Existing Onsite Process Reuse – 4.0 mgd (filtered brackish effluent).
- Additional Reuse within the City – 1.5 mgd (committed customer capacity).
- Contracted Reuse – 4.5 mgd.

These efforts correspond to a total of 10.0 mgd of feasible reuse either accomplished or to be accomplished by the December 2025 deadline.

## 4.1.2 Offsite Irrigation Reuse

### 4.1.2.1 Connected Customers

Prior to the OOL, the reuse water system had 10 connected customers with a total permitted demand of 2.973 MG. Among these original customers, two are no longer receiving reuse water: the City Nursery, which was shut down in 2015, and the Hillcrest Country Club, which was sold and redeveloped into single-family homes. These changes have reduced the original customer base's demand by 0.632 mgd. Table 4.1 presents a summary of these customers.

Table 4.1 Reuse Water Customers Connected Before OOL

Customer	User Type	Acreage	Permitted Capacity (mgd)	Average Metered Consumption (mgd) [01/01/2017 to 10/01/2023]
Maltese Diplomat Country Club	Golf Course	115	0.446	0.145
Eco Grande	Golf Course	753	0.109	0.06
Hollywood Beach Country Club	Golf Course	753	0.213	0.045
Pulte Homes & Hillcrest Country Club	Golf Course	151	<i>Disconnected in 2016</i>	
Emerald Hills Country Club	Golf Course	174	0.671	0.341
Orangebrook Country Club	Golf Course	230	0.888	0.398
Dowdy Field	Park	7	0.014	0.008
City Nursery	Business	14	<i>Disconnected in 2015</i>	
<b>Total</b>		<b>2,197</b>	<b>2.341</b>	<b>0.997</b>

Source: City of Hollywood 2024 Reuse Master Plan Update.

### 4.1.2.2 Offsite Irrigation Reuse Water Program – Ordinance 52.70

To expand its reuse water customer base and progress towards additional offsite reuse goals, the City has enacted Ordinance 52.70, titled "Effluent Reuse" to promote reuse water and replace potable water use. This ordinance requires industrial and commercial properties with irrigable areas exceeding 1 acre and located within 50 feet of a reuse water distribution pipe to connect to the reuse system. Eligible irrigation uses include residential lawns, golf courses, cemeteries, parks, landscaped areas, highway medians, rights-of-way, and other applications approved by the Utilities Director and permitted by the FDEP. As of 2024, this ordinance added 22 newly connected reuse water customers, totaling 0.49 mgd to be served. Table 4.2 is a list of those customers and their estimated demands as recorded in the City's 2024 Reuse Master Plan Update. There is 0.52 mgd of potential customers identified as mandated to be connected in the future under this ordinance.

Table 4.2 Reuse Water Customers Connected after OOL as Required by Ordinance 52.70

Customer (Connected, To Be Served)	User Type	Acreage	Estimated Demand (mgd)
Memorial Regional Hospital	Business	21.2	0.026
Mckinley St. & 17th Ave	Median	0.21	0.001
Hollywood Blvd & 12th Ave	Median	0.06	0.0002
US-1 & Arthur St	Median	0.08	0.0003
Park Rd between Lincoln St and Buchanan St	Median	0.24	0.001
600 N Park Rd	Median	0.17	0.001
3820 W Park Rd	Median	0.25	0.001
3700 W Park Rd	Median	0.25	0.001
3500 W Park Rd	Median	0.26	0.001
3336 W Park Rd	Median	0.37	0.001
1800 N Park Rd	Median	0.22	0.001
1516 N Park Rd	Median	0.14	0.001
1216 N Park Rd	Median	0.05	0.0002
1000 N Park Rd	Median	0.02	0.0001
1910 N Park Rd	Median	0.22	0.001
Joseph Scavo Park	Park	6.99	0.25
Rotary Park	Park	17.27	0.023
David Park Tennis Center	Park	7.85	0.028
Lincoln Park	Park	4.7	0.028
Charles F Vollman Park	Park	6.02	0.022
Cortland Hollywood	Residential	14.53	0.06
West Lake Village	Residential	19.85	0.04
<b>Total</b>		<b>100.95</b>	<b>0.49</b>

Source: City of Hollywood 2024 Reuse Master Plan Update

### 4.1.3 Contracted Reuse

In 2019, the City partially fulfilled its contracted reuse goal by securing a 2.0 mgd AADF agreement with the City of Miramar for \$7 million with a 30-year agreement term. Although negotiations were initiated with the City of Sunrise, they were ultimately abandoned. Further contract reuse agreements with other municipalities were not pursued due to cost-ineffectiveness in meeting the remaining OOL requirements.

## 4.1.4 Remaining OOL Required Reuse and Feasible Projects

### 4.1.4.1 Potential Offsite Irrigation Reuse Expansion – Cost and Feasibility

To meet the remaining offsite reuse goals and accommodate the additional 2.5 mgd contracted reuse target, the City has identified potential new customers based on irrigable acreage and estimated irrigation demand. The 2024 Reuse Master Plan Update conceptualized four phases of infrastructure expansion to serve these customers, with an estimated total potential demand of 3.61 mgd:

1. **Phase 1:** Includes properties within mandatory reuse zones as defined by Ordinance 52.70, including 0.49 mgd from already connected customers and 0.52 mgd from potential customers identified as mandated to be connected in the future under this ordinance. The 2024 Reuse Master Plan Update study estimated the cost to connect the potential customers to be \$240,000, or \$0.46/gpd of reuse water.
2. **Phase 2:** Targets properties east of I-95, requiring transmission main extensions to serve a potential demand of 0.32 mgd. These potential customers consist of cemeteries, church, median, parks, and schools. The 2024 Reuse Master Plan Update study estimated the cost to connect the potential customers to be \$2,990,000, or \$9.34/gpd of reuse water.
3. **Phase 3:** Involves transmission system expansion to the west, serving properties east of the Turnpike with a potential demand of 0.53 mgd. These potential customers consist of businesses, cemetery, church, medians, parks, residentials, and schools. The 2024 Reuse Master Plan Update study estimated the cost to connect the potential customers to be \$6,160,000, or \$11.62/gpd of reuse water.
4. **Phase 4:** Generally covers commercial properties west of the Turnpike, resulting in a potential demand of 1.75 mgd. The 2024 Reuse Master Plan Update study estimated the cost to connect the potential customers to be \$15,000,000, or \$8.57/gpd of reuse water.

The existing irrigation reuse system at the SRWWTP has a treatment capacity of 4 mgd (or 5 mgd with the transferal of a 1 mgd NPW swing filter). Currently, there is sufficient low-salinity effluent and system storage to meet existing irrigation demands, with an additional capacity of over 1.5 mgd available on an annual average basis. This capacity is adequate to meet the remaining 1.5 mgd offsite reuse goal, including Phase 1 and portions of Phases 2 through 4. However, compensating for the full additional 2.5 mgd contracted reuse goal using Phases 2 through 4 would require increased effluent supply and further treatment, storage, and pumping infrastructure.

The offsite reuse water production depends entirely on low-salinity effluent supplied by the Town of Davie and the City of Cooper City under a Large User Effluent Agreement providing up to 10.5 mgd of effluent disposal to the City. This agreement expires in March 2035, and without renewal, there would be no alternative source of low-salinity effluent. Additionally, variability in supply and effluent quality could jeopardize the City's ability to meet future reclaimed water demands and sustain long-term system operations.

Renewing the low-salinity effluent agreements is critical for the feasibility of the proposed irrigation reuse expansion. The City's 2024 Reuse Master Plan Update study estimated the average cost for implementing Phases 1 through 4 to be \$7.82/gpd of reuse water.

#### 4.1.4.2 Potential Onsite Industrial Reuse Expansion – Cost and Feasibility

Considering uncertainties around agreement renewal and the economic feasibility of full expansion implementation, the City has also explored increasing industrial reuse to meet the December 2025 OOL deadline. High-salinity industrial reuse could be expanded by installing a secondary Effluent Heat Recovery (EHR) system at SRWWTP to cool cryogenic oxygen generation system compressors instead of using potable water cooling towers. The City’s 2024 Reuse Master Plan Update study estimated this installation to be \$6,950,000, or \$0.70/gpd, and could achieve an installed reuse capacity of 10 mgd. The City’s 2024 Reuse Master Plan Update study concluded that this is the best option.

#### 4.1.4.3 Implementation Toward OOL Reuse Water Compliance

The City of Hollywood's progress towards OOL compliance is summarized in Table 4.3. Currently, the City has achieved 7.01 mgd of planned, installed, or contracted reclaimed water capacity out of the required 10.0 mgd. The 0.52 mgd of planned connection as mandated by Ordinance 52.70 is projected to cost \$380,000, or \$0.46/gpd. This expansion can be achieved using the existing treatment, storage, and pumping infrastructure at SRWWTP without requiring upgrades.

Table 4.3 Status of City of Hollywood’s FDEP OOL Compliance with respect to Reuse Water

Requirement	Reuse Water Capacity in mgd
<b>OOL Reuse Achieved</b>	<b>6.0</b>
Onsite reuse at Southern Regional Wastewater Treatment Plant	4.0
Miramar contract reuse	2.0
<b>OOL Reuse Planned</b>	<b>1.01</b>
Offsite Irrigation use by customers (Ordinance 52.70   Already connected)	0.49
Offsite Irrigation use by customers (Ordinance 52.70   To be connected)	0.52
<b>OOL Reuse Being Planned</b>	<b>10.0</b>
Onsite reuse by installing a secondary EHR system at Southern Regional Wastewater Treatment Plant (Under discussion with FDEP   Developing capital improvement plan)	10.0
<b>Total</b>	<b>17.01</b>

Source: City of Hollywood 2024 Reuse Master Plan Update

The City plans to address the remaining 2.99 mgd reuse requirement by expanding onsite industrial reuse as described in Section 4.1.4.2. This approach takes into account the uncertainties surrounding effluent supply agreement renewals and the economic challenges of fully implementing the offsite reuse expansion. The SRWWTP will be expanded to include an EHR system, which could provide 10 mgd of reuse capacity at an estimated cost of \$7,000,000, or \$0.70/gpd. This expansion would exceed the remaining reuse requirement of 2.99 mgd and is anticipated to eliminate, or substantially reduce, the amount of potable water usage.

As of September 2025, the City is in the process of developing a capital improvement project with detailed timeline, project characterization, and approach. FDEP has agreed to the conceptual approach and its implementation schedule after the December 2025 deadline and will review the detailed capital improvement project plan to formally approve.

## 4.2 City of Hollywood Water Conservation Program

The average gallons per capita per day (gpcd) over all customers served by the HLWD-DPU, including retail and wholesale customers, fell from a 5-year average of 127 gpcd in 2008 to 113 gpcd in 2018. The 5-year average in 2023 remained steady at 112 gpcd. The historic gpcd from 2004 to 2024 is provided in Table 4.4.

The reduction in gpcd is due to a variety of conservation efforts that include a plumbing fixture replacement program, public education, year-round irrigation restrictions, replacement of aging (leaky) water mains, and other measures. The impact of the City’s efforts appears to be permanent because gpcd did not rebound during the recent economic recovery. Florida Statute 373.250(1) recognizes the importance of conservation and gives it equal consideration with reuse in promoting the public interest. Conservation programs are effective in producing the same water use impact as using reclaimed water at a fraction of the cost.

Table 4.4 City of Hollywood Historical Annual Average per Capita Usage

Year	Finished Water (mgd)	Population Retail and Wholesale	Annual Average Usage (gpcd)	5-Year Average Usage (gpcd)
(a)	(b)	(c)	(d) = [(b) x 1,000,000] / (c)	(e)
2004	26.1	186,648	140	127
2005	24.5	188,287	130	
2006	24.6	190,595	129	
2007	23.0	189,716	121	
2008	22.1	188,837	117	
2009	22.6	187,958	120	114
2010	20.8	187,078	111	
2011	21.7	188,108	115	
2012	21.0	189,138	111	
2013	21.0	190,168	110	
2014	21.4	192,944	111	113
2015	22.3	194,411	115	
2016	22.8	195,644	116	
2017	22.5	196,876	114	
2018	21.9	198,109	111	
2019	21.2	199,261	106	112
2020	21.8	200,574	109	
2021	22.5	201,947	111	
2022	23.5	203,320	116	
2023	23.9	204,693	117	
2024	24.4	206,066	118	

Sources:

- 1) 2004 to 2018 finished water and population data from the City’s 2020 Water Supply Facility Work Plan Table 3.6.
- 2) 2019 to 2024 population data from the City of Hollywood 2020 WSP Update, page 2-5, Table 2.3 and Broward County
- 3) Finished water production data from 2019 to 2024 from the City WTP Monthly Operating Reports.

The City’s Water Conservation Plan was developed with the goal of maximizing the City’s water use efficiency and reducing overall potable water demand. This goal aligns with the conservation-related recommendations stated in Chapter 9 of the 2023-2024 LEC Plan Update, as well as the 2008 District’s Comprehensive Water Conservation Program. The City’s water conservation plan includes recommendations on water conservation measures and best management practices (BMPs) that the City has elected to implement to reduce its per capita potable water consumption over time and “free up” available water resources to support future growth.

The conservation related actions identified in the 2023-2024 LEC Plan Update, and the efforts being implemented by the City, are the following:

- “The SFWMD should continue to implement its Comprehensive Water Conservation Program and its Cooperative Funding Program.” (2023-2024 LEC Work Plan Update).
  - » The initiatives and actions being implemented by the City are in accordance with the 2008 District’s Comprehensive Water Conservation Program. The City continues to seek supplemental sources of revenue to expand the reuse system, promote water conservation, and provide alternative water supply.
  - » The City has reduced its water use by approximately 5 mgd through conservation programs, appliance rebates, irrigation rules, and a tiered billing system that encourages lower consumption. The 5-year average per capita demand reduced from 127 gpcd in 2008 to 112 gpcd in 2023.
- “PS utilities are encouraged to develop goal-based water conservation plans and proactively implement water-saving measures and programs.” (2023-2024 LEC Work Plan Update).
  - » The City is a committed member of the Broward Water Partnership Conservation Program known as “ConservationPays” that has a goal of saving 30 mgd county-wide. This program was launched in 2011 and consists of 19 municipalities and water utilities that collaborate on water conservation implementation. This program helps inform residents about the importance of year-round water conservation and any available county conservation incentives. The City renewed this agreement in 2021, in which the City provides financial contribution for 5 years to support the Broward County Conversation Pays program. The total maximum cost of the 5-year commitment is summarized in Table 4.5. The agreement is set to expire in 2026.

Table 4.5 Water Conservation Incentives Program Cost-Sharing Agreement

Fiscal Year	Maximum Not to Exceed Contribution	
	Media Outreach/ Administration Cost	Maximum Not to Exceed City of Hollywood’s Cost
2022	\$ 20,253.93	\$ 20,253.93
2023	\$ 20,861.55	\$ 20,861.55
2024	\$ 21,487.39	\$ 21,487.39
2025	\$ 22,132.02	\$ 22,132.02
2026	\$ 22,795.98	\$ 22,795.98

- » The City promotes water conservation through various ways:
  - Private Irrigation System Audit and Rebate Program.
    - The City of Hollywood, in coordination with Broward County NatureScape Division, has performed annual irrigation system evaluations since 2006. Launched in 2005, the NatureScape Irrigation Services (NIS) is implemented by the Broward County's Environmental Protection and Community Resilience Division with cost-share funding provided by Broward County Water and Wastewater Services and local municipalities. The NIS conducts irrigation evaluations of, mostly, large-scale irrigation systems. At each site, the NIS assesses irrigation system design, functional integrity, scheduling, and maintenance issues related to water use efficiency, and landscape best management practices. Following each assessment, efficiency improvement recommendations are provided to the site owner or manager. Water consumption is documented before and after improvements are implemented to calculate water savings. The program targets large water users including government facilities, parks, schools, and homeowner associations where the greatest potential exists for significant water savings. Best Management Practices that encourage the 'right plant in the right place', irrigation water use efficiency, and smart irrigation technology help to secure outdoor water use reductions and long-term water savings.
    - The City of Hollywood has provided financial support for Broward's NIS Program to conduct irrigation evaluations throughout the Hollywood service area since 2006. From 2008 to 2017, a total of 131 irrigation system evaluations were completed within Hollywood resulting in a total water savings of 26,318,934 gallons. The City renewed its agreement in 2020 and again in 2025 with Broward County to share the cost of the NIS program and Residential Irrigation Rebate Program for a 5-year period. This agreement included irrigation system evaluations across Broward County over the 5-year period and will provide water conservation education to residents. It will also offer rebates to offset initial costs incurred in upgrading specified water-efficient irrigation system components. This 2025 renewal was implemented through the passage and adoption of Resolution No. R-2025-214 on June 18, 2025, which authorized the execution of the renewed interlocal agreement in a total amount not to exceed \$133,825.55 over a 5-year period. See Appendix H for Resolution No. R-2025-214.
  - Promotion of Florida-friendly landscape practices and use of native plants to reduce irrigation water use.
    - This best management practice resulted in the City becoming a National Wildlife Federation (NWF) Community Habitat in 2018. The City uses the NWF and Broward County "naturescapes" to help promote better landscape best management practices.
  - Distribution of High Efficiency Toilet (HET) Rebates, retrofit kit giveaways, and restaurant rinse valve replacement program.

- Mandatory year-round landscape irrigation conservation measures.
  - As of December 2024, the City, after working with the SFWMD, passed Ordinance No. 0-2024-18 to amend Section 51.116 “Permanent Restrictions on Lawn and Landscaping Irrigation” of the City’s Code of Ordinances to include Mandatory Year-Round Landscape Irrigation Conservation – Measures and Variances in accordance with Rule 40E-24.301, F.A.C. The City is now one of the over 70 local governments within the LEC Planning area to have adopted this irrigation ordinance. The City provides information relevant to this irrigation ordinance on the City’s Water Conservation website (<https://www.hollywoodfl.org/409/Water-Restrictions-and-Landscaping>).
- Interlocal water conservation incentives program.
  - An Interlocal Agreement between Broward County and City of Hollywood for cost share support of a water conservation incentives program was signed in October 2021. This agreement was to build on the previous 5 years of water conservation efforts. It included a media campaign, rebate and incentives program, and an awards/recognition program to increase water conservation throughout the City of Hollywood and Broward County.
- Public education program.
  - Public education program called Clean Water Cadet Program educates elementary students within the City about water treatment, conservation, and stormwater pollution prevention through school visits from Public Utilities staff. Students also engage in creating public service announcements and receiving coloring books and “Do Not Dump” stickers to install a year-round water protection ethic at home and school.
- Public engagement program.
  - Public engagement program called Drop Savers’ Poster Contest solicits engagement from K-12 students within the City through water conservation poster design competition annually.
- Expansion of Reuse Projects.
- Publication of tips and answers to FAQs on the City’s Water Conservation website.
- “Local governments should evaluate whether mandated water conservation measures, such as requirements for construction of water-efficient homes and commercial properties, are appropriate for their jurisdiction.” (2023 – 2024 LEC Plan Update).
  - » The City has enacted Ordinance 52.70, titled “Effluent Reuse” to promote reuse water and replace potable water use. This ordinance requires industrial and commercial properties with irrigable areas exceeding 1 acre and located within 50 feet of a reuse water distribution pipe to connect to the reuse system. Eligible irrigation uses include residential lawns, golf courses, cemeteries, parks, landscaped areas, highway medians, rights-of-way, and other applications approved by the Utilities Director and permitted by the FDEP.
- “Local governments should adopt a year-round irrigation ordinance that fully comports with the SFWMD’s Mandatory Year-Round Landscape Irrigation Conservation Measures Rule (Chapter 40E-24, F.A.C.). Although 71 of the 116 local governments have adopted acceptable ordinances, 45 in the LEC Planning area have not yet adopted irrigation ordinances.” (2023 – 2024 LEC Plan Update).

- » The City has adopted this irrigation ordinance. As of December 2024, the City, after working with the SFWMD, passed Ordinance No. 0-2024-18 to amend Section 51.116 "Permanent Restrictions on Lawn and Landscaping Irrigation" of the City's Code of Ordinances to include Mandatory Year-Round Landscape Irrigation Conservation – Measures and Variances in accordance with Rule 40E-24.301, F.A.C. The City provides information relevant to this irrigation ordinance on the City's Water Conservation.
- "Local governments should consider developing or enhancing ordinances regarding Florida-Friendly Landscaping Program principles [Section 373.185, Florida Statutes]." (2023 – 2024 LEC Plan Update).
  - » The City promotes Florida-friendly landscape practices and use of native plants to reduce irrigation water use. This best management practice resulted in the City becoming a NWF Community Habitat in 2018. The City uses the NWF and Broward County "NatureScapes" to help promote better landscape best management practices.
- "Public Education programs can help instill a year-round conservation ethic. Local and tribal government and PS Utilities are encouraged to provide conservation-related information, messaging, and educational programs in cooperation with the SFWMD." (2023 – 2024 LEC Plan Update).
  - » The City has continuously implemented local public education programs to encourage water conservation. The Clean Water Cadet Program teaches elementary students about water treatment, conservation, and stormwater pollution prevention through school visits from Public Utilities staff. As part of the program, students create public service announcements and receive coloring books and "Do Not Dump" stickers, helping to instill year-round water protection habits both at home and at school. Additionally, the City runs the Drop Savers Poster Contest, an annual event that encourages K-12 students to participate in a water conservation poster design competition, further engaging the community in water-saving efforts.
- "All eligible water users are encouraged to seek cost-share funding opportunities that may be available for water conservation projects." (2023 – 2024 LEC Plan Update).
  - » The City signed an interlocal agreement with Broward County in October 2021 for cost share support of a water conservation incentives program over a 5-year period. This agreement was to build on the previous 5 years of water conservation efforts. It included a media campaign, rebate and incentives program, and an awards/recognition program to increase water conservation throughout the City of Hollywood and Broward County.
  - » The City has also applied for and received alternative water supply (AWS) funding from FDEP in the past.
- "L/R water users are encouraged to use advanced irrigation technology, improve landscape design and best management practices, and participate in user recognition programs (e.g. Florida-Friendly Landscaping program) to further increase landscape water use efficiency." (2023 – 2024 LEC Plan Update).
  - » The City of Hollywood, in coordination with Broward County NatureScape Division, has performed annual irrigation system evaluations since 2006. Launched in 2005, the NIS is implemented by the Broward County's Environmental Protection and Community Resilience Division with cost-share funding provided by Broward County Water and Wastewater Services and local municipalities. The NIS conducts irrigation evaluations of, mostly, large-scale irrigation systems. At each site, the NIS assesses irrigation system design, functional integrity, scheduling, and maintenance issues related

to water use efficiency, and landscape best management practices. Following each assessment, efficiency improvement recommendations are provided to the site owner or manager. Water consumption is documented before and after improvements are implemented to calculate water savings. The program targets large water users including government facilities, parks, schools, and homeowner associations where the greatest potential exists for significant water savings. Best Management Practices that encourage the 'right plant in the right place', irrigation water use efficiency, and smart irrigation technology help to secure outdoor water use reductions and long-term water savings.

- » The City of Hollywood has provided financial support for Broward's NIS Program since 2006. From 2008 to 2017, a total of 131 irrigation system evaluations were completed within Hollywood resulting in a total water savings of 26,318,934 gallons. The April 2020 renewal included 159 irrigation system evaluations across Broward County. In 2025, the City renewed its agreement with Broward County to share the cost of the NIS and Residential Irrigation Rebate Program for the next 5 years, with a total budget of \$133,825.55 authorized by the City Commission in June 2025.
- "Commercial/Industrial/Institutional (CII) entities are encouraged to use the Water Efficiency and Self-Conducted Water audits at Commercial and Institutional Facilities, a Guide for Facility Managers (SFWMD 2013) to improve water use efficiency and reduce operating costs." (LEC Plan Update).
  - » The City encourages the implementation of EPA WaterSense guidelines including industrial, commercial, and institutional entities. Self-conducted water audits are encouraged.
- Smart Meter Technology.
  - » Residents are eligible for efficiency upgrade rebate through the Irrigation System Assessment and Rebate Program. Eligible upgrades include upgrading an existing timer to an EPA WaterSense smart irrigation controller.

## SECTION 5 DATA AND ANALYSIS OF WATER DEMAND FORECAST AND SUPPLY ADEQUACY

This section presents the methods, data and results of the population and water demand forecasts within the HLWD-DPU water service area and compares the future water demand to available water supply. Detailed descriptions of these forecasting analyses are provided in Appendix I and Appendix J of this report. This section also documents the inclusion of Port Everglades in the 2025 Fort Lauderdale WSFWP. The purpose of this section is to demonstrate that the City’s existing permitted water supply, coupled with its conservation and reuse practices, will be sufficient to meet projected demands through 2045.

### 5.1 Historical Population

To project the population, 2023 was selected as the reference year, using the best available population data from the U.S. Census Bureau. For Unincorporated Broward County where U.S. Census Bureau did not have data available, its 2023 population was interpolated from the Population Forecast and Allocation Model (PFAM) data. Table 5.1 shows the population of each municipality in the year 2023 which was used as a starting point for the population projection through 2045.

Table 5.1 Historic Population in 2023

Municipality	2023 Population
Pembroke Park	6,300 <sup>(1)</sup>
West Park	15,109 <sup>(1)</sup>
Davie	107,799 <sup>(1)</sup>
Dania Beach	31,915 <sup>(1)</sup>
Wilton Manors	11,403 <sup>(1)</sup>
Hollywood	152,630 <sup>(1)</sup>
Fort Lauderdale	184,255 <sup>(1)</sup>
Pembroke Pines	171,119 <sup>(1)</sup>
Miramar	138,319 <sup>(1)</sup>
Unincorporated	15,557 <sup>(2)</sup>

Sources:

(1) May 2024 U.S. Census Bureau population data.

(2) 2024 Broward County PFAM.

## 5.2 Projected Population

The population in the City of Hollywood is expected to grow modestly throughout the forecast period as less than 1 percent of the land area in the City is developable vacant land. Redevelopment is expected to accommodate the projected increases in population. The populations served by the City of Hollywood and BCWWS Districts 3A and B/C service areas reside in multiple municipalities. To account for the population growth within the service areas, growth within each municipality was considered. The following procedure was used in the population projection analysis:

1. **Delineation of Service Areas:** The geographic area of each municipality served was delineated using GIS based on the 2023-2024 LEC Plan Update to divide the service areas by municipality boundaries. The square footage of each area was calculated using a GIS calculation tool. Then, the percentage of population served in each municipality was calculated for each service area based on area.
2. **Population Growth Rate Calculation:** The growth rate of each municipality was calculated using the 2024 Broward County PFAM data.
3. **Population Change Calculation:** The growth rates were applied to the percentage of population served by each service area and their 2023 starting population to calculate the population change from 2025 to 2045.
4. **Total Population Projection Calculation:** For BCWWS Districts 3A and 3B/C, the population changes were applied to the 2023 population to calculate the projected total population. For the City of Hollywood, the population changes were applied to the historical population that was reported in the City's 2024 Annual Water Supply Report.

A detailed technical memorandum of the population projection analysis is available in Appendix I. The projected population for the period 2025 through 2045 for each service area is summarized in Table 5.2.

Table 5.2 Population Projections from 2025 to 2045

Year	City's Retail Service Area	BCWWS District 3A	BCWWS District 3BC	Total Retail and Wholesale
2024	153,859 <sup>(1)</sup>	23,322	33,238	210,420
2025	153,839 <sup>(2)</sup>	23,409	33,224	210,472
2030	157,835 <sup>(2)</sup>	25,890	32,931	216,655
2035	162,043 <sup>(2)</sup>	27,335	33,828	223,206
2040	166,788 <sup>(2)</sup>	28,193	34,906	229,887
2045	169,932 <sup>(2)</sup>	28,699	35,526	234,157

Sources:

(1) From 2024 City of Hollywood Annual Water Supply Report.

(2) Adjusted based on 2024 population estimate from the 2024 City of Hollywood Annual Water Supply Report.

### 5.3 Historical Per Capita Demand

The City provides retail water service to residents of the City of Hollywood, as well as small portions of the Town of Davie and the City of Dania Beach. Retail water service to a small area of the Seminole Tribe of Florida reservation that the City previously served was disconnected in recent years. Additionally, the City provides wholesale potable water service to Broward County through pipelines that serve the County’s retail water customers located in its Districts 3A and 3B/C.

Historical data from multiple sources was compiled to calculate the average per capita demand. These sources include the U.S. Census Bureau 2024 population report, City of Hollywood Annual Water Supply Reports, City of Hollywood Water Master Plan, and monthly operational data from the WTP. A summary is presented below in Table 5.3.

The annual average water use of the City’s residential retail customers was 98.9 gpcd over the most recent 3-year period, 2022 to 2024. The 3-year average was used instead of a 5-year average due to the lower demand trend in water use observed from 2020 to 2021 during the COVID-19 pandemic. The annual average water use in the BCWWS Districts 3A and 3B/C was 113.2 gpcd, this 5-year average represents a conservative estimate given the decreasing trend.

Table 5.3 City of Hollywood Historical Service Area Population, Finished Water Production and Retail Per Capita Usage

Note Reference	Parameter	2020	2021	2022	2023	2024
(1)	City Retail Population Served	145,309	145,309	152,131	152,650	153,859
(2)	Avg. Daily Finished Water Production (mgd)	21.75	22.47	23.48	23.89	24.38
(3)	Avg. Daily Finished Water to City Retail Customers Excluding Large Users (mgd)	15.23	15.61	16.97	17.55	18.04
(4)	Large Users Consumption Excluding BCWWS (mgd)	0.1	0.1	0.1	0.1	0.1
(5)	City Non-Revenue Water (mgd)	2.3	2.3	2.3	2.3	2.3
(6)	Overall City Residential Retail Per Capita Demand Factor (gpcd)	88.3	90.9	95.8	99.2	101.7
	Three-Year Average City Residential Water Demand (gpcd)				98.9	
(7)	BCWWS Population Served	56,130	55,824	56,031	56,488	56,945
(8)	Avg. Daily Finished Water to BCWWS (mgd)	6.59	6.48	6.37	6.21	6.19
(9)	Overall BCWWS Residential Per Capita Demand Factor (gpcd)	117.4	116.1	113.7	109.9	108.8
	5-Year Average BCWWS Residential Water Demand (gpcd)				113.2	

Notes:

- (1) (3) and (8) sourced from City of Hollywood Annual Water Supply Reports.
- (2) Sourced from City of Hollywood monthly WTP Operation Reports.
- (4) Total large users consumption rate is sourced from 2024 City of Hollywood Water Master Plan Table 5. Rate excluding BCWWS was calculated as total minus (8).
- (5) Sourced from 2024 City of Hollywood Water Master Plan Table 5.
- (6) Calculated as (3) - (4) - (5)\*1000000/(1).
- (7) 2020 to 2023 population data from the US Census Bureau as published in May 2024. The 2024 value was extrapolated from the 2022 and 2023 data.
- (9) Calculated as (8)\*1000000/(7).

## 5.4 Projected Water Demand

A detailed technical memorandum of the demand projection analysis is available in Appendix J. The following sections present a summary of the results.

### 5.4.1 Projected Finished Water Demand – Annual Average Daily

The per capita demand values from Table 5.3 and population projections from Table 5.2 are used to forecast the annual average daily water demands as presented in Table 5.4. Additionally, consistent large users consumption and non-revenue water are added to determine the total projected demand from the WTP, which is projected to increase from 24.02 mgd in 2025 to 26.47 mgd in 2045.

Table 5.4 Total Forecasted Average Daily Demand from 2025 to 2045

Year	City's Retail Population	City's Retail Demand Factor (gpcd)	City's Retail Demand (mgd)	BCWWS District 3A and 3B/C Population	BCWWS District 3A and 3B/C Demand Factor (gpcd)	BCWWS District 3A and 3B/C Demand (mgd)	Large Users Consumption (mgd)	Non-Revenue Water (mgd)	Total Demand (mgd)
2025	153,838	98.9	15.21	56,633	113.2	6.41	0.10	2.30	24.02
2030	157,835	98.9	15.61	58,820	113.2	6.66	0.10	2.30	24.67
2035	162,043	98.9	16.02	61,163	113.2	6.92	0.10	2.30	25.35
2040	166,788	98.9	16.49	63,099	113.2	7.14	0.10	2.30	26.03
2045	169,932	98.9	16.80	64,225	113.2	7.27	0.10	2.30	26.47

### 5.4.2 Projected Finished Water Demand – Maximum Day

The maximum day peaking factor, which is the ratio of the maximum day production to the annual average daily flow, is derived from the WTP's monthly operations data from 2020 to 2024. The average max day peaking factor for this period is 1.15. As presented in Table 5.5, the forecasted finished water production, maximized, increases to 30.44 mgd by 2045.

Table 5.5 Total Forecasted Maximum Daily Demand from 2025 to 2045

Year	Annual Average Daily Demand (mgd)	Max Day Peaking Factor (-)	Max Day Demand (mgd)
(1)	(2)	(3)	(4) = (2)*(3)
2025	24.02	1.15	27.63
2030	24.67	1.15	28.37
2035	25.35	1.15	29.15
2040	26.03	1.15	29.94
2045	26.47	1.15	30.44

### 5.4.3 Projected Raw Water Demand

For the purpose of determining the amount of raw water needed to supply the projected finished water demand, it is necessary and industry standard practice to calculate the weighted average treatment loss. The water lost in treatment is then added to the projected demands presented in Table 5.5.

Analysis of the WTP’s MOR data from 2023 to 2024 determines the proportion of raw water allocated to each treatment process. The current weighted average percent treatment loss is 10 percent. Proposed changes to the plant layout to address PFAS regulations include decommissioning the LS system and replacing its capacity with MS treatment while maintaining the current RO capacity. The weighted average treatment loss with expanded MS treatment is projected to be 14.4 percent, the calculation is presented in Table 5.6. This value converts the finished water demand forecast to the total annual raw water withdrawal needed. The total raw water withdrawal requirement is projected at 28.06 mgd in 2025, increasing to 30.93 mgd by 2045. A summary is presented in Table 5.7.

Table 5.6 City of Hollywood Proposed Future WTP Percent Treatment Loss

Treatment Technology	Projected Process Capacity, Annual Average (mgd)	% of Raw Water	Treatment Loss (%)
Lime Softening (LS)	0	0%	2%
Membrane Softening (MS)	19.6 <sup>(1)</sup>	79.4%	13%
Reverse Osmosis (RO)	5.1	20.6%	20%
<b>Total / Weighted Average</b>	<b>24.7</b>	<b>100%</b>	<b>14.4%</b>

Notes:

(1) Calculated as 9.7 + 9.9 = 19.6 mgd.

Table 5.7 City of Hollywood Forecasted Raw Water Withdrawals

Year	Finished Water Demand (mgd)	Annual Average Raw Water Withdrawal (mgd) at 10% Treatment Loss (Current WTP Layout)	Annual Average Raw Water Withdrawal (mgd) at 14.4% Treatment Loss (Proposed WTP Layout for Regulatory Compliance)	Difference
(1)	(2)	(3) = (2) / [1 - 0.10]	(4) = (2) / [1 - 0.144]	(5) = (4)-(3)
2025	24.02	26.69	28.06	1.37
2030	24.67	27.41	28.81	1.41
2035	25.35	28.16	29.61	1.45
2040	26.03	28.93	30.41	1.49
2045	26.47	29.41	30.93	1.51

## 5.5 Capacity Analysis

### 5.5.1 Permitted Raw Water Withdrawal Limits

The City’s combined permitted raw water withdrawal totals 38.64 mgd if interpreted on an annual average day basis, and 43.44 mgd on a maximum month basis, as summarized in Table 5.8.

Table 5.8 City of Hollywood Permitted Raw Water Withdrawal Quantities

Water Supply Source	Annual Average Day (mgd)	Maximum Monthly Withdrawal (mgd)
(1)	(2)	(3)
<b>Biscayne Aquifer:</b>		
Chaminade (Western) Wellfield	14.72	16.35
South Wellfield	9.62	10.68
BCWWS – Piccolo Wellfield (contractual)	5.79	7.89
<b>Subtotal – Biscayne Aquifer</b>	<b>30.12</b>	<b>34.92</b>
<b>Floridan Aquifer:</b>		
Floridan Aquifer	8.52	8.52
<b>Subtotal – Floridan Aquifer</b>	<b>8.52</b>	<b>8.52</b>
<b>Total</b>	<b>38.64</b>	<b>43.44</b>

### 5.5.2 Firm Raw Water Treatment Capacity

The maximum amount of finished water that can be produced is based on the firm raw water treatment capacity of the City’s treatment processes, the permitted allocations from the Biscayne and Floridan aquifers, and the historical percent treatment loss of each treatment process. A summary of the calculation is presented in Table 5.9, the maximum treatment capacity utilizing the full raw water allocation is 35.54 mgd.

Table 5.9 Calculation of Finished Water Quantity Limit based on Raw Water Permit Limit

Treatment Process	Treatment - Firm Capacity (mgd)	Treatment Loss (%)	Raw Water Treatment Capacity (mgd)	- LIMIT - Raw Water Treatment Allocation (mgd) <sup>(1)</sup>	- LIMIT - Finished Water Treatment (mgd)
(1)	(2)	(3)	(4) = (2) / [1 - (3)]	(5)	(6) = (5) x [1 - (3)]
Lime Softening (LS) - Biscayne Aquifer	22.50	2%	22.96	22.96	22.50
Membrane Softening (MS) - Biscayne Aquifer	12.00	13%	13.79	7.16	6.23
<b>Total Permitted Quantity from Biscayne Aquifer</b>	<b>34.50</b>		<b>36.75</b>	<b>30.12</b>	<b>28.73</b>
Reverse Osmosis (RO) (Floridan Aquifer)	6.00	20%	7.50	8.52	6.81
<b>Total</b>	<b>40.50</b>		<b>44.25</b>	<b>38.64</b>	<b>35.54</b>

Notes:

(1) The LS value is equal to the LS raw water treatment capacity of 22.96 mgd of raw water. The MS value is the permitted quantity of raw water from the Biscayne Aquifer (30.12 mgd) minus the amount of raw water treated using LS (22.96 mgd). The RO value is equal to the permitted quantity from the Floridan Aquifer (8.52 mgd). While RO treatment firm capacity is less than the permitted quantity from the Floridan Aquifer, it is assumed that the City would be able to increase treatment capacity to treat 8.52 mgd, when needed.

## 5.6 Demand and Supply Adequacy Summary

The finished water and raw water demand is projected to remain within the treatment plant firm capacity, permitted raw water withdrawal limit, and treatment limit during the period from 2025 through 2045. A graphical presentation of the comparison is provided in Figure 5.1.

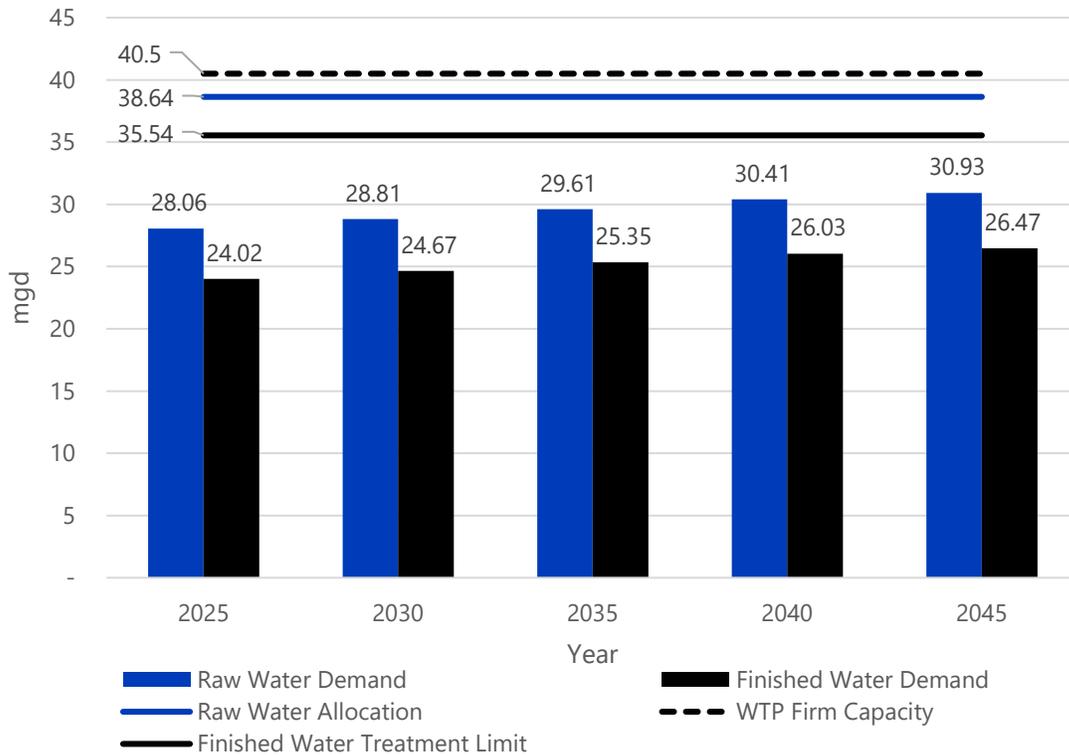


Figure 5.1 Comparison of Finished and Raw Water Demand Forecast to Treatment Capacity, Treatment Limit, and Withdrawal Limit – City of Hollywood Service Retail and BCWWS 3A and 3B/C from 2025 to 2045

## 5.7 Port Everglades

Port Everglades purchases water from the City of Fort Lauderdale. The historical metered water to Port Everglades is provided in Table 5.10. The annual average daily flow over the 5-year period from 2019 to 2024 was 1.06 mgd. Water flow varied within a narrow range of 0.95 mgd to 1.01 mgd from 2021 to 2023. In 2019, water flow was above average at 1.22 mgd. Water flow in 2020 and 2024 was slightly higher than average at 1.10 mgd both years.

Table 5.10 Historical Annual Average Daily Water Supplied to Port Everglades from the City of Fort Lauderdale

Calendar Year	Annual Average Daily Flow (mgd)
2019	1.22
2020	1.10
2021	0.95
2022	0.98
2023	1.01
2024	1.10
<b>Annual Average</b>	<b>1.06</b>

Source: 2025 City of Fort Lauderdale Water Supply Facility Work Plan, draft version dated June 19, 2025.

The adequacy of the City of Fort Lauderdale water system to supply Port Everglades is implicitly ensured in the 2025 Fort Lauderdale WSFWP. Within the 2025 Fort Lauderdale WSFWP, the forecasted water flow to Port Everglades is projected to remain steady at 1.21 mgd from 2025 to 2045. See Appendix G for the 2025 Fort Lauderdale WSFWP.

## SECTION 6 REGIONAL ISSUES AND INTERGOVERNMENTAL COORDINATION ACTIVITIES

This section summarizes the regional water supply planning issues that have the potential to impact the City. Intergovernmental coordination efforts are also reviewed for adequacy and if new activities will be needed because of changes in statutory requirements.

The City and the HLWD-DPU are cognizant of the regional issues that are impacting or have the potential to impact water supply, water demand, and utility infrastructure. The City works with other local governments and utilities to address the challenges and opportunities created. This section summarizes the regional issues being followed by the City including:

- Regional Climate Action Plan;
- Climate Change;
- Sea Level Rise;
- Saltwater Intrusion;
- Extreme Weather Events;
- Infrastructure Development;
- Lake Okeechobee Surface Water Allocation Limitations;
- Lowering Lake Okeechobee Level;
- Infrastructure Planned to Attenuate Damaging Peak Flow Events from Lake Okeechobee; and,
- Use of brackish groundwater from the Floridan Aquifer. Each is discussed in turn.

### 6.1 Regional Climate Action Plan

Southeast Florida is one of the most vulnerable regions to be impacted by climate change and sea level rise. This is largely the result of several unique geographic characteristics which include low land elevations, flat topography, a porous geology, and dense coastal development. In combination, climate change and sea level rise are expected to present significant challenges relating to water resource planning, management and infrastructure for communities throughout the region, which includes Palm Beach, Broward, Miami-Dade and Monroe counties. These communities have agreed to partner in regionally-coordinated climate mitigation and adaptation strategies as part of the Southeast Florida Regional Climate Change Compact (Compact) and have jointly developed and adopted a Regional Climate Action Plan (RCAP) including 17 recommendations that address “Water Supply, Management, and Infrastructure”. The 2018 LEC Plan Update and 2023-2024 LEC Plan Update both encourage local governments and utilities within the LEC Planning Area to participate in the Compact. Through its adoption of the Mayors’ Climate Action Pledge, the City of Hollywood has been committed to support the Compact and the RCAP since January 23, 2013.

Table 6.1 summarizes the water supply related recommendations from the RCAP 3.0.<sup>1</sup> These recommendations are intended to meet the goals of advancing water management strategies and infrastructure improvements needed to mitigate for adverse impacts of climate change and sea level rise on water supplies, water and wastewater infrastructure, and water management systems and have been incorporated throughout this Water Supply Facilities Work Plan Update and related comprehensive planning element updates.

Table 6.1 Water Supply Recommendations from the RCAP 3.0

Item	Recommendations
WS-1	Practice integrated water resources management.
WS-2	Foster innovative water management.
WS-3	Advance water resource management research.
WS-4	Coordinate regional investments in water management.
WS-5	Expand use of green infrastructure and net zero solutions.
WS-6	Use consistent future conditions water management scenario planning.
WS-7	Assess climate impacts on water infrastructure.
WS-8	Modernize water infrastructure development standards.
WS-9	Ensure a resilient regional flood control system.
WS-10	Integrate surface and groundwater impacts on infrastructure.
WS-11	Increase resilient water infrastructure and water quality.
WS-12	Phase out septic systems.
WS-13	Coordinate saltwater intrusion mapping.
WS-14	Develop a database of resilient water projects.
WS-15	Support the Comprehensive Everglades Restoration Plan (CERP).
WS-16	Expand surface water storage.
WS-17	Support private property adaptation.

Source: *The Water focus area chapter of the RCAP 3.0, published in November 2022.*

## 6.2 Climate Change

Investigations and evaluations conducted at the national, regional, and local levels have reinforced the need to plan for the predicted impacts of more frequent and severe drought and increases in tidal and storm-related flooding. To protect the City’s water supply infrastructure, ongoing planning efforts should be flexible to adapt to these climate changes.

The City of Hollywood, together with its municipal and regional partners, understands that local governments and water utilities must integrate water supply and climate change considerations through coordinated planning efforts. The City works to provide relevant updates to the 10-year Water Supply Facilities Work Plan and to enhance the Goals, Objectives and Policies (GOPs) of its Comprehensive Plan.

<sup>1</sup> [https://southeastfloridaclimatecompact.org/wp-content/uploads/2023/10/SEFL\\_RCAP3\\_Final.1.pdf](https://southeastfloridaclimatecompact.org/wp-content/uploads/2023/10/SEFL_RCAP3_Final.1.pdf)

The City is a leader in developing planning tools and identifying achievable and cost-effective goals that meet the needs of its community. In 2013, the City signed a resolution endorsing the Mayor's Climate Action Pledge in support of the Compact and the RCAP.

The City is a participant in the Compact. The Compact outlines an ongoing collaborative effort among the Compact participants to foster sustainability and climate resilience on a regional scale. The Compact participants include local communities, regulatory agencies, and the counties of Broward, Miami-Dade, Monroe and Palm Beach.

In June 2017, Hollywood Mayor Josh Levy joined Climate Mayors (a.k.a. the Mayors' National Climate Action Agenda) which is a Mayor-to-Mayor network collaborating on climate. There are no binding commitments except for the pursuit of actions to achieve an emissions reduction target through:

- Developing a community Greenhouse Gas (GHG) inventory;
- Setting near- and long-term targets to reduce emissions; and,
- Developing a Climate Action Plan aligned with the City's targets.

In addition to those actions, Climate Mayors join in occasional letters and statement. On June 1, 2017, the City of Hollywood joined in a statement in response to President Trump's withdrawal from the Paris Climate Agreement.

The City approved a Sustainability Action Plan on March 15, 2017 and voted on Resolution R-2017-168 in June of the same year to reaffirm its commitment to the Plan. The Plan contains 99 actions to achieve 32 goals within 7 focus areas. Progress towards the goals will be measured by a set of 22 metrics. The focus areas are: (1) Leadership by Example; (2) Resiliency (Climate Action Plan); (3) Built Environment; (4) Environmental Quality; (5) Resource Stewardship; (6) Mobility; and (7) Community Engagement.

In 2020, the City conducted a review of climate change impacts on the City's water system as part of the America's Water Infrastructure Act (AWIA) Risk and Resilience Assessment. In the same year, the City also conducted a Citywide Vulnerability Assessment and Adaptation Plan (CVAAP). In 2023, the City began updating the CVAAP to ensure compliance with the new state law in Section 380.093 F.S. that was enacted in 2021. As of May 2025, this update effort is not yet completed and has not published its findings. The findings from those completed studies and the information from the Broward County Climate Change Task Torce and the Compact were used for the evaluations and project planning in the City's 2024 Water Master Plan.

### **6.3 Sea Level Rise**

The sea level is rising as reflected in the City's sunny day flooding events. The flooding frequency has been on average less than 8 days per year. With an expected sea level rise above 2 feet, measured to the North American Vertical Datum (NAVD), by the year 2060, the frequency is estimated to increase to 226 days per year. The U.S. Army Corps of Engineers and Broward County conducted a study of flood risk management in Hollywood Lakes and Las Olas Isles in the City of Fort Lauderdale. They modeled different seawall heights to determine how well the walls would protect property from flooding caused by king tides and storms of varying strength.

Based on these findings, the Broward County Commission proposed new regulations for seawall heights in 2018, which are 4 feet NAVD by 2035 and 5 feet NAVD by 2050. These regulations would be an integral part of a holistic approach the County is developing to address tidal flooding and surge protection. In 2019, the County drafted an amendment to its Code of Ordinances to establish regionally consistent minimum seawall and top-of-bank elevation standards for tidally influenced areas, excluding oceanfront beaches, in the unincorporated area of the County to improve flood protection under conditions of sea level rise. In January 2020, the County enacted an amendment to its Land Use Plan creating Policy 2.21.7, requiring tidally influenced municipalities to enact regionally consistent elevations for seawalls, banks and berms, and other appurtenant infrastructure (i.e., boat ramps) consistent with the findings and recommendations of the United States Army Corps of Engineers/Broward County Flood Risk Management Study for Tidally Influenced Coastal Areas within 2 years. Resilience features like this will help prevent large increases in national flood insurance rates.

The City of Hollywood updated its seawall ordinance (O-2022-01) on February 2, 2022 to establish tidal flood protection regulations, and creating Section 150.30 to establish construction and infrastructure standards for seawalls and tidal flooding barriers that account for projected sea level rise. To enhance shoreline protection, the City has initiated the Tidal Flooding Mitigation and Shoreline Protection projects in 2019. Phase I of the projects is to add tidal flooding mitigation where no current shoreline protection exists, and Phase II is improvements to the existing shoreline protection. Bids were solicited for the installation at five sites from December 2024 to January 2025 and to be funded with Federal Funds from the FDEP, and the City Commission approved a budget of approximately \$3.6 million on March 5, 2025.

Development of cost-effective sea level rise adaptation strategies to ensure the sustainability of the City’s water supply is critical to all ongoing planning efforts. A unified projection by the Compact developed in 2015, which the City formally accepted in its 2016 Resolution R-2016-015, is illustrated in Figure 6.1. It shows a 6- to 10-inch increase in sea level in the near term, and a 14- to 26-inch rise by mid-century.

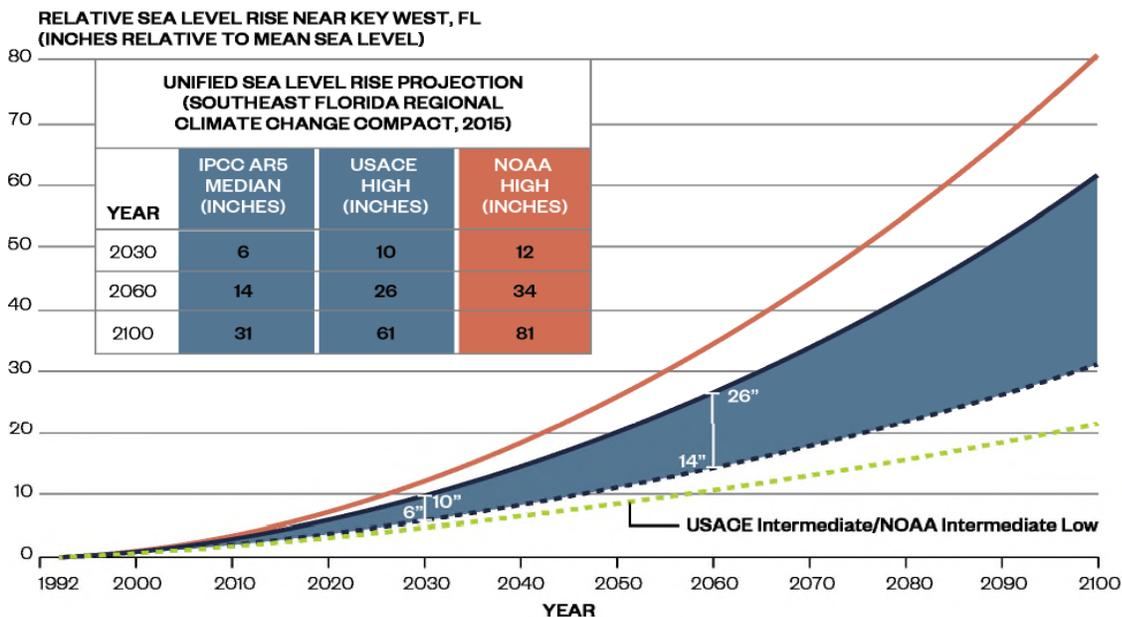


Figure 6.1 Sea Level Rise Projections (2015)

In December 2019, the Compact updated the sea level rise projection based on the NOAA 2017 Global and Regional Sea Level Rise Scenarios for the United States report. This update increased the projected magnitude of sea level rise. The revised projection is provided in Figure 6.2.

In 2024, the Compact conducted its 5-year review to assess the NOAA 2022 Sea Level Rise Technical Report and observed regional sea level trends. While the NOAA 2022 Report’s near-term sea level rise projections are lower than those in the NOAA 2017 Report, the Intermediate, Intermediate-High, and High scenarios from the NOAA 2022 Report remain within the Compact’s 2019 Projection and guidance planning range, especially from about 2030 onward. Figure 6.3 shows a comparison of NOAA’s 2017 and 2022 projections. Additionally, observed sea level rise at the Key West and Virginia Key tide gauges over the past decade has stayed within the Compact’s 2019 recommended planning range. Therefore, the Compact issued a statement in December 2024 affirming the continued applicability of the 2019 Regionally Unified Projection in Southeast Florida as a basis for resilience planning, design, and construction. The Compact plans to review and update the guidance as updated scientific data and modeling results emerge. This 2019 update continues to be used as the basis for planning throughout the region.

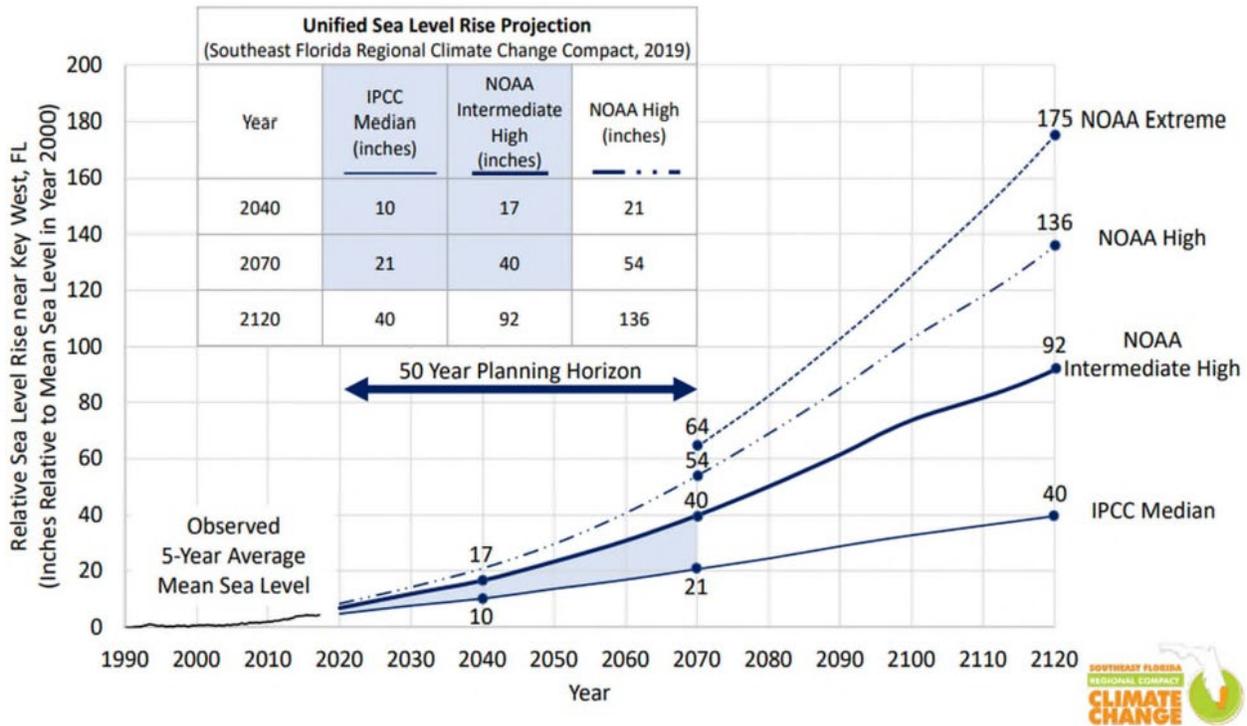
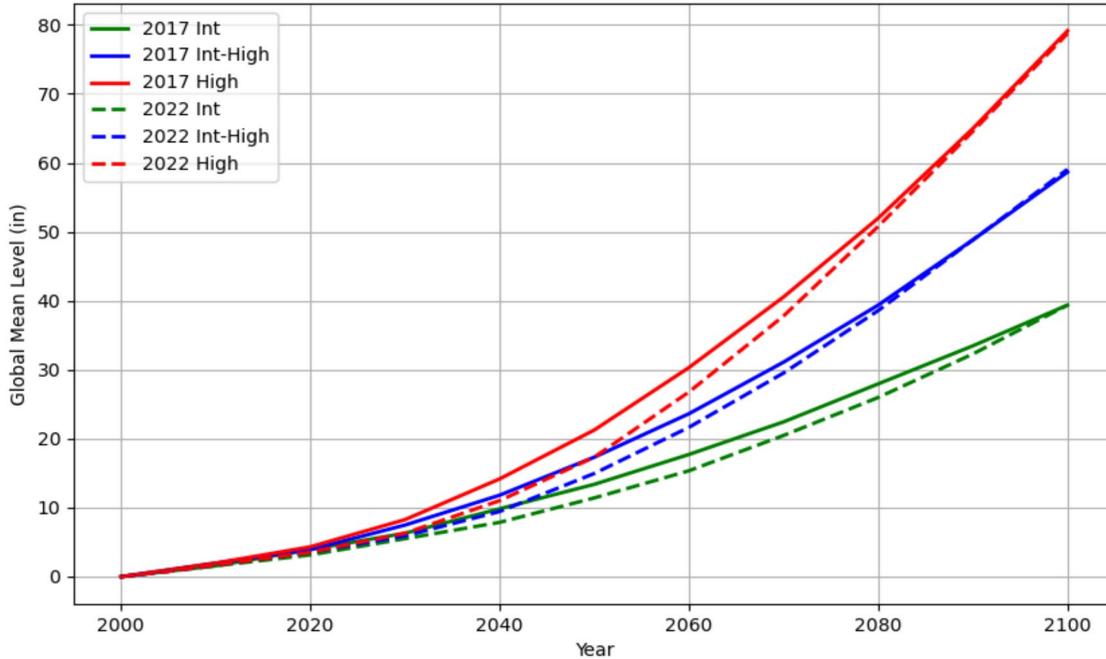


Figure 6.2 Sea Level Rise Projections (2019)



Source: Figure 1 of the Compact's 2024 Statement of Continued Use of the 2019 Southeast Florida Regionally Unified Sea Level Rise Projection.

Figure 6.3 Comparison of NOAA Sea Level Rise Projections – 2017 vs. 2022

In terms of infrastructure, every aspect that is underground or touches the ground will need to be assessed for its vulnerability and, if necessary, protected. This includes basic services, such as provision of drinking water, sewage treatment, electricity and waste disposal. The City's ongoing CVAAP update effort includes this analysis and adaptation planning.

## 6.4 Saltwater Intrusion

The Biscayne Aquifer is the City's primary water supply. It is a shallow, surficial, highly transmissive aquifer. Coastal saltwater intrusion of the aquifer has occurred in eastern parts of Broward County. The extent of saltwater intrusion is measured by the depth and location of the 250 mg/L chloride concentration toe. The mapping of this saltwater intrusion front is supported by local governments throughout the region, the United States Geologic Survey (USGS), and the SFWMD. The SFWMD's 250 mg/L Isochlor Line, as published in 2024, in Broward County is illustrated in Figure 6.4. It indicates that the saltwater intrusion front has largely remained steady, with some inland shifts observed.

At the toe of the saltwater front, chloride concentrations exceed drinking water standards of 250 mg/L and thus restrict and/or require abandonment of wellheads located east of the saltwater intrusion line. It has been concluded that movement of the saltwater front is primarily caused by the historic lowering of the water table in western Broward County for the construction of regional drainage canals. Currently, surface water canals and salinity control structures are operated to maintain water levels that effectively limit inland saltwater migration, and no regional declines in water levels have been observed. However, sea level rise is expected to expedite the inland movement of the saltwater front. Therefore, while the City's Biscayne Aquifer wellfields are located sufficiently west of the 250 mg/L Isochlor, the City continues to monitor its movement and the potential impact on the City's water supply.

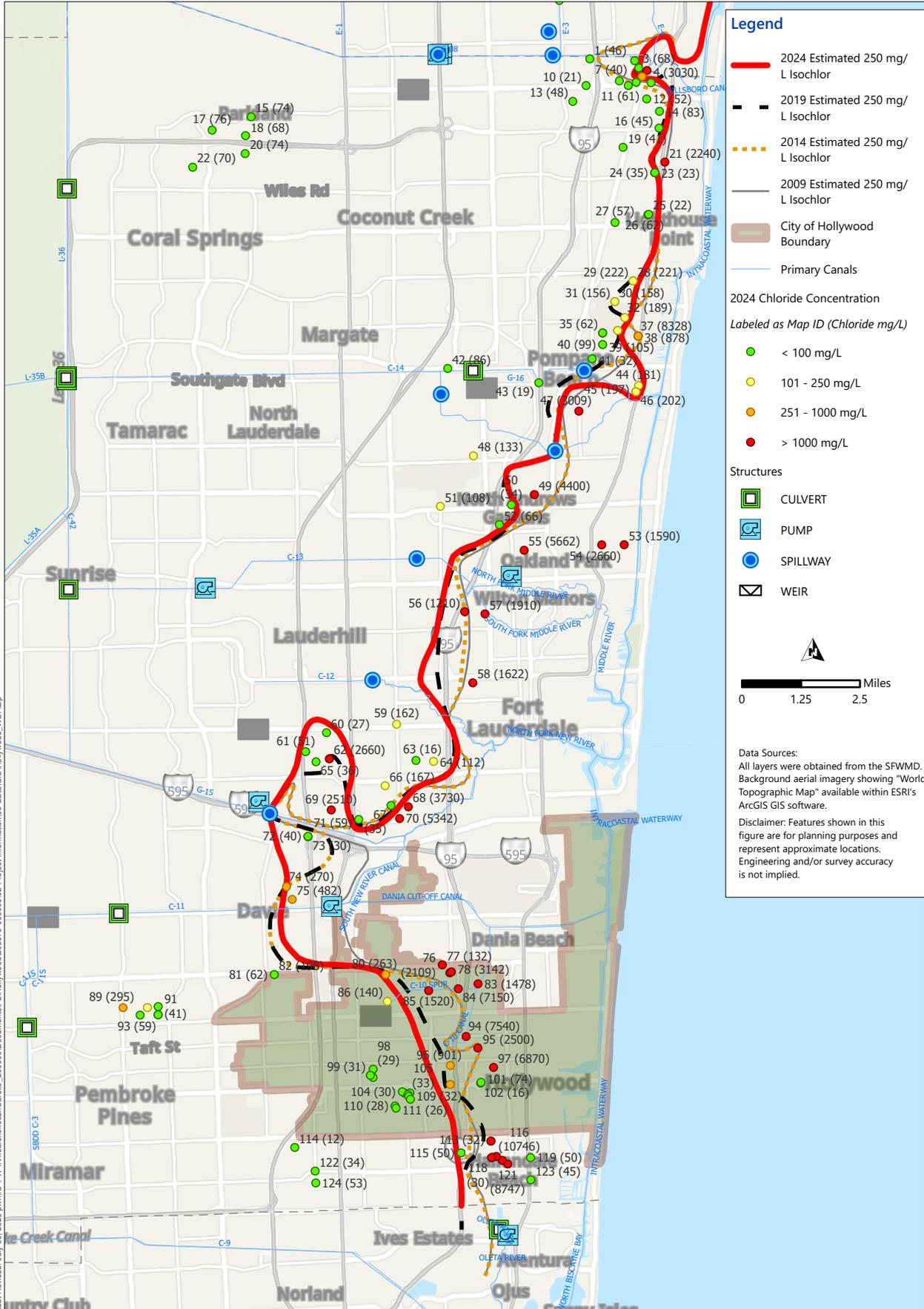


Figure 6.4 250 mg/L Isochlor Line in Broward County (SFWM)  
 CITY OF HOLLYWOOD FLORIDA

Last Revised: July 30, 2025 pw:\O-PW-INT\Carollo\_2000000\Documents\F\Hollywood\203879-00000002\_Project\_Information\03\_Data\GIS\Hollywood\_MSP.zip

## 6.5 Extreme Weather Events

An increase in frequency and severity of extreme weather events may be an impact of climate change. Comprehensive planning should consider impacts and risks associated with drought, water shortages and reduced groundwater tables, all of which can hasten saltwater intrusion and exacerbate water supply deficits. Conversely, more intense rainfall will cause flooding, increased runoff, impacts to the natural systems and provide more recharge potential for wellfields. Integrated water resource management strategies will help to mitigate these impacts, particularly those projects that can serve to provide additional long-term storage of stormwater runoff and redistribution of excess rainfall during dry periods and drought. Regional surface water reservoirs and below ground aquifer storage and recovery systems (ASR) are potentially viable alternative water supply projects and climate adaptation strategies.

## 6.6 Infrastructure Development

To ensure the long-term sustainability of key facilities in the face of climate change, sea level rise and extreme weather events, it becomes critical to diversify water supply sources, improve treatment technologies, and develop adaptive stormwater and wastewater infrastructure design criteria. Strategic infrastructure planning should incorporate these opportunities and work within the GOPs of the Comprehensive Planning process and 10-year Water Supply Facilities Work Plans to provide for long-term sustainability and a balanced approach to future development.

Increases in groundwater elevations, as a direct and indirect response to sea level, will challenge the function of drainage systems and are expected to exacerbate future flooding for even mild storm events. Future conditions will be more severe with extreme rainfall events increasing damage to low-lying utility infrastructure and contributing to prolonged surface water flooding. Planning for the combined influences of storm events, high tides and sea level rise on drainage system functions and other public infrastructure is a critical need as is the assessment of viable water supplies and impacts to the natural systems from prolonged droughts.

Options that provide for a diversification of water projects and protection of resources will be fundamental and may include changing treatment technologies; developing regional water storage such as the C-51 Reservoir; improving (or relocating) infrastructure in low lying areas; and enhancing operational flexibility. The City's planning effort regarding water supply infrastructure includes use of the Floridan Aquifer as an alternative water supply source and considerations of issues impacting water supply and demand including the RWA Rule, the C-51 Reservoir Project, the Ocean Outfall Program, and the RCAP.

The RWA Rule was adopted by the SFWMD on February 16, 2007. The RWA limits raw water withdrawals from the Biscayne Aquifer to the maximum quantity withdrawn during any consecutive 5 years preceding April 2006. It aims to prohibit increased allocations that induce increased seepage from the canals, in support of the Minimum Flow and Minimum Water Level (MFL) recovery strategies for the Everglades and the Northwest Fork of the Loxahatchee River. Cities needing additional water supplies are required to seek sources that are not dependent upon the Everglades for recharge. These alternative water supply solutions include recycling water, using reclaimed water to recharge the Biscayne Aquifer, or drawing water from the deeper Floridan Aquifer.

The RWA Rule limited the City's Biscayne Aquifer withdrawal from its two wellfields to 24.80 mgd on an annual average day basis. Currently, the City is limited to a 5.78 mgd total allocation from the County's SRW. The Floridan Aquifer, as the City's alternative water source, will provide the additional water needed to serve future increases in demand.

## **6.7 Lake Okeechobee Surface Water Allocation Limitations**

Surface water allocations from Lake Okeechobee and the Water Conservation Areas are limited in accordance with the Lake Okeechobee Service Area Restricted Allocation Area (RAA) criteria. In 2008, the SFWMD adopted RAA criteria for the Lake Okeechobee Service Area as part of the MFL recovery strategy for Lake Okeechobee. The criteria limit allocations from Lake Okeechobee and integrated conveyance systems hydraulically connected to the lake to base condition water uses that occurred from April 1, 2001 to January 1, 2008. After adoption of the RAA, all irrigation users in the Lake Okeechobee Service Area were required to renew their water use permits.

In 2007, the SFWMD adopted the LEC RWA criteria to prohibit increases in surface water and groundwater withdrawn from the North Palm Beach County/Loxahatchee River Watershed Waterbodies and Lower East Coast Everglades Waterbodies above base condition water uses permitted as of April 1, 2006. This also includes canals that are connected to and receive water from these water bodies. New direct surface water withdrawals are prohibited from the Everglades and Loxahatchee River watersheds and from the integrated conveyance systems. These criteria are components of the MFL recovery strategies for the Everglades and the Northwest Fork of the Loxahatchee River.

While the City is not directly impacted by the Lake Okeechobee surface water allocation limitations, the City is directly impacted by the LEC RWA criteria as it applies to the Lower East Coast Everglades Waterbodies. These criteria impact the amount of permitted water quantities available to the City from the Biscayne Aquifer.

Recently, the USACE completed the rehabilitation of the Herbert Hoover Dike in 2023 and revised the Lake Okeechobee System Operating Manual (LOSOM) in 2024 to increase storage volumes and water supply improvement. The LOSOM is intended to replace the current 2008 Lake Okeechobee Regulation Schedule (LORS08). It includes operational flexibility in managing Lake Okeechobee water levels, and the SFWMD will provide the USACE with weekly operational guidance. The goals are to send more water south, reduce damaging discharges to the Calooshatchee and St. Lucie estuaries, and improve water supply performance. However, the SFWMD's analysis suggested that these improvements are not sufficient to allow Lake Okeechobee to return to an MFL prevention strategy and Lake Okeechobee remains in recovery status. The Lake Okeechobee MFL recovery strategy was revised as part of the 2023-2024 LEC Plan Update, with consideration of the Herbert Hoover Dike repairs, a new lake regulation schedule, and additional storage projects. The recovery strategy's capital projects component was revised, but the environmental enhancement, regulatory criteria, and water shortage components were not changed. The SFWMD will continue to allocate water for existing and future reasonable-beneficial uses pursuant to its regulatory rules and criteria described in Section 3.2.1F 1-5 of the *Applicant's Handbook for Water Use Permit Applications within the South Florida Water Management District* (Applicant's Handbook; SFWMD 2022) and Chapter 40E-21 F.A.C.

## 6.8 Infrastructure Planned to Attenuate Damaging Peak Flow Events from Lake Okeechobee

Construction of additional storage systems (e.g., reservoirs, aquifer storage and recovery systems) to capture wet season flow volumes may increase water availability during dry conditions and attenuate damaging peak flow events from Lake Okeechobee. There are four planned projects in the Lake Okeechobee region of the LEC Planning Area, a list of those projects and their statuses are listed in Table 6.2.

Table 6.2 Water Resource Development Projects Within the LEC’s Lake Okeechobee Planning Area

LEC Region	Project	Status
Lake Okeechobee	CERP Lake Okeechobee Watershed Restoration Project (LOWRP)	Planning/ Construction
	USACE Herbert Hoover Dike Major Rehabilitation	Construction Complete
	Lake Okeechobee Component A Storage Reservoir (LOCAR)	Planning
	Central Everglades Planning Project (CEPP) A-2 Reservoir and Stormwater Treatment Area (STA)	Planning/ Construction

Source: Table ES-2 of 2023-2024 LEC Plan Update.

For protection near the City, the infrastructure planned to attenuate damaging peak flows to surface water bodies and coastal ecosystems located near the City are those underway in Broward County by the SFWMD and the U.S. Army Corps of Engineers under the Comprehensive Everglades Restoration Project (CERP). According to the 2023-2024 LEC Plan Update, this project is within the LEC Service Areas region and is in the planning and design phase.

The Broward County Water Preserve Areas (BCWPA) project is part of the CERP and was designed to restore the ecological health of the Everglades. Its two primary functions are:

1. Reduce seepage loss from WCA-3A/3B to developed areas (i.e., the C-9 and C-11 basins);
2. Capture, store, and distribute surface water runoff from the western C-11 Basin that has been discharges into WCA-3A/3B.

The following major infrastructure features will be constructed as part of the project.

- C-11 Impoundment – A 1,168-acre impoundment that is the first feature of the BCWPA project. As of June 2024, the USACE anticipated the final design to be completed by the end of FY2024 and land clearing to be initiated in March 2025. Its purpose includes:
  - » Capture and store stormwater runoff from the western C-11 Basin.
  - » Stop pumping of untreated runoff into the WCA-3A through the S-9 pump station.
  - » Reduce seepage from WCA-3A and WCA-3A/3B Seepage Management Area, thereby increasing groundwater recharge.
  - » Provide additional water source.
  - » Prevent saltwater intrusion into drinking water aquifers.
- WCA-3A/3B Seepage Management Area – A 4,353-acre seepage management area. As of June 2024, the USACE anticipated the design to be performed in FY2025 to FY2028 and construction to be completed by FY2032. Its purpose includes:
  - » Establish a buffer to reduce seepage from WCA-3A/3B.

- » Connect the C-11 and C-9 impoundments via conveyance canal.
- » Maintain flood protection.
- C-9 Impoundment – A 1,641-acre impoundment. As of June 2024, the USACE anticipated the design to be performed in FY2025 to FY2029 and construction to be completed by FY2035. Its purpose includes:
  - » Capture and store stormwater runoff from the C-9 Basin.
  - » Store C-11 Impoundment overflow.
  - » Manage seepage.
  - » Provide releases for regional benefit.

These infrastructure features will provide various functions such as reducing seepage from WCA-3A, reducing phosphorus loading to WCA-3A, capturing stormwater otherwise lost to tide, and providing conveyance features for urban and natural system water deliveries. The preserve areas will benefit federally listed threatened and endangered species and many wading birds. This project provides water supplies identified in the Everglades MFL recovery strategy. The project received congressional authorization in the 2014 Water Resources Reform and Development Act (WRRDA). Initial construction contract was completed in November 2018 for the North Mitigation Area A Berm (MAAB) of the C-11 Impoundment, and land clearing initiated in March 2025. Design efforts are being finalized for the C-11 Impoundment but has not been initiated for the WCA-3A/3B Seepage Management Area and C-9 Impoundment.

The City continues to monitor the status of environmental restoration projects in the LEC.

## **6.9 Use of Brackish Groundwater from the Floridan Aquifer**

The City of Hollywood was the first south Florida utility to develop water supply from the Floridan Aquifer. Currently, the City is permitted to withdraw an annual average quantity of 8.68 mgd. The City has existing RO treatment capacity to process 7.5 mgd of raw water and the ability to expand this capacity as needed.

## **6.10 Local Supply and Service Agreements and Coordination**

The HLWD-DPU maintains formal agreements with its raw water providers and bulk water customers and communicates and coordinates with them on a regular basis through a variety of methods. In 1994, the City signed a "Large User Raw Water Agreement" with Broward County to purchase raw water from the County's South Regional Wellfield. This agreement was amended in 2004 and is still current. The City also has a current "Finished Water for Resale Agreement" with Broward County since 1991 to provide finished water to the County's 3A and 3B/3C distribution systems. The CUP modification issued by SFWMD on March 11, 2020 allows the City to use up to 2,153 MGY annually and 240 MGM monthly from the County's South Regional Wellfield to meet the County's 3A and 3B/3C demands.

The City of Dania Beach also purchases finish water from the City on an emergency basis through an "Interlocal Agreement for Emergency Water Interconnection" agreement that was signed in 2008.

The City ensures that adequate water supply is available to fulfill its obligations to its large water users by planning and projecting future demand in the area (See Section 5) and by maintaining an open line of communication with the involved municipalities. The City conducts individual meetings with Broward County and the City of Dania Beach as issues arise which may be hosted by either party. Consultants and various agency representatives may be added to the aforementioned meetings and communications as warranted. Formal meetings are augmented by emails and phone contacts.

Additionally, the HLWD-DPU has a designated large user coordinator to facilitate communication between multiple interested parties. Primary operational, budgetary, and field contacts are frequently updated and distributed to each large user to further facilitate planning and coordination activities. At this time, the current coordination activities between the City and its large water users/ raw water supplier are sufficient and additional activities will be scheduled as deemed necessary by either party.

## SECTION 7 WATER SUPPLY CAPITAL IMPROVEMENTS

This section identifies the capital improvements required to build public water supply facilities to serve the existing and new development within the City of Hollywood jurisdiction.

The City's overall Capital Improvement Program (CIP) identifies capital improvement projects for the HLWD-DPU that are related to repair and replacement work needed to proactively maintain the level of service for the City's water distribution system. While the City has sufficient existing water supply and treatment infrastructure in place, alternatives have been evaluated to transition away from LS treatment and expand the RO and MS treatment capacity. As outlined in Section 9 of the 2024 Water Master Plan, expanding the MS and RO systems will reduce reliance on the aging LS infrastructure, improve water quality and consistency, and provide protection against current and future regulated contaminants such as PFAS.

### 7.1 Funding

The City of Hollywood has historically supplemented its revenues from the following funding sources: alternative water supply grants, low-interest state revolving funds (SRFs), water impact fees, and bond proceeds (debt financing). The City anticipates continuing the use of these revenue and funding sources over the next 5 years to implement the Capital Improvement Projects for repair, replacement, and upgrades of existing infrastructure. No additional funding is needed for water supply or treatment expansion. It should be noted that water supply rates can be increased by City Commission action, without third party concurrence, to support the issuance of revenue bonds for any projects not funded by other means. In November 2024, a new utility rate went into effect which slightly increased costs to customers and simplified the tiered rate structure. Under the new structure, the cost for the average customer has increased by less than one dollar per month. The modified three-tiered rate structure provides incentives and rewards for conserving water. These rates paid by customers support the Capital Improvement Program.

### 7.2 Projects Reported in 2023-2024 LEC Plan Update

As reported to the 2023-2024 LEC Plan Update effort, the City proposed two potable water supply projects that could expand its RO treatment capacity and diversify water supply sources with new FAS wells. The planned completion dates for those proposed projects are 2034 and 2042, details of those projects are summarized in Table 7.1.

Table 7.1 City of Hollywood Proposed Potable Water Projects

Project Name	Project Description	Project Capacity (mgd)	Total Capital (\$M)	Estimated Completion Date
2.00 mgd RO Facility Expansion Train E and FAS Wells F14 and F15	Construct Train E to expand RO capacity by 2.00 mgd at the Hollywood WTP and construct FAS Wells F14 and F15	2.00	\$5.00	2034
2.00 mgd RO Facility Expansion Train F and FAS Wells F16 and F17	Construct Train F to expand RO capacity by 2.00 mgd and construct FAS Wells F16 and F17	2.00	\$5.00	2042
<b>Total</b>		<b>4.00</b>	<b>\$10.00</b>	

Source: Table 8-2 of the 2023-2024 LEC Plan Update

### 7.3 All Planned Projects

In addition to the proposed shift in treatment technology, the CIP includes all treatment, supply and distribution projects expected from 2025 to 2045. These projects will rehabilitate or replace equipment approaching its useful life, address performance issues, and keep pace with population growth and increasingly stringent regulatory requirements. The detailed list of projects and explanation of the prioritization approach are discussed in Section 10 of the 2024 Water Master Plan. To summarize this information, tables including the implementation year and estimated cost can be found below for each project type. Table 7.2 presents the projects focused on the treatment system. Table 7.3 shows the projects related to supply and Table 7.4 contains the distribution system projects which make up the majority of the CIP projects.

Table 7.2 City of Hollywood Water Utility Capital Improvement Program – Treatment Projects

Project Title	Implementation Year	Total Estimated Project Cost
Implementation of 4-Log Virus Treatment	0-5	\$8,000,000
Replacement of Media and Underdrain for Up Filters	6-10	\$3,850,000
Degasifier Nos. 2, 3, and 4 Media Replacement, Inspection	6-10	\$281,000
WTP Membrane Softening Trains Replacement – Phase 1 / Membrane Replacement of 7 MS Trains	0-5	\$25,004,000
Phase 1 – Demo Spiractors 1-6 and All Lower Filters and Expand Existing MS / RO Capacity in Existing Building	0-5	\$40,867,000
Phase 2 – Demo Spiractors 7-12 and Construct New MS Building II	6-10	\$26,147,000
2024 WTP Maintenance Package A	0-5	\$4,400,000
2024 WTP Maintenance Package B	0-5	\$4,400,000
Antiscalant, Fluoride, and HEX System Upgrades	6-10	\$1,713,000
Evaluation and Rehab Caustic Tanks	0-5	\$1,100,000
Mudhouse Rehabilitation	0-5	\$5,000,000
Concrete Tanks Structural Rehabilitation	6-10	\$230,000

Project Title	Implementation Year	Total Estimated Project Cost
Admin Control Room and PLC Upgrade	11-20	\$691,000
Storage Tank Nos. 3 and 4 Valve Replacement	6-10	\$204,000
Blend Tank Pumps and Piping Improvement	11-20	\$2,840,000
Wellfield Generator Assessment and Implementation	6-10	\$2,660,000
Miscellaneous WTP Improvements	6-10	\$553,000
Miscellaneous WTP Improvements – Long Term	11-20	\$1,155,000
Pavement Resurfacing of Entire WTP	0-5	\$425,000
WTP Fence Replacement	0-5	\$2,200,000
<b>Total</b>		<b>\$131,720,000.00</b>

Source: Table 10-5 of the 2024 City of Hollywood Water Master Plan Final Report.

Table 7.3 City of Hollywood Water Utility 5-Year Capital Improvement Program – Supply Projects

Project Title	Implementation Year	Total
Secondary High Service Pump Replacement	0-5	\$5,000,000
Wellfield Development (B36, B37, & B41)	0-5	\$8,555,000
Floridan Wells Abandonment and Relocation (F2 and F4)	0-5	\$6,210,500
Biscayne Wellfields Phased Rehabilitation	6-10	\$1,800,000.00
Floridan Wellfields Phased Rehabilitation	6-10	\$900,000.00
Total Supply Projects Cost		\$22,465,500

Source: Table 10-5 of the 2024 City of Hollywood Water Master Plan Final Report.

Table 7.4 City of Hollywood Water Utility 5-Year Capital Improvement Program – Distribution Projects

Project Title	Implementation Year	Total
West Elevated Tank Rehabilitation	0-5	\$3,300,000
East Elevated Tank Rehabilitation	0-5	\$3,300,000
2" & 3" GP Replacement between W Chaminade Dr and N 56th Ave, and 8" WM Replacement on Hollywood Blvd	0-5	\$1,271,000
30" WM Replacement on Hollywood Blvd and 2" GP Upgrade between Johnson St and Hollywood Blvd	0-5	\$10,684,000
8" & 4" WM Replacement and 2" GP Upgrade to the Northeast of E Pembroke Rd and S Federal Hwy	0-5	\$3,822,000
6" WM Replacement and 2" Upgrade East of I-95	0-5	\$7,943,000
2" GP Upgrade on Sheridan St	0-5	\$660,000
Ground Storage Tank Rehabilitation	6-10	\$1,630,000
24", 8" & 6" WM Replacement and 3", 2.5", 2" & 1" Near the Intersection of I-95 and Taft St (5135 partial)	6-10	\$9,586,000
24" WM Replacement on Van Buren St and 2" Upgrade on S 29th Ter	6-10	\$4,071,000

Project Title	Implementation Year	Total
30", 24", 18", 16", 8" & 6" WM Replacement and 2" Upgrade on Hollywood Blvd and N 35th Ave	6–10	\$9,308,000
24" WM Replacement on Taft St and 3rd, 2.5" & 2" Upgrade West of Rotary Park	6–10	\$4,071,000
3", 2.5" & 2" Upgrade North of Hollywood Blvd and West of N 35th Ave	6–10	\$6,171,000
12", 8", 6" & 4" WM Replacement and 2" Upgrade North of Stirling Rd and West of Florida's Turnpike	6–10	\$5,639,000
24" & 6" WM Replacement and 2" Upgrade East of I-95 on Sheridan St	6–10	\$3,609,000
12", 10", 8", & 6" WM Replacement and 2" Upgrade between Sheridan St and Taft St	6–10	\$8,871,000
12" WM Replacement and 2" Upgrade Near Dania Beach Drawbridge	6–10	\$367,000
24" WM Replacement on Sheridan St and 2" Upgrade South of Sheridan St	6–10	\$4,669,000
Installation of 8" Water Main Railroad Crossing at Polk Street	6–10	\$1,000,000
16" Water Main from Tyler St to Washington St	6–10	\$1,270,000
Asbestos Cement and Lead Goosenecks Replacement on City's West Side	6–10	\$1,000,000
Onsite Distribution Header Upgrades	11-15	\$1,568,000
3", 2.5" & 2" Upgrade West of N 35th Ave between Taft St and Johnson St	11-15	\$5,674,000
6" WM Replacement and 2" Upgrade Northwest of Taft St and N Longfellow Cir	11-15	\$4,116,000
10" WM Replacement from Hollywood Blvd to Washington St	11–15	\$10,724,000
12", 10", 8" & 6" WM Replacement and 2" Upgrade East of Driftwood Park	11–15	\$8,479,000
12", 8", 6" & 4" WM Replacement and 2" Upgrade East of 72nd Ave and South of Johnson St	11–15	\$6,992,000
12", 8", 6" & 4" WM Replacement and 2" Upgrade East and West of Hollywood Blvd and South of Johnson St	11–15	\$11,680,000
Replacement of Lead Service Lines per LSLR	11–15	\$6,300,000
12", 8", 6" & 4" WM Replacement and 2" Upgrade West of Florida's Turnpike and South of Taft St	16–20	\$8,481,000
12", 8", 6" & 4" WM Replacement and 2" Upgrade in Corner of Ike Blvd and West of Stirling Rd	16–20	\$12,040,000
12", 8", 6" & 4" WM Replacement and 2" Upgrade West of Florida's Turnpike and North of Stirling Rd	16–20	\$11,679,000
12", 8", 6" & 4" WM Replacement and 2" Upgrade on A1A between Sheridan St and Emerson Dr	16–20	\$12,634,000
12", 10", 8", 6" & 4" WM Replacement and 2" Upgrade West of Hollywood Blvd and West of State Rd 7	16–20	\$3,594,000
12", 8", 6", 4" & 2" WM Replacement and 2" Upgrade North of Hollywood Blvd and East of Florida's Turnpike	16–20	\$6,835,000
<b>Total Distribution Project Costs</b>		<b>\$210,885,000</b>

Source: Table 10-5 and 10-6 of the 2024 City of Hollywood Water Master Plan Final Report.

## SECTION 8 COMPREHENSIVE PLAN (RELATED AMENDMENTS)

This section includes an assessment of the City's Comprehensive Plan GOPs and identifies any new or revised GOPs, within the Infrastructure and Capital Improvement Elements, needed to implement the work plan. For ease of identification, edits are tracked in Table 8.1 and Table 8.2 with ~~strikeout~~ (text deleted) and underline (text added).

The City's Division of Planning and Urban Design is in the process of revising the Comprehensive Plan. This Section will be completed prior to submittal to the SFWMD and adoption.

## SECTION 9 SUMMARY AND CONCLUSION

Local governments are mandated by Florida Legislature to submit a Water Supply Facilities Work Plan (WSFWP) to ensure linkage between the Regional Water Supply Plan and their individual comprehensive plans. The WSFWP is to address infrastructure and conservation requirements, needed capital improvements, and intergovernmental and water supplier coordination. It is required that the WSFWP be updated every 5 years, or within 18 months after the Governing Board adoption of an updated Regional Water Supply Plan so that the local plan reflects the changes of the regional plan.

This WSFWP has been prepared for the City of Hollywood. The purpose of this WSFWP is to assess the City's current water sources and existing facilities and evaluate their adequacy to meet the projected future raw and treated water demands. The WSFWP development will facilitate the required coordination efforts for water supply and land use planning between the City's Planning and Zoning Department and Department of Public Utilities, the SFWMD, BCWWS, and other water service providers within the City's jurisdiction.

### 9.1 City Service Area

The City of Hollywood, situated in southeastern Broward County, spans roughly 30 square miles. The City's water service area includes most of its jurisdiction, along with portions of Davie and Dania Beach. The City's water system also provides finished water to BCWWS Districts 3A and 3B/C. Port Everglades is served by the City of Fort Lauderdale.

Table 9.1 Geographic Size of Water Utility Service Areas in Square Miles

Water Utility Serving the Geographic Area	In the City's Jurisdiction	Out of City's Jurisdiction and Served by City's WTP	Total Served from City's WTP by Water Service Area
HLWD-DPU (City WTP) to City of Hollywood Customers	26.03	0.38	26.41
HLWD-DPU (City WTP) to BCWWS District 3A Customers	0.00	7.59	7.59
HLWD-DPU (City WTP) to BCWWS District 3B/C Customers	0.64	5.69	6.33
Fort Lauderdale Public Works Department to Port Everglades	2.00	0.00	0.00
<b>Total</b>	<b>28.67</b>	<b>13.66</b>	<b>40.33</b>

*Sourced from GIS estimates delineated based on the 2023-2024 LEC Plan Update. Port Everglades size estimate was sourced from Water Supply Plan Potable Water Sub-Element, City of Hollywood, Florida, January 2015.*

## 9.2 Existing Potable Water Facilities

### 9.2.1 Raw Water Allocation

The City of Hollywood obtains its raw water from the Biscayne and Floridan Aquifers. The City's Water Use Permit (WUP) No. 06-00038-W allows for an annual average daily withdrawal of 24.80 mgd from the Biscayne Aquifer and 8.68 mgd from the Floridan Aquifer. The City also has an agreement to purchase 5.78 mgd of Biscayne Aquifer raw water from Broward County's South Regional Wellfield (SRW). The permitted annual and monthly withdrawal limits are shown in Table 9.2.

Table 9.2 City of Hollywood Permitted Groundwater Withdrawal Quantities and Contracted Groundwater Quantities from Broward County's SRW

Water Supply Source	Annual Withdrawal Limit		Maximum Monthly Withdrawal	
	MG	Average Daily mgd	MG	Average Daily mgd
(1)	(2)	(3) = (2) / 365	(4)	(5) = (4) / (365/12)
Biscayne Aquifer				
Western (Chaminade) Wellfield	5,475	15.00	497.30	16.35
South Wellfield	3,577	9.80	324.90	10.68
Subtotal – Biscayne Aquifer	9,052	24.80	822	27.03
Floridan Aquifer				
Floridan Aquifer	3,168	8.68	259.00	8.52
Subtotal – City Permitted	12,220	33.48	1,081.00	35.55
Contracted from Broward County SRW	2,153	5.90	240.00	7.89
<b>Total – All Sources</b>	<b>14,330</b>	<b>39.38</b>	<b>1,278.20</b>	<b>43.44</b>

Source: SFWMD Water Use Permit No. 06-00038-W (expires on April 10, 2028), Letter from Broward County to the City of Hollywood dated April 27, 2018, Subject: Hollywood Flow Limitations, and SFWMD Water Use Letter Modification dated March 11, 2020.

### 9.2.2 Facilities

The City's Water Treatment Plant (WTP) utilizes lime softening (LS), membrane softening (MS), and reverse osmosis (RO) treatment processes. The WTP has a firm treatment capacity of 40.5 mgd and a nominal capacity of 46.0 mgd. The City has 18 million gallons (MG) of total finished water storage capacity, including elevated and ground storage tanks. The water distribution system consists of approximately 700 miles of water main pipe, ranging from 2-inch to 36-inch diameter.

### 9.3 Reuse Water System and Water Conservation Program

The HLWD-DPU operates a reuse water system at the City-owned Southern Regional Wastewater Treatment Plant (SRWWTP). The facility collects, treats, and discharges approximately 42 mgd of secondary-treated wastewater into the Atlantic Ocean and to the underground Boulder Zone via deep injection wells. The OOL requires that all utilities in the State of Florida eliminate wastewater effluent discharges from their ocean outfalls by 2025, except during peak flow events, and that utilities provide technically, economically, and environmentally feasible reuse of 60 percent of a base condition annual average flow by December 31, 2025. In 2019, the City partially fulfilled its contracted reuse goal by securing a 2.0 mgd AADF agreement with the City of Miramar. As of September 2025, the City has achieved 7.01 mgd of planned, installed, or contracted reclaimed water capacity out of the required 10.0 mgd. To address the remaining 2.99 mgd reuse requirement, the City will increase onsite process reuse by expanding SRWWTP to include a EHR system. This expansion would exceed the remaining reuse requirement of 2.99 mgd and would replace the use of potable water. The City has discussed the approach and the extended implementation timeline with FDEP, and a formal plan is being drafted to present to FDEP for approval.

In addition to investing in reuse water, the City is also committed to promoting water conservation. The City’s Water Conservation Plan was developed with the goal of maximizing the City’s water use efficiency and reducing overall potable water demand. The 5-year average per capita demand over all customers served by the HLWD-DPU, including retail and wholesale customers, was reduced from 127 gpcd in 2008 to 112 gpcd in 2023. The City has reduced its water use by approximately 5 mgd through conservation programs, appliance rebates, irrigation rules, and a tiered billing system.

### 9.4 Data and Analysis

#### 9.4.1 Population Projections

The population in the City of Hollywood is expected to grow modestly throughout the forecast period, as less than 1 percent of the land area in the City is developable vacant land. The projected population for the period 2025 through 2045 for each service area is summarized in Table 9.3.

Table 9.3 Population Projections from 2025 to 2045

Year	City's Retail Service Area	BCWWS District 3A	BCWWS District 3BC	Total: Retail and Wholesale
2024	153,859 <sup>(1)</sup>	23,322	33,238	210,420
2025	153,839 <sup>(2)</sup>	23,409	33,224	210,472
2030	157,835 <sup>(2)</sup>	25,890	32,931	216,655
2035	162,043 <sup>(2)</sup>	27,335	33,828	223,206
2040	166,788 <sup>(2)</sup>	28,193	34,906	229,887
2045	169,932 <sup>(2)</sup>	28,699	35,526	234,157

Notes:

(1) From 2024 City of Hollywood Annual Water Supply Report.

(2) Adjusted based on 2024 population estimate from the 2024 City of Hollywood Annual Water Supply Report.

### 9.4.2 Finished and Raw Water Demand Projections

The projected demand for both finished and raw water from 2025 through 2045 is expected to stay within the treatment plant's firm capacity, the permitted raw water withdrawal limit, and the treatment limit. The change in demands through 2045 compared to the limits are shown in Figure 9.1.

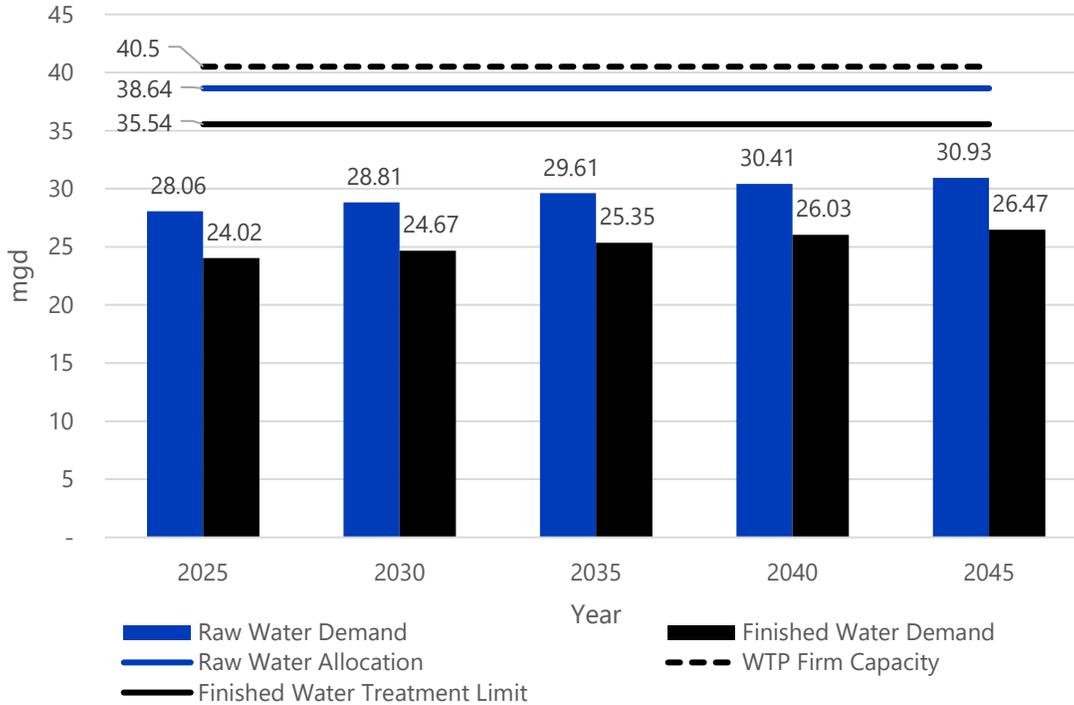


Figure 9.1 Comparison of Finished and Raw Water Demand Forecast to Treatment Capacity, Treatment Limit, and Withdrawal Limit – City of Hollywood Service Retail and BCWWS 3A and 3B/C from 2025 to 2045

## 9.5 Regional Issues and Intergovernmental Coordination Activities

The City and the HLWD-DPU are aware of the regional issues that are impacting or have the potential to impact water supply, water demand, and utility infrastructure. In 2013, the City of Hollywood adopted the Climate Action Pledge affirming its support of the Compact and the RCAP. The City is a leader in developing planning tools and identifying achievable and cost-effective goals that meet the needs of its community. In 2020, the City conducted a review of climate change impacts on the City’s water system as part of the AWIA Risk and Resilience Assessment, and a CVAAP. The Biscayne Aquifer is the City’s primary water supply. Coastal saltwater intrusion of the aquifer has occurred in eastern parts of Broward County. The SFWMD’s 250 mg/L Isochlor Line, as published in 2024, in Broward County indicates that the saltwater intrusion front has largely remained steady, with some inland shifts observed. In 1994, the City signed a “Large User Raw Water Agreement” with Broward County to purchase raw water from the County’s South Regional Wellfield. In 1991 the City signed a “Finished Water for Resale Agreement” with Broward County. In 2008, an “Interlocal Agreement for Emergency Water Interconnection” agreement was signed with the City of Dania Beach.

## **9.6 Water Supply Capital Improvements**

The City's Water Supply Capital Improvements program includes projects to rehabilitate or replace equipment approaching its useful life, address performance issues, and keep pace with population growth and increasingly stringent regulatory requirements.

## **9.7 Comprehensive Plan**

The Comprehensive Plan is being updated with information that will support this updated WSFWP. Components included as part of the Comprehensive Plan update include the Capital Improvements and Infrastructures Elements. The goals, objective, and policies for each component have been updated and identified to reflect the WSFWP. The full list of existing and proposed goals, objectives, and policies for each component are included as part of Appendices K and L.

## **9.8 Conclusions**

The City of Hollywood has sufficient existing water supply and treatment infrastructure to meet projected demands through 2045. The City is committed to diversifying its water supply sources and improving treatment technologies. The WSFWP identifies capital improvements required to maintain the City's water supply facilities and ensure reliable service to existing and new development within the City's jurisdiction.

APPENDIX A

# CITY OF HOLLYWOOD WATER USE PERMIT



**LIMITING CONDITIONS**

1. This permit shall expire on April 10, 2028.
2. Application for a permit modification may be made at any time.
3. Water use classification:  
  
Public Water Supply
4. Source classification is:  
  
Groundwater from:  
Biscayne Aquifer  
Floridan Aquifer System
5. Annual allocation shall not exceed 14,372.66 million gallons (MG). (39.38 MGD)  
  
Maximum monthly allocation shall not exceed 1,320.80 million gallons (MG).

The following limitations to annual withdrawals from specific sources are stipulated:

- Biscayne Aquifer-Chaminade Wellfield: 5,475 MG.
- Biscayne Aquifer-South Wellfield: 3,577 MG.
- Floridan Aquifer System-Floridan Wellfield: 3,168 MG.

The following limitations to maximum monthly withdrawals from specific sources are stipulated:

- Biscayne Aquifer-Chaminade Wellfield: 497.30 MG.
- Biscayne Aquifer-South Wellfield: 324.90 MG.
- Floridan Aquifer System-Floridan Wellfield: 259.00 MG.

Annual and maximum per month supplied from the Piccolo Wellfield (contractual quantities) shall be 2153 MGY and 240 MGM respectively.

6. Pursuant to Rule 40E-1.6105, F.A.C., Notification of Transfer of Interest in Real Property, within 30 days of any transfer of interest or control of the real property at which any permitted facility, system, consumptive use, or activity is located, the permittee must notify the District, in writing, of the transfer giving the name and address of the new owner or person in control and providing a copy of the instrument effectuating the transfer, as set forth in Rule 40E-1.6107, F.A.C.

Pursuant to Rule 40E-1.6107 (4), until transfer is approved by the District, the permittee shall be liable for compliance with the permit. The permittee transferring the

permit shall remain liable for all actions that are required as well as all violations of the permit which occurred prior to the transfer of the permit.

Failure to comply with this or any other condition of this permit constitutes a violation and pursuant to Rule 40E-1.609, Suspension, Revocation and Modification of Permits, the District may suspend or revoke the permit.

This Permit is issued to:

CITY OF HOLLYWOOD WTP  
P O BOX 229045  
HOLLYWOOD, FL 33022

7. Withdrawal facilities:

Groundwater - Proposed:

- 14 - 16" X 1300' X 1000 GPM Wells Cased To 900 Feet
- 1 - 16" X 1300' X 2040 GPM Well Cased To 900 Feet

Groundwater - Existing:

- 1 - 24" X 80' X 2100 GPM Well Cased To 60 Feet
- 1 - 32" X 144' X 2100 GPM Well Cased To 125 Feet
- 1 - 12" X 1185' X 1100 GPM Well Cased To 920 Feet
- 1 - 24" X 77' X 2100 GPM Well Cased To 60 Feet
- 1 - 32" X 145' X 2100 GPM Well Cased To 125 Feet
- 1 - 12" X 1185' X 1000 GPM Well Cased To 950 Feet
- 1 - 32" X 150' X 2100 GPM Well Cased To 128 Feet
- 1 - 24" X 86' X 2100 GPM Well Cased To 70 Feet
- 1 - 12" X 1185' X 800 GPM Well Cased To 960 Feet
- 1 - 12" X 1314' X 1000 GPM Well Cased To 926 Feet
- 1 - 32" X 155' X 2100 GPM Well Cased To 135 Feet
- 1 - 24" X 95' X 2100 GPM Well Cased To 60 Feet
- 1 - 16" X 1200' X 1000 GPM Well Cased To 990 Feet
- 3 - 16" X 1200' X 1000 GPM Wells Cased To 1005 Feet
- 1 - 24" X 80' X 2100 GPM Well Cased To 55 Feet
- 1 - 32" X 112' X 2100 GPM Well Cased To 90 Feet
- 2 - 10" X 75' X 2400 GPM Wells Cased To 60 Feet
- 1 - 24" X 90' X 2100 GPM Well Cased To 69 Feet
- 1 - 32" X 150' X 2100 GPM Well Cased To 139 Feet

8. Permittee shall mitigate interference with existing legal uses that was caused in whole or in part by the permittee's withdrawals, consistent with the approved mitigation plan. As necessary to offset the interference, mitigation will include pumpage reduction, replacement of the impacted individual's equipment, relocation of wells, change in withdrawal source, or other means.

Interference to an existing legal use is defined as an impact that occurs under hydrologic conditions equal to or less severe than a 1 in 10 year drought event that results in the:

(A) Inability to withdraw water consistent with provisions of the permit, such as when remedial structural or operational actions not materially authorized by existing permits must be taken to address the interference; or

(B) Change in the quality of water pursuant to primary State Drinking Water Standards to the extent that the water can no longer be used for its authorized purpose, or such change is imminent.

9. Permittee shall mitigate harm to existing off-site land uses caused by the permittee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the District will require the permittee to modify withdrawal rates or mitigate the harm. Harm caused by withdrawals, as determined through reference to the conditions for permit issuance, includes:

(A) Significant reduction in water levels on the property to the extent that the designed function of the water body and related surface water management improvements are damaged, not including aesthetic values. The designed function of a water body is identified in the original permit or other governmental authorization issued for the construction of the water body. In cases where a permit was not required, the designed function shall be determined based on the purpose for the original construction of the water body (e.g. fill for construction, mining, drainage canal, etc.)

(B) Damage to agriculture, including damage resulting from reduction in soil moisture resulting from consumptive use; or

(C) Land collapse or subsidence caused by reduction in water levels associated with consumptive use.

10. Permittee shall mitigate harm to the natural resources caused by the permittee's withdrawals, as determined through reference to the conditions for permit issuance.

When harm occurs, or is imminent, the District will require the permittee to modify withdrawal rates or mitigate the harm. Harm, as determined through reference to the conditions for permit issuance includes:

(A) Reduction in ground or surface water levels that results in harmful lateral movement of the fresh water/salt water interface,

(B) Reduction in water levels that harm the hydroperiod of wetlands,

(C) Significant reduction in water levels or hydroperiod in a naturally occurring water body such as a lake or pond,

(D) Harmful movement of contaminants in violation of state water quality standards, or

(E) Harm to the natural system including damage to habitat for rare or endangered species.

11. If any condition of the permit is violated, the permit shall be subject to review and possible modification, enforcement action, or revocation.
12. Authorized representatives of the District, with advance notice to the permittee, shall be permitted to enter, inspect, and observe the permitted system to determine compliance with permit conditions.
13. The Permittee is advised that this permit does not relieve any person from the requirement to obtain all necessary federal, state, local and special district authorizations.
14. The permit does not convey any property right to the Permittee, nor any rights and privileges other than those specified in the Permit and Chapter 40E-2, Florida Administrative Code.
15. Permittee shall submit all data as required by the implementation schedule for each of the limiting conditions to: S.F.W.M.D., Supervising Hydrogeologist - Post-Permit Compliance, Water Use Regulation Dept. (4320), P.O. Box 24680, West Palm Beach, FL 33416-4680.
16. In the event of a declared water shortage, water withdrawal reductions will be ordered by the District in accordance with the Water Shortage Plan, Chapter 40E-21, F.A.C. The Permittee is advised that during a water shortage, pumpage reports shall be

submitted as required by Chapter 40E-21, F.A.C.

17. Prior to the use of any proposed water withdrawal facility authorized under this permit, unless otherwise specified, the Permittee shall equip each facility with a District-approved operating water use accounting system and submit a report of calibration to the District, pursuant to Section 4.1, Basis of Review for Water Use Permit Applications.

In addition, the Permittee shall submit a report of recalibration for the water use accounting system for each water withdrawal facility (existing and proposed) authorized under this permit every five years from each previous calibration, continuing at five-year increments.

18. Monthly withdrawals for each withdrawal facility shall be submitted to the District quarterly. The water accounting method and means of calibration shall be stated on each report.
19. The Permittee shall notify the District within 30 days of any change in service area boundary. If the Permittee will not serve a new demand within the service area for which the annual allocation was calculated, the annual allocation may then be subject to modification and reduction.
20. Permittee shall determine unaccounted-for distribution system losses. Losses shall be determined for the entire distribution system on a monthly basis. Permittee shall define the manner in which unaccounted-for losses are calculated. Data collection shall begin within six months of Permit issuance. Loss reporting shall be submitted to the District on a yearly basis from the date of Permit issuance.
21. Permittee shall maintain an accurate flow meter at the intake of the water treatment plant for the purpose of measuring daily inflow of water.
22. Every ten years from the date of permit issuance, the permittee shall submit a water use compliance report for review and approval by District Staff, which addresses the following:

(A) The results of a water conservation audit that documents the efficiency of water use on the project site using data produced from an onsite evaluation conducted. In the event that the audit indicates additional water conservation is appropriate or the per capita use rate authorized in the permit is exceeded, the permittee shall propose and implement specific actions to reduce the water use to acceptable levels within

timeframes proposed by the permittee and approved by the District.

(B) A comparison of the permitted allocation and the allocation that would apply to the project based on current District allocation rules and updated population and per capita use rates. In the event the permit allocation is greater than the allocation provided for under District rule, the permittee shall apply for a letter modification to reduce the allocation consistent with District rules and the updated population and per capita use rates to the extent they are considered by the District to be indicative of long term trends in the population and per capita use rates over the permit duration. In the event that the permit allocation is less than allowable under District rule, the permittee shall apply for a modification of the permit to increase the allocation if the permittee intends to utilize an additional allocation, or modify its operation to comply with the existing conditions of the permit.

23. The Water Conservation Plan required by Section 2.6.1 of the Basis of Review for Water Use Permit Applications within the South Florida Water Management District, must be implemented in accordance with the approved implementation schedule.
24. If a proposed well location is different from a location specified in the application, the Permittee shall submit to the District an evaluation of the impact of pumpage from the proposed well location on adjacent existing legal uses, pollution sources, environmental features, the saline water interface, and water bodies one month prior to all new well construction. The Permittee is advised that the proposal must be in compliance with all permitting criteria and performance standards in effect at the time of submittal, and that a formal modification of the permit shall be required if the withdrawals from the well location will result in an environmental or resource impact significantly greater than that anticipated in the permit review process.
25. If at any time there is an indication that the well casing, valves, or controls leak or have become inoperative, repairs or replacement shall be made to restore the system to an operating condition. Failure to make such repairs shall be cause for filling and abandoning the well, in accordance with procedures outlined in Chapter 40E-3, Florida Administrative Code.
26. The Permittee shall submit to the District an updated Well Description Table (Table A) within one month of completion of the proposed wells identifying the actual total and cased depths, pump manufacturer and model numbers, pump types, intake depths and type of meters.
27. The Permittee shall continue to submit monitoring data in accordance with the

approved saline water intrusion monitoring program for this project.

28. Entities that control, either directly or indirectly, a wastewater treatment plant, and which had determined, at the time of issuance of its consumptive use permit and pursuant to Section 403.064, F.S., that reuse of reclaimed water was not feasible must advise the District of any change in this determination that may occur during the term of the consumptive use permit. In the event the utility determines reuse has become feasible, then the District will require the utility to provide the information listed in Subsections 2.2.4.A and 5.2.1.H.1.
  
29. Permittee shall implement the following operating plan:  
Construct and operate the necessary reverse osmosis treatment capacities and Floridan aquifer wells as outlined in Exhibit 4 of Application 200218-3 (previously Exhibits 8 and 8A in Application 070518-17) to meet future demands as described in this Staff report. Failure to timely implement this alternative water supply will result in modification to this permit. Permittee shall provide annual updates to the District regarding the status of implementation of all alternative water supply projects. The status report shall include work completed to date, expenditures, capacities and any changes in timelines.

## **NOTICE OF RIGHTS**

As required by Chapter 120, Florida Statutes, the following provides notice of the opportunities which may be available for administrative hearing pursuant to Sections 120.569 and 120.57, Florida Statutes, or judicial review pursuant to Section 120.68, Florida Statutes, when the substantial interests of a party are determined by an agency. Please note that this Notice of Rights is not intended to provide legal advice. Some of the legal proceedings detailed below may not be applicable or appropriate for your situation. You may wish to consult an attorney regarding your legal rights.

### **RIGHT TO REQUEST ADMINISTRATIVE HEARING**

A person whose substantial interests are or may be affected by the South Florida Water Management District's (District) action has the right to request an administrative hearing on that action pursuant to Sections 120.569 and 120.57, Florida Statutes. Persons seeking a hearing on a District decision which affects or may affect their substantial interests shall file a petition for hearing in accordance with the filing instructions set forth herein within 21 days of receipt of written notice of the decision unless one of the following shorter time periods apply: (1) within 14 days of the notice of consolidated intent to grant or deny concurrently reviewed applications for environmental resource permits and use of sovereign submerged lands pursuant to Section 373.427, Florida Statutes; or (2) within 14 days of service of an Administrative Order pursuant to Section 373.119(1), Florida Statutes. "Receipt of written notice of agency decision" means receipt of written notice through mail, electronic mail, posting, or publication that the District has taken or intends to take final agency action. Any person who receives written notice of a District decision and fails to file a written request for hearing within the timeframe described above waives the right to request a hearing on that decision.

If the District takes final agency action that materially differs from the noticed intended agency decision, persons who may be substantially affected shall, unless otherwise provided by law, have an additional point of entry pursuant to Rule 28-106.111, Florida Administrative Code.

Any person to whom an emergency order is directed pursuant to Section 373.119(2), Florida Statutes, shall comply therewith immediately, but on petition to the board shall be afforded a hearing as soon as possible.

A person may file a request for an extension of time for filing a petition. The District may grant the request for good cause. Requests for extension of time must be filed with the District prior to the deadline for filing a petition for hearing. Such requests for extension shall contain a certificate that the moving party has consulted with all other parties concerning the extension and whether the District and any other parties agree to or oppose the extension. A timely request for an extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

### **FILING INSTRUCTIONS**

A petition for administrative hearing must be filed with the Office of the District Clerk. Filings with the Office of the District Clerk may be made by mail, hand-delivery, or e-mail. Filings by facsimile will not be accepted. A petition for administrative hearing or other document is deemed filed upon receipt during normal business hours by the Office of the District Clerk at the District's headquarters in West Palm Beach, Florida. The District's normal business hours are 8:00 a.m. – 5:00 p.m., excluding weekends and District holidays. Any document received by the Office of the District Clerk after 5:00 p.m. shall be deemed filed as of 8:00 a.m. on the next regular business day. Additional filing instructions are as follows:

- Filings by mail must be addressed to the Office of the District Clerk, 3301 Gun Club Road, West Palm Beach, Florida 33406.

- Filings by hand-delivery must be delivered to the Office of the District Clerk. Delivery of a petition to the District's security desk does not constitute filing. It will be necessary to request that the District's security officer contact the Office of the District Clerk. An employee of the District's Clerk's office will receive and process the petition.
- Filings by e-mail must be transmitted to the Office of the District Clerk at [clerk@sfwmd.gov](mailto:clerk@sfwmd.gov). The filing date for a document transmitted by electronic mail shall be the date the Office of the District Clerk receives the complete document.

### **INITIATION OF AN ADMINISTRATIVE HEARING**

Pursuant to Sections 120.54(5)(b)4. and 120.569(2)(c), Florida Statutes, and Rules 28-106.201 and 28-106.301, Florida Administrative Code, initiation of an administrative hearing shall be made by written petition to the District in legible form and on 8 1/2 by 11 inch white paper. All petitions shall contain:

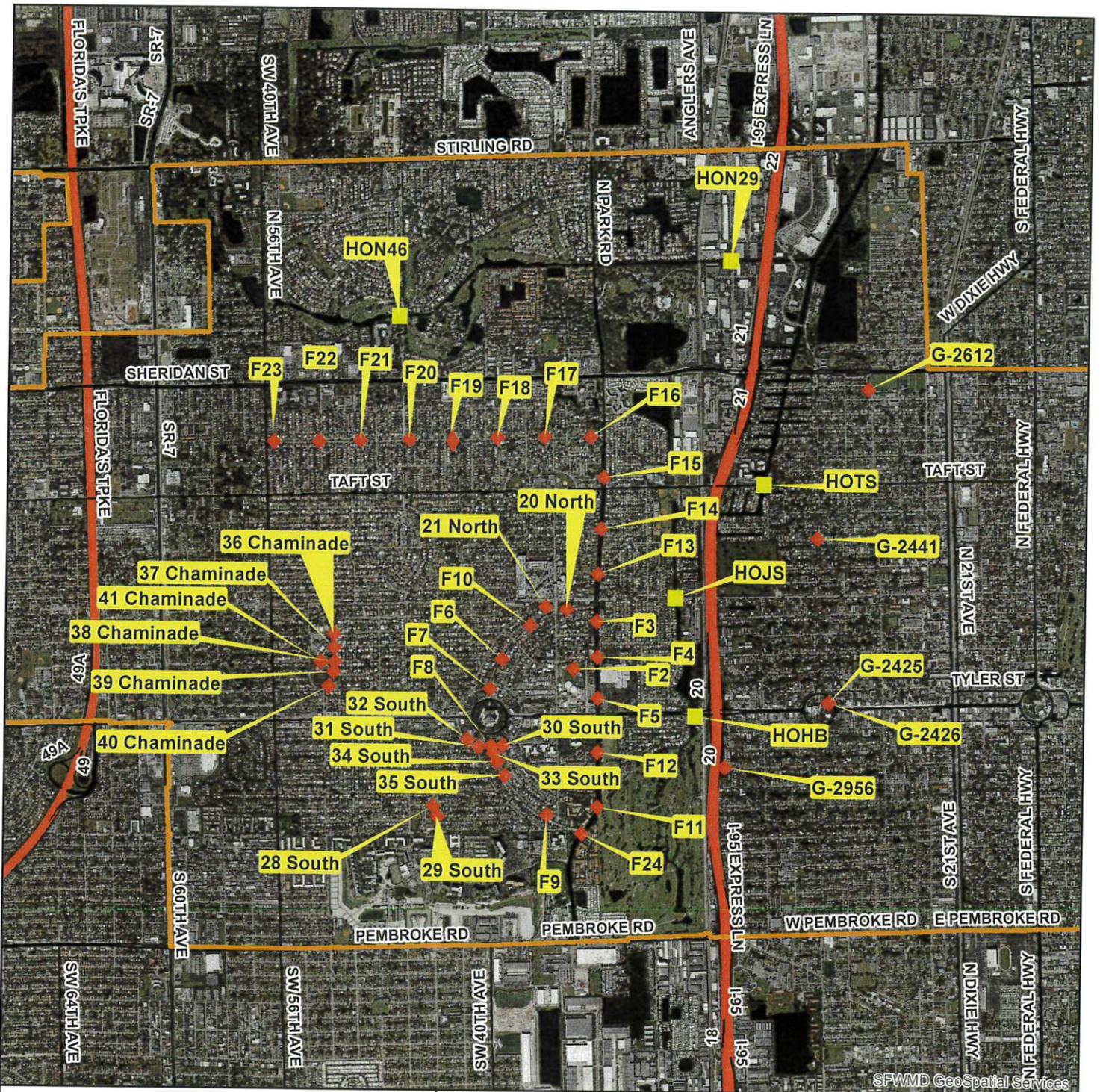
1. Identification of the action being contested, including the permit number, application number, District file number or any other District identification number, if known.
2. The name, address, any email address, any facsimile number, and telephone number of the petitioner, petitioner's attorney or qualified representative, if any.
3. An explanation of how the petitioner's substantial interests will be affected by the agency determination.
4. A statement of when and how the petitioner received notice of the District's decision.
5. A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
6. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the District's proposed action.
7. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the District's proposed action.
8. If disputed issues of material fact exist, the statement must also include an explanation of how the alleged facts relate to the specific rules or statutes.
9. A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the District to take with respect to the District's proposed action.

### **MEDIATION**

The procedures for pursuing mediation are set forth in Section 120.573, Florida Statutes, and Rules 28-106.111 and 28-106.401–.405, Florida Administrative Code. The District is not proposing mediation for this agency action under Section 120.573, Florida Statutes, at this time.

### **RIGHT TO SEEK JUDICIAL REVIEW**

Pursuant to Section 120.68, Florida Statutes, and in accordance with Florida Rule of Appellate Procedure 9.110, a party who is adversely affected by final District action may seek judicial review of the District's final decision by filing a notice of appeal with the Office of the District Clerk in accordance with the filing instructions set forth herein within 30 days of rendition of the order to be reviewed, and by filing a copy of the notice with the appropriate district court of appeals via the Florida Courts E-Filing Portal.



SFWMD GeoSpatial Services

**BROWARD COUNTY, FLORIDA**

-  Application
-  WELL
-  PUMP



Map Date: 2020-03-06

Application No: 200218-3

Permit No: 06-00038-W

Sec 1,2,3,10-15,24 / Twp 51 / Rge 41

Sec 1-24 / Twp 51 / Rge 42

Sec 35,36 / Twp 50 / Rge 42

Project Name: HOLLYWOOD WATER TREATMENT PLANT

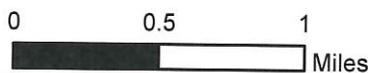
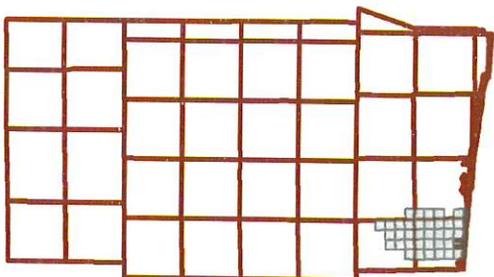


Exhibit No: 1A





**TABLE - A**  
**Description Of Wells.**

**Application Number: 200218-3**

Well ID	29905	29889	29890	29891	29892	29893
<b>Name</b>	F2	F3	F4	F5	F6	F7
<b>Map Designator</b>	F2	F3	F4	F5	F6	F7
<b>FLUWID Number</b>						
<b>Well Field</b>	Floridan Wellfield					
<b>Existing/Proposed</b>	E	E	E	E	E	E
<b>Well Diameter(Inches)</b>	12	12	12	12	16	16
<b>Total Depth(feet)</b>	1314	1185	1185	1185	1200	1200
<b>Cased Depth(feet)</b>	926	950	960	920	1005	1005
<b>Facility Elev. (ft. NGVD)</b>						
<b>Screened Interval</b>						
<b>From</b>						
<b>To</b>						
<b>Pumped Or Flowing</b>	P	P	P	P	P	P
<b>Pump Type</b>	Submersible	Submersible	Submersible	Submersible	Submersible	Submersible
<b>Pump Int. Elev. Feet (NGVD)</b>						
<b>Feet (BLS)</b>	100	100	100	100	100	100
<b>Pump Capacity(GPM)</b>	1000	1000	800	1100	1000	1000
<b>Year Drilled</b>						
<b>Planar Location</b>						
<b>Source</b>	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED
<b>Feet East</b>	926323	926871	926899	926925	924572	924301
<b>Feet North</b>	611522	612669	611824	610838	611751	611034
<b>Accounting Method</b>	Flow Meter					
<b>Use Status</b>	Secondary	Primary	Primary	Primary	Primary	Primary
<b>Water Use Type</b>	Public Water Supply Monitor					
<b>Aquifer</b>	Floridan Aquifer System					

**TABLE - A**  
**Description Of Wells.**

**Application Number: 200218-3**

<b>Well ID</b>	219506	219511	219512	219513	219514	219515
<b>Name</b>	F8	F9	F10	F11	F12	F13
<b>Map Designator</b>	F8	F9	F10	F11	F12	F13
<b>FLUWID Number</b>						
<b>Well Field</b>	Floridan Wellfield					
<b>Existing/Proposed</b>	P	P	E	P	P	E
<b>Well Diameter(Inches)</b>	16	16	16	16	16	16
<b>Total Depth(feet)</b>	1300	1300	1200	1300	1300	1200
<b>Cased Depth(feet)</b>	900	900	990	900	900	1005
<b>Facility Elev. (ft. NGVD)</b>						
<b>Screened Interval</b>						
<b>From</b>						
<b>To</b>						
<b>Pumped Or Flowing</b>	P	P	P	P	P	P
<b>Pump Type</b>	Submersible	Submersible	Submersible	Submersible	Submersible	Submersible
<b>Pump Int. Elev. Feet (NGVD)</b>						
<b>Feet (BLS)</b>	100	100	100	100	100	100
<b>Pump Capacity(GPM)</b>	1000	1000	1000	1000	1000	1000
<b>Year Drilled</b>						
<b>Planar Location</b>						
<b>Source</b>	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED
<b>Feet East</b>	924336	925725	925255	926946	926928	926891
<b>Feet North</b>	609672	608027	612558	608224	609529	613806
<b>Accounting Method</b>	Flow Meter					
<b>Use Status</b>	Primary	Primary	Primary	Primary	Primary	Primary
<b>Water Use Type</b>	Public Water Supply Monitor					
<b>Aquifer</b>	Floridan Aquifer System					

**TABLE - A**  
**Description Of Wells.**

**Application Number: 200218-3**

<b>Well ID</b>	219516	219517	219518	219520	219521	219522
<b>Name</b>	F14	F15	F16	F17	F18	F19
<b>Map Designator</b>	F14	F15	F16	F17	F18	F19
<b>FLUWID Number</b>						
<b>Well Field</b>	Floridan Wellfield					
<b>Existing/Proposed</b>	P	P	P	P	P	P
<b>Well Diameter(Inches)</b>	16	16	16	16	16	16
<b>Total Depth(feet)</b>	1300	1300	1300	1300	1300	1300
<b>Cased Depth(feet)</b>	900	900	900	900	900	900
<b>Facility Elev. (ft. NGVD)</b>						
<b>Screened Interval</b>						
<b>From</b>						
<b>To</b>						
<b>Pumped Or Flowing</b>	P	P	P	P	P	P
<b>Pump Type</b>	Submersible	Submersible	Submersible	Submersible	Submersible	Submersible
<b>Pump Int. Elev. Feet (NGVD)</b>						
<b>Feet (BLS)</b>	100	100	100	100	100	100
<b>Pump Capacity(GPM)</b>	1000	1000	1000	1000	1000	1000
<b>Year Drilled</b>						
<b>Planar Location</b>						
<b>Source</b>	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED
<b>Feet East</b>	926953	927008	926664	925557	924398	926137
<b>Feet North</b>	614894	616130	617084	617077	617044	612960
<b>Accounting Method</b>	Flow Meter					
<b>Use Status</b>	Primary	Primary	Primary	Primary	Primary	Primary
<b>Water Use Type</b>	Public Water Supply Monitor					
<b>Aquifer</b>	Floridan Aquifer System					

**TABLE - A**  
**Description Of Wells.**

**Application Number: 200218-3**

<b>Well ID</b>	219523	219524	219525	219526	219544	29907
<b>Name</b>	F20	F21	F22	F23	F24	28 South
<b>Map Designator</b>	F20	F21	F22	F23	F24	28 South
<b>FLUWID Number</b>						
<b>Well Field</b>	Floridan Wellfield	South Wellfield				
<b>Existing/Proposed</b>	P	P	P	P	P	E
<b>Well Diameter(Inches)</b>	16	16	16	16	16	10
<b>Total Depth(feet)</b>	1300	1300	1300	1300	1300	75
<b>Cased Depth(feet)</b>	900	900	900	900	900	60
<b>Facility Elev. (ft. NGVD)</b>						
<b>Screened Interval</b>						
<b>From</b>						
<b>To</b>						
<b>Pumped Or Flowing</b>	P	P	P	P	P	P
<b>Pump Type</b>	Submersible	Submersible	Submersible	Submersible	Submersible	Submersible
<b>Pump Int. Elev. Feet (NGVD)</b>						
<b>Feet (BLS)</b>	100	100	100	100		53
<b>Pump Capacity(GPM)</b>	1000	1000	1000	1000	2040	2400
<b>Year Drilled</b>						
<b>Planar Location</b>						
<b>Source</b>	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED
<b>Feet East</b>	922277	921088	920083	918983	926563	922954
<b>Feet North</b>	616984	616951	616923	616895	607587	608209
<b>Accounting Method</b>	Flow Meter					
<b>Use Status</b>	Primary	Primary	Primary	Primary	Primary	Primary
<b>Water Use Type</b>	Public Water Supply Monitor					
<b>Aquifer</b>	Floridan Aquifer System	Biscayne Aquifer				

**TABLE - A**  
**Description Of Wells.**

**Application Number: 200218-3**

<b>Well ID</b>	29888	29900	29901	29902	29903	29904
<b>Name</b>	29 South	30 South	31 South	32 South	33 South	34 South
<b>Map Designator</b>	29 South	30 South	31 South	32 South	33 South	34 South
<b>FLUWID Number</b>						
<b>Well Field</b>	South Wellfield					
<b>Existing/Proposed</b>	E	E	E	E	E	E
<b>Well Diameter(Inches)</b>	10	24	24	24	24	24
<b>Total Depth(feet)</b>	75	95	80	80	90	86
<b>Cased Depth(feet)</b>	60	60	60	55	69	70
<b>Facility Elev. (ft. NGVD)</b>						
<b>Screened Interval</b>						
<b>From</b>						
<b>To</b>						
<b>Pumped Or Flowing</b>	P	P	P	P	P	P
<b>Pump Type</b>	Submersible	Submersible	Submersible	Submersible	Submersible	Submersible
<b>Pump Int. Elev. Feet (NGVD)</b>						
<b>Feet (BLS)</b>	-30	53	53	53	53	53
<b>Pump Capacity(GPM)</b>	2400	2100	2100	2100	2100	2100
<b>Year Drilled</b>						
<b>Planar Location</b>						
<b>Source</b>	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED
<b>Feet East</b>	923065	924619	924032	923774	924402	924490
<b>Feet North</b>	607972	609676	609650	609806	609495	609291
<b>Accounting Method</b>	Flow Meter					
<b>Use Status</b>	Primary	Primary	Primary	Primary	Primary	Primary
<b>Water Use Type</b>	Public Water Supply Monitor					
<b>Aquifer</b>	Biscayne Aquifer					

**TABLE - A**  
**Description Of Wells.**

**Application Number: 200218-3**

<b>Well ID</b>	29937	29894	29895	29896	29897	29898
<b>Name</b>	35 South	36 Chaminade	37 Chaminade	38 Chaminade	39 Chaminade	40 Chaminade
<b>Map Designator</b>	35 South	36 Chaminade	37 Chaminade	38 Chaminade	39 Chaminade	40 Chaminade
<b>FLUWID Number</b>						
<b>Well Field</b>	South Wellfield	Chaminade Wellfield	Chaminade Wellfield	Chaminade Wellfield	Chaminade Wellfield	Chaminade Wellfield
<b>Existing/Proposed</b>	E	E	E	E	E	E
<b>Well Diameter(Inches)</b>	24	32	32	32	32	32
<b>Total Depth(feet)</b>	77	112	144	150	155	145
<b>Cased Depth(feet)</b>	60	90	125	128	135	125
<b>Facility Elev. (ft. NGVD)</b>						
<b>Screened Interval</b>						
<b>From</b>						
<b>To</b>						
<b>Pumped Or Flowing</b>	P	P	P	P	P	P
<b>Pump Type</b>	Submersible	Submersible	Submersible	Submersible	Submersible	Submersible
<b>Pump Int. Elev. Feet (NGVD)</b>						
<b>Feet (BLS)</b>	53	40	40	40	40	40
<b>Pump Capacity(GPM)</b>	2100	2100	2100	2100	2100	2100
<b>Year Drilled</b>						
<b>Planar Location</b>						
<b>Source</b>	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED
<b>Feet East</b>	924674	920501	920508	920535	920503	920388
<b>Feet North</b>	608961	612321	611993	611648	611404	611059
<b>Accounting Method</b>	Flow Meter					
<b>Use Status</b>	Primary	Primary	Primary	Primary	Primary	Primary
<b>Water Use Type</b>	Public Water Supply Monitor					
<b>Aquifer</b>	Biscayne Aquifer					

**TABLE - A**  
**Description Of Wells.**

**Application Number: 200218-3**

<b>Well ID</b>	29899	138198	138199	138200	138201	158407
<b>Name</b>	41 Chaminade	G-2425	G-2426	G-2441	G-2612	G-2956
<b>Map Designator</b>	41 Chaminade	G-2425	G-2426	G-2441	G-2612	G-2956
<b>FLUWID Number</b>						
<b>Well Field</b>	Chaminade Wellfield					
<b>Existing/Proposed</b>	E	E	E	E	E	E
<b>Well Diameter(Inches)</b>	32	2	2	2	2	2
<b>Total Depth(feet)</b>	150	203	91	181	273	175
<b>Cased Depth(feet)</b>	139	198	86	180	272	
<b>Facility Elev. (ft. NGVD)</b>						
<b>Screened Interval</b>						
<b>From</b>						
<b>To</b>						
<b>Pumped Or Flowing</b>	P					
<b>Pump Type</b>	Submersible	None	None	None	None	None
<b>Pump Int. Elev. Feet (NGVD)</b>						
<b>Feet (BLS)</b>	40					
<b>Pump Capacity(GPM)</b>	2100	0	0	0	0	0
<b>Year Drilled</b>						
<b>Planar Location</b>						
<b>Source</b>	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED
<b>Feet East</b>	920192	932535	932533	932219	933410	930038
<b>Feet North</b>	611645	610766	610773	614705	618288	609204
<b>Accounting Method</b>	Flow Meter	None	None	None	None	None
<b>Use Status</b>	Primary	Monitor	Monitor	Monitor	Monitor	Monitor
<b>Water Use Type</b>	Public Water Supply Monitor	Monitor	Monitor	Monitor	Monitor	Monitor Water Shortage Monitoring Facility
<b>Aquifer</b>	Biscayne Aquifer	Biscayne Aquifer	Biscayne Aquifer	Biscayne Aquifer	Biscayne Aquifer	Biscayne Aquifer

**TABLE - B**  
**Description Of Surface Water Pumps**

**Application Number: 200218-3**

<b>Pump ID</b>	138206	138207	138208	138209	138210
<b>Name</b>	HOHB	HOJS	HON29	HON46	HOTS
<b>Map Designator</b>	HOHB	HOJS	HON29	HON46	HOTS
<b>Facility Group</b>					
<b>Existing/Proposed Pump Type</b>	E None	E None	E None	E None	E None
<b>Diameter(Inches)</b>					
<b>Pump Capacity(GPM)</b>	0	0	0	0	0
<b>Pump Horse Power</b>					
<b>Two Way Pump ?</b>					
<b>Elevation (ft. NGVD)</b>					
<b>Planar Location</b>					
<b>Source</b>	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED	DIGITIZED
<b>Feet East</b>	929294	928780	930033	921988	930907
<b>Feet North</b>	610428	613260	621335	619942	615989
<b>Accounting Method</b>	None	None	None	None	None
<b>Use Status</b>	Monitor	Monitor	Monitor	Monitor	Monitor
<b>Water Use Type</b>	Monitor	Monitor	Monitor	Monitor	Monitor
<b>Surface Water Body</b>	SFWMD C-10 (Hollywood) Canal				



**City of Hollywood Water Treatment Plant  
AWS Status Report**

**2019 Annual update and status of implementation of all alternative water supply projects:**

Project	Substantial Completion	Capacity	Status	Expenditures (\$)
Well F-6	11/30/2008	1250 gpm	Operational	\$1,899,955.00
Well F-7	11/30/2008	1250 gpm	Operational	\$1,899,955.00
Well F-10	2/19/2010	1400 gpm	Operational	\$2,036,046.33
Well F-13	2/19/2010	1400 gpm	Operational	\$4,072,092.67
R.O. Train C	3/7/2009	2 mgd	Operational	\$2,712,414.00
R.O. Train D	4/1/2010	2 mgd	Operational	\$2,212,687.00
R.O. Train E	2032-2040	2 mgd	Future	TBD
R.O. Train F	2032-2040	2 mgd	Future	TBD
R.O. Train G	2032-2040	2 mgd	Future	TBD
R.O. Train H	2032-2040	2 mgd	Future	TBD
R.O. Train Slot 8 MS	2032-2040	2 mgd	Future	TBD
R.O. Train Slot 9 MS	2032-2040	2 mgd	Future	TBD
R.O. Train Slot 10 MS	2032-2040	2 mgd	Future	TBD
Well F-8	2030-2040	1000 gpm	Future	TBD
Well F-9	2030-2040	1000 gpm	Future	TBD
Well F-11	2030-2040	1000 gpm	Future	TBD
Well F-12	2030-2040	1000 gpm	Future	TBD
Well F-14	2032-2040	1000 gpm	Future	TBD
Well F-15	2032-2040	1000 gpm	Future	TBD
Well F-16	2032-2040	1000 gpm	Future	TBD
Well F-17	2032-2040	1000 gpm	Future	TBD
Well F-18	2040-2050	1000 gpm	Future	TBD
Well F-19	2040-2050	1000 gpm	Future	TBD
Well F-20	2050-2060	1000 gpm	Future	TBD
Well F-21	2050-2060	1000 gpm	Future	TBD
Well F-22	2050-2060	1000 gpm	Future	TBD
Well F-23	2050-2060	1000 gpm	Future	TBD
Well F-24	2050-2060	1000 gpm	Future	TBD

No planned or scheduled construction changes are currently forecasted.

## Requirement by Permit Condition Report

**App No:** 200218-3

**Permit No:** 06-00038-W

**Project Name:** HOLLYWOOD WATER TREATMENT PLANT

<b>Permit Condition No:</b> 17		<b>Permit Condition Code:</b> <u>WUSTD021-8</u>		
<b>Facility Name</b>	<b>Requirement Name</b>	<b>Col Freq</b>	<b>Sub Freq</b>	<b>Due Date</b>
WELL - F2	Calibration report for WELL F2	Every Five Years	Every Five Years	31-AUG-2020
WELL - F3	Calibration report for WELL F3	Every Five Years	Every Five Years	31-DEC-2020
WELL - F4	Calibration report for WELL F4	Every Five Years	Every Five Years	31-AUG-2020
WELL - F5	Calibration report for WELL F5	Every Five Years	Every Five Years	30-NOV-2023
WELL - F6	Calibration report for WELL F6	Every Five Years	Every Five Years	31-JAN-2025
WELL - F7	Calibration report for WELL F7	Every Five Years	Every Five Years	31-JAN-2025
WELL - F8	Calibration report for WELL F8	Every Five Years	Every Five Years	30-NOV-2020
WELL - F9	Calibration report for WELL F9	Every Five Years	Every Five Years	30-NOV-2020
WELL - F10	Calibration report for WELL F10	Every Five Years	Every Five Years	31-DEC-2024
WELL - F11	Calibration report for WELL F11	Every Five Years	Every Five Years	30-NOV-2020
WELL - F12	Calibration report for WELL F12	Every Five Years	Every Five Years	30-NOV-2020
WELL - F13	Calibration report for WELL F13	Every Five Years	Every Five Years	31-DEC-2024
WELL - F14	Calibration report for WELL F14	Every Five Years	Every Five Years	30-NOV-2020
WELL - F15	Calibration report for WELL F15	Every Five Years	Every Five Years	30-NOV-2020
WELL - F16	Calibration report for WELL F16	Every Five Years	Every Five Years	30-NOV-2020
WELL - F17	Calibration report for WELL F17	Every Five Years	Every Five Years	30-NOV-2020
WELL - F18	Calibration report for WELL F18	Every Five Years	Every Five Years	30-NOV-2020
WELL - F19	Calibration report for WELL F19	Every Five Years	Every Five Years	30-NOV-2020
WELL - F20	Calibration report for WELL F20	Every Five Years	Every Five Years	30-NOV-2020
WELL - F21	Calibration report for WELL F21	Every Five Years	Every Five Years	30-NOV-2020
WELL - F22	Calibration report for WELL F22	Every Five Years	Every Five Years	30-NOV-2020
WELL - F23	Calibration report for WELL F23	Every Five Years	Every Five Years	30-NOV-2020
WELL - F24	Calibration report for WELL F24	Every Five Years	Every Five Years	30-NOV-2020
WELL - 28 South	Calibration report for WELL 28 South	Every Five Years	Every Five Years	30-NOV-2020
WELL - 29 South	Calibration report for WELL 29 South	Every Five Years	Every Five Years	31-DEC-2020
WELL - 30 South	Calibration report for WELL 30 South	Every Five Years	Every Five Years	31-DEC-2020
WELL - 31 South	Calibration report for WELL 31 South	Every Five Years	Every Five Years	30-SEP-2021
WELL - 32 South	Calibration report for WELL 32 South	Every Five Years	Every Five Years	30-SEP-2021
WELL - 33 South	Calibration report for WELL 33 South	Every Five Years	Every Five Years	30-SEP-2021
WELL - 34 South	Calibration report for WELL 34 South	Every Five Years	Every Five Years	30-SEP-2021
WELL - 35 South	Calibration report for WELL 35 South	Every Five Years	Every Five Years	30-SEP-2021
WELL - 36 Chaminade	Calibration report for WELL 36 Chaminade	Every Five Years	Every Five Years	30-SEP-2021
WELL - 37 Chaminade	Calibration report for WELL 37	Every Five Years	Every Five Years	30-SEP-2021

## Requirement by Permit Condition Report

Facility Name	Requirement Name	Col Freq	Sub Freq	Due Date
WELL - 38 Chaminade	Chaminade Calibration report for WELL 38 Chaminade	Every Five Years	Every Five Years	30-SEP-2021
WELL - 39 Chaminade	Chaminade Calibration report for WELL 39 Chaminade	Every Five Years	Every Five Years	30-SEP-2021
WELL - 40 Chaminade	Chaminade Calibration report for WELL 40 Chaminade	Every Five Years	Every Five Years	30-SEP-2021
WELL - 41 Chaminade	Chaminade Calibration report for WELL 41 Chaminade	Every Five Years	Every Five Years	31-MAY-2020
<b>Permit Condition No:</b> 18	<b>Permit Condition Code:</b> <u>WUSTD022-1</u>			
Facility Name	Requirement Name	Col Freq	Sub Freq	Due Date
PERMIT	Water received from Piccolo Wellfield	Monthly	Quarterly	31-JUL-2020
WELL - F2	Monthly Withdrawal for Well F2	Monthly	Quarterly	31-JUL-2020
WELL - F3	Monthly Withdrawal for Well F3	Monthly	Quarterly	31-JUL-2020
WELL - F4	Monthly Withdrawal for Well F4	Monthly	Quarterly	31-JUL-2020
WELL - F5	Monthly Withdrawal for Well F5	Monthly	Quarterly	31-JUL-2020
WELL - F6	Monthly Withdrawal for Well F6	Monthly	Quarterly	31-JUL-2020
WELL - F7	Monthly Withdrawal for Well F7	Monthly	Quarterly	31-JUL-2020
WELL - F8	Monthly Withdrawal for Well F8	Monthly	Quarterly	31-JUL-2020
WELL - F9	Monthly Withdrawal for Well F9	Monthly	Quarterly	31-JUL-2020
WELL - F10	Monthly Withdrawal for Well F10	Monthly	Quarterly	31-JUL-2020
WELL - F11	Monthly Withdrawal for Well F11	Monthly	Quarterly	31-JUL-2020
WELL - F12	Monthly Withdrawal for Well F12	Monthly	Quarterly	31-JUL-2020
WELL - F13	Monthly Withdrawal for Well F13	Monthly	Quarterly	31-JUL-2020
WELL - F14	Monthly Withdrawal for Well F14	Monthly	Quarterly	31-JUL-2020
WELL - F15	Monthly Withdrawal for Well F15	Monthly	Quarterly	31-JUL-2020
WELL - F16	Monthly Withdrawal for Well F16	Monthly	Quarterly	31-JUL-2020
WELL - F17	Monthly Withdrawal for Well F17	Monthly	Quarterly	31-JUL-2020
WELL - F18	Monthly Withdrawal for Well F18	Monthly	Quarterly	31-JUL-2020
WELL - F19	Monthly Withdrawal for Well F19	Monthly	Quarterly	31-JUL-2020
WELL - F20	Monthly Withdrawal for Well F20	Monthly	Quarterly	31-JUL-2020
WELL - F21	Monthly Withdrawal for Well F21	Monthly	Quarterly	31-JUL-2020
WELL - F22	Monthly Withdrawal for Well F22	Monthly	Quarterly	31-JUL-2020
WELL - F23	Monthly Withdrawal for Well F23	Monthly	Quarterly	31-JUL-2020
WELL - F24	Monthly Withdrawal for Well F24	Monthly	Quarterly	31-JUL-2020
WELL - 28 South	Monthly Withdrawal for Well 28 South	Monthly	Quarterly	31-JUL-2020
WELL - 29 South	Monthly Withdrawal for Well 29 South	Monthly	Quarterly	31-JUL-2020
WELL - 30 South	Monthly Withdrawal for Well 30 South	Monthly	Quarterly	31-JUL-2020
WELL - 31 South	Monthly Withdrawal for Well 31 South	Monthly	Quarterly	31-JUL-2020
WELL - 32 South	Monthly Withdrawal for Well 32 South	Monthly	Quarterly	31-JUL-2020
WELL - 33 South	Monthly Withdrawal for Well 33 South	Monthly	Quarterly	31-JUL-2020

## Requirement by Permit Condition Report

Facility Name	Requirement Name	Col Freq	Sub Freq	Due Date
WELL - 34 South	Monthly Withdrawal for Well 34 South	Monthly	Quarterly	31-JUL-2020
WELL - 35 South	Monthly Withdrawal for Well 35 South	Monthly	Quarterly	31-JUL-2020
WELL - 36 Chaminade	Monthly Withdrawal for Well 36 Chaminade	Monthly	Quarterly	31-JUL-2020
WELL - 37 Chaminade	Monthly Withdrawal for Well 37 Chaminade	Monthly	Quarterly	31-JUL-2020
WELL - 38 Chaminade	Monthly Withdrawal for Well 38 Chaminade	Monthly	Quarterly	31-JUL-2020
WELL - 39 Chaminade	Monthly Withdrawal for Well 39 Chaminade	Monthly	Quarterly	31-JUL-2020
WELL - 40 Chaminade	Monthly Withdrawal for Well 40 Chaminade	Monthly	Quarterly	31-JUL-2020
WELL - 41 Chaminade	Monthly Withdrawal for Well 41 Chaminade	Monthly	Quarterly	31-JUL-2020
<b>Permit Condition No:</b> 20	<b>Permit Condition Code:</b> <u>WUPWS003-1</u>			
Facility Name	Requirement Name	Col Freq	Sub Freq	Due Date
PERMIT	Unaccounted for Water Loss Report	Yearly	Yearly	30-APR-2020
<b>Permit Condition No:</b> 22	<b>Permit Condition Code:</b> <u>WUPWS008-2</u>			
Facility Name	Requirement Name	Col Freq	Sub Freq	Due Date
PERMIT	Ten-Year Compliance Report	Every Ten Years	Every Ten Years	30-APR-2028
<b>Permit Condition No:</b> 26	<b>Permit Condition Code:</b> <u>WUWC004-1</u>			
Facility Name	Requirement Name	Col Freq	Sub Freq	Due Date
WELL - F8	Updated Table A for WELL F8	One time Only	One time Only	01-DEC-2020
WELL - F9	Updated Table A for WELL F9	One time Only	One time Only	01-DEC-2020
WELL - F11	Updated Table A for WELL F11	One time Only	One time Only	01-DEC-2020
WELL - F12	Updated Table A for WELL F12	One time Only	One time Only	01-DEC-2020
WELL - F14	Updated Table A for WELL F14	One time Only	One time Only	01-DEC-2020
WELL - F15	Updated Table A for WELL F15	One time Only	One time Only	01-DEC-2020
WELL - F16	Updated Table A for WELL F16	One time Only	One time Only	01-DEC-2020
WELL - F17	Updated Table A for WELL F17	One time Only	One time Only	01-DEC-2020
WELL - F18	Updated Table A for WELL F18	One time Only	One time Only	01-DEC-2020
WELL - F19	Updated Table A for WELL F19	One time Only	One time Only	01-DEC-2020
WELL - F20	Updated Table A for WELL F20	One time Only	One time Only	01-DEC-2020
WELL - F21	Updated Table A for WELL F21	One time Only	One time Only	01-DEC-2020
WELL - F22	Updated Table A for WELL F22	One time Only	One time Only	01-DEC-2020
WELL - F23	Updated Table A for WELL F23	One time Only	One time Only	01-DEC-2020
WELL - F24	Updated Table A for WELL F24	One time Only	One time Only	01-DEC-2020
<b>Permit Condition No:</b> 27	<b>Permit Condition Code:</b> <u>WUSAT001-4</u>			
Facility Name	Requirement Name	Col Freq	Sub Freq	Due Date
WELL - F2	Chloride for Well F2	Monthly	Quarterly	31-JUL-2020
WELL - F3	Chloride for Well F3	Monthly	Quarterly	31-JUL-2020
WELL - F4	Chloride for Well F4	Monthly	Quarterly	31-JUL-2020
WELL - F5	Chloride for Well F5	Monthly	Quarterly	31-JUL-2020
WELL - F6	Chloride for Well F6	Monthly	Quarterly	31-JUL-2020
WELL - F7	Chloride for Well F7	Monthly	Quarterly	31-JUL-2020

## Requirement by Permit Condition Report

Facility Name	Requirement Name	Col Freq	Sub Freq	Due Date
WELL - F8	Chloride for Well F8	Monthly	Quarterly	31-JUL-2020
WELL - F9	Chloride for Well F9	Monthly	Quarterly	31-JUL-2020
WELL - F10	Chloride for Well F10	Monthly	Quarterly	31-JUL-2020
WELL - F11	Chloride for Well F11	Monthly	Quarterly	31-JUL-2020
WELL - F12	Chloride for Well F12	Monthly	Quarterly	31-JUL-2020
WELL - F13	Chloride for Well F13	Monthly	Quarterly	31-JUL-2020
WELL - F14	Chloride for Well F14	Monthly	Quarterly	31-JUL-2020
WELL - F15	Chloride for Well F15	Monthly	Quarterly	31-JUL-2020
WELL - F16	Chloride for WELL F16	Monthly	Quarterly	31-JUL-2020
WELL - F17	Chloride for Well F17	Monthly	Quarterly	31-JUL-2020
WELL - F18	Chloride for Well F18	Monthly	Quarterly	31-JUL-2020
WELL - F19	Chloride for Well F19	Monthly	Quarterly	31-JUL-2020
WELL - F20	Chloride for Well F 20	Monthly	Quarterly	31-JUL-2020
WELL - F21	Chloride for Well F21	Monthly	Quarterly	31-JUL-2020
WELL - F22	Chloride for Well F22	Monthly	Quarterly	31-JUL-2020
WELL - F23	Chloride for Well F23	Monthly	Quarterly	31-JUL-2020
WELL - F24	Chloride for Well F24	Monthly	Quarterly	31-JUL-2020
WELL - 28 South	Chloride for Well 28 South	Monthly	Quarterly	31-JUL-2020
WELL - 29 South	Chloride for Well 29 South	Monthly	Quarterly	31-JUL-2020
WELL - 30 South	Chloride for Well 30 South	Monthly	Quarterly	31-JUL-2020
WELL - 31 South	Chloride for Well 31 South	Monthly	Quarterly	31-JUL-2020
WELL - 32 South	Chloride for Well 32 South	Monthly	Quarterly	31-JUL-2020
WELL - 33 South	Chloride for Well 33 South	Monthly	Quarterly	31-JUL-2020
WELL - 34 South	Chloride for Well 34 South	Monthly	Quarterly	31-JUL-2020
WELL - 35 South	Chloride for Well 35 South	Monthly	Quarterly	31-JUL-2020
WELL - 36 Chaminade	Chloride for Well 36 Chaminade	Monthly	Quarterly	31-JUL-2020
WELL - 37 Chaminade	Chloride for Well 37 Chaminade	Monthly	Quarterly	31-JUL-2020
WELL - 38 Chaminade	Chloride for Well 38 Chaminade	Monthly	Quarterly	31-JUL-2020
WELL - 39 Chaminade	Chloride for Well 39 Chaminade	Monthly	Quarterly	31-JUL-2020
WELL - 40 Chaminade	Chloride for Well 40 Chaminade	Monthly	Quarterly	31-JUL-2020
WELL - 41 Chaminade	Chloride for Well 41 Chaminade	Monthly	Quarterly	31-JUL-2020
WELL - G-2425	Chloride for WELL G-2425	Quarterly	Quarterly	31-JUL-2020
WELL - G-2426	Chloride for WELL G-2426	Quarterly	Quarterly	31-JUL-2020
WELL - G-2441	Chloride for WELL G-2441	Quarterly	Quarterly	31-JUL-2020
WELL - G-2612	Chloride for WELL G-2612	Quarterly	Quarterly	31-JUL-2020
WELL - G-2956	Chloride for WELL G-2956	Quarterly	Quarterly	31-JUL-2020
PUMP - HOHB	Chloride for PUMP HOHB	Quarterly	Quarterly	31-JUL-2020
PUMP - HOJS	Chloride for PUMP HOJS	Quarterly	Quarterly	31-JUL-2020
PUMP - HON29	Chloride for PUMP HON29	Quarterly	Quarterly	31-JUL-2020
PUMP - HON46	Chloride for PUMP HON46	Quarterly	Quarterly	31-JUL-2020
PUMP - HOTS	Chloride for PUMP HOTS	Quarterly	Quarterly	31-JUL-2020
WELL - G-2956	ground water level for G2956	Quarterly	Quarterly	31-JUL-2020
WELL - G-2612	ground water level for G-2612	Quarterly	Quarterly	31-JUL-2020
WELL - G-2441	ground water level for G-2441	Quarterly	Quarterly	31-JUL-2020
WELL - G-2426	ground water level for G-2426	Quarterly	Quarterly	31-JUL-2020
WELL - G-2425	ground water level fo G-2425	Quarterly	Quarterly	31-JUL-2020

## Requirement by Permit Condition Report

<b>Permit Condition No:</b> 29	<b>Permit Condition Code:</b> <u>WUIND002-1</u>			
<b>Facility Name</b>	<b>Requirement Name</b>	<b>Col Freq</b>	<b>Sub Freq</b>	<b>Due Date</b>
PERMIT	AWS Status Report	Yearly	Yearly	30-APR-2020

# STAFF REPORT DISTRIBUTION LIST

HOLLYWOOD WATER TREATMENT PLANT

**Application No:** 200218-3

**Permit No:** 06-00038-W

## INTERNAL DISTRIBUTION

X Stephanie Lancaster, P.G.

## EXTERNAL DISTRIBUTION

X Permittee - City Of Hollywood  
X Agent - City Of Hollywood

## GOVERNMENT AGENCIES

X Broward County - Director, Water Mgmt Div  
X Dept of Environmental Protection - West Palm Beach  
X FDEP Div of Recreation and Park - District 5

## OTHER INTERESTED PARTIES

X Natural Resources Defense Council

Exhibit No:6

APPENDIX B

# INTERLOCAL AGREEMENT FOR THE BULK SALE OF POTABLE WATER BETWEEN BROWARD COUNTY AND THE CITY OF HOLLYWOOD

2-9-33-  
Fo

INTERLOCAL AGREEMENT FOR THE BULK SALE  
OF POTABLE WATER BETWEEN  
BROWARD COUNTY, FLORIDA AND  
THE CITY OF HOLLYWOOD, FLORIDA

This Agreement is made and entered into this 15<sup>th</sup> day of Oct, 1996, by and between the Board of County Commissioners, as the governing board of Broward County, a political subdivision of the State of Florida with its principal place of business at 115 South Andrews Avenue, Ft. Lauderdale, Florida 33301 (hereinafter referred to as "County"), and the City of Hollywood, a municipal corporation of the State of Florida, with its principal place of business at 2600 Hollywood Blvd., Hollywood, Florida 33020 (hereinafter referred to as "City").

RECITALS

WHEREAS, County is the owner and operator of a 6.2 million gallons per day (MGD) water treatment plant located at the intersection of Griffin Road and 40th Avenue; and

WHEREAS, the average daily demand for water service at this facility is 2.6 MGD; and

WHEREAS, unless County finds another source of potable water, County anticipates the need to invest monies to upgrade this facility to continue providing quality service to residents in the service area denoted as Broward County Service Area 3A, more particularly described herein in Exhibit A, attached hereto and made a part hereof; and

WHEREAS, instead of investing monies to upgrade its facility, County is desirous of purchasing potable water from City to serve Broward County Service Area 3A; and,

WHEREAS, City is the owner and operator of a 37.5 MGD water treatment plant located at the intersection of Hollywood Boulevard and 35th Avenue; and

WHEREAS, City is currently upgrading its water treatment plant through the addition of membrane softening units and reverse osmosis units that will allow City to treat multiple sources of water; and

WHEREAS, the City and County have entered into an Agreement entitled "Large User Raw Water Agreement Between Broward County, Florida and City of Hollywood, Florida" which requires the County to deliver raw water from the County's South Regional Raw Water System to the City in accordance with the terms and conditions of said agreement; and

WHEREAS, the quality of water that will be produced by City's facility will be of a quality meeting all State and Federal regulatory standards; and

WHEREAS, the demand for service on City's facility by current City of Hollywood customers averages 18.5 MGD, with a peak demand of 25.4 MGD; and

WHEREAS, City has surplus capacity in its facility to provide bulk water to other area entities; and

WHEREAS, City is currently under contract with County to provide water service to areas known as Broward County Service Area 3B and 3C, more particularly described in Exhibit B, attached hereto and made a part hereof; and

WHEREAS, the Board of County Commissioners finds that the purchase of water from City is consistent with and furthers the goals of providing potable water service to the customers of Broward County Service Area 3A, (Exhibit A) along with the continuing provision of potable water service to Broward County Service Areas 3B and 3C, all three of which are hereinafter referred to collectively as "District 3"; and

WHEREAS, City is willing to provide potable water service to all of District 3; and

WHEREAS, the City Commission finds that the sale of potable water to County is of benefit to the citizens of City, as well as to the customers of District 3; and

WHEREAS, the parties hereto desire to enter into this agreement setting forth the mutual understandings, terms and conditions of the sale of bulk water by City to County; and

WHEREAS, City and County pledge their mutual cooperation towards the provision of cost effective and efficient potable water to those persons residing or working in District 3; and

WHEREAS, this Agreement and all the stipulations and covenants contained herein are subject to the approval of all the appropriate regulatory agencies,

including the South Florida Water Management District.

NOW THEREFORE, in consideration of the covenants contained in this Agreement, it is mutually agreed between the parties as follows:

1. RECITALS: The above recitals are true and correct, and are incorporated herein. Time is of the essence for all provisions herein.

2. OBLIGATIONS OF CITY/COUNTY FOR CONNECTIONS:

a. It shall be the City's obligation at its' sole cost and expense, to design and construct facilities to the 3A plant site Point of Connections (Exhibit Consolidated Water and Wastewater System). It shall be the obligation of County, at its sole cost and expense, to design, construct and install connections, appurtenances and master meters to physically connect County's system to City's regional water transmission system at locations shown on Exhibit C, attached hereto and made a part hereof, in accordance with plans, specifications and engineering data as prepared, certified and submitted by a registered professional engineer in the State of Florida, and as approved by the appropriate regulatory agencies and City's Public Utilities Director or authorized representative. As used in this Agreement, the term "Point of Connection" means any location(s) shown on Exhibit C where County's system is physically connected to the City's system by a master meter(s).

b. County shall, at its expense, retain the services of the same registered professional engineer who prepared the plans and specifications during construction for the purpose of providing the necessary inspections and supervision of the construction work, herein after referred to as "Work", for those facilities described in Exhibit C.

c. County agrees to require its engineer to provide shop drawings and catalog information of the materials and equipment to be installed as part of the connection to City's system, for City approval. No Work shall commence until the shop drawings, plans and specifications are approved in writing by City's Public Utilities Director or authorized representative. Review by the City shall be done within ten (10) working days.

d. A preconstruction meeting with City's Public Utilities Director or his authorized representative, County, County's engineer and contractor shall be held prior to commencement of the Work.

e. County agrees to grant City free access to the materials and the work site at all times for the purpose of inspecting same and to notify City before any

Work is begun or inspections made. Said notification shall be made in writing and shall be received by City at least forty-eight (48) hours in advance of the time Work will begin or inspections will be made.

f. At the time when periodic inspections are made, City's authorized representative, together with County's engineer, will be present to observe and jointly witness tests for determination of conformance to approved plans and specifications.

g. County shall require its contractor, during the warranty period, to promptly correct defective Work upon notification by City. Should County's contractor or the County fail to correct defects of the Work within ten (10) working days after written notification by the City, City may correct and remedy any such deficiency. All direct and indirect costs of City shall be charged to County.

h. County's obligation to perform and complete the Work in accordance with this Agreement shall be absolute. Neither any act of acceptance by City nor any failure to do so will constitute a release of County's obligation to comply with all requirements set forth in this Agreement.

i. City shall not be required to provide water service, except for construction water, unless installation of the Work has been completed, tested, certified, approved and accepted by City, and County's engineer has provided record drawings and related documentation. Should construction water be required, County shall pay at the established rate. All construction water shall be metered.

3. OBLIGATIONS OF COUNTY FOR CONVEYANCE OF NECESSARY APPURTENANCES: Upon completion, approval and acceptance of the Work required to be done on the City's side of the Point(s) of Connection shown on Exhibit C, County shall without cost to City:

a. Convey to City and its successors and assigns by good and sufficient easement deed, in a form satisfactory to City, a perpetual right, easement and privilege to operate, maintain, repair and replace all water mains, pipes, connections, pumps and meters within granted easements, in connection with supplying water service, and secure from each mortgagee and lienor a release of the interest of said mortgagee and lienor in the easement property and fixtures thereon for so long as the easement property is used for the operation, maintenance, repair or replacement of water mains, pipes, connections, pumps and meters within the easements.

b. Transfer to City by Bill of Sale Absolute all right, title and interest in and to all of the water mains, pumps, connection, pipes, valves, meters and equipment

installed within granted easements and rights-of-way as provided for in the plans and specifications to be prepared pursuant to Paragraph (2) above for the purpose of supplying water service. Said Bill of Sale Absolute shall be written in such a form as approved and accepted by City.

c. Furnish City with an affidavit that all persons, firms or corporations who furnished labor or material used directly or indirectly in the prosecution of the Work required to be performed by this Agreement have been paid. Said affidavit shall be written in such form as approved and accepted by City.

d. Furnish City with Releases Of Lien from all contractors and suppliers of materials and/or labor who might have acquired an interest in the installations through the supplying of materials and/or labor or otherwise.

e. Furnish City with all manufacturers' warranties which County might have received or is due to receive on any part of the Work.

f. Furnish City with a summary of the unit costs for the installations based on the invoices submitted by County's contractor as verified by County's engineer of record.

g. Provide record drawings of all installations and appurtenances on the Work. Said record drawings shall be of the completed works, on transparent mylar film, along with five sets of record prints made from the record film. Said record drawings shall be sealed by a professional engineer registered to do business in the State of Florida, and must show all pertinent information thereon, including but not limited to: current location of water mains, taps, meters valves, grade lines, and water main profiles. Said record drawing elevations shall be sealed by a registered land surveyor authorized to do business in the State of Florida.

4. CITY OBLIGATIONS TO MAINTAIN APPURTENANCES: Upon completion of the Work by County or County's/City's contractor, and acceptance of the Work by City, City shall thereafter, at its expense, own, operate, and maintain all facilities on the City's side of the Point of Connection(s) as shown on Exhibit C, which includes but is not limited to the master meter(s), connection piping and appurtenances within those easements granted to City for such purposes.

5. RETENTION OF RECORDED ENGINEERING INFORMATION: County shall require its engineer to keep all supporting documentation which reflects materials costs and all costs of construction (complete installation) of the Work. This documentation shall be available upon request at no charge to City's Public Utilities Director or authorized representative, for audit, inspection or copying for a minimum of five (5) years from City's formal acceptance of the Work.

6. RESERVE CAPACITY CHARGES DUE FROM ALL NEW COUNTY CUSTOMERS: All persons connecting to City's potable water system are required to pay the appropriate reserve capacity charges to City. The County is required to pay the appropriate reserve capacity charges for water treatment and transmission costs for all customers within District 3 who connect after the date of this agreement. These reserve capacity charges shall become payable by County at the time of application for a meter by those connecting to the potable water system in District 3. Said reserve capacity charges shall be remitted to City by County on a monthly basis. County will provide monthly a report of all reserve capacity charges due and payable.

The City Commission shall, from time to time, review the basis for said reserve capacity charges and adjust said reserve capacity charges when necessary as a result of a rate analysis conducted by a competent professional, after an appropriate public hearing, and after notice to County of any proposed changes. City shall provide the results of such rate analysis to County if requested. City shall maintain a separate accounting for the reserve capacity charges between water and wastewater.

7. COUNTY TO REQUIRE CONNECTION TO PUBLIC WATER SUPPLIES: County agrees to require all persons to whom potable water service is available to connect to the public potable water system in accordance with Chapter 34 of the Code of Broward County, as amended from time to time.

8. WATER QUALITY AND QUANTITY PROVIDED BY CITY: City shall make its best efforts to furnish water of the quantity and purity meeting the standards required by the Florida Department of Health and Rehabilitative Services, the Broward County Public Health Unit and any other regulatory agency having jurisdiction. City shall further make its best effort to supply, for the use of County at the Points of Connection to its water system, at all times, and at a more or less constant flow, quality of water at or above the pressure 60 psi, except at the 3A plant Point of Connection where 40 psi (at a more or less constant flow of 2800 gpm) will be satisfactory to provide service for domestic use on County's side of the meter.

9. COUNTY TO PAY FOR COST OF WATER SUPPLIED:

a. County shall pay City the prevailing City rate for bulk water service, as set from time to time by the City Commission after an appropriate public hearing, and after written notice to County of any proposed changes. Said water rate shall be based on the volume of water passing through the meter locations described in Exhibit C. The initial rate for bulk service shall be as follows:

1. Until October 1, 1996, the rate shall be \$0.78 per one thousand gallons of water delivered through the meter locations indicated on Exhibit C.

2. Until April 1, 1997, or such time as the District 3A water treatment plant no longer treats water for potable purposes, whichever occurs last, the rate shall be \$0.84 per one thousand gallons of water delivered through the meter locations indicated on Exhibit C.

3. At such time as the District 3A water treatment plant no longer treats water for potable purposes, or April 1, 1997 whichever occurs last, the rate shall be \$0.92 per one thousand gallons of water delivered through the meter locations indicated on Exhibit ~~Consolidated Water and Wastewater System~~ (except as provided in (2) above). *ZUF*

No increase beyond \$0.92 per one thousand gallons shall occur prior to October 15, 1997. Any increase in the usage rate charged to County thereafter shall not exceed the percentage of increase enacted for City's retail customers, and as deemed appropriate by a rate study conducted by a competent rate consulting professional. "The percentage of increase enacted for City's retail customers," as used to define any rate increases contemplated under this Agreement, shall be determined by the percentage difference found from a comparison of the total of all retail water revenues, projected over all retail water user classes, when identical volumetric, unit and meter bases are used. No increase shall be approved by City without 45 days' written notice to County of said proposed increase.

b. All said bulk water rates shall be nondiscriminatory and shall be the same for all like users on the system.

c. City shall bill County on a monthly basis for the amount of water used on the meters. The bill shall be considered delinquent if unpaid within 45 days after rendering to County by City.

d. The sale of water by City to County shall occur on County's side of the meters, at the Points of Connection, to be located as shown in Exhibit C.

10. CITY TO HAVE EXCLUSIVE RIGHT TO PROVIDE SERVICE: City shall have the exclusive right to furnish water service to county customers within the areas covered by this Agreement (see Exhibits A and B). County shall have the right to sell any portion of District 3, but only to the municipality within which the portion exists. Consummation of such a sale shall terminate this Agreement for the area purchased only, provided that the parties hereto agree to review and amend this Agreement to reflect the revised service area and flow projections.

11. COUNTY TO MAINTAIN SYSTEM CONDITION: County shall maintain its water distribution facilities and appurtenances in District 3 in accordance with standard utility practice.

12. CITY NOT LIABLE FOR COUNTY PIPELINES: City shall not be liable or responsible for maintenance or operation of any pipes, pipelines, valves, fixtures or equipment on any of the properties of the customers or users in District 3 downstream from the Points of Connection.

13. ALANDCO WATER SERVICE: City and County agree that City will continue to provide water service to the Alandco properties, more particularly described in Exhibit E, which is attached hereto and made apart hereof, via County's transmission lines. Given that the water metered at the Alandco properties will be from City's potable water system, City shall deduct from any bill to County, the amount of water usage indicated on the Alandco meter or meters.

City and County agree to a \$0.04 per 1000 gallons charge for transmission system usage to be paid by City to County to serve the Alandco area. City shall deduct the transmission system user charge from the bill to be rendered to County. Any increase in costs of transmission charged to City shall not exceed the percentage of increase enacted for County's retail customers. "The percentage of increase enacted for County's retail customers," as used to define any rate increases contemplated under this Agreement, shall be determined by the percentage difference found from a comparison of the total of all retail water revenues, projected over all retail water user classes, when identical volumetric, unit and meter bases are used.

City and County further agree that the previous agreements entitled "Large User Wastewater Transmission Agreement and Finished Water For Resale Agreement" (collectively known as the "Alandco Agreements"), dated May 16, 1989, as amended from time to time, are hereby superseded in their entirety by this Agreement, and the prior Agreements are hereby deemed null and void.

14. TRANSFER OF SERVICE AREAS: City and County agree that if in the future, through an exchange of service areas, certain properties in District 3 that are currently retail customers of County become retail customers of City, or certain properties that are currently retail customers of City become retail customers of County, those properties currently receiving water service shall not be charged a reserve capacity charge or impact fee by City or County, whichever receives the customers, due to the transfer.

15. WATER QUALITY TESTING: City and County shall make their best efforts to cooperate jointly in complying with federal, state and local water quality monitoring evaluations. District 3 shall be deemed a consecutive system under the Florida Administrative Code. This designation encourages consolidation of water

quality analysis requirements. Specifically Chapter 62-551, Florida Administrative Code, denotes requirements for lead and copper sampling, testing, monitoring, treatment and reporting requirements. These requirements shall be performed by City in lieu of County additionally testing the same water. To this end, and to monitor water quality to the residents of District 3, each party agrees to provide the other with copies of any water quality analyses it performs to assist each other with information to improve service. Each party shall advise the other of any water quality problems it encounters in the water distribution system in District 3. County shall retain responsibility for the quality of water from the Points of Connection.

16. METER TESTING: City shall maintain and test all meters semiannually and shall have a test conducted by a representative of the manufacturer or other competent entity. A copy of the semiannual report on meter inspections shall be furnished to County. County may from time to time request permission to have a meter test conducted. County shall submit such requests at least forty-eight (48) hours in advance of the test, not including any weekends or holidays. In the event that any meter tested is not accurate within the manufacturer's recommended range, City shall pay the costs of the test and make appropriate adjustments or repairs to the meter to bring it within the manufacturer's recommended range. County may be present to observe any meter test conducted by City.

Should the metering equipment be found to be inaccurate beyond the manufacturer's range of accuracy, the meter will be assumed to be inaccurate since midway between the previous meter check and the discovered inaccuracy or for a period of three months, whichever time should be less, and the following month's billing will be adjusted to show a credit or additional charge to County for that period based on the average daily flow of the thirty (30) day period prior to the previous meter check. An additional adjustment shall be made after the meter inaccuracy has been corrected. Said additional adjustment shall show a credit or additional charge to County for that period based on the average daily flow of the thirty (30) day period prior to the previous meter check and immediately after the period of inaccurate operation.

17. METER FAILURE: County agrees that if at any time the metering system shall be inoperative or in any way fails to provide information with respect to the quantity of flow into County's water system, County shall pay City a daily amount equal to the average daily flow of the monthly billing period immediately prior to the date the meter became inoperative, prorated over the number of days the meter was inoperative. City shall promptly repair or replace said defective or inoperative meter.

18. COUNTY FLOWS: County expects water demands for District 3 to be as shown on Exhibit D, attached hereto and made a part hereof. City agrees

to provide water in such quantities to meet these demands at a more or less constant rate of flow. County agrees to maintain adequate storage facilities to meet peak demands for District 3. Maximum daily demands on the system shall not exceed 1.34 times the maximum daily demands shown on Exhibit D, without permission of City. Should County consistently exceed these amounts, City may impose a surcharge of up to twenty-five (25) percent on the excess water utilized, if directed by the City Commission.

19. WATER CONSERVATION: City and County acknowledge that from time to time there will be water resource restrictions imposed by regulatory agencies. County agrees to conform with any water conservation efforts or mandates imposed by regulatory agencies, including but not limited to use restrictions and reductions of water distribution system pressures imposed by the South Florida Water Management District. In the event of a water resource restriction due to failure of City's facilities, County agrees to conform with necessary water conservation efforts, including a reduction of water distribution system pressures, to prevent further damage to City's or County's water system and to prevent the creation of a hardship for any other party. City and County agree that no reductions in service that will provide insufficient service or insufficient fire service will be required of either party by the other.

20. TERMINATION OF AGREEMENT: Except as provided in paragraph (10), City and County agree that this Agreement shall not be terminated on any condition other than City's purchase of the entire District 3 water and sewer service area, or by a mutual cancellation agreement between the parties hereto, which shall be a written document executed with the same formality and of equal dignity herewith.

21. COOPERATION BETWEEN CITY AND COUNTY: City and County agree to cooperate toward the development of a computer model of City's water distribution system and the District 3 water distribution system, to cooperate on engineering and field work to facilitate a beneficial and amicable working relationship, and to expedite those matters that may impact each other's service areas or distribution facilities.

22. CITY TO SUPPLY WATER TO COUNTY: City agrees to make every effort to provide water to County in the quantities specified in Exhibit D and in a manner similar to that of its retail customers.

23. EMERGENCY INTERCONNECTS: No water from CITY's water system is to be used or disbursed by COUNTY or its agents outside the indicated service area to be served as shown in EXHIBIT "A", attached hereto and made a part hereof except as provided by emergency interconnects with neighboring public

systems not to be activated without the prior concurrence of CITY. CITY shall not be responsible for providing adequate pressure or flow through COUNTY's emergency interconnects to other public systems.

24. **FORCE MAJEURE:** Any temporary cessation or interruption of the furnishing of water services provided in this Agreement, at any time caused by an act of God, fire, strike, casualty, accident, power failure, necessary maintenance work, breakdown, damage to equipment or mains, civil or military authority, riot or other cause beyond the control of City or County shall not constitute a breach of the provisions contained herein or impose liability upon City or County, its successors and assigns.

25. **JURISDICTION OF OTHER AGENCIES:** Both parties agree that certain federal, state, and local agencies have some jurisdiction and control over water supply matters and should any such agency, excluding the Board of County Commissioners of Broward County, Florida, issue legally enforceable laws, regulations, mandates, or orders that may alter any of the terms and conditions of this Agreement, there shall be no liability on either party because of such action, provided that City shall not be precluded from making necessary adjustment to the fees, rates, and charges. It is further agreed that if any such agency shall request a change in the provisions of this Agreement that both parties will, by mutual agreement, make every effort to comply with such request. However, the terms of this Section shall not preclude administrative or judicial challenge, or both, of such order by either or both parties hereto. This provision shall not be construed so as to permit County to terminate this Agreement.

26. **NOTICES:** Whenever either party desires to give notice unto the other, it must be given by written notice, sent by certified United States mail, with return receipt requested, addressed to the party for whom it is intended, at the place specified as the place for giving of notice; the place for giving of notice shall remain as such until it shall have been changed by written notice in compliance with the provisions of this paragraph. For the present, the parties designate the following as the respective places for the giving of notice, to wit:

**FOR CITY:**  
Utilities Director  
Public Utilities Department  
City of Hollywood  
P.O. Box 229045  
Hollywood, Florida 33022-9045

with copy to:

City Attorney's Office  
2600 Hollywood Boulevard  
Hollywood, FL 33022

FOR COUNTY:

Director  
Broward County Office of Environmental Services  
2555 West Copans Road  
Pompano Beach, FL 33069

with copy to:

County Attorney's Office  
115 South Andrews Avenue  
Ft. Lauderdale, FL 33301

Notice so addressed and sent by certified mail, with return receipt requested, shall be deemed given when it is received by the other party.

26. **AGREEMENT SUPERSEDES ALL PRIOR AGREEMENTS:** This Agreement shall supersede all previous agreements for potable water service, including, but not limited to, the agreements for potable water service to Broward County Service areas 3B and 3C, and the Alandco agreement.

27. **MODIFICATIONS TO THIS AGREEMENT:** This Agreement shall be modified or amended only by written amendment approved and executed in the same manner as this Agreement.

28. **ASSIGNMENT OF THIS AGREEMENT:** This Agreement shall not be assigned in whole or in part by either party, and any attempt by either party to assign shall be void ad initio.

29. **RECORDATION OF THIS AGREEMENT:** This Agreement shall be recorded in the Official Records of Broward County, Florida within fourteen (14) days after execution of this Agreement by both parties.

30. **INJUNCTIVE RELIEF:** Any party to this Agreement shall have the ability to file an action for injunctive relief in the Circuit Court of Broward County to enforce the terms of this Agreement, said remedy being cumulative with any and all remedies available to the parties for enforcement of this Agreement.

31. TERM: The term of this Agreement shall be twenty five (25) years. This Agreement may be renewed thereafter for ten (10) year intervals no less than five (5) years in advance of the end of the next term, via mutual agreement between the parties hereto, which shall be a written document executed with the same formality and of equal dignity herewith.

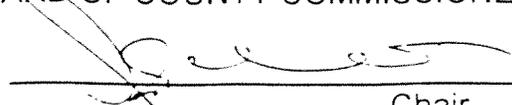
32. AGREEMENT SUBJECT TO THE LAWS OF THE STATE OF FLORIDA: This Agreement shall be controlled by the laws of the State of Florida.

IN WITNESS WHEREOF, the parties have made and executed this Agreement on the respective dates under each signature: BROWARD COUNTY through its BOARD OF COUNTY COMMISSIONERS, signing by and through its Chair or Vice Chair, authorized to execute same by Board action on the 15<sup>th</sup> day of Oct., 1996, and signing by and the City of Hollywood, Florida, signing by and through Mara Giulant duly authorized to execute same.

ATTEST: 

County Administrator and Ex-officio Clerk of the Board of County Commissioners of Broward County, Florida

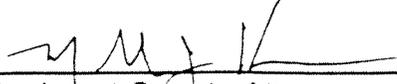
COUNTY:  
BROWARD COUNTY, through its BOARD OF COUNTY COMMISSIONERS

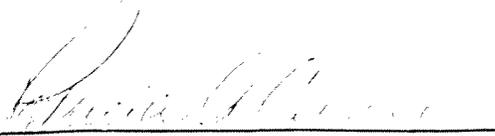
By:  \_\_\_\_\_, Chair

15<sup>th</sup> day of October, 1996

Approved as to form by  
Office of County Attorney  
Broward County, Florida  
John J. Copelan, Jr., County Attorney  
Government Center, Suite 423  
115 South Andrews Avenue  
Ft. Lauderdale, Florida 33301  
Telephone (305) 357-7600  
Telecopier (305) 357-7641



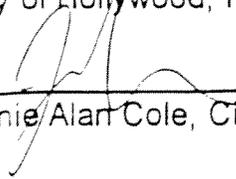
By:  \_\_\_\_\_  
Assistant County Attorney

ATTEST:  
  
Patricia A. Cerny  
City Clerk

THE CITY OF HOLLYWOOD, A MUNICIPAL CORPORATION OF THE STATE OF FLORIDA

By:  \_\_\_\_\_  
Mara Giulant, Mayor

Approved as to form and legality for the use and reliance of the City of Hollywood, Florida only:

  
Jamie Alan Cole, City Attorney

RESOLUTION NO. R-93-294

RESOLUTION TO AUTHORIZE EXECUTION OF AGREEMENT WITH BROWARD COUNTY TO PURCHASE WATER FROM BRIAN PICCOLO WELLFIELD, TO SECURE WATER FROM THIS SOURCE FOR THE CITY OF HOLLYWOOD'S USE.

WHEREAS, due to possible salt water intrusion, the South Florida Water Management District has limited the amount of water that can be withdrawn from the Hollywood Wellfield to 22.47 million gallons a day; and

WHEREAS, it is estimated that in the next five years additional sources of water will be necessary to supplement the City's own sources and provide for the needs of the residents of the City of Hollywood; and

WHEREAS, Broward County has developed a Regional Water Supply Strategy and a South Regional Wellfield is to be developed at Brian Piccolo Park; and

WHEREAS, the City of Hollywood's Plan for Water Management includes obtaining water from the Biscayne Aquifer, the Floridan Aquifer and the Brian Piccolo Wellfield; and

WHEREAS, raw water from this wellfield could be purchased from the County to supplement the City's supply; and

WHEREAS, the Brian Piccolo Wellfield has water available to provide to the City an additional six million gallons a day annual average daily flow and eight million gallons a day peak daily flow; and

WHEREAS, the current water quality will be maintained while being supplemented by the Floridan Aquifer and the Brian Piccolo Wellfield water; and

WHEREAS, the Director of Utilities with Utilities Department input has negotiated a Large User Agreement with Broward County; and

## CERTIFICATION

I certify this to be a true and correct copy of the record in my office.

WITNESSETH my hand and official seal of the City of Hollywood, Florida, this the

26th day of January 1994  
William J. Lowland City Clerk.

WHEREAS, the Hollywood City Commission requested staff to renegotiate with Broward County; and

WHEREAS, as a result of renegotiations with Broward County, modifications will be included; and

WHEREAS, the following modifications to be included in the final Agreement:

1. In lieu of placing a "cap" on the agreement, since actual costs are unknown at present, language will be added to allow the City to determine whether or not to remain party to the Agreement in three to five year intervals. Should the City decide it is in its' best interest to withdraw from the Agreement, a 180 day notice would be required.
2. Item 2.1 a of the Agreement will be amended to define the actual location and scope of the County Facilities being funded for purposes of extracting water from the Brian Piccolo Wellfield. Once defined, operation and maintenance costs will be limited to this location and facility.
3. Additionally, an addendum will be included in reference to defining estimated cost for operation and maintenance of the Brian Piccolo Wellfield, without pretreatment (to be in the range of \$0.10 \$/Kgals to \$0.14 \$/Kgals).

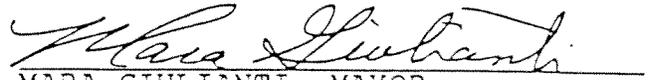
and

WHEREAS, the Utilities staff has received from Broward County a final draft and is working with the Acting City Attorney to finalize this Agreement as to form and legality; and

WHEREAS, the City Attorney and the Utilities Director recommend approval of this agreement with Broward County; and

NOW, THEREFORE, Be It Resolved By The Hollywood City Commission to authorize entering into An Agreement With Broward County, authorizing staff to prepare a final Agreement to purchase water from the Brian Piccolo Wellfield.

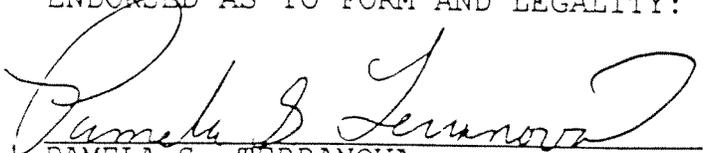
PASSED AND ADOPTED THIS 1st DAY OF September 1993.

  
MARA GIULIANTI, MAYOR

ATTESTED:

  
MARTHA S. LAMBOS, CITY CLERK

ENDORSED AS TO FORM AND LEGALITY:

  
PAMELA S. TERRANOVA  
ACTING CITY ATTORNEY

## EXHIBIT C

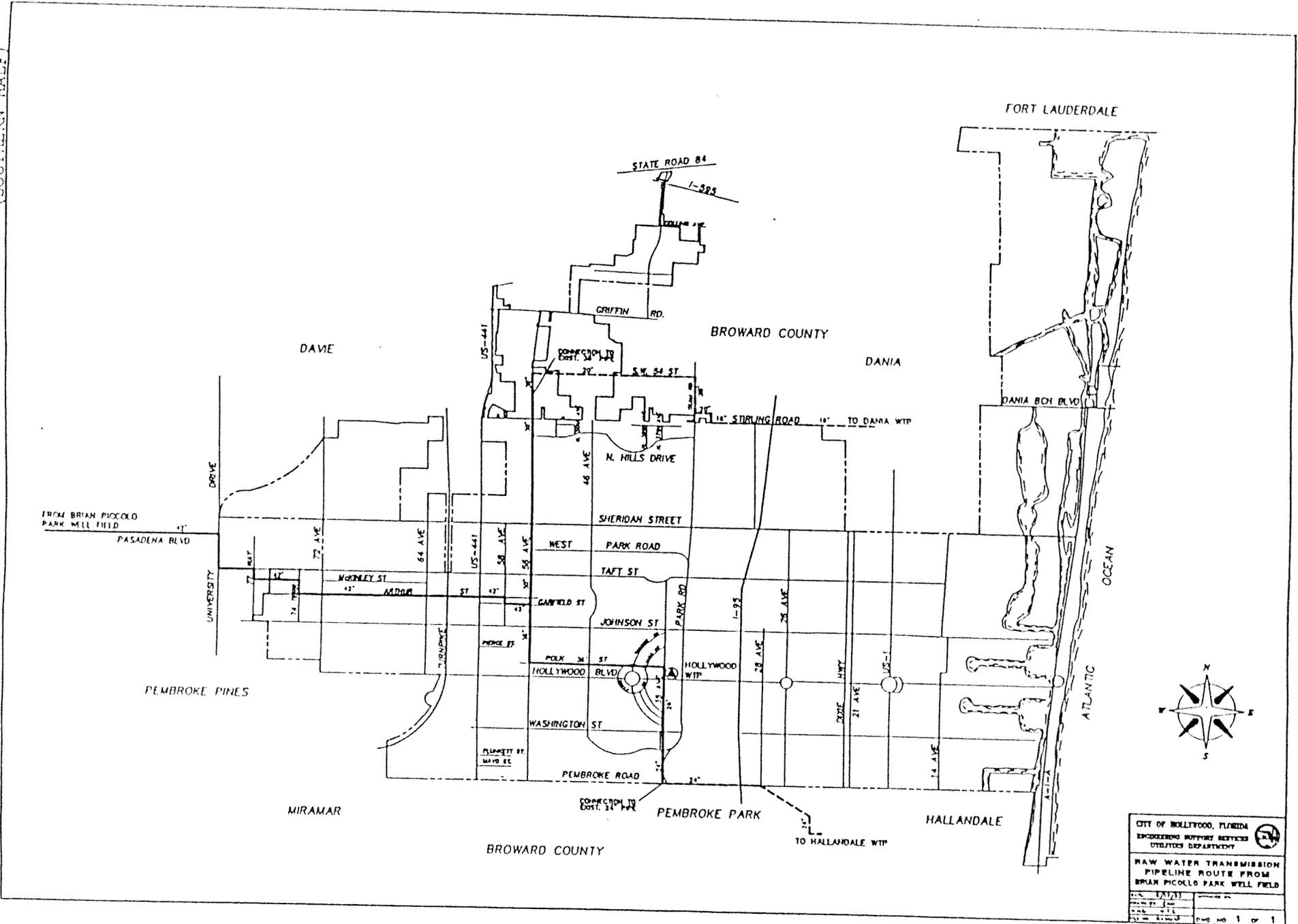
### RAW WATER AGREEMENT - HOLLYWOOD

The City of Hollywood understands that although the cost of raw water from the Brian Piccolo wellfield can not be determined at this time, the cost is anticipated to be between the present cost of treating Biscayne Aquifer water and the cost of treating Floridan Aquifer water by reverse osmosis.

#### Summary Operation and Maintenance Cost

<u>Source</u>	<u>Estimated Cost</u>
Biscayne Aquifer	\$0.38/1000 gals (present cost)
Brian Piccolo	Greater than \$0.38/1000 gallons but less than \$0.80/1000 gallons (Based on \$0.10 to \$0.14/1000 gallons County O/M plus present cost plus pretreatment costs).
Floridan Aquifer	\$0.80/1,000 (future R.O.)

COUNTY FACILITIES FOR  
 PROVIDING RAW WATER  
 (SOUTHERN HALF)



CITY OF HOLLYWOOD, FLORIDA  
 ENGINEERING SUPPORT SERVICES  
 UTILITIES DEPARTMENT

RAW WATER TRANSMISSION  
 PIPELINE ROUTE FROM  
 BRIAN PICCOLO PARK WELL FIELD

DATE	8/1/21	PROJECT NO.	
DESIGNED BY	J. Lee	CHECKED BY	
DATE	8/1/21	SCALE	
BY	J. Lee	DWG NO.	1 OF 1

## SECTION 1

### SUMMARY

James M. Montgomery, Consulting Engineers, Inc. was authorized in January 1992 to commence design of wellfields and raw water transmission mains for the Broward County Regional Water Supply Project. The purpose of this report is to update and finalize design criteria and component sizing established in the Preliminary Design Report (PDR) completed in March 1990 for the raw water system facilities. System components include raw water wells, transmission pipelines, collection pipelines, power supply and SCADA system.

One of the initial steps for the design of the wellfields and transmission mains include a hydraulic analysis which was performed for both the North System and South System to determine and select pipeline sizes for projected buildout demands. Recommended transmission pipeline sizes based on the results from the hydraulic analysis for both the North and South Systems are shown in Figures 2-1 and 3-1 respectively, and are summarized as follows:

	<u>Pipeline Reach</u>	<u>Recommended Pipe Size (in)</u>
North System	1	48
	2	42
	3	54 (Existing pipeline)
	4	20 (Future pipeline)
	5	24
	6	48
	7	42
South System	1	42
	2	36
	3	24
	4	24 (Existing pipeline)
	5	30
	6	16 (Existing pipeline)
	7	20
	8	16 (Existing pipeline)

The pipelines were conservatively sized with a design velocity of five to six feet per second. Analysis has shown that these design velocities optimize the capital and operating costs over the design life of the system. If in the future the County desires to increase the capacity of the pipelines, the flow velocity may be increased seven to ten feet per second by utilizing a booster pump station to increase the pipeline capacity approximately 50 percent. At the higher velocities, the operating efficiency of the system will decrease. Another option for increasing system capacity is to upsize the transmission mains from the recommended pipe sizes. The additional capital cost to upsize the transmission mains by one pipe size was determined to be approximately 20 percent.

## Summary

Design standards and criteria are established for the transmission pipelines, collection pipelines, wells, power supply and flow control and metering structures in the report. Significant design changes from the PDR besides pipeline sizing, rerouting, and an overall reduction in the capacity of the system include the following:

- Prestressed concrete cylinder pipe (PCCP) is not recommended as a pipe alternative for this project.
- Utilizing submersible pumps mounted in a below grade vault due to the Florida Department of Environmental Regulation (FDER) requirements.

Estimated probable construction costs for the North and South System bid packages are summarized as follows:

<u>Bid Package</u>	<u>Project</u>	<u>Probable Construction Cost (\$)</u>
3	South System Transmission Main-A	9,155,000
4	South System Transmission Main-B	3,160,000
5	South System Regional Wellfield	3,371,000
6	SCADA System	1,126,000
7	North System Transmission Main - A	4,642,000
8	North System Transmission Main - B	2,920,500
9	North System Transmission Main - C	1,475,500
10	North System Transmission Main - D	913,000
11	North East Regional Wellfield	3,195,000
	Total (3rd Quarter, 1992 Dollars)	\$29,958,000

The project implementation schedule for the South System assumes a six month design period for the major components of the project, a six month period for permitting, bidding and award, and an eight month construction period. Based on these assumptions, the project should be ready to deliver new water in late 1993 or early 1994. The project implementation schedule for the North System assumes a six month design period for the major components of the project, a five month period for permitting, bidding and award, and a seven month construction period. Based on these assumptions, the project should be ready to deliver new water following construction of the North East Regional Wellfield and the North System Transmission Main - A by early 1994.

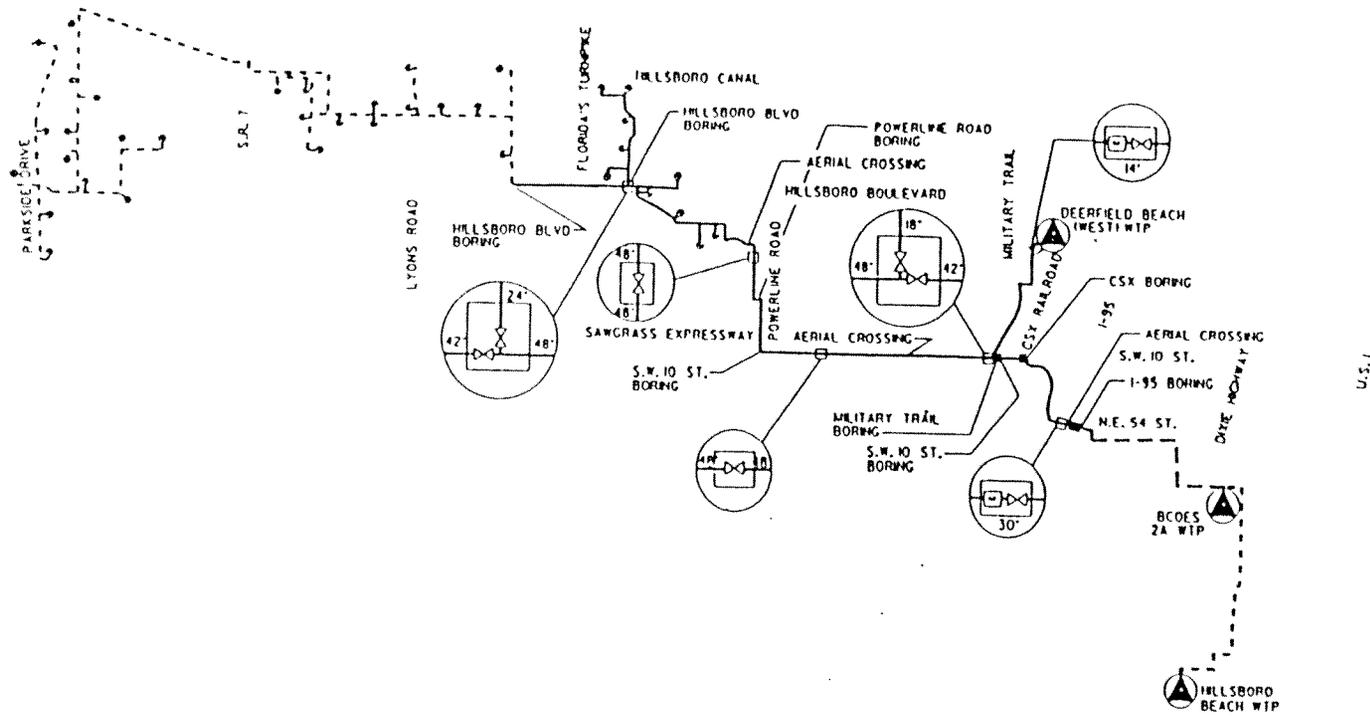
Items which may potentially delay the project schedule include: upconing study results requiring reconfiguration of the wellsites, Large User coordination, easement and well site acquisition, bid protests, permitting delays, and delivery of long lead project materials.

A preliminary design report (PDR) was completed in March 1990 for all Regional Water Supply system facilities. The report analyzed design criteria, various transmission pipeline corridors, pipeline sizes, various pumping schematics, system capacity, system reliability, power supply, project costs and project implementation. Recommendations were made to the County with regard to the final design criteria in the PDR.

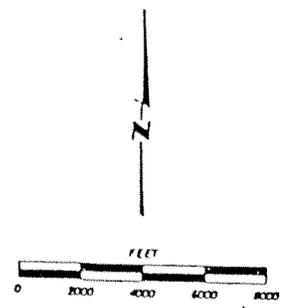
## Summary

Since completion of the PDR some factors have changed which will impact final design criteria and implementation of the project. These factors include Consumptive Use Permit restrictions, Large User Agreements differing from those anticipated in the PDR, and project delays.

The purpose of this report is to update design criteria and component sizing based on recent restrictions and changes to the project. The report also includes a list of major equipment manufacturers, permits and approvals required, technical specifications necessary for the project, estimated project costs, and a project implementation schedule.



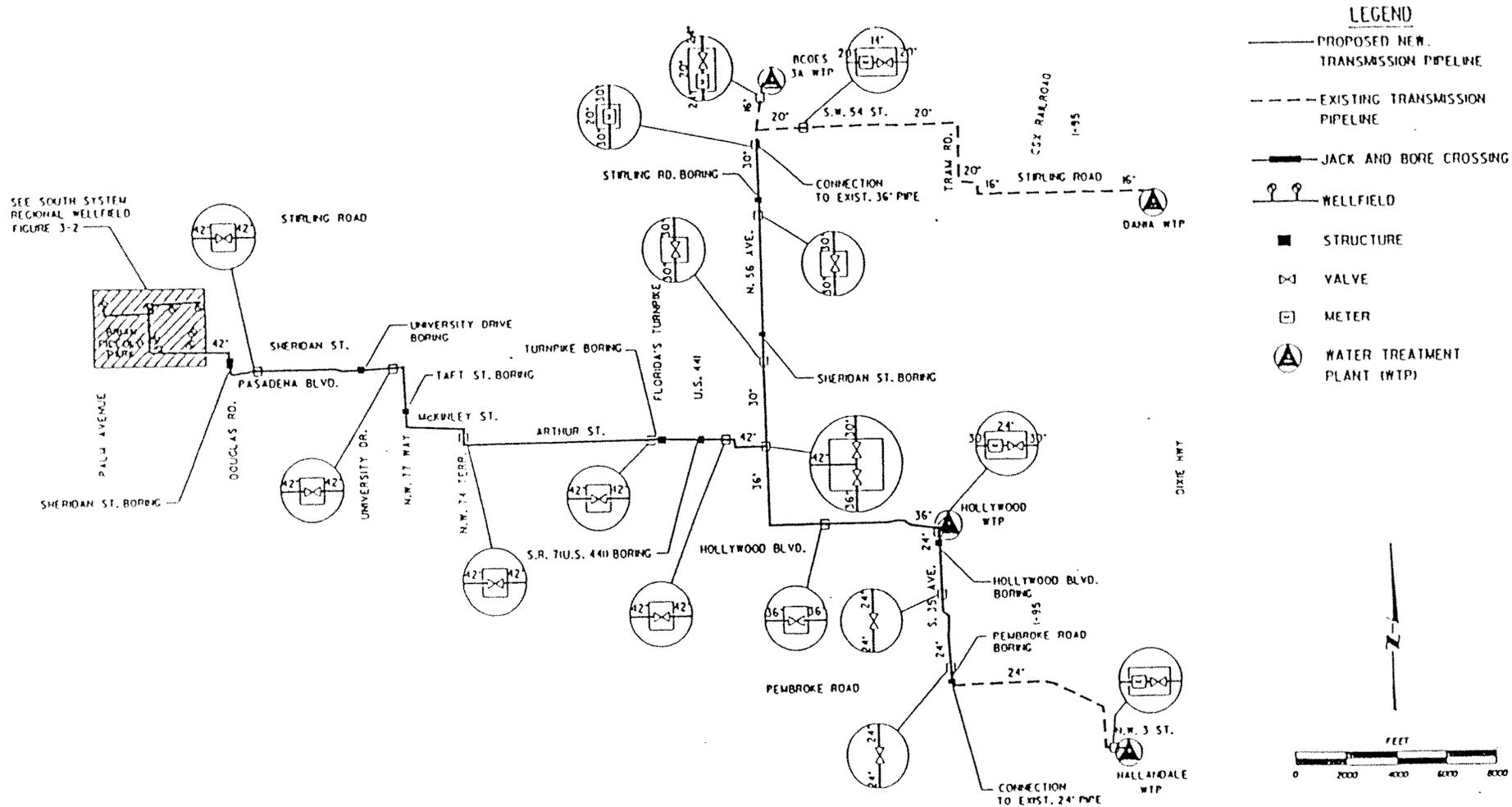
- LEGEND**
- PROPOSED NEW TRANSMISSION PIPELINE
  - - - EXISTING TRANSMISSION PIPELINE
  - · · · · PROPOSED FUTURE TRANSMISSION PIPELINE
  - JACK AND BORE CROSSING
  - WELLFIELD
  - STRUCTURE
  - ⊗ VALVE
  - ⊠ METER
  - ⊙ WATER TREATMENT PLANT (WTP)



PRELIMINARY DESIGN PLAN  
FOR  
RAW WATER  
TRANSMISSION PIPELINE  
NORTH SYSTEM  
FIGURE 2-1

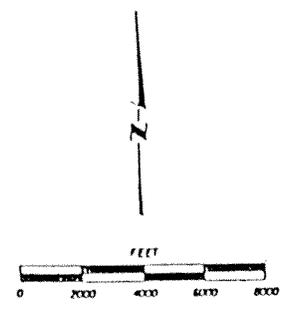
JMM





**LEGEND**

- PROPOSED NEW TRANSMISSION PIPELINE
- - - EXISTING TRANSMISSION PIPELINE
- JACK AND BORE CROSSING
- WELLFIELD
- STRUCTURE
- ⊗ VALVE
- METER
- ⊙ WATER TREATMENT PLANT (WTP)



PRELIMINARY DESIGN PLAN  
FOR  
RAW WATER  
TRANSMISSION PIPELINE  
SOUTH SYSTEM  
FIGURE 3-1



**ATTACHMENT TO BRIAN PICCOLO AGREEMENT  
EXAMPLE CALCULATION OF EXCESSIVE FLOW CHARGES**

Date	Flow (1,000 gal)	% Over AMDF	2x% Over AMDF	Charge (\$0.10/1000 gal)	Notes: (AMDF = Annual Maximum Daily Flow) (AMDF = 8,000,000 gal/day)
1	6,000	0.00%	0%	\$600	
2	9,000	12.50%	25%	\$900	
3	6,000	0.00%	0%	\$600	First day over AMDF **
4	9,000	12.50%	25%	\$900	
5	10,000	25.00%	50%	\$1,000	Second successive day over AMDF **
6	12,000	50.00%	100%	\$1,200	First day of penalty
7	11,000	37.50%	75%	\$1,100	
8	10,000	25.00%	50%	\$1,000	
9	9,000	12.50%	25%	\$900	
10	7,000	0.00%	0%	\$700	Last day of overage
11	6,000	0.00%	0%	\$600	
12	5,000	0.00%	0%	\$500	
13	5,000	0.00%	0%	\$500	
14	5,000	0.00%	0%	\$500	
15	5,000	0.00%	0%	\$500	
16	5,000	0.00%	0%	\$500	
17	5,000	0.00%	0%	\$500	
18	5,000	0.00%	0%	\$500	
19	5,000	0.00%	0%	\$500	
20	5,000	0.00%	0%	\$500	
21	5,000	0.00%	0%	\$500	
22	5,000	0.00%	0%	\$500	
23	5,000	0.00%	0%	\$500	
24	5,000	0.00%	0%	\$500	
25	5,000	0.00%	0%	\$500	
26	5,000	0.00%	0%	\$500	
27	6,000	0.00%	0%	\$600	
28	8,000	0.00%	0%	\$800	
29	8,000	0.00%	0%	\$800	
30	8,000	0.00%	0%	\$800	
1	7,000	0.00%	0%	\$700	\$20,000 Monthly charge
2	7,000	0.00%	0%	\$700	10% Average 2 x Overage **
3	8,000	0.00%	0%	\$800	\$2,000 Penalty **
4	8,000	0.00%	0%	\$800	\$22,000 Monthly charge with penalty
5	8,000	0.00%	0%	\$800	
6	8,000	0.00%	0%	\$800	** Excludes first two days.
7	8,000	0.00%	0%	\$800	
8	8,000	0.00%	0%	\$800	
9	8,000	0.00%	0%	\$800	
10	8,000	0.00%	0%	\$800	30 consecutive days without overage
11	10,000	25.00%	50%	\$1,000	
12	8,000	0.00%	0%	\$800	First day over AMDF
13	10,000	25.00%	50%	\$1,000	
14	9,000	12.50%	25%	\$900	Second successive day over AMDF
15	9,000	12.50%	25%	\$900	First day of penalty

ACKNOWLEDGMENT

STATE OF FLORIDA)  
COUNTY OF BROWARD)

The foregoing instrument was acknowledged before me this \_\_\_\_\_ day of \_\_\_\_\_, 199\_\_\_\_, by \_\_\_\_\_, Chair of the Board of County Commissioners of Broward County, a political subdivision of the State of Florida, on behalf of the County. He/she is personally known to me or who has produced \_\_\_\_\_ as identification.

\_\_\_\_\_  
Notary Public

\_\_\_\_\_  
Name Typed, Printed or Stamped  
Commission No. \_\_\_\_\_  
My Commission Expires:

STATE OF FLORIDA)  
COUNTY OF BROWARD)

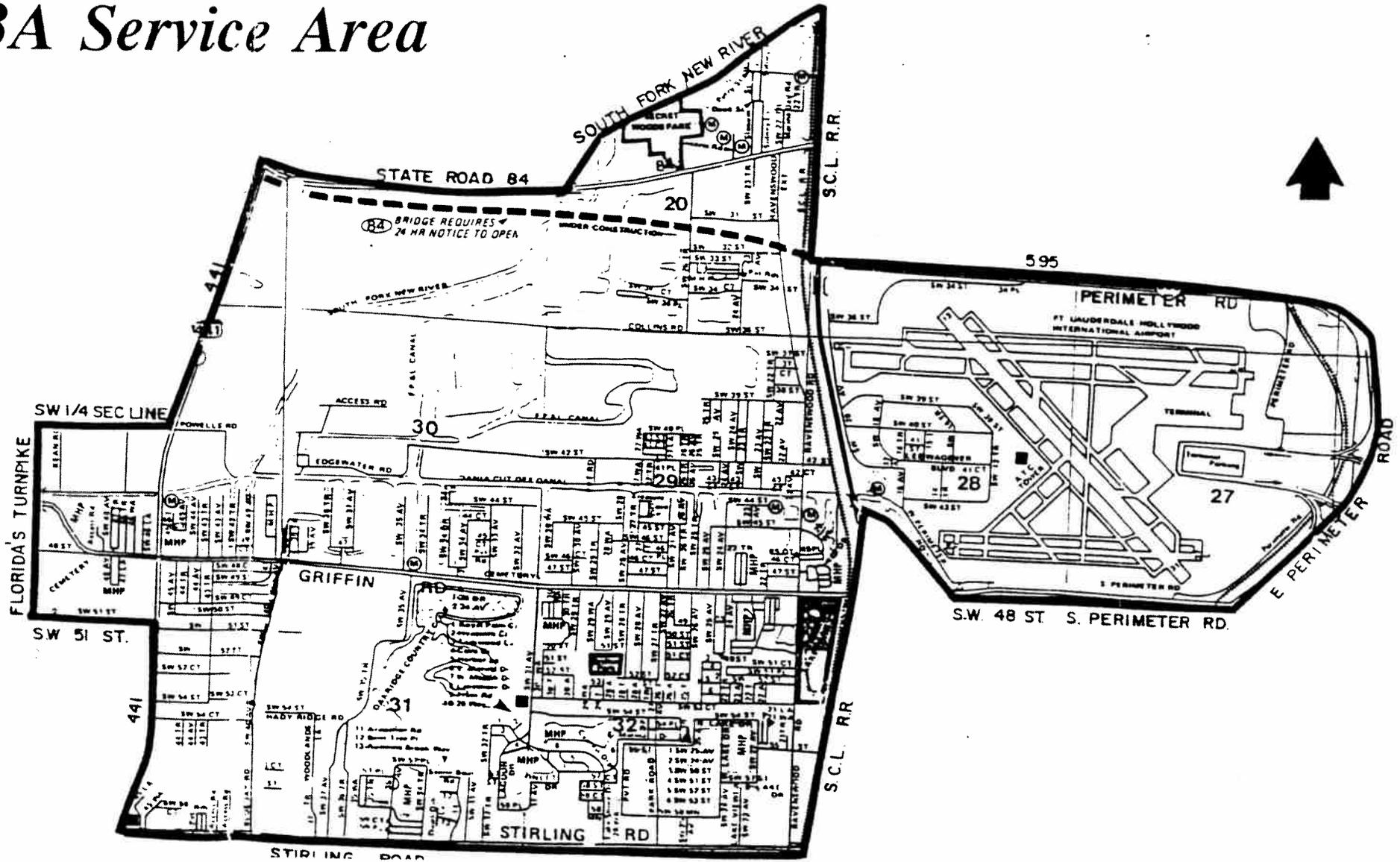
The foregoing instrument was acknowledged before me this \_\_\_\_\_ day of \_\_\_\_\_, 199\_\_\_\_, by Mara Giuliani, Mayor of the City of Hollywood, a municipal corporation of the State of Florida, on behalf of the corporation. He/she is personally known to me or who has produced \_\_\_\_\_ as identification.

\_\_\_\_\_  
Notary Public

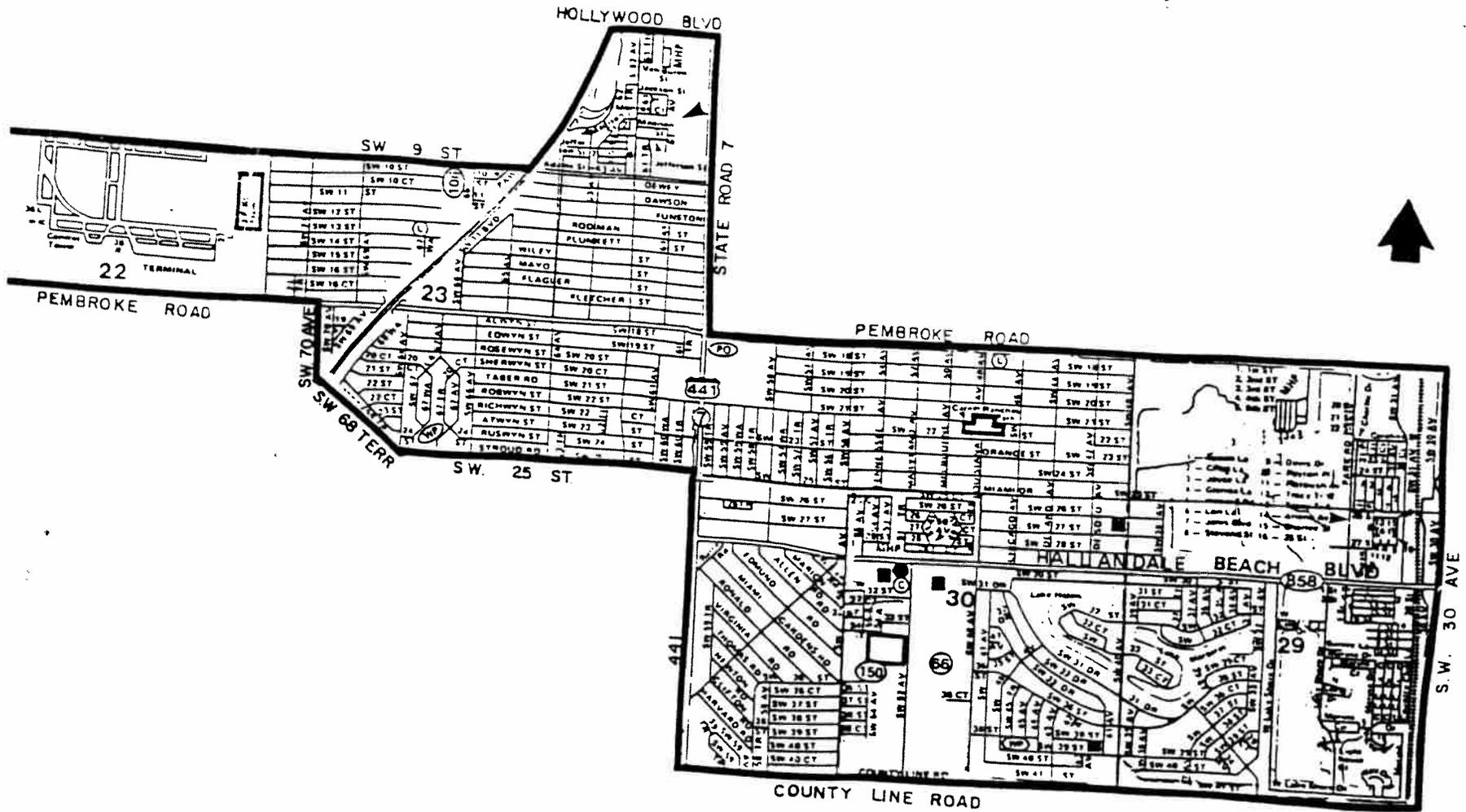
\_\_\_\_\_  
Name Typed, Printed or Stamped  
Commission No. \_\_\_\_\_  
My Commission Expires:

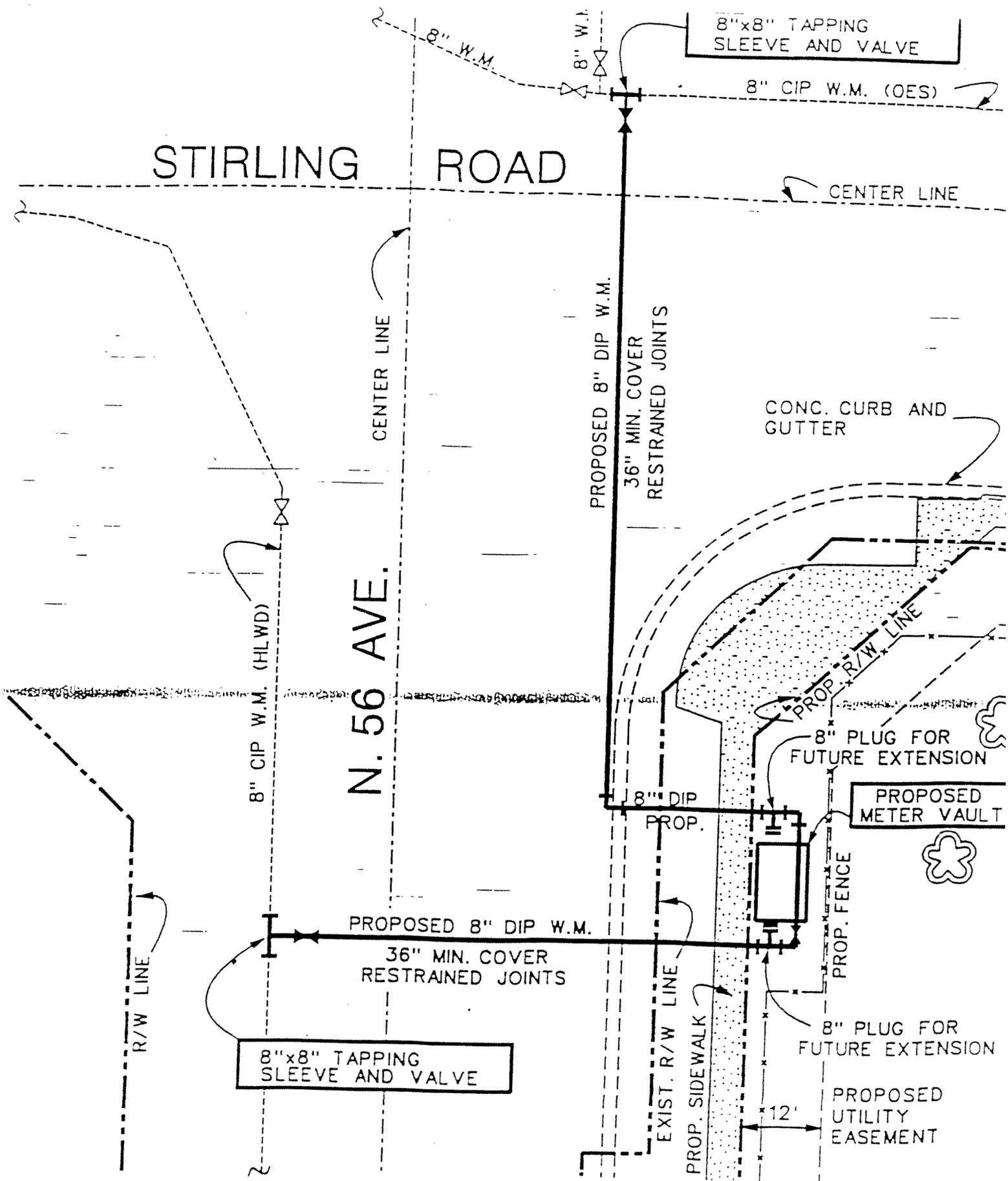
EXHIBIT A

# 3A Service Area



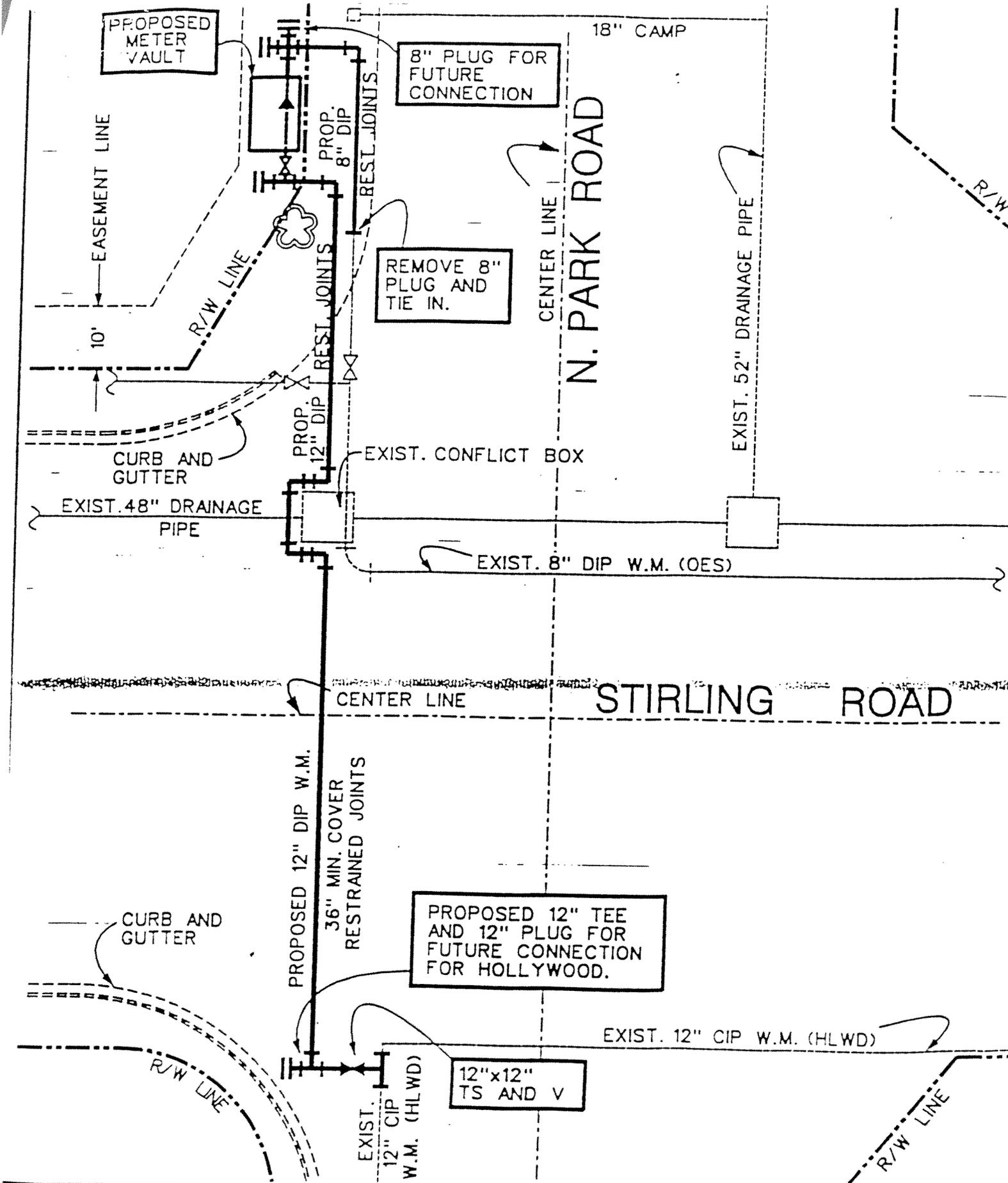
# 3B/3C Service Area





Date: Jul. 11, 1995  
 Scale: 1" = 20'  
 Drawn By: E.A. Jackson

EXHIBIT C 1 of 2  
 WATER MASTER METER LOCATION NO.1  
 ( EAST SIDE OF N. 56 AVE.  
 AND STIRLING ROAD )



Date: Jul. 11, 1995  
 Scale: 1" = 20'  
 Drawn By: E.A. Jackson  
 BROWARD COUNTY

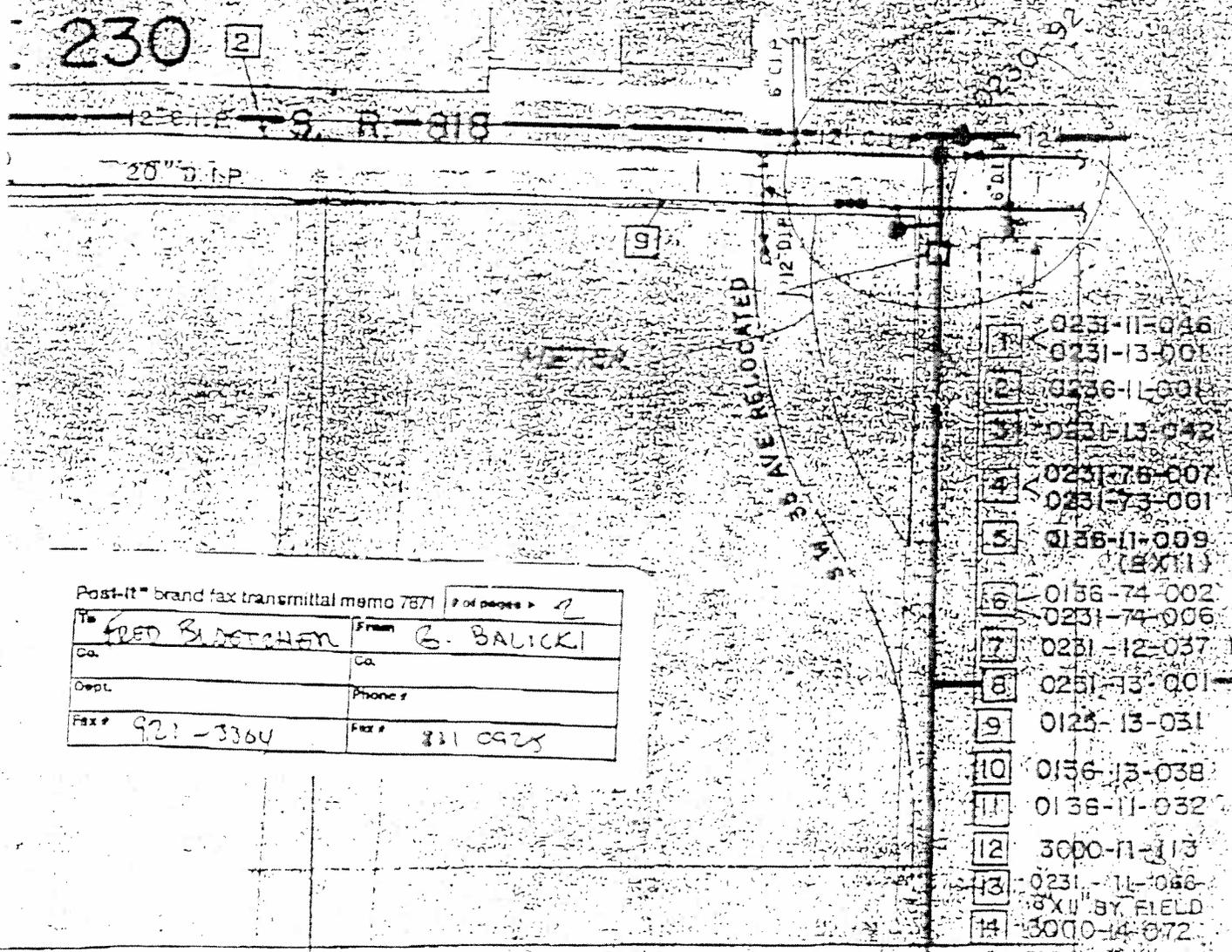
EXHIBIT C 2 of 2  
 WATER MASTER METER LOCATION NO. 2  
 ( WEST SIDE OF N. PARK ROAD  
 AND STIRLING ROAD )

T. 50 S. - R. 42 E.



94-01

230 [2]



Post-it<sup>®</sup> brand fax transmittal memo 7871 # of pages > 2

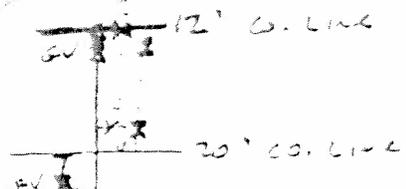
To: FRED BLASTCHEN	From: G. BALICKI
Co.	Co.
Dept.	Phone #
Fax # 921-3364	Fax # 831 0925

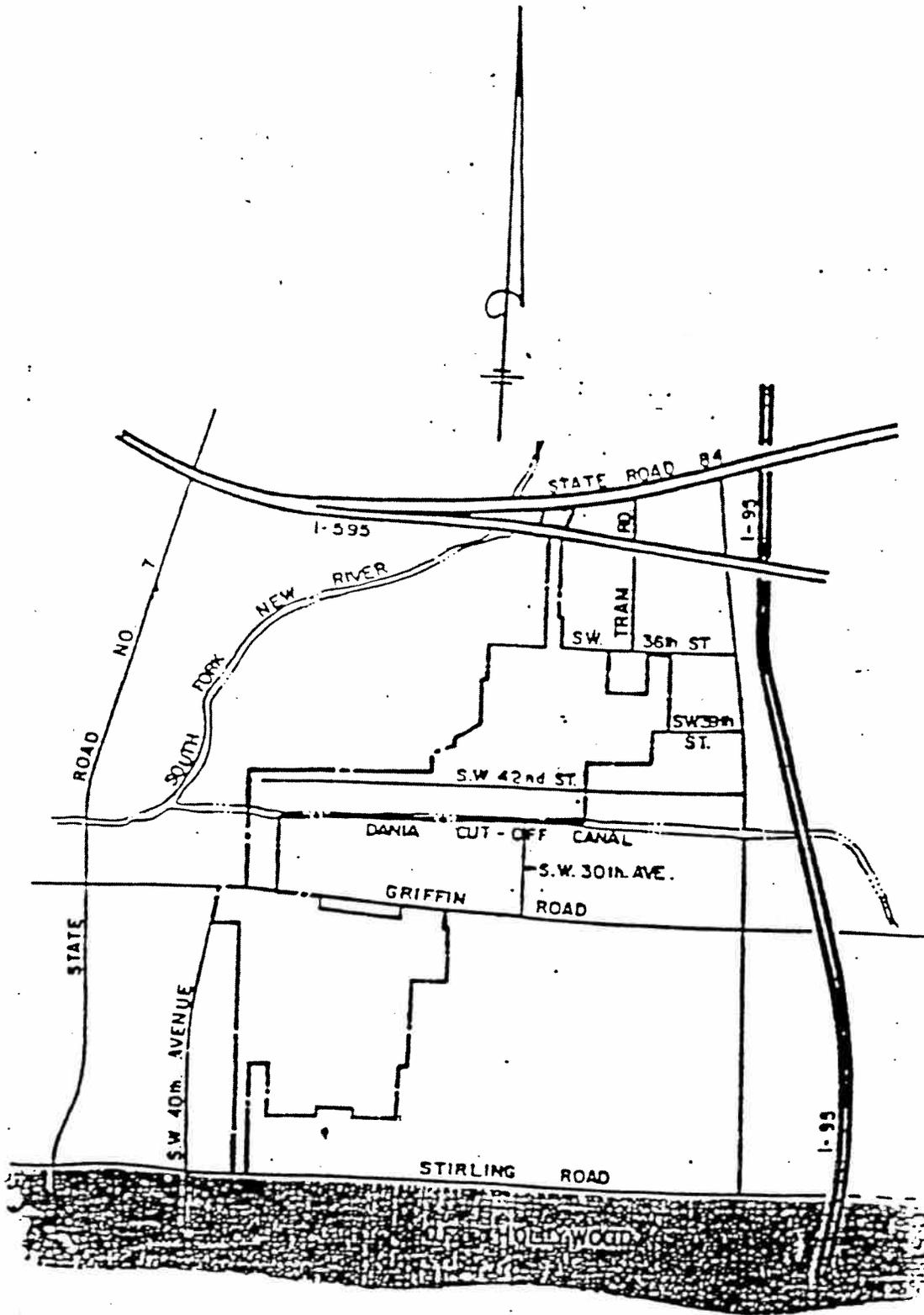
- [1] 0231-11-046
- [2] 0231-13-001
- [3] 0236-11-001
- [4] 0231-13-042
- [5] 0231-78-007
- [6] 0231-73-001
- [7] 0136-11-009 (EX11)
- [8] 0136-74-002
- [9] 0231-74-006
- [10] 0231-12-037 L
- [11] 0251-73-001
- [12] 0125-13-031
- [13] 0136-13-038
- [14] 0136-11-032
- [15] 3000-11-113
- [16] 0231-11-046
- [17] 3000-14-072

NT

Griffin Road Connection  
City water main to be

35 AVE  
CITY WATER MAIN





*Water*

2

3 All of Lots 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16, less the North 253.0 feet  
4 of Lots 4, 5, 6, 7, 8 and 9, of Block 1; the Southeast quarter of Block 2; all of Lots  
5 3, 4, 5 and 6, of Block 3; all of Lots 6, 7, 8 and 9, together with Lot 10, less the  
6 South four acres thereof, Block 4, Section 31, Township 50 South, Range 42 East,  
7 according to the Plat thereof, recorded in Plat Book 2, Page 32, of the Public  
8 Records of Dade County, Florida.

9  
10 TOGETHER WITH lots 3, 4, 5, 6, 7, 8 and the N. 809.9' feet of lot 9, lots 13, 14 of  
11 Block 2, lots 8 and 13, Block 3, Section 31, Township 50 south Range 42 East,  
12 according to the plat thereof, recorded in Plat Book 2, page 32 of the public records  
13 of Dade County, Florida.

14  
15 TOGETHER WITH all of Block 1; Block 2, less the West 454 feet thereof, of DONNA  
16 SUBDIVISION, according to the Plat thereof, recorded in Plat Book 55, Page 24, of  
17 the Public Records of Broward County, Florida.

18 TOGETHER WITH:

19 A parcel of land situate, lying and being in the Southwest quarter (S. W. 1/4) of  
20 Section 30, Township 50 South, Range 42 East. And more particularly described

1 as follows: Beginning at a point on the South line of said Section 30, 3018.11 feet  
 2 Westerly of the SE corner of said Section 30; thence Northerly along the West  
 3 boundary of Davis Isles, a subdivision recorded in the Public Records of Broward  
 4 County in Plat Book 29, Page 19, to the South boundary of the Dania out-off Canal;  
 5 thence Westerly along the South bank of the Dania out-off Canal for a distance of  
 6 505 feet to a point; thence Southerly along a line 505 feet West of and parallel to the  
 7 West boundary of said Davis Isles to a point on the South line of said Section 30;  
 8 thence Easterly along the South line of said Section 30 to the point of beginning.  
 9

10 TOGETHER WITH the East 800.00 feet of Northeast one-quarter (N.E. 1/4) of the  
 11 Southwest one-quarter (S.W. 1/4) of Section 30, Township 50, south Range 42  
 12 East lying north of the south right-of-way line of the Dania out-off Canal.  
 13

4 TOGETHER WITH a portion of Section 20, Township 50 South, Range 42 East, and  
 5 a portion of Section 29, of the Plat of Sections 28, 29, 31 and 32, Township 50  
 6 South, Range 42 East, according to the Plat thereof, as recorded in Plat Book 2,  
 7 Page 32 of the Public records of Dade County, Florida, and also being a portion of  
 8 Section 30, Township 50 South, Range 42 East, According to the Plat thereof, as  
 9 recorded in Plat Book 14, Page 37 of the Public Records of Broward County, Florida  
 0 and being more particularly described as follows:  
 1

2 Commencing at the Southwest corner of the Northwest one-quarter (N.W. 1/4) of  
 3 said Section 20; thence north  $03^{\circ}32'19''$  west, along the west line of the Northwest  
 4 one-quarter (N.W. 1/4) of said Section 20, a distance of 44.64 feet to a point on the  
 5 south right-of-way line of State Road No. 34 as shown on the Florida Department  
 6 of Transportation Right-Of-Way Map, Section 86095-2404, Sheet 3 of 8 Sheets;  
 7 thence North  $82^{\circ}29'59''$  East, a distance of 1143.12 feet to the POINT OF  
 8 BEGINNING of this description, thence continue North  $82^{\circ}29'59''$  East, a distance  
 9 of 229.91 feet to the point of curvature of a circular curve, concave Northwestwardly;  
 0 thence Northeastwardly along the arc of said curve, having a radius of 5329.65 feet,  
 1 a central angle of  $03^{\circ}23'07''$  and an arc distance of 344.44 feet, the last three

1 described courses being along the said south right-of-way line of State Road No.  
 2 84; thence South  $01^{\circ}54'32''$  East, along a line not radial to the last described curve,  
 3 a distance of 180.18 feet; thence South  $32^{\circ}58'54''$  West, a distance of 420.07 feet  
 4 to a point on the north right-of-way line of I-595 as shown on the aforesaid Florida  
 5 Department of Transportation Right-Of-Way Map; thence North  $83^{\circ}30'21''$  West, a  
 6 distance of 50.00 feet to a point, said point hereinafter to be known as Point "A";  
 7 thence continue North  $83^{\circ}30'21''$  West, a distance of 102.53 feet; thence North  
 8  $84^{\circ}13'41''$  West, a distance of 294.84 feet to a point, said point bearing North  
 9  $06^{\circ}10'39''$  East from the radius point of the next described curve; thence  
 10 northwesterly along the arc of said curve, having a radius of 11587.68 feet, a central  
 11 angle of  $00^{\circ}18'13''$  and an arc distance of 61.31 feet, the last four described courses  
 12 being along the said North right-of-way line of I-595; thence North  $42^{\circ}50'02''$  East,  
 13 along a line not radial to the last described curve, a distance of 92.08 feet to the  
 14 point of curvature of a circular curve, concave Northwestery; thence Northeastery  
 15 and Northery along the arc of said curve, having a radius of 520.50 feet, a central  
 16 angle of  $44^{\circ}41'09''$  and an arc distance of 405.84 feet to the point of beginning.

7

3 TOGETHER WITH:

)

)

1 Commencing at the aforesaid point "A"; thence South  $01^{\circ}51'24''$  East, a distance of  
 2 228.01 feet to the point of beginning of this description, said point being on the  
 3 South right-of-way line of said I-595; thence continue South  $01^{\circ}51'24''$  East, a  
 4 distance of 6.53 feet; thence South  $08^{\circ}24'101''$  East, a distance of 179.38 feet to a  
 5 point on the North line of the South three-quarters (S. 3/4) of the Southwest one-  
 6 quarter (S.W. 1/4) of said Section 20; thence South  $89^{\circ}20'02''$  West, along the said  
 7 North line of the South three-quarter (S. 3/4) of the Southwest one-quarter (S.W.  
 8 1/4) of Section 20, a distance of 44.20 feet; thence South  $02^{\circ}51'05''$  East, a  
 9 distance of 15.01 feet; thence South  $00^{\circ}58'17''$  East, a distance of 388.12 feet;  
 10 thence South  $02^{\circ}43'26''$  East, along a line parallel with and 40.00 feet East of as  
 11 measured at right angles to the West line of the East one-half (E. 1/2) of the said  
 12 Southwest one-quarter (S.W. 1/4) of Section 20, a distance of 679.30 feet; thence

1 South 89°34'05" West, along a line parallel with and 60.00 feet South as measured  
2 at right angles to the North line of the South one-half (S. 1/2) of the North one-half  
3 (N. 1/2) of the Southeast one-quarter (S.E. 1/4) of the said Southwest one-quarter  
4 (S.W. 1/4) of Section 20, a distance of 40.03 feet to a point on the said West line  
5 of the East one-half (E. 1/2) of the Southwest one-quarter (S.W. 1/4) of Section 20;  
6 thence South 02°43'26" East, along the said West line of the East one-half (E. 1/2)  
7 of the Southwest one-quarter (S.W. 1/4) of Section 20, a distance of 280.77 feet to  
8 a point on the North line of the South one-half (S. 1/2) of the South one-half (S.  
9 1/2) of said Southwest one-quarter (S.W. 1/4) of Section 20; thence North  
0 89°38'51" East, along the said North line of the South one-half (S. 1/2) of the South  
1 one-half (S. 1/2) of the Southwest one-quarter (S.W. 1/4) of Section 20, a distance  
2 of 100.09 feet; thence South 02°43'26" East, along a line parallel with and 100.00  
3 feet East of as measured at right angles to the said West line of the East one-half  
4 (E. 1/2) of the Southwest one-quarter (S.W. 1/4) of Section 20, a distance of 648.89  
5 feet; thence South 89°48'27" West, along a line parallel with and 35.00 feet North  
6 of as measured at right angles to the South line of the said Southwest one-quarter  
7 (S.W. 1/4) of Section 20, a distance of 100.10 feet to a point on said West line of  
8 the East one-half (E. 1/2) of the Southwest one-quarter (S.W. 1/4) of Section 20;  
9 thence South 02°43'26" East, along the said West line of the East one-half (E. 1/2)  
0 of the Southwest one-quarter (S.W. 1/4) of Section 20, a distance of 33.03 feet to  
1 the Southwest corner of the Southeast one-quarter (S.E. 1/4) of the said Southwest  
2 one-quarter (S.W. 1/4) of Section 20; thence North 89°48'27" East, along the said  
3 South line of the Southwest one-quarter (S.W. 1/4) of Section 20, a distance of  
4 965.65 feet to the northwest corner of the West one-half (W. 1/2) of Lot 4, Block 2,  
5 of said Plat of Section 29; thence South 01°29'09" East, along the East line of the  
6 said West one-half (W. 1/2) of Lot 4 and a portion of the East line of the West one-  
7 half (W. 1/2) of lot 3, both of said block 2, a distance of 742.81 feet to a point on  
8 the top of bank of that certain lake lying in said Lots 3 and 4, and also lying in Lots  
9 8 and 10, block 1, of said Plat of Section 29; thence South 54°37'54" West, a  
0 distance of 7.21 feet; thence South 45°20'04" West, a distance of 17.63 feet, thence  
1 South 37°47'08" West, a distance of 18.19 feet; thence South 31°04'38" East, a

1 distance of 12.50 feet; thence South  $15^{\circ}47'42''$  West a distance of 43.97 feet the last  
2 five (5) courses and distances being along the meandering westerly top of bank of  
3 said lake; thence South  $75^{\circ}44'01''$  East, a distance of 24.52 feet; thence South  $88^{\circ}$   
4  $58'16''$  East, a distance of 268.69 feet, the last two (2) courses and distances being  
5 along the wandering southerly top of bank of said lake; thence North  $32^{\circ}17'02''$   
6 East, a distance of 30.80 feet; thence North  $54^{\circ}38'05''$  East, a distance of 27.21 feet;  
7 thence North  $81^{\circ}38'15''$  East, a distance of 44.28 feet; thence North  $72^{\circ}24'51''$  East,  
8 distance of 24.08 feet; thence North  $84^{\circ}42'20''$  East, a distance of 44.10 feet to a  
9 point, said point being 100.00 feet South of as measured at right angles to the North  
10 line of said Lot 10; thence North  $88^{\circ}25'05''$  East, along a line parallel with and  
11 100.00 feet South of as measured at right angles to the said North line of Lot 10, a  
12 distance of 577.84 feet to a point on the West line of Lot 8, of said Block 1; thence  
13 North  $01^{\circ}26'55''$  West, along a portion of the said West line of Lot 8, a distance of  
14 767.08 feet to the North line of the Northeast one-quarter (N.E. 1/4) of said Section  
15 29; thence North  $88^{\circ}18'55''$  East, along a portion of the said North line of the  
16 Northeast one-quarter (N.E. 1/4) of Section 29, also being the North line of said Lot  
17 8, a distance of 329.14 feet to the Northeast corner of said Lot 8; thence South  $01^{\circ}$   
18  $27'09''$  East, along the East line of Lot 8, a distance of 1335.34 feet to the Southeast  
19 corner of said Lot 8; thence South  $88^{\circ}30'48''$  West, along the South line of said Lot  
20 8, a distance of 329.03 feet to the Northeast corner of Lot 11, of said Block 1;  
21 thence South  $01^{\circ}27'29''$  East, along the East line of said Lot 11, a distance of  
22 667.14 feet to the Southeast corner of said Lot 11; thence South  $88^{\circ}36'56''$  West,  
23 along the South line of said Lot 11, a distance of 657.97 feet to the Southwest  
24 corner of said Lot 11; thence South  $88^{\circ}59'26''$  West, along the South line of Lot 2,  
25 of said Block 2, a distance of 542.02 feet to the Southwest corner of said Lot 2;  
26 thence South  $01^{\circ}31'25''$  East, along the West line of Lot 1, of said Block 2, a  
27 distance of 669.03 feet to the Southwest corner of said Lot 1; thence South along  
28 a portion of the West line of Lot 4, Block 3, of said Plat of Section 29, to the south  
29 right-of-way line of the Dania cut-off Canal, thence westerly along said South right-  
30 of-way line to a point on the west line of the Southeast one-quarter S.E. (1/4) of  
31 said Section 30, thence North  $01^{\circ}41'18''$  West, along a portion of the said West line

1 of the Southeast one-quarter (S.E. 1/4) of Section 30, to a point of the South line  
 2 of that certain 100 foot by 200 foot parcel as described in a Deed recorded in Deed  
 3 Book 548, Page 259 of the Public Records of Broward County, Florida; thence  
 4 North  $89^{\circ}09'16''$  East, along the said South line of that certain 100 foot by 200 foot  
 5 parcel, a distance of 100.01 feet; thence North  $01^{\circ}41'18''$  West, along a portion of  
 6 the East line of said 100 foot by 200 foot parcel, a distance of 50.01 feet to a point,  
 7 said point being on the southerly line of that certain 100 foot canal easement as  
 8 recorded in Deed Book 534, Page 64 of the Public Records of Broward County,  
 9 Florida; thence North  $89^{\circ}09'16''$  East, along a portion of the said southerly line of  
 10 that certain 100 foot canal easement, a distance of 138.70 feet to a point, said point  
 11 being 40.00 feet North of as measured at right angles to the North line of the said  
 12 Southeast one-quarter (S.E. 1/4) of Section 30; thence South  $88^{\circ}12'52''$  East, along  
 3 a line parallel with 40.00 feet North of as measured at right angles to the said North  
 4 line of the Southeast one-quarter (S.E. 1/4) of Section 30, a distance of 1137.74  
 5 feet; thence North  $01^{\circ}41'18''$  West, along a line parallel with and 1374.33 feet East  
 6 of as measured at right angles to the west line of the Northeast one-quarter (N.E.  
 7 1/4) of said Section 30, a distance of 494.15 feet to a point on a Southerly line of  
 8 that certain tract of land as described in official Records Book 11773, Page 319 of  
 9 the Public Records of Broward County, Florida, thence North  $87^{\circ}10'50''$  East, a  
 3 distance of 148.05 feet to a point on a Northerly line of said 100 foot canal  
 1 easement; thence north  $64^{\circ}25'31''$  East, a distance of 250.00 feet to the point of  
 2 curvature of a circular curve, concave Southeastarily; thence Northeastarily and  
 1 Eastarily along the arc of said curve, having a radius of 300.00 feet, a central angle  
 of  $24^{\circ}35'20''$  and an arc distance of 128.75 feet to a point of tangency; thence North  
 $89^{\circ}00'51''$  East, a distance of 150.00 feet, the last three (3) courses and distances  
 being along a portion of the said Northerly line of that certain 100 foot canal  
 easement; thence North  $00^{\circ}59'09''$  West, a distance of 150.00 feet; thence north  
 $58^{\circ}55'51''$  East, a distance of 513.52 feet to a point, said point being 100.00 feet  
 West of as measured at right angles to the West line of the Northwest one-quarter  
 (N.W. 1/4) of said Section 29; thence North  $01^{\circ}41'35''$  West, along a line parallel  
 with 100.00 feet West of as measured at right angles to the said West line of the

1 Northwest one-quarter (N.W. 1/4) of Section 29, a distance of 900.00 feet; thence  
2 North 89°34'28" East, a distance of 100.02 feet to the Southwest corner of lot 9, of  
3 said Block 2; thence North 01°41'35" West along the West line of said Lot 9, a  
4 distance of 578.23 feet to the Northwest corner of said Lot 9, said corner also being  
5 the Northwest corner of said Section 29, the last nine (9) courses being along the  
6 southeasterly line of said Tract of land described in official Records Book 11773,  
7 Page 319; thence North 89°48'27" East, along a portion of the said South line of the  
8 Southwest one-quarter (S.W. 1/4) of said Section 20, a distance of 1153.70 feet to  
9 a point, said point being 133.72 feet West of as measured at right angles to the said  
0 West line of the East one-half (E. 1/2) of the Southwest one-quarter (S.W. 1/4) of  
1 Section 20; thence North 02°43'26" West, along a line parallel with 133.72 feet West  
2 of as measured at right angles to the said West line of the East one-half (E. 1/2) of  
3 the Southwest one-quarter (S.W. 1/4) of Section 20, a distance of 681.27 feet to a  
4 point on the said North line of the South one-half (S. 1/2) of the South one-half (S.  
5 1/2) of the Southwest one-quarter (S.W. 1/4) of Section 20; thence North 89°38'50"  
6 East, along the said North line of the South one-half (S. 1/2) of the South one-half  
7 (S. 1/2) of the Southwest one-quarter (S.W. 1/4) of Section 20, a distance of 0.48  
8 feet; thence North 03°59'55" East, a distance of 798.52 feet; thence North 02°43'26"  
9 West, along a line parallel with and 40.00 feet West of as measured at right angles  
0 to the said West line of the East one-half (E. 1/2) of the Southwest one-quarter  
1 (S.W. 1/4) of Section 20, a distance of 568.18 feet to a point on the said North line  
2 of the South three-quarters (S. 3/4) of the Southwest one-quarter (S.W. 1/4) of  
3 Section 20; thence South 89°20'02" West, along the said North line of the South  
4 three-quarters (S. 3/4) of the Southwest one-quarter (S.W. 1/4) of Section 20, a  
5 distance of 42.33 feet; thence North 02°43'29" West, a distance of 209.51 feet to a  
6 point on the said South right-of-way line of I-595, said point bearing North 07°29'14"  
7 East from the radius point of the next herein described curve; thence Southeasterly,  
8 along the arc of said curve, having a radius of 11350.68 feet, a central angle of  
9 0°09'09" and an arc distance of 30.23 feet to the point of tangency; thence South  
0 82°21'36" East, a distance of 139.51 feet to the point of beginning, the last two (2)  
1 courses being along the said South right-of-way line of I-595.

- 1
- 2 TOGETHER WITH Stirling Road, Griffin Road, and all public rights-of ways adjoining
- 3 or lying between the above described parcels of land.
- 4
- 5
- 6 Said lands situate, lying and being in Broward County, Florida.
- 7 Said lands containing 700 acres more or less.

APPENDIX C

# 2004 AMENDMENT TO THE INTERLOCAL AGREEMENT FOR THE BULK SALE OF POTABLE WATER BETWEEN BROWARD COUNTY AND THE CITY OF HOLLYWOOD