

THE CITY OF LIGHTHOUSE POINT, FLORIDA



WATER SUPPLY FACILITIES WORK PLAN

**Prepared For:
Florida Department of Community Affairs
South Florida Water Management District**

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1.0 INTRODUCTION

The purpose of the City of Lighthouse Point Water Supply Facilities Work Plan (Work Plan) is to identify and plan for the water supply sources and facilities needed to serve existing and new development within the local government's jurisdiction. Chapter 163, Part II, F.S., requires local governments to prepare and adopt Work Plans into their Comprehensive Plans within 18 months after the applicable water management district approves a regional water supply plan or its update. The *Lower East Coast Water Supply Plan Update* was approved by the South Florida Water Management District (SFWMD) on February 15th, 2007. Therefore, the deadline for local governments within the SFWMD Lower East Coast jurisdiction to amend their Comprehensive Plans to adopt a Work Plan was August 15th, 2008. Since the City does not provide or own any of the potable water system within the City, coordination with the potable water service providers, the City of Pompano Beach and Broward County, was essential to complete the City's plan. However, it was not until June 2008 that the draft City of Pompano Beach Water Supply Facilities Work Plan and July 2008 that the draft Broward County Water Supply Facilities Work Plan were completed and made available for the City to utilize in preparing their own Work Plan. Therefore, the City cannot meet the 18-month timeframe, but is moving expeditiously to complete the plan and related documents.

The City does not contain any potable water treatment plants or wells. Rather the City has Potable Water Franchise Agreements with the City of Pompano Beach (CPB) and Broward County (BC) to provide potable water to the City, its residents and non-residential property owners. The City of Pompano Beach supplies potable water to the southern portion of the City representing approximately 14.7% of the City area. The remaining 85.3% of the City receives potable water from Broward County. The City of Pompano Beach and Broward County are therefore responsible for ensuring that enough capacity is available for existing and future customers for their entire service area which includes the City of Lighthouse Point. Throughout this document, the Water Supply Facilities Work Plans of both CPB and BC will be utilized, reviewed and referenced. The City's Comprehensive Plan identifies that the City will coordinate with the City's water service providers to ensure that adequate levels of public facilities are maintained to serve the City's existing and future populations. In addition, the City's adopted Concurrency Management System (CMS) requires the City to coordinate with CPB and BC to ensure adequacy of potable water capacity and service availability prior to the issuance of building permits.

The City's Water Supply Facilities Work Plan (Work Plan) will reference the initiatives already identified in the City of Pompano Beach's Water Supply Facilities Work Plan and Broward County's Water Supply Facilities Work Plan since the entire City is included in both providers' service areas per the Potable Water Franchise Agreements between the City and both providers. According to State guidelines, the Work Plan and any Comprehensive Plan amendments must address the development of traditional and alternative water supplies, bulk sales agreements, and conservation and reuse programs that are necessary to serve existing and new development for at least a 10-year planning period. The City's Work Plan will have the same planning time schedule as its two providers' Work Plans.

The City's Work Plan is divided into five sections:

Section 1 – Introduction

Section 2 – Background Information

Section 3 – Data and Analysis

Section 4 – Work Plan Projects/Capital Improvement Element/Schedule

Section 5 – Goals, Objectives, Policies

1.1 Statutory History

The Florida Legislature enacted legislative bills in the 2002, 2004, and 2005 sessions to address the state's water supply needs. These bills, especially Senate Bills 360 and 444 (2005 legislative session), significantly changed Chapter 163 and 373 Florida Statutes (F.S.) by strengthening the statutory links between the regional water supply plans prepared by the water management districts and the comprehensive plans prepared by local governments. In addition, these bills established the basis for improving coordination between local land use planning and water supply planning.

1.2 Statutory Requirements

Each local government must comply with the following requirements:

1. Coordinate appropriate aspects of its Comprehensive Plan with the appropriate water management district's regional water supply plan, [163.3177(4)(a), F.S.]
2. Ensure that its Future Land Use Plan is based upon availability of adequate water supplies and public facilities and services [s.163.3177(6)(a), F.S., effective July 1, 2005]. Data and analysis demonstrating that adequate water supplies and associated public facilities will be available to meet projected growth demands must accompany all proposed Future Land Use Map (FLUM) amendments submitted to the Department for review. The submitted package must also include an amendment to the Capital Improvements Element, if necessary, to demonstrate that adequate public facilities will be available to serve the proposed FLUM modification.
3. Ensure that adequate water supplies and facilities are available to serve new development no later than the date on which the local government anticipates issuing a certificate of occupancy and consult with the applicable water supplier prior to approving building permit, to determine whether adequate water supplies will be available to serve the development by the anticipated issuance date of the certificate of occupancy [s.163.3180 (2)(a), F.S., effective July 1, 2005]. This "water supply concurrency" is now in effect, and local governments should be complying with the requirement for all new development proposals. In addition, local governments should update their comprehensive plans and land development regulations as soon as possible to address these statutory requirements. The latest point at which the comprehensive plan must be revised to reflect the concurrency requirements is at the time the local government adopts plan amendments to implement the recommendations of the Evaluation and Appraisal Report (EAR).

4. For local governments subject to a regional water supply plan, revise the General Sanitary Sewer, Solid Waste, Drainage, Potable Water, and Natural Groundwater Aquifer Recharge Element (the “Infrastructure Element”) within 18 months after the water management district approves an updated regional water supply plan, to:
 - a. Identify and incorporate the alternative water supply project(s) selected by the local government from projects identified in the updated regional water supply plan, or the alternative project proposed by the local government under s. 373.0361(7), F.S. [s. 163.3177(6)(c), F.S.];
 - b. Identify the traditional and alternative water supply projects, bulk sales agreements, and the conservation and reuse programs necessary to meet current and future water use demands within the local government’s jurisdiction [s. 163.3177(6)(c), F.S.]; and
 - c. Include a water supply facilities work plan for at least a 10-year planning period for constructing the public, private, and regional water supply facilities identified in the element as necessary to serve existing and new development. [s. 163.3177(6)(c), F.S.] Amendments to incorporate the water supply facilities work plan into the comprehensive plan are exempt from the twice-a-year amendment limitation. [s. 163.3177(6)(c), F.S.]
5. Revise the 5-Year Schedule of Capital Improvements to include any water supply, reuse, and conservation projects and programs to be implemented during the 5-year period.
6. To the extent necessary to maintain internal consistency after making changes described in Paragraph 1 through 5 above, revise the Conservation Element to assess projected water needs and sources for at least a 10-year planning period, considering the appropriate regional water supply plan, the applicable District Water Management Plan, as well as applicable consumptive use permit(s). [s.163.3177 (6)(d), F.S.]

If the established planning period of a Comprehensive Plan is greater than 10 years, the plan must address the water supply sources necessary to meet and achieve the existing and projected water use demand for established planning period, considering the appropriate regional water supply plan. [s.163.3167 (13), F.S.]
7. To the extent necessary to maintain internal consistency after making changes described in Paragraphs 1 through 5 above, revise the Intergovernmental Coordination Element to ensure coordination of the Comprehensive Plan with applicable regional water supply plans and regional water supply authorities’ plans. [s.163.3177(6)(h)1., F.S.]
8. Address in the EAR, the extent to which the local government has implemented the 10-year water supply facilities work plan, including the development of alternative water supplies, and determine whether the identified alternative water supply projects, traditional water supply projects, bulk sales agreements, and conservation and reuse programs are meeting local water use demands. [s.163.3191 (2)(1), F.S.]

2.0 BACKGROUND INFORMATION

2.1 Overview

The City of Lighthouse Point was incorporated in 1956. The City encompasses an area of approximately 1,600 acres and is approximately two and a half miles long (north / south) and one mile wide (east / west). The City is bounded by the Intracoastal Waterway to the east, the US 1 / Federal Highway corridor on the west, NE 24th Street on the south and NE 54th Street on the north. Adjacent municipalities surrounding the City include: the City of Deerfield Beach to the north; the City of Pompano Beach to the south and west; and across the Intracoastal Waterway is the Town of Hillsboro Beach. The existing land use in the City of Lighthouse Point is primarily single-family residential. Other land uses include multi-family residential, commercial, community facilities, and park and open space.

The City is substantially built-out (99.5%). Between 1990 and 2000, the City population grew from 10,378 to 10,767, an increase of 3.7%, based on U.S. Census figures. The University of Florida Bureau of Economic and Business Research (BEBR) prepares population estimates for counties and municipalities in Florida on a yearly basis. The most recent estimates for 2007 estimated the City's population to be 10,964 which represents a 1.8% increase since the 2000 U.S. Census. Since the City is almost entirely developed and its boundaries have not changed, the population increases over the last 20 years have primarily been attributed to a decrease in the senior citizen households and an increase in younger households with children. These modest population increases are currently expected to continue for the next 20 years for the City of Lighthouse Point; however, recently population growth in South Florida has stabilized or been reduced.

In 2008, 1,328.1 acres or 83.6% of the total gross acreage in the City were dedicated to residential land use with 1,167.8 acres or 73.5% of the total gross acreage in the City being used for single-family residential use. The remaining gross acreages are allocated to commercial land use (131.9 acres or 8.3%); water and transportation uses (68.6 acres or 4.3%); community facilities and park uses (34.9 acres or 2.2%); commercial recreation uses (17.3 acres or 1.1%); and vacant land (8.1 acres or 0.5%). The City does not anticipate any increases in land area in the future or any changes to the City boundaries. The only development the City expects in the next 10 to 20 years is the build-out of the remaining vacant residential land (approximately 34 additional dwelling units) and the redevelopment / remodeling of existing residential and commercial properties. According to the 2000 U.S. Census, 445 or 7.6% of the residential units in the City were used as a seasonal residence.

2.2 Relevant Regional Issues

As the state agency responsible for water supply in the Lower East Coast planning area, the South Florida Water Management District (SFWMD) plays a pivotal role in resource protection, through criteria used for Consumptive Use Permitting. As pressure has increased on the Everglades ecosystem resources, the Governing Board initiated rule making to limit increased allocations dependent on the Everglades system. As a result, the Regional Water Availability Rule was adopted by the Governing Board on February

15th, 2007 as part of the SFWMD's water use permit program. This reduced reliance on the regional system for future water supply needs, mandates the development of alternative water supplies, and increasing conservation and reuse.

3. DATA AND ANALYSIS

3.1 Population Information

As stated above, the City is substantially built-out (99.5%). Between 1990 and 2000, the City population grew from 10,378 to 10,767, an increase of 3.7%. The population projections prepared by the University of Florida BEBR in 2007 estimated that the City's population had increased to about 10,964 permanent residents. The 2007 estimated population represents a 1.8% increase since the 2000 US Census population. Since the City is almost entirely developed and its boundaries have not changed in almost 20 years, the population increases over the last 20 years have primarily been attributed to a decrease in senior citizen households and an increase in younger households with children. These modest population increases are currently expected to continue for the next 20 years for the City of Lighthouse Point; however, as stated previously recently population growth in South Florida has stabilized or been reduced.

Since the City has Potable Water Franchise Agreements with both Broward County and the City of Pompano Beach, the City needs to include population projections for the City from both entities. In addition, the City prepared its own population projection in order to evaluate the projections prepared by both potable water suppliers. All three projections are discussed below and are included in Tables 1A, 1B, 1C.

The Broward County Water Supply Facilities Work Plan utilizes population projections prepared by the County's Department of Urban Planning and Redevelopment staff using the Broward County Population Forecasting Model (BCPFM). The model is a cohort survival model which is based on natural population increases and net migration. After determining the total County population changes over 30 years, County staff then assigned population changes to the County's 892 traffic analysis zones (TAZ) and other adjustments are made to complete the forecasting. The Broward County Water and Wastewater Services (BCWWS) staff then transformed the information from the TAZs into utility analysis zones (UAZ) representing the County water service areas. The portion of the City of Lighthouse Point that receives potable water from Broward County is located within the BCWWS District 2 Retail Water Service Area. District 2 also includes portions of the Cities of Deerfield Beach and Pompano Beach. The overall 2000 U.S. Census population for District 2 is approximately 54,946. The County's projections for all of District 2 and the portion of the City that is in District 2 are shown in Table 1A below. The County projections indicate that the District 2 population will increase by 35.6% by 2030 and the portion of the City in District 2 will increase by 19.8% by 2030. The City questions the County's projected population growth numbers given the build-out status of the City, but includes the data for consistency. The City did discuss this with the County but the County is using the same method of population projections for all areas that they service for consistency.

Table 1A
City of Lighthouse Point
Projected Population for BCWWS District 2 and City

	2000	2005	2010	2015	2020	2025	2030
District 2	54,946	57,364	60,553	63,659	66,944	70,980	74,512
City of LHP	9,745	10,053	10,441	10,740	11,059	11,398	11,680

Source – Broward County Water Supply Facilities Work Plan Tables 18 and 32

The City of Pompano Beach’s Water Supply Facilities Work Plan utilizes historical population data and future population projections prepared by the City’s Planning Department. The CPB’s water service area includes most of the City of Pompano Beach, a small portion of the City of Lighthouse Point and a portion of the Town of Lauderdale-by-the Sea. Historical population figures were developed utilizing 2000 U.S. Census information and verified with billing records. For population projections, the Pompano Beach Planning Department used Broward County traffic analysis zone (TAZ) information. Since CPB used two different methods for developing historical and projected population figures for the portion of the City of Lighthouse Point within their water service area, their figures appear to show a population loss. This loss is attributed to different methods being utilized and not actual population loss. The CPB’s population projections for their water service area and the portion of the City of Lighthouse Point served by them are shown in Table 1B below. CPB projections indicate that their water service area population is expected to grow by 43.4% between 2001 and 2025. The City of Lighthouse Point did review population projections for the City with the City of Pompano Beach and its consultants.

Table 1B
City of Lighthouse Point
Projected Population for CPB Water Service Area and City

	2001	2005	2010	2015	2020	2025
Water Service Area	80,117	81,624	89,686	98,162	106,468	114,893
City of LHP	1,351	N/A	955	981	1,006	1,032

Source - City of Pompano Beach Water Supply Facilities Work Plan Tables 4-1 and 4-2

Since the City of Lighthouse Point is served by two different water providers and each provider has supplied population projections for their service area only, the City conducted its own review of existing and future population projections for the entire City and compared them to the potable water service provider projections. As already discussed, the City is substantially built-out (99.5%) and primarily single-family residential. Its growth potential is very limited and would primarily occur through redevelopment of underdeveloped multi-family property and increases in persons per households, but both possibilities are limited. According to Florida Housing Data Clearinghouse (FHDC) estimates, the City’s permanent population is anticipated to peak at 10,943 in 2010 (a 1.6% increase from 2000) and then slowly decrease to 10,448 by 2025 (a 2.96% decrease from 2000). Broward County’s population forecasting information from March 2007 projected the City of Lighthouse Point to have a permanent population of 11,833 by 2010 (a 9.9% increase from 2000) and then a population of 12,847 in 2025 (a 19.3% increase from 2000). The following table indicates and compares the population projections for the

entire City of Lighthouse Point prepared by Broward County, the Florida Housing Data Clearinghouse and BCWWS/CPB (added together as one number).

Table 1C
City of Lighthouse Point
Comparisons of Projected Permanent Population

Source	2000/1	2010	2015	2020	2025
Broward County*	10,767	11,833	12,153	12,491	12,847
FHDC**	10,767	10,943	10,828	10,640	10,448
BCWWS+CPB***	11,096	11,396	11,721	12,065	12,430

Sources:

* Broward County Planning Services Division – Broward-by-the Numbers. March 2007

** Florida Housing Data Clearinghouse - University of Florida, Shimberg Center, 2005

*** Broward County and City of Pompano Beach 10-Year Water Supply Facilities Work Plans

As can be seen in the table above, there are some variations in the population projections for the City with Broward County being the highest and FHDC the lowest. The City questions the Broward County estimates as being too high given the built-out nature of the community; however, in accordance with statutory requirements and consistency with the with the regional water supply plans, they are presented herein for discussion purposes. Due to the City being nearly built-out and being primarily single-family residential units, the City’s future population growth is severely limited and is more likely to be somewhere between the FHDC and BCWWS+CPB projections. However, it is important to note that the City’s higher population projection identified by both the Broward County and City of Pompano Beach Water Supply Facilities Work Plans is included in their projected water demand / supply totals through the year 2025. Thus, if the City grows faster than expected, the City’s water demands will be met.

3.2 Maps of Current and Future Areas Served

No changes are proposed to the boundaries of the City, now or in the future. The current and future City boundaries that will be served by the City’s water providers, the City of Pompano Beach and Broward County are provided in Figure 1.

Insert map of Town as Figure1

3.3 Potable Water Level of Service Standard

The City and its residents are retail consumers of potable water received from the City of Pompano Beach and Broward County. The City has a Potable Water Franchise Agreement with both potable water suppliers. The agreement with the City of Pompano Beach is a forty (40) year agreement signed in 2002 and will be in place during the duration of this Water Supply Facilities Work Plan. The agreement with Broward County is a thirty (30) year agreement signed in 1989 and will be in place during the duration of this Water Supply Facilities Work Plan with renewal approaching at the end of the current cycle. As part of Potable Water Franchise Agreements, both potable water suppliers own, maintain and operate the entire water system within the City of Lighthouse Point. As part of the forty (40) year renewal of the Potable Water Franchise Agreement with the City of Pompano Beach in 2002, it was agreed that a \$1.7 million capital improvement project would be undertaken in fiscal years 2001-2002 through 2005-2006 to modernize water lines in the southern portion of the City that is served by CPB. That project has been completed. Currently, the potable water is received from CPB via an 18-inch water main that runs along North Federal Highway (For more information regarding the entire CPB water supply system, see Appendix A). The potable water is received from BCWWS via a water main that runs along North Federal Highway and Sample Road within the City's boundaries (For more information regarding the entire BCWWS water system, see Appendix B). Both potable water supplier systems are interconnected with each other within the City and the BCWWS system is also interconnected with the City of Deerfield Beach to the north of the City. The City's existing water main system consists of various pipe sizes (4"-12") and various materials (cast iron pipes, ductile iron pipes and PVC pipes). Currently there is no master meter from either water provider to determine the exact amount of water entering the City to service its customers.

The adopted Comprehensive Plan for the City (2003) includes a potable water Level of Service (LOS) standard of 200 gallons per capita per day (gpcd). However, the City will amend its LOS to reflect the adopted LOS of the City's water providers. The City of Pompano Beach utilizes a potable water LOS of 191 gpcd, prior to any additional reuse and water conservation methods. However, with the implementation of irrigation watering restrictions, a reduction in the per-capita water usage to approximately 186 gpcd is estimated. Broward County utilizes a LOS or overall per capita demand for the District 2 Service Area of 170 gpcd.

Land use in the City is primarily low density residential with approximately 83.6% of the gross land acreage in the City used for residential. This has remained fairly consistent over the last 20 years and is expected to remain consistent for the next 20+ years, since there is no significant vacant land or area to annex into the City. Based upon a vacant land survey conducted as part of the City's 2008 EAR-Based Amendment process, there was approximately 8 acres of vacant land identified in the City that could be developed into a total of 34 residential units. Other uses within the City include commercial uses along North Federal Highway and several community facilities, park sites and commercial recreational facilities within the City. Therefore, the City will utilize a single LOS for the entire City since the City is primarily all residential single-family. At present, the entire potable water system continues to have adequate capacity to meet the current and future projected development within the City.

3.4 Population and Potable Water Demand Projections by Each Local Government or Utility

The population estimates and water demand projections included in the Table 2 were obtained from the City of Pompano Beach Water Supply Facilities Work Plan and the Broward County Water Supply Facilities Work Plan. As mentioned in Section 3.1 of this Work Plan, the population projections supplied by both CPB and BCWWS for the City of Lighthouse Point for 2025 are somewhat higher than the FHDC projections and what the City believes is possible given the built-out nature of the City, but are within approximately 1,000 persons of the City's estimated 2025 population. It is important to note that CPB and BCWWS projections are higher than the City's projections and that those higher population projections are covered by both providers' water demand totals for 2025. Therefore, if the City should grow faster than currently perceived possible, the City's water demand will be met.

The City of Pompano Beach Water Supply Facilities Work Plan demand projections for their entire service area are based upon an overall average annual daily finished water per capita consumption rate of 191 gpcd. This figure is also the CPB Level of Service Standard, prior to any additional reuse and water conservation methods. The projected average annual daily finished water demand for the CPB service area in 2008 is 16.51 mgd and by 2025 that figure is projected to increase to 21.94 mgd. The CPB Water Supply Facilities Work Plan concludes that adequate capacity for finished water will be available to meet the service area demands including the portion within the City of Lighthouse Point, through the year 2025. More detail on how the CPB will meet this demand is discussed in Section 3.6 below.

The Broward County Water Supply Facilities Work Plan demand projections for the District 2 Service Area are based upon an overall average annual daily finished water per capita consumption rate of 170 gpcd in 2010, 2015 and 2020 and 168 gpcd in 2025. The projected average annual daily finished water demand for District 2 is 10.3 mgd in 2010 and 11.9 mgd in 2025. The Broward County Water Supply Facilities Work Plan concludes that adequate capacity for finished water will be available to meet the service area demands including the portion within the City of Lighthouse Point, through the year 2025. More detail on how the BCWWS will meet this demand is discussed in Section 3.6 below.

**TABLE 2 - POPULATION & DEMANDS
CITY OF LIGHTHOUSE POINT WATER SUPPLY FACILITIES WORK PLAN**

WATER SUPPLY UTILITY SERVICE WITHIN LOCAL GOVERNMENT'S JURISDICTION								
UTILITY SERVICE AREA	POPULATION PROJECTIONS				WATER SUPPLY DEMAND (MGD)			
YEAR ►	2010	2015	2020	2025	2010	2015	2020	2025
A. City of Pompano Beach								
Total Water Service Area Population CPB*	89,686	98,162	106,468	114,893	17.13	18.75	20.34	21.94
Total City of Lighthouse Point Population in CPB Water Service Area*	955	981	1,006	1,032	0.18	0.19	0.19	0.20
B. Broward County								
Total Water Service Area Population District 2**	60,553	63,659	66,944	70,980	10.3	10.8	11.3	11.9
Total City of Lighthouse Point Population in District 2 Water Service Area**	10,441	10,740	11,059	11,398	1.77	1.83	1.88	1.91
"City Own Utility"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
"Another Utility" CPB and BC	11,396	11,721	12,065	12,430	1.95	2.02	2.07	2.11
Self-Served	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Calculated Total	11,396	11,721	12,065	12,430	1.95	2.02	2.07	2.11

Source: * City of Pompano Beach 10-Year Water Supply Facilities Work Plan, Table 4-2 and 4-4
 ** Broward County 10-Year Water Supply Facilities Work Plan, Table 18 and 32;

3.5 Water Supply Provided by Local Government

The City of Lighthouse Point does not own any water utility or wells, rather it has a Potable Water Franchise Agreement with the City of Pompano Beach and Broward County to provide potable water to the City, its residential, and non-residential customers. Both water providers and their water agreements with the City of Lighthouse Point are discussed in more detail in the next section of this work plan.

3.6 Water Supply Provided by Other Entities

Through Potable Water Franchise Agreements, the City and its water customers purchase water directly from either the City of Pompano Beach or Broward County. As referenced previously, the City has a forty (40) year Potable Water Franchise Agreement with the City of Pompano Beach and a thirty (30) year Potable Water Franchise Agreement with Broward County to supply potable water to the City. Both CPB and BC are therefore responsible for ensuring that enough capacity is available for existing and future customers within the City as well as within their overall water service areas. Both water suppliers' water systems and work plans are discussed below in more detail.

The City of Lighthouse Point has no input on what source the City of Pompano Beach and Broward County obtains the water supply from. If the City of Pompano Beach and Broward County are required to alter the water supply source, the City will be involved only to the extent of the provisions within the current franchise agreements. Future water supply increases are necessary only for newly developing or redeveloping areas wherein additional density or intensity is involved. At this time there are no such increases in density or intensity proposed within the City of Lighthouse Point. The City has been built out for many years and strictly adheres to the residential density and intensity standards adopted in the City's Comprehensive Plan. Therefore, the City has very little impact on water supplies. The City has been experiencing some redevelopment of residential lots but the redevelopment has been consistent with existing development.

City of Pompano Beach

The City of Pompano Beach Water Supply Facilities Work Plan is attached as Appendix A. The intent of the CPB's Work Plan is to meet the statutory requirements mentioned in subsection 1.2 of this plan and to coordinate the City of Pompano Beach's and Broward County's water supply initiatives with the SFWMD's *Lower East Coast Water Supply Plan Update*.

The City of Pompano Beach's service area is located in northeastern portions of Broward County comprising roughly of the area bounded by the Atlantic Ocean on the east; Florida's Turnpike on the west; McNab Road on the south; Copans Road and NE 24th Street on the north. The service area also includes the southern portion of the City of Lighthouse Point, south of NE 31st Court and the northern portion of the Town of Lauderdale-by-the-Sea, north of Gatehouse Road. The CPB service area is approximately 19 square miles in size. The following summarizes the City of Pompano Beach 10-Year Water Supply Facilities Work Plan:

- Section 1 - Introduction, Background and Purpose
- Section 2 - Water Service Area
- Section 3 - Existing Water Supply Facilities
- Section 4 - Population and Water Demand Projections
- Section 5 - Water Supply Facilities Work Plan
- Section 6 - Comprehensive Plan GOPs revisions

In the Work Plan, the CPB is committed to meet the water demand for the entire service area. The City's Water Treatment Plant is supplied by two Biscayne Aquifer wellfields – the Eastern Wellfield and the Western Wellfield. The Eastern Wellfield is located just east of Dixie Highway between Atlantic Boulevard and Copans Road and contains fifteen (15) active wells. The total design capacity is 36.14 mgd. The Eastern Wellfield withdrawal has been limited by the South Florida Water Management District (SFWMD) due to a potential for saltwater intrusion and the City has implemented a groundwater monitoring program to monitor for saltwater. The Western Wellfield is located just east of Florida's Turnpike with wells located north and south of Atlantic Boulevard and contains ten (10) wells. The total design capacity is 30.38 mgd. However, the City wellfields have limits on their withdrawal rate from SFWMD which are approximately 33% of their capacity. The City's current Consumptive Use Permit (CUP) No. 06-00070-W with SFWMD was signed on September 14th, 2005 for a 20-Year period and permits a monthly average day withdrawal rate of 22.17 mgd until August 10th, 2010 and 20.33 mgd until the current CUP expires. The CPB Water Treatment Plant is located at 1205 NE 5th Avenue in Pompano Beach. The plant has a design capacity of 50 mgd and consists of two parallel treatment processes. The first and primary process is a conventional lime softening facility which has a rated finished water capacity of 40 mgd and treats raw water primarily from the Eastern Wellfield. The second process is a nanofiltration membrane softening facility which has a rated finished water capacity of 10 mgd and treats raw water from the Western Wellfield. The plant has two 5.0 mg pre-stressed concrete ground storage tanks.

Broward County

The Broward County Water Supply Facilities Work Plan is attached as Appendix B. The intent of the County's Water Supply Facilities Work Plan is to meet the statutory requirements mentioned in subsection 1.2 of this plan and to coordinate the Broward County water supply initiatives with the SFWMD's *Lower East Coast Water Supply Plan Update*.

The City of Lighthouse Point is located with Broward County's District 2 Water Service Area which is located in northeastern portions of Broward County comprising approximately 14.9 square miles in an area roughly bounded by the Intracoastal Waterway on the east; Florida's Turnpike on the west; Copans Road on the south; and NE 54th Street on the north. The District 2 Service Area includes portions of the City of Lighthouse Point, City of Deerfield Beach and City of Pompano Beach. The following summarizes the Broward County Water Supply Facilities Work Plan:

- Section 1 - Introduction
- Section 2 - Objectives and Approach
- Section 3 - Analysis of Unincorporated Areas of Broward County Supplied Water
- Section 4 - Analysis of BCWWS Service Areas

In the County's Work Plan, Broward County is committed to meet the water demand for all of their service areas included in District 2. Potable water for District 2 is supplied by both the 2A Wellfield and the North Regional Wellfield which both withdrawal from the Biscayne Aquifer. The 2A Wellfield contains eleven (11) wells with a total design capacity of approximately 34.7 mgd and the North Regional Wellfield contains ten (10) wells with a total design capacity of approximately 20.0 mgd. However, the County wellfields have limits on their withdrawal rate from SFWMD which are much lower than their capacity. The County's current Consumptive Use Permit (CUP) No. 06-00142-W with SFWMD was issued in March 2008 for a 20-year period is a combined CUP for both the 2A Wellfield and the North Regional Wellfield. A temporary allocation of 703.9 mgd maximum monthly and 20.7 mgd average annual day withdrawal has been requested by the County for the combined permit sources for the next five years. The District 2 Water Treatment Plant is located in Pompano Beach and was originally constructed in 1972 with a treatment capacity of 20 mgd and expanded in 1994 to a capacity of 40 mgd. The permitted operating capacity for the plant is currently 30 mgd. The treatment process includes the use of upflow clarifiers and multimedia filtration to provide lime softening of the raw water from the Biscayne Aquifer. District 2 has three (3) above ground concrete storage facilities and one underground clearwell onsite for a total storage capacity of 7.5 mgd.

3.7 Conservation

3.7.1 City Conservation

Since the City of Lighthouse Point does not have its own water utility and the City, its residents, and property owners are retail customers through Potable Water Franchise Agreements with the City of Pompano Beach and Broward County, the City coordinates with both Pompano Beach and Broward County on water conservation efforts and programs. The City makes available to its residents information on water conservation and restrictions through the City newsletter, the City's website, special mailings and at City Hall. The City's water providers also supply the City and its water customers with information via the water bills that are sent to all retail customers within the City. New construction is reviewed during the building permit stage for compliance with water conservation plumbing fixtures and water connections by the City's Building Department.

3.7.2 City Water Supplier's Conservation Programs

City of Pompano Beach Conservation Program

The City of Pompano Beach water conservation program encourages both conservation of water and use of alternative water supplies including reuse water for irrigation. The City's program includes a combination of educational, financial, operational and regulatory initiatives to encourage efficient water use while remaining consistent with the overall mission, goals and objectives of the City, SFWMD and Florida Statutes. The City's overall water conservation practices are included in Section 4.6 of their Water Supply Facilities Work Plan which is attached as Appendix A. Some of the programs that promote and support the City's water conservation program are outlined below:

- OASIS Program – reuse water for irrigation
- Public Information Program
- Leak Prevention and Detection Program
- Automatic Flushers
- Broward County Mobile Irrigation Lab
- City Conservation Ordinance
- Conservation Rate Structure
- Metering of all Sources

Broward County Conservation Program

The Broward County Water and Wastewater Services Department implemented a water conservation program in 1991. The County believes that water conservation is an essential component of responsible water use and a pivotal element towards achieving long-term sustainability of water supplies. The County's overall water conservation program can be found within their Water Supply Facilities Work Plan which is attached as Appendix B. Some of the programs that promote and support the County's water conservation program are outlined below:

- County Ordinances limiting irrigation hours; promoting xeriscaping; requiring water conservation plumbing fixtures and low flow volume irrigation; and requiring rain sensor devices on irrigation
- Public Information Program
- Leak Prevention and Detection Program
- Conservation Rate Structure
- Metering of all Sources

In addition, the County is currently in the process of expanding their water conservation programs and processes by developing additional education programs, developing a comprehensive water use profile of all customers, studying the feasibility of implementing a rebate program to encourage the use of water conservation programs and products, and offering demand management inspections for irrigation systems of its large user customers.

3.8 Reuse

Water reuse is a practical and beneficial water conservation tool when resources are available. Both the City of Pompano Beach and Broward County District 2 have reuse water systems that are operational. The City of Lighthouse Point has a Reuse Water Large User Agreement with the City of Pompano Beach which allows the City to utilize reuse water in irrigating the City's medians along North Federal Highway. State law supports reuse efforts. For the past years, Florida's utilities, local governments, and water management districts have led the nation in implementing water reuse programs that increase the quantity of reclaimed water used and public acceptance of reuse programs. Section 373.250(1) F.S. provides that "water reuse programs designed and operated in compliance with Florida's rules governing reuse are deemed protective of public health and environmental quality." In addition, Section 403.064(1), F.S., provides that "reuse is a critical component of meeting the State's existing and future water supply needs while sustaining natural systems."

3.8.1 City Water Supplier's Reuse Facilities

City of Pompano Beach Reuse Water Facilities

The City of Pompano Beach reuse water treatment facility is located at 1801 North Federal Highway in Pompano Beach. The facility operates under the Florida Department of Environmental Protection Permit No. FLA013581-004-DWIP and treats secondary effluent drawn from the Broward County North Regional Wastewater Treatment Plant outfall to the Atlantic Ocean. The City utilizes the reuse water in irrigating the Municipal Golf Course, Pompano Community Park, medians along Copans Road, North Federal Highway and other City medians and landscaping in residential areas. As already discussed, the City has a reuse water agreement with the City of Lighthouse Point and is negotiating an agreement with Broward County to serve the southeast part of Broward County's District 2 service area. The City's reuse facility started operating in 1990 with a capacity of 2.5 mgd and was expanded in 2002 to 7.5 mgd with additional expansion possible. The reuse system has 6 mg of in-plant storage capacity.

Broward County District 2 Reuse Water Facilities

The Broward County District 2 reuse water facility is located at 2401 North Powerline Road in Pompano Beach. The reuse water facility is associated with the Broward County North Regional Wastewater Treatment Plant and has a capacity of 10 mgd. Currently, Broward County utilizes this reuse water for irrigation of County buildings and properties in the nearby vicinity and the Pompano Commercial Park.

3.9 Alternative Water Supply (AWS)

Similar to water conservation and reuse, the City has limited abilities in developing an alternative water supply program since it does not have its own water utility and is only a retail customer through water franchise agreements with the City of Pompano Beach and Broward County. The City will continue to coordinate with both water suppliers in their efforts to develop alternative water supply programs as needed in order to meet the water supply demand within the City and each water service areas during the period of this work plan. A brief description of the alternative water supply projects for both water suppliers is discussed below.

3.9.1 City Water Supplier's Alternative Water Supply (AWS) Programs

City of Pompano Beach AWS Program

The City of Pompano Beach is proposing several AWS projects between now and 2025 in order to meet the projected increase water demands of the future. The City's projects include expansion of the City's reuse water treatment plant and distribution system, increased irrigation water restrictions, a rainwater reservoir and

an Upper Floridan Aquifer supply well. The expanded reuse water treatment plant and distribution system in coordination with Broward County's expanded reuse program is proposed to allow for a greater portion of the City of Lighthouse Point to participate in the program (all areas of the City south of Sample Road). The City's overall AWS program is discussed in more detail in Section 5.1 of their Water Supply Facilities Work Plan which is attached as Appendix A.

Broward County District 2 AWS Program

The Broward County Water and Wastewater Service Department is proposing several AWS project for District 2 between now and 2025 in order to meet the projected increase water demands of the District 2 service area. The County's projects include implementing an expanded reuse water irrigation project and a Floridan Aquifer supply well and treatment plant. The expanded reuse water irrigation project in coordination with the City of Pompano Beach's expanded reuse program is proposed to allow for a greater portion of the City of Lighthouse Point to participate in the program (all areas of the City south of Sample Road). The County's overall AWS program for District 2 is discussed in more detail in their Water Supply Facilities Work Plan which is attached as Appendix B.

4.0 CAPITAL IMPROVEMENTS

As referenced in preceding sections, the City is essentially built-out and it is anticipated that redevelopment activities that will occur will not significantly impact the City demand for water over the next 10-20 year period. Due to the fact that the City's future demand for water has been identified in both the City of Pompano Beach and the Broward County Water Supply Facilities Work Plans and their Work Plans indicates that there will be adequate capacity to meet the needs of the entire service area throughout the planning period, there are no capital improvements to the City's water system deemed necessary for the City to maintain adopted level of service. The City's water franchise agreements with both water suppliers require the water suppliers to maintain and supply adequate potable water to the City, its residents and its non-residential water users. Therefore, capital project improvements within the City would be the responsibility of the City of Pompano Beach and/or Broward County if they were needed in order to maintain the City's water system or water demand. The water supply facilities capital improvement program of the City of Pompano Beach and Broward County can be found within their Water Supply Facilities Work Plans which are attached in the Appendix. The City of Lighthouse Point water users will participate mostly by payment of monthly utility charges that may include costs for additional capital improvements, even though the City does not need any additional potable water facilities for its current or future residents and property owners.

5.0 GOALS, OBJECTIVES AND POLICIES

In order to comply with the Statutory Requirements, the City will be adopting the City of Lighthouse Point Water Supply Facilities Work Plan by reference into the City's Comprehensive Plan. The Work Plan is being coordinated and processed with the 2008 EAR-Based Amendments to the City's Comprehensive Plan and amendments to pertinent sections of the City's Comprehensive Plan have been prepared based upon the statutory requirements to ensure coordination of the City's Comprehensive Plan with the SFWMD Lower East Coast Water Supply Plan, the City of Pompano Beach Water Supply Facilities Work Plan, the Broward County Water Supply Facilities Work Plan and the City of Lighthouse Point Water Supply Facilities Work Plan.

6.0 APPENDIX A

City of Pompano Beach 10-Year Water Supply Facilities Work Plan

6.0 APPENDIX B

Broward County 10-Year Water Supply Facilities Work Plan