



**Town of Surfside
Planning and Zoning Board Meeting
AGENDA
Thursday, November 16, 2023
3:00 PM
Commission Chambers**

Rule 7.05 Decorum. Any person making impertinent or slanderous remarks or who becomes boisterous while addressing the commission shall be barred from further appearance before the commission by the presiding officer, unless permission to continue or again address the commission is granted by the majority vote of the commission members present. No clapping, applauding, heckling or verbal outbursts in support or opposition to a speaker or his or her remarks shall be permitted. Signs or placards may be disallowed in the commission chamber by the presiding officer. Persons exiting the commission chambers shall do so quietly.

Rule 6.06 (a)3 Agenda. The good and welfare portion of the agenda set for 8:15 p.m. shall be restricted to discussion on subjects not already specifically scheduled on the agenda for discussion and debate. In no event shall this portion of the agenda be allotted more than 45 minutes with each speaker to be given no more than three minutes, unless by vote of a majority of the members of the commission present, it is agreed to extend the time frames. Likewise, commission members shall be restricted to speaking three minutes each unless an extension is granted in the same manner as set forth in the prior sentence.

Any person who received compensation, remuneration or expenses for conducting lobbying activities is required to register as a lobbyist with the Town Clerk prior to engaging in lobbying activities per Town Code Sec. 2-235. "Lobbyist" specifically includes the principal, as defined in this section, as well as any agent, officer or employee of a principal, regardless of whether such lobbying activities fall within the normal scope of employment of such agent, officer or employee. The term "lobbyist" specifically excludes any person who only appears as a representative of a not-for-profit community-based organization for the purpose of requesting a grant without special compensation or reimbursement for the appearance; and any person who only appears as a representative of a neighborhood, homeowners or condominium association without compensation for the appearance, whether direct or indirect or contingent, to express support of or opposition to any item.

Per Miami Dade County Fire Marshal, the Commission Chambers has a maximum capacity of 99 people. Once this capacity has been reached, people will be asked to watch the meeting from the first floor.

1. Call to Order/Roll Call

2. Discussion Items

2.A Comprehensive Plan and Evaluation and Appraisal Report (EAR) - Walter Keller, Consulting Town Planner

[Attachment A: 2018 Comprehensive Plan](#)

[Attachment B: Surfside EAR Notification Ack Letter](#)

[Attachment C: Water Supply Facilities Work Plan 2015](#)

2.B Design Guidelines Review - Walter Keller, Consulting Town Planner

[Attachment A: Design Standards Draft](#)

[Design Guidelines 2007](#)

2.C Future Planning and Zoning Topics for Review - Judith Frankel, Town Planner

3. Adjournment

Respectfully submitted,

Hector R. Gomez
Town Manager

THIS MEETING IS OPEN TO THE PUBLIC. IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT OF 1990, ALL PERSONS THAT ARE DISABLED; WHO NEED SPECIAL ACCOMMODATIONS TO PARTICIPATE IN THIS MEETING BECAUSE OF THAT DISABILITY SHOULD CONTACT THE OFFICE OF THE TOWN CLERK AT 305-861-4863 EXT. 226 NO LATER THAN FOUR DAYS PRIOR TO SUCH PROCEEDING.

IN ACCORDANCE WITH THE PROVISIONS OF SECTION 286.0105, FLORIDA STATUTES, ANYONE WISHING TO APPEAL ANY DECISION MADE BY THE TOWN OF SURFSIDE COMMISSION, WITH RESPECT TO ANY MATTER CONSIDERED AT THIS MEETING OR HEARING, WILL NEED A RECORD OF THE PROCEEDINGS AND FOR SUCH PURPOSE, MAY NEED TO ENSURE THAT A VERBATIM RECORD OF THE PROCEEDINGS IS MADE WHICH RECORD SHALL INCLUDE THE TESTIMONY AND EVIDENCE UPON WHICH THE APPEAL IS TO BE BASED.

AGENDA ITEMS MAY BE VIEWED AT THE OFFICE OF THE TOWN CLERK, TOWN OF SURFSIDE TOWN HALL, 9293 HARDING AVENUE. ANYONE WISHING TO OBTAIN A COPY OF ANY AGENDA ITEM SHOULD CONTACT THE TOWN CLERK AT 305-861-4863. A COMPLETE AGENDA PACKET IS ALSO AVAILABLE ON THE TOWN WEBSITE AT www.townofsurfsidefl.gov.

TWO OR MORE MEMBERS OF THE TOWN COMMISSION AND/OR TOWN BOARDS MAY ATTEND THIS MEETING.

THESE MEETINGS MAY BE CONDUCTED BY MEANS OF OR IN CONJUNCTION WITH COMMUNICATIONS MEDIA TECHNOLOGY, SPECIFICALLY, A TELEPHONE CONFERENCE CALL. THE LOCATION 9293 HARDING AVENUE, SURFSIDE, FL 33154, WHICH IS OPEN TO THE PUBLIC, SHALL SERVE AS AN ACCESS POINT FOR SUCH COMMUNICATION.



**Town of Surfside
Planning and Zoning Board Meeting
November 16, 2023**

DISCUSSION ITEM MEMORANDUM

Agenda #: 2.A

Date: November 16, 2023

From: Walter Keller, Consulting Town Planner

Subject: **Comprehensive Plan and Evaluation and Appraisal Report (EAR)**

Suggested Action: –

Staff Recommendation: It is suggested the Planning and Zoning Board preliminarily review the 2018 Comprehensive Plan and the 2015 Water Supply Facilities Work Plan.

Background/Analysis: –

Background: The Town of Surfside Comprehensive Plan was last adopted on June 12, 2018 on second reading in Ordinance 18-1685. (See **Attachment A**) The State Planning Agency and Section 163.3191 (1) F.S. requires an Evaluation and Appraisal Report every 7 years to determine if the Comprehensive Plan should be amended to incorporate recent changes in State requirements or to reflect changes in local conditions.

The due date for the Town's Evaluation and Appraisal Report (EAR) was January 1, 2024. The Town submitted an EAR Evaluation Letter to the State Planning Agency on March 13, 2023. While the Town's 2018 Comprehensive Plan is in general agreement to the goals and objectives of the Town, the EAR found the following items needed to be amended or incorporated:

- A Property Rights Element
- An Update of the Town's Water Supply Facility Work Plan
- Update the Base Floor Flood Elevation to 8.00 +2.00 Feet NGVD
- Address Changes to Statutory Requirements of Chapter 163 and,
- Minor Updates to the Comprehensive Plan and Socio-Economic Characteristics.

Work has been underway to prepare the Comprehensive Plan Updates. The process to adopt the Plan amendments will follow the State Coordinated Review Process. This means the Plan amendments will have to be reviewed by the Planning and Zoning Board (sitting as the Town's Local Planning Agency) and a formal public hearing will be held with the LPA to move the

proposed amendments to the Town Commission for consideration. The Town Commission will review and adopt the Plan amendments by Ordinance and the 1st reading of the Ordinance will be a transmittal hearing.

The plan documents will be forwarded via an electronic portal to the State Planning Agency which will distribute the Plan amendments to the various State Agencies such as, Department of Education, Department of Environmental Protection, Department of Transportation District 6, the South Florida Regional Planning Council, the South Florida Water Management District and Miami Dade County.

The State Planning Agency has 5 days to determine if the transmitted Plan amendments are complete and if so, advises the reviewing agencies they have 30 days to forward comments. The State Planning Agency has 60 days to provide the Town with an objections, recommendations or comment (ORC) report. The Town has 180 days to consider the ORC report, make any revisions to the Plan amendments and adopt on 2nd reading by the Town Commission. The Town will then resubmit the adopted Plan amendments to the State Planning Agency. The State Planning Agency has 45 days to determine if the Plan amendments are in or not in compliance with state law. An affected person can also file a petition with the Division of Administrative Hearings within 30 days after Town adoption.

The Proposed Plan amendments are required to be written with deletions noted by strike-thru and additions noted by underline. This allows the review agencies to locate and understand the proposed plan revisions.

The November 16, 2023 Special Planning and Zoning meeting is an introductory meeting regarding the Comprehensive Plan amendments. The following items are being provided with the Agenda Package for the meeting:

- Town of Surfside Evaluation and Appraisal Notification Letter dated March 13, 2023. (See page 2 of **Attachment B**)
- Bureau of Community Planning & Growth Receipt Letter dated March 27, 2023 (See page 1 of **Attachment B**)
- The 2018 Comprehensive Plan, by Calvin, Giordano & Associates (170 pages) (See **Attachment A**)
- 2015 Water Supply Facilities Work Plan (78 pages) (See **Attachment C**)

A presentation package is being prepared for the November 16, 2023 Special Planning and Zoning Board meeting. The package will be provided prior to the meeting.



Town of Surfside Comprehensive Plan

Adopted Update
June 2018

Submitted by:



Calvin, Giordano & Associates, Inc.
EXCEPTIONAL SOLUTIONS™

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FUTURE LAND USE ELEMENT

DATA INVENTORY AND ANALYSIS

PURPOSE

The purpose of the Future Land Use Element is the designation of future land use patterns as reflected in the goals, objectives and policies contained in the Town of Surfside's Comprehensive Plan. The supporting data provides a broad survey of current land use patterns, natural land features, and availability of public facilities for existing and future development. Future land use patterns are depicted on the *Future Land Use Map* (Map FLU 7).

PLANNING TIMEFRAMES

The Town of Surfside Comprehensive Plan provides guidance on development and redevelopment over two planning periods: a 5-Year short term planning period ending FY 2022 and a long term planning period ending FY 2035.

EXISTING LAND USE CONDITIONS

The Town of Surfside is located in the eastern section of Miami-Dade County. Located on the barrier island, the Town is bordered by water on both its western and eastern boundaries. The western boundary is the Biscayne Bay and Indian Creek and the eastern boundary is the Atlantic Ocean. The Town is nearly built out. The Future Land Use Element supports the Town's desire to maintain its stable single family residential neighborhood, encourage redevelopment of the Harding Avenue business area, and limit density and intensity of beach front properties.

Existing land use patterns are depicted on *Map FLU 1 Existing Land Use*. An analysis of Existing Land Use indicates that single family residential uses make up approximately 47.4 % and multi-family uses make up 11.3% of the total land area. Vacant lands make up 0.5% of the total town acreage.

The Town has 99.5% of its land developed. Residential development makes up 58.7% of total Town acreage. General retail / service business development makes up 1.87% of the total Town acreage.

**Table 1-1
Existing Land Use**

EXISTING Land Use	Acres	Percentage of Total Acres
Beach Area	34.76	9.43%
Community Facilities	9.26	2.43%
General Retail/Services	6.90	1.87 %
Multi-Family Residential	41.46	11.34 %
Parking	4.92	1.34%
Private Recreation	6.07	1.65 %
Single Family Residential	174.80	47.43 %
Vacant	1.89	0.51 %
ROW	79.57	21.59 %
Water	8.90	2.42%
TOTAL ACREAGE	368.53	100.00%

Source: Miami-Dade County GIS Services; Calvin, Giordano & Associates

FUTURE LAND USE DESIGNATIONS

Map FLU 7 Future Land Use designates future land uses in the Town. The Future Land Use Map guides future development according to the vision of residents and businesses in the Town. The Future Land Use Map reflects a planning horizon of at least 10 years. The Future Land Use Map serves as the basis for zoning designations provided in the Zoning Code. Table 1-2 shows the distribution of future land uses in the Town.

**Table 1-2
Future Land Use**

FUTURE LAND USE DESIGNATION	Acres	Percentage of Total Acres
Community Facility	1.46	0.40%
General Retail /Services	5.84	1.58 %
High Density Residential / Tourist	26.27	7.13 %
Low Density Residential	176.48	47.89 %
Moderate Low Density Residential	3.09	0.84%
Moderate High Density Residential	14.81	4.02 %
Moderate Density Residential / Tourist	4.72	1.28 %
Parking	4.23	1.15%
Public Buildings and Grounds	2.05	0.56 %
Public Recreation	40.54	11.00 %
Private Recreation	4.69	1.27 %
Non-designated Right Of Way	84.35	22.89 %
TOTAL	368.53	100.00%

Source: Miami-Dade County GIS Services; Calvin, Giordano & Associates

Approximately 61.16 % of the total land area is designated for residential uses with the majority of the residential uses designated as Low Density Residential. Commercial uses added up to 1.58% and Recreation uses, both public and private, made up nearly 12.27% of the total land area. Non-designated Right of Way makes up 22.89% of the overall land area.

POPULATION

Population and Projections

The Town's population according to the 2010 U.S. Census was 5,744. By 2035, the Town is expected to continue to be built-out with virtually no vacant residential lands or change in density or intensity; at which time the population is expected to be approximately 6,556 residents. According to the Florida Housing Data Clearinghouse (FHDC), between 2010 and 2035 the Town is projected to see an additional 812 residents, which represents 14.1% growth from 2010. The Town views the population projections from the FHDC as high considering the built-out current condition of the Town. Potential population increases are expected to come from seasonal units being used as full time units and increases in persons per household.

**Table 1-3
Projections: Population, Surfside, 2010 - 2030**

Year	Population	% Change from 2010 Population
2010*	5,744	0
2015**	5,705	- 0.67%
2020**	5,952	+3.6%
2025**	6,181	+7.6%
2030**	6,398	+11.3%
2035**	6,556	+14.1%

Source: *2010 U.S. Census; **Florida Housing Data Clearinghouse (FHDC), 2016

Annexation

No annexations are being considered at this time.

Analysis of Land Needed to Accommodate Population

The Town is almost built-out with only 1.89 acres of vacant land. The only development that is expected over the next planning horizon is redevelopment of existing developed properties. Redevelopment is expected to be at or near existing densities however, most projects which have redeveloped in the past 10 years have been below current densities. As discussed above in the Population and Projections section, the only changes in population are expected through seasonal unit conversion to full time use and increases in persons per household.

The Town does not support the Florida Housing Data Clearinghouse (FHDC) projects for 2035. The Town’s Charter limits density, intensity, and height to the existing maximums in the Zoning Code or Comprehensive Plan, whichever is more restrictive. Therefore, the FHDC projection for 2035 is not anticipated.

FACILITIES ANALYSIS

Sanitary Sewer Facilities

The Town’s sanitary sewer system is interconnected with the Miami-Dade County Water and Sewer Department (MDWASD) system. Surfside maintains its own sewer collection system and two pumping stations. By agreement, the City of Miami Beach transmits the sewage via force mains to the MDWASD system and eventually to the treatment plant and disposal.

The Town of Surfside is located in the MDWASD Central District Sanitary sewer system; however MDWASD operates two additional regional wastewater treatment plants in the North and South Districts. Because the system is interconnected, the service districts have flexible boundaries, and some flows from one district can be diverted to other plants in the system. Surfside’s sewer system is treated by a secondary treatment facility on Virginia Key owned and operated by the Miami-Dade County Water and Sewer Department (MDWASD).

According to the Town of Surfside Consumption Analysis, in 2014/2015 approximately 258 million gallons of wastewater were treated by the County system from the Town of Surfside and 260 million in 2015/2016. There is sufficient capacity to serve Surfside residents in the short and long term planning time frame.

Potable Water Facilities

The Town of Surfside's potable water is provided by the Miami-Dade County Water and Sewer Department (MDWASD). The water is distributed to residents and commercial business by approximately 11 miles of cast iron pipe installed in 1938. The Town of Surfside is serviced by the Hialeah-Preston Water Treatment Plant service area which includes the northern part of Miami-Dade County. A new upper Floridan Aquifer Reverse Osmosis (RO) water treatment plant was constructed in 2013, and is located at 4250 W. 114th Terrace in the City of Hialeah. The WTP was constructed pursuant to a joint Participation Agreement between the City of Hialeah and the County which was approved by the Board of County Commissioners on July 24, 2007 and called for the design, construction, and operation of a water treatment plant constructed in the annexation area and supplied by the brackish Floridan aquifer to produce initially 10 mgd with the capacity to expand to 17.5 mgd. Approval from the Florida Department of Health to produce and distribute water was received in November 2013. The WTP utilizes the Floridan Aquifer as the alternative water supply using RO treatment to remove the salt. The initial operational phase of the Plant is 7.5 mgd, increasing to 10 mgd by the end of 2015 when construction of additional wells is expected to be completed. The quantity of water available to serve MDWASD's North District, as reflected in permitted withdrawal allocations, provides more than adequate capacity.

The MDWASD system wide finished water rate is 137.2 gallons per capita per day (gpcd). The gpcd value for the Town of Surfside is higher than the system wide average at 148.04 gallons per capita per day. The Town adopted its most recent 15-year Water Supply Facilities Work Plan in 2015.

The level of service will be met for Surfside in the short term and long term planning periods.

Solid Waste

The Town's Public Works Department has three garbage trucks which collect trash and garbage on a weekly basis and haul it to Miami-Dade County's Resource Recovery Plant west of Miami International Airport and other Miami-Dade County landfills. Last year (FY 15/16) Surfside deposited approximately 4,932 tons of waste material at the county's facility. The Town, as of June 2, 2016, discontinued recycling services with Miami-Dade County for residential properties. The Town now collects recycling. Between June 2, 2016 and December 29, 2016 the Town collected a total of 218.9 tons of recycling. Based on information supplied by the Miami-Dade County Department of Solid Waste Management (See Infrastructure Element), the existing disposal capacity at the North Dade Landfill and the South Dade Landfill and the Resource Recovery Plan appear to have adequate capacity to meet Surfside's needs for the foreseeable future.

Stormwater Drainage Facilities

Surfside's existing storm drainage system consists of a network of underground storm sewers that collect and direct stormwater to Indian Creek and Biscayne Bay. A pumping station at the western end of 92nd Street assists the drainage of water from that street by pumping to an outfall. Equipment which currently serves the 92nd Street pump station was replaced by FDOT and maintained by the Town; however, even with these modifications, water may still reach curb level in various locations due to tidal fluctuations.

In 2006, the Town of Surfside initiated additional stormwater projects, which consist of retrofitting three of the Town's outfall pipes to reduce pollutants and fresh water entering Biscayne Bay. The project addressed long-term concerns regarding water backing into the streets and poor water quality in the adjacent Biscayne Bay along the Town's shores.

The recently constructed retrofitted stormwater management system of the Town consists of a network of underground storm sewers along with outfall control structures discharging into the Indian Creek and Biscayne Bay, and three additional pump stations discharging into 9 drainage wells. The newly constructed control structures facilitate well discharge before discharging to Biscayne Bay. The project addressed long-term concerns regarding water backing into the streets and poor water quality in the adjacent Biscayne Bay along the Town's shores. The project directly addressed The Trust for Public Land's Biscayne Bay Accessibility report, supported the SFWMD's Biscayne Bay Partnership Initiative (BBPI), and enhanced the level of service.

In 2015, the Town completed drainage improvements for Biscaya Island along 88th Street. The Town constructed new check valves to prevent back flow into the existing roadways and upsized one 12-inch outfall to a 24-inch diameter outfall. Since the Town completed the retrofit of the existing drainage system in the recent past, there are currently no additional level of service projects required or needed for the Town's drainage system.

Transportation

The major north-south traversing roadways for the Town are Collins Avenue and Harding Avenue, both state arterial roadways. The major east-west traversing roadway is 96th Street. The level of service analysis for existing conditions indicates that all the roadways within the Town are operating at the adopted level of service.

Six bus routes from Miami-Dade Transit travel through the Town. The Town has its own bus system which complements the Miami-Dade County Transit. The Town's mini buses circulate between the business district and residential areas.

Parks and Recreation

The Town has an adopted Level of Service of six (6) acres of publicly-owned lands per 1,000 permanent population. The Town has approximately 40 acres of publicly-owned parks space and will continue to meet their level of service through the short term and long term planning periods.

There are five Town-owned recreation facilities; namely the Veterans Park/Surfside Tennis Center, Hawthorne Park Tot Lot, 96th Street Park, and the Surfside Community Center, and Paws Up Dog Park. The majority of the park land within the Town is the state-owned public beach.

Public Schools

There are no public schools located within the Town. In 2008 the Town entered into an Interlocal Agreement for Public School Facility Planning in Miami-Dade County with the Miami-Dade County School Board and adopted a Public Schools Facilities Element. The Miami-Dade County School Board provides figures for current and projected student enrollment and capacity by school. There are currently 1 elementary school, 1 middle school, and 1 high school serving the Town of Surfside. These are:

Elementary:

Broad, Ruth K./Bay Harbor K-8 Center (Town of Bay Harbor Islands)

Middle:

Nautilus Middle (City of Miami Beach)

High:

Miami Beach Senior High School (City of Miami Beach)

These schools are currently and projected to have sufficient capacity to meet level of service standards in the short term and long term planning time frames.

Capital Improvements

The Town prepares a Schedule of Capital Improvements (SCI) in the Capital Improvement Element. For FY 2017/2018 the Town has no deficiencies or LOS issues that need to be addressed. With the completion of the Capital Enhancement project several years ago the Water, Wastewater and drainage systems within the Town were completely replaced and modernized.

HISTORIC PRESERVATION

The Bureau of Archaeological Research within the Florida Office of Cultural and Historic Preservation maintains the Florida Master Site File (MSF), a database that contains information on archaeological and historic resources in Florida. The MSF includes 33 records for the Town of Surfside: three (3) archaeological sites; three (3) resource groups; and 27 structures of which seven (7) are no longer in existence. The Indian Creek Bridge, adjacent to the Town, is also listed on the MSF.

The Florida Department of Historic Resources has jurisdiction over historic and archaeological sites if there are human remains or if a state or federal permit is requested. If a private property owner develops or redevelops their property and their property is listed on the MSF, the state historic preservation officer should be contacted for guidance.

Miami-Dade County Office of Historic Preservation within the Regulatory and Economic Resources Department also identifies historic resources and designates historic properties and districts. The County has designated three (3) properties and one (1) district within the Town of Surfside.

The aforementioned County designated historic resources are displayed in Table 1-4.

**Table 1-4
County Designated Historic Properties**

Classification	Name	Address	Year Built	Additional Information
Historical Structures	Surf Club	9011 Collins Ave	1930	Architectural Style - Mediterranean Revival ca. 1880-1940
Historical Structures	Bougainvillea Apartments	9340 Collins Ave	1940	Architectural Style – Streamline Modern
Historical Structures	Seaway Villas	9149 Collins Ave	1936	Architectural Style – Masonry Vernacular with Mediterranean
Historical District	Collins Avenue Historic District	90 th Street to 91 st Street	1946-1957	Architectural Style – Streamline Modern and Miami Modern (MiMo)

Source: Miami-Dade County Office of Historic Preservation; Calvin, Giordano & Associates, 2017

LAND COVER

Map FLU 2 Soils identifies and maps native habitat within the Town. The land coverage can be categorized as Developed and Beach. Other than the beach and beach dune system, the Town is built out. There are no native preserves or remaining native habitats or wetlands within the Town. The beach and dune system, although created through a beach renourishment program, is owned by the State and maintained in a natural condition.

Water Resources

The predominant water resources that are present in the Town are the Atlantic Ocean and Biscayne Bay. Additionally there are Indian Creek and Point Lake. Indian Creek is a channel that separates the Town from the Islands of Indian Creek Village and Bay Harbor Islands. Point Lake, the dredged channel and water body that separates Biscaya Island from the remainder of the Town, is considered part of Biscayne Bay. *Map FLU 5 Water Bodies* highlights water resources.

Wellfield Protection

There are no public wellfields or wellfield protection zones located in the Town of Surfside.

Soils

Map FLU 2 Soils provides the general distribution of soils/coverage in the Town as mapped by the Natural Resource Conservation Service (NRCS). The U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) identifies Urban Land and Beaches as the only two coverage types found within the Town. The NRCS describes Urban Lands as areas that are more than 70% covered by buildings, streets, sidewalks and other structures so the natural soil is not readily accessible. The NRCS describes beaches as nearly level to sloping, narrow, sandy strips along the Atlantic Ocean of fine to coarse sand mixed with shell fragments.

Soil Erosion

The entire length of ocean shoreline along the barrier island the Town is located on is recognized as 'Critically Eroded' by the Florida Department of Environmental Protection's Bureau of Beaches and Coastal Systems and is part of a long term beach renourishment program. The Bureau defines critically eroded as a segment of the shoreline where natural processes or human activity have caused or contributed to erosion and recession of the beach or dune system to such a degree that upland development, recreational interests, wildlife habitat, or important cultural resources are threatened or lost. Critically eroded areas may also include peripheral segments or gaps between identified critically eroded areas which, although they may be stable or slightly erosional now, their inclusion is necessary for continuity of management of the coastal system or for the design integrity of adjacent beach management projects.

The entirety of the Town's bayside shoreline, inclusive of Indian Creek and Point Lake is bulkheaded, and the remainder of the Town is developed and does not experience erosion problems.

Commercially Valuable Minerals

There are no extractable, commercially valuable minerals in the Town.

Development and Redevelopment on Flood Prone Areas

Map FLU 4 FEMA Flood Zones locates the flood zones within the Town. Nearly the entirety of the Town is an AE zone; this zone falls generally west of Collins Avenue. The X zone falls generally east of Collins Avenue; the VE zone is located in a narrow strip along the beach; and the X-500 is represented as a narrow strip located along the north end of Collins Avenue and also along the beach. Existing land uses found within these flood zones are illustrated in the Future Land Use map and described in the Future Land Use Element.

Topography

Map FLU 3 Topography, identifies the topography of the Town. The Town is nearly flat with elevations ranging only from 0 to 10 feet. The vast majority of the Town has an elevation of 5 feet or less. The lowest elevation is found along the oceanfront coastline. The highest elevation is a narrow linear strip that runs approximately along Collins Avenue.

Hazard Mitigation

Within the Town there is the potential for impacts from lightning, floods, tornadoes and tropical storms, but the most significant natural disaster threat the Town needs to plan for is the event of a hurricane. Records indicate that the Town has been brushed by or hit by a tropical storm or a hurricane 73 times in a 143 year period ending in 2016.

During a hurricane evacuation, a significant number of vehicles will have to be moved across the local and regional road network. There are limited route choices, *Map CST 1 Evacuation Routes* identifies the designated evacuation route for the Town. There are no emergency shelters located within the Town. The Miami-Dade County Office of Emergency Management has identified the Town and the entire barrier island as a Zone B evacuation area. The Town has developed a Comprehensive Emergency Management Plan (CEMP).

Future Land Use Element Goals, Objectives and Policies

Goal 1: Ensure that the character and location of future land uses provides high economic and quality of life benefits to the Town's residents and business people while preserving the Town's natural resources, residential character and appropriate levels of public services.

Objective 1 – Coordination of land uses with topography and soils: Maintain existing development and achieve new development and redevelopment which is consistent with the goal above and which otherwise coordinates future land uses with the appropriate topography and soil conditions and the availability of facilities and services. This objective shall be measured by implementation of its supporting policies.

Policy 1.1 – The Town shall maintain, improve and strictly enforce provisions which are consistent with the Future Land Use Map, including the land uses and densities and intensities specified thereon and including the following:

Low Density Residential: up to 8 dwelling units per acre and not more than 30 feet in height. Permitted uses are single family residential use and parks and open space.

Moderate Low Density Residential: up to 17 dwelling units per acre and not more than 30 feet in height. The permitted uses are single family, duplex, and multi-family residential uses, public schools, places of public assembly, and parks and open spaces. This category is the buffer between Harding Avenue commercial uses and single family residential uses on west side of Abbott Avenue.

Moderate-High Density Residential: up to 79 residential dwelling units per acre or up to 108 hotel units per acre and not more than 40 feet in height. The permitted uses are single family, duplex, and multi-family residential uses, hotels, public schools, places of public assembly, and parks and open spaces.

High Density Residential/Tourist: up to 109 dwelling or hotel units per acre and not more than 120 feet in height. The permitted uses are single family, duplex, and multi-family residential uses, hotels, public schools, places of public assembly, and parks and open spaces.

Moderate Density Residential/Tourist: up to 58 residential dwelling units per acre or up to 108 hotel units per acre and not more than 40 feet in height. The permitted uses are single family, duplex, and multi-family residential uses, hotels, and parks and open space.

General Retail/Services: up to a floor area ratio of 3.0 and not more than 40 feet in height. The permitted uses are commercial uses (professional, retail, office and related parking).

Public Recreation: up to a floor area ratio of 0.05 and not more than 30 feet in height. The permitted uses are Town-owned public parks and state-owned beachfront east of the erosion control line and immediately adjacent to the Atlantic Ocean.

Private Recreation: up to a floor area ratio of 0.05 and not more than 30 feet in height. The permitted uses are privately owned open space and land between bulkhead and erosion control line (privately owned land).

Public Buildings and Grounds: up to a floor area ratio of 3.0 and not more than 40 feet in height. The permitted uses are Town-owned and publicly-owned land, parks and facilities.

Parking: up to a floor area ratio of 3.0 and not more than 40 feet in height. The permitted use is parking.

Community Facilities: up to a floor area ratio of 3.0 and not more than 70 feet in height. The permitted use is Town-owned facilities for community use.

Policy 1.2 - The Town shall work towards the elimination of existing land uses which are inconsistent with the Town's development pattern and not compatible with the future land uses.

Policy 1.3 – The Town shall continue to utilize the Miami-Dade County Subdivision Regulations and will consider adopting provisions governing subdivisions in the Code of Ordinances. Such provisions shall be consistent with this plan and with the applicable Florida statutory and administrative code guidelines and otherwise conform to the following standards.

Subdivision regulations shall establish rules for platting and subdividing land consistent with the Future Land Use Map and other goals, objectives, and policies of this Comprehensive Plan. They shall establish a plat approval process consisting of preliminary and final plat approval. Final plat approval shall be required prior to construction of subdivision improvements. General and specific design standards shall be included to ensure: 1) appropriate continuity between new streets and existing street; 2) appropriate continuity between new and existing pedestrian accessways; 3) rights-of-way appropriate to traffic carrying characteristics, stormwater management needs, and other pertinent considerations; 4) that access to Collins Avenue and Harding Avenue is controlled and limited; 5) grades, alignments and other design characteristics in accord with the State of Florida *Manual of Uniform Minimum Standards for the Design, Construction and Maintenance of Streets and Highways* plus such additional highway engineering standards as the Town may determine are necessary from time to time; 6) appropriate configuration of blocks and lots; 7) adequate utility easements; 8) installation of certain utilities underground. The enumeration of specific features of the subdivision regulations contained herein shall be interpreted as establishing minimum guidelines for subdivision regulations, not as precluding additional or higher standards which may have a legitimate public purpose.

Policy 1.4 – The Town shall maintain and enhance as necessary zoning code provisions governing signs including size, placement, and design in order to limit visual clutter.

Policy 1.5 – The Town shall maintain and enhance as necessary existing municipal code provisions regulating storm drainage and in particular regulations that govern floodplain protection and water management design standards. Such provisions shall be consistent with this plan, applicable standards promulgated by the South Florida Water Management District, the South Florida Regional Planning Council, the Miami-Dade County Department of Environmental Resource Management, the Florida Department of Environmental Protection, and with the applicable Florida statutory and administrative code guidelines.

Policy 1.6 – The Town shall participate in the Community Rating System of the National Flood Insurance Program. Through its building permit and development review process, the Town shall continue to review projects to determine and require conformance with FEMA’s National Flood Insurance Program’s “50% Rule”.

Policy 1.7 – The Town shall maintain a concurrency management system which meets the requirements of Chapter 163, Florida Statutes. The concurrency management system shall specify that no development permit shall be issued unless the public facilities necessitated by a development (in order to meet level of service standards specified in the Transportation, Recreation and Open Space, Public School Facilities, and Infrastructure Policies) will be in place concurrent with the impacts of the development or the permit is conditional to assure that they will be in place.

Policy 1.8 – The Town shall maintain zoning code standards for new development and/or redevelopment that meet high standards for open space, landscaping, on-site circulation, parking and other performance standards.

Policy 1.9 – The Town shall consider the abundance, status and distribution of environmentally sensitive lands and endangered ecosystems when reviewing land use proposals and acquisitions.

Policy 1.10 – By 2019, the Town shall prepare a study analyzing the use of net density instead of gross density within the Zoning Code.

Policy 1.11 – By 2019, the Town shall prepare a study analyzing the implementation of FAR for residential land use categories.

Objective 2 – Protection of single family residential areas: Direct future growth and development so as to minimize the intrusion of incompatible land uses into single family residential areas. Achievement of this objective shall be quantified by the implementation of the following policies:

Policy 2.1 – The Town shall maintain a future land use map pattern and zoning pattern which keeps two-family and other incompatible uses out of single family residential areas.

Policy 2.2 – The Town shall maintain a future land use map pattern and other development regulations which provide effective buffers between single family residential areas and adjacent uses.

Policy 2.3 – The Town shall maintain a future land use map pattern and a traffic circulation pattern which directs through traffic to Collins Avenue and Harding Avenue (State Road A1A).

Policy 2.4 – The Town shall maintain and enhance zoning code standards that regulate massing and scale in order to maintain the historic character and protect the single family residential district.

Objective 3 – Redevelopment and renewal: Encourage the redevelopment and renewal of blighted areas. The Town shall coordinate public and private resources necessary to initiate needed improvements to prevent decline and/or redevelopment within currently defined redevelopment areas as well as areas that may in the future exhibit indications of blight or decline.

Policy 3.1 – The Town shall maintain, and improve where appropriate, zoning code regulations which permit the concentration of commercial uses in and around the established Harding Avenue business area.

Policy 3.2 – The Town shall maintain, and improve where appropriate, zoning regulations which permit residential complexes which provide a variety of housing unit sizes and types.

Policy 3.3 – The Town shall maintain, and improve where appropriate, zoning regulations which encourage and/or permit the assemblage of large lots at selected locations on Collins Avenue and Harding Avenue.

Policy 3.4 – The Town shall maintain, and improve where appropriate, zoning regulations which require landscape treatments to improve the appearance of at grade parking areas.

Policy 3.5 – The Town shall maintain, and improve where appropriate, zoning regulations which facilitate the use of plazas, recreational amenities, and abundant landscaping and other open space.

Policy 3.6 – The Town shall maintain a future land use map pattern and other development regulations which limit new tourist facilities to properties in the Moderate Density Residential/Tourist, Moderate-High Residential, and High Density Residential/Tourist land use categories.

Policy 3.7 – The Town shall adopt, maintain, and improve where appropriate, zoning code regulations which help secure a high quality of environment, regarding livability, visual interest, identity and sense of place by implementing the recommendations as presented in the Town's adopted Design Guidelines.

Objective 4 – Elimination or reduction of uses which are inconsistent with community character: In general, encourage the elimination or reduction of uses which are inconsistent with the community's character and future land uses. In particular, achieve the elimination of all inconsistent land uses. This objective shall be measured by implementation of its supporting policies. ~~{9J-5.006-(3)-(b)-3}~~

Policy 4.1 – Inconsistent uses as referred to in Policy 1.3 are hereby defined as any uses which are located on a site where they would not be permitted by this comprehensive plan.

Policy 4.2 – The Town shall maintain and improve land development regulations which protect the rights of property owners to continue non-conforming uses, but which, at a minimum, provide for the termination of such rights upon the abandonment of a non-conforming use for an extended period of time. Land development regulations which require the elimination of non-conforming uses after a period of amortization shall be consistent with this policy and this comprehensive plan in general.

Objective 5 – Ensure protection of natural resources: In general, ensure protection of natural resources. In particular, ensure that stormwater systems which discharge into surface water bodies do not degrade the ambient water quality, particularly the Biscayne Bay Aquatic Preserve.

Policy 5.1–The Town shall monitor the Town's storm drainage system to determine what additional actions may be necessary to improve the storm drainage system.

Policy 5.2 – The Town shall maintain and enforce a storm water management ordinance which requires that future development provide for onsite-storm water retention.. The enacted provisions shall be consistent with applicable standards promulgated by the South Florida Water Management District, the South Florida Regional Planning Council, the Miami-Dade County Department of Environmental Resource Management, the Florida Department of Environmental Protection, and/or other agencies with relevant jurisdiction and/or information.

Policy 5.3 – The Town shall prohibit the deposit of solid waste or industrial waste including spent oils, gasoline by-products or greases accumulated at garages, filling stations and similar establishments that create a health or environmental hazard upon any vacant, occupied or unoccupied premises, parkway or park, and in any canal or waterway within the Town

Policy 5.4 – The Town shall cooperate with the Florida Department of Environmental Protection to provide effective and timely reviews of local development proposals for sites east of Collins Avenue, particularly with respect to the requirements of the State Coastal Construction Line.

Policy 5.5 – No new point source discharge of stormwaters into coastal waters shall be permitted.

Policy 5.6 – The Town shall seek the acquisition of property to provide increased permeable surface and other opportunities to control run-off into surface waters including coastal waters so as to protect aquatic vegetation. All publicly-owned property shall be graded and otherwise improved to ensure maximum protection of surface waters.

Policy 5.7 – Consistent with public health and safety, sanitary sewer, solid waste, drainage, adequate water supplies, and potable water facilities shall be in place and available to serve new development no later than the issuance of a certificate of occupancy. Prior to approval of a building permit, the Town shall consult with the water supplier to determine whether adequate water supplies to serve the new development will be available no later than the anticipated date of issuance of a certificate of occupancy.

Policy 5.8 – Proposed future land use map amendments shall be supported with data and analysis from the adopted Town of Surfside 15-Year Water Supply Facilities Work Plan demonstrating that adequate water supplies and associated public facilities will be available to meet the projected growth demands.

Policy 5.9 – The Town shall ensure coordination between land use and future water supply planning with the adoption and implementation of the Surfside 15-Year Water Supply Facilities Work Plan within 18 months of the adoption of the Lower East Coast Water Supply Plan, or its update, as required by Chapter 163, Florida Statutes.

Policy 5.10 – The Town shall coordinate land uses and future land use changes with available and projected fiscal resources and a financially feasible schedule of capital improvements for water supply and facility projects.

Policy 5.11 – The Town shall adopt level of service standards to evaluate whether adequate potable water service will be available concurrent with development.

Policy 5.12 – Ensure the adopted Town of Surfside 15-Year Water Supply Facilities Work Plan is consistent with the Lower East Coast Water Supply Plan and the Miami-Dade County 20-Year Water Supply Facilities Work Plan.

Policy 5.13 – The Town shall adopt by reference the 15-Year Water Supply Facilities Work Plan containing projects and an implementation schedule. The Work Plan shall be updated, at a minimum, every five years.

Policy 5.14 – The Town shall provide for the protection of water quality in the traditional and new alternative water supply sources.

Policy 5.15 – No development order shall be issued unless the Miami-Dade Water and Sewer Department (WASD) certifies that adequate potable water supply is available for new development. The Town shall provide monthly reports to WASD, as required, to track the amount of water to be allocated for new uses.

Policy 5.16 – WASD shall determine if adequate potable water supply is available for new development within the Town’s service area.

Objective 6 – Protection of historic resources: The Town shall provide protection of historic resources. In particular, identify and conserve local structures and sites which are of historic significance.

Policy 6.1 – The Town shall provide for appropriate use and protection of known historic structures through the site plan review process.

Policy 6.2 – Prior to commencing any public construction or issuing any permits for private construction, not to include minor construction such as resurfacing of an existing street, construction of a residential fence and/or any other such improvement which will not disturb the archeological assets which lie well below the surface of these areas, within the areas identified as the Surfside Midden and the Surfside Mound, the Town shall notify Miami-Dade County's Historic Preservation Division.

Policy 6.3 – The Town shall coordinate historic resource protection activities, procedures and programs with applicable state and federal laws, policies and guidelines.

Objective 7 – Coordination of population with hurricane evacuation plans: Coordinate population densities with the applicable local or regional coastal evacuation plan and coordinate future land uses by encouraging the elimination or reduction of land uses which are inconsistent with applicable interagency hazard mitigation report recommendations. This objective shall be measured by implementation of its supporting policies.

Policy 7.1 – The Town Manager or designee shall annually assess the Town's existing and permitted population densities to determine if changes are significant enough to transmit such data to the Miami-Dade County Department of Emergency Management and Homeland Security to assist in their hurricane evacuation planning.

Policy 7.2 – The Town shall regulate all future development within its jurisdiction in accordance with the goals and objectives of the “The Local Mitigation Strategy for Miami-Dade County and its Municipalities, Departments and Private Sector Partners” (June 2008). The Town shall periodically review and revise the Future Land Use Map in light of future interagency hazard mitigation reports in order to reduce or eliminate uses which are inconsistent therewith.

Policy 7.3 – Enhance the efforts of the Miami-Dade County Department of Emergency Management and Homeland Security by providing it with all relevant information.

Objective 8 – Discourage the proliferation of urban sprawl: The Town shall consider changes to the future land use plan based upon energy-efficient land use patterns and discourage the proliferation of urban sprawl. This objective shall be measured by implementation of its supporting policy.

Policy 8.1 – The Town shall support and preserve the Town’s Future Land Use Map and existing land use pattern which provides for a walkable, compact layout of accessible shopping, entertainment, recreation, and employment opportunities for Town residents

Policy 8.2 – The Town shall support and preserve the Town’s existing diverse housing stock which includes both single family and multi-family housing options.

Policy 8.3 – The Town shall continue to allow home based businesses to the extent that impacts are compatible with a residential community.

Policy 8.4 – The Town shall ensure the comprehensive plan and zoning code do not prevent the construction of electric substations within the Town.

Policy 8.5 – The zoning code shall allow for use of alternate, renewable sources of energy including the use of solar panels.

Objective 9 – Drainage and sewer system land needs: Ensure the availability of suitable land for drainage and sanitary sewer system facilities needed to support planned infrastructure improvements. This objective shall be measured by implementation of its supporting policies.

Policy 9.1 – The Town shall maintain and improve code of ordinance provisions for sewer lift stations, stormwater lift stations and collection/infiltration mechanisms and other utility land requirements.

Policy 9.2 – The Town shall not vacate any road right-of-way without first obtaining an engineering opinion determining that the vacated right-of-way is not necessary to accommodate future storm and/or sanitary sewer facilities, all of which are expected to be needed in the future can be accommodated in such rights-of-way.

Objective 10 – Innovative development regulations: Encourage the use of innovative land development regulations. This objective shall be measured by implementation of its supporting policy.

Policy 10.1 – Through its building permit and development review process, the Town shall encourage residents and developers to adhere to the design recommendations as set forth in the Town’s adopted design guidelines.

Policy 10.2 – As necessary, the Town shall review the zoning code’s current permitted uses to determine appropriate revisions or new categories.

Policy 10.3 – The Town shall utilize Best Practices planning research to review and modify zoning code regulations.

Policy 10.4 – The Town shall continue to monitor updates to sea level rise forecasts and take into consideration the most current data when making decisions regarding land use amendments, capital improvements, infrastructure or critical public facilities projects.

Policy 10.5 – The Town shall maintain land development regulations requiring the use of Crime Prevention through Environmental Design.

Policy 10.6 – The Town shall maintain land development regulations that allow reasonable relief from the Town land development regulations or the use restrictions of this Comprehensive Plan in order to address possible unintended violations of the Religious Land Use and Institutionalized Persons Act of 2000 or the Florida Religious Freedom Restoration Act of 1998. For the purpose of allowing such relief, the land development regulations shall provide that religious land uses may be permitted in the areas of the Town as depicted on Map FLU-8 of this Comprehensive Plan.

Objective 11 – Greenhouse gas reduction strategies: The Town shall implement greenhouse gas reduction strategies.

Policy 11.1 – In accordance with Section 255.2575, F.S. the Town will construct all future municipal buildings to meet the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) rating system, the Green Building Initiative’s Green Globes rating system, the Florida Green Building Coalition standards, or a nationally recognized, high-performance green building rating system as approved by the Florida Department of Management Services.

Policy 11.2 – The Town shall maintain and improve adopted Design Guideline provisions which encourage the use of the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) rating system, the Green Building Initiative’s Green Globes rating system, the Florida Green Building Coalition standards, or a nationally recognized, high-performance green building rating system for both residential and commercial properties. Within two (2) years of adoption of this element, the Town shall explore incentives for use of green building standards in new development and redevelopment.

Policy 11.3 – Continue to investigate the financial feasibility of conducting a “Pedestrian and Bicycle Network Study” to evaluate the cost, funding techniques and sources, and timeline to create a pedestrian and bicycle network that links the Town’s parks, recreational and natural amenities, and business district.

Policy 11.4 – Continue to support and provide bicycle parking facilities at strategic beach access points and at public parks.

Policy 11.5 – The Town shall continue to support transit ready commercial and multi-family development along major transportation corridors.

Policy 11.6 – The Town shall continue to support the existing Miami-Dade County Transit bus routes that service the Town.

Policy 11.7 – The Town shall continue to participate in Miami-Dade County’s curbside recycling program.

Objective 12 - Increase Community resiliency: The Town shall increase community resiliency through land use and built environment decisions.

Policy 12.1 - The Town of Surfside shall encourage greener, more energy-efficient and climate resilient construction practices by:

- a) requiring that the construction or renovation of Town-owned facilities meets Florida Green Building Coalition, US Green Building Council Leadership in Energy and Environmental Design (LEED), or other acceptable commercial building standards;
- b) encouraging commercial builders to require that the construction or renovation of commercial facilities meets Florida Green Building Coalition, US Green Building Council Leadership in Energy and Environmental Design (LEED), or other acceptable commercial building standards;
- c) encouraging licensed Town personnel to maintain LEED Green Associate certification;
- d) re-evaluating finish floor elevation standards with respect to projected sea level rise scenarios and flooding potential, and;
- e) incorporating building design specifications that increase resistance to more frequent and/or intense storm events.
- f) requiring development activities be consistent with, or more stringent than, the flood-resistant construction requirements in the Florida Building Code and applicable Floodplain Management regulations set forth in 44 C.F.R. Part 60.

Policy 12.2 - The Town, shall review and evaluate by 2020 the zoning code according to sustainable community development practices, such as those outlined in the criteria recommended by the United States Green Building Council's Leadership in Energy and Environmental Design for Neighborhood Development (LEED-ND) certification, Smart Growth Principals, the Urban Land Institute, or by application of a national rating system for local governments, such as the STAR Community Index TM (STAR) and make recommendations on feasible revisions for incorporating increased sustainability.

Policy 12.3 - An integral part of the Town planning processes shall be considerations for adapting the built environment to the impacts of sea level rise including resource management, flood control and stormwater management, coastal management, community development and capital planning. Adaptation strategy options may include but are not limited to: protection; accommodation; managed retreat; avoidance, and/or; other options.

Objective 13 – Resiliency and sea level rise: Increase opportunities for the community to learn about and participate in decision-making processes regarding resiliency and sea level rise.

Policy 13.1 - The Town of Surfside shall provide information to the public and community stakeholders about the current and potential impacts of climate change and sea level rise, as well as mitigation, protection, accommodation and adaptation strategies.

Policy 13.2 - The Town of Surfside shall continue to support public education and outreach programs addressing issues including but not limited to: energy efficiency; water conservation; solid waste reduction and recycling; urban forests; native landscaping; air quality, greenhouse gas reduction, and climate change adaptation and response planning.

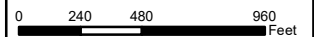


Surfside Comprehensive Plan

Map: FLU 1
Existing Land Use

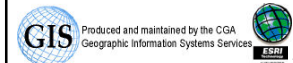
Legend

- Surfside City Limits
- Adjacent City Limits
- Existing Land Use**
- Beach Area
- Community Facilities
- General Retail/Services
- Multi Family Residential
- Parking
- Private Recreation
- Right of Way
- Single Family Residential
- Vacant
- Water



Print: 6-6-2017

Source: Miami Dade
GIS Self Services










Surfside Comprehensive Plan

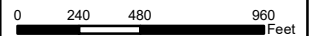
Map: FLU 2
Soils

Legend

-  Surfside City Limits
-  Adjacent City Limits

Soils

-  Beaches
-  St. Augustine sand
-  Urban land
-  Water
-  Waters of Atlantic Ocean



Print: 6-6-2017

Source: United States
Department of
Agriculture



Produced and maintained by the CGA
Geographic Information Systems Services






Surfside Comprehensive Plan

Map: FLU 3

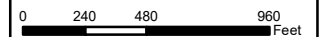
Topography

Legend

-  Surfside City Limits
-  Adjacent City Limits
-  Water

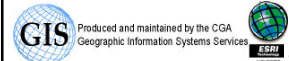
Contours

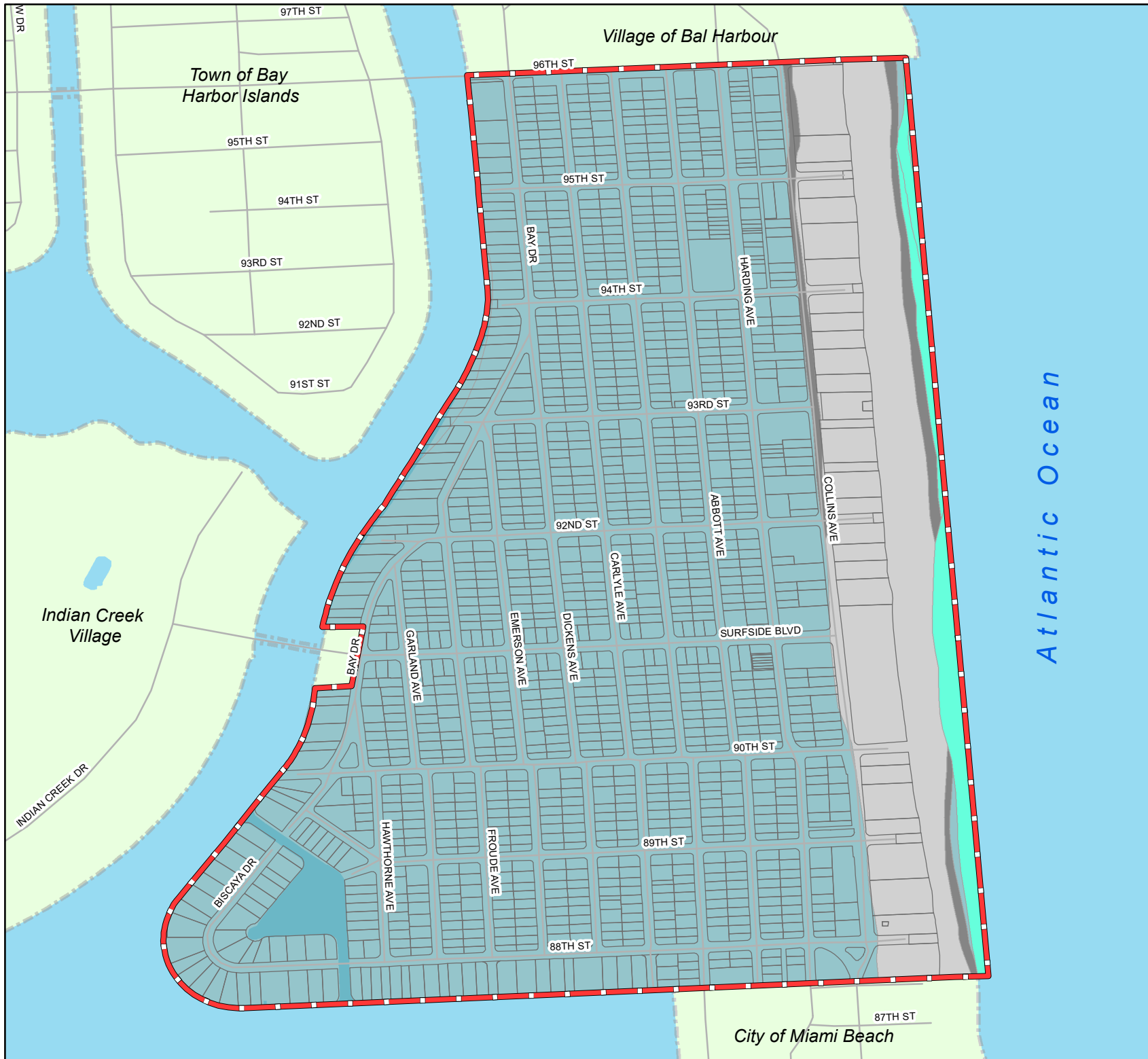
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-  10
-  15



Print: 6-6-2017

Source: Miami Dade GIS Self Services





Surfside Comprehensive Plan

Map: FLU 4
Flood Zones

Legend

Surfside City Limits

Adjacent City Limits

Water

Flood Zones

AE

Base Flood Elevations determined

VE

Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined

X

Areas determined to be outside the 0.2% annual chance floodplain

X (SHADED)

Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood



0 240 480 960 Feet

Print: 6-6-2017

Source: Florida Emergency Management Agency

Calvin, Giordano & Associates, Inc.
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Surfside Comprehensive Plan

Map: FLU 5

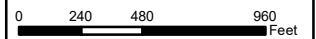
Water Bodies

Legend

-  Surfside City Limits
-  Adjacent City Limits

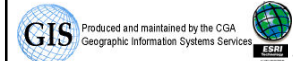
Water Bodies

-  Atlantic Ocean
-  Intercoastal
-  Point Lake



Print: 6-6-2017

Source: Miami Dade GIS Services





Surfside Comprehensive Plan

Map: FLU 6

Aerial Map

Legend

 SurfsideCityLimits




0 230 460 920 Feet

Print: 6-6-2017

Source: ArcGIS Services

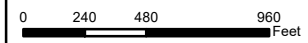
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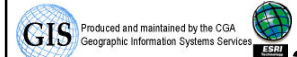
Surfside Comprehensive Plan
Future Land Use Element
Future Land Use (2036)

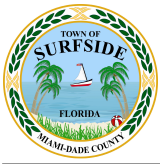
- Legend**
- Surfside City Limits
 - Adjacent City Limits
 - Future Land Use**
 - Community Facility
 - General Retail/Services
 - High Density Residential/Tourist
 - Low Density Residential
 - Moderate Density Residential/Tourist
 - Moderate High Density Residential
 - Moderate Low Density Residential
 - Parking
 - Private Recreation
 - Public Buildings and Grounds
 - Public Recreation



Print: 3-27-2017

Source: Miami Dade GIS Self Services









Religious Land Use Relief Procedures



Note: The Charter for the Town of Surfside defines the eastern Town boundary as the low water line of the Atlantic Ocean, which is a non-locatable line. Therefore, based on conditions of tide, erosion or accretion the eastern boundary may shift.

Legend


-  Surfside Boundary
-  Surfside Streets
-  Beach Area
-  Allowable Area for Application of Religious Land Use Relief Procedures

0 450 900 1,350 1,800 Feet

 Calvin, Giordano & Associates, Inc.
EXCEPTIONAL SOLUTIONS

Map Number: FLU 8

Print Date: May 2013

 Produced and maintained by the CGA
Geographic Information Systems Services

Map ID: TS-13-01

TRANSPORTATION ELEMENT

DATA INVENTORY AND ANALYSIS

PURPOSE

A local government which has all or part of its jurisdiction included within the urban area of a Metropolitan Planning Organization (MPO) pursuant to Section 339.175, F.S., shall prepare and adopt a transportation element consistent with the provisions of this Rule and Chapter 163.3177(6)(b) F.S. Within a designated MPO area, the transportation elements of the local plans shall be coordinated with the long range transportation plan of the MPO. The purpose of the transportation element shall be to plan for a multimodal transportation system that places emphasis on public transportation systems.

TRANSPORTATION PLANNING AREA

Surfside is located within the Beach/Central Business District (CBD) Transportation Planning Area defined by the Miami-Dade's Transportation Planning Organization (TPO). The Beach/CBD Transportation Planning Area has unique characteristics due to the presence of various islands and causeways. The Town of Surfside falls under Miami-Dade County's designated Transportation Concurrency Exception Areas (TCEA). A TCEA is a compact geographic area designated to support the urban infill and redevelopment to circumvent the adverse impacts of concurrency requirements. The Miami-Dade County MPO projects a 16% increase in population in the Beach/CBD Planning Area; but since the Town is almost 100% developed, not much change is expected, and the anticipated future growth will be mostly redevelopment.

As part of the TCEA, the Level of Service for major state roadways in Surfside is LOS E+20, meaning that where mass transit service having headways of 20 minutes or less is provided within a ½-mile distance, roadways shall operate at no greater than 120 percent of their capacity.

EXISTING TRANSPORTATION SYSTEM

The Town is responsible for maintaining the local network program. The Town's street system is configured in a grid with most blocks 250-feet wide and 660-feet long. Surfside has two state arterials, five collectors, and fifteen local roads. The regional road network is under the State of Florida's jurisdiction. Collins Avenue and Harding Avenue are the major north-south corridors through the Town, while 96th Street is the main east-west roadway.

State Roadways

State arterial roadways include Collins Avenue, Harding Avenue and 96th Street which are all functioning at level of service standard 'D' and therefore are meeting level of service standards. Because of the compact nature of the Town, these roadways are within a ½-mile of mass transit. There are no FIHS or SIS facilities within the Town of Surfside.

SR A1A/Collins Avenue

SR A1A/Collins Avenue is a major principal arterial which runs parallel to Harding Avenue. The three-lane facility serves only northbound traffic.

SR A1A/Harding Avenue

SR A1A/Harding Avenue is a major principal arterial which runs parallel to Collins Avenue. The three-lane facility serves only southbound traffic.

SR 922/96th Street

SR 922/96th Street is a minor principal arterial and runs east-west. SR-922/96th Street connects Surfside with Bay Harbor Islands and Bal Harbour.

Primary Local Roads

The collectors are 88th Street, Bay Drive, Dickens Avenue, and Byron Avenue south of 88th Street. The major local roads are 91st Street/ Surfside Boulevard, Abbott Avenue, 95th Street, 94th Street, and 93rd Street. 91st Street/Surfside Boulevard is the only gateway to Indian Creek. A two-lane bridge on the south connects Biscaya Island to the rest of the Town.

Existing Roadway Level of Service

The following table 2-1 shows the existing level of service for the state arterial roadways in Surfside.

Table 2-1 Roadway Existing Level of Service

Roadway Name	Location		Classification	Adopted Level of Service	Lanes	Adopted LOS E+20 Capacity	Pk Hr Pk Dir Volumes 2015	Existing Level of Service 2015
	From	To						
SR-922/96th Street	Harding Ave	West of Harding Ave	State Minor Arterial	E+20	2 lanes in each direction	1,992	1,290	D
SR-A1A/Collins Avenue	87th Avenue	SR-922/96th Street	State Major Arterial	E+20	3 lanes-one way	2,988	2,205	D
SR-A1A/Harding Avenue	88th Avenue	SR-922/96th Street	State Major Arterial	E+20	3 lanes-one way	2,988	2,326	D
Note:								
1) The peak hour peak direction volume are directly taken from the <i>FDOT Traffic Information DVD 2015</i> .								
2) The adopted level of service standard thresholds are based on the <i>FDOT Generalized Table 4-7 for Peak Hour Directional Volumes</i> .								

Future Short Term Level of Service

As shown in Table 2-3, the state roadways within Surfside shall maintain their levels of service through 2020.

Table 2-2 Future (2020) Peak Hour Peak Direction Level of Service Analysis

Roadway Name	Location		Classification	Adopted Level of Service	Lanes	Adopted LOS E+20 Capacity	Pk Hr Pk Dir Volumes 2015	Existing Level of Service 2015
	From	To						
SR-922/96th Street	Harding Ave	West of Harding Ave	State Minor Arterial	E+20	2 lanes in each direction	1,992	1,316	D
SR-A1A/Collins Avenue	87th Avenue	SR-922/96th Street	State Major Arterial	E+20	3 lanes-one way	2,988	2,249	D
SR-A1A/Harding Avenue	88th Avenue	SR-922/96th Street	State Major Arterial	E+20	3 lanes-one way	2,988	2,373	D
Note:								
1) The peak hour peak direction volume are directly taken from the <i>FDOT Traffic Information DVD 2015</i> .								
2) The adopted level of service standard thresholds are based on the <i>FDOT Generalized Table 4-7 for Peak Hour Directional Volumes</i> .								

Future Long Range Level of Service

As shown in Table 2-2, the state roadways within Surfside shall maintain their levels of service through 2040.

Table 2-3 Future (2040) Peak Hour Peak Direction Level of Service Analysis

Roadway Name	Location		Classification	Adopted Level of Service	Lanes	Adopted LOS E+20 Capacity	2040 Daily Volumes	K	D	Pk Hr Pk Dir Volumes 2040	Future Level of Service 2040
	From	To									
SR-922/96th Street	Harding Ave	West of Harding Ave	State Minor Arterial	E+20	2 lanes in each direction	1,992	36,220	0.095	0.5500	1,811	D
SR-A1A/Collins Avenue	87th Avenue	SR-922/96th Street	State Major Arterial	E+20	3 lanes-one way	2,988	28,691	0.095	-	2,869	D
SR-A1A/Harding Avenue	88th Avenue	SR-922/96th Street	State Major Arterial	E+20	3 lanes-one way	2,988	28,391	0.095	-	2,839	D

Note:

- 1) The bi-directional volumes are directly taken from the *Miami Dade County MPO 2040 Long Range Transportation Plan (LRTP)*.
- 2) The adopted level of service standards are based on the *FDOT Generalized Table 4-7 for Peak Hour Directional Volumes*.
- 3) The peak hour factor (K) and directional factor (D) are directly taken from the *FDOT Quality/Level of Service Handbook*.

Capital Improvement Projects

Currently, the only roadway capital improvements planned in Surfside are a bridge rehabilitation project, multimodal trail project and transit improvement project along Collins Avenue that does not affect level of service.

Table 2-4 FDOT Five Year Work Plan (FY17-FY21)

FDOT Projects							
Project Name	Location	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Total
Indian Creek Bridge #876100 PD&E	91 st Street/ Surfside					\$1,515,001	\$1,515,001
Total Cost of FDOT Projects						\$1,515,001	\$1,515,001

Source: FY2018-2023 FDOT Work Program

Miami Dade Transportation Planning Organization - Transportation Improvement Projects							
Project Name	Location	FY 2017	FY 2018	FY 2019	FY 2020	FY 2031-2040	Total
Collins Avenue Enhanced Bus	Collins Avenue					\$54,210,000	
Atlantic Trail	North of Miami Beach					\$ 4,082,000	
Total Cost of Miami-Dade MPO Projects						\$58,292,000	

Neighborhood Traffic

The Town of Surfside is currently facing the challenges of fast growth in the South Florida area. The Town of Surfside was not designed and built to accommodate high speed and high volume traffic. As a result, the Town is experiencing high speed cut-through traffic on the Town’s local streets in an attempt to avoid the congested arterials. The Town is striving to provide excellent quality of living for its residents and visitors, while maintaining the character of the Town. Some traffic calming has been used to address

the issues of speeding and cut-through traffic problems. The Town conducted a series of public input meetings to identify the existing problems and solutions to achieve the Town’s vision. The Town of Surfside had a Townwide Traffic Study completed in December of 2012 that evaluated the neighborhood traffic intrusion and recommended a list of traffic mitigation improvements on the local road network.

Bicycle and Pedestrian Ways

There are sidewalks on Collins Avenue, Harding Drive, and parts of Abbot Avenue. Map TRN-5 shows the existing and future sidewalks. No new sidewalks or bike paths are planned.

Transit

PUBLIC TRANSPORTATION SYSTEM

Six bus routes from Miami-Dade Transit travel through the Town, most of which run along Collins Avenue. The following are the route numbers, service areas and features.

Route	Service Areas	Features
E	Golden Glades Park & Ride Lot, Jackson North, The Mall at 163rd Street, City of North Miami Beach, Eastern Shores, Winston Towers, Aventura Mall, Turnberry Isle, Diplomat Mall/Hallandale	Wheelchair Bike
G	NW 27 Avenue/163 Street, Bunche Park, Opa-locka, Bal Harbour, Collins Avenue, City of Miami Beach, Lincoln Road, Convention Center Drive	Wheelchair Bike
H	North Miami Beach, Skylake Mall, The Mall at 163rd Street, Sunny Isles Boulevard, Bal Harbour, Bal Harbour Shops, City of Miami Beach, Collins Avenue, Lincoln Road Mall, South Beach, Rebecca Towers	Wheelchair
S	Downtown (Miami) Bus Terminal, Main Library, Historical Museum, Miami Art Museum, Government Center Metrorail Station, Omni Bus Terminal, MacArthur Causeway, City of Miami Beach, South Beach, Lincoln Road, Collins Avenue, 192 Street Causeway, Aventura, Aventura Mall	Wheelchair
120 Beach MAX	Downtown (Miami) Bus Terminal, Main Library, Historical Museum, Miami Art Museum, Government Center Metrorail Station, Miami-Dade College Wolfson Campus, Omni Bus Terminal, Julia Tuttle Causeway, City of Miami Beach, Collins Avenue, Surfside, Bal Harbour, Haulover Park Marina	Wheelchair Bike Metrorail
Mid-North Beach Connection	Harding/88 St., Alton Road, Sheridan Avenue, Lincoln/Washington, Mt. Sinai Medical Center, 17 St./Washington Ave.	Wheelchair Bike

Additionally, the Town has its own bus system which complements the Miami-Dade County Transit system. The Town’s mini-buses circulate between the business district and residential areas.

Figure 2-1 Surfside Mini-Bus Route



Source: Town of Surfside (<http://www.townofsurfsidefl.gov>)

FUTURE TRANSIT

The MPO Long Range Transportation Plan (2040) indicates that premium transit is planned for A1A from 81st Street to the Broward County line. However, at this time it is a Priority IV unfunded project and therefore, because of the uncertainty of implementation, the route has not be added to the Existing and Future (2040) Transit map.

EXISTING MODAL SPLIT AND VEHICLE OCCUPANCY RATES

According to journey-to-work data collected in the 2010 census, single-occupant automobile trips account for approximately 72.7% of all trips to and from work reported by residents in Surfside. Carpools account for approximately 11.6%, public transit for approximately 6.8%, and walking for approximately 3.6% of all trips. Residents working at home total 5.1% of the population. For those commuting by private automobile, including carpooling, average vehicle occupancy for Town residents was 1.14 persons, which is less than the 1.49 reported for Miami-Dade County.

The Southeast Florida Regional Travel Characteristics Study, completed in 2000, reported that the average vehicle occupancy for Miami-Dade County was 1.34 persons per vehicle.

PARKING FACILITIES

The Town conducted a survey of parking facilities within the Town in 2008. The following is an updated estimates of the existing parking facilities in the Town:

Metered Parking - 638 spaces

Non-metered - 31 Spaces

Residential - 1545 Spaces

Private – 217 Spaces

Map FLU 1 Existing Land Uses shows the locations of parking within the Town. Surfside businesses have indicated a desire for more parking. The Town has adopted a Downtown Parking Trust Fund Ordinance in December of 2010. The Town also completed a Parking Structure Feasibility Study in March of 2013 and Parking Solution The Next Step Study in April of 2014.

EVACUATION

Miami-Dade County has identified five hurricane evacuation/storm surge planning zones based upon potential storm surge. The Town of Surfside is located in Zone B, as designated by the Miami-Dade Department of Emergency Management and Homeland Security, with Miami Beach and all islands lying within Biscayne Bay, including Sunny Isles Beach, Bal Harbour, Bay Harbor Islands, Indian Creek Village, Surfside, and North Bay Village. *Map CST-2* shows the evacuation route along 96th Street/Broad Causeway. The Zones are designated based upon the SLOSH model developed by the storm surge group at the National Hurricane Center working with the U.S. Army Corps of Engineers, the U.S. Geological Survey and the Federal Emergency Management Agency in cooperation with state and local offices of emergency management. (Note: SLOSH is an acronym for "Sea Lake and Overland Surge from Hurricanes.")

Miami-Dade Transit will activate specific Emergency Evacuation Bus Pick-Up Sites by zone. These buses will only travel between the Emergency Evacuation Bus Pick-Up Site and the Hurricane Evacuation Center. The Surfside Town Hall is an evacuation pick up site in Zone B. The closest Evacuation Center designated by Miami-Dade County is North Miami Senior High School at 13110 NE 8th Avenue, North Miami, FL. 33161.

EVACUATION TIMES

The Miami-Dade County Comprehensive Emergency Management Plan (CEMP) dated June 2013 provides clearance times for critical evacuation routes. The closest evacuation route is 96th Street/Broad Causeway.

Transportation Element Goals, Objectives and Policies

Goal: Provide a transportation system that meets the needs of the Town of Surfside and the larger community of which Surfside is a part with minimal negative community and environmental impacts on the quality of life for Surfside residents and businesses.

Objective 1 – Multi-Modal transportation system: In general, provide for a safe, convenient, and efficient Multi-Modal transportation system. In particular, achieve acceptable level of service for roads, and a well connected bicycle, pedestrian and transit facility network that promotes alternative modes of transportation. This objective shall be made measurable by its implementing policies.

Policy 1.1 – The Town shall regulate the timing of development to maintain at least the following peak hour Level of Service standards on roadways that lie within its municipal boundaries:

<i>Local roads:</i>	D
<i>Collector roads:</i>	D
<i>State Roadways:</i>	

A Level of Service of LOS E+20 shall be established (where mass transit service having headways of 20 minutes or less is provided within 1/2-mile distance, roadways shall operate at no greater than 120 percent of their capacity.)

Policy 1.2 – The Town shall review all proposed developments and issue development orders only when it finds that a proposed development will not cause roadway levels of service to fall below the above standards or cause further degradation of service if conditions at the time of the review indicate that standards are already below the above standards.

Policy 1.3 – As a condition for development approval, the Town may require that proposed new developments provide roadway improvements necessary to meet the level of service standards established above.

Policy 1.4 – The Town shall utilize State Gas Tax funds and other available funding sources for a roadway repaving and reconstruction program and other transportation activities. Among the items which are specifically authorized and encouraged by this policy are the following: sidewalk repair and replacement; public transportation operations and maintenance; roadway and right-of-way maintenance and equipment; roadway and right-of-way drainage improvements; street lighting, traffic signs, traffic engineering, signalization, and pavement markings; bridge maintenance and operations; and debt service and current expenditures for transportation capital projects in each and all of the foregoing program areas.

Policy 1.5 – The Town shall enact and enforce land development code standards and a review process to control roadway access points, on-site traffic flow and on-site parking. The land development code will require the use of joint access drives for adjacent uses. It will also set minimum design standards for: 1) the spacing and design of driveway curb cuts; 2) the size of ingress and egress lanes for major land uses; 3) the spacing and design of median openings; and 4) the provision of service roads. State highway access management standards will be utilized in developing roadway access point controls, particularly on State Road A1A. The access management controls will be tailored to achieve the ends set forth in Objective 1.

Policy 1.6 – The Town shall seek quick action by Miami-Dade County to replace missing road signs and repair malfunctioning traffic signals.

Policy 1.7 – The Town shall continue a program to trim or remove roadside shrubbery which blocks visibility at intersections.

Policy 1.8 – The Town shall maintain safe, handicapped accessible walkways to the fullest extent possible.

Policy 1.9 The feasibility of developing bike routes shall be determined in all roadway, transit, and park and recreation projects.

Policy 1.10 – On-site circulation and parking requirements shall be designed to ensure safe and efficient traffic circulation, and adequate turning radii and parking spaces. On-site traffic flow and on-site parking standards will be designed to encourage high levels of pedestrian and bicycle use, including requiring bike racks under certain conditions. Pedestrian access-ways will be required through large parking lots to connect building areas to public sidewalks. Bicycle parking racks shall be required for large scale uses. Parking regulations will establish the minimum number of parking spaces which will be required to serve uses; minimums will be based on intensity measures such as building square feet. Parking regulations will establish appropriate minimum parking space dimensions and provide for appropriate traffic circulation. General standards will provide for review of parking lot layout in order to ensure that the layout will be safe.

Policy 1.11 – The Town shall monitor the impact of the Transportation Concurrency Exception Area (TCEA) in coordination with Miami-Dade County and the MPO.

Policy 1.12 – The Town shall evaluate opportunities to improve walkability throughout the Town by separating pedestrians from vehicle traffic. This will include looking at pedestrian connectivity of the Town to key points of interest including street ends that lead to the beach.

Policy 1.13 – The Town shall continue to support transit ready commercial and multi-family development along major transportation corridors.

Policy 1.14 – Continue to investigate the financial feasibility of conducting a “Pedestrian and Bicycle Network Study” to evaluate the cost, funding techniques and sources, and timeline to create a pedestrian and bicycle network that links the Town’s parks, recreational and natural amenities, and business district.

Objective 2 – Coordination of transportation with land use: In general, coordinate the traffic circulation system with land uses shown on the future land use map. This objective shall be made measurable by its implementing policies.

Policy 2.1 – The Town shall approve no alteration in the existing traffic circulation system which materially reduces the continuity and rights-of-way of arterial or collector roadways.

Policy 2.2 – The Town shall consider alterations in traffic flow which serve to reduce non local traffic through residential areas as well as improve alternative modes of transportation including pedestrian, bicycle and transit facilities.

Policy 2.3 – The Town shall evaluate locations of mid-block crossings in order to ensure safe pedestrian movements where necessary. The Town will coordinate with FDOT regarding locations along SR A1A Collins Avenue, SR A1A Haridng Avenue and 96th Street.

Policy 2.4 – Maintain a financially feasible traffic calming program that includes studies of local roadways with significant cut-through traffic and implementation programs.

Policy 2.5 – Ensure roadway signage follows guidelines set forth in the Manual on Uniform Traffic Control Devices (MUTCD).

Policy 2.6 – The Town shall support County and State comprehensive traffic data collection efforts for annually monitoring roadway levels of service and to coordinate concurrency management with the County and FDOT.

Policy 2.7 – The Town shall support the County’s implementation of a transportation demand management (TDM) program to reduce overall peak-hour demand and use of single occupant vehicles (SOV). This program will include such TDM strategies as the following:

- 1) van pooling and employer-based car pooling;
- 2) employer-based staggered and/or flexible work hours;
- 3) parking management;
- 4) telecommunicating;
- 5) congestion pricing;
- 6) park and ride lots;
- 7) high occupancy vehicle lanes;
- 8) trip reduction ordinances;
- 9) transportation management associations (TMA's); and
- 10) subsidies for transit riders.

Policy 2.8- The Town shall support the County’s efforts to improve the operating efficiency of the existing thoroughfare system and reduce peak hour congestion by encouraging the application of low-cost transportation system management techniques including, but not limited to, improved signal timing, pavement marking and signage modifications, channelization, and on-street parking restrictions.

Policy 2.9-The Town shall evaluate neighborhood intersection operations, as financially feasible, to improve the safety of local roadways.

Objective 3 – Intergovernmental Coordination: Coordinate the transportation system with the plans and programs of the Miami-Dade Transportation Planning Organization (TPO), South Florida Regional Transportation Authority, and the Florida Department of Transportation.

Policy 3.1 – The Town staff shall annually review and evaluate the Florida Department of Transportation 5-Year Transportation Plan, the Miami-Dade County Transportation Improvement Program and the traffic circulation plans and programs of Miami Beach Indian Creek Islands, and Bal Harbour to determine if plans and programs contained therein necessitate any revision to this or other elements of this Comprehensive Plan.

Policy 3.2 – Appropriate Town staff shall attend selected meetings of Miami-Dade Transportation Planning Organization and related ad hoc committees pertaining to traffic and transportation issues affecting the Town.

Policy 3.3 – The Town shall revise this Transportation Element as necessary in response to results from Policy 3.1.

Policy 3.4 – The Town shall include statements of findings in support of all modifications to this Transportation Element.

Policy 3.5 - The Town shall coordinate with Miami-Dade County, local governments and regional and state agencies in the implementation of the Transportation Element, through mechanisms such as established by the Miami-Dade County TPO, FDOT Districts 4 and 6, the South Florida Regional Transportation Authority, and the South Florida Regional Planning Council.

Policy 3.6 - The Town will continue to coordinate with Miami-Dade County regarding traffic operational improvements along the 96th Street corridor.

Objective 4 – Coordination with transit authority: In general, coordinate with the plans and programs of the Miami-Dade Transit. This objective shall be made measurable by its implementing policy.

Policy 4.1 – Appropriate Town staff shall attend selected meetings of Miami-Dade Transit pertaining to levels of service for buses and other transit.

Objective 5 – Right-of-way protection: In general, protect existing rights-of-way and future rights-of-way from building encroachment including rights-of-way for mass transit. In particular, achieve zero net loss of right-of-way from building encroachment throughout the period during which this plan is in effect.

Policy 5.1 – The Town shall use the land development code as enacted, the land development code enforcement procedures and the building code enforcement procedures to protect existing rights-of-way through setback requirements which prohibit right-of-way encroachments of any kind. The Town shall evaluate opportunities to obtain easements for sufficient ADA sidewalk infrastructure from new developments or redevelopment projects.

Objective 6 – Adequate Parking: The Town shall help provide an adequate supply of parking to serve the business area and major community facilities. Achievement of this objective shall be quantified by the implementation of the following policy.

Policy 6.1 The Town will continue to administer the Downtown Parking Trust Fund Ordinance adopted in December of 2010. The Town will evaluate recommendations for Parking as outlined in the 2013 Parking Structure Feasibility Study and the 2014 Parking Solution The Next Step.

Objective 7 – Greater use of mass transit: The Town shall encourage greater use of existing mass transit facilities. Achievement of this objective shall be measured by the implementation of the following policies:

Policy 7.1 – The Town shall stay updated regarding bus service demand and notify Miami-Dade Transit of required service changes as necessary.

Policy 7.2 – The Town shall monitor its mini-bus system and accommodate increasing ridership as necessary.

Objective 8 – Provision of transit and coordination of transit planning: In general, provide efficient mass transit and paratransit services based on existing and proposed major trip generators. In particular,

provide the Miami-Dade County transportation planning agencies with ad hoc periodic development reports and other input on the status of any development or redevelopment which could alter the need for bus and paratransit services. This objective shall be made measurable by its implementing policies.

Policy 8.1 – The Town shall prepare a written report to be transmitted to the Transportation Planning Technical Advisory Committee of the Miami-Dade Transportation Planning Organization outlining the locations, characteristics and/or special transit needs that have developed or been identified in the year preceding the annual request for the Transportation Improvement Program Update. This report shall include: 1) estimated new employment by income; 2) estimated new patrons; 3) estimated new residential occupancy. Potential current and future mass transit needs will be suggested.

Policy 8.2 – The Town shall support proposals for increased frequency of bus service on arterial roads as a means to relieve congestion for over capacity transportation facilities during peak hours. Such service should be restricted to arterial and collector roads and should not be provided on local roads because it could be detrimental to residential neighborhoods.

Objective 9 – Coordinate with plans for “transportation disadvantaged people:” On a continual basis and throughout the effective period of this plan, the Town shall coordinate with Miami-Dade County Transit, the Transportation Planning Organization, the Florida Department of Transportation and any public transportation agency offering special services for “transportation disadvantaged people.” This objective shall be made measurable by its implementing policies.

Policy 9.1 – Appropriate Town staff shall attend selected meetings of Miami-Dade Transit, the Transportation Planning Organization, the Florida Department of Transportation and any other public transportation agency offering special services for the disadvantaged.

Policy 9.2 – The Town shall encourage the increased use of wheelchair accessible buses on Town routes.

Policy 9.3 – Continue to provide sidewalks within two blocks of bus stops on arterials when costs permit.



Surfside Comprehensive Plan

Map: TRN 1

Existing and Future Number of Lanes

Legend

- Surfside City Limits
- Adjacent City Limits
- Water

Total Number of Lanes

- 1
- 2
- 3
- 4



0 240 480 960 Feet

Print: 6-7-2017

Source: Florida Department of Transportation (Revised)





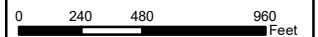
Surfside Comprehensive Plan

Map: TRN 2

Existing and Future Functional Classification

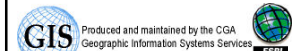
Legend

-  Surfside City Limits
-  Adjacent City Limits
-  Water
- Functional Classification**
-  Collector Road
-  State Major Arterial
-  State Minor Arterial



Print: 6-7-2017

Source: Florida Department of Transportation








Surfside Comprehensive Plan

Map: TRN 3

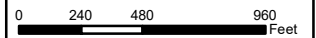
Existing Roadway Level of Service

Legend

-  Surfside City Limits
-  Adjacent City Limits
-  Water

Level of Service



-  D



Print: 6-7-2017

Source: Town of Surfside
Miami Dade MPO

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Geographic Information Systems Services 



Surfside Comprehensive Plan

Map: TRN 4

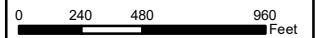
Future Roadway Level of Service (2040)

Legend

- Surfside City Limits
- Adjacent City Limits
- Water

Level of Service

- D



Print: 6-7-2017

Source: Town of Surfside
Miami Dade MPO

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





Surfside Comprehensive Plan

Map: TRN 5

Existing and Future Pedestrian Facilities

Legend

-  Surfside City Limits
-  Adjacent City Limits
-  Water
- Pedestrian Facilities**
-  Beachwalk
-  Sidewalk




0 240 480 960 Feet

Print: 6-7-2017

Source: Town of Surfside
Miami Dade MPO

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EXCEPTIONAL SOLUTIONS

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Geographic Information Systems Services






Surfside Comprehensive Plan




Map: TRN 6

Existing and Future Transit Routes

Legend

-  Surfside City Limits
-  Adjacent City Limits
-  Water

Bus Routes

-  Beach Max, Route's G, H, S
-  City Shuttle
-  Route E, Mid-North Beach Connection




0 240 480 960 Feet

Print: 6-7-2017

Source: Miami Dade County GIS Services

 Calvin, Giordano & Associates, Inc.
EXCEPTIONAL SOLUTIONS

 Produced and maintained by the CGA
Geographic Information Systems Services



Surfside Comprehensive Plan

Map: TRN 7

Existing and Future Traffic Generators

Legend

- Surfside City Limits
- Adjacent City Limits
- Water
- Traffic Generators**
- Public Recreation
- Business District
- Community Center
- Town Hall



0 240 480 960 Feet

Print: 6-7-2017

Source: Town of Surfside

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Geographic Information Systems Services






Surfside Comprehensive Plan

Map: TRN 8

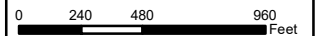
Future Roadway Level of Service (2020)

Legend

-  Surfside City Limits
-  Adjacent City Limits
-  Water

Level of Service



-  D



Print: 6-12-2017

Source: Town of Surfside
Miami Dade MPO

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HOUSING ELEMENT

DATA INVENTORY AND ANALYSIS

PURPOSE

The purpose of the Housing Element is to provide guidance for development of appropriate plans and policies to meet identified or projected deficits in the supply of housing for moderate income, low income and very-low income households, group homes, foster care facilities and households with special housing needs. These plans and policies address government activities, as well as provide direction and assistance to the efforts of the private sector.

Assuring the continued provision of affordable housing is an ongoing challenge as the Town is almost completely built out. Moreover, half of the Town is in a coastal high hazard area, and Florida Statutes compel local governments to direct population concentrations away from known coastal high hazard areas and limit public expenditures that subsidize development permitted in these areas. However, the Town of Surfside has made efforts to maintain an affordable housing stock through infrastructure improvements and proactive code compliance which extend the lifespan of the Town and provide for continuance of a quality area.

HOUSING INVENTORY

Information from the U.S. Census Bureau and the Florida Housing Data Clearinghouse (Shimberg Center) has been used to provide many of the following comparative characteristics between Surfside and Miami-Dade County as this is the best available data.

Housing Type: Residential use is a major development characteristic of Surfside. The 4,035 total housing units reported for the Town in 2015 comprised 0.40 percent of the County's total housing stock of 998,833 reported units. As of March 2017, there were 216.26 acres that had an existing land use of residential. This represents approximately 58.7 percent of the Town's total land area of 368.5 acres.

The 2011-2015 American Community Survey (U.S. Census) determined approximately 68 percent (2,691 units) of housing units in Surfside were multi-family (2 or more), while single-family homes made up 32 percent (1,287 units) of the Town's housing stock. The same survey by the Census Bureau identified 57 mobile home units in Surfside. However, there are no mobile homes existing today. Total units and the percentage of housing inventory by type of unit are shown in Table 3-1.

**Table 3-1
Dwelling Units by Structure Type, 2015**

Dwelling Units	Surfside	Surfside	Miami-Dade County	Miami-Dade County
	Number	Percent	Number	Percent
SINGLE FAMILY:	1,287	32%	504,330	50.4%
<i>1, detached</i>	1,236		405,953	
<i>1, attached</i>	51		98,377	
MULTI-FAMILY:	2,691	68%	494,503	49.6%
2	21		20,666	
3 or 4	13		35,242	
5 to 9	20		51,791	
10 to 19	186		67,651	
20 or more	2,451		305,520	
MOBILE HOMES	57	0%	13,144	0%
OTHER	0	0%	489	0%
TOTAL	4,035	100%	998,833	100%

Source: 2011-2015 American Community Survey 5-Year Estimates (U.S. Census)

Housing Tenure: Housing tenure refers to the occupancy of a unit, either owner-occupied or renter-occupied. The 2010 U.S. Census reported 70 percent of households in Surfside were owner-occupied in 2010. (Statewide, Florida’s homeownership rate is 67.7 percent.) The remaining 30 percent were renter-occupied households. Housing tenure characteristics are detailed in Table 3-2.

**Table 3-2
Households by Tenure, 2010**

Tenure	Surfside	Surfside	Miami-Dade County	Miami-Dade County
	# of Households	Percent	# of Households	Percent
Owner Occupied	1,830	70%	483,874	55.6%
Renter Occupied	771	30%	383,478	44.2%
Total Occupied Units	2,609	100%	867,352	100%

Source: 2010 U.S. Census

Housing Vacancy: Table 3-3 shows the housing vacancy characteristics for Surfside and Miami-Dade County as reported in the 2010 Census. At the time of the Census, 1,281 housing units in Surfside were vacant out of 3,890 total units reported. This represents a vacancy rate of 32.9 percent for the Town, which is significantly more than the overall Miami-Dade County rate of 12.3 percent. This high vacancy rate is largely attributed to Surfside’s seasonal residents. If units which had been rented or sold that were awaiting occupancy and units held for occasional/seasonal use were eliminated from this figure, Surfside’s vacancy rate was 4.7 percent as shown in Table 3-3. There were 43 vacant housing units for sale and 140 vacant units for rent.

**Table 3-3
Housing Vacancy, 2010**

Status	Surfside	Surfside	Miami-Dade County	Miami-Dade County
	# of Units	Percent	# of Units	Percent
For rent	140	10.9%	37,848	31.0%
For sale	43	3.4%	16,156	13.2%
Other	105	8.2%	24,425	20.0%
For migrant workers	0	0%	41	0%
Seasonal, recreational, occasional use	962	75.1%	38,302	31.4%
Rented or sold, not occupied	31	2.4%	5,311	4.4%
TOTAL	1,281	100%	122,083	100%

Source: 2010 U.S. Census

Housing Age: The age of housing structures is distributed relatively evenly throughout the past several decades, with units built in the 1990s being the high percentage at 27%. Table 3-4 lists the age of housing structures reported by the U. S. Census Bureau. Approximately 38% of all housing units are over 50 years old. Many of these are in sound condition, others have gone through renovations, and some are being demolished and replaced with new structures. Overall, the older structures are well maintained, demonstrating that the Town has been successful in maintaining adequate housing, thus minimizing any potential of deterioration.

**Table 3-4
Age of Housing Structures**

Year Built	Surfside	Surfside	Miami-Dade County	Miami-Dade County
	# of Units	Share by Decade	# of Units	Share by Decade
2010-2015	7*	0.2%	9,227	0.9%
2000-2009	499	12%	143,228	14.3%
1990-1999	1,071	27%	120,731	12.1%
1980-1989	600	15%	154,249	15.4%
1970-1979	301	7.4%	191,022	19.1%
1960-1969	437	11%	133,681	13.4%
1950-1959	528	13%	148,946	14.9%
1940-1949	463	11.4%	59,113	5.9%
1939 or earlier	136	3%	38,636	3.9%
TOTAL	4,042**	100%	998,833	100%

Source: 2011-2015 American Community Survey 5-Year Estimates (U.S. Census Bureau); *Town of Surfside Building Department; **U.S. Census and Town of Surfside

Monthly Housing Rent: Table 3-5 compares the monthly gross rents for specified renter-occupied housing units in the Town with the Miami-Dade County totals for the year 2015. The median rent paid by Surfside households in 2010 was \$1,897 per month, compared to a countywide median rent of \$1,112, and a statewide median rent of \$1,002. Rents in the Town of Surfside are significantly higher than in the County as a whole. In Miami-Dade County and the surrounding metro area, the HUD Fair Market Rent in 2016, representing rent for a typical modest apartment, was \$774 for a studio apartment, \$975 for a one-bedroom, \$1,250 for a two-bedroom, \$1,671 for a three-bedroom, and \$1,987 for a four-bedroom unit. Municipality-specific information for 2016 is not available.

**Table 3-5
Monthly Gross Rent, Renter-Occupied Housing Units, 2015**

Contract Rent	Surfside	Surfside	Miami-Dade County	Miami-Dade County
	# of Units	Percent	# of Units	Percent
Less than \$500	0	0%	32,247	8.6%
\$500-999	18	2.0%	118,453	31.5%
\$1,000-1,499	146	16.2%	138,105	36.7%
\$1,500-1,999	360	40.0%	57,888	15.4%
\$2,000-2,499	315	35.0%	17,762	4.8%
\$2,500-2,999	18	2.0%	5,571	1.5%
\$3,000 or more	43	14.8%	5,333	1.5%
TOTAL	900	100%	375,359	100%
Median rent per month	\$1,897		\$1,112	

Source: 2011-2015 American Community Survey 5-Year Estimates (U.S. Census)

Housing Value: Based on figures delineated from the Miami-Dade County Property Appraiser, the average just value (fair market value) for a single family home in Surfside in 2016 was \$690,004, which is significantly more than the countywide average (\$335,332). Statewide, the average value of a single family home in Florida in 2016 was \$219,681. Condominiums also had a significantly higher value in Surfside. In 2016, the average value of condominiums in Surfside was \$528,783, compared with the County average condominium value of \$288,271. Table 3-6 shows the value of owner-occupied housing units in the Town as reported by the U.S. Census Bureau.

**Table 3-6
Median Home Value of Owner-Occupied Housing Units, 2015**

Value	Surfside	Surfside
	# of Units	Percent
Less than \$50,000	45	3.5%
\$50,000-99,999	29	2.3%
\$100,000-149,999	40	3.1%
\$150,000-199,999	63	5.0%
\$200,000-299,999	41	3.2%
\$300,000-499,999	382	30.1%
\$500,000-999,999	525	41.3%
\$1,000,000 or more	146	11.5%
TOTAL	1,271	100%

Source: 2011-2015 American Community Survey 5-Year Estimates (U.S. Census)

Median Sales Price: The average sales price for a single family home in Surfside was \$1,028,696 in 2016. The median sales price that year was \$717,250, compared to a countywide and statewide median sales price of \$289,000 and \$212,000 respectively. Table 3-7 charts the median sales price for single family homes and condominiums in Surfside and Miami-Dade County from 2010 through 2016. Sale prices have steadily risen since the 2008 Recession and have now past the 2006 previous high mark.

**Table 3-7
Median Home Sales Prices, 2010-2016**

Year	Single Family		Condominium	
	Surfside	Miami-Dade County	Surfside	Miami-Dade County
2010	\$350,000	\$210,000	\$230,000	\$185,000
2011	\$372,500	\$199,000	\$220,000	\$165,000
2012	\$427,000	\$210,000	\$300,000	\$170,000
2013	\$500,000	\$245,000	\$417,500	\$200,000
2014	\$540,000	\$261,990	\$440,000	\$221,000
2015	\$679,000	\$281,000	\$814,100	\$248,500
2016	\$717,250	\$289,000	\$675,000	\$225,000

Source: Miami-Dade County Property Appraiser tax roles, compiled by Shimberg Center – Florida Housing Data Clearinghouse

Monthly Owner-Occupied Costs: Of the total number of owner-occupied housing units in Surfside, 41.7% (530 units) were mortgaged and 58.3% (741 units) were not mortgaged according to the U.S. Census Bureau in 2015. Table 3-8 shows the monthly owner costs of owner-occupied housing units in the Town in 2015. Over 50% of the Town’s owners with mortgaged units are paying over \$3,000 in monthly cost compared to only 13.2% of owners in Miami-Dade County overall.

**Table 3-8
Monthly Costs of Owner-Occupied Housing Units, 2015**

Mortgage Status and Elected Monthly Costs	Surfside	Surfside	Miami-Dade County	Miami-Dade County
	# of Units	Percent	# of Units	Percent
Mortgaged Units	530	100%	294,099	100%
<i>Less than \$500</i>	0	0.0%	2,887	1.0%
<i>\$500-999</i>	22	4.2%	34,725	11.8%
<i>\$1,000-1,499</i>	53	10.0%	78,273	26.7%
<i>\$1,500-1,999</i>	83	15.7%	73,270	24.9%
<i>\$2,000-2,499</i>	65	12.3%	43,192	14.7%
<i>\$2,500-2,999</i>	41	7.7%	22,705	7.7%
<i>More than \$3,000</i>	266	50.2%	39,047	13.2%
Non-Mortgaged Units	741	100%	158,727	100%
<i>Less than \$250</i>	0	0%	15,378	9.7%
<i>\$250-399</i>	55	7.4%	31,615	19.9%
<i>\$400-599</i>	73	9.9%	39,824	25.1%
<i>\$600-799</i>	84	11.3%	26,386	16.6%
<i>\$800-999</i>	147	19.8%	15,329	9.7%
<i>More than \$1,000</i>	382	51.6%	30,195	19.0%
TOTAL REPORTED UNITS	1,271	100%	452,826	100%

Source: 2011-2015 American Community Survey 5-Year Estimates (U.S. Census)

AFFORDABLE HOUSING NEEDS

Cost Burden: Cost-burdened households pay more than 30 percent of income for rent or mortgage costs. Data for this section has been supplied by the Florida Housing Data Clearinghouse. The data indicates that 1098 households within the Town (42%) paid more than 30% of income for housing compared to 53% of County households paid more than 30% of income for housing. Statewide, 42% of households are considered cost burdened.

**Table 3-9
Amount of Income Paid for Housing
Household by Cost Burden, 2015**

A. Owner-Occupied Households, 2015								
	NO COST BURDEN		COST BURDEN				Total Owners	
	0% - 30%		30% - 50%		50% or more			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Surfside	1,194	64.5%	236	12.7%	421	22.7%	1,851	100%
Miami-Dade County	288,027	55.0%	111,915	21.2%	126,575	24.0%	526,517	100%
B. Renter-Occupied Households, 2015								
	0% - 30%		30% - 50%		50% or more		Total Renters	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Surfside	323	42.3%	217	28.4%	224	29.3%	764	100%
Miami-Dade County	155,027	37.4%	107,612	26.0%	151,963	36.6%	414,602	100%

Source: Miami-Dade County and Town of Surfside data taken from Shimberg Center – Florida Housing Data Clearinghouse.

Per Table 3-9, Surfside had lower percentages of residents with a housing cost burden than Miami-Dade County. In addition, according to the U.S. Census Bureau, the 2015 median household income in Surfside was almost twice that of Miami-Dade County (\$78,443 compared to \$43,129). Many Surfside residents choose to purchase homes at a higher value, resulting in a self-imposed cost burden, rather than the forced cost burden experienced throughout Miami-Dade County.

Household Income: In Table 3-10, household income is measured as a percentage of the median income for the County or area, adjusted for size. In Surfside and the surrounding metro area, the HUD-estimated median income for a family of four is \$48,100 in 2016. Data for this section has been supplied by the Florida Housing Data Clearinghouse. Of the 2,398 households identified by the U.S. Census Bureau in Surfside in 2015, 478 (20 percent) were both cost-burdened and in the low or very-low income bracket.

**Table 3-10
Households by Tenure, Income, and Cost Burden, 2015**

Households, 2015			
	Household Income as a Percentage of Area Median Income (AMI)		
	0 – 50% AMI	50.01 – 80% AMI	80.01 +
	Very Low	Low	Moderate +
No Cost Burden	63	82	1,333
At 30% or More Cost Burden	83	51	319
At 50% or More Cost Burden	241	103	123

Source: Florida Housing Data Clearinghouse (Shimberg Center)

Elderly Households: According to the Florida Housing Data Clearinghouse, 985 households in Surfside (37.7 percent) were headed by a person age 65 or older in 2015. In comparison, 29.6 percent of households statewide were headed by elderly persons. In Surfside, 839 of elderly households (85.2 percent) own their homes, while 399 elderly households (40.5 percent) pay more than 30 percent of income for rent or mortgage costs.

HOUSING CONDITIONS

Substandard Housing: Individual housing units may be considered substandard if the unit lacks of complete plumbing for exclusive use of the residents, lack of complete kitchen facilities, lack of central heating, and overcrowding. The U.S. Census Bureau provides data regarding these interior conditions of the housing stock. Table 3-11 contains a summary of the measures of substandard housing conditions for Surfside and Miami-Dade County. In 2015, the American Community Survey 5-Year Estimates indicated that out of 2,220 occupied housing units 160 housing units (7.3 percent of all units) in Surfside were statistically overcrowded, meaning they housed more than one person per room, compared to a countywide percentage of 5.9 percent. Surfside has more homes without heating than average of the county, which may be due to the age of the homes. However, because Surfside is a coastal community in the subtropics, the Town does not consider units without heating a substandard condition. Code enforcement operations have proven effective in ensuring that substandard housing conditions are taken care of in a timely manner.

**Table 3-11
Condition of Housing Stock Summary, 2015**

Substandard Condition	Surfside	Surfside	Miami-Dade County	Miami-Dade County
	# of Units	Percent	# of Units	Percent
Overcrowded (more than one person per room)	160	7.3%	49,683	5.9%
Lacking complete kitchen facilities	0	0%	5,964	0.7%
Lacking central heating (No Fuel Used)	177	8.0%	41,251	4.9%
Lacking complete plumbing facilities	0	0%	3,107	0.4%

Source: 2011-2015 American Community Survey 5-Year Estimates (U.S. Census)

Subsidized Housing: Chapter 163.3177(f), F.S. requires local housing elements to provide an inventory of renter-occupied housing developments currently using federal, state, or local subsidies. Surfside has no such facilities.

Community Residential Facilities: Chapter 163.3177(f), F.S. requires local housing elements to provide an inventory of group homes licensed by the Florida Department of Children and Family Services. A “community residential home” means a dwelling unit licensed to serve residents who are clients of the Department of Elderly Affairs, the Agency for Persons with Disabilities, the Department of Juvenile Justice, or the Department of Children and Family Services. Surfside has no such facilities.

Mobile Homes: Chapter 163.3177(f), F.S. requires local housing elements to provide an inventory of existing mobile home. Although 57 mobile homes were identified by the U.S.Census Bureau in the 2011-2015 American Community Survey, the Town has neither mobile home parks nor any more mobile homes.

Historically Significant Housing: Chapter 163.3177(f), F.S. requires local housing elements to provide an inventory of historically significant housing listed on the Florida Master Site File, National Register of Historic Places, or designated as historically significant by a local ordinance. The Florida Master Site File, includes 33 records for the Town of Surfside: three (3) archaeological sites; three (3) resource groups; and 27 structures of which seven (7) are no longer in existence. Miami-Dade County Office of Historic Preservation within the Regulatory and Economic Resources Department also identifies historic resources and designates historic properties and districts. The County has designated three (3) properties and one (1) district within the Town of Surfside. The aforementioned County designated historic resources are discussed further in the Future Land Use Element in Table 1-6.

Farmworker Housing: There are no rural or farmworker households within the Town.

NEEDS ASSESSMENT

Population Projections: Chapter 163.3177(f), F.S. requires that an affordable housing assessment be performed.

The Florida Housing Data Clearinghouse (Shimberg Center) has supplied data to be used in this section of the Housing Element. The data suggests that the Town population will remain fairly stable over the next 20 years with the possibility of a modest 14.1% growth rate between 2010 and 2035. Table 3-12 illustrates the population projections prepared by the Shimberg Center.

**Table 3-12
Population Projections, 2010-2035**

	2010	2015	2020	2025	2030	2035
Surfside	5,744	5,705	5,952	6,181	6,398	6,556

Source: Florida Housing Data Clearinghouse (Shimberg Center)

Although the Town is expected to have an adequate supply of existing and newly constructed residential units to meet future demand, some of the households will be faced with a cost burden. The following tables provide a more detailed needs assessment as supplied by the Florida Housing Data Clearinghouse.

Affordable Housing Demand: Table 3-13 presents the very-low, low, and moderate income housing needs estimates and projections through 2035.

**Table 3-13
Projected Housing Affordability by Income, Surfside, 2010-2035**

Year	Household Income as a Percentage of Area Median Income (AMI)			
	0-50% AMI	50.01-80% AMI	80.01-120% AMI	120.01+% AMI
	Very-Low	Low	Moderate	Above Moderate
2010	595	235	783	1,000
2015	604	236	781	994
2020	639	248	818	1,032
2025	674	257	852	1,070
2030	709	268	886	1,092
2035	735	275	909	1,110

Source: Florida Housing Data Clearinghouse (Shimberg Center)

The analysis suggests that 180 of the additional households projected through 2035 will have an income less than 80 percent of the area median income. Overall, these projections point out the stability of income and population in the Town.

CONCLUSION

A major goal of the Town is to achieve a range of housing that accommodates both existing and future residents' affordable opportunities. The Town's demographics are shifting from an aging snowbird population to young families. Many of the newer residents are adding new additions and tearing down older homes to building new single family structures. Fortunately, many senior residents purchased their homes 20 to 30 years ago, when prices were much lower. While many seniors have held on to their homes and have not been negatively affected by the soaring real estate prices, many of the newcomers are in the high and upper high ranges of income, having less of a need for low and moderate income housing.

The Town has several hotels and two blocks of commercial in its jurisdictional boundaries. This has limited the number of workers entering the Town and needing housing. Previously, there were a number of hotels, which would have generated the need for additional housing. These hotels have either been torn down to make way for new condominiums or they have been converted into condominiums. This has reduced the need for low and moderate income housing in the Town. Moreover, the large numbers of well maintained small single family units and older multi-family units have provided a variety of housing choices for this area.

Despite these realities, the Town recognizes the need for affordable housing in order to support economic development and sustainability of the region. The Town's geography—a barrier island bounded by the Atlantic Ocean on the east, Indian Creek and Biscayne Bay on the west—makes the provision of affordable housing even more of a challenge. Due to the area surroundings, it contains unusually high property values. Compounding the situation, 47% of the Town is within the Coastal High Hazard Area and Chapter 163 F.S. does not permit jurisdictions to direct affordable housing into coastal high hazard areas.

The Harding Avenue and Collins Avenue corridors have several older multi-family dwelling units which provide some of the most affordable housing opportunities in Surfside. The Town has made efforts to maintain an affordable housing stock in these corridors through the completion of several roadway, and drainage. These infrastructure improvements, along with proactive code enforcement activities, have contributed to extending the lifespan of the neighborhood, providing for continuance of a quality area. The age and size of the units along Harding Avenue and Collins Avenue provide a decent amount of affordable housing in the Town and through Surfside's continuing improvement efforts, this area can maintain its affordable status. However, a number of properties are undergoing redevelopment. To help preserve the nature and character of the corridor, Miami-Dade County Historic Preservation has designated a historic district along one of the blocks.

Housing Element Goals, Objectives and Policies

Goal: Provide decent, safe and sanitary housing in suitable locations at affordable costs to meet the needs of the Town's existing and future residents.

Objective 1 – Development of new dwelling units: The Town of Surfside shall provide for adequate and affordable housing for existing and future residents, households with special housing needs, and very low, low, and moderate income households through the short term and long term planning timeframes.

Policy 1.1 – The Town shall provide information and assistance to the private sector to maintain a housing production capacity sufficient to meet the identified demands.

Policy 1.2 – The Town Code shall provide processes in an effort to provide more efficient mechanisms for reviewing proposed housing developments.

Policy 1.3 – The Town Code shall maintain appropriate regulations which enable Town officials to work with the private sector to renovate buildings as needed.

Objective 2 – Creation of affordable housing: In general, create affordable housing for all current and anticipated future residents. In particular, facilitate development of as much new affordable housing as the market economics and available subsidies can generate. This objective shall be made measurable by its implementing policies.

Policy 2.1 – The Town manager or designee shall monitor the housing and related activities of the Miami-Dade County Housing Within Reach Taskforce, Miami-Dade Housing Agency (MDHA), the South Florida Regional Council and nearby local jurisdictions. The Town Manager shall inform the Town Commission of these activities and shall recommend, as appropriate, Town actions that could help encourage the provision of adequate sites for the distribution of very low income, low income and moderate income families in nearby communities with land values that can reasonably accommodate such housing. Among the actions that may be considered are specific agreements with other local governments concerning the provision of affordable housing.

Policy 2.2 – The Town shall maintain and improve where appropriate land development code provisions which are consistent with the Future Land Use Map including the land uses and the densities and intensities specified thereon and the descriptions of the requirements of those categories, which appear in this Future Land Use Element under the heading “Future Land Use Category Descriptions.”

Policy 2.3 – The Town shall periodically review: 1) its own development permitting procedures; 2) best current practice employed by other jurisdictions; and 3) best current practice reported in relevant professional literature. The purpose of the review shall be to determine if there are appropriate procedural and substantive changes which could facilitate more expeditious development application processing.

Policy 2.4 – Manufactured housing shall not be prohibited in any area designated by this plan for residential use. Mobile homes shall not be permitted in the Town unless they meet the same standards as manufactured homes.

Policy 2.5 – Housing for very low income, low income and moderate income households shall not be prohibited per se in any area designated by this plan for residential use.

Objective 3 – Preservation of affordable housing: In general, preserve affordable housing for all current and anticipated future residents. In particular, preserve the existing housing stock in sound condition. This objective shall be made measurable by its implementing policies.

Policy 3.1 – The Town shall maintain as part of its own land development code the County minimum housing standards code or an appropriate modification thereof.

Policy 3.2 – The Town shall from time to time informally evaluate alternate strategies to guide enforcement of the County minimum housing standards code so as to achieve maximum effectiveness. It is recognized by this policy that systematic and ad hoc inspections might be most appropriate at different times and in different sub areas of the Town.

Policy 3.3 – Through land development code regulations including minimum unit sizes, maximum building heights, and setback standards, the Town shall help assure the continuation of stable residential neighborhoods.

Objective 4 – Eliminate substandard housing; structurally and aesthetically improve housing; conserve, rehabilitate and demolish housing: In general, eliminate substandard housing conditions structurally and aesthetically improve housing, conserve, rehabilitate and demolish housing. In particular, encourage private property owners to maintain and improve their properties so as to protect property values and ensure safe and sanitary housing. This objective shall be made measurable by its implementing policies and by the existence of no substandard housing units in the Town.

Policy 4.1 – Require owners of substandard structures to promptly renovate or remove such structures.

Policy 4.2 – The Town shall assist owners of substandard historic housing to obtain financial assistance for renovation from Miami-Dade County, State of Florida or Federal sources.

Policy 4.3 – The Town shall work with Miami-Dade County officials to maintain an effective housing code enforcement program.

Policy 4.4 – On a continuous basis, the Town’s Building Department shall maintain an accurate inventory of the housing units within the Town via the utility billing process.

Objective 5 – Provision of adequate sites for very low, low and moderate income households: In general, provide adequate sites for very low, low and moderate income households. In particular, facilitate development of as much new affordable housing as the market economics and available subsidies can generate. This objective shall be made measurable by its implementing policies.

Policy 5.1 – Monitor the actions of the Miami-Dade County Government relative to the development of very low, low and moderate income housing facilities to serve County residents. The purpose of such monitoring shall be to identify activities to which the Town of Surfside may make a specific contribution.

Policy 5.2 – Assist Miami-Dade County to identify housing units which may be eligible for participation in the Miami-Dade Housing Finance Authority’s Multi-Family Rental Program.

Objective 6 – Adequate sites for group homes: Accommodate community residential homes and foster care facilities in residential areas. This objective shall be made measurable by its implementing policies.

Policy 6.1 – Notify the Florida Department of Children and Family Services of applications to construct Community Residential Facilities.

Policy 6.2 – The Town shall maintain and improve land development code regulations which permit Children and Family Services licensed group homes, including foster care facilities. Such regulations shall permit community residential homes and foster care facilities in residential areas and areas with residential character and shall otherwise be designed to meet State law in general and Chapter 419, F.S., in particular. Prior to enactment of such regulations, the Town shall interpret and enforce applicable existing regulations in a manner which is fully consistent with State law and administrative code requirements pertaining to group homes.

Objective 7 – Housing coordination and implementation: The Town Manager shall be responsible for achieving housing policy implementation.

Policy 7.1 – The Town shall maintain formal communications with appropriate public and private and non-profit housing agencies to assure that adequate information on Town housing policies flows to housing providers. This list shall include the Miami-Dade Housing Agency, Housing Finance Authority of Miami-Dade County, the Miami-Dade Affordable Housing Foundation, the Board of Realtors and the Home Builders Association.

Policy 7.2 – The Town shall fully cooperate with any developer using County Surtax funds, the Housing Finance Authority of Miami-Dade County or other subsidy mechanisms.

Objective 8 – Greenhouse Gas Reduction. The Town shall support energy efficiency and the use of renewable energy resources in existing housing and in the design and construction of new housing.

Policy 8.1 – The Town shall encourage support for residential construction that meets the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) rating system, the Green Building Initiative's Green Globes rating system, the Florida Green Building Coalition standards, or other nationally recognized, high-performance green building rating system as recognized by the Florida Department of Management Services.

Policy 8.2 – The Town shall educate Surfside residents on home energy reduction strategies.

Policy 8.3 – The Town shall not prohibit the appropriate placement of photovoltaic panels. The Town shall develop and adopt review criteria to establish the standards for the appropriate placement of photovoltaic panels.

Policy 8.4 – The Town shall provide educational materials on the strategic placement of landscape materials to reduce energy consumption.

INFRASTRUCTURE ELEMENT

DATA INVENTORY AND ANALYSIS

POTABLE WATER

This section evaluates the potable water system serving the Town of Surfside inclusive of all structures designed to collect, treat, and distribute potable water in addition to water wells, treatment plants, reservoirs and distribution mains.

Miami Dade County Water and Sewer Department Geographic Service Area

The Town of Surfside's potable water is provided by a system operated by the Miami-Dade County Water and Sewer Department (MDWASD) which provides service for approximately 2.6 million customers in Miami-Dade County. The MDWASD water service area illustrated in Figure 3.1 (Appendix 4-A Town of Surfside 15-Year Water Supply Facilities Work Plan) is interconnected and functions as a single service area. The Town of Surfside is serviced by the Hialeah-Preston Water Treatment Plant service area which includes the northern part of Miami-Dade County.

The water is distributed to residents and commercial business by approximately 11 miles of cast iron pipe installed in 1938. Primary mains feeding the system run under the Town's streets and vary in size from 6-inch to 16-inches in diameter, which feed three-inch and four-inch water lines located along the rear property lines.

Water Source

The source water for the Hialeah Water Treatment Plant (WTP) is from the Hialeah-Miami Springs Wellfields, supplemented by the Northwest Wellfield. There are three active wells located in the Hialeah Wellfield constructed in 1936. Each well is 14 inches in diameter, 115 feet deep and have casing depths of 80 feet. The total wellfield capacity is 12.54 mgd or 8,700 gpm (2,900 gpm for each well). The twenty active wells located in the Miami Springs Wellfield were constructed between 1924 and 1954. These wells are 14 inches and 30 inches in diameter, 80 to 90 feet deep and have casing depths of 80 feet. The total wellfield capacity is 79.30 mgd or 55,070 gpm (ranging between or 2,500 and 5,000 gpm for each well). The Northwest Wellfield has fifteen active wells that were constructed in 1980. The wells are 40 inches and 48 inches diameter and 80 to 100 feet deep, with casing depths ranging from 46 to 57 feet. These wells have two-speed motors. The total nominal capacity of the wells at the low speed flow rate is 149.35 mgd. The capacity of each well, except well No. 10, is 10 mgd at the low speed flow rate. Well No. 10 has a low speed capacity of 9.35 mgd. The total nominal capacity for the wells at the high speed flow is 220.94 mgd.

The seven active wells located in the John E. Preston Wellfield were constructed in 1966 and 1972. Each well is 42 inches in diameter, 107 feet deep and have casing depths of 66. The capacity of wells No. 1 through No. 6 is 5,000 gallons per minute (gpm) each and the capacity of well No. 7 is 7,000 gpm. The total wellfield capacity is 53.28 mgd.

Water Treatment Plants (WTPs)

The Hialeah WTP was originally designed in 1924 with a total capacity of 10 mgd. By 1935, the plant’s capacity totaled 40 mgd. In 1946, capacity was increased to 60 mgd. Air strippers with a capacity of 84 mgd were added to the treatment process in 1991 to remove volatile organics from the finished water. A 3.2 MG storage reservoir for both the Hialeah and John E. Preston WTPs was also added in 1991. The Hialeah WTP has a current rated capacity of 60 mgd and there are plans to rerate and upgrade the Hialeah WTP to a capacity of 70 mgd, if necessary. The treatment process for this WTP includes lime softening with sodium silicate activated by chlorine, recarbonation, chlorination, ammoniation, fluoridation, filtration, and air stripping. The plant site is relatively small, and is surrounded by residential areas.

The John E. Preston WTP was originally designed as a 60 mgd plant in 1968 and upgraded to 110 mgd in 1980. The plant was re-rated to a total capacity of 130 mgd in 1984. The plant reached its present capacity of 165 mgd with another addition in 1988. In 1991, the plant was modified with an air stripping capacity of 185 mgd to remove VOCs. In 2005, plant process modifications to provide enhanced softening for reduction of color and total organic carbon came on line. The main source of water for the Preston WTP is from the Northwest Wellfield. The current rated capacity is 165 mgd with a treatment process similar to that of the Hialeah WTP. This includes lime softening with ferric and other coagulant and chemicals added prior to lime for enhanced softening, recarbonation, chlorination, ammoniation, fluoridation, filtration, and air stripping. The Preston plant is also located in a residential area of Hialeah.

Potable Water Level of Service

The Town of Surfside currently coordinates with MDWASD and the South Florida Water Management District to meet existing and projected demands based on level of service (LOS). MDWASD’s projected water demands shown in **Table 4-1** below were developed utilizing an average gallons per capita per day (gpcd) value of 137.2 gpcd.

**Table 4-1
Miami-Dade Water and Sewer Department (MDWASD) Water Demand Projection**

Year	Population	Finished Water Use (gpcd)	AADD Finished Water Use (MGD)	Water Conservation Credit (MGD)	Reuse Reclaimed Water Credit	Adjusted Finished Water Demand (MGD)	Adjusted Finished Water Use (gpcd)
2015	2,266,092	137.2	310.84	2.04	0.00	308.80	136.27
2020	2,370,769	137.2	325.20	5.44	0.00	319.76	134.88
2025	2,475,446	137.2	339.56	8.84	0.00	330.72	133.60
2030	2,580,123	137.2	353.92	9.55	0.00	344.37	133.47

Source: MDWASD’s 20 year water supply plan (2014-2033)

Table 4.2 provides the projected water use for Year 2015 through Year 2030 for the Town of Surfside utilizing the finished water use rate of 148.04 gallons per capita per day.

**Table 4-2
Town of Surfside Water Demand Projection**

Year	Population	Per Capita Consumption	Projected Consumption	Projected Consumption
		GPCD	GPD	MGD
2015	5,866	148.04	868,399	.87
2020	6,019	148.04	891,073	.89
2025	6,173	148.04	913,747	.91
2030	6,326	148.04	936,421	.94

Figure 4.1 in the Town of Surfside 15-Year Water Supply Facilities Work Plan indicates that there will be no deficit of finished water through 2030.

To assure adequate level of service, potable water facilities shall meet the following level of service standards as identified in the MDWASD goals for potable water:

- (a) The regional treatment system shall operate with a rated maximum daily capacity no less than 2 percent above the maximum daily flow for the preceding year, and an average daily capacity 2 percent above the average daily system demand for the preceding 5 years. The maximum daily flow shall be determined by calculating the average of the highest five single day flows for the previous 12 months.
- (b) Water shall be delivered to users at a pressure no less than 20 pounds per square inch (psi) and no greater than 100 psi. Unless otherwise approved by the Miami-Dade Fire Rescue Department, minimum fire flows based on the land use served shall be maintained as follows:

Land Use	Min. Fire Flow (gpm)
Single Family Residential Estate	500
Single Family and Duplex; Residential on minimum lots of 7,500 sf	750
Multi-Family Residential;	1,500
Semiprofessional Offices	1,500
Hospitals; Schools	2,000
Business and Industry	3,000

Source: Miami-Dade County Adopted 2014 Water, Sewer and Solid Waste Element

Storage Capacity

The finished water storage facilities for the Hialeah-Preston subarea consist of both “in-plant” and remote storage facilities. The total combined storage capacity between both plants inclusive of remote storage facilities is 56.0 MG. Additional information on MDWASD’s finished water storage facility capacities can be found in Table 3.1 of Appendix A (Town of Surfside 15-Year Water Supply Facilities Work Plan).

Water Supply Facilities Work Plan

The purpose of the Town of Surfside 15-Year Water Supply Facilities Work Plan (Work Plan) is to identify and plan for the water supply sources, as well as facilities needed to serve the 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 water management district approves a regional water supply plan. Surfside adopted their Work Plan in December 2015.

On a regional level, the Town falls within the South Florida Water Management District (SFWMD) and within the SFWMD's Lower East Coast (LEC) Planning Area. The *2013 Lower East Coast Water Supply Plan Update* (2013 LEC Plan Update), approved by the SFWMD in September 2013, is one of five, long-term comprehensive regional water supply plan updates the SFWMD has developed for its planning areas. The planning horizon for the 2013 LEC Plan Update is 2010-2030.

SANITARY SEWER

The sanitary sewer system is defined as structures or systems designed for the collection, transmission, treatment, or disposal of sewage and may include trunk mains, interceptors, treatment facilities, and disposal systems. The Town's sanitary sewer system is interconnected with the Miami-Dade County Water and Sewer Department (MDWASD) system. Surfside maintains its own sewer collection system and two pumping stations. By agreement, the Town of Surfside and Bal Harbour share a sanitary force main that connects to the City of Miami Beach transmission system. The tri-party agreement provides for the transmission of sewage via force mains to the MDWASD system and eventually to the treatment plant and disposal.

Geographic Service Area

The Town of Surfside's sanitary sewer system is part of a system run by MDWASD. The Town's system is coextensive with the Town's boundaries. The County system includes unincorporated and incorporated areas of Miami-Dade County inside the 2005 Urban Development Boundary that have an agreement with MDWASD. The system also incorporates a small number of facilities, mostly State or County owned, outside of the Urban Development Boundary.

Treatment Facilities and Capacity

There has been a significant reduction in average flow into the regional system as a result of extensive infiltration and inflow (groundwater and rainwater) prevention projects conducted by MDWASD in recent years. Infiltration and inflow within the sewer system should be kept at a minimum to avoid hydraulic overload to the receiving treatment plant. It is pertinent for an operation and maintenance plan to be part of the county's sanitary sewer system. As a result, the regional wastewater treatment plants operating capacity can remain in compliance with Miami-Dade County MDWASD and Florida Department of Environmental Protection (FDEP) standards.

The Town of Surfside is located in the MDWASD Central District Sanitary sewer system; however, MDWASD operates two additional regional wastewater treatment plants in the North and South Districts. Because the system is interconnected, the service districts have flexible boundaries, and some flows from one district can be diverted to other plants in the system.

The Town of Surfside's sewer system is treated by a secondary treatment facility on Virginia Key owned and operated by the Miami-Dade County Water and Sewer Department (MDWASD). The Town's sanitary sewer collection system is divided into two basins. Sanitary sewer pipes range in size from 8 to 15 inches with flows directed to two pump stations. Pump Station 1 receives sewage from the area of Surfside north of 91st Street, which includes the Business District and a majority of the high rise buildings. Pump Station 2 serves the remainder of the Town, including most of the waterfront lots. The sewage is pumped via the force main which runs along 89th Street, 93rd Street, Collins Avenue and connects to the City of Miami Beach's system near 74th street. Sewage continues under pressure through MDWASD force mains to Virginia Key.

Current Facility Demand

According to the Town of Surfside Consumption Analysis, in 2014/2015 approximately 258 million gallons of wastewater were treated by the County system from the Town of Surfside and 260 million in 2015/2016.

In FY08, the Town began mapping all sewer and potable water lines within the municipal boundary to enhance maintenance. Also in FY09, the Town identified infiltration issues to the sanitary sewer system and has begun a program to seal manholes and smoke/video testing to identify and repair broken lines. Table 4-2A shows projected sewage flow demand for the Town of Surfside and Table 4-2B show current and projected waste water capacity for the entire county.

In 2010 to 2014, the Town completed a sanitary sewer rehabilitation plan. All existing gravity sewer mains and laterals were lined or reconstructed in accordance with the approved plan. All sanitary manholes were rehabilitated. The Town also completed rehabilitation of the existing sanitary sewer pump stations, and construction of 12” Force Mains along 93rd Street and 89th Street. The Force Mains were tied-in to the newly constructed 16” Force Main along Collins Avenue. The existing Force Main that runs along Byron Avenue is not currently in use and only remains as a stand-by facility.

Since the Town completed the sanitary sewer rehabilitation plan of the existing system in the recent past, there are currently not additional level of service projects required or needed for the Town’s sanitary sewer system.

**Table 4-2A
Projected Sewage Flows**

PROJECTED SEWAGE FLOWS			
Year	2010 (actual)	2020	2030
Population	5,744	5,952	6,398
Per Capita (gallons per day finished sewage)	155	155	155
(all potable volumes are finished sewage)	MGD	MGD	MGD
Sewage Total Flow (daily average annual)	0.89	0.92	0.99

Source: Calvin, Giordano & Associates, Inc. 2017

The County’s LOS standard requires that the “system” component of the wastewater facility operate below 102 percent of the previous year’s average daily flow. A comparison of the projected treatment capacity to the 102 percent of the previous year’s average annual daily flow (AADF) requirement, from 2016 to 2026, is presented below. According to the County’s data, the capacity of the MDWASD sanitary sewer system will continue to remain below the 102 percent requirement through 2026. The below table confirms the availability of the sanitary sewer system to meet the needs of Surfside in the short term and long term planning period.

Table 4-2B
Miami-Dade County Current and Projected Wastewater System Capacity 2016-2026

County WWTP Capacities		Actual County Flow (mgd)	Total Permitted Capacity / Projected County Flows (mgd)		
	2016 Plant Capacity (mgd)	Dec. 2015	2022	2024	2026
North	120.0	89.3	120.0 / N/A ¹	120.0 / N/A ¹	85.0 / N/A ¹
Central	143.0	120.0	143.0 / N/A ¹	143.0 / N/A ¹	83.0 / N/A ¹
South	112.5	97.1	121.0 / N/A ¹	131.0 / N/A ¹	131.0 / N/A ¹
West	N/A	N/A	N/A	N/A	102.0 / N/A ¹
Total	375.5	306.4	384.0 / 321.1	394.0 / 326.3	401.1 / 331.6

Source: Miami-Dade Water and Sewer Department, 2016; ¹County only has projected data for total regional system

DRAINAGE

In 2013, the Town completed a major retrofit of the existing drainage systems. The existing storm drainage system consisted of a network of underground storm sewers and outfalls discharging directly into Indian Creek and Biscayne Bay. An existing pumping station at the western end of 92nd Street assisted the drainage of water from that street by pumping to an outfall. Storm sewers in the existing system ranged in diameter from 10 inches to 36 inches.

Town of Surfside has two state roadways within the Town; a north-south pair SR A1A/Collins Ave (northbound) and Harding Avenue (southbound); and one east-west SR-922/96th Street. The Florida Department of Transportation (FDOT) provided storm drainage improvements on Harding and Collins Avenue in the early 1990's. Equipment which currently serves the 92nd Street pump station were replaced by FDOT and maintained by the Town; however, even with these modifications, water may still reach curb level in various locations due to tidal fluctuations. The water level of Biscayne Bay is higher than normal during storm periods and high tide, creating a back up in the outfall pipes. The Harding and Collins storm drainage improvements utilize on-site wells and control structures to provide additional capacity.

In 2002, FDOT completed the Stormwater Pump Station System Operational Evaluation and Recommended Improvements (OERI) Report which provided three alternatives to improve stormwater pump systems along Harding. It was determined that the most feasible alternatives are those that have an appropriate overflow capacity, once the wells reach capacity. This was achieved by introducing an emergency gravity bypass in the event that the pumps fail. The alternative consists of new pump stations at the existing vault locations. These new stations required the existing gravity system to be extended to the Intracoastal Waterway seawalls (at 88th Street and 94th Street), a new 36-inch force main to connected to the existing wells; new pumps, structures, controls, and a new gravity bypass drainage pipe.

In 2006, the Town of Surfside initiated another stormwater project, which consists of retrofitting three of the Town's outfall pipes to reduce pollutants and fresh water entering Biscayne Bay. The facilities at each location will consist of three new stormwater pump stations which pump water into drainage wells. In order to address pollution concerns for a Florida Department of

Environmental Protection (FDEP) drainage well permit, the Town installed Nutrient Separating Baffle Boxes upstream of the pump station to provide treatment before the runoff enters the groundwater which was included in this retrofit project.

The recently constructed retrofitted stormwater management system of the Town consists of a network of underground storm sewers along with outfall control structures discharging into Indian Creek and Biscayne Bay, and three additional pump stations discharging into 9 drainage wells. The newly constructed control structures facilitate well discharge before discharging to Biscayne Bay. The project addressed long-term concerns regarding water backing into the streets and poor water quality in the adjacent Biscayne Bay along the Town’s shores. The project directly addressed The Trust for Public Land’s Biscayne Bay Accessibility report, supported the SFWMD’s Biscayne Bay Partnership Initiative (BBPI), and enhanced the level of service.

In 2015, the Town completed drainage improvements for Biscaya Island along 88th Street. The Town constructed new check valves to prevent back flow into the existing roadways and upsized one 12-inch outfall to a 24-inch diameter outfall. Since the Town completed the retrofit of the existing drainage system in the recent past, there are currently not additional level of service projects required or needed for the Town’s drainage system.

SOLID WASTE

The Town’s Public Works Department has three garbage trucks which collect trash and garbage on a weekly basis and haul it to Miami-Dade County’s Resource Recovery Plant west of Miami International Airport and other Miami-Dade County landfills. Last year (FY15/16) Surfside deposited approximately 4,932 tons of waste material at the County’s facility. Based on the 2010 U.S. Census population of 5,744 a volume of just 4.7 pounds per person per day was calculated. The Town, as of June 2, 2016, discontinued recycling services with Miami-Dade County for residential properties. The Town now collects recycling. Between June 2, 2016 and December 29, 2016 the Town collected a total of 218.9 tons of recycling. Based on information supplied by the Miami-Dade County Department of Solid Waste Management (Table 4-3), the existing disposal capacity at the North Dade Landfill and the South Dade Landfill and the Resource Recovery Plan appear to have adequate capacity to meet Surfside’s needs for the foreseeable future.

**Table 4-3
Miami-Dade County Solid Waste Facility Capacity**

	South Dade Landfill	North Dade Landfill	Resources Recovery Facility and Ashfill
Built out Capacity in Tons	23,208,000	13,526,000	8,060,000
Tons in Place (June 30, 2016)	17,547,000	11,984,000	5,765,000
Remaining Capacity in Tons	1,261,000	1,541,000	2,295,000
Last Year’s Disposal Tonnage (7/1/15 – 6/30/16)	390,626	190,478	160,879
Estimated Average Disposal Rate per Year in Tons	400,800	183,900	168,500

Source: Miami-Dade County Department of Solid Waste Management, 2016; Landfill Capacity Analysis for DSWM Active Landfills, July 1, 2016.

There is sufficient capacity in Miami-Dade County landfills to meet the Town’s needs for solid waste disposal for the short term and long term planning horizons.

NATURAL GROUNDWATER AQUIFER RECHARGE

The principal ground water resources for the Lower East Coast (LEC) Planning Area are the Surficial Aquifer System (SAS), including the Biscayne Aquifer, and the Floridan Aquifer System (FAS). The Surficial and Biscayne aquifers provide more than 1 billion gallons a day for public water supply and other uses such as agriculture and landscape irrigation within the LEC Planning Area.

Although the Biscayne Aquifer is part of the Surficial Aquifer System (SAS), it exists only along the coastal areas in Miami-Dade, Broward and southern Palm Beach counties. The Biscayne Aquifer is highly productive with high-quality fresh water. The extension of the SAS through central and northern Palm Beach County is less productive, but is still used for consumptive uses, including potable water. These aquifers are shallow, generally located within 200 feet of ground surface, and are connected to surface water systems, including canals, lakes and wetlands.

The Biscayne Aquifer and the extension of the SAS into northern Palm Beach County provide more than 1 billion gallons per day of high-quality, inexpensive fresh water for the populations of Palm Beach, Broward and Miami-Dade counties and the Florida Keys portion of Monroe County. In 2010, fresh groundwater accounted for 94 percent of potable water produced by public water supply utilities.

This volume is heavily supported, especially during the annual dry season, as well as in periodic droughts, by water from the regional system, primarily the Everglades. During droughts, water from Lake Okeechobee has been required to supplement water from the Everglades to meet the needs of the coastal counties. In 2008, the United States Army Corps of Engineers (USACE) implemented the “2008 Lake Okeechobee Federal Regulation Schedule,” lowering the operation levels at the lake to reduce the risk of dike failure and minimize impacts to the lake’s ecology. This resulted in a projected decline in the level of certainty for agriculture users to rely on the lake, and increased the expectation that the lake would exceed its minimum flow and levels criteria more frequently. In response, the South Florida Water Management District (SFWMD) adopted regulatory criteria to limit future additional withdrawals from Lake Okeechobee and connected water bodies to protect the lake and prevent further erosion to the level of certainty for existing legal users. The Okeechobee Utility Authority in the Kissimmee Basin Planning Area is the only remaining utility using water directly from Lake Okeechobee. Since the 2005-2006 LEC Plan update, Clewiston, South Bay, Belle Glade, and Pahokee have all discontinued the use of Lake Okeechobee as their supply source and now use Floridan Aquifer System water treated by reverse osmosis.

The Biscayne Aquifer is designated as a sole source aquifer by the U.S. Environmental Protection Agency (USEPA) under the *Safe Drinking Water Act* because it is a principal source of drinking water and is highly susceptible to contamination due to its high permeability and proximity to land surface in many locations. As of the 2013 LEC Plan Update, SFWMD has placed limitations on additional allocations from the Biscayne Aquifer. As a result, use of alternative water sources has expanded and a Comprehensive Water Conservation Program has been adopted by SFWMD.

The Floridan Aquifer System (FAS) exists not just in the LEC Planning Area, but throughout the entire state and portions of adjacent states. The Upper Floridan Aquifer in southeast Florida contains brackish water, and is increasingly being tapped as a source of raw water for treatment with reverse osmosis (RO) to create potable water. Brackish water from the Floridan Aquifer is also blended with fresh water prior to conventional water treatment to expand water supplies during the dry season. Additionally, the Floridan Aquifer is used for seasonal storage of treated

fresh water within aquifer storage and recovery (ASR) systems. Until recent years, the Floridan Aquifer was more extensively developed in the Upper East Coast (UEC) and Lower West Coast (LWC) planning areas of the South Florida Water Management District (SFWMD or District) than in the LEC Planning Area.

From Jupiter to southern Miami, water from the FAS is highly mineralized and not suitable for drinking water without specialized treatment. More than 600 feet of low permeability sediments confine this aquifer and create artesian conditions in the LEC Planning Area. Although the potentiometric surface of the aquifer is above land surface, the low permeability units of the intermediate confining unit prevent significant upward migration of saline waters into the shallower freshwater aquifers.

The top of the Upper Floridan Aquifer is approximately 900 feet in southeast Florida, and the base of the Upper Floridan extends as deep as 1,500 feet. At the base of the Lower Floridan Aquifer, there are cavernous zones with extremely high transmissivities collectively known as the boulder zone. Because of their depth and high salinity, these deeper zones of the Lower Floridan Aquifer are used primarily for disposal of treated wastewater.

The Miami-Dade Water Supply Facilities Work Plan outlines a number of Alternative Water Supply (AWS) and conservation strategies designed to protect water sources and comply with recent regulations limiting withdrawals and allocations and eliminating the use of existing ocean outfalls.

Wellfield Protection Areas

There are no wellfield protection areas within the Town of Surfside.

Infrastructure Element Goals, Objectives and Policies

Goal 1: Public utilities capacity shall be provided to adequately serve residents, visitors and business people.

Objective 1 –Ensure sufficient capacity of potable water and sanitary sewer facilities:

In general, ensure sufficient potable water and sanitary sewer system capacity in the most cost effective manner possible. This objective shall be made measurable by its implementing policies.

Policy 1.1 – The Town shall continue use of Miami-Dade County Water and Sewer Department facilities at the Central District Wastewater Treatment Plant on Virginia Key and the Hialeah/Preston Water Treatment Plant or such other Miami-Dade County facilities as may be appropriate.

Policy 1.2 – The Town shall upgrade the potable water distribution system and the sanitary sewer collection system through ongoing maintenance.

Policy 1.3 – The Town shall continue to follow the Sanitary Sewer Evaluation Study (SSES) protocols for Phases I, II, and III, including the testing and implementation of improvements/repairs of the collection system.

Policy 1.4 – Projects and programs shall be funded to maintain adequate levels of service.

Policy 1.5 – The Town shall maintain a minimum of a five-year schedule of capital improvements for the expansion and upgrade in the capacity of water and sanitary sewage facilities in accordance with the Water Supply Facilities Work Plan.

Policy 1.6 – The Town shall maintain a Water Supply Facilities Work Plan with a minimum planning horizon of at least 10 years, and shall ensure coordination between land uses and future water supply planning within 18 months of the adoption of the Lower East Coast Water Supply Plan, or its update, as required by Chapter 163, Florida Statute.

Policy 1.7 – The Town of Surfside 15-Year Water Supply Facilities Work Plan dated December 2015 is hereby adopted by reference into the Comprehensive Plan, along with the Miami Dade Water and Sewer Department 20-Year Water Supply Facilities Work Plan (2014–2033) inclusive of all potable water projects. The Work Plan will be updated as needed, or concurrent with any updates to the Miami-Dade Water and Sewer Department 20-Year Water Supply Facilities Work Plan (2014-2033).

Policy 1.8 – The Town of Surfside 15-Year Water Supply Facilities Work Plan shall be consistent with the Potable Water Level of Service standards as established in the Comprehensive Plan.

Policy 1.9 – The Town’s 15-Year Water Supply Facilities Work Plan shall guide future expansion and upgrade of facilities needed to transmit and distribute potable water to meet current and future demands. The Town shall research and identify alternative, renewable sources of water to the projected increases in demand.

Policy 1.10 – The Town shall provide for the protection of water quality when using traditional and new alternative water supply sources.

Policy 1.11 – The Town shall identify traditional and alternative water supply projects and the conservation and reuse programs to meet current and future water use demands within the Town’s jurisdiction consistent with the Miami-Dade County 20-Year Water Supply Facilities Work Plan and the South Florida Water Management District’s Water Supply Plan.

Policy 1.12 – The Town shall issue no development order unless the Miami-Dade Water and Sewer Department (MDWASD) certifies that adequate potable water supply is available for new development. The Town shall provide monthly reports to MDWASD, as required, to track the amount of water to be allocated for new uses.

Objective 2 – Correct deficiencies and increase capacity of drainage facilities: Optimize the utilization of water resources through the provision of stormwater management for the Town which reduces damage and inconvenience from flooding, promotes aquifer recharge, and minimizes degradation of water quality in surface water bodies.

Policy 2.1 – For site plan approval, the Town shall require that surface water management systems be designed and operated consistent with the Town’s adopted drainage level of service.

Policy 2.2 – Financially feasible projects and programs shall be implemented in order to maintain adequate level of service standards, and to make preventative improvements to the system.

Policy 2.3 – The Town shall implement the stormwater improvement projects specified in the State of Florida Department of Environmental Protection (DEP) Agreement No. LP6768.

Policy 2.4 – The Town shall construct the Stormwater Treatment Trains and Rehabilitation projects specified in the State of Florida Department of Environmental Protection (DEP) Agreement No. S0374.

Policy 2.5 – The Town shall adhere to the National Pollution Discharge Elimination System-Municipal Separate Storm Sewer System (NPDES-MS4) Permit and shall implement the permit conditions including monitoring of outfalls and improving stormwater management practices.

Policy 2.6 – The Town shall use Best Management Practices (BMPs) in accordance with its regulations and those of the South Florida Water Management District (SFWMD) and DERM.

Policy 2.7 – The Town shall coordinate and cooperate with all applicable local, regional, state and federal agencies relating to the protection and enhancement of the Biscayne Bay Aquatic Preserve.

Objective 3: Maintain sufficient solid waste capacity. The Town shall support Miami-Dade County in its provision of solid waste management facilities available to meet the Town’s short-term and long-term future needs.

Policy 3.1 – The Town shall require in the land development regulations that applicants for development permits demonstrate adequacy of solid waste disposal sites or facilities prior to occupancy.

Policy 3.2 – The Town shall cooperate with Miami-Dade County to further preserve landfill space, examine the need for a comprehensive countywide yard waste program and establish clear policies regarding the construction and debris waste stream.

Objective 4 – Level of service: Achieve adequate facility capacity to serve existing development and new development concurrent with the impact of that development. Achievement of this objective shall be measured by the implementation of the following policies:

Policy 4.1 – The Town will enforce the following level of service standards as identified in the MDWASD goals for potable water:

Sanitary Sewers: The County-wide “maximum day flow” of the preceding year shall not exceed 102 percent of the County treatment system's rated capacity. The sewage generation standard shall be 155 average gallons per capita per day.

Potable Water:

- (a) the regional treatment system shall operate with a rated maximum daily capacity no less than 2 percent above the maximum daily flow for the preceding year, and an average daily capacity 2 percent above the average daily system demand for the preceding 5 years. The maximum daily flow shall be determined by calculating the average of the highest five single day flows for the previous 12 months.
- (b) Water shall be delivered to users at a pressure no less than 20 pounds per square inch (psi) and no greater than 100 psi. Unless otherwise approved by the Miami-Dade Fire Rescue Department, minimum fire flows based on the land use served shall be maintained as follows:

Land Use	Min. Fire Flow (gpm)
Single Family Residential Estate	500
Single Family and Duplex; Residential on minimum lots of 7,500 sf	750
Multi-Family Residential	1,500
Semiprofessional Offices	
Hospitals; Schools	2,000
Business and Industry	3,000

Drainage: All nonresidential development and redevelopment shall adequately accommodate runoff to meet all Federal, state and local requirements. Stormwater shall be treated in accordance with the provisions of Chapter 17-25, FAC in order to meet receiving water standards in Chapter 17-302.500, FAC. One inch of runoff shall be retained on site. Post-development runoff shall not exceed peak pre development runoff.

Solid Waste: The County solid waste disposal system shall maintain a minimum of five years capacity. For Town planning purposes, a generation rate of 5.2 pounds per person per calendar day shall be used.

Objective 5 – Water conservation: Conserve and protect potable water resources by optimizing the utilization of water resources through effective water management practices.

Policy 5.1 – The Town shall maintain and improve land development code and other regulations that include: 1) water conservation-based irrigation requirements; 2) water conservation-based plant species requirements derived from the South Florida Water Management District's list of native species and other appropriate sources; 3) lawn watering restrictions; 4) mandatory use of high-efficiency water saving devices for substantial rehabilitation and new construction; and 5) other water conservation measures, as feasible.

Policy 5.2 – The Town shall promote education programs for residential, commercial and other uses which will discourage waste and conserve potable water.

Objective 6 – Infrastructure resiliency: Ensure resiliency of existing and future water resources, and water, wastewater and storm water infrastructure to the impacts of climate change and consider the development of adaptation for areas vulnerable to climate change-related impacts.

Policy 6.1 – Coordinate with Miami-Dade County to assess the adequacy of water supply and water/wastewater facilities and infrastructure to effectively capture, store, treat, and distribute potable water and reuse under variable climate conditions, including changes in rainfall patterns, sea level rise, and flooding, with potential water quality and quantity impacts.

Policy 6.2 – Coordinate adaptive management implementation strategies for water and wastewater resources that address the potential impacts of climate change for long term operations.

Policy 6.3 – Evaluate cost/benefit analysis for implementing adaptive management strategies including; planning, siting, construction, replacement and maintenance of public infrastructure as well as fortification or retrofitting of existing infrastructure.

Policy 6.4 – Work with Miami-Dade County to develop water demand projection scenarios that account for potential changes in demands if temperatures increase and drought conditions become more frequent or persistent.

Policy 6.5 – Evaluate infiltration and inflow programs to strategically reduce the flow of groundwater and stormwater and stormwater to wastewater collection and treatment facilities.

Policy 6.6 - The Town of Surfside shall continue to conduct a review and identify feasible regulations that require new construction, redevelopment, additions, retrofits or modifications of property to incorporate porous materials, reduce total impervious area, and employ other techniques to reduce run-off, capture and reuse rain water, and recharge the Biscayne Aquifer.

Policy 6.7 - The Town shall continue to identify public investments and infrastructure at risk from sea level rise and other climate change related impacts, and update this assessment every 5 years. Specifically, the Town shall analyze vulnerability to facilities and services, including but not limited to: buildings; water and wastewater infrastructure, transmission lines and pumping stations; stormwater systems; roads, bridges, and all transportation and transit infrastructure; power generation facilities and power transmission infrastructure; critical infrastructure such as city hall, police and fire stations.

Policy 6.8 - The Town shall coordinate with Miami-Dade County in improving the resiliency of existing water resources and water and wastewater infrastructure to climate change impacts, while improving energy efficiency and reducing greenhouse gas emissions.

Policy 6.9 - The Town of Surfside shall consider the installation of backflow preventers on drainage systems that discharge to Biscayne Bay in coordination with the appropriate agencies.

Policy 6.10 - The Town of Surfside shall construct the additional stormwater drainage infrastructure necessary to accommodate projected increases in stormwater, including drainage wells, injection wells, swales, bioswales, and other related structures.

COASTAL MANAGEMENT ELEMENT

DATA INVENTORY AND ANALYSIS

PURPOSE

The purpose of the Coastal Management Element is to protect human life and to limit public expenditures in areas that are subject to destruction by natural disaster. It is also to plan for, and where appropriate, restrict development activities where such activities would damage or destroy coastal resources.

COASTAL PLANNING AREA

Surfside is an Atlantic Ocean coastal community located on a barrier island along the southeast coast of the Florida peninsula in Miami-Dade County. The barrier island the Town is located on is separated from the mainland by the north end of the Biscayne Bay estuary. The Hurricane Storm Surge Evacuation Map prepared by the Miami-Dade County Office of Emergency Management has identified the Town and the entire barrier island as hurricane vulnerable, and classified the entire barrier island as a Zone B evacuation area. Zone B is at greatest risk for storm surge for Category 2 and higher storms., The entirety of the Town is recognized as the Coastal Planning Area (CPA).

LAND USE IN THE COASTAL PLANNING AREA

The existing land uses in the Town are identified on *Map FLU 1 Existing Land Use*. The Future Land Uses within the Town are identified on *Map FLU 7 Future Land Use*. The Future Land Use Element inventories and provides greater detail on these uses. The Town has no identified blighted areas in need of redevelopment, and has no Community Redevelopment Agency.

NATURAL RESOURCES IN THE COASTAL AREA

The natural conditions of this barrier island have been highly altered. The Town is nearly built out with only a few vacant lots. The entirety of the Town's Bayside shoreline, inclusive of Indian Creek and Point Lake, has been significantly altered and is bulkheaded, and the adjacent nearshore waters have been dredged.

The one mile length of beach and dune along the Town's ocean frontage is created from a beach renourishment program. The restoration of the federally-authorized Dade County Shore Protection Project, which included the Town of Surfside, began in 1978 and was completed in January 1982 using sand from offshore borrow sites. The project included restoration of a 20 foot wide dune at elevation +10.7 ft NGVD and a 50 foot wide level berm at elevation +8.2 ft NGVD. Additional fill material, equivalent to ten years of advance nourishment, was placed seaward of the design berm. At the time of the compilation of this data in 2017, there is still approximately 38 acres of beach area seaward of the erosion control line within the Town. This beach area is maintained in a natural state and the vegetated dune serves as nesting habitat to marine turtles.

ACCESS FACILITIES

The entirety of the Town's one mile length of oceanfront beach is under the ownership of the State and is open to the public for recreational use. The erosion control line, which runs approximately along the crest of the dune, defines the limits of private property and the beginning of the state owned beach. The state

owned beach is comprised of approximately 38 acres. Ample access to this public beach is provided via the platted public right of ways for 88th, 89th, 90th, 92nd, 94th, 95th and 96th Streets; the eastern ends of which terminate at the State-owned beach. Beach access is also provided from the Town's beach front Community Center site located near 93rd Street. The beach and dune system is maintained by the Miami-Dade County Park and Recreation Department in a natural condition. There are no piers, marinas or structures other than a lifeguard station along the beach.

The Town has established an ocean bulkhead line that applies to the private beach front properties east of Collins Avenue. The zoning code prohibits development or any redevelopment seaward of the bulkhead line. Seaward of this bulkhead line there are approximately 19 acres that are undeveloped that lie adjacent to the State owned beach. Within this undeveloped ocean bulkhead setback area, along the landward side of the dune, there is an unimproved maintenance path that is utilized by the State, the County and the Town that runs the entire length of the Town. This maintenance path is, and has historically been, a popular public walking and biking path. The landward side of the dune in this area is more sparsely vegetated than the seaward side, and the property owners have landscaped the area nearest the bulkhead on many of the properties.

To limit impacts to the dune and dune vegetation, seventeen (17) dune cross-over locations have been established and are maintained by the Town. Eight of these cross-overs correspond to the termination of the platted public right-of-ways and one is in front of the Town Community Center site. Although the remaining cross-overs are located in front of private properties, the established maintenance path provides access to these cross-overs also.

The entire shoreline along Biscayne Bay, which includes Point Lake and Indian Creek, is bulkheaded. There are approximately 1.5 miles of shoreline along the barrier island portion of the Town and approximately 0.7 miles of shoreline around the Biscaya Island neighborhood. The western ends of the platted public right of ways for 90th and 92nd through 95th Streets terminate at the Indian Creek bulkhead; the southern ends of the platted right of ways for Froude and Carlyle Avenues terminate at the Biscayne Bay bulkhead, and the platted right of ways of Biscaya Drive, Bay Drive and the west end of 89th Street each terminate at the Point Lake bulkhead. At this time there are no docks, platforms or specific improvements to facilitate water accessibility; however, the Town intends to retain these platted right of ways as public access.

ESTUARINE POLLUTION CONDITIONS

Biscayne Bay, a sub-tropical estuary, is located along the coast of Miami-Dade and northeastern Monroe Counties; it is a marine ecosystem comprised of about 428 square miles with a watershed area of about 938 square miles. The bay can generally be divided into the north, central and south Biscayne Bay areas. North Biscayne Bay extends from Dumfoundling Bay (approximately NE 192nd Street) south to the Rickenbacker Causeway. The Town of Surfside is located along the north portion of Biscayne Bay. The bayou, referred to as Indian Creek, that separates the Town from Bay Harbor Islands and the Island of Indian Creek Village, and the dredged channels and water body referred to as Point Lake that separates Biscaya Island from the remainder of the Town are considered parts of Biscayne Bay. The northern portion of Biscayne Bay retains the most estuarine habitat that can be found throughout the bay, but it is also the most altered by dredging and bulkheading. Although remaining shallow areas contain some productive seagrass beds, roughly 40 percent of the northern bay area is too deep or too turbid to support a productive estuarine ecosystem. The entirety of the Town's bayside shoreline, inclusive of Indian Creek and Point Lake is bulkheaded and the near shore waters have been significantly altered through dredging. The mainland and barrier island of the north Biscayne Bay area are highly urbanized.

The Atlantic Intracoastal Waterway (ICW) runs through Biscayne Bay in a north south direction. The ICW is managed and maintained by the Florida Inland Navigation District (FIND), which is a special state taxing district. The increased vessel traffic and maintenance dredging, which has created spoil islands that run along the edge of the ICW, also contribute to the impacts to the estuary.

The Town has developed and adopted a Stormwater Management Master Plan (SMMP). The SMMP identifies 9 separate basins within the Town and proposed improvements for each basin. The Town's drainage includes thirteen outfalls into the bay; eleven are Town maintained and two are Florida Department of Transportation (FDOT) outfalls. Under Financial Project Number 249561-2-52-01, FDOT completed improvements to retrofit their existing pump stations and injection wells whereby only during emergency bypass situations will discharges to the bay occur from the FDOT outfalls, which are located at 94th Street and at Carlyle Avenue. This FDOT drainage system, addressed the drainage from the area along Collins Avenue and east of Harding Avenue.

With assistance from grant monies under FDEP Agreements S0374 and LP6787, the Town completed retrofitting three outfall locations to install stormwater pump stations and injection wells to re-direct runoff into the groundwater, for water quality. Nutrient separating baffle boxes were installed upstream of the pump stations to provide treatment before the runoff enters the groundwater. These improvements occurred at the ends of 95th Street (Basin 1), Carlyle Avenue (Basin 6) and Surfside Boulevard (Basin 4). The SMMP identifies how basins 1 through 6 and 8 will interconnect for better quality control and hydraulic performance.

Surveying the Town for elevations and Street alignments has been completed and an inventory of all the components of the stormwater drainage system was completed. The Town also sealed all manhole covers and repaired or replaced the sanitary sewer lines, where necessary, to decrease transmigration of e-coli and other contaminants to Biscayne Bay..

HISTORIC RESOURCES

The Bureau of Archaeological Research within the Florida Office of Cultural and Historic Preservation maintains the Florida Master Site File (MSF); a database that contains information on archaeological and historic resources in Florida. The state MSF also contains those sites listed on the National Register. There are six (6) listed sites within the Town; a prehistoric mound, a prehistoric midden, and four (4) structures. The Indian Creek Bridge, adjacent to the Town, is also listed on the MSF.

The Town regulates the type of earth disturbing activities that may occur in the location of the midden and mound. The four structures listed on the MSF are all located along Collins Avenue and include the Surf Club lodge constructed circa 1930, a private residence also constructed circa 1930, and the Van Rel and Nichols apartment buildings constructed in 1947. The historic status of these structures should be considered when reviewing any applications for modifications or redevelopment of these structures.

INFRASTRUCTURE IN THE COASTAL AREA

The Town has an atlas with a complete inventory of the water distribution system and the sanitary sewer collection system in the Town. The Town recently completed an inventory of all signage and traffic control devices in the Town, as well as an inventory of all the components of the stormwater drainage system. Surveying the Town for elevations and street alignments has also been completed. The Town has current data on the infrastructure, which is addressed in greater detail in the Infrastructure Element of this plan.

COASTAL HIGH HAZARD AREA

Pursuant to Chapter 163.3178(2)(h)F.S. the “Coastal High Hazard Areas” (also referred to as “high-hazard coastal areas”) means the area below the elevation of the category 1 storm surge line as established by a Sea, Lakes, and Overland Surges from Hurricanes (SLOSH) computerized storm surge model. Map CST 1 Storm Tides shows the tide during a Category 1 storm from the US Army Corps of Engineers Hurricane Storm Tide Atlas printed in 2018.

Miami-Dade County storm surge planning zones have been drawn in relation to updated data which supersedes the previously-used SLOSH model. The newest generation of SLOSH model reflects major improvements, including higher resolution basin and grid data. The Storm Surge Planning Zones are used to identify risk of storm surge and is based on all directions of storms. As a storm is approaching, Miami-Dade County Emergency Management will identify which areas should evacuate for that particular storm. Evacuation Zones will be all of or a portion of the Storm Surge Planning Zones. The entire Town of Surfside is recognized as a Zone B. Surge Planning Zone B is defined as at greatest risk for storm surge for Category 2 and higher storms. A Surge Planning Zone A is at risk for for storm surge for Category 1 and higher storms. The Miami-Dade County website provides an on-line mapping tool to determine if a specific location is within a storm surge planning zone, the mapping tool can be found at:

<http://gisweb.miamidade.gov/communityservices/?ShowWhat=OEM>

INFRASTRUCTURE IN THE COASTAL HIGH HAZARD AREA

The current SLOSH model indicates a significant portion of the western side of the Town falls within the CHHA. This area falls along Indian Creek and Point Lake. The land within the CHHA is built out. Other than the surface parking lot along Abbot Avenue between 95th and 96th Streets and the 96th Street Park, there is private residential development in the CHHA. These homes are served by public roads, sewer and water.

DISASTER PLANNING

Within the Town there is the potential for impacts from lightning, floods, tornadoes and tropical storms, but the most significant natural disaster threat the Town needs to plan for is the event of a hurricane. Hurricanes have the potential to occur from June through November; heavy rainfall, high winds, storm surge and widespread flooding may accompany these storms. Records indicate that the Town has been brushed by or hit by a tropical storm or a hurricane 73 times from 1871 through 2016.

During a hurricane evacuation, a significant number of vehicles will have to be moved across the local and regional road network. The quantity of evacuating vehicles will vary depending upon the magnitude of the hurricane, publicity and warnings provided about the storm and particular behavioral response characteristics of the vulnerable population. The Town and County must be prepared to evacuate highly vulnerable populations on critical routes, often concurrently with evacuees from outside the County. There are limited route choices; *Map CST 2 Evacuation Routes* identifies the designated evacuation route for the Town. The Miami-Dade County Office of Emergency Management has identified the Town and the entire barrier island as a Zone B evacuation area.

The Town of Surfside is within the 50-mile Emergency Planning Zone (EPZ) for the Turkey Point Nuclear Power Facility located in southern Miami-Dade County. This EPZ includes the ingestion exposure pathway in which the population and animals are vulnerable to the long-term health effects associated with the ingestion of contaminated food and water. Additional manmade disasters that the Town may be subject to include other hazardous materials contamination, civil disturbances and mass migration events, terrorism, biological epidemics or coastal oil spills.

The Town has developed a Comprehensive Emergency Management Plan (CEMP). The CEMP identifies that the Emergency Planning Committee, as directed by the Public Works Director, will be responsible for annually reviewing the CEMP. The Public Works Director will be responsible for annually updating all annexes which reference contact information and other changing information. The Basic Plan and Functional Annexes will be updated once every four years unless substantial deficiencies are demonstrated through an actual or simulated disaster response incident. The Town Manager may also direct more frequent updates as the environment, conditions, or assumptions within the Town change. The Town of Surfside is also a participant in the Miami-Dade County Local Mitigation Strategy Planning Group. The Town coordinates their Post Disaster Redevelopment with the County Emergency Management Office.

The Town has identified publicly owned locations to be utilized as temporary debris storage and reduction sites in the event of a hurricane, and has had these sites reviewed by the Miami-Dade Department of Environmental Resource Management and has forwarded this site information to FDEP. The Town has also selected a disaster management/recovery services firm and debris monitoring services firm.

RESILIENCY PLANNING

The Town of Surfside is an older, built-out community that has been addressing resiliency concerns on an ongoing basis. This is a commitment by this Town and continues to be an ongoing process. Below is a brief overview of some of the action taken that began at least a decade ago.

By the end of 2009 the Town completed a Stormwater Management Master Plan to address water quality issues and to reduce flooding within the Town. The Master Plan included a complete engineering analysis based on engineered computer models. The report included the best approach to reduce or eliminate pollutant discharge loadings into Biscayne Bay and targeted improvement in hydraulic performance of the Town's drainage system to reduce stormwater flooding. The report informed the actions of the significant drainage system improvements the Town then undertook.

The storm sewer improvements were a part of an overall utility rehabilitation project that included the sanitary sewer and potable water systems. This was a significant project that consisted of the replacement of over 32,000 linear feet of water main, 1,587 water services, 1,278 new water meters and 46 additional fire hydrants. The sanitary sewer upgrades included over 50,000 linear feet of sanitary sewer main being CIPP lined or replaced, two (2) sewage pump stations being completely rebuilt with updated and more efficient pumps including SCADA controls, the force mains from the pump stations to the shared transmission main being replaced, and placing full dish gaskets on all manhole openings.

The storm sewer system was upgraded to include 3 SCADA controlled pump stations, 9 shallow injection drainage wells, 20 control structures and the required RCP pipeline to interconnect the existing gravity drainage system with the newly installed pumped well system. It also included the installation of over 45,000 linear feet of curb and 167,000 square yards of asphalt roadway resurfacing, sealing all stormwater manholes and installing back flow preventers on outfalls.

The Town searched for and obtained funding assistance for this project, which included the Miami Dade Building Better Communities General Obligation Bond, FDEP Grants, Regions Bank publically bid bond issuance and the FDEP's State Revolving fund program.

The Town obtained two Florida Inland Navigation District (FIND) grants to financially assist in replacing and elevating all Town owned seawalls. This project was completed by the end of 2017. The Town also adopted an ordinance that specifically requires the following: “The elevation for the top of shore end of all groins or other shore protective work shall be plus five feet above mean low water; the elevation for the top of seaward end of all groins and other shore protective work shall be plus 2&half feet above mean low water; and the elevation of the top of all seawalls fronting on the waters of Biscayne Bay, Indian Creek and Point Lake shall be plus five feet above mean low water.” This ordinance provides for an initial, and for an ever increasing height as the mean low water line increases.

Reflective of recommendations of the Regional Climate Action Plan, in April of 2016, the Town Commission officially formed the Sustainability Subcommittee of the Planning and Zoning Board. The purpose of the Subcommittee is to study and recommend policies and programs that strengthen the resiliency of the community. The Subcommittee's goals include:

1. Adapting and mitigating to climate change and sea level rise;
2. Promoting green and sustainable building, construction and operations;
3. Protecting, restoring, optimizing and creating green spaces;
4. Improving alternative transportation and mobility; and
5. Increased environmental awareness and stewardship of our treasured ecosystems.

The Town amended their flood ordinance to specify the following within the A zones:

- Residential construction. All new construction and substantial improvements of any residential building (including manufactured home) shall have the lowest floor, including basement, elevated to no lower than one foot above the base flood elevation.
- Nonresidential construction. All new construction and substantial improvements of any commercial, industrial, or nonresidential building (including manufactured home) shall have the lowest floor, including basement, elevated to no lower than one foot above the base flood elevation.

Additionally, all new construction and substantial improvements in V zones shall be elevated on pilings or columns so that:

- The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated to no lower than one foot above the base flood elevation.

The Town also requires all development other than single family residential be developed in accordance with Leadership in Energy & Environmental Design (LEED) or Florida Green Building Coalition (FGBC) building design and construction standards to ensure the incorporation of sustainable development practices.

In the Town’s ongoing efforts to develop accurate, effective and comprehensive flood peril strategies, the Town has obtain and reviewed a proposal for the following project and will be including the funding for this project in the fiscal year 2019 budget.

Project: Obtain elevation data at all of the street centerline intersections of public rights-of-way within the Town, and obtain beach dune height topographic survey with a grid of cross section elevations traversing from the Bulkhead line to the edge-of-water along the Atlantic coastline. The Town will also produce a Beach and Dune Use Best Management Practices document and develop Beach Use regulations.

The street intersection data will produce specific and accurate information on the lowest (most vulnerable) locations within the Town. This data will be incorporated into the Town’s GIS database to cross reference FIRM data, infrastructure data, historic site data and all other data layers the Town has developed. The analysis of this data will enable the Town to direct planning

efforts and strategies toward the infrastructure, critical facilities and adjacent properties in these locations; direct Capital Improvements funds most effectively; and assist the Town in assessing and developing effective freeboard criteria as needs arise.

The Town recognizes the protective value of the beach and dune system, particularly to the Town's commercial corridor, and main thorough fairs that are also main thorough fairs for the entire barrier island. The baseline data obtained on the current geo/topographic conditions of the dune and beach will also be incorporated into the Town GIS database; allowing the data to be placed over a current aerial photograph to identify the limits of the dune vegetation. Analysis of the survey information will enable the Town to identify any vulnerable areas that may need restoration or replanting, provide the baseline for the Town to be able to monitor changes, and to establish geo/topographic goals to strive for. The Town will research best protective management practices for the beach and dune system and produce a Beach and Dune Use Best Management Practices document. The information obtained will also guide the Town in the development of beach use regulations to ensure this natural resource remains an effective protection system for the Town.

The Town has also reviewed the requirements, feasibility and resource allocations associated with pursuing and obtaining a Certification through the Florida Green Building Coalitions. The will be pursuing FGBC certification and will additionally be putting funding for this project in the fiscal year 2019 budget.

Coastal Management Element Goals, Objectives and Policies

Goal 1: Provide for conservation and environmentally sound use of natural resources and the protection of human life and property. To plan for, and where appropriate, restrict development activities where such activities would damage or destroy coastal resources, and to limit public expenditures in areas that are subject to destruction by natural disaster.

Objective 1 – Protect living marine resources and maintain and improve estuarine water: The Town shall limit the specific and cumulative impacts of development or redevelopment upon water quality by requiring that surface water management systems be designed and operated consistent with state and regional standards and the Town’s adopted level of service.

Policy 1.1 – The Town shall continue to coordinate and cooperate with all applicable agencies in the appropriate management of the Biscayne Bay Aquatic Preserve, including, but not limited to, the Miami-Dade County Department of Environmental Resource Management, the Florida Department of Environmental Protection, the National Park Service and the Biscayne Bay Shoreline Development Review Committee.

Policy 1.2 – For site plan approval, the Town shall require that surface water management systems be designed and operated consistent with the Towns adopted drainage level of service.

Policy 1.3 – The Town shall continue to review and update as needed the adopted Stormwater Management Master Plan.

Policy 1.4 – The Town shall coordinate and cooperate with all applicable local, regional, state and federal agencies relating to the protection of Atlantic Ocean coastal waters, particularly relating to beach renourishment projects and Coastal Construction Control Line permitting.

Policy 1.5 – The Town shall cooperate and coordinate with the applicable agencies to assure that solid and hazardous wastes generated within the Town are properly managed to protect the environment and the near shore waters. The Town shall report any hazardous waste violation they may become aware of to the appropriate jurisdictional agency.

Policy 1.6 – The Town shall adhere to the Nation Pollution Discharge Elimination System – Municipal Separate Storm Sewer System (NPDES-MS4) Permit and shall implement the permit conditions including monitoring of outfalls and improving stormwater management practices.

Policy 1.7 – When applicable, the Town shall provide development proposal information to the Biscayne Bay Shoreline Development Review Committee for review.

Objective 2 – Protect living marine resources including manatees and sea turtles: In general, protect, conserve, or enhance living marine resources. In particular, limit impacts to manatees, sea turtle eggs, fisheries, wildlife, wildlife habitat, marine habitat and environmentally sensitive land.

Policy 2.1 – The Town police shall maintain communications with County and State marine police in order to report any violations of the boat speed limits in the adjacent waters which are a manatee protection area. The Miami-Dade County manatee telephone hotline shall also be publicized by Town officials.

Policy 2.2 – The Town shall enact and enforce land development provisions which regulate the location and screening of lights along the beach in a way which is practical to water dependent and water related uses to assist in protecting sea turtles by minimizing the amount of light on beach locations where sea turtles may nest. In addition, the Town shall actively cooperate with Miami-Dade County efforts to protect sea turtle nests. Cooperative actions to be taken by Miami-Dade County and/or Surfside shall include the following: 1) prohibiting horseback riding and campfires on and seaward of the dune during nesting; 2) prohibiting taking, killing, touching or otherwise interfering with sea turtle nests and nesting activities; 3) regulation of coastal construction so as to minimize negative impacts on sea turtles; and 4) beach and dune stabilization and preservation.

Policy 2.3 – The Town shall contact the Miami-Dade County Division of Environmental Management (DERM) if any adverse impact is observed relative to the sea grass beds in adjacent waters.

Policy 2.4 – The Town shall cooperate with the U.S. Army Corps of Engineers for beach renourishment if such becomes necessary. Where beach restoration or renourishment is necessary, the project should be designed and managed to minimize damage to offshore grass flats, terrestrial and marine animal habitats and dune vegetation. Native dune and beach plants should be planted and maintained.

Policy 2.5 – The Town shall maintain and enforce land development code provisions requiring minimum building setbacks from the ocean. Specifically, the Town shall retain the ocean bulkhead line setback criteria established in the zoning code.

Policy 2.6 – The Town shall require all new shoreline development affecting marine habitats to be reviewed by the Miami-Dade County Division of Environmental Resource Management or other applicable jurisdictional agency.

Policy 2.7 –The Town shall coordinate with existing resource protection plans of other governmental agencies, including the Miami-Dade County Division of Environmental Resource Management, the South Florida Water Management District, the Florida Fish and Wildlife Conservation Commission, the Florida Department of Environmental Protection, the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service and others.

Policy 2.8 – The Town shall cooperate with Federal, state and county programs designed to ensure the required use, proper maintenance and proper functioning of dockside pump out facilities.

Objective 3 – Prioritize water-related and water dependent uses: The amount of shoreline devoted to water dependent and/or water-related uses shall be maintained.

Policy 3.1 – The Town shall continue to permit water dependent hotel uses and water-oriented residential uses east of Collins Avenue. The regulations of this area shall be consistent with the density limits established by the Future Land Use Map of this plan.

Policy 3.2 – Those public access areas including street ends, municipal parking facilities and municipal parks along and near coastal waters will be maintained or redesigned to provide greater public access to Biscayne Bay and the Atlantic Ocean beach areas.

Policy 3.3 – The Town shall design and construct signage along major thoroughfares to direct the public's attention to public shoreline parks and water-related facilities.

Policy 3.4 – The Town shall require water-dependent uses to meet the following criteria:

- a) Construction or subsequent operation shall not destroy or degrade sea grass or hard bottom communities, or habitats used by endangered or threatened species.
- b) Where applicable, all external agency approvals shall be obtained.
- c) The proposed facility shall be: 1) compatible with existing, surrounding land uses, and 2) of sufficient size to accommodate project and the required parking.
- d) The proposed facility shall: 1) preserve or improve traditional public shoreline uses and public access to estuarine and coastal waters, 2) preserve or enhance the quality of the estuarine and coastal waters, water circulation, tidal flushing and light penetration, 3) preserve archaeological artifacts or zones and preserve, or sensitively incorporate historic sites, and 4) where applicable, provide a hurricane contingency plan.

Objective 4 – Protect and enhance beaches and dunes: The Town shall protect beaches and dunes, establish construction standards which minimize the impacts of manmade structures on beach or dune systems, and restore altered beaches and dunes where feasible.

Policy 4.1 – The Town shall continue to maintain the posted signs prohibiting walking on vegetated dune and/or uprooting or otherwise damaging plants.

Policy 4.2 – The Town shall maintain the provisions contained in the zoning code restricting development seaward of the ocean bulkhead line on the properties east of Collins Avenue and shall require all construction activities seaward of the coastal construction control lines established pursuant to s. 161.053 be consistent with chapter 161.

Policy 4.3 – The Town shall enforce and maintain the adopted landscape provisions contained in the zoning code requiring the installation of native beach dune landscape materials seaward of the ocean bulkhead line with any new or redevelopment.

Policy 4.4 – The Town shall continue to coordinate and cooperate with the Florida Department of Environmental Protection's Bureau of Beaches and Coastal Systems and with the Miami-Dade County Park and Recreation Department regarding access to and the appropriate maintenance of the beach area seaward of the erosion control line.

Policy 4.5 – The Town shall regulate the property adjacent to beaches and dunes to ensure the protection of the ecological value of beach and dune areas.

Policy 4.6 – No new dune cross over locations shall be established. The Town shall limit the dune crossovers providing access to the beach to the seventeen crossover locations that currently exist.

Policy 4.7 – The Town shall enforce and maintain the adopted Beach Sand Quality Ordinance.

Objective 5 – Direct population concentrations away from coastal high hazard areas and limit coastal high hazard area infrastructure expenditures: The Town shall, through land use designation and development review, regulate and limit the type of uses in the predicted Coastal High Hazard Area. The Town shall direct population concentrations away from known or predicted High Hazard Areas.

Policy 5.1 – The Town shall require development activities be consistent with, or more stringent than, the flood-resistant construction requirements in the Florida Building Code and applicable floodplain Management regulations set forth in 44 C.F.R. part 60, and shall require all construction activities seaward of the coastal construction control lines established pursuant to s. 161.053 be consistent with chapter 161.

Policy 5.2 – The Town shall limit future public expenditure for new infrastructure which will subsidize growth within the Coastal High Hazard Area; expenditures for restoration and maintenance are exempt from these limitations and expenditures for the enhancement and protection of natural resources or for public land acquisition is encouraged.

Policy 5.3 – Objective 5 and Policy 5.2 above shall not be implemented in such a way as to preclude the Town's plans to improve drainage facilities or reconfigure streets in order to provide adequate infrastructure to serve the Future Land Use Plan development pattern, adapt to climate change, or development for which rights were vested prior to enactment of this Plan.

Policy 5.4 – Pursuant to Chapter 163.3178(2)(h) of the Florida Statutes, the “Coastal High Hazard Areas” (also referred to as “high-hazard coastal areas”) means the area below the elevation of the category 1 storm surge line as established by a Sea, Lakes, and Overland Surges from Hurricanes (SLOSH) computerized storm surge model.

Policy 5.5 – Consideration for the relocation, mitigation or replacement of any of the existing infrastructure in the Coastal High Hazard Area, as may be deemed appropriate by the Town, shall be coordinate with the state when state funding is anticipated to be needed for implementation of the project.

Objective 6 – Hurricane Preparedness: The Town shall coordinate with the County to maintain a 12-hour hurricane evacuation clearance time to shelter for a category 5 storm event as measured on the Saffir-Simpson scale.

Policy 6.1 – To provide for safe and efficient evacuation of the residents of the Town and other local communities in the event of a hurricane, the Town shall continue to plan and coordinate with Miami-Dade County in updates of the County’s Comprehensive Emergency Management Plan, including evacuation planning. This update shall enable the County and incorporated municipalities to plan for future population densities to ensure compliance with adopted level of service standards established in this Plan.

Policy 6.2 – The Town shall continue to coordinate with the County in updating hurricane evacuation shelter assignments and in disseminating information concerning evacuation routes and evacuation scheduling.

Policy 6.3 – The Town shall conduct an ongoing hurricane evacuation information program to make all residents aware of evacuation needs and plans.

Policy 6.4 – The Town shall maintain its traffic level of service which in turn is based upon the Future Land Use Map, thereby achieving a reasonable hurricane evacuation time.

Policy 6.5 – The Town shall continue to update its Comprehensive Emergency Management Plan in order to be prepared for, respond to, and recover from potential hazard.

Policy 6.6 – The Town shall maintain a contingency fund in order to cover the Town’s required match for disaster assistance grants.

Objective 7 – Emergency Preparedness: The Town shall plan and coordinate response for emergency preparedness and/or post-disaster management in the context of climate change.

Policy 7.1 – The Town shall ensure adequate planning and response for emergency management in the context of climate change by maximizing the resilience and self-sufficiency of, and providing access to, public structures, schools, hospitals and other shelters and critical facilities.

Policy 7.2 – The Town shall continue to communicate and collaboratively plan with other local, regional, state and federal agencies on emergency preparedness and disaster management strategies including incorporating climate change impacts into updates of local mitigation plans, water management plans, shelter placement and capacity, review of major trafficways and evacuation routes, and cost analysis of post disaster redevelopment strategies.

Policy 7.3 – The Town shall consider the public health consequences of climate change, such as extreme temperatures and vector-borne diseases, and take steps to build capacity to respond to or support other agency responders.

Objective 8 –Ensure public access to beach and shorelines: The Town shall maintain all existing public access to the beach and shorelines, particularly the Atlantic Ocean and the Atlantic Ocean beach.

Policy 8.1 – The Town shall maintain all existing street ends and public access points to the Atlantic beach and to the waters of Biscayne Bay.

Policy 8.2 – The Town shall beautify and enhance beach accesses at the public street ends east of Collins Avenue when funds are available and conditions merit.

Policy 8.3 – The Town shall regulate public parking near beach access points to facilitate its use by beach visitors, particularly during nonbusiness days and hours.

Policy 8.4 – The Town shall continue to provide beach access from of the Surfside Community Center.

Policy 8.5 – The Town shall apply for State and Federal grant funds, such as the Florida Recreation Development Assistance Program, and the Land and Water Conservation Fund for the improvement of public recreation and open space.

Policy 8.6 – The Town shall design and install signage along Collins Avenue and Harding Avenue to identify the public access locations to the beach.

Objective 9 – Protect historic properties: The Town shall provide for protection, preservation or sensitive reuse of historic structures.

Policy 9.1 – The Town shall provide for appropriate use and protection of known historic structures through the site plan review process.

Policy 9.2 – Prior to commencing any significant public construction or issuing any permits for significant private construction, not to include minor construction such as resurfacing of an existing street, construction of a residential fence and/or any other such improvement which will not disturb the archeological assets which lie well below the surface of these areas within the areas identified as the Surfside Midden and the Surfside Mound, the Town shall notify Miami-Dade County's Historic Preservation Division.

Policy 9.3 – The Town shall coordinate historic resource protection activities, procedures and programs with applicable state and federal laws, policies and guidelines.

Objective 10 – Level of service and public facility timing: The Town shall achieve and maintain Level-of-Service standards through a concurrency management system with a phased capital improvement schedule.

Policy 10.1 – The Town shall implement the concurrency management system contained in this plan and the Town shall supplement the concurrency management system with which will be further detailed in land development code capital improvements when appropriate and necessary to meet Level-of- Service standards concurrent with the impact of development.

Policy 10.2 – Priority shall be given to drainage system improvements for State Road AIA because it serves as a primary evacuation route.

Policy 10.3 – Potential rise in sea level shall be taken into consideration in the design of all infrastructure.

Objective 11 – Hazard mitigation: In general, the Town shall regulate development so as to minimize and mitigate hazard resulting from hurricanes. In particular, the Town shall ensure that all construction and reconstruction complies with applicable regulations designed to minimize hurricane impact on buildings and their occupants.

Policy 11.1 – The Town shall maintain consistency with the program policies of the National Flood Insurance Program (NFIP) administered by the Federal Emergency Management Agency (FEMA) and shall monitor new cost effective programs for minimizing flood damage. Such programs may include modifications in construction setback requirements or other site design techniques, as well as upgraded building and construction techniques. The Town's adopted flood protection regulations shall be amended as necessitated by changes in FEMA regulations.

Policy 11.2 – When structures are renovated at a cost in excess of fifty (50) percent of the structure's pre-renovation market value, the structure shall be brought into conformance to meet all current laws and ordinances, including those enacted since construction of the subject structure.

Policy 11.3 – The City shall ensure that its code compliance process continues to identify and require the removal and/or rehabilitation of structures that are deemed to be a hazard to the public health, safety and welfare.

Policy 11.4 – The Town shall participate in the Community Rating System of the National Flood Insurance Program

Policy 11.5 – The Town shall continue to enforce regulations and codes which provide for hazard mitigation, including but not limited to, land use, building construction, placement of fill, flood

elevation, sewer, water and power infrastructure, and stormwater facilities. These regulations shall be applied to eliminate unsafe conditions, inappropriate uses and reduce hazard potentials.

Policy 11.6 – The Town shall increase public awareness of hazards and their impacts by providing hazard mitigation information to the public. Information shall address evacuation, sheltering, building techniques to reduce hazards as well as other hazard mitigation issues that could help prevent loss of life and property.

Policy 11.7 – The Town shall continue to monitor updates to sea level rise forecasts and take into consideration the most current data when making decisions regarding land use amendments, capital improvements, infrastructure or critical public facilities projects.

Policy 11.8 – The Town shall, as deemed appropriate, incorporate the recommendation of the hazard mitigation annex of the local emergency management plan and shall analyze and consider the recommendations from interagency hazard mitigation reports.

Policy 11.9 – The Town shall include criteria in the five (5) year schedule of Capital Improvement projects to include consideration for and prioritization for projects that are hazard mitigation initiatives.

Objective 12 – Sea Level Rise: The Town shall plan for and prepare for the impacts of sea level rise.

Policy 12.1 – The Town shall support the efforts of state environmental and planning agencies to jointly develop, assess, and recommend a suite of planning tools and climate change adaptation strategies for local municipalities to maximize opportunities to protect the beach and dune systems and other coastal resources from the impacts of sea level rise and shall require all construction activities seaward of the coastal construction control lines established pursuant to s. 161.053 be consistent with chapter 161.

Policy 12.2 – The Town shall cooperate with federal and State agencies on any beach and dune renourishment programs, and any coral reef protection or establishment programs to enhance coastal resiliency and storm protection.

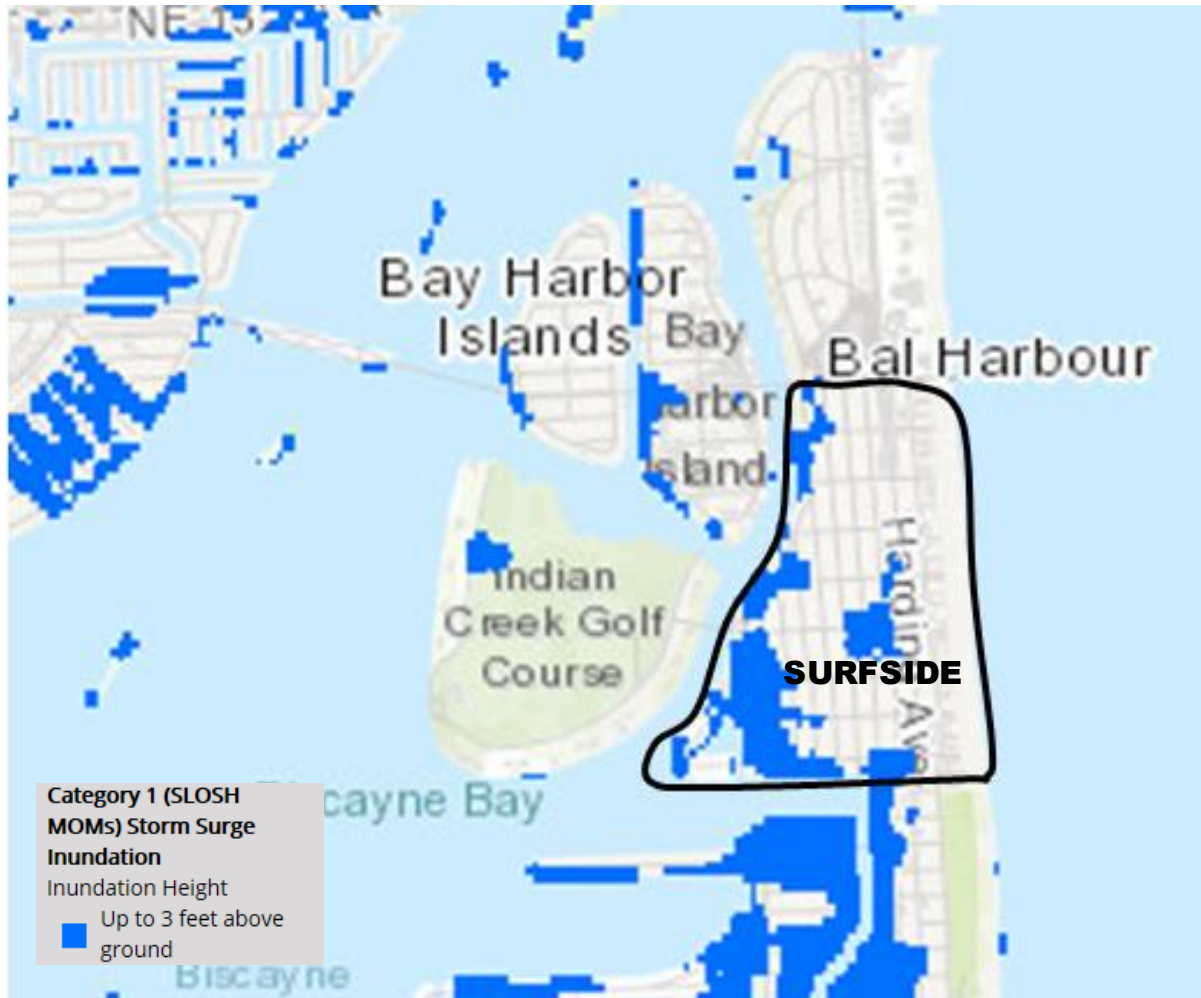
Policy 12.3 – The Town shall continue to review updated mapping studies to aid in identifying areas of the Town most vulnerable to sea level rise, tidal flooding, and other impacts of climate change.

Policy 12.4 – The Town shall continue to review the best available data and designate areas that are at increased risk of flooding due to, or exacerbated by, sea level rise over the next 50 years, and work to make these areas more climate resilient by discouraging density increases and encouraging the use of adaptation and mitigation strategies.

Policy 12.5 – The Town shall continue to review and implement available data that is applicable to the Town from governmental entities such as the Regional Climate Compact or the County that identifies development and redevelopment principles, strategies, and engineering solutions that reduce the flood risk in coastal areas which results from high-tide events, storm surge, flash floods, stormwater runoff, and the related impacts of sea-level rise.

Policy 12.6 – The Town shall continue its program to replace all Town owned seawalls and continue to implement the increased elevations for seawalls and groins as specified in the Town code of ordinances.

CST 1 Storm Tides: NATIONAL STORM SURGE HAZARD MAPS - SLOSH CATEGORY 1 MAP



Source: NOAA/NWS/NHC Storm Surge Unit







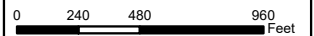
Surfside Comprehensive Plan

Map: CST 2

Evacuation Routes

Legend

-  Surfside City Limits
-  Adjacent City Limits
-  Evacuation Route
-  Water



Print: 6-7-2017

Source: Miami Dade GIS Self Services



CONSERVATION ELEMENT

DATA INVENTORY AND ANALYSIS

PURPOSE

The purpose of the Conservation Element is to promote the conservation, use, and protection of natural resources in the Town.

NATURAL ENVIRONMENT

Climate

The Southeast Regional Climate Center identifies that from 1927 to 2012, the average annual maximum temperature is 81.1 F° and the average annual minimum temperature is 71.4 F° for the barrier island the Town is located on. The average annual total precipitation is 47.82 inches. Precipitation is not distributed evenly throughout the year. Precipitation ranges from an average monthly low of 1.85 inches in December, to 7.13 inches in September. Precipitation is heaviest from May through October with 71% of the rainfall occurring during these six months. No snowfall has been reported during this recording period.

Thunderstorms are common during the summer months. Hurricanes, which occur less frequently, have the potential to occur from June through November; heavy rainfall, high winds, and widespread flooding may accompany these storms. Records indicate that the Town has been brushed by or hit by a tropical storm or hurricane 73 times in a 143 year period ending in 2016. Two of the more devastating hurricanes which occurred struck in 1926 and in 1992 when Hurricane Andrew, a category 5 hurricane, made landfall in South Miami-Dade County. The most recent hurricane events occurred in 2005 with Hurricanes Katrina and Wilma. Both of these storms caused moderate damage to the area.

Soils

The U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) identifies Urban Land and Beaches as the only two coverage types found within the Town. The NRCS describes Urban Lands as areas that are more than 70% covered by buildings, streets, sidewalks and other structures so the natural soil is not readily accessible. The NRCS describes beaches as nearly level to sloping, narrow, sandy strips along the Atlantic Ocean of fine to coarse sand mixed with shell fragments. *Map FLU 2 Soils*, provides the general distribution of soils/coverage in the Town as mapped by the NRSC.

The beach along the Town's ocean frontage is created from a beach renourishment program. The deposit material utilized for the renourishment program was sand that was harvested from off-shore borrow sites that is similar to the beach sand which would naturally occur on this barrier island.

Physiography

Surfside is an Atlantic Ocean coastal community located on a barrier island on the southeast coast of the Florida peninsula in Miami-Dade County. The Town is separated from the mainland by the north end of the Biscayne Bay. The Biscayne Bay Inlet (Bakers Haulover Cut), less than one mile north of the Town, is the northern end of the barrier island, and Government Cut, approximately seven and one half miles

south of the Town, is the southern end. The Town itself is one mile in length from its north to south end and is approximately three-fourths of a mile wide at its widest point on the south end of Town. Biscaya Island, also a part of the Town, is a small residential neighborhood at the southwest corner of the Town that is separated from the barrier island by the dredged water feature referred to as Point Lake, but connectivity is maintained via a short bridge segment, referred to as Biscaya Bridge, on Eighty-Eighth Street.

The natural conditions of this barrier island have been highly altered. The one mile length of beach and dune along the Town's ocean frontage is created from a beach renourishment program. The restoration of the federally-authorized Dade County Shore Protection Project, which included the Town of Surfside, began in 1978 and was completed in January 1982. The project utilized sand from offshore borrow sites. The project included restoration of a 20 foot wide dune at elevation +10.7 ft NGVD and a 50 foot wide level berm at elevation +8.2 ft NGVD. Additional fill material equivalent to ten years of advance nourishment was placed seaward of the design berm. Though nourishment of several areas of the initial project was conducted between 1987 and 1990, the overall project has exceeded performance expectations. At the time of the compilation of this data in 2017, there is approximately 38.2 acres of beach seaward of the erosion control line within the Town.

The entirety of the Town's bay side shoreline, inclusive of Indian Creek and Point Lake, has been significantly altered and is bulkheaded, and the adjacent nearshore waters have been dredged. *Map FLU 5 Water Bodies*, identifies the water bodies that abut the limits of the Town.

Map FLU 3 Topography identifies the topography of the Town. The Town is nearly flat with elevations ranging only from 0 to 10 feet. The vast majority of the Town is 5 feet or less. The lowest elevation is found along the oceanfront coastline. The highest elevation is a narrow linear strip that runs approximately along Collins Avenue.

Soil Erosion

The entire length of ocean shoreline along the barrier island the Town is located on is recognized as 'Critically Eroded' by the Florida Department of Environmental Protection's Bureau of Beaches and Coastal Systems and is part of a long term beach renourishment program. The Bureau defines critically eroded as a segment of the shoreline where natural processes or human activity have caused or contributed to erosion and recession of the beach or dune system to such a degree that upland development, recreational interests, wildlife habitat, or important cultural resources are threatened or lost. Critically eroded areas may also include peripheral segments or gaps between identified critically eroded areas which, although they may be stable or slightly erosional now, their inclusion is necessary for continuity of management of the coastal system or for the design integrity of adjacent beach management projects.

The entirety of the Town's bayside shoreline, inclusive of Indian Creek and Point Lake is bulkheaded and the remainder of the Town is developed and does not experience erosion problems.

Commercially Valuable Minerals

There are no extractable, commercially valuable minerals in the Town.

Floodplains

The National Flood Insurance Program administered by the Federal Emergency Management Agency (FEMA) has identified the following flood zones within the Town:

Zone	Description
VE	Special Flood Hazard Area coastal flood zone with velocity hazard (wave action); base flood elevations determined.
AE	Special Flood Hazard Area subject to inundation by the 1 percent annual chance of flood; base flood elevations determined..
X	Areas determined to be outside the 2 percent annual chance floodplain.
X shaded	Areas of 2 percent annual chance flood; areas of 1 percent annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from the 1 percent annual chance flood.

Map FLU 4 FEMA Flood Zones, locates the flood zones within the Town. Nearly the entirety of the Town is an AE zone; this zone falls generally west of Collins Avenue. The X zone falls generally east of Collins Avenue. Existing land uses found within these flood zones are illustrated in the *Future Land Use* map and described in the Future Land Use Element.

Land use, as it relates to the discharge of stormwater and to the use of natural drainage, is regulated through the South Florida Water Management District and Miami-Dade County. The Florida Building Code regulates construction as it relates to flood zones.

Air

Air quality in the Town is generally considered good by the Florida Department of Environmental Protection (FDEP) other than for ozone. The *FDEP 2012 AIR MONITORING REPORT* states that “The national ambient air quality standards (NAAQS) are met throughout Florida, (with the exception of a small area in Tampa where the lead standard is violated). Florida counties are in attainment for all pollutants with the exception of Orange County, Duval County, the Tampa Bay area including Hillsborough and Pinellas Counties, and Southeast Florida including Miami-Dade, Broward, and Palm Beach Counties which continue to be classified by the Environmental Protection Agency as attainment/maintenance areas for the pollutant ozone, and a portion of Hillsborough County which is classified as a nonattainment area for lead.”

The *FDEP 2016 Annual Air Monitoring Network Plan* reports that Florida has created a robust and comprehensive air monitoring network comprised of more than 220 monitors at 101 sites that are strategically positioned across the state to measure air quality, including in Miami-Dade County.

The Air Quality Index (AQI) was developed by the Environmental Protection Agency (EPA) to provide accurate and easily understandable information to the community about daily air pollution levels. The AQI provides EPA with a uniform system of measuring pollution levels for the major air pollutants regulated under the Clean Air Act (CAA). The Clean Air Act of 1970 defined six criteria pollutants and established ambient concentration limits to protect public health and welfare. The criteria pollutants are (1) ozone, (2) carbon monoxide, (3) nitrogen dioxide, (4) particulates, (5) sulfur dioxide and (6) lead. FDEP takes the lead in the state of Florida for monitoring and regulating the major pollutants under the Clear Air act. Miami Dade County offers its residents an Air Quality Notification Service that can be customized for each resident’s own needs. Air quality is a matter that must be addressed at a regional level requiring the local, County and regional entities to coordinate air quality maintenance and improvement efforts.

Water Resources

The predominant water resources that are present are the Atlantic Ocean and Biscayne Bay. Indian Creek is a channel that separates the Town from the Islands of Indian Creek Village and Bay Harbor Islands,

and Point Lake, the dredged channel and water body that separate Biscaya Island from the remainder of the Town, is considered part of Biscayne Bay.

Biscayne Bay, a sub-tropical estuary, is located along the coast of Miami-Dade and northeastern Monroe Counties. It is a marine ecosystem comprised of about 428 square miles with a watershed area of about 938 square miles. The bay can be divided into three general areas, north, central and south Biscayne Bay. North Biscayne Bay extends from Dumfoundling Bay (approximately NE 192nd Street) south to the Rickenbacker Causeway. The Town of Surfside is located adjacent to the north portion of Biscayne Bay. This northern portion of the bay retains the most estuarine habitat found throughout the bay, but it is also the most altered by dredging and bulkheading. Although remaining shallow areas contain some productive seagrass beds, roughly 40 percent of this area is too deep or too turbid to support a productive estuarine ecosystem. The entirety of the Town's bayside shoreline, inclusive of Indian Creek and Point lake has been significantly altered through dredging and is bulkheaded.

Central Biscayne Bay, extending from the Rickenbacker Causeway south to Black Point, is more of a marine system that is heavily influenced by daily tidal flushing. Estuarine areas are limited to near shores areas close to major sources of freshwater inflow (canals). Seagrass meadows are extensive. A narrow band of mangrove-forested coastal wetlands begins at Matheson Hammock Park and extends southward along the shoreline.

Southern Biscayne Bay extends from Black Point to Jewfish Creek. This southern area is most profoundly affected by the reduction in historical freshwater flows and tends to become hypersaline during periods of low rainfall. The near shore freshwater wetlands have been significantly reduced and a transition to mangrove species is occurring. This southern area encompasses Biscayne National Park as well as Card and Barnes Sounds, which are both included in the Florida Keys National Marine Sanctuary.

The Bay supports a wide variety of plants and animals, some of which are important for fisheries. Many rare, threatened and endangered species inhabit this estuarine ecosystem including manatees and crocodiles. Historically, it's clear water supported a diversity of productive communities of seagrass, corals and sponges, and prior to settlement, mangroves and coastal wetlands rimmed the bay. Oyster bars and estuarine species like red and black drum were common. However, intensive development of the watershed has altered the natural cycle of freshwater inflows into the bay. Northern and central Biscayne Bay are strongly affected by the urban development associated with the growth of Miami-Dade County. Southern Biscayne Bay is influenced by drainage from the Everglades, which has been altered by canals and agricultural activities. Overall, Biscayne Bay shows increasing signs of distress; declines in fisheries, increased pollution and dramatic changes in near shore vegetation. Today, the bay is a pulsed system that alternates between marine conditions and extreme low salinities near the discharges of 19 major canals.

Biscayne Bay is now designated as an Outstanding Florida Water and an Aquatic Preserve under Florida statutes. The Biscayne Bay Aquatic Preserve was established by the Florida Legislature in 1974 and covers approximately 69,000 acres of state submerged land. The Aquatic Preserve consists of two separate areas of the bay, the northern part and the southern portion which is separated by Biscayne National Park, a submerged lands park encompassing the central portion of the bay. A variety of organizations have monitoring and research underway in Biscayne Bay and its watershed. The western edge of the Town abuts the northern portion of the Biscayne Bay Aquatic Preserve.

The Bay area off of the Town is also recognized as an Impaired Waterbody (WBID 3226H). The parameters for the impaired waterbody is Mercury in fish tissue.

Land Cover

Map FLU 6 Aerial, best exemplifies the land coverage within the Town. The land coverage can be categorized as Developed and Beach. Other than the beach and beach dune system, the Town is built out.

There are no native preserves or remaining native habitats or wetlands within the Town. The beach and dune system, although created through a beach renourishment program, is owned by the State and maintained in a natural condition.

Natural Habitats

There is 38.2 acres of state owned beach (approximately 1 mile in length) seaward of the erosion control line, which runs approximately along the crest of the dune. This beach is maintained under an agreement with the State by the Miami-Dade Park, Recreation and Open Spaces Department. The seaward face of the dune is vegetated. The beach is recognized as nesting habitat for the federally listed loggerhead, green, hawksbill, and leatherback sea turtles. Sea turtles typically nest at night from March through November, with incubation lasting approximately 55 days. Threats to sea turtle nests are both man-made and naturally occurring. Detrimental activities include: physical disturbance of dune systems by development; the placement of physical obstructions on the beach entrapping adults and hatchlings; high raccoon predator populations; nest disturbance by stray or unleashed pets; or the disorientation of hatchlings from direct lighting of the beaches at night. Natural occurring coastal erosion which can cause cliffing and, although not frequent, hurricanes causing serious beach erosion or accretion are also detrimental to nesting success.

Along beachfront private properties, the Town has an established ocean bulkhead line. The zoning code prohibits development or any redevelopment seaward of this ocean bulkhead line. Seaward of the ocean bulkhead line there is approximately 19 acres that are undeveloped that lie adjacent to the State owned beach. Within this undeveloped ocean bulkhead setback area along the landward side of the dune, there is an unimproved maintenance path that is utilized by the State, the County and the Town that runs the entire length of the Town. This maintenance path is a popular public walking and biking path. The landward side of the dune in this area is more sparsely vegetated than the seaward side, and the property owners have landscaped the area nearest the bulkhead on many of the properties.

To limit impacts to the dune and dune vegetation, access to the beach is limited to seventeen (17) dune cross-over locations. Eight of these cross-overs correspond to the termination of the platted public right of ways that terminate at the State beach area and one is in front of the Town's Community Center site providing direct public access to the beach. Although the remaining cross-overs are located in front of private properties, the established maintenance path provides open public access to these cross-overs also.

Appendix 6-A. *List of Federal State and County Endangered, Threatened, Rare, and Special Concern Fauna in Miami Dade County* as presented in the Conservation, Aquifer Recharge and Drainage Element of the Miami-Dade Comprehensive Development Master Plan including amendments adopted up through November 18, 2015. Although most of these species may not occur within the Town, the table proves useful to understand the listed species that may be within the proximity of the Town. Due to the highly urbanized nature of the Town the listed species that may occur are limited to those that utilize the bay or coastal waters, or beach habitat.

Appendix 6-B. *List of Federal, State and County Endangered, Threatened, Rare, and Special Concern Flora in Miami-Dade County* as presented in the Conservation, Aquifer Recharge and Drainage Element of the Miami-Dade Comprehensive Development Master Plan including amendments adopted up through November 18, 2015. Although most of these species may not occur within the Town, the table proves useful to understand the listed species that may be within the proximity of the Town.

Appendix 6-C. *Invasive Pest Plant Species* identifies the plants listed on the Florida Exotic Pest Plant Council's 2017 List of Invasive Plant Species. Due to the highly urbanized nature of the Town occurrence of these pest plant species will be limited, but may still occur and create problems on the beach and within landscaped areas if not maintained.

Conservation Opportunities

Conservation opportunities are enhanced through the public ownership of land. There is approximately 38 acres of state owned beach seaward of the erosion control line. The beach is maintained under an agreement with the State by the Miami-Dade Park, Recreation and Open Space Department. The beach is maintained in a natural state. The Town has been built out since the 1980's; there are no preserves, wetlands or natural habitats within the Town other than the beach habitat. The Park and Recreation Element inventories and identified the parks located in the Town.

Potable Water

The Town of Surfside purchases their potable water supply directly from the Miami-Dade County Water and Sewer Department (WASD). Under this arrangement, the Town of Surfside coordinates with Miami-Dade County to ensure that adequate capacity is available for existing and future customers. The Biscayne Aquifer, an underground geologic formation, is the source of raw water for WASD. See the Infrastructure Element for more details on water supply.

The Town is served by the WASD Hialeah-Preston subarea, which lies generally north of Flagler Street. The Hialeah and the John E. Preston water treatment plants (WTPs) serving this subarea are located at 200 W. 2nd Avenue and 1100 W. 2nd Avenue, respectively. These adjacent facilities located in Hialeah share interconnected source water and finished water storage capacity and have similar treatment processes. There are no public wellfields or wellfield protection zones located in the Town of Surfside.

On a regional level the Town falls within the South Florida Water Management District (SFWMD) and within the SFWMD's Lower East Coast (LEC) Planning Area. The *Lower East Coast Water Supply Plan Update 2013*, is one of four, long-term comprehensive regional water supply plan updates the District has developed for its planning areas.

As the state agency responsible for water supply in the region, including the Lower East Coast planning area, the SFWMD plays a vital role in resource protection. As a component of the District's Consumptive Use Permitting Program, the Regional Water Availability Rule mandates the development of alternative water supplies, and increasing conservation and reuse to reduce the reliance on the regional system for future water supply needs. The Town of Surfside is working with WASD's Water Use Efficiency Section to identify the water conservation best management practices (BMPs) applicable to the Town to develop the Town's Water Conservation Plan as required by Miami-Dade County Ordinance 06-177.

Ground Water

The principal ground water resources for the LEC Planning Area are the Surficial Aquifer System (SAS), including the Biscayne aquifer, and the Floridian Aquifer System (FAS). The Surficial and Biscayne aquifers provide most of the fresh water for public water supply and agriculture within the LEC Planning Area. The 2005-2006 LEC Plan Update identifies the following:

Although the Biscayne Aquifer is part of the Surficial Aquifer System (SAS), it exists only along the coastal areas in Miami-Dade, Broward and southern Palm Beach counties. The Biscayne Aquifer is highly productive with high-quality fresh water. The extension of the SAS through central and northern Palm Beach County is less productive, but is still used for consumptive uses, including potable water. These aquifers are shallow, generally located within 200 feet of ground surface, and are connected to surface water systems, including canals, lakes and wetlands.

The Biscayne Aquifer and the extension of the SAS into northern Palm Beach County provide more than 1 billion gallons per day of high-quality, inexpensive fresh water for the populations of Palm Beach, Broward and Miami-Dade counties and the Florida Keys portion of Monroe County. This volume is heavily supported, especially during the annual dry season, as well as in periodic droughts, by water from the regional system, primarily the Everglades. During droughts, water from Lake Okeechobee has been required to supplement water from the Everglades to meet the needs of the coastal counties.

The Biscayne Aquifer is designated as a sole source aquifer by the U.S. Environmental Protection Agency (USEPA) under the *Safe Drinking Water Act* because it is a principal source of drinking water and is highly susceptible to contamination due to its high permeability and proximity to land surface in many locations. Protection of the Biscayne Aquifer is provided for through the District's *Basis of Review for Water Use Permit Applications* (SFWMD 2003) and in Chapter 373, Florida Statutes (F.S.), which limit the water availability for consumptive uses.

The Floridan Aquifer System (FAS) exists not just in the LEC Planning Area, but throughout the entire state and portions of adjacent states. The Upper Floridan Aquifer in southeast Florida contains brackish water and is increasingly being tapped as a source of raw water for treatment with reverse osmosis (RO) to create potable water. Brackish water from the Floridan Aquifer is also blended with fresh water prior to conventional water treatment to expand water supplies during the dry season. Additionally, the Floridan Aquifer is used for seasonal storage of treated fresh water within aquifer storage and recovery (ASR) systems. The Floridan Aquifer has been more extensively developed in the Upper East Coast (UEC) and Lower West Coast (LWC) planning areas of the South Florida Water Management District (SFWMD or District) than in the LEC Planning Area.

From Jupiter to southern Miami, water from the FAS is highly mineralized and not suitable for drinking water without specialized treatment. More than 600 feet of low permeability sediments confine this aquifer and create artesian conditions in the LEC Planning Area. Although the potentiometric surface of the aquifer is above land surface, the low permeability units of the intermediate confining unit prevent significant upward migration of saline waters into the shallower freshwater aquifers.

The top of the Upper Floridan Aquifer is approximately 900 feet in southeast Florida, and the base of the Upper Floridan extends as deep as 1,500 feet. At the base of the Lower Floridan Aquifer, there are cavernous zones with extremely high transmissivities collectively known as the boulder zone. Because of their depth and high salinity, these deeper zones of the Lower Floridan Aquifer are used primarily for disposal of treated wastewater.

Surface Water

Surface waters tend to contain silts and suspended sediments, algae, dissolved organic matter from topsoil, and chemical and microbiological contaminants from municipal wastewater discharges, stormwater runoff, and industrial and agricultural activities. Traditionally, surface water has not been used extensively for public supply in the LEC planning area.

Storm water throughout the developed areas of the SFWMD is often captured in constructed stormwater drainage and retention/detention systems. Water from these systems can be directly used to meet many

non-potable water needs, such as golf course irrigation and other irrigation water needs. Stormwater, because of its diffuse and intermittent nature, is generally not considered a viable option for direct public-supply applications where reliability is a major consideration.

Pollutants

Waste generators, solid waste facilities, above and underground storage tanks, and dry cleaning facilities are licensed by the Florida Department of Environmental Protection (FDEP). Current information on these facilities is available through the Florida Department of Environmental Protection Division of Waste Management. Information on contaminated sites is also available through the U.S. Environmental Protection Agency (EPA) Resource Conservation Recovery Act (RCRA), Superfund, National Priorities List and the brownfield databases.

Within Miami-Dade County the Division of Environmental Resource Management (DERM) Pollution Remediation Section is currently contracted with the Florida Department of Environmental Protection (FDEP) to inspect all petroleum storage facilities in the County and oversee the cleanup of petroleum contamination in accordance with Chapters 62-761 and 62-770, Florida Administrative Code (F.A.C.), the stationary tank rule and the petroleum contamination cleanup criteria rule, respectively. The primary responsibility of DERM is to provide the technical oversight, management, and administrative activities necessary to prioritize, assess, and clean up sites contaminated by discharges of petroleum and petroleum products from stationary petroleum storage systems.

A database search identifies that at this time there are no sites in the Town listed on the U.S. Environmental Protection Agency's (EPA) Federal Superfund list or the National Priorities List (NPL). There are no designated or candidate brownfields in the Town. Within the Town several sites are recognized by FDEP as having or had contamination issues..

The Town's Sanitary Department has three garbage trucks which collect trash and garbage on a weekly basis and haul it to Miami-Dade County's Resource Recovery Plant west of Miami International Airport and other Miami-Dade County landfills. The Town can provide public information regarding the safe disposal of household chemicals for its residents. Specifically, information can be made available on the free disposal of household hazardous wastes, information on disposal contractors available to small businesses and the special waste programs available for landfill disposal of non-typical materials, such as spill clean-ups and contaminated soils. Additionally the Town may consider contracting with a licensed hazardous waste hauler to execute a *Household Hazardous Waste Mobil Collection Event*. The Contractor would receive, catalog, inventory and prepare the manifest of disposal for the household products that are dropped off, as well as place them in appropriate containers and haul them away. Setting-up a system where the residents just drive up and 'pop the trunk' and let the contractor deal with the products from that point is an effective means to reduce the potential of contaminants being disposed of in inappropriate or detrimental ways. The Town could do this in conjunction with distributing informational handouts or gathering survey data from the event participants. Running it near Earth Day or in conjunction with spring cleaning drives has proven to increase participation. It is optimal to hold such an event in a paved area, and not near a school or park or an environmentally sensitive area to avoid the perception of putting environmentally sensitive sites at risk.

Greenhouse Gas Reduction Strategies

Climate change is largely attributed to the buildup of carbon dioxide and other greenhouse gas (GHG) concentrations in the atmosphere. In the *Policy Guide on Planning and Climate Change*, updated in 2011, the APA provides guidance for local governments toward the reduction of GHG emissions and on energy efficient land use decisions. The APA document indicates that effective actions to address GHG

emissions should include a mix of education, incentives, subsidies, and regulation. Among others, the APA has suggested the following strategies for local governments to facilitate a reduction in GHG emissions: providing shopping, recreational and employment opportunities near residential areas, energy efficient buildings, convenient intermodal transportation systems, and the reduction of heat island effects through green spaces.

As currently developed, the Town of Surfside is a compact, walkable community that provides recreational, shopping, and employment opportunities completely within the municipality. The Future Land Use Element provides that the Town support green building standards through the Design Guidelines, consider all new residential development utilize green building standards and that all new municipal buildings will be build with nationally recognized green building standards.

Surfside already has convenient access to Miami-Dade Transit bus routes. The Future Land Use Element and Transportation Elements propose developing a Pedestrial and Bicycle Network Study to enhance links to parks, the business district and other Town amenities. The Town will also continue to support transit ready development and coordinate with Miami-Dade County on transit. To further reduce greenhouse gas production through transportation, the Town will continue to allow home based businesses and continue curbside recycling programs.

In addition, the Town has open space and landscape requirements to diminish heat island effects. The Comprehensive Plan also includes policies to educate the public on the placement of canopy trees and other landscape materials to strategically provide shade, and educating the public on home energy reduction strategies and automobile idling.

Other policies that support energy efficiency include allowing for electric charging stations and use of solar panels.

Conservation Element Goals, Objectives and Policies

Goal 1: Regulate the development and use of land in such a manner as to maintain and enhance environmental quality.

Objective 1 – Air quality and Greenhouse Gas Reduction: In general, protect air quality. In particular, promote improved air quality for the region.

Policy 1.1 – Support Miami-Dade County's efforts to conduct regular monitoring of air quality.

Policy 1.2 – Educate residents and business owners on the cost and environmental effects of automobile idling.

Policy 1.3 – Facilitate more efficient transportation services and facilities (including public transit facilities, bicycle facilities and pedestrian facilities) by pursuing the objectives and policies set forth in the Transportation Element.

Policy 1.4 – Enforce all adopted measures to contain and stabilize exposed or destabilized soil surfaces at construction sites to prevent erosion and the degradation of ambient air quality caused by the generation of dust particles.

Policy 1.5 – Require oxygen nourishing landscaping as a part of new private development.

Policy 1.6 – Provide oxygen nourishing landscaping for public grounds.

Policy 1.7 – Maintain, and improve where appropriate, zoning or other development code regulations which protect existing trees in a way consistent with the standards of the broader community.

Policy 1.8– The zoning code shall allow for use of alternate, renewable sources of energy including the use of solar panels.

Policy 1.9 – In accordance with Section 255.2575, F.S. the Town will construct all future municipal buildings to meet the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) rating system, the Green Building Initiative's Green Globes rating system, the Florida Green Building Coalition standards, or a nationally recognized, high-performance green building rating system as approved by the Florida Department of Management Services.

Policy 1.10 – The Town shall maintain and improve adopted Design Guideline provisions which encourage the use of the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) rating system, the Green Building Initiative's Green Globes rating system, the Florida Green Building Coalition standards, or a nationally recognized, high-performance green building rating system for both residential and commercial properties. Within two (2) year of adoption of this element, the Town shall explore incentives for use of green building standards in new development and redevelopment.

Policy 1.11 – Within two (2) years of the adoption of this element the Town shall consider the feasibility of requiring all new single family and multi-family structures to meet the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) rating system, the Green Building Initiative’s Green Globes rating system, the Florida Green Building Coalition standards, or a nationally recognized, high-performance green building rating system as approved by the Florida Department of Management Services.

Objective 2 – Water quality: Conserve, appropriately use, and protect the quality and quantity of current and projected water sources and waters that flow into estuarine waters or oceanic waters.

Policy 2.1 – For site plan approval, the Town shall require that surface water management systems be designed and operated consistent with the Town’s adopted drainage level of service.

Policy 2.2 – The Town shall coordinate and cooperate with all applicable local, regional, state and federal agencies relating to the protection and enhancement of the Biscayne Bay Aquatic Preserve.

Policy 2.3 – The Town shall coordinate and cooperate with all applicable local, regional, state and federal agencies relating to the protection of Atlantic Ocean coastal waters, particularly relating to beach renourishment projects.

Policy 2.4 – The Town shall cooperate and coordinate with the applicable agencies to assure that solid and hazardous wastes generated within the Town are properly managed to protect the environment and near shore waters. The Town shall report any hazardous waste violation they may become aware of to the appropriate jurisdictional agency.

Policy 2.5 – The Town shall adhere to the National Pollution Discharge Elimination System-Municipal Separate Storm Sewer System (NPDES-MS4) Permit and shall implement the permit conditions including monitoring of outfalls and improving stormwater management practices.

Objective 3 – Water quantity: Conserve, appropriately use, and protect the quality and quantity of current and projected water sources.

Policy 3.1 – The Town shall maintain or improve an emergency water conservation ordinance based on both the South Florida Water Management District model ordinance and any specific South Florida Water Management District requirements of the emergency in question.

Policy 3.2 – The Town shall assess projected water needs and sources for the 20-year planning period by creating and maintaining a 20-Year Water Supply Facilities Work Plan. Future water supply planning shall emphasize the efficient use of water resources and where possible and financially feasible, utilize alternative water sources.

Policy 3.3 – The Town shall submit a Water Conservation Plan to the County’s Water and Sewer Department’s Water Use Efficiency Section, pursuant to the Miami-Dade County Code Section 32-83.1. The Plan shall be updated for the County’s approval every five years following submittal, and Conserve Florida Guide generated reports shall be filed annually at the close of the fiscal year.

Policy 3.4 – The Town shall participate in the development of the Regional Water Supply Plan in conjunction with the South Florida Water Management District.

Policy 3.5 – The Town shall conserve potable water resources and implement reuse programs and potable water conservation strategies and techniques consistent with the Miami Dade County 20-Year Water Supply Facilities Work Plan.

Policy 3.6 – The Town shall ensure coordination between land use and future water supply planning by implementation of the 15-Year Water Supply Facilities Work Plan.

Policy 3.7 – The Town shall work towards the further education of the public regarding various methods of water conservation at the household and small business level.

Policy 3.8 – The Town shall support water conservation goals through the support and enforcement of landscape and irrigation ordinances, inclusive of all applicable Miami-Dade Ordinances.

Objective 4 – Vegetative communities and soils, wildlife habitat and wildlife: Conserve, appropriately use and protect native vegetative communities for their own sake and to protect soils, wildlife habitat and wildlife.

Policy 4.1 – The Town shall encourage and educate the public in the planting and maintenance of trees.

Policy 4.2 – The Town shall require the owner/applicant to remove all Class I and II invasive exotic vegetation, as recognized by the Florida Exotic Pest Plant Council, from the subject site as a condition for new development or redevelopment.

Policy 4.3 – The Town shall maintain a survey of vegetation on property for which it has maintenance responsibility. The Town administration shall make recommendations for enhancing native vegetation.

Policy 4.4 – The Town shall evaluate the feasibility of incorporating recommendations derived from the implementation of Policy 4.3 above into the Capital Improvements Budget or the operating budget.

Policy 4.5 – The Town shall strictly enforce the adopted landscape standards which require the preservation of existing native species, the removal of invasive species and the promotion of native plant materials.

Policy 4.6 – The Town shall continue to coordinate and cooperate with the County, the State and the U.S. Fish and Wildlife Service on the protection of the beach dune system which is nesting habitat for marine turtles.

Objective 5 – Floodplain protection: Protect and conserve the natural functions of existing floodplains.

Policy 5.1 – The Town shall maintain and improve land development code provisions governing floodplain protection. *Floodplain protection regulations* shall be consistent with applicable standards promulgated by the South Florida Water Management District, the South Florida Regional Planning Council, the Miami-Dade County Department of Environmental Resource Management, the Florida Department of Environmental Protection, and/or other agencies with relevant jurisdiction and/or information. The Town shall revise as necessary and enforce flood hazard reduction regulations.

Policy 5.2 - The Town shall continue to participate in the National Flood Insurance Program's Community Rating System and require development be consistent with, or more stringent, than the flood-resistant construction requirements in the Florida Building Code and applicable floodplain management regulations set forth in 44C.F.R. part 60.

Policy 5.3 - The Town shall continue to identify site development techniques and best practices that may reduce losses due to flooding and claims made under flood insurance policies and implement these techniques and best practices through the Community Rating System to increase resiliency.

Objective 6 – Community Resiliency: Increase community resiliency by reducing heat island effect, increasing carbon sequestration, managing stormwater runoff and conserving freshwater.

Policy 6.1 - To reduce heat island effect and encourage carbon sequestration, the Town shall continue to maintain and enhance its tree canopy through such efforts as implementation and periodic updates of the zoning code and land development regulations, urban forestry grants, and other actions.

Policy 6.2 - By 2020, the Town shall explore and report on feasible options to increase the number of new street trees planted, and increase the tree canopy coverage by at least 20% between 2020 and 2025.

Policy 6.3 - The Town shall encourage and accommodate the use of Low Impact Development (LID) where feasible to preserve open space.

Policy 6.4 - The Town of Surfside shall evaluate stormwater management operations in the context of sea level rise to improve the ability of these systems to adapt.

Policy 6.5 - The Town shall encourage and accommodate the use of green roofs to contribute to reduced heat island effect and enhanced stormwater management.

Policy 6.6 - When source water is available, the Town shall support the use of reclaimed water for irrigation and other uses, with the goal of reducing demands on the Biscayne Aquifer.

Policy 6.7 - The Town of Surfside shall continue to participate in regional water conservation initiatives in coordination with the South Florida Water Management District, Miami-Dade County and other agencies.

Appendix 6-A. List of Federal State and County Endangered, Threatened, Rare, and Special Concern Fauna in Miami Dade County

Scientific Name	Name Common	State	Federal	County
FISH				
<i>Acipenser brevirostrum</i>	Shortnose sturgeon	FE	E	Y
<i>Acipenser oxyrinchus desotoi</i>	Gulf sturgeon	FT	T	Y
<i>Acipenser oxyrinchus oxyrinchus</i>	Atlantic sturgeon	FE	E	Y
<i>Etheostoma olmstedii maculaticeps</i>	Southern tessellated darter	SSC	NL	Y
<i>Fundulus jenkinsi</i>	Saltmarsh topminnow	SSC	N	Y
<i>Menidia conchorum</i>	Key silverside	ST	NL	Y
<i>Pristis pectinata</i>	Smalltooth sawfish	FE	E	Y
<i>Rivulus marmoratus</i>	Mangrove rivulus	SSC	NL	Y
AMPHIBIANS AND REPTILES				
<i>Alligator mississippiensis</i>	American alligator	FT(S/A)	T(S/A)	Y
<i>Caretta caretta</i>	Loggerhead sea turtle	FT	T	
<i>Chelonia mydas</i>	Green sea turtle	FE	E	
<i>Crocodylus acutus</i>	American crocodile	FT	E	Y
<i>Dermochelys coriacea</i>	Leatherback sea turtle	FE	E	
<i>Drymarchon corais couperi</i>	Eastern indigo snake	FT	T	Y
<i>Elaphe guttata guttata</i>	Red rat snake	NL	NL	Y
<i>Eretmochelys imbricata</i>	Hawksbill sea turtle	FE	E	
<i>Eumeces egregieus egregioeus</i>	Florida Keys mole skink	SSC	NL	Y
<i>Gopherus polyphemus</i>	Gopher tortoise	ST	C	Y
<i>Kinosternon baurii</i>	Striped mud turtle	ST	NL	Y
<i>Lepidochelys kempii</i>	Kemp's ridley sea turtle	FE	E	
<i>Malaclyemys terrapin</i>	Mangrove terrain turtle	NL	Y	
<i>Neoseps reynoldsi</i>	Sand skink	FT	T	
<i>Nerodia clarkii taeniata</i>	Atlantic salt marsh snake	FT	T	Y
<i>Pituophis melanoleucus mugitus</i>	Florida pine snake	SSC	NL	Y
<i>Pseudemys concinna suwanniensis</i>	Suwannee cooter	SSC	NL	Y
<i>Lithobates capito</i>	Gopher frog	SSC	NL	Y
<i>Sitlosima extenuatum</i>	Short-tailed snake	ST	NL	Y
<i>Tantilla oolitica</i>	Rim rock crowned snake	ST	NL	Y
<i>Thamnophis sauritus sackeri</i>	Florida ribbon snake	NL	NL	Y
BIRDS				
<i>Accipiter cooperii</i>	Cooper's hawk	NL	NL	Y
<i>Aimophila aestivalis</i>	Bachman's sparrow	NL	NL	Y
<i>Ammodramus maritimes pennisulae</i>	Scott's seaside sparrow	SSC	NL	Y
<i>Ammodramus maritimus mirabilis</i>	Cape sable seaside sparrow	FE	E	Y
<i>Aphelocoma coerulescens coerulescens</i>	Florida scrub jay	FT	T	
<i>Aramus guarauna</i>	Limpkin	SSC	NL	Y
<i>Ardea herodias</i>	Great blue heron	NL	NL	Y
<i>Athene cunicularia</i>	Florida burrowing owl	SSC	NL	Y
<i>Botaurus lentiginosus</i>	American bittern	NL	NL	Y
<i>Buteo brachyurus</i>	Short-tailed hawk	NL	NL	Y
<i>Calidris canutus rufa</i>	Red knot	NL	C	Y
<i>Campephilus principalis principalis</i>	Ivory-billed woodpecker	FE	E	Y
<i>Charadrius melodus</i>	Piping plover	FT	T	Y

Scientific Name	Name Common	State	Federal	County
<i>Charadrius alexandrinus</i>	Southeastern (Cuban) snowy plover	ST	NL	Y
<i>Chordeiles minor</i>	Antillean nighthawk	NL	NL	Y
<i>Circus cyaneus</i>	Northern harrier	NL	NL	Y
<i>Cistothorus palustris griseus</i>	Worthington's marsh wren	SSC	NL	Y
<i>Cistothorus palustris marianae</i>	Marian's marsh wren	SSC	NL	Y
<i>Coccyzus minor</i>	Mangrove cuckoo	NL	NL	Y
<i>Dendroica kirtlandii</i>	Kirtland's warbler	FE	E	
<i>Dendroica petechia gundlachi</i>	Cuban yellow throated warbler	NL	NL	Y
<i>Egretta caerulea</i>	Little blue heron	SSC	NL	Y
<i>Egretta rufescens</i>	Reddish egret	SSC	NL	Y
<i>Egretta thula</i>	Snowy egret	SSC	NL	Y
<i>Egretta tricolor</i>	Tricolored heron	SSC	NL	Y
<i>Elanoides forficatus</i>	Swallow-tailed kite	NL	NL	Y
<i>Elanus leucurus</i>	White-tailed kite	NL	NL	Y
<i>Eudocimus albus</i>	White ibis	SSC	NL	Y
<i>Falco columbarius</i>	Merlin	NL	NL	Y
<i>Falco peregrinus</i>	Peregrine falcon	NL	NL	Y
<i>Falco sparverius paulus</i>	Southeastern American kestrel	ST	NL	Y
<i>Frigata magnificens</i>	Magnificent frigate bird	NL	NL	Y
<i>Grus canadensis pratensis</i>	Florida sandhill crane	ST	NL	Y
<i>Grus americana</i>	Whooping crane	FE/XN	E/XN	
<i>Haematopus palliatus</i>	American oyster catcher	SSC	NL	Y
<i>Haliaeetus leucocephalus</i> *	Bald eagle	NL*	NL	Y
<i>Ixobrychus exilis</i>	Least bittern	NL	NL	Y
<i>Laterallus jamaicensis</i>	Black rail	NL	NL	Y
<i>Mycteria americana</i>	Wood stork	FE	E	Y
<i>Nyctanassa violacea</i>	Yellow-crowned night heron	NL	NL	Y
<i>Nycticorax nycticorax</i>	Black-crowned night heron	NL	NL	Y
<i>Pandion haliaetus</i>	Osprey	NL	NL	Y
<i>Passerina ciris</i>	Painted bunting	NL	NL	Y
<i>Patagioenas leucocephala</i>	White crowned pigeon	ST	NL	Y
<i>Pelecanus occidentalis</i>	Brown pelican	SSC	NL	
<i>Picoides borealis</i>	Red-cockaded woodpecker	FE	E	Y
<i>Picoides villosus</i>	Hairy woodpecker	NL	NL	Y
<i>Platalea ajaja</i>	Roseate spoonbill	SSC	NL	Y
<i>Polyborus plancus audubonii</i>	Audobon's crested caraca	FT	T	Y
<i>Pterodroma hasitata</i>	Black-capped petrel	NL	NL	Y
<i>Rallus longirostris insularum</i>	Mangrove clapper rail	NL	NL	Y
<i>Rostrhamus sociabilis plumbeus</i>	Everglade snail kite	FE	E	Y
<i>Rynchops niger</i>	Black skimmer	SSC	C	Y
<i>Setophaga discolor</i>	Prairie warbler	NL	NL	Y
<i>Sterna antillarum</i>	Least tern	ST	NL	Y
<i>Sterna dougallii dougallii</i>	Roseate tern	FT	T	Y
<i>Thalasseus sandvicensis</i>	Sandwich tern	NL	NL	Y
<i>Vermivora bachmanii</i>	Bachman's warbler	FE	E	Y
<i>Vireo altiloquus</i>	Black-whiskered vireo	NL	NL	Y

MAMMALS

Scientific Name	Name Common	State	Federal	County
<i>Balaenoptera borealis</i>	Sei whale	FE	E	
<i>Balaenoptera physalus</i>	Finback whale	FE	E	
<i>Eubalaena glacialis</i>	North Atlantic right whale	FE	E	
<i>Eumops glaucinus floridanus</i>	Florida mastiff bat	ST	C	Y
<i>Lutra canadensis</i>	River otter	NL	NL	Y
<i>Megaptera novaeangliae</i>	Humpback whale	FE	E	
<i>Monachus tropicalis</i>	Caribbean monk seal	NL	NL	Y
<i>Neotoma floridana smalli</i>	Key Largo woodrat	FE	E	Y
<i>Neovision vision evergladensis</i>	Everglades mink	ST	NL	Y
<i>Peromyscus gossypinus allapaticola</i>	Key Largo cotton mouse	FE	E	Y
<i>Peromyscus polionotus niveiventris</i>	Southeastern beach mouse	FT	T	Y
<i>Physeter catodon</i>	Sperm whale	FE	E	
<i>Plecotus rafinesquii</i>	Rafinesque's big eared bat	NL	NL	Y
<i>Podomys floridanus</i>	Florida mouse	SSC	NL	Y
<i>Puma (= Felis) concolor coryi</i>	Florida panther	FE	E	Y
<i>Sciurus niger avicennia</i>	Big Cypress fox squirrel	ST	NL	Y
<i>Sciurus niger shermani</i>	Sherman's fox squirrel	SSC	NL	Y
<i>Trichechus manatus latirostris</i>	Florida manatee	E	E	Y
<i>Ursus americanus floridanus</i>	Florida black bear	NL*	NL	Y

INVERTEBRATES/CRUSTACEANS

<i>Crangonyx gradimanus</i>	Florida cave amphipod	NL	NL	Y
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CORALS

<i>Acropora cervicornis</i>	Staghorn coral	FT	T	Y
<i>Acropora palmata</i>	Elkhorn coral	FT	T	Y
<i>Agaricia lamarcki</i>	Lamarck's sheet coral	NL	NL	Y
<i>Agaricia spp</i>	Lettuce corals	NL	NL	Y
<i>Colpophyllia natans</i>	Boulder brain coral	NL	NL	Y
<i>Dendrogyra cylindrus</i>	Pillar coral	ST	NL	Y
<i>Diploria cilvosa</i>	Knobby brain coral	NL	NL	Y
<i>Diploria labyrinthiformis</i>	Grooved brain coral	NL	NL	Y
<i>Dipolria strigosa</i>	Symmetrical brain coral	NL	NL	Y
<i>Eusmilia fastigiata</i>	Smooth flower coral	NL	NL	Y
<i>Meandrina meandrites</i>	Maze coral	NL	NL	Y
<i>Montastrea annularis</i>	Boulder star coral	NL	NL	Y
<i>Montastrea cavernosa</i>	Great star coral	NL	NL	Y
<i>Montastera faveolata</i>	Mountainous star coral	NL	NL	Y
<i>Montastrea franksi</i>	Star coral	NL	NL	Y
<i>Mussa angulosa</i>	Spiny flower coral	NL	NL	Y
<i>Mycetophyllia aliciae</i>	Knobby cactus coral	NL	NL	Y
<i>Mycetophyllia ferox</i>	Rough cactus coral	NL	NL	Y
<i>Mycetophyllia lamarckiana</i>	Lamarck's cactus coral	NL	NL	Y
<i>Siderastera siderea</i>	Elliptical star coral	NL	NL	Y

INSECTS

Scientific Name	Name Common	State	Federal	County
<i>Anaea troglodyta floridalis</i>	Florida leafwing butterfly	NL	C	Y
<i>Aphodius troglodytes</i>	Scarab beetle, a Gopher tortoise aphodius commensal	NL	NL	Y
<i>Atrytone agros argos</i>	Eastern beard-grass skipper	NL	NL	Y
<i>Ceraclea floridana</i>	Florida ceracleon long horn caddishfly	NL	NL	Y
<i>Cyclargus thomasi bethunebakeri</i>	Miami blue butterfly	FE	E	Y
<i>Cyclophala miamiensis</i>	Miami roundhead scarab beetle	NL	C	Y
<i>Eumaeus atala floridana</i>	Florida atala butterfly	NL	C	Y
<i>Heracles aristodemus ponceanus</i>	Schaus swallowtail butterfly	FE	E	Y
<i>Micronaspsis floridana</i>	Florida intertidal firefly	NL	Y	
<i>Mixogaster delongi</i>	Delong's mixogaster flower fly	NL	NL	Y
<i>Mycotrupes pedester</i>	Scrub island burrowing scarab beetle	NL	NL	Y
<i>Oxyethira florida</i>	Florida oxyethiran microcaddishfly	NL	NL	Y
<i>Photuris brunnipennis floridana</i>	Everglades brownwing firefly	NL	NL	Y
<i>Strymon acis bartrami</i>	Bartram's scrub-hairstreak butterfly	NL	C	Y

MOLLUSCS

<i>Liguus fasciatus</i>	Florida tree snail	SSC	NL	Y
<i>Orthalicus reses reses</i>	Stock Island tree snail	FT	T	Y
<i>Strombus gigas</i>	Queen conch	NL	C	Y

Key:

NL = Not Listed

1) Federal Listings:

E = Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species that is in danger of extinction throughout all or a significant portion of its range.

T(S/A) = Listed only because of similarity in appearance to the American crocodile.

FE/FX = Experimental population in Florida.

T = Listed as Threatened Species. Defined as any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

C = Candidate Species for addition to the List of Endangered and Threatened Wildlife and Plants. Includes taxa for which: the US Fish and Wildlife Service (USFWS) currently has substantial information on hand to support the biological appropriateness of proposing to list the species as endangered or threatened; or the USFWS currently possesses information indicating that proposing to list the species as endangered or threatened is possibly appropriate, but for which conclusive data on biological vulnerability and threat(s) are not currently available to support proposed rules at this time.

2) State Listings:

FE/FT= Listed as Federally-designated Endangered and Threatened Species. Defined as species of fish or wild animal life, subspecies or isolated populations of species or subspecies, whether vertebrate or invertebrate, that are native to Florida and are classified as Endangered and Threatened under the Fish and Wildlife Conservation Commission (Commission) rule by virtue of designation by the United States Departments of Interior or Commerce as endangered or threatened under the Federal Endangered Species Act, 16 U.S.C. §1531 et seq. and rules thereto; the definition of Federally-designated Endangered and Threatened Species does not include species that are not within the Commission's constitutional authority.

FT(S/A) = Listed only because of similarity in appearance to the American crocodile.

FE/FX = Experimental population in Florida

ST= Listed as State-designated Threatened Species by the Fish and Wildlife Conservation Commission (Commission). Defined as species of fish or wild animal life, subspecies, or isolated population of a species or subspecies, whether vertebrae or invertebrate, that are native to Florida and are classified as Threatened as determined by paragraph (a), (b), (c), (d), or (e) in accordance with Rule 68A-27.0012, F.A.C. The designation of a species as threatened shall include all subspecies unless stated otherwise in Commission rule.

SSC= Listed as a Species of Special Concern by the Fish and Wildlife Conservation Commission under an earlier listing process. Either the species is being evaluated for listing as a State-designated Threatened species or not enough data currently exist to make a listing determination.

C= A species of fish or wild animal life, subspecies, or isolated populations of species or subspecies, whether invertebrate or vertebrate, that the Fish and Wildlife Conservation Commission (Commission) has determined warrants listings as a State-designated Threatened Species in accordance with Rule 68A-27.0012, F.A.C., and is awaiting final Commission action to be added to the list of Florida Endangered and Threatened Species in Rule 68A-27.003, F.A.C.

* = The Fish and Wildlife Conservation Commission has delisted these species; however, the bald eagle continues to be under the protection of the state in accordance to rule 68A-16.002, F.A.C., and its Bald Eagle Management Plan, adopted on April 9, 2008, and the bear is protected under rule 68A-4.009, F.A.C., and the Florida Black Bear Management Plan, approved on June 27, 2012.

3) County Listings:

Y = Miami-Dade County endangered, threatened, rare or special concern fauna species as updated from previously adopted CDMP lists, due to low population numbers or limited/localized population; impacts resulting from habitat destruction or environmental contamination; or nesting destruction/disturbance/failures.

Table from the Conservation, Aquifer Recharge and Drainage Element of the Miami-Dade Comprehensive Development Master Plan including amendments adopted up through November 18, 2015

Appendix 6-B. List of Federal, State and County Endangered, Threatened, Rare, and Special Concern Flora in Miami-Dade County

Scientific Name	Common Name	State	Federal	County
<i>Acacia choriophylla</i>	Tamarindillo; cinnecord	E	NL	Y
<i>Acanthocereus tetragenus</i>	Triangle cactus	T	NL	Y
<i>Acoelorrhaphe wrightii</i>	Everglades palm	T	NL	Y
<i>Acrostichum aureum</i>	Golden leather fern	T	NL	Y
<i>Adiantum capillus-veneris</i>	Venus hair fern;			
	southern maidenhair fern	NL	NL	Y
<i>Adiantum melanoleucum</i>	Fragrant maidenhair fern	E	NL	Y
<i>Adiantum tenerum</i>	Brittle maidenhair fern	E	NL	Y
<i>Aeschynomene pratensis</i>	Meadow joint-vetch	E	NL	Y
<i>Agalinis filifolia</i>	Seminole false fox glove	NL	NL	Y
<i>Aletris bracteata</i>	White colic root	E	NL	Y
<i>Alvaradoa amorphoides</i>	Mexican alvaradoa	E	NL	Y
<i>Amorpha herbacea</i> var. <i>crenulata</i>	Crenulate (=Miami) leadplant	E	E	Y
<i>Amphitecna latifolia</i>	Black calabash	NL	NL	Y
<i>Anemia wrightii</i>	Wright's pineland fern	E	NL	Y
<i>Angadenia berteroi</i>	Pineland golden trumpet	T	NL	Y
<i>Argusia gnaphalodes</i>	Sea rosemary	E	NL	Y
<i>Argythamnia blodgettii</i>	Blodgett's silverbush	E	C	Y
<i>Aristolochia pentandra</i>	Marsh's dutchmans pipe	E	NL	Y
<i>Asplenium abscissum</i>	Cutleaf spleenwort	NL	NL	Y
<i>Asplenium dentatum</i>	Toothed spleenwort	E	NL	Y
<i>Asplenium serratum</i>	Wild bird nest fern	E	NL	Y
<i>Asplenium verecundum</i>	Modest spleenwort	E	NL	Y
<i>Asplenium x biscaynianum</i>	Biscayne spleenwort	NL	NL	Y
<i>Asteraea lobata</i>	Lobed croton; Florida treefern	NL	NL	Y
<i>Baccharis dioica</i>	Broombush falsewillow	E	NL	Y
<i>Basiphyllaea corallicola</i>	Carter's orchid	E	NL	Y
<i>Bletia patula</i>	Flor de Pismo	NL	NL	Y
<i>Bletia purpurea</i>	Pinepink orchid	T	NL	Y
<i>Bourreria cassinifolia</i>	Smooth strongback	E	NL	Y
<i>Bourreria succulenta</i>	Bahama strongback	E	NL	Y
<i>Brassia caudata</i>	Spider orchid	E	NL	Y
<i>Brickellia eupatorioides</i> var. <i>floridana</i>	Brickell-brush; Mosier's false boneset	E	C	Y
<i>Brickellia mosieri</i>				
<i>Byrsonima lucida</i>	Locustberry	T	NL	Y
<i>Caesalpinia major</i>	Yellow nickerbean	E	NL	Y
<i>Calopogon multiflorus</i>	Many-flowered grass pink	E	NL	Y
<i>Calyptanthus pallens</i>	Spicewood; pale lid flower	T	NL	Y
<i>Calyptanthus zuzygium</i>	Myrtle-of-the-river	E	NL	Y
<i>Campyloneurum angustifolium</i>	Narrow strap fern	E	NL	Y
<i>Campyloneurum costatum</i>	Tailed strap fern	E	NL	Y
<i>Campyloneurum latum</i>	Broad strap fern	E	NL	Y
<i>Canella winterana</i>	Pepper cinnamon bark	E	NL	Y
<i>Catopsis berteroniana</i>	Powdery strap airplant	E	NL	Y
<i>Catopsis floribunda</i>	Florida strap airplant	E	NL	Y
<i>Cayaponia americana</i>	American melonleaf	NL	NL	Y

Scientific Name	Common Name	State	Federal	County
<i>Ceropteris pteridoides</i>	Water horn fern	NL	NL	Y
<i>Celosia nitida</i>	West Indian cock's comb	E	NL	Y
<i>Chamaesyce deltoidea</i> ssp.adherens	Gould's wedge sandmat	E	NL	Y
<i>Chamaesyce deltoidea deltoidea</i>	Wedge sandmat; rockland spurge	E	E	Y
<i>Chamaesyce deltoidea garberi</i>	Garber's sandmat; Garber's spurge	E	T	Y
<i>Chamaesyce deltoidea pinetorum</i>	Pineland sandmat	E	C	Y
<i>Chamaesyce pergamena</i>	Southern Florida sandmat	T	NL	Y
<i>Chamaesyce porteriana</i>	Porter's sandmat	E	NL	Y
<i>Chaptalia albicans</i>	White sunbonnets	T	NL	Y
<i>Cheilanthes microphylla</i>	Southern lip fern	E	NL	Y
<i>Chrysophyllum oliviforme</i>	Satin leaf	T	NL	Y
<i>Cissampelos pareira</i>	Velvet leaf; pareira brava	E	NL	Y
<i>Clitoria mariana</i>	Butterfly pea; Atlantic pigeonwings	NL	T	Y
<i>Coccothrinax argentata</i>	Florida silver palm	T	NL	Y
<i>Colubrina cubensis</i> var. floridana	Cuban nakedwood	E	NL	Y
<i>Colubrina elliptica</i>	Soldierwood	E	NL	Y
<i>Conradina grandiflora</i>	Large flowered false rosemary	T	NL	Y
<i>Cordia globosa</i>	Curacao bush	E	NL	Y
<i>Cranichis muscosa</i>	Cypress knee helmet orchid; moss orchid	E	NL	Y
<i>Crossopetalum ilicifolium</i>	Christmas berry	T	NL	Y
<i>Crossopetalum rhacoma</i>	Rhacoma maidenberry	T	NL	Y
<i>Croton humilis</i>	Pepperbush	E	NL	Y
<i>Ctenitis sloanei</i>	Red-hair comb fern	E	NL	Y
<i>Ctenitis submarginalis</i>	Brown-hair comb fern	E	NL	Y
<i>Cupania glabra</i>	Florida toadwood	E	NL	Y
<i>Cuscuta amerciana</i>	American dodder	NL	NL	Y
<i>Cynanchum blodgettii</i>	Blodgett's swallowwort	T	NL	Y
<i>Cyperus pendunculatus</i>	Beach star	E	NL	Y
<i>Cyrtopodium punctatum</i>	Cow-horn orchid; cigar orchid	E	NL	Y
<i>Dalbergia brownei</i>	Browne's Indian rosewood	E	NL	Y
<i>Dalea carthagenensis</i> var. Floridana	Florida prairie clover	E	C	Y
<i>Dendrophylax lindenii</i>	Ghost orchid	E	NL	Y
<i>Desmodium floridanum</i>	Florida ticktrefoil	NL	NL	Y
<i>Desmodium strictum</i>	Pinebarren ticktrefoil	NL	NL	Y
<i>Digitaria filiformis</i> var. Dolichophylla	Caribbean crabgrass	T	NL	Y
<i>Digitaria pauciflora</i>	Two-spike crabgrass; Florida pineland crabgrass	E	C	Y
<i>Drypetes diversifolia</i>	White wood; milkbark	E	NL	Y
<i>Drypetes lateriflora</i>	Guiana plum	T	NL	Y
<i>Eleocharis albida</i>	White albida	NL	NL	Y
<i>Eleocharis rostellata</i>	Beaked spikerush	E	NL	Y
<i>Eltroplectris calcarata</i>	Long-clawed orchid; spurred neottia	E	NL	Y
<i>Encyclia tampensis</i>	Butterfly orchid	CE	NL	Y

Scientific Name	Common Name	State	Federal	County
<i>Epidendrum anceps</i>	Dingy-flowered star orchid; dingy-flowered epidendrum	E	NL	Y
<i>Epidendrum floridense</i>	Umbrella star orchid; umbrella epidendrum	E	NL	Y
<i>Epidendrum nocturnum</i>	Night scented epidendrum	E	NL	Y
<i>Epidendrum rigidum</i>	Stiff-flowered star orchid; rigid epidendrum	E	NL	Y
<i>Erithalis fruticosa</i>	Black torch	T	NL	Y
<i>Ernodea cokeri</i>	Coker's beach creeper; one nerved ernodea	E	NL	Y
<i>Eugenia confusa</i>	Redberry stopper; redberry Eugenia	E	NL	Y
<i>Eugenia rhombea</i>	Red stopper	E	NL	Y
<i>Eupatorium compositifolium</i>	Yankee weed	T	NL	Y
<i>Evolvulus convolvuloides</i>	Bindweed dwarf morning glory; dwarf bindweed	E	NL	Y
<i>Exostema caribaeum</i>	Caribbean princewood	E	NL	Y
<i>Galactia smallii</i>	Small's milkpea	E	E	Y
<i>Galeandra bicarinata</i>	Helmet orchid; two keeled hooded orchid	E	NL	Y
<i>Glandularia maritima</i>	Coastal mock vervain	E	NL	Y
<i>Gossypium hirsutum</i>	Upland cotton; wild cotton	E	NL	Y
<i>Govenia floridana</i>	Gowen's orchid; Florida govenia	E	NL	Y
<i>Guaiaacum sanctum</i>	Hollywood lignumvitae	E	NL	Y
<i>Guzmania monostachia</i>	Fuch's bromeliad; West Indian tufted airplant	E	NL	Y
<i>Gyminda latifolia</i>	West Indian false box	E	NL	Y
<i>Gymnopogon ambiguus</i>	Bearded skeleton grass	NL	NL	Y
<i>Gymnopogon brevifolius</i>	Shortleaf skeleton grass	NL	NL	Y
<i>Habenaria nivea</i>	Snowy orchid	T	NL	Y
<i>Halophila johnsonii</i>	Johnson's seagrass	T	T	Y
<i>Harrisia fragrans</i>	Caribbean apple cactus; Indian River prickly-apple; Simpson's applecactus	E	E	Y
<i>Harrisela porrecta</i>	Needleroot airplant	T	NL	Y
<i>Helenium flexuosum</i>	Purple sneeze weed	NL	NL	Y
<i>Hibiscus poeppigii</i>	Poeppig's rosemallow	E	NL	Y
<i>Hippomane mancinella</i>	Manchineel	E	NL	Y
<i>Hypelate trifoliata</i>	White ironwood	E	NL	Y
<i>Hypericum myrtifolium</i>	Myrtle leaf St. John's wort	NL	NL	Y
<i>Ilex krugiana</i>	Krug's holly	T	NL	Y
<i>Indigofera trita ssp.Scabra keyensis</i>	Florida Keys indigo	E	C	Y
<i>Ipomoea microdactyla</i>	Bejuco colorado; man-in-the-ground wild potato morning glory;	E	NL	Y
<i>Ipomoea tenuissima</i>	Rockland morning glory	E	NL	Y
<i>Isoetes flaccida</i>	Florida quillwort	NL	NL	Y
<i>Jacquemontia curtisii</i>	Pineland jacquemontia	T	NL	Y
<i>Jacquemontia havanensis</i>	Havana clustervine	E	NL	Y

Scientific Name	Common Name	State	Federal	County
<i>Jacquemontia pentanthos</i>	Skyblue clustervine	E	NL	Y
<i>Jacquemontia reclinata</i>	Beach clustervine; Beach jacquemontia	E	E	Y
<i>Jacquinia keyensis</i>	Joewood	T	NL	Y
<i>Koanophyllon villosum</i>	Florida shrub thoroughwood	E	NL	Y
<i>Lantana canescens</i>	Hammock shrub verbena	E	NL	Y
<i>Lantana depressa</i>	Rockland shrub verbena	E	NL	Y
<i>Lactuca floridana</i>	Woodland lettuce	NL	NL	Y
<i>Lechea divaricata</i>	Drysand pinweed; spreading pinweed	E	NL	Y
<i>Leptochloa fusca</i> var. <i>uninervia</i>	Mexican sprangletop	NL	NL	Y
<i>Leptochloa virgata</i>	Tropical sprangletop	NL	NL	Y
<i>Licaria triandra</i>	Pepper leaf sweetwood	E	NL	Y
<i>Linum arenicola</i>	Sand flax	E	C	Y
<i>Linum carteri</i>	Everglades flax	E	C	Y
<i>Linum carteri</i> var. <i>carterii</i>	Carter's Everglades flax	E	C	Y
<i>Linum carteri</i> var. <i>smallii</i>	Small's flax	E	NL	Y
<i>Linum floridanum</i>	Florida yellow flax	NL	NL	Y
<i>Lippia stoechadifolia</i>	Southern fogfruit; southern matchsticks	E	NL	Y
<i>Liparis nervosa</i>	Pantropical widelip orchid; tall twayblade	E	NL	Y
<i>Lomariopsis kunzeana</i>	Hollyvine fern; climbing holly fern	E	NL	Y
<i>Macradenia lutescens</i>	Long-gland orchid; Trinidad macradenia	E	NL	Y
<i>Manilkara jaimiqui</i> ssp. <i>emarginata</i>	Wild dilly	T	NL	Y
<i>Matelea floridana</i>	Florida milkvine; Florida spiny pod	E	NL	Y
<i>Maytenus phyllanthoides</i>	Florida mayten	T	NL	Y
<i>Melanthera parvifolia</i>	Small leaved cat-tongue	T	NL	Y
<i>Microgramma heterophylla</i>	Climbing vine fern	E	NL	Y
<i>Mosiera longpipes</i>	Mangrove berry	T	NL	Y
<i>Myrcianthes fragrans</i>	Simpson's stopper	T	NL	Y
<i>Nephrolepis biserrata</i>	Giant swordfern	T	NL	Y
<i>Nevrodium lanceolatum</i>	Ribbon fern	E	NL	Y
<i>Nymphaea mexicana</i>	Yellow waterlily	NL	NL	Y
<i>Ocimum campechianum</i>	Wild sweet basil; wild mosquito plant	E	NL	Y
<i>Odontosoria clavata</i>	Wedgelet fern	E	NL	Y
<i>Okenia hypogaea</i>	Burrowing four-o'clock; beach peanut	E	NL	Y
<i>Oncidium ensatum</i>	Florida dancing lady orchid; Florida oncidium	E	NL	Y
<i>Ophioglossum palmatum</i>	Hand fern	E	NL	Y
<i>Ophioglossum nudicaule</i>	Slender adders tongue	NL	NL	Y
<i>Opuntia corallicola</i>	Semaphore cactus pricklypear cactus	E	NL	Y
<i>Opuntia stricta</i>	Erect or shellmound pricklypear	T	NL	Y

Scientific Name	Common Name	State	Federal	County
<i>Osmunda cinnamomea</i>	Cinnamon fern	CE	NL	Y
<i>Osmunda regalis</i>	Royal fern	CE	NL	Y
<i>Paspalidium chapmanii</i>	Coral panicum; coral panicgrass	E	NL	Y
<i>Passiflora multiflora</i>	White-flower passionflower; Whiteflowered passionvine	E	NL	Y
<i>Passiflora pallens</i>	Pineland passionflower; pineland passionvine	E	NL	Y
<i>Passiflora sexflora</i>	Goats foot	E	NL	Y
<i>Pavonia paludicola</i>	Swampbush	E	NL	Y
<i>Pecluma dispersa</i>	Widespread polypody	E	NL	Y
<i>Pecluma plumula</i>	Plume polypody	E	NL	Y
<i>Pecluma ptilodon</i> var. <i>bourgeanuana</i>	Comb polypody; swamp plume polypody; plumed rockcap fern; palmleaf rockcap fern	E	NL	Y
<i>Pelexia adnata</i>	Hachuela pelexia	E	NL	Y
<i>Peperomia amplexicaulis</i>	Jackie's saddle; clasping peperomia	E	NL	Y
<i>Peperomia humilis</i>	Low peperomia	E	NL	Y
<i>Peperomia magnoliifolia</i>	Spoonleaf or spatulate peperomia	E	NL	Y
<i>Peperomia obtusifolia</i>	Florida peperomia; baby rubberplant	E	NL	Y
<i>Phoradendron rubrum</i>	Mahogany mistletoe	E	NL	Y
<i>Physalis cordata</i>	Heartleaf ground cherry	NL	NL	Y
<i>Picramnia pentandra</i>	Florida bitterbush	E	NL	Y
<i>Pithecellobium keyense</i>	Florida Keys blackbead	T	NL	Y
<i>Poinsettia pinetorum</i>	Pineland spurge; Everglades poinsettia	E	NL	Y
<i>Polygala polygama</i>	Racemed milkwort	NL	NL	Y
<i>Polygala smallii</i>	Small's milkwort; tiny polygala	E	E	Y
<i>Polygonella gracilis</i>	Tall jointweed	NL	NL	Y
<i>Polygonum setaceum</i>	Bog smartweed	NL	NL	Y
<i>Polystachya concreta</i>	Greater yellow spike orchid	E	NL	Y
<i>Ponthieva brittoniae</i>	Britton's shadowwitch	E	NL	Y
<i>Prescotia oligantha</i>	Small prescott orchid; small flowered orchid	E	NL	Y
<i>Prosthechea boothiana</i> var. <i>Erythronoides</i>	Dollar orchid	E	NL	Y
<i>Prosthechea cochleata</i>	Clamshell orchid; Florida cockleshell orchid	E	NL	Y
<i>Prunus myrtifolia</i>	West Indian cherry	T	NL	Y
<i>Pseudophoenix sargentii</i> Seargants	cherry palm; buccaneer palm	E	NL	Y
<i>Psidium longipes</i>	Mangrove berry	T	NL	Y
<i>Psychotria ligustrifolia</i>	Bahama wild coffee; smooth wild coffee	E	NL	Y
<i>Pteris bahamensis</i>	Bahama ladder brake	T	NL	Y
<i>Pteroglossaspis encristata</i> <i>ecristata</i>	Giant orchid	T	NL	Y
<i>Remirea maritima</i>	Beach star	E	NL	Y

Scientific Name	Common Name	State	Federal	County
<i>Reynosia septentrionalis</i>	Darling plum	T	NL	Y
<i>Rhipsalis baccifera</i>	Mistletoe cactus	E	NL	Y
<i>Rhynchosia parvifolia</i>	Small leaf snoutbean	T	NL	Y
<i>Rhynchosia swartzii</i>	Swartz's snoutbean	E	NL	Y
<i>Rhynchospora pusilla</i>	Fairy beaksedge	NL	NL	Y
<i>Nasturtium floridanum</i>	Florida watercress	NL	NL	Y
<i>Roystonea regia</i>	Florida royal palm	E	NL	Y
<i>Sachsia polycephala</i>	Bahama sachsia	T	NL	Y
<i>Sacoila lanceolata</i>	Leafless beaked ladiestresses	T	NL	Y
<i>Sacoila lanceolata</i> var. <i>paludicola</i>	Leafy beaked ladiestresses	T	NL	Y
<i>Salvia misella</i>	Southern river sage; river sage	NL	NL	Y
<i>Scaevola plumieri</i>	Beachberry; inkberry; gullfeed	T	NL	Y
<i>Schaefferia frutescens</i>	Florida boxwood	E	NL	Y
<i>Schizaea pennulata</i>	Ray fern	E	NL	Y
<i>Scleria ciliata</i> var. <i>curtissii</i>	Fringed nutrush	NL	NL	Y
<i>Scleria lithosperma</i>	Florida Keys nutrush	E	NL	Y
<i>Scutellaria havanensis</i>	Havana scullcap	E	NL	Y
<i>Selaginella armata</i> var. <i>eatonii</i>	Eaton's spike-moss; pygmy spike-moss	E	NL	Y
<i>Senna mexicana</i> var. <i>chapmanii</i>	Chapman's sensitive plant	T	NL	Y
<i>Sericarpus tortifolius</i>	White top aster	NL	NL	Y
<i>Smilax havanensis</i>	Everglades greenbrier	T	NL	Y
<i>Sideroxylon reclinatum</i> ssp. <i>Austrofloridense</i>	Everglades bully	NL	C	Y
<i>Solanum donianum</i>	Mullein nightshade	T	NL	Y
<i>Solanum chenopodioides</i>	Black nightshade	NL	NL	Y
<i>Spermacoce terminalis</i>	False buttonwood	T	NL	Y
<i>Spiranthes brevilabris</i>	Texas or small ladiestresses	E	NL	Y
<i>Spiranthes costaricensis</i>	Costa Rican ladiestresses	E	NL	Y
<i>Spiranthes elata</i> Tall neottia;	tall ladiestresses	E	NL	Y
<i>Spiranthes laciniata</i>	Lace lip ladiestresses	T	NL	Y
<i>Spiranthes longilabris</i>	Long lip ladiestresses	T	NL	Y
<i>Spiranthes lucayana</i>	Gray ladiestresses	E	NL	Y
<i>Spiranthes torta</i>	Southern ladiestresses	E	NL	Y
<i>Sporobolus compositus</i> var. <i>Clandestinus</i>	Hidden dropseed	NL	NL	Y
<i>Stylosanthes calcicola</i>	Everglades Key pencilflower	E	NL	Y
<i>Swietenia mahagoni</i>	Mahogany	T	NL	Y
<i>Tectaria coriandrifolia</i>	Hairy halberd fern; Hattie Bauer halberd fern	NL	NL	Y
<i>Tectaria fibriata</i>	Least halberd fern	E	NL	Y
<i>Tectaria heracleifolia</i>	Broad halberd fern	T	NL	Y
<i>Tephrosia angustissima</i>	Narrowleaf hoarypea	E	NL	Y
<i>Tephrosia angustissima</i> var. <i>Corallicola</i>	Coral hoarypea	E	NL	Y
<i>Tephrosia spicata</i>	Spiked hoarypea	NL	NL	Y
<i>Tetrazygia bicolor</i>	Florida clover ash	T	NL	Y
<i>Thelypteris augescens</i>	Abrupt tipped maiden fern	T	NL	Y
<i>Thelypteris hispidula</i> var. <i>versicolor</i>	Hairy maiden fern	NL	NL	Y
<i>Thelypteris patens</i>	Grid-scale maiden fern	E	NL	Y

Scientific Name	Common Name	State	Federal	County
<i>Thelypteris reptans</i>	Creeping star-hair fern	E	NL	Y
<i>Thelypteris reticulata</i>	Lattice vein fern	E	NL	Y
<i>Thelypteris sclerophylla</i>	Stiff star-hair fern	E	NL	Y
<i>Thelypteris serrata</i>	Toothed lattice-vein fern	E	NL	Y
<i>Thrinax morissii</i>	Brittle thatch palm;			
	Silver thatch palm	E	NL	Y
<i>Thrinax radiata</i>	Florida thatch palm	E	NL	Y
<i>Tillandsia balbisiana</i>	Northern needleleaf	T	NL	Y
<i>Tillandsia fasciculata</i>	Cardinal airplant;			
	common wildpine	E	NL	Y
<i>Tillandsia fasciculata</i> var. <i>clavispicata</i>	Clubspike cardinal airplant	E	NL	Y
<i>Tillandsia fasciculata</i> var. <i>densispica</i>	Mez stiff-leaved wild pine	E	NL	Y
<i>Tillandsia flexuosa</i>	Twisted air plant	T	NL	Y
<i>Tillandsia utriculata</i>	Giant airplant; giant wild pine	E	NL	Y
<i>Tillandsia variabilis</i>	Leatherleaf airplant	T	NL	Y
<i>Tournefortia hirsutissima</i>	Chiggery grapes	E	NL	Y
<i>Tragia saxicola</i>	Rockland noseburn	T	NL	Y
<i>Trema lamarckiana</i>	West Indian trema;			
	Lamarck's trema	E	NL	Y
<i>Trichomanes krausii</i>	Kraus' bristle fern	E	NL	Y
<i>Trichomanes lineolatum</i>	Lined bristle fern	E	NL	Y
<i>Trichomanes punctatum</i> ssp. <i>Floridanum</i>	Florida bristle fern	E	C	Y
<i>Tricocentrum undulata</i>	Mule-eared oncidium;			
	Cape Sable			
	dancing lady orchid	E	NL	Y
<i>Tridens flavus</i>	Tall redtop; purple tridens	NL	NL	Y
<i>Triplasis americana</i>	Perennial sandgrass	NL	NL	Y
<i>Tripsacum floridanum</i>	Florida gamagrass	T	NL	Y
<i>Tropidia polystachya</i>	Young palm orchid	E	NL	Y
<i>Utricularia juncea</i>	Southern bladderwort	NL	NL	Y
<i>Vallesia antillana</i>	Tearshrub	E	NL	Y
<i>Vanilla barbellata</i>	Worm-vine orchid	E	NL	Y
<i>Vanilla dilloniana</i>	Leafless vanilla;			
	Dillon's vanilla	E	NL	Y
<i>Vanilla mexicana</i>	Mexican vanilla; unscented			
	vanilla; Fuch's vanilla	E	NL	Y
<i>Voyria parasitica</i>	Parasitic ghostplant	E	NL	Y
<i>Warea carteri</i>	Carter's pinelandcress;			
	Carter's mustard	E	E	Y
<i>Zamia pumila</i>	Florida arrowroot; coontie	CE	NL	Y
<i>Zanthoxylum coriaceum</i>	Biscayne pricklyash;			
	leathery pricklyash	E	NL	Y
<i>Zaphranthes atamasca</i>	Atamasco lily	T	NL	Y
<i>Zornia bracteata</i>	Viperina	NL	NL	Y

Key:
NL = Not Listed

1) Federal Listings:

E = Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species which is in danger of extinction throughout all or a significant portion of its range.

T = Listed as Threatened Species. Defined as any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

C = Candidate Species for addition to the List of Endangered and Threatened Wildlife and Plants. Includes taxa for which: the US Fish and Wildlife Service (USFWS) currently has substantial information on hand to support the biological appropriateness of proposing to list the species as endangered or threatened; or the USFWS currently possesses information indicating that proposing to list the species as endangered or threatened is possibly appropriate, but for which conclusive data on biological vulnerability and threat(s) are not currently available to support proposed rules at this time.

2) State Listings:

E = Listed as Endangered Plants in the Preservation of Native Flora of Florida Act. Defined as species of plants native to the State that are in imminent danger of extinction within the State, the survival of which is unlikely if the causes of a decline in the number of plants continue, and includes all species determined to be endangered or threatened pursuant to the Federal Endangered Species Act of 1973, as amended.

T = Listed as Threatened Plants in the Preservation of Native Flora of Florida Act. Defined as species native to the State that are in rapid decline in the number of plants within the State, but which have not so decreased in such number as to cause them to be endangered.

CE = Listed as a Commercially Exploited Plant in the Preservation of Native Flora of Florida Act. Defined as species native to the State, which are subject to being removed in significant numbers from native habitats in the State and sold or transported for sale.

3) County Listings:

Y = Miami-Dade County endangered, threatened, rare or special concern flora species as updated from previously adopted CDMP lists, due to low population numbers or limited/localized population; impacts resulting from habitat destruction or environmental contamination; or nesting destruction/disturbance/failures.

Table from the Conservation, Aquifer Recharge and Drainage Element of the Miami-Dade Comprehensive Development Master Plan including amendments adopted up through November 18, 2015

Appendix 6-C. Invasive Pest Plant Species: Florida Exotic Pest Plant Council's 2017 List of Invasive Plant Species

CATEGORY I: Invasive exotics that are altering native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives. This definition does not rely on the economic severity or geographic range of the problem, but on the documented ecological damage caused.

Scientific Name	Common Name	Gov. List	Zone
<i>Abrus precatorius</i>	rosary pea	F	C, S
<i>Acacia auriculiformis</i>	earleaf acacia		C, S
<i>Albizia julibrissin</i>	mimosa, silk tree		N, C
<i>Albizia lebbbeck</i>	woman's tongue		C, S
<i>Ardisia crenata</i>	coral ardisia	F	N, C, S
<i>Ardisia elliptica</i> shoebuttton	ardisia	F	C, S
<i>Asparagus aethiopicus</i> (<i>A. sprengeri</i> , <i>A. densiflorus</i>)	asparagus-fern		N, C, S
<i>Bauhinia variegata</i>	orchid tree		C, S
<i>Bischofia javanica</i>	bishopwood		C, S
<i>Calophyllum antillanum</i> (<i>C. calaba</i>)	Santa Maria, mast wood		S
<i>Casuarina equisetifolia</i>	Australian-pine	F	N, C, S
<i>Casuarina glauca</i> suckering	Australian-pine	F	C, S
<i>Cinnamomum camphora</i>	camphor tree		N, C, S
<i>Colocasia esculenta</i>	wild taro		N, C, S
<i>Colubrina asiatica</i>	lather leaf	F	S
<i>Cupaniopsis anacardioides</i>	carrotwood	F	C, S
<i>Deparia petersenii</i>	Japanese false spleenwort		N, C
<i>Dioscorea alata</i>	winged yam	F	N, C, S
<i>Dioscorea bulbifera</i>	air-potato	F	N, C, S
<i>Eichhornia crassipes</i>	water-hyacinth	F	N, C, S
<i>Eugenia uniflora</i>	Surinam cherry		C, S
<i>Ficus microcarpa</i> (<i>F. nitida</i> and <i>F. retusa</i> var. <i>nitida</i>) ¹	laurel fig		C, S
<i>Hydrilla verticillata</i>	hydrilla	F, U	N, C, S
<i>Hygrophila polysperma</i>	green hygro	F, U	N, C, S
<i>Hymenachne amplexicaulis</i>	West Indian marsh grass		N, C, S
<i>Imperata cylindrica</i>	cogon grass	F, U	N, C, S
<i>Ipomoea aquatica</i>	water-spinach	F, U	C
<i>Jasminum dichotomum</i>	Gold Coast jasmine		C, S
<i>Jasminum fluminense</i>	Brazilian jasmine		C, S
<i>Lantana camara</i> (<i>L. strigocamara</i>)	lantana, shrub verbena		N, C, S
<i>Ligustrum lucidum</i>	glossy privet		N, C
<i>Ligustrum sinense</i>	Chinese privet	F ³	N, C, S
<i>Lonicera japonica</i>	Japanese honeysuckle		N, C, S
<i>Ludwigia hexapetala</i>	Uruguay waterprimrose		N, C
<i>Ludwigia peruviana</i>	Peruvian primrosewillow		N, C, S
<i>Lumnitzera racemosa</i>	black mangrove		S
<i>Luziola subintegra</i>	tropical American watergrass		S

Scientific Name	Common Name	Gov. List	Zone
<i>Lygodium japonicum</i>	Japanese climbing fern	F	N, C, S
<i>Lygodium microphyllum</i>	Old World climbing fern	F,U	N, C, S
<i>Macfadyena unguis-cati</i> (<i>Dolichandra unguis-cati</i>)	catclawvine		N, C, S
<i>Manilkara zapota</i>	sapodilla		S
<i>Melaleuca quinquenervia</i>	melaleuca, paper bark	F,U	C, S
<i>Melinis repens</i> (<i>Rhynchelytrum repens</i>)	Natal grass		N, C, S
<i>Microstegium vimineum</i> *	Japanese stiltgrass,		N
<i>Mimosa pigra</i> catclaw	mimosa	F,U	C, S
<i>Nandina domestica</i> nandina,	heavenly bamboo		N, C
<i>Nephrolepis brownii</i> (<i>N. multiflora</i>)	Asian sword fern		C, S
<i>Nephrolepis cordifolia</i>	sword fern		N, C, S
<i>Neyraudia reynaudiana</i>	Burma reed	F	S
<i>Nymphoides cristata</i>	crested floating heart	F	C, S
<i>Paederia cruddasiana</i>	sewer vine	F	S
<i>Paederia foetida</i>	skunk vine	F	N, C, S
<i>Panicum repens</i>	torpedo grass		N, C, S
<i>Pennisetum purpureum</i>	Napier grass, elephant grass		N, C, S
<i>Phymatosorus scolopendria</i> (<i>Microsorium grossum</i>)	serpent fern, wart fern		S
<i>Pistia stratiotes</i>	water-lettuce	F	N, C, S
<i>Psidium cattleianum</i> (<i>P. littorale</i>)	strawberry guava		C, S
<i>Psidium guajava</i>	guava		C, S
<i>Pueraria montana</i> var. <i>lobata</i>	kudzu	F	N, C, S
<i>Rhodomyrtus tomentosa</i>	downy rose-myrtle		C, S
<i>Ruellia simplex</i> ²	Mexican-petunia		N, C, S
<i>Salvinia minima</i>	water spangles		N, C, S
<i>Sapium sebiferum</i> (<i>Triadica sebifera</i>)	popcorn tree, Chinese tallow tree		N, C, S
<i>Scaevola taccada</i> (<i>S. sericea</i> , <i>S. frutescens</i>)	half-flower, beach naupaka		N, C, S
<i>Schefflera actinophylla</i> (<i>Brassaia actinophylla</i>)	schefflera, Queensland umbrella tree		C, S
<i>Schinus terebinthifolius</i>	Brazilian-pepper	F	N, C, S
<i>Scleria lacustris</i>	Wright's nutrush		C, S
<i>Senna pendula</i> var. <i>glabrata</i> Christmas senna	Christmas cassia,		C, S
<i>Solanum tampicense</i>	wetland nightshade	F,U	C, S
<i>Solanum viarum</i>	tropical soda apple	F,U	N, C, S
<i>Sporobolus jacquemontii</i> (<i>S. indicus</i> var. <i>pyramidalis</i>)	West Indian dropseed		C, S
<i>Syngonium podophyllum</i>	arrowhead vine		N, C, S
<i>Syzygium cumini</i>	Java-plum		C, S
<i>Tectaria incisa</i>	incised halberd fern		S

Scientific Name	Common Name	Gov. List	Zone
<i>Thelypteris opulenta</i> *	jeweled maiden fern		S
<i>Thespesia populnea</i>	seaside mahoe		C, S
<i>Tradescantia fluminensis</i>	small-leaf spiderwort		N, C
<i>Urena lobata</i>	Caesar's weed		N, C, S
<i>Urochloa mutica</i> (<i>Brachiaria mutica</i>)	para grass		N, C, S
<i>Vitex rotundifolia</i>	beach vitex		N

CATEGORY II: Invasive exotics that have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category I species. These species may become ranked Category I if ecological damage is demonstrated.

Scientific Name	Common Name	Gov. List	Zone
<i>Adenanthera pavonina</i>	red sandalwood		S
<i>Agave sisalana</i>	sisal hemp		C, S
<i>Aleurites fordii</i> (<i>Vernicia fordii</i>)	tung-oil tree		N, C
<i>Alstonia macrophylla</i>	devil tree		S
<i>Alternanthera philoxeroides</i>	alligator-weed	F	N, C, S
<i>Antigonon leptopus</i>	coral vine		N, C, S
<i>Ardisia japonica</i>	Japanese ardisia		N
<i>Aristolochia littoralis</i> (<i>A. elegans</i>)	elegant Dutchman's pipe, calico flower		N, C, S
<i>Asystasia gangetica</i>	Ganges primrose		C, S
<i>Begonia cucullata</i>	wax begonia		N, C, S
<i>Broussonetia papyrifera</i>	paper mulberry		N, C, S
<i>Bruguiera gymnorhiza</i>	large-leaved mangrove		S
<i>Callistemon viminalis</i> (<i>Melaleuca viminalis</i>)	bottlebrush		C, S
<i>Callisia fragrans</i>	inch plant, spironema		C, S
<i>Casuarina cunninghamiana</i>	Australian-pine	F	C, S
<i>Cecropia palmata</i>	trumpet tree		S
<i>Cestrum diurnum</i>	day jessamine		C, S
<i>Chamaedorea seifrizii</i>	bamboo palm		S
<i>Clematis terniflora</i>	Japanese clematis		N, C
<i>Cocos nucifera</i>	coconut palm		S
<i>Crassocephalum crepidioides</i>	redflower ragleaf, Okinawa spinach		C, S
<i>Cryptostegia madagascariensis</i>	rubber vine		C, S
<i>Cyperus involucratus</i> (<i>C. alternifolius</i>)	umbrella plant		C, S
<i>Cyperus prolifer</i>	dwarf papyrus		C, S
<i>Dactyloctenium aegyptium</i>	Durban crowfoot grass		N, C, S
<i>Dalbergia sissoo</i>	Indian rosewood, sissoo		C, S
<i>Elaeagnus pungens</i>	silverthorn, thorny olive		N, C

Scientific Name	Common Name	Gov. List	Zone
<i>Elaeagnus umbellata</i>	silverberry, autumn olive		N
<i>Epipremnum pinnatum</i> cv. <i>Aureum</i>	pothos		C, S
<i>Eulophia graminea</i>	Chinese crown orchid		C, S
<i>Ficus altissima</i>	false banyan, council tree		S
<i>Flacourtia indica</i>	governor's plum		S
<i>Hemarthria altissima</i>	limpo grass		C, S
<i>Heteropterys brachiata</i>	red wing, Beechey's withe		S
<i>Hyparrhenia rufa</i>	jaragua		N, C, S
<i>Ipomoea carnea</i> ssp. <i>fistulosa</i> (<i>I. fistulosa</i>)	shrub morning-glory	F	C, S
<i>Kalanchoe x houghtonii</i> *	mother-of-millions		N, C, S
<i>Kalanchoe pinnata</i> (<i>Bryophyllum pinnatum</i>)	life plant		C, S
<i>Koelreuteria elegans</i>	flamegold tree		C, S
<i>Landoltia punctata</i>	spotted duckweed		N, C, S
<i>Leucaena leucocephala</i>	lead tree	F	N, C, S
<i>Limnophila sessiliflora</i>	Asian marshweed	F,U	N, C, S
<i>Livistona chinensis</i>	Chinese fan palm		C, S
<i>Macroptilium lathyroides</i>	phasey bean		N, C, S
<i>Melia azedarach</i>	Chinaberry		N, C, S
<i>Melinis minutiflora</i>	molasses grass		C, S
<i>Merremia tuberosa</i>	wood-rose		C, S
<i>Mikania micrantha</i>	mile-a-minute vine	F,U	S
<i>Momordica charantia</i>	balsam apple		N, C, S
<i>Murraya paniculata</i>	orange-jessamine		S
<i>Myriophyllum spicatum</i>	Eurasian water-milfoil	F	N, C, S
<i>Panicum maximum</i> (<i>Urochloa maxima</i>)	Guinea grass		N, C, S
<i>Passiflora biflora</i>	two-flowered passion vine		S
<i>Pennisetum setaceum</i>	green fountain grass		S
<i>Pennisetum polystachion</i> * (<i>Cenchrus polystachos</i>)	mission grass, West Indian Pennisetum		C, S
<i>Phoenix reclinata</i>	Senegal date palm		C, S
<i>Phyllostachys aurea</i>	golden bamboo		N, C
<i>Pittosporum pentandrum</i>	Taiwanese cheesewood		S
<i>Platynerium bifurcatum</i> *	common staghorn fern		S
<i>Praxelis clematidea</i>	praxelis		C
<i>Pteris vittata</i>	Chinese brake fern		N, C, S
<i>Ptychosperma elegans</i>	solitaire palm		S
<i>Richardia grandiflora</i>	large flower Mexican clover		N, C, S
<i>Ricinus communis</i>	castor bean		N, C, S
<i>Rotala rotundifolia</i>	roundleaf toothcup, dwarf Rotala, redweed		S
<i>Ruellia blechum</i> (<i>Blechnum brownei</i>)	green shrimp plant Browne's blechnum		N, C, S

Scientific Name	Common Name	Gov. List	Zone
<i>Sansevieria hyacinthoides</i>	bowstring hemp		C, S
<i>Sesbania punicea</i>	rattlebox		N, C, S
<i>Sida planicaulis</i> *	mata-pasto		C, S
<i>Solanum diphyllum</i>	two-leaf nightshade		N, C, S
<i>Solanum torvum</i>	turkeyberry	F,U	N, C, S
<i>Spermacoce verticillata</i>	shrubby false buttonweed		C, S
<i>Sphagneticola trilobata</i> wedelia (<i>Wedelia trilobata</i>)	creeping oxeye		N, C, S
<i>Stachytarpheta cayennensis</i> (<i>S. urticifolia</i>)	nettle-leaf porterweed		S
<i>Syagrus romanzoffiana</i> (<i>Arecastrum romanzoffianum</i>)	queen palm		C, S
<i>Syzygium jambos</i>	Malabar plum, rose-apple		N, C, S
<i>Talipariti tiliaceum</i> mahoe, (<i>Hibiscus tiliaceus</i>)	sea hibiscus		C, S
<i>Terminalia catappa</i>	tropical-almond		C, S
<i>Terminalia muelleri</i>	Australian-almond		C, S
<i>Tradescantia spathacea</i> (<i>Rhoeo spathacea</i> , <i>Rhoeo discolor</i>)	oyster plant		C, S
<i>Tribulus cistoides</i>	puncture vine, burr-nut		N, C, S
<i>Vitex trifolia</i>	simple-leaf chaste tree		C, S
<i>Washingtonia robusta</i>	Washington fan palm		C, S
<i>Wisteria sinensis</i>	Chinese wisteria		N, C
<i>Xanthosoma sagittifolium</i>	malanga, elephant ear		N, C, S

Government List (Gov. List): Possession, propagation, sale, and/or transport of these plants is regulated by:
F=Florida Department of Agriculture and Consumer Services;
U=United States Department of Agriculture

Zone: refers to each species' general distribution in regions of Florida (not its potential range in the state).
N = north
C = central,
S = south

¹ Does not include *Ficus microcarpa* subsp. *fuyuensis*, which is sold as "Green Island Ficus"

² Many names are applied to this species in Florida because of a complicated taxonomic and nomenclatural history. Plants cultivated in Florida, all representing the same invasive species, have in the past been referred to as *Ruellia brittoniana*, *R. tweediana*, *R. caerulea*, and *R. simplex*.

³ Chinese privet is a FLDACS Noxious Weed except for the cultivar 'Variegatum'

* Added to the FLEPPC List of Invasive Plant Species in 2017

** Plant names are those published in "Guide to Vascular Plants of Florida Third Edition." Richard P. Wunderlin and Bruce F. Hansen, University of Florida Press, 2011. Plant names in parentheses are synonyms or misapplied names that have commonly occurred in the literature or indicate a recent name change. Not all synonyms are listed.

RECREATION AND OPEN SPACE ELEMENT

DATA INVENTORY AND ANALYSIS

PURPOSE

The purpose of the Recreation and Open Space Element as set forth in Section 163.3177(6)(e), Florida Statutes (F.S.), is to plan for a comprehensive system of public and private sites for recreation, including, but not limited to, natural reservations, parks and playgrounds, parkways, beaches and public access to beaches, open spaces, waterways, and other recreational facilities.

An assessment of current and projected levels of service and recreation needs provides a basis for standards defining the level of services desired by the Town. Statements of a goal, objectives, and policies for guiding the Town's implementation actions conclude the element. These statements provide direction for the municipal recreation programs and maintenance of parks, open space, and recreation facilities to assure that the needs of Surfside residents will be met in the future.

EXISTING FACILITIES

As shown in Map 7-1, the Town is served by five Town-owned recreation facilities. These include (1) Hawthorne Park Tot Lot on Hawthorne Avenue and 90th Street, (2) Veterans Park/Surfside Tennis Center on 87th Terrace between Collins and Harding Avenues, (3) 96th Street Park on Bay Drive and 96th Street, and (4) the Surfside Community Center on the ocean at 93rd Street, and (5) Paws Up Dog Park on 93rd Street and Byron Avenue. A description of these facilities is provided below.

Hawthorne Park Tot Lot: This facility serves as a neighborhood tot lot. In addition, the park has one playground, three picnic tables, and four benches.

Veterans Park/Surfside Tennis Center: This park includes three tennis courts (with six court lights), six benches, Veterans memorial, three flag poles, an office, a restroom, and a WWII cannon.

96th Street Park: Facilities provided at this site include a ball field (with six field lights), two basketball courts, two raquetball courts, a tot lot, a playground, restrooms, six benches, an office, and an irrigation system. The 5-Year Parks Improvement Plan is proposing improvements to 96th Street Park over the next several years.

Surfside Community Center: In 1962, the Town of Surfside built a community center on the ocean at 93rd Street. In 2008, that building was demolished due to building and safety concerns. The current Community Center was completed in 2011 and houses the Aquatic Facility which includes a recreation pool with lap lanes, plunge pool and slide, children's activity pool, and a jacuzzi pool. Additional amenities include two multipurpose rooms which can host a variety of activities and programs for all ages. The Community Center also includes locker room facilities, restrooms, administrative offices, an outdoor green area, and a snack bar and grill.

Paws Up Dog Park: This facility is a fenced in area for residents' pets to enjoy active play time. Several benches are also included.

Other Recreation Facilities: In addition to these facilities, other public recreation and open space lands in Surfside include the State-owned beachfront which comprises approximately 38 acres and stretches for just over a mile along the Atlantic Ocean, a community garden at 89th Street and Dickens Avenue, and several existing street ends and associated rights-of-way allowing for beach access. Private recreation facilities include the Surf Club on Collins Avenue between 90th and 92nd Streets, and beachfront property west of the erosion control line, paralleling the State owned beach. Moreover, additional public recreational opportunities can be found within a three mile radius of the Town including Haulover Beach Park and Oleta River State Park.

ANALYSIS OF THE NEED FOR FACILITIES

The Surfside Parks and Recreation Department operates a number of Town facilities and a wide range of community programs. Facilities include the aforementioned Hawthorne Park Tot Lot, 96th Street Park, Veterans Park/Surfside Tennis Center, Paws Up Dog Park, Community Center with Aquatic facilities, as well as the Administrative Offices and 93rd Street Beach Lifeguard Stand. The Parks and Recreation Department sponsors adult education classes, holiday celebrations, youth programs and sports, and special events designed to provide entertainment, education, and recreation for all Town residents and visitors.

The Town, recognizes that parks and recreation are vital components of the overall community. Following is an acreage inventory of Surfside’s public recreation facilities.

**Table 7-1
Parks and Recreation Inventory**

FACILITY	ACREAGE
Hawthorne Park Tot Lot	0.22
Veterans Park/Surfside Tennis Center	0.99
96 th Street Park	0.99
Surfside Community Center	1.27
Paws Up Dog Park	0.10
public beach	34.76
pocket parks and r-o-w dead ends	1.44
TOTAL:	39.77

Source: Calvin, Giordano & Associates, Inc. 2017

While the public beach does not generally offer Parks and Recreation Department programming, this acreage will be included for the level of service (LOS) analysis because it is an integral part of the Town. Using the 39.77 acres of public recreation, along with population projections, Surfside’s LOS for recreation can be projected through 2035. The LOS standard for publicly-owned recreation lands in Surfside is six (6) acres per one thousand (1,000) permanent population. As the following table shows, this standard will be met through 2035.

**Table 7-2
Projected Park LOS**

Year	Population (Projected)	LOS Standard	Acres Needed	Town Park Acreage	Surplus Acreage
2010	5,744*	6.0/1,000	34.46	39.77	5.31
2015	5,705**	6.0/1,000	34.23	39.77	5.54
2020	5,952**	6.0/1,000	35.71	39.77	4.06
2025	6,181**	6.0/1,000	37.08	39.77	2.69
2030	6,398**	6.0/1,000	38.39	39.77	1.38
2035	6,556**	6.0/1,000	39.34	39.77	0.43

Sources: * 2010 U.S. Census; ** Florida Housing Data Clearinghouse (FHDC), 2016

Recreation and Open Space Element Goals, Objectives and Policies

Goal 1: Provide adequate recreation and open space facilities to serve the Town's residents.

Objective 1 – Access to recreation sites: In general, ensure public access to identified recreation sites by creating a pedestrian and bicycle network that links the Town’s parks, recreational, and natural amenities into an “emerald necklace.” This objective shall be measured by implementing its supporting policies.

Policy 1.1 – The Town shall give priority to maintaining and upgrading existing public access sites, but it shall acquire new sites when resources are available. Priority shall be given to sites which offer the potential for: 1) creating natural area greenways consisting of environmentally sensitive lands or lands in which plant species characteristic of and/or compatible with environmentally sensitive lands predominate or can be cultivated; and 2) removing invasive or otherwise undesirable plant species including those listed in Conservation Element Policy 4.2.

Policy 1.2 – All beach access facilities shall be accessible from public roads. The Town shall map all road rights-of-way that dead-end at the Atlantic beach and shall provide benches, picnic tables or other improvements at these sites to create “pocket parks.”

Policy 1.3 – The Town shall continue to support the existing and explore the feasibility of enhancing each of the street-ends east of Collins Avenue to create “pocket parks” where appropriate.

Policy 1.4 – The Town shall provide barrier-free access for the handicapped to all public recreation facilities.

Policy 1.5 – The Town shall continue to support bicycle parking facilities provided at strategic beach access points and at public parks.

Objective 2 – Public-private coordination: In general, coordinate public and private resources to meet recreation demand. This objective shall be measured by implementing its supporting policies.

Policy 2.1 – The Town of Surfside shall work with public agencies, such as Miami-Dade County Department of Environmental Resources Management, the Army Corps of Engineers, the Florida Department of Environmental Protection and private sector organizations and corporations, through the zoning process, to enhance and improve existing recreation/open space facilities in the Town.

Objective 3 – Adequate and efficient provision of public recreation facilities and open space: In general, ensure that parks and recreation facilities are adequately and efficiently provided. In particular, maintain a system of public park and recreation lands which provides at least 6.0 acres per 1,000 people permanent population together with an appropriate range of facilities. This standard is based on existing resources and the anticipated population.

Policy 3.1 – The Town shall reserve for recreation use all of the Town-owned land designated for recreation on the Future Land Use Map, including the following specific facilities: 1) Hawthorne Park Tot Lot, 2) Veterans Park/Surfside Tennis Center, 3) 96th Street Park, 4) Surfside

Community Center, and 5) Paws Up Dog Park. These facilities shall remain as public recreation facilities unless comparable facilities are provided to replace them.

Policy 3.2 – The Town shall continue to seek State and Federal grant funds for Town park enhancements.

Policy 3.3 – The Town shall give priority to upgrading existing public recreation lands, but it shall acquire new sites when resources are available.

Policy 3.4 – For public recreational sites, a minimum level of service standard shall be set at six (6) acres per one thousand (1,000) permanent population.

Policy 3.5- The Town shall continue to ensure high quality and safe recreational facilities for Town residents.

Policy 3.6 – The Town shall continue to implement the current 5-Year Parks Improvement Plan.

Objective 4 – Provision of private open space: Assure the provision of open space by private enterprise. This objective shall be measured by implementing its supporting policy.

Policy 4.1 – The Town shall maintain and improve land development code standards and incentives to achieve open space and landscaping requirements. Open space and landscaping requirements shall specify above average quantities of plant and other landscaping material and extensive use of xeriscape plant materials and design techniques for non-residential uses. Landscaping regulations shall include, but not necessarily be limited to, establishing a minimum number of trees based on lot size and/or lot frontage, establishing minimum requirements for other plant material, and establishing irrigation restrictions which minimize water loss due to evaporation. Regulations shall address site perimeters, parking lots and residential buffers.

Objective 5 – Provision of open space: Assure the provision and preservation of open space to aid in community resiliency to climate change. This objective shall be measured by implementing its supporting policy.

Policy 5.1 – The Town shall maintain and improve land development code standards and incentives to achieve and maintain open space. Regulations shall address site perimeters, parking lots and buffers related to open space.



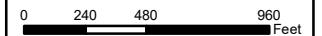
Surfside Comprehensive Plan

Map: REC 1

Town Parks and Recreation Facilities

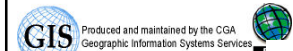
Legend

-  Surfside City Limits
-  Adjacent City Limits
-  Public Beach
-  Municipal Parks
-  Water



Print: 6-7-2017

Source: Miami Dade GIS Services



INTERGOVERNMENTAL COORDINATION ELEMENT

DATA INVENTORY AND ANALYSIS

PURPOSE

The purpose of the Intergovernmental Coordination element is to identify and resolve incompatibilities between Surfside's comprehensive planning processes and those of other governmental entities with interests in or related to the Town's area of concern. The areas of concern for Surfside include adjacent municipalities, Miami-Dade County, Miami-Dade County Public Schools, the South Florida Water Management District, South Florida Regional Planning Council, state government, federal government, and utility companies.

Specific coordination needs within each of the elements of the Surfside comprehensive plan that would benefit from improved or additional intergovernmental coordination and mechanisms for satisfying these needs are also identified, as appropriate.

EXISTING DATA AND CONDITIONS

Surfside currently has either formal or informal coordination agreements, or interacts through standard operating procedures under statutory authority, with the following agencies or jurisdictions:

Municipal Government

- Bal Harbour Village
- Town of Bay Harbor Islands
- Indian Creek Village
- City of Miami Beach
- Miami Shores Village
- Various other Municipalities

Miami-Dade County Departments

- Biscayne Bay Shoreline Development Review Committee
- Fire Rescue Department (FRD)
 - Office of Emergency Management (EM)
- Miami Dade Property Appraiser (MDPA)
- Parks, Recreation and Open Spaces Department (PROSD)
- Police Department (PD)
- Public Housing and Community Development (PHCD)
- Regulatory and Economic Resources Department (RERD)
 - Environmental Resource Management Division (DERM)
 - Planning Division (Plan)
 - Office of Historic Preservation (HP)
- Solid Waste Management Department (SWMD)
- Transportation and Public Works Department (TPWD)
 - Miami Dade Transit (MDT)
- Transportation Planning Organization (TPO)
- Water and Sewer Department (WASD)

Schools

Miami-Dade County Public Schools

Other

Miami-Dade League of Cities

Florida Departments and Agencies

Division of Emergency Management
 Department of Business and Professional Regulation
 Department of Children and Family Services
 Department of Economic Opportunity
 Department of Environmental Protection (DEP)
 Department of Transportation
 Division of Historic Resources
 Fish and Wildlife Conservation Commission
 South Florida Regional Planning Council
 South Florida Water Management District

United States Departments and Agencies

Army Corps of Engineers
 Commerce, Census Bureau
 Environmental Protection Agency
 Federal Emergency Management Agency
 U.S. Fish and Wildlife Service
 U.S. Postal Service
 Transportation

Regulated Utilities

AT&T
 Comcast
 Florida Power & Light

EVALUATION OF EXISTING COORDINATION MECHANISMS

For each agency listed above, Table 8-1 briefly describes the existing coordination mechanisms indicating the subject, nature of the relationship and the office with primary responsibility for coordination.

JOINT PLANNING AREAS**Comparison with Regional Policy Plan**

The Strategic Regional Policy Plan for South Florida has been reviewed and considered during the process of writing this Comprehensive Plan. The Comprehensive Plan conforms to the Regional Policy Plan.

Specific Coordination Issues in Each Element

Following is a summary the interagency coordination needs associated with each element of this Comprehensive Plan.

Future Land Use

Within this element interagency coordination includes communicating development projections with the Miami-Dade Department of Emergency Management (DEM) and Homeland Security (HS) in order to assist in their hurricane evacuation planning. Further, the Town requires development along the bulkheads to be in accordance with State and County regulations. In particular the Town continues to work with the Florida Department of Environmental Protection and Miami-Dade Department of Environmental Resource Management (DERM) for review of permits within the bulkhead areas.

Coastal Management

This element's efforts are largely related to the management of the Biscayne Bay Aquatic Preserve. Coordinating agencies for this include the Miami-Dade County Department of Environmental Resource Management, the Florida Department of Environmental Protection, the National Park Service and the Biscayne Bay Shoreline Development Review Committee. Additionally, the Town is working with the Florida Department of Transportation (FDOT) to ensure the installation of the improvements to the DOT stormwater systems currently discharging into Biscayne Bay waters. When applicable, the Town shall provide development proposal information to the Biscayne Bay Shoreline Development Review Committee for review. Regarding coastal management law enforcement, Town police shall maintain communications with County and State marine police in order to report any violations of the boat speed limits in the adjacent waters which are a manatee protection area. The Town shall contact DERM if any adverse impact is observed relative to the sea grass beds in adjacent waters.

Beach maintenance and restoration requires intergovernmental coordination efforts. To that end, the Town shall cooperate with U.S. Army Corps of Engineers for beach renourishment as needed. Similarly, the Town shall continue to coordinate and cooperate with the Florida Department of Environmental Protection's Bureau of Beaches and Coastal Systems and with the Miami-Dade County Park and Recreation Department regarding access to and the appropriate maintenance of the beach area seaward of the erosion control line. The Town will also coordinate with relevant agencies on planning for sea level rise.

Transportation

The Town coordinates with the Miami-Dade Metropolitan Planning Organization (MPO) and the Florida Department of Transportation on capital improvements and level of service for SR AIA/Harding Avenue and SR 922/96th Street. Miami-Dade County Transit (MDT) provides six routes through the Town connecting residents and employees to Miami Beach, downtown Miami, and the MetroRail. As needed, the Town will also coordinate with the Southeast Florida Transportation Council.

Housing

The Town shall monitor the housing and related activities of the Miami-Dade County Housing Within Reach Taskforce, Miami-Dade Housing Agency (MDHA), South Florida Regional Planning Council and nearby local jurisdictions. The Town shall work with the US Department of Commerce to ensure accurate population and housing information is provided for the 2020 Census. Additionally, the Town shall dialogue with the Florida Department of Children and Family Services to ensure an accurate inventory for any subsidized rental housing, and group homes that may exist within the Town. An inventory of historically significant housing is required for the Comprehensive Plan, and therefore periodic coordination and communication with the State's Division of Historic Resources, Florida Master Site File is necessary.

Infrastructure

The Town of Surfside purchases its water directly from the Miami-Dade County Water and Sewer Department (WASD). The Town's Water Supply Facilities Work Plan was adopted in December 2015 and coordinated with the Miami-Dade County Water and Sewer Department 20-Year Water Supply Facilities Work Plan (2014 – 2033) and the South Florida Water Management District's 2013 Lower East Coast Water Supply Plan Update. Further coordination with the Florida Department of Environmental Protection (DEP) will be important to ensure stormwater quality and impacts on the Biscayne Bay.

Recreation and Open Space

There is approximately 35 acres of state-owned beach seaward of the erosion control line, which runs approximately along the crest of the dune. This beach is maintained under an agreement with the State by the Miami-Dade Park and Recreation Department.

Conservation

The Florida DEP's Bureau of Beaches and Coastal Systems considers Surfside's beach to be "critically eroded". As part of the beach renourishment program coordination efforts with this and other agencies are required. Land use, as it relates to the discharge of stormwater and to the use of natural drainage, is regulated through the South Florida Water Management District (SFWMD).

The Town of Surfside purchases their potable water supply directly from Miami-Dade WASD. The Town is also working with WASD's Water Use Efficiency Section to identify the water conservation best management practices (BMPs) applicable to the Town, which is a water wholesaler, and to develop the Town's Water Conservation Plan as required by Miami-Dade County Ordinance 06-177.

Capital Improvements

The Town shall coordinate with Miami-Dade County Public Schools, WASD, the MPO, and FDOT to ensure projects affecting level of service are included in the annual update of the Capital Improvements Element.

Areas of Critical State Concern

There are no areas of critical state concern in the Town of Surfside.

The following abbreviations are used in Table 8-1.

AE - Advise and Encourage

CA - Town Agency

FN - Formal Notice

OA - Outside Agencies

TA - Technical Assistance

AP - Approval, Permit

FA – Formal Agreement

IN - Informal Notice

PM - Periodic Meetings to Coordinate Programs

**TABLE 8-1
COORDINATING AGENCIES**

Agency	Subject Coordination	Nature of Relations	Existing and Anticipated Coordination Mechanisms	Effectiveness of Existing Coordination Mechanisms	Surfside Office with Primary Responsibility For Coordination
MUNICIPALITIES:					
Bal Harbour Village	Comprehensive planning	AE	Informal coordination	Effective	Planning, Town Manager
Town of Bay Harbor Islands	Comprehensive planning	AE	Informal coordination	Effective	Planning, Town Manager
Indian Creek Village	Comprehensive planning	AE	Informal coordination	Effective	Planning, Town Manager
City of Miami Beach	Comprehensive planning	AE	Informal coordination	Effective	Planning, Town Manager
Miami Shores Village	Aquatic Center	FA	Interlocal Agreement	Effective	Parks and Recreation
Various Other Municipalities	Police Assistance	FA	Responsive upon Requests	Effective	Police Department
MIAMI-DADE COUNTY DEPARTMENTS AND AGENCIES:					
Biscayne Bay Shoreline Development Review Committee	Shoreline environmental and conservation issues	AE, TA	Informal coordination	Effective	Public Works, Town Manager
Fire Rescue Department	Fire-rescue services	FA	Interlocal Agreement	Effective	Police Department
Office of Emergency Management (EM)	Emergency Management	PM, AE	Informal Coordination	Effective	Town Manager

Agency	Subject Coordination	Nature of Relations	Existing and Anticipated Coordination Mechanisms	Effectiveness of Existing Coordination Mechanisms	Surfside Office with Primary Responsibility For Coordination
	Planning				
Miami-Dade Property Appraiser	Tax revenues	PM, TA	Interlocal Agreement	Effective	Town Manager, Finance
Parks, Recreation and Open Spaces Department	Beach Maintenance, Open space areas, regional plans	PM, AE	Informal coordination	Effective	Parks and Recreation
Police Department	Police Resources	FA	Responsive upon Requests	Effective	Police Department
Public Housing and Community Development	Affordable housing	AE	Informal coordination	Effective	Town Manager
Regulatory and Economic Resources Department					
Environmental Resources Management (DERM) Division	Water quality, air quality, noise impact, septic tanks, water use permits, wastewater management	IN, PM	Interlocal Agreement	Effective	Public Works, Town Manager
Planning Division	Comprehensive Planning	AE	Informal coordination	Effective	Planning Director
Office of Historic Preservation	Historic Preservation	AE, FN	Informal coordination	Effective	Town Manager, Planning
Solid Waste Management	Waste management	FA	Interlocal Agreement – Curbside Recycling Program	Effective	Public Works
Transportation Public Works Department	Highway construction, right of way, alignments, access control transit	PM, TA	Informal coordination	Effective	Public Works

Agency	Subject Coordination	Nature of Relations	Existing and Anticipated Coordination Mechanisms	Effectiveness of Existing Coordination Mechanisms	Surfside Office with Primary Responsibility For Coordination
Miami-Dade Transit (MDT)	Transit	AE	Informal coordination with Surfside Mini-Bus	Effective	Town Manager
Transportation Planning Organization (TPO)	Transportation planning	PM, AE	Informal coordination	Effective	Planning
Water and Sewer Department (WASD)	Water quality, water facility development, wastewater treatment, wastewater management	AP, TA	Interlocal Agreement	Effective	Public Works
SCHOOLS:					
Miami-Dade County Public Schools	School facilities and concurrency	FA	Interlocal Agreement	Effective	Town Manager, Finance
OTHER:					
Miami-Dade League of Cities	Intergovernmental issues	AE, PM	Monthly meetings	Effective	Town Mayor
FLORIDA DEPARTMENTS AND AGENCIES:					
Division of Emergency Management	Mutual Aid Agreement	OA, TA	Informal coordination	Effective	Town Manager
Department of Business and Professional Regulation	Various licenses	AP	Informal coordination	Effective	Planning
Department of Children and Family Services	Group homes, foster care facilities	FN, OA	Informal coordination	Effective	Building and Zoning
Department of Economic Opportunity	Comprehensive Plan	AP, TA	Oversight of Comprehensive Plan, EAR, Regulation of Land Development	Effective	Planning

Agency	Subject Coordination	Nature of Relations	Existing and Anticipated Coordination Mechanisms	Effectiveness of Existing Coordination Mechanisms	Surfside Office with Primary Responsibility For Coordination
			Code		
Department of Environmental Protection	Water management, water quality, air quality, beaches/land, solid waste, septic tanks, water facility development, water use permits, wastewater management	AP	Permitting, informal coordination	Effective	Public Works, Town Manager
Division Of Historic Resources	Historic lands and buildings	TA, AE	Informal coordination	Effective	Planning
Department of Transportation	Transportation planning, highway construction, right of way, alignments, access control transit	AE, TA	Informal coordination	Effective	Public Works
Fish and Wildlife Conservation Commission	Conservation issues	AE, TA	Permitting, informal coordination	Effective	Town Manager
South Florida Regional Planning Council	Comprehensive planning	TA, AE, AP	Review of Comprehensive Plan and EAR	Effective	Planning
South Florida Water Management District	Stormwater management, wetlands mitigation, water use	TA, AE, AP	Quarterly meetings	Effective	Public Works
UNITED STATES DEPARTMENTS AND AGENCIES:					
Army Corps of Engineers	Beach erosion control	AE, PM, TA, AP	Informal coordination	Effective	Public Works

Agency	Subject Coordination	Nature of Relations	Existing and Anticipated Coordination Mechanisms	Effectiveness of Existing Coordination Mechanisms	Surfside Office with Primary Responsibility For Coordination
Commerce, Census Bureau	Decennial Census	TA	Informal coordination	Effective	Planning
Environmental Protection Agency	Hazardous waste sites	TA, AP	Informal coordination	Effective	Public Works
Federal Emergency Management Agency	Hurricane mitigation	AE, PM, TA	Informal coordination	Effective	Public Works, Planning
U.S. Fish and Wildlife Service	Coastal conservation	AE, TA	Informal coordination	Effective	Public Works
U.S. Postal Service	Address development, mail delivery	OA	Informal coordination	Effective	Town Manager, Planning
Transportation	Transportation planning	AE, AP, PM, TA	Informal coordination	Effective	Public Works, Planning
REGULATED UTILITIES:					
AT&T	Telephone service	OA	Informal coordination	Effective	Public Works
Comcast Cable Television	Cable services, underground utilities	OA	Informal coordination	Effective	Public Works
Florida Power and Light Company	Underground utilities	OA	Informal coordination	Effective	Public Works

Source: Town of Surfside

Intergovernmental Coordination Element Goals, Objectives, and Policies

Goal 1: Establish and maintain processes to help assure coordination with other governmental entities where necessary to implement this plan.

Objective 1.1 – Coordination with Miami-Dade County and other agencies: In general, coordinate the Town of Surfside Comprehensive Plan with the plans of the Miami-Dade County School Board, Miami-Dade County and adjacent municipalities. In particular, achieve maximum feasible levels of consistency between the plans for Surfside, the Miami-Dade County School Board, Miami-Dade County, City of Miami Beach, Bal Harbour Village, Indian Creek Village, and Town of Bay Harbor Islands. This objective shall be measured by implementing its implementing policy.

Policy 1.1.1 – The Town shall monitor the Miami-Dade County Comprehensive Plan process as the County Plan is updated and revised in conjunction with its Evaluation and Appraisal Report. The Town will also review the comprehensive plans of Miami Beach, Bal Harbour, Indian Creek, and Bay Harbor Islands.

Policy 1.1.2 – The Town of Surfside and Miami-Dade County Public Schools shall follow the procedures established in the adopted “Amended and Restated Interlocal Agreement for Public Schools Facilities Planning in Miami-Dade County” (Interlocal Agreement) and the Comprehensive Land Use Plan’s Educational Element and Capital Improvements Element for coordination and collaborative planning and decision making of land uses, public school facilities siting, decision making on population projections, and the location and extension of public facilities subject to concurrency. The Town shall implement the Interlocal Agreement with Miami-Dade County Public Schools, Miami-Dade County, and other nonexempt municipalities pursuant to Section 163.3177, Florida Statutes, and the Comprehensive Plan’s Public School Facilities Element, Intergovernmental Coordination Element, and Capital Improvements Element. Coordination of the Interlocal Agreement, and the Town’s obligations therein, shall be achieved via participation in the established Working Group of the Interlocal Agreement.

Policy 1.1.3 – The Town shall consider as appropriate the informal mediation process of the South Florida Regional Council in order to try to resolve annexation and other conflicts with other governmental entities; the Town will enter into mediations on a nonbinding basis.

Policy 1.1.4 – The Town will thoroughly review and compare proposed development in Miami-Dade County, City of Miami Beach, Bal Harbour Village , Indian Creek Village, and Town of Bay Harbor Islands with proposed development in the Surfside Comprehensive Plan for consistencies and conflicts between identical elements and between plans as a whole. Where appropriate, Surfside will respond at public hearings, through memoranda, or through the regional planning council's mediation process.

Policy 1.1.5 – The Town shall continue to ensure coordination of activities in its Comprehensive Plan with the plans of Miami-Dade County Public Schools, Miami-Dade County, and other state

or regional entities through regular exchange of information. This information shall include, but not be limited to, building permits, zoning cases, planned land use amendments, engineering plans, demographics, proposed annexation areas, socio-economic information, and utility service areas and capacity.

Policy 1.1.6 – The Town will continue participation in the Miami-Dade Planner’s Technical Committee in order to coordinate local comprehensive planning issues and processes.

Policy 1.1.7- The Town shall coordinate with relevant agencies on planning for sea level rise considering the best available and credible data.

Objective 1.2 – Comprehensive Plan Impact and Implementation Coordination: Establish mechanisms to coordinate the impact of development proposed in the Surfside Comprehensive Plan with other jurisdictions.

Policy 1.2.1 – Surfside shall maintain and revise where appropriate interlocal agreements generally of the type described below:

Potable Water: An agreement with Miami-Dade Water and Sewer Department for potable water service.

Sewers: An agreement with Miami-Dade Water and Sewer Department for wastewater treatment.

Solid Waste: An agreement to cooperate and coordinate with the County Solid Waste Management Department for the disposal of solid waste generated in the Town.

Transit: Miami-Dade Transit bus schedules for routes within the Town.

Schools: “Amended and Restated Interlocal Agreement for Public School Facility Planning in Miami-Dade County” – pursuant to Section 163.3177 FS and Section 163.3180(g) F.S.

Policy 1.2.2 – The Town shall assist the County in providing information to the residents of the Town about services provided directly or indirectly by the County, e.g., solid waste, potable water, sewers, transit and hurricane response planning. Such information may be disseminated through a Town newsletter, Town Hall counter handouts, notices posted at the Town Hall, and/or other appropriate means.

Policy 1.2.3 – The Town shall contribute to the improvement of the water quality of Biscayne Bay through implementation of outfall improvements described in the Infrastructure Element.

Policy 1.2.4 – The Town shall cooperate with the regulatory functions of the Florida Department of Environmental Protection.

Policy 1.2.5 – As required by the Interlocal Agreement, The Town shall notify Miami-Dade Public Schools of all new residential development projects or modifications to existing residential developments which increase density as part of the review process for school concurrency.

Policy 1.2.6 – The Town shall coordinate and cooperate with all applicable local, regional, state and federal agencies relating to the protection and enhancement of the Biscayne Bay Aquatic Preserve.

Policy 1.2.7 – The Town shall coordinate and cooperate with all applicable local, regional, state and federal agencies relating to the protection of Atlantic Ocean coastal waters and beach renourishment projects.

Policy 1.2.8 – The Town will utilize the following procedures to identify and implement joint planning areas (JPAs) for the purpose of addressing issues related to joint infrastructure service areas:

- a) Use the South Florida Regional Planning Council’s informal mediation process to resolve conflicts with other local governments, when agreed to by all affected parties;
- b) Siting of facilities with county-wide significance including locally unwanted land uses;
- c) Making demographic and social-economic information and services available for county, school board and municipal planning activities.

Policy 1.2.9 – The Town shall consider and evaluate the establishment of a cooperative interlocal agreement with Indian Creek Village to convert the empty lot on the north side of the 91st Street bridge into a park for general use by both communities, providing additional recreational opportunities along the bay.

Policy 1.2.10 - The Towns shall continue coordination with Miami-Dade Transit on energy efficient modes of transportation.

Policy 1.2.11- The Town shall coordinate with neighboring jurisdictions and the South Florida Regional Planning Council in regards to affordable housing.

Objective 1.3 – Level of service standards coordination: Ensure coordination with Miami-Dade County in establishing level-of-service standards for sewage, and potable water.

Policy 1.3.1 – The Town shall monitor changes to the adopted level-of-service standards of Miami-Dade County, the Florida Department of Transportation, and Miami-Dade Public Schools, and appropriately adjust its own level-of-service standards accordingly.

Objective 1.4 – The Town shall coordinate with all applicable local, State and Federal agencies regarding implementation of the 20-Year Water Supply Facilities Work Plan.

Policy 1.4.1 – The Town shall review the most recently published Lower East Coast Water Supply Plan and coordinate with the South Florida Water Management District staff in projecting the future supply and demand of potable water and alternative sources and preparing amendments to the Water Supply Facilities Work Plan on an as-needed basis by sharing and updating information.

Policy 1.4.2 – The Town shall participate in continuing and on-going collaborative efforts with the Miami-Dade Water and Sewer Department and other governments and agencies regarding water supply needs, long-term alternative water supply projects, sharing of information and establishing level of service standards. The Town shall participate in, at a minimum, annual

meetings with water providers and the South Florida Water Management District to discuss population projections, land use changes and implementation of conservation reuse programs and alternative water supplies.

Policy 1.4.3 – The Town shall coordinate with Miami-Dade County Water and Sewer Department in the implementation of alternative water supply projects, establishment of level-of-service-standards and resource allocations.

Policy 1.4.4 – The Town shall coordinate land uses and future land use changes with the availability of water supplies and water supply facilities.

Policy 1.4.5 – The Town shall coordinate with Miami-Dade County in the implementation of alternative water supply projects, establishment of level-of-service standards and resource allocations and changes in service areas.

Policy 1.4.6 – The Town shall coordinate with the Miami-Dade County Water and Sewer Department's Water Use Efficiency Section in the implementation of water conservation efforts and preparation of a Water Conservation Plan through regular and on-going communication and information sharing.

Goal 2: Community Resiliency: Increase community resiliency through continued coordination and cooperation.

Objective 2.1 – The Town shall strive to make sustainability and climate resiliency decisions on the most current, applicable and credible information available; and through coordination and cooperation make sustainability and climate resiliency efforts more impactful.

Policy 2.1.1: The Town of Surfside shall coordinate with Miami-Dade County and other appropriate agencies in the implementation of adaptive management strategies to improve the climate change resiliency of water and wastewater infrastructure and resources.

Policy 2.1.2: The Town shall continue to coordinate with local, County, regional, State and federal agencies and other non-governmental entities and academic institutions in the ongoing assessment of climate change and sea level rise, and continue to collaborate in the identification and implementation of appropriate mitigation, protection, accommodation and adaptation strategies.

Policy 2.1.3: The Town shall coordinate with Miami-Dade County and other participating counties in the Southeast Florida Regional Climate Change Compact in the identification of modeling resources and development of initiatives and goals to address climate change.

Policy 2.1.4: The Town shall continue to coordinate regionally with southeast Florida counties and municipalities, academia, and local, regional, State and federal agencies in the analysis of sea level rise, drainage, storm surge and hurricane impacts and the planning of mitigation and adaptation measures.

Policy 2.1.5: The Town shall continue to actively monitor the Southeast Florida Regional Climate Change Compact, and shall coordinate with neighboring municipalities to share technical

expertise, assess regional vulnerabilities, advance agreed upon mitigation and adaptation strategies and develop policies and programs.

Policy 2.1.6: The Town shall seek to and support cooperative efforts to engage the support of federal agencies, such as National Oceanic and Atmospheric Administration, U.S. Geological Survey, Federal Emergency Management Agency, Environmental Protection Agency, the U.S. Department of Interior, U.S. Department of Energy, and the U.S. Army Corps of Engineers, that can provide technological and logistical support to further state, regional, county, and local planning efforts in the assessment of climate change vulnerabilities and adaptation strategies.

Policy 2.1.7: The Town shall promote partnerships between local government agencies, universities, professionals and practitioners, to foster an environment for connecting scientific research and education with practical applications that will contribute to the resiliency and adaptation within the built and natural environments to the impacts of climate change.

CAPITAL IMPROVEMENTS ELEMENT

DATA INVENTORY AND ANALYSIS

PURPOSE

The purpose of the Capital Improvements Element is to evaluate the need for public facilities as identified in the other comprehensive plan elements and as defined in the applicable definitions for each type of public facility, to estimate the cost of improvements for which the local government has fiscal responsibility, to analyze the fiscal capability of the local government to finance and construct improvements, to adopt financial policies to guide the funding of improvements and to schedule the funding and construction of improvements in a manner necessary to ensure that capital improvements are provided when required based on needs identified in the other comprehensive plan elements. The element shall also include the requirements to ensure that an adequate concurrency management system will be implemented by the Town.

PLANNING TIMEFRAMES

The Town of Surfside Comprehensive Plan provides guidance on development and redevelopment over two planning periods: a 5-Year period ending FY 2022 (short term) and a long term planning period ending FY 2035.

Public Facility Needs

TRANSPORTATION

The Town is responsible for maintaining the local network program. The regional road network is under the State of Florida's jurisdiction. Collins Avenue and Harding Avenue are the major north-south corridors through the Town, while 96th Street is the main east-west roadway.

The Town of Surfside comes under the Miami-Dade County's Transportation Concurrency Exception Area (TCEA) to promote urban infill and redevelopment in the area. The Level of Service for major, state roadways in Surfside is LOS E+20, meaning that where mass transit service having headways of 20 minutes or less is provided within a ½ mile distance, roadways shall operate at no greater than 120 percent of their capacity.

State arterial roadways include Collins Avenue, Harding Avenue and 96th Street which are all functioning at Level of Service Standard D and are meeting level of service standards. There are no FIHS or SIS facilities within the Town of Surfside.

Roadway performance conditions are measured by Level of Service (LOS) which is represented by letters "A" or most favorable through "F" or least favorable conditions. Roadway LOS standards are the ratio of the number of vehicles to the road capacity during peak time periods. The Town monitors roadway concurrency and currently all roadways are meeting level of service standards.

Currently, the only roadway capital improvements planned in the Surfside area by FDOT is the Indian Creek Bridge Rehabilitation Project.

To accommodate the impacts of new development, alternative modes of transportation are required to reduce traffic congestion. Six bus routes from Miami-Dade Transit travel through the Town; all the routes run along Collins Avenue and Harding Avenue. The Town has its own bus system which complements the Miami-Dade County Transit. The Town's mini buses circulate between the business district and residential areas.

De Minimis Impacts

The Town does not allow for exceptions for de minimis impacts. Also, the Town lies completely within a Transportation Concurrency Exception Area.

Gas Tax Projects

Per F.S. 336.025 (1)(a)3 municipal governments shall use local option gas taxes for transportation expenditures to meet the requirements of the capital improvements element of an adopted comprehensive plan or for expenditures needed to meet immediate local transportation problems and for other transportation-related expenditures that are critical for building comprehensive roadway networks by local governments. Such expenditures are required to be included in the Comprehensive Plan.

The Schedule of Capital Projects to be partially funded by gas taxes are identified in Table 9-10D. The related projects are not planned to alleviate level of service issues, but are included to meet statutory requirements for listing local option gas tax projects in the Capital Improvement Element.

POTABLE WATER

The Town of Surfside's potable water is provided by the Miami-Dade County Water and Sewer Department (MDWASD) which provides service for approximately 2.6 million customers in Miami Dade County. The Town of Surfside is serviced by the Hialeah-Preston Water Treatment Plant service area which includes the northern part of Miami-Dade County.

The water is distributed to residents and commercial business by approximately 11 miles of cast iron pipe installed in 1938. Primary mains feeding the system run under the Town's streets and vary in size from 6-inch to 16-inches in diameter, which feed three-inch and four-inch water lines located along the rear property lines.

Water Source

The source water for Hialeah Water Treatment Plant (WTP) is from the Hialeah Miami Springs Wellfields, supplemented by the Northwest Wellfield. There are three active wells located in the Hialeah Wellfield constructed in 1936. Each well is 14 inches in diameter, 115 feet deep and have casing depths of 80 feet. The total wellfield capacity is 12.54 mgd or 8,700 gpm (2,900 gpm for each well). The twenty active wells located in the Miami Springs Wellfield were constructed between 1924 and 1954. These wells are 14 inches and 30 inches in diameter, 80 to 90 feet deep and have casing depths of 80 feet. The total wellfield capacity is 79.30 mgd or 55,070 gpm (ranging between or 2,500 and 5,000 gpm for each well). The Northwest Wellfield has fifteen active wells that were constructed in 1980. The wells are 40 inches and 48 inches diameter and 80 to 100 feet deep, with casing depths ranging from 46 to 57 feet. These wells have two-speed motors. The total nominal capacity of the wells at the low speed flow rate is 149.35 mgd. The capacity of each well, except well No. 10, is 10 mgd at the low speed flow rate. Well 10 has a low speed capacity of 9.35 mgd. The total nominal capacity for the wells at the high speed flow is 220.94 mgd.

The seven active wells located in the John E. Preston Wellfield were constructed in 1966 and 1972. Each well is 42 inches in diameter, 107 feet deep and have casing depths of 66. The capacity of wells No. 1 through No. 6 is 5,000 gallons per minute (gpm) each and the capacity of well No. 7 is 7,000 gpm. The total wellfield capacity is 53.28 mgd.

Water Treatment Plants (WTPs)

The Hialeah WTP was originally designed in 1924 with a total capacity of 10 mgd. By 1935, the plant’s capacity totaled 40 mgd. In 1946, capacity was increased to 60 mgd. Air strippers with a capacity of 84 mgd were added to the treatment process in 1991 to remove volatile organics from the finished water. A 3.2 MG storage reservoir for both the Hialeah and John E. Preston WTPs was also added in 1991. The Hialeah WTP has a current rated capacity of 60 mgd and there are plans to rerate and upgrade the Hialeah WTP to a capacity of 70 mgd, if necessary. The treatment process for this WTP includes lime softening with sodium silicate activated by chlorine, recarbonation, chlorination, ammoniation, fluoridation, filtration, and air stripping. The plant site is relatively small, and is surrounded by residential areas.

The John E. Preston WTP was originally designed as a 60 mgd plant in 1968 and upgraded to 110 mgd in 1980. The plant was re-rated to a total capacity of 130 mgd in 1984. The plant reached its present capacity of 165 mgd with another addition in 1988. In 1991, the plant was modified with an air stripping capacity of 185 mgd to remove VOCs. In 2005, plant process modifications to provide enhanced softening for reduction of color and total organic carbon came on line. The main source of water for the Preston WTP is from the Northwest Wellfield. The current rated capacity is 165 mgd with a treatment process similar to that of the Hialeah WTP. This includes lime softening with ferric and other coagulant and chemicals added to prior to lime for enhanced softening, recarbonation, chlorination, ammoniation, fluoridation, filtration, and air stripping. The Preston plant is also located in a residential area of Hialeah.

Potable Water Level of Service

The Town of Surfside currently coordinates with MDWASD and the South Florida Water Management District to meet existing and projected demands based on level of service (LOS). The Town’s projected water demands shown in Table 9-1 below were developed utilizing the Town’s average per capita value of 148.04 gallons per capita per day.

**Table 9-1
Town of Surfside Water Demand Projection**

Year	Population	Per Capita Consumption	Projected Consumption	Projected Consumption
		GPCD	GPD	MGD
2015	5,866	148.04	868,399	.87
2020	6,019	148.04	891,073	.89
2025	6,173	148.04	913,747	.91
2030	6,326	148.04	936,421	.94

Source: MDWASD’s 20 year water supply plan (2014-2033)

Figure 4.1 in the Town of Surfside 15 Year Water Supply Facilities Work Plan indicates that there will be no deficit of finished water through 2030.

The existing LOS for the Town of Surfside based on MDWASD goals for potable water is as follows:

- (a) The regional treatment system shall operate with a rated maximum daily capacity no less than 2 percent above the maximum daily flow for the preceding year, and an average daily capacity 2 percent above the average daily system demand for the preceding 5 years. The maximum daily

flow shall be determined by calculating the average of the highest five single day flows for the previous 12 months.

- (b) Water shall be delivered to users at a pressure no less than 20 pounds per square inch (psi) and no greater than 100 psi. Unless otherwise approved by the Miami-Dade Fire Rescue Department, minimum fire flows based on the land use served shall be maintained as follows:

Land Use	Min. Fire Flow (gpm)
Single Family Residential Estate	500
Single Family and Duplex; Residential on minimum lots of 7,500 sf	750
Multi-Family Residential	1,500
Semiprofessional Offices	
Hospitals; Schools	2,000
Business and Industry	3,000

Storage Capacity

The finished water storage facilities for the Hialeah-Preston subarea consist of both “in-plant” and remote storage facilities. The total combined storage capacity between both plants inclusive of all potable water 56.0 MG.

SANITARY SEWER

The sanitary sewer system is defined as structures or systems designed for the collection, transmission, treatment, or disposal of sewage and may include trunk mains, interceptors, treatment facilities, and disposal systems. The Town’s sanitary sewer system is interconnected with the Miami-Dade County Water and Sewer Department (MDWASD) system. Surfside maintains its own sewer collection system and two pumping stations. By agreement, the Town of Surfside and Bal Harbour share a sanitary force main that connects to the City of Miami Beach transmission system. The tri-party agreement provides for the transmission of sewage via force mains to the MDWASD system and eventually to the treatment plant and disposal.

Geographic Service Area

The Town’s system is coextensive with the Town’s boundaries, while the County system includes unincorporated and incorporated areas of Miami-Dade County inside the 2005 Urban Development Boundary that have an agreement with MDWASD. The system also incorporates a small number of facilities, mostly State or County owned, outside of the Urban Development Boundary.

Treatment Facilities and Capacity

There has been a significant reduction in average flow into the regional system as a result of extensive infiltration and inflow (groundwater and rainwater) prevention projects conducted by MDWASD in recent years. Infiltration and inflow within the sewer system should be kept at a minimum to avoid hydraulic overload to the receiving treatment plant. It is pertinent for an operation and maintenance plan to be part of the county’s sanitary sewer system. As a result, the regional wastewater treatment plants operating capacity can remain in compliance with Miami-Dade County MDWASD and Florida Department of Environmental Protection (FDEP) standards.

The Town of Surfside is located in the MDWASD Central District Sanitary sewer system; however, MDWASD operates two additional regional wastewater treatment plants in the North and South Districts. Because the system is interconnected, the service districts have flexible boundaries, and some flows from one district can be diverted to other plants in the system.

Surfside’s sewer system is treated by a secondary treatment facility on Virginia Key owned and operated by the Miami-Dade County Water and Sewer Department (MDWASD). The Town’s sanitary sewer collection system is divided into two basins. Sanitary sewer pipes range in size from 8 to 15 inches with flows directed to two pump stations. Pump Station 1 receives sewage from the area of Surfside north of 91st Street, which includes the Business District and a majority of the high rise buildings. Pump Station 2 serves the remainder of the Town, including most of the waterfront lots. The sewage is pumped via the force main which runs along 89th Street, 93rd Street, Collins Avenue and connects to the City of Miami Beach’s system near 74th street. Sewage continues under pressure through MDWASD force mains to Virginia Key.

Current Facility Demand

According to the Town of Surfside Consumption Analysis, in 2014/2015 approximately 258 million gallons of wastewater were treated by the County system from the Town of Surfside and 260 million in 2015/2016.

In FY08, the Town began mapping all sewer and potable water lines within the municipal boundary to enhance maintenance. Also in FY09, the Town identified infiltration issues to the sanitary sewer system and has completed a program to seal manholes to identify and inventory broken lines. Table 9-2 shows projected sewage flow demands for the Town of Surfside and Table 9-2B show current and projected wastewater capacity for the entire county.

In 2010 to 2014, the Town completed a sanitary sewer rehabilitation plan. All existing gravity sewer mains and laterals were lined or reconstructed in accordance with the approved plan. All sanitary manholes were rehabilitated. The Town also completed rehabilitation of the existing sanitary sewer pump stations, and construction of 12” Force Mains along 93rd Street and 89th Street. The Force Mains were tied-in to the newly constructed 16” Force Main along Collins Avenue. The existing Force Main that runs along Byron Avenue is not currently in use and only remains as a stand-by facility.

Since the Town completed the sanitary sewer rehabilitation plan of the existing system in the recent past, there are currently no additional level of service projects required or needed for the Town’s sanitary sewer system.

**Table 9-2A
Projected Sewage Flows**

PROJECTED SEWAGE FLOWS			
Year	2010	2015	2020 2030
Population	5,744	5,952	6,398
Per Capita (gallons per day finished sewage)	155	155	155
(all potable volumes are finished sewage)	MGD	MGD	MGD
Sewage Total Flow (daily average annual)	0.89	0.92	0.99

Source: Calvin, Giordano & Associates, Inc. 2017

Table 9-2B
Miami-Dade County Current and Projected Wastewater System Capacity 2016-2026

County WWTP Capacities		Actual County Flow (mgd)	Total Permitted Capacity / Projected County Flows (mgd)		
	2016 Plant Capacity (mgd)	Dec. 2015	2022	2024	2026
North	120.0	89.3	120.0 / N/A ¹	120.0 / N/A ¹	85.0 / N/A ¹
Central	143.0	120.0	143.0 / N/A ¹	143.0 / N/A ¹	83.0 / N/A ¹
South	112.5	97.1	121.0 / N/A ¹	131.0 / N/A ¹	131.0 / N/A ¹
West	N/A	N/A	N/A	N/A	102.0 / N/A ¹
Total	375.5	306.4	384.0 / 321.1	394.0 / 326.3	401.1 / 331.6

Source: Miami-Dade Water and Sewer Department, 2016; ¹County only has projected data for total regional system

DRAINAGE

In 2013, the Town completed a major retrofit of the existing drainage systems. The existing storm drainage system consisted of a network of underground storm sewers and outfalls discharging directly into the Indian Creek and Biscayne Bay. An existing pumping station at the western end of 92nd Street assisted the drainage of water from that street by pumping to an outfall. Storm sewers in the existing system ranged in diameter from 10 inches to 36 inches.

Town of Surfside has two state roadways within the Town; a north-south pair SR A1A/Collins Ave (northbound) and Harding Avenue (southbound); and one east-west SR-922/96th Street. The Florida Department of Transportation (FDOT) provided storm drainage improvements on Harding and Collins Avenue in the early 1990's. Equipment which currently serves the 92nd Street pump station were replaced by FDOT and will be maintained by the Town; however, even with these modifications, water may still reach curb level in various locations due to tidal fluctuations. The water level of Biscayne Bay is higher than normal during high- high tide, creating a back up in the outfall pipes. The Harding and Collins storm drainage improvements utilize on-site wells and control structures to provide additional capacity.

In 2002 FDOT completed the Stormwater Pump Station System Operational Evaluation and Recommended Improvements (OERI) Report which provided three alternatives to improve stormwater pump systems along Harding. It was determined that the most feasible alternatives are those that have an appropriate overflow capacity, once the wells reach capacity. This was achieved by introducing an emergency gravity bypass in the event that the pumps fail. The alternative consists of new pump stations at the existing vault locations. These new stations required the existing gravity system to be extended to the Intracoastal Waterway seawalls (at 88th Street and 94th Street), a new 36-inch force main to connect to existing wells; new pumps, structures, controls, and a new gravity bypass drainage pipe.

In 2006, the Town of Surfside initiated another stormwater project, which consists of retrofitting the Town's outfall pipes to reduce pollutants entering Biscayne Bay. The facilities at each location consists of three new stormwater pump stations which pump water into drainage wells. In order to address pollution concerns for a Florida Department of Environmental Protection (FDEP) drainage well permit, the Town installed Nutrient Separating Baffle Boxes upstream of the pump station to provide treatment before the runoff enters the groundwater which was included in this retrofit project.

The recently constructed retrofitted stormwater management system of the Town consists of a network of underground storm sewers along with outfall control structures discharging into the Indian Creek and Biscayne Bay, and three additional pump stations discharging into 9 drainage wells. The newly constructed control structures facilitate well discharge before discharging to Biscayne Bay. The project addressed long-term concerns regarding water backing into the streets and poor water quality in the adjacent Biscayne Bay along the Town's shores. The project directly addressed The Trust for Public Land's Biscayne Bay Accessibility report, supported the SFWMD's Biscayne Bay Partnership Initiative (BBPI), and enhanced the level of service.

In 2015, the Town completed drainage improvements for Biscaya Island along 88th Street. The Town constructed new check valves to prevent back flow into the existing roadways and upsized one 12-inch outfall to a 24-inch diameter outfall. Since the Town completed the retrofit of the existing drainage system in the recent past, there are currently not additional level of service projects required or needed for the Town's drainage system.

SOLID WASTE

The Town's Public Works Department has three garbage trucks which collect trash and garbage on a weekly basis and haul it to Miami-Dade County's Resource Recovery Plant west of Miami International Airport and other Miami-Dade County landfills. Last year (FY15/16) Surfside deposited approximately 4,932 tons of waste material at the county's facility. Based on the 2010 U.S. Census population of 5,744 approximately 4.7pounds per person per day was collected. The Town, as of June 2, 2016, discontinued recycling services with Miami-Dade County for residential properties. The Town now collects recycling. Between June 2, 2016 and December 29, 2016 the Town collected a total of 218.9 tons of recycling. Based on information supplied by the Miami-Dade County Department of Solid Waste Management (Table 9-2C), the existing disposal capacity at the North Dade Landfill and the South Dade Landfill and the Resource Recovery Plan appear to have adequate to meet Surfside's needs for the foreseeable future.

**Table 9-2C
Miami-Dade County Solid Waste Facility Capacity**

	South Dade Landfill	North Dade Landfill	Resources Recovery Facility and Ashfill
Built out Capacity in Tons	23,208,000	13,526,000	8,060,000
Tons in Place (June 30, 2016)	17,547,000	11,984,000	5,765,000
Remaining Capacity in Tons	1,261,000	1,541,000	2,295,000
Last Year's Disposal Tonnage (7/1/15 – 6/30/16)	390,626	190,478	160,879
Estimated Average Disposal Rate per Year in Tons	400,800	183,900	168,500

Source: Miami-Dade County Department of Solid Waste Management, 2016; Landfill Capacity Analysis for DSWM Active Landfills, July 1, 2016.

There is sufficient capacity Miami-Dade County landfills to meet the Town's needs for solid waste disposal for the short term and long term planning horizons.

PARKS

The following is an acreage inventory of Surfside’s public recreation facilities:

**Table 9-3
Park Inventory**

FACILITY	ACREAGE
Hawthorne Park Tot Lot	0.22
Veterans Park/Surfside Tennis Center	0.99
96 th Street Park	0.99
Surfside Community Center	1.27
Paws Up Dog Park	0.10
Public beach	34.76
Street ends	1.44
TOTAL:	39.77

Source: Calvin, Giordano & Associates, Inc., 2017

While the public beach does not generally offer Parks and Recreation Department programming, this acreage will be included for the level of service (LOS) analysis because it is an integral part of the Town. Using the 39.77 acres of public recreation, along with population projections, Surfside’s LOS for recreation can be projected through 2035. The LOS standard for publicly-owned recreation lands in Surfside is six (6) acres per one thousand (1,000) permanent population. As the following table shows, this standard will be met through 2035.

**Table 9-4
Projected Park LOS**

Year	Population (Projected)	LOS Standard	Acres Needed	Town Park Acreage	Surplus Acreage
2010	5,744*	6.0/1,000	34.46	39.77	5.31
2015	5,705**	6.0/1,000	34.23	39.77	5.54
2020	5,952**	6.0/1,000	35.71	39.77	4.06
2025	6,181**	6.0/1,000	37.08	39.77	2.69
2030	6,398**	6.0/1,000	38.39	39.77	1.38
2035	6,556**	6.0/1,000	39.34	39.77	0.43

Sources: * 2010 U.S. Census; ** Florida Housing Data Clearinghouse (FHDC), 2016

It should be noted this analysis does not take into account private recreation facilities such as the Surf Club and private beach frontage west of the erosion control line.

SCHOOLS

Surfside is within District 3 of the Miami-Dade County School District.

The following table shows student enrollment and capacity in 2016 for the schools serving Surfside. Each school is operating at or above capacity.

**Table 9-5
Public Schools Serving Surfside
Capacity and Enrollment (2016)**

School	Enrollment	Capacity	Percent Capacity Utilized
Elementary Schools			
Ruth K. Broad Bay Harbor K-8 Center	1,385	990	140%
Middle School			
Nautilus	1,028	1,050	98%
High School			
Miami Beach Senior High	2,469	2,110	117% 96.3%

Source: Miami-Dade Public Schools, 2016

PUBLIC HEALTH SYSTEM

Capital Improvement Element must also include the location of public health systems within the local jurisdiction. There are no major public health facilities within Surfside. The hospitals and public health centers located nearby and accessible to Surfside residents are as follows:

Aventura Hospital & Medical Center
20900 Biscayne Blvd, Aventura

The Miami-Dade Health Department (Florida Department of Health) has offices in various location in Miami-Dade County with the following offices closest to Surfside:

Miami-Dade County Health Department
Main Complex
1350 NW 14th St.
Miami, FL 33125

LOCAL POLICIES AND PRACTICES

The Town annually prepares and adopts operating budgets for its various departments. Through the budget process, capital improvement needs are considered and funds are allocated.

Timing and location of public facilities is determined by needs projected by the various departments of the Town, and in the case of multi-jurisdictional facilities such as state roads or potable water, by coordination with the affected agencies. Capital facilities will be planned and constructed in accordance with the established Schedule of Capital Improvements. This program is a five year schedule of improvements which is supported by a projection of revenues to ensure its feasibility. Improvements included in the 5-year program include those items called for by the various departments of the Town.

There are four stimuli which prompt Town departments to call for capital improvements; demand created from outside the Town as well as within the Town:

- Anticipated demand through growth
- Coordination of Town plans with those of State agencies and water management districts, and other outside agencies
- Demand for improvements created by facility breakdown or by life expectancy of the facility

- Maintenance of level of service standards

FUNDING SOURCES

Existing Revenue Sources

Ad Valorem Tax

The Miami-Dade County Property Appraiser's Office sets the Town's assessed and taxable values of property. Ad valorem translates from Latin, "according to value." This is the property tax paid based upon the appraised value of one's property and it is calculated by a millage rate. Each mill generates \$1 of tax revenue for every \$1,000 of taxable property value. Taxable value may differ from assessed value because of exemptions, the most common of which is the \$25,000 homestead exemption, and another \$50,000 in exemption for homeowners aged 65 or greater, subject to income requirements. The maximum millage a Town may levy is 10 mills, but this can only be accomplished through a unanimous vote of all Commissioners (not just those present).

Sales and Use Taxes

This category of taxes includes the local option sales tax and resort taxes. These are taxes generated by local jurisdictions under authorization by the State of Florida.

Franchise & Utility Taxes

The Town collects three types of franchise and utility taxes: electric utility taxes, gas utility taxes, and Surfside Occupational License Taxes. Since Fiscal Year 2002, the Town has been prohibited from collecting taxes on telephone franchises, telephone utility taxes, and cable television franchise taxes. These taxes are now collected by the State of Florida's Department of Revenue and re-distributed to municipalities according to use records at a rate of 5.22%.

Permits/licenses/and inspections

Licenses, permits and inspection fees are collected for services performed at specific properties for the benefit of particularly property owners. Building permit categories include: structural, electrical, plumbing, roofing and mechanical permits. As the Town is substantially at build out, little revenue is generated above a base level unless there is commercial development underway.

Intergovernmental Revenue

The Town receives recurring revenues from revenue sharing programs with the State of Florida. The Town receives periodic intergovernmental revenues from the federal government in the form of assistance grants for specific projects. All disbursements of State revenues are based on receipts by the State and the Town's population.

Services Revenues

This category includes all fees generated from services provided by the Town. This includes recreation fees, solid waste collection fees, stormwater collection fees, lien search services, stormwater utility fees, and similar items.

Fines and Forfeitures

Funds to promote public safety and other projects are received by the Town from fines, forfeitures, and/or seizures connected with illegal behavior in the community. Those funds are restricted to, and accounted for, in the Town's fines and forfeiture fund. Fines for the general fund derive from parking violations.

Miscellaneous Revenues

Any revenues that the Town receives which do not reasonably conform to any of the above identified categories is included in this category. This category includes interest earnings, receipts from the

disposition of assets by sale, and similar items. Interfund Transfers between other funds may also be captured here.

Revenue and Expense Projections

The Town of Surfside develops operating costs based on a zero-based budget model. Departments are encouraged to review prior spending as a way of reminding themselves of on-going obligations. Each request for funding must, however, be accompanied by a detailed justification. The practice of incremental budgeting (identifying operational budgets by increasing/decreasing the prior years' expenditures by a percentage) is an option which the Town has rejected. The following tables illustrate the Town's projected revenue and expense. Projections for FY2017-FY2021 based upon a projected 1% increase in property values and an overall 3% increase of revenues and expenditures.

**Table 9-6
Projected General Fund Revenues (FY17-FY21)**

Department	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Property Tax	8,047,948	8,289,386	8,538,068	8,794,210	9,058,036
Sales and Use Taxes	1,411,477	1,453,821	1,497,436	1,542,359	1,588,630
Franchise and Utility Tax	1,364,515	1,405,450	1,447,614	1,491,042	1,535,773
Permits/Licenses/Inspection	70,700	72,821	75,006	77,256	79,574
Intergovernmental-Federal/State	601,812	619,866	638,462	657,616	677,344
Services Revenues	486,100	500,683	515,703	531,174	547,109
Fines & Forfeitures	712,000	733,360	755,361	778,022	801,363
Misc. Revenues	31,525	32,471	33,445	34,448	35,481
Transfers - In	446,116	459,499	473,284	487,483	502,108
Total General Fund	13,172,193	13,567,357	13,974,379	14,393,610	14,825,419

Source: Calvin, Giordano and Associates, Inc. (Based upon Town of Surfside Adopted Budget Fiscal Year 2017)

**Table 9-7
Projected General Fund Expenditures (FY17-FY21)**

Department	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Personnel	8,257,679	8,505,409	8,760,571	9,023,388	9,294,090
Operating Expenses	3,985,657	4,105,227	4,228,384	4,355,236	4,485,893
Capital Outlay	99,500	102,485	105,560	108,727	111,989
Debt Service	50,669	52,187	53,753	55,366	57,027
Non-Operating Expenses	8,000	8,240	8,487	8,742	9,004
Transfers - Out	770,688	793,809	817,623	842,152	867,417
Total General Fund	13,172,193	13,567,357	13,974,379	14,393,610	14,825,419

Source: Calvin, Giordano and Associates, Inc. (Based upon Town of Surfside Adopted Budget Fiscal Year 2017)

Debt Capacity

The Town is expecting to pay debt service on State revolving loans for stormwater, wastewater, and potable water projects

Stormwater Utility Fund

Table 9-8 shows the available revenue funds for the Stormwater Projects shown in the Schedule of Capital Improvements and the ability to manage debt service for the projects. As a result of the rate increases, the Storm Water Fund for period forecasted 2018 through 2022 provides net positive results,

and both debt coverage ratios will be well above the required 110% (Senior Debt – 2011 Utility Bonds) and 115% (Subordinate Debt – SRF Loan).

**Table 9-8
Stormwater Utility Fund Budget and Projected (FY18 – FY 22)**

	2018	2019	2020	2021	2022
Annual Growth Rate	21.50%	11.50%	11.50%	11.50%	1.50%
Revenue	\$ 613,575	\$ 684,136	\$ 762,812	\$ 850,535	\$ 863,293
Expenses	\$ 691,106	\$ 711,839	\$ 733,194	\$ 755,190	\$ 777,846
Operating Margin	\$ (77,531)	\$ (27,703)	\$ 29,618	\$ 95,345	\$ 85,447
Operating Margin %	-12.5%	-4.05%	3.88%	11.21%	9.90%

Source: Town of Surfside Finance Department

Water and Sewer Fund

Table 9-9 shows the current and projected revenues and expenditures for the the Water and Sewer Fund. It shows the Town’s ability to fund wastewater and potable water improvements as shown in the Schedule of Capital Improvements and the ability to manage debt service payments.

**Table 9-9
Water and Sewer Fund Budget and Projected (FY 2018 – FY 2022)**

	2018	2019	2020	2021	2022
Revenue	\$ 3,677,158	\$3,777,158	\$ 3,877,158	\$ 3,977,158	\$ 4,077,158
Expenses	\$ 3,677,158	\$3,777,158	\$ 3,877,158	\$ 3,977,158	\$ 4,077,158

Source: Town of Surfside Finance Department

Financial Feasibility Analysis

The Town’s Schedule of Capital Improvements is financially feasible with funds committed throughout the five year period.

The Town’s scheduled projects and related funding sources show a positive or zero balance. The purpose of this comparison is to test and demonstrate the financial feasibility of the Comprehensive Plan. The Plan has been determined to be financially feasible because this comparison demonstrates the ability of the Town to finance capital improvements necessitated by the anticipated population and revenues.

Capital Improvement Element Goals, Objectives and Policies

Goal 1: Undertake capital improvements necessary to provide adequate infrastructure and a high quality of life within sound fiscal practices.

Objective 1 – In general, use the capital improvements element as a means to meet the needs for capital facilities necessary to meet existing deficiencies, accommodate desired future growth and replace obsolete or worn-out facilities. In particular achieve annual Town Commission use of this element as the framework to monitor public facility needs as a basis for annual capital budget and five-year program preparation.

Policy 1.1 – In setting priorities, the following kinds of criteria shall be used by the Town Commission; in all cases, financial feasibility or budget impact will be assessed:

Public safety projects: any project to ameliorate a threat to public health or safety.

Quality of life projects: any project that would enhance the quality of life, such as a public streetscape improvement project.

Level of service or capacity projects: any project needed to maintain an adopted or otherwise desirable Level of Service.

Redevelopment projects: any project that would assist in the revitalization of deteriorated non-residential properties.

Environmental enhancement projects: any project which would enhance the environmental quality of the Atlantic Ocean, the Atlantic Ocean beach and dune system, Biscayne Bay or other natural resources.

Potable water projects:

Update the capital improvements schedule to maintain consistency with its 20-Year Water Supply Facilities Work Plan.

Use funds for the expansion, enhancement, and upgrade of the water supply facilities in accordance with the 15-Year Water Supply Facilities Work Plan.

Coordinate planning for the Town's infrastructure improvements related to water supply with the plans of state agencies, the South Florida Water Management District and Miami-Dade County.

Revision of priorities for the replacement of facilities, correction of existing water supply and facility deficiencies, and provision for future water supply and facility needs.

The Capital Improvement Element shall be reviewed and revised, as necessary, on an annual basis. The annual update shall demonstrate that the level of service standards will be maintained during the next five-year planning period.

In order to coordinate land uses with available and projected fiscal resources and a financially feasible schedule of capital improvements for water supply and facility projects, the Town shall include in its annual update of the its financially feasible five (5) year capital improvement project listing the first five (5) years of Water Supply Facilities Work Plan to ensure consistency between the Potable Water Sub-Element of the Infrastructure Element and the Capital Improvements Element.

The Town hereby incorporates by reference into its Comprehensive Plan the Miami-Dade 20-Year Water Supply Facilities Work Plan (2014-2033) adopted November 2014 inclusive of all potable water projects.

Policy 1.2 – The Town shall prudently limit the amount of debt it assumes for capital improvements or other purposes. At a minimum, the Town shall not assume debt obligations which would result in the Town exceeding the debt ratios established by state law.

Policy 1.3 – The Town shall maintain a current inventory of all Town-owned capital facilities, to include information on type, capacity, location and condition.

Policy 1.4 – The Town shall regularly schedule inspections of all capital facilities to monitor and record the condition of each.

Policy 1.5 – The Town shall use designated funding mechanisms such as the sewer assessments thereby freeing up general funds (and general obligation bonds) for such Town-wide projects identified in the policies of other Comprehensive Plan elements.

Policy 1.6 – The Town shall prepare and adopt each year a five year capital improvements program and a one-year capital budget, to include all projects which entail expenditures of at least \$10,000 and a life of at least three years. Staff studies, engineering studies and other appropriate studies shall form the basis for preparation of a five-year capital improvement program, including one year capital budget. Among items which are specifically authorized and encouraged by this policy are the following: sidewalk repair and replacement; roadway and right-of-way drainage; street lighting; traffic signs, traffic engineer, signalization, and pavement markings; parking improvements serving the Harding Avenue Business District, and debt service and current expenditures for transportation capital projects in the foregoing program areas (including construction or reconstruction of roads). The preceding list is intended to be illustrative of appropriate expenditure categories. Other capital expenditures in related and different projects are hereby authorized.

Policy 1.7 – The Town shall utilize the following implementation schedule to aid state requirements for annual updates and to ensure level of service standards are maintained.

- Preliminary meetings in April with the Building, Public Works, and Finance department to discuss capital improvement planning and revenues
- Capital improvement plan/budget workshop in July with the Town Commission for discussion of proposed projects and financing
- Prepare capital improvement plan in coordination with Town budget for approval in June.
- Public hearing on capital improvement plan/budget in September.
- Revise Schedule of Capital Improvements and update Capital Improvement Element in October.

Policy 1.8 – The Town will implement the projects listed in the capital improvement program and in the Implementation Schedule of this capital improvements element according to the schedule listed in this Element.

Policy 1.9 –Capital improvements associated with the construction of educational facilities are not addressed in the Town’s Capital Improvement Plan or Schedule of Capital Improvements, but rather are the responsibility of the Miami-Dade County Public Schools. To address financial feasibility associated with school concurrency, the current Miami-Dade County Public School Facilities Work Program for educational facilities is incorporated by reference into the CIE.

Policy 1.10 – The Town, in conjunction with Miami-Dade County and Miami-Dade County Public Schools, has the responsibility for providing school concurrency related to capital improvements and should continually seek to expand funding sources available to meet those requirements.

Policy 1.11 – For public school facilities, a proportionate share mitigation agreement, is subject to approval by Miami-Dade County Public Schools and the Town and must be identified in the adopted Miami-Dade County Public School Facilities Work Program.

Policy 1.12 – The Town shall update its Capital Improvements Element and Program annually, to include the annual update of the Miami-Dade County Public Schools 5-Year District Facilities Work Plan.

Policy 1.13 – The annual update of the Capital Improvement Element shall include reflect proportionate fair-share contributions for transportation projects if applicable.

Policy 1.14 – The Town shall evaluate the costs and benefits of adaptation alternatives in the location and design of new infrastructure as well as the fortification or retrofitting of existing infrastructure.

Policy 1.15 – The Town shall commit funding to climate change adaptation and resiliency projects.

Objective 2 – In general, coordinate land use decisions and available or projected fiscal resources with a schedule of capital improvements which maintains adopted level of service standards and meets existing and future facility needs. In particular, achieve coordinated Town use of: 1) existing and already approved development; 2) the Future Land Use Plan; 3) the financial analyses in this Element, and 4) the established Level of Service Standards in both reviewing development applications and in preparing the annual schedule of capital improvements.

Policy 2.1 – The following Level of Service (LOS) standards shall be maintained:

Streets:

Local roads: D

Collector roads: D

State Roadways

A Level of Service of LOS E+20 shall be established (where mass transit service having headways of 20 minutes less is provided within 1/2-mile distance, roadways shall operate at no greater than 120 percent of their capacity.)

Sanitary Sewers: The County-wide “maximum day flow” of the preceding year shall not exceed 102 percent of the County treatment system’s rated capacity. The sewage generation standard shall be 155average gallons per capita per day.

Potable Water:

- (a) The regional treatment system shall operate with a rated maximum daily capacity no less than 2 percent above the maximum daily flow for the preceding year, and an average daily capacity 2 percent above the average daily system demand for the preceding 5 years. The maximum daily flow shall be determined by calculating the average of the highest five single day flows for the previous 12 months.
- (b) Water shall be delivered to users at a pressure no less than 20 pounds per square inch (psi) and no greater than 100 psi. Unless otherwise approved by the Miami-Dade Fire Rescue Department, minimum fire flows based on the land use served shall be maintained as follows:

Land Use	Min. Fire Flow (gpm)
Single Family Residential Estate	500
Single Family and Duplex; Residential on minimum lots of 7,500 sf	750
Multi-Family Residential	1,500
Semiprofessional Offices	1,500
Hospitals; Schools	2,000
Business and Industry	3,000

Sources: Miami-Dade County Adopted 2014, Water, Sewer and Solid Waste Element

Drainage: All nonresidential development and redevelopment shall adequately accommodate runoff to meet all Federal, state and local requirements. Stormwater shall be treated in accordance with the provisions of Chapter 17-25, FAC in order to meet receiving water standards in Chapter 17-302.500, FAC. One inch runoff shall be retained on site. Post-development runoff shall not exceed peak pre development runoff.

Solid Waste: The County solid waste disposal system shall maintain a minimum of five years’ capacity. For Town planning purposes, a generation rate of 5.6 pounds per person per calendar day shall be used.

Parks: The Town shall achieve and maintain a Level of Service standard of at least 6 acres of public recreation sites per 1,000 permanent population.

Public Schools: The adopted level of service (LOS) standard for all public school facilities is 100% utilization of Florida Inventory of School Houses (FISH) Capacity (with Relocatable Classrooms). This LOS standard, except for Magnet Schools, shall be applicable in each public school concurrency service area (CSA), defined as the public school attendance boundary established by the Miami-Dade County Public Schools. The adopted LOS standard for Magnet Schools is 100% of FISH (with Relocatable

Classrooms), which shall be calculated on a districtwide basis. Level of Service standards for public school facilities apply to those traditional educational facilities, owned and operated by the Miami-Dade County Public Schools, that are required to serve the residential development within their established Concurrency Service Area. Levels of Service standards do not apply to charter schools. However, the capacity of both charter and magnet schools will be credited against the impact of development.

Policy 2.2 – The concurrency management system formulas shall include the public facility demands to be created by “committed” development and the capital improvement schedule shall include the project implications of such committed development to assure facilities are provided concurrent with the impact of development.

Policy 2.3 – The Town shall not give development approval to any new construction, redevelopment, or renovation project which creates a need for new or expanded public capital improvement unless the project pays a proportional share of the costs of these improvements.

Policy 2.4 – The Town shall maintain and improve as part of the land development code a concurrency management system which meets the requirements of state statutes. The concurrency management system shall specify that no development permit shall be issued unless the public facilities necessitated by a development (in order to meet level of service standards specified in the Transportation, Recreation and Open Space, Infrastructure and Public School Facilities) will be in place concurrent with the impacts of the development or the permit is conditional to assure that they will be in place. The requirement that no development permit shall be issued unless public facilities necessitated by the project are in place concurrent with the impacts of development shall be effective immediately and shall be interpreted pursuant to the provisions of Policy 1.4 of the Future Land Use Element.

CAPITAL IMPROVEMENT ELEMENT IMPLEMENTATION SYSTEMS

Five-Year Schedule of Capital Improvements: See schedule nearby in this element.

Other Programs: The other principal programs needed to implement this Element are as follows:

- Continue the annual capital programming and budgeting including use of the project selection criteria contained on Policy 1.1; related thereto will be the annual review of the Element.
- Amendments to the existing land development code to assure conformance to the “concurrency” requirements relative to development orders, levels of service and public facility timing as outlined in C below.

Monitoring and Evaluation: The Town Manager or designee shall annually prepare a status report on this Capital Improvement Element for submittal to the Town Commission. The primary purpose is to update the five-year schedule including the basis for next year’s capital budget. The project evaluation criteria shall be used in the project list review and special attention shall be devoted to maintenance of the level of service standards. This entire evaluation process shall be integrated into the Town’s annual budget process.

Concurrency Management: Concurrency management shall be implemented as articulated in Future Land Use Element and the Capital Improvement Element.

MONITORING, UPDATING AND EVALUATION PROCEDURES

Annual Monitoring: In conjunction with one of the plan amendment cycles, the Local Planning Agency may annually conduct a public workshop on the Comprehensive Plan. A status report shall be provided by the Town Manager or designee and then citizen comment shall be solicited. This meeting shall be publicized by a legal notice in the newspaper plus efforts to have a news story in the Miami Herald and flyer announcements at the Town Hall. The LPA will then submit a report on the status of the Plan to the Town Commission. This report may be accompanied by recommended amendments, using the normal amendment process.

Evaluation and Appraisal Review (EAR): , the Town Manager or designee shall prepare an Evaluation and Appraisal Review in conformance with statutory requirements and with special emphasis on the extent to which the Comprehensive Plan objectives and policies have been achieved. The report will pinpoint obstacles to plan implementation and update baseline data.

Revised Objectives and Policies: As part of this EAR process, amendments to the goals, objectives and policies based upon the above review, focusing short and long term community objectives. The citizen participation procedures used in preparing the Comprehensive Plan (plus any future modifications thereto) shall be used in amending the Plan.

Concurrency Management System Standards

Facility Capacity Determinations: The determination that there is adequate facility capacity for a proposed project shall be based on a formulation such as $(A+B) \text{ minus } (C+D+E)$ shall be greater than zero, where

“A” equals the total ***design capacity*** of existing facilities;

“B” equals the total ***design capacity*** of any ***planned new facilities*** that will become available concurrent with the impact of the proposed development;

“C” equals existing demand on facilities measured as traffic volumes, sewer and water flows, utilization of FISH capacity (for schools) or population;

“D” equals committed demand from approved projects that are not yet constructed; and

“E” equals the demand anticipated to be created by a proposed project.

Criteria for Measuring the Design Capacity of Existing and Planned New Facilities: The design capacity of existing and planned new facilities shall be determined as follows:

Sewage: the capacity of the County sewage treatment system.

Water: the capacity of the County water treatment and storage system.

Solid Waste: the capacity of the County disposal system.

Drainage: the on-site detention capability and/or storm sewer capacity.

Roadways: The standard for measuring highway capacities shall be the Florida DOT Table of Generalized Two-Way Peak Hour Volumes for Urbanized Areas or other techniques that are compatible to the maximum extent feasible with FDOT standards and guidelines. The measurement of capacity may also be determined by engineering studies provided that analysis techniques are technically sound and acceptable to the Town engineer.

Recreation: Measurement shall be based on recreation data in the Comprehensive Plan plus the latest Town population estimate with any necessary interpretation provided by the Town Manager or designee thereof.

Transit: The County Transit Agency bus schedules for routes within the Town.

Criteria for Counting the Capacity of Planned New Facilities: The capacity of planned new facilities may be counted only if the following timing requirements to ensure that adequate public facilities are available to meet level of service standards with the impact of development:

- (a) Sanitary sewer, solid waste, drainage, adequate water supplies, and potable water facilities shall be in place and available to serve new development no later than the issuance by the local government of a certificate of occupancy or its functional equivalent. Prior to approval of a building permit or its functional equivalent, the Town shall determine whether adequate water supplies to serve the new development will be available no later than the anticipated date of issuance by the Town of a certificate of occupancy or its functional equivalent.
- (b) Parks and recreation facilities to serve new development shall be in place or under actual construction no later than 1 year after issuance by the local government of a certificate of occupancy or its functional equivalent. However, the acreage for such facilities shall be dedicated or be acquired by the Town prior to issuance of a certificate of occupancy or its functional equivalent, or funds in the amount of the developer's fair share shall be committed no later than the local government's approval to commence construction.

- (c) Transportation facilities needed to serve new development shall be in place or under actual construction within 3 years after the Town approves a building permit that results in traffic generation.

Responsibility for Concurrency Monitoring System: The manager or designee thereof shall be responsible for monitoring facility capacities and development activity to ensure that the concurrency management system data base is kept current, i.e., includes all existing and committed development. This data base shall be used to systematically update the formulas used to assess projects. An annual report shall be prepared.

Capacity Reservation: Any development permit application which includes a specific plan for development, including densities and intensities, shall require a concurrency review. Compliance will be finally calculated and capacity reserved at time of final action on a **design review** or **building permit** if no **design review** is required or enforceable developers agreement. Phasing of development is authorized in accordance with Rule 9J-5.0055. Applications for development permits shall be chronologically logged upon approval to determine rights to available capacity. A capacity reservation shall be valid for a time to be specified in the land development code; if construction is not initiated during this period, the reservation shall be terminated.

Public School Concurrency Review : Prior to the issuance of any development order for new residential development or redevelopment, public school facilities needed to support the development at adopted school LOS standards must meet the following requirements:

1. The necessary public school facilities and services are in place or under actual construction within three years after issuance of final subdivision or site plan approval, or the functional equivalent.
2. The necessary facilities and services are guaranteed in an enforceable development agreement, pursuant to Section 163.3220, F.S., or an agreement or development order issued pursuant to Chapter 380, F.S., to be in place or under actual construction not more than three years after issuance of a certificate of occupancy or its functional equivalent.

School concurrency approval for the development and anticipated students shall be valid for up to two (2) years, beginning from the date the application received final approval from the Town.

Project Impact or Demand Measurement: The concurrency management user’s procedural guide (a supplement to the land development code) will contain the formulas for calculating compliance plus tables which provide generation rates for water use, sewer use, solid waste and traffic, by land use category. Alternative methods are acceptable to the Town Manager or designee thereof may also be used by the applicant. For example, traffic generation may be based upon the Institute of Transportation Engineer’s “Trip Generation” manual.

Schedule of Capital Improvements by Category and Funding Sources

Tables 9-10 A-D make up the Town’s schedule of Capital Improvements. Funding sources are shown where applicable.

**Table 9-10A
Stormwater Projects**

No Projects

**Table 9-10B
Wastewater and Potable Water Projects**

No projects

**Table 9-10C
FDOT Projects**

FDOT Projects							
Project Name	Location	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Total
Indian Creek Bridge #876100 PD&E	91 st Street/ Surfside					\$1,515,001	\$1,515,001
Total Cost of FDOT Projects						\$1,515,001	\$1,515,001

Source: FY2018-2023 FDOT Work Program

**Table 9-10D
Gas Tax Projects**

Forecasted Municipal Transportation Funding (CITT)						
Capital Projects						
	2018	2019	2020	2021	2022	Total
Traffic Signal Loop Detectors	\$ 50,000	\$ -	\$ -	\$ -	\$ -	\$ 50,000
Harding Avenue Downtown Street Improvements	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ 100,000
91 Street Improvement Project	\$ -	\$ 100,000	\$ -	\$ -	\$ -	\$ 100,000
West Side Street Improvements	\$ -	\$ -	\$ 100,000	\$ -	\$ -	\$ 100,000
Traffic & Pedestrian Management Program				\$ 95,000	\$ 95,000	\$ 190,000
Total Annual Municipal Transp. Source Funding	\$ 150,000	\$ 100,000	\$ 100,000	\$ 95,000	\$ 95,000	\$ 350,000
Funding Sources						
	2018	2019	2020	2021	2022	Total
Transit Surtax Proceeds	\$ 223,000	\$ 225,230	\$ 227,482	\$ 229,757	\$ 232,055	\$ 1,137,524
Balance	\$ 73,000	\$ 125,230	\$ 127,482	\$ 134,757	\$ 137,055	\$ 597,524

Note: Transit Surtax Proceeds listed above is only part of total required planned project funding.

Source: Town of Surfside Finance Department

Public School Facilities Goals, Objectives, and Policies

Goal: Assist Miami-Dade County Public Schools in developing, operating, and maintaining a system of quality public education in Surfside through the provision of adequate public educational facilities.

Objective 1 - Significantly Reduce Overcrowding: Work with the Miami-Dade County Public Schools (MDCPS) to reduce overcrowding in schools where overcrowding exists and prevent overcrowding where it does not exist while striving to attain an optimum level of service pursuant to Objective 2.

Policy 1.1 - Cooperate with the Miami-Dade County Public Schools in their efforts to continue to provide new student stations through the Capital Outlay program, insofar as funding is available.

Policy 1.2 - Cooperate with the Miami-Dade County Public Schools in their efforts to locate public school facilities.

Policy 1.3 - Miami-Dade County Public Schools comments shall be sought and considered in comprehensive plan amendments and other land use and zoning decisions which could impact the school district, in order to be consistent with the terms of the state mandated Amended and Restated Interlocal Agreement for Public School Facility Planning (Interlocal Agreement) pursuant to Sections 1013.33 and 163.31777, Florida Statutes.

Policy 1.4 - Cooperate with the Miami-Dade County Public Schools in their efforts to develop and implement alternative educational facilities, such as primary learning centers, which can be constructed on small parcels of land and relieve overcrowding at elementary schools, in so far as funding and rules permit.

Policy 1.5 - Cooperate with the Miami-Dade County Public Schools in their efforts to provide public school facilities to the students of the Town. Operational alternatives may be developed and implemented, where appropriate, which mitigate the impacts of overcrowding while maintaining the instructional integrity of the educational programs.

Policy 1.6 - Cooperate with the Miami-Dade County Public Schools in their efforts to maintain and/or improve the established level of service (LOS), for Public Educational Facilities, as established for the purposes of school concurrency.

Policy 1.7 - Cooperate and coordinate with Miami-Dade County and Miami-Dade County Public Schools through the Staff Working Group of the Interlocal Agreement for Public School Facility Planning to review annually the Public School Facilities Element and school enrollment projections, and the Town will make amendments if necessary.

Objective 2 - Maintain Level of Service for Public School Concurrency: Work with Miami-Dade County School Board to coordinate new residential development with the future availability of public school facilities consistent with the adopted level of service standards for public school concurrency, to ensure the inclusion of those projects necessary to address existing deficiencies in the most current 5-year Public School Facilities Work Program, as referenced, and to meet the future needs based upon achieving and maintaining the adopted level of service standards throughout the planning period.

Policy 2.1 - Level of Service standards for public school facilities apply to those traditional educational facilities, owned and operated by the Miami-Dade County Public Schools, that are required to serve the residential development within their established Concurrency Service Area. Level of Service standards do not apply to charter schools. However, the capacity of both charter and magnet schools will be credited against the impact of development.

Policy 2.2 - The adopted level of service (LOS) standard for all public school facilities is 100% utilization of Florida Inventory of School Houses (FISH) Capacity (with Relocatable Classrooms). This LOS standard, except for Magnet Schools, shall be applicable in each public school concurrency service area (CSA), defined as the public school attendance boundary established by the Miami-Dade County Public Schools.

Policy 2.3 - The adopted LOS standard for Magnet Schools is 100% of FISH (With Relocatable Classrooms), which shall be calculated on a district-wide basis.

Policy 2.4 – Support the goal of Miami-Dade County Public Schools and the Town, for all public school facilities to achieve 100% utilization of Permanent FISH (No Relocatable Classrooms) by January 2018. To help achieve the desired 100% utilization of Permanent FISH by 2018, Miami-Dade County Public Schools should continue to decrease the number of relocatable classrooms over time. Public school facilities that achieve 100% utilization of Permanent FISH capacity should, to the extent possible, no longer utilize relocatable classrooms except as an operational solution.

Policy 2.5 - Relocatable classrooms may be used by the Miami-Dade County Public Schools as an operational solution to achieve the level of service standard during replacement, remodeling, renovation or expansion of a public school facility; and in the event of a disaster or emergency which prevents the School Board from using a portion of the affected school facility.

Policy 2.6 - In the event the adopted LOS standard of a CSA cannot be met as a result of a proposed development's impact, the development may proceed provided at least one of the following conditions is met:

- a) The development's impact can be shifted to one or more contiguous CSAs that have available capacity and is located, either in whole or in part, within the same Geographic Areas (Northwest, Northeast, Southwest, Southeast, see Figure 1A through 1D) as the proposed development; or
- b) The developments' impact is mitigated, proportionate to the demand for public schools it created, through a combination of one or more appropriate proportionate share mitigation options, as defined in Section 163.3180 (13) (e) 1, Florida Statutes. The intent of these options is to provide for the mitigation of residential development impacts on public school facilities, guaranteed by a legally binding agreement, through mechanisms that include, one or more of the following: contribution of land; the construction, expansion, or payment for land acquisition or construction of a permanent public school facility; or the creation of a mitigation bank based on the construction of a permanent public school facility in exchange for the right to sell capacity credits. The proportionate share mitigation agreement, is subject to approval by Miami Dade County School Board and the Town and must be identified in the most current Miami-Dade County Public School Facilities Work Program.
- c) The development's impacts are phased to occur when sufficient capacity will be available.

If none of the conditions are met, the development shall not be approved.

Policy 2.7 - Concurrency Service Areas (CSA) shall be delineated to: 1) maximize capacity utilization of the facility, 2) limit maximum travel times and reduce transportation costs, 3) acknowledge the effect of court-approved desegregation plans, 4) achieve socio-economic, racial, cultural and diversity objectives, and 5) achieve other relevant objectives as determined by the School Board's policy on maximization of capacity. Periodic adjustments to the boundary or area of a CSA may be made by the School Board to achieve the above stated factors. Other potential amendments to the CSAs shall be considered annually at the Staff Working Group meeting to take place each year no later than April 30 or October 31, consistent with Section 9 of the Interlocal Agreement for Public School Facilities Planning.

Policy 2.8 - The Town through the implementation of the concurrency management system and the most current Miami-Dade County Public School Facilities Work Program for educational facilities, shall ensure that existing deficiencies are addressed and the capacity of schools is sufficient to support residential development at the adopted level of service (LOS) standards throughout the planning period in the 5-year Schedule of Capital Improvements.

Policy 2.9 - The Miami-Dade County Public School Facilities Work Program, which is adopted by reference into the Capital Improvements Element, will be evaluated on an annual basis to ensure that the level of service standards will continue to be achieved and maintained throughout the planning period.

Policy 2.10 - The Miami-Dade County Public School Facilities Work Program shall be amended on an annual basis to: 1) add a new fifth year; 2) reflect changes in estimated capital revenues, planned capital appropriations costs, planned capital facilities projects, CSAs and school usage; and, 3) ensure the Miami-Dade Public School Facilities Work Program continues to be financially feasible for the five-year planning period.

Objective 3 - Obtain Suitable Public Educational Facility Sites: Assist Miami-Dade County Public Schools in obtaining suitable sites to meet the level-of-service and, facility needs of the public education system.

Policy 3.1 - In the selection of sites for future educational facilities development, the Town should encourage Miami-Dade County Public Schools to consider whether a school is in close proximity to residential areas and is in a location that would provide a logical focal point for community activities and be in close proximity to Town neighborhoods.

Policy 3.2 - Where possible, Miami-Dade County Public Schools should seek sites that are adjacent to existing or planned public recreation areas, community centers, libraries, or other compatible civic uses or the purpose of encouraging joint use facilities.

Policy 3.3 - The Town acknowledges and concurs that, when selecting a site, Miami-Dade County Public Schools will consider if the site meets the minimum size criteria as recommended by the State Department of Education or as determined to be necessary for an effective educational environment.

Policy 3.4 - When considering a site for possible use as an educational facility, Miami-Dade County Public Schools should review the adequacy and proximity of other public facilities and services necessary to the site such as roadway access, bus stops for existing and proposed public school facilities, transportation, potable water, sanitary sewers, drainage, solid waste, and police and fire services, and means by which to assure safe access to schools, including sidewalks, bicycle paths, turn lanes, and signalization.

Policy 3.5 - When considering a site for possible use as an educational facility, ~~the~~ Miami-Dade County Public Schools should consider whether the present and projected surrounding land uses are compatible with the operation of an educational facility.

Objective 4 - Establish Effective Coordination - Establish mechanisms for ongoing coordination, communications and implementation between the School Board, Miami-Dade County, and the Town to ensure the adequate provision of public educational facilities.

Policy 4.1 - The Town shall coordinate with Miami-Dade County Public Schools to develop or modify rules and regulations in order to simplify and expedite proposed new educational facility developments and renovations.

Policy 4.2 - Future educational facilities should be located where the capacity of other public facilities and services is available to accommodate the infrastructure needs of the educational facility.

Policy 4.3 - The Town will encourage Miami-Dade County Public Schools to coordinate school capital improvement plans with the planned capital improvement projects of the Town if applicable.

Policy 4.4 - The Town shall coordinate with Miami-Dade County Public Schools to eliminate infrastructure deficiencies surrounding existing school sites if applicable.

Policy 4.5 - The Town and Miami-Dade County Public Schools shall coordinate efforts to ensure the availability of adequate sites for the required educational facilities.

Policy 4.6 - The Town will account for the infrastructure needs of new, planned or expanded educational facilities when formulating and implementing the Town's capital improvements plans.

Policy 4.7 - Coordinate the Town land use planning and permitting processes with the Miami-Dade County Public Schools site selection and planning process to ensure future school facilities are consistent and compatible with land use categories and the surrounding land uses.

Policy 4.8 - The Town will notify Miami-Dade County Public Schools of land use and zoning decisions as outlined in the Interlocal Agreement.

Policy 4.9 - The Town and the Miami-Dade County Public Schools shall coordinate to prepare projections of future development and public school enrollment growth and to ensure such projections are consistent with the Town's future land use maps and the School Board's Long Range Public School Facilities Map consistent with the procedures and requirements identified in the Interlocal Agreement.

Policy 4.10 - The Town shall coordinate with adjacent local governments and the school district on emergency preparedness issues, including the use of public schools to serve as emergency shelters.

Figure 10A – Northwest Area Educational Facilities

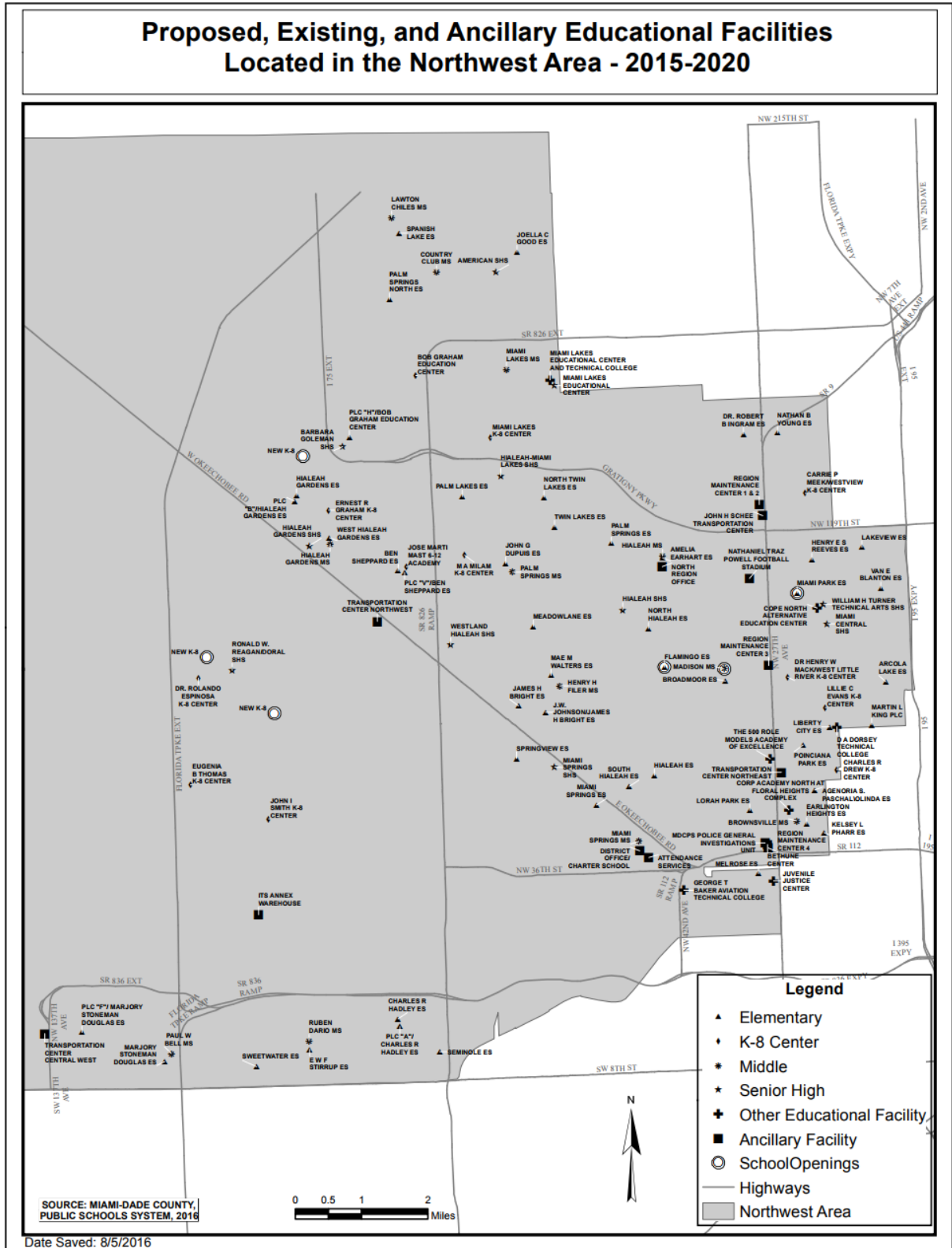


Figure 10B – Northeast Area Educational Facilities

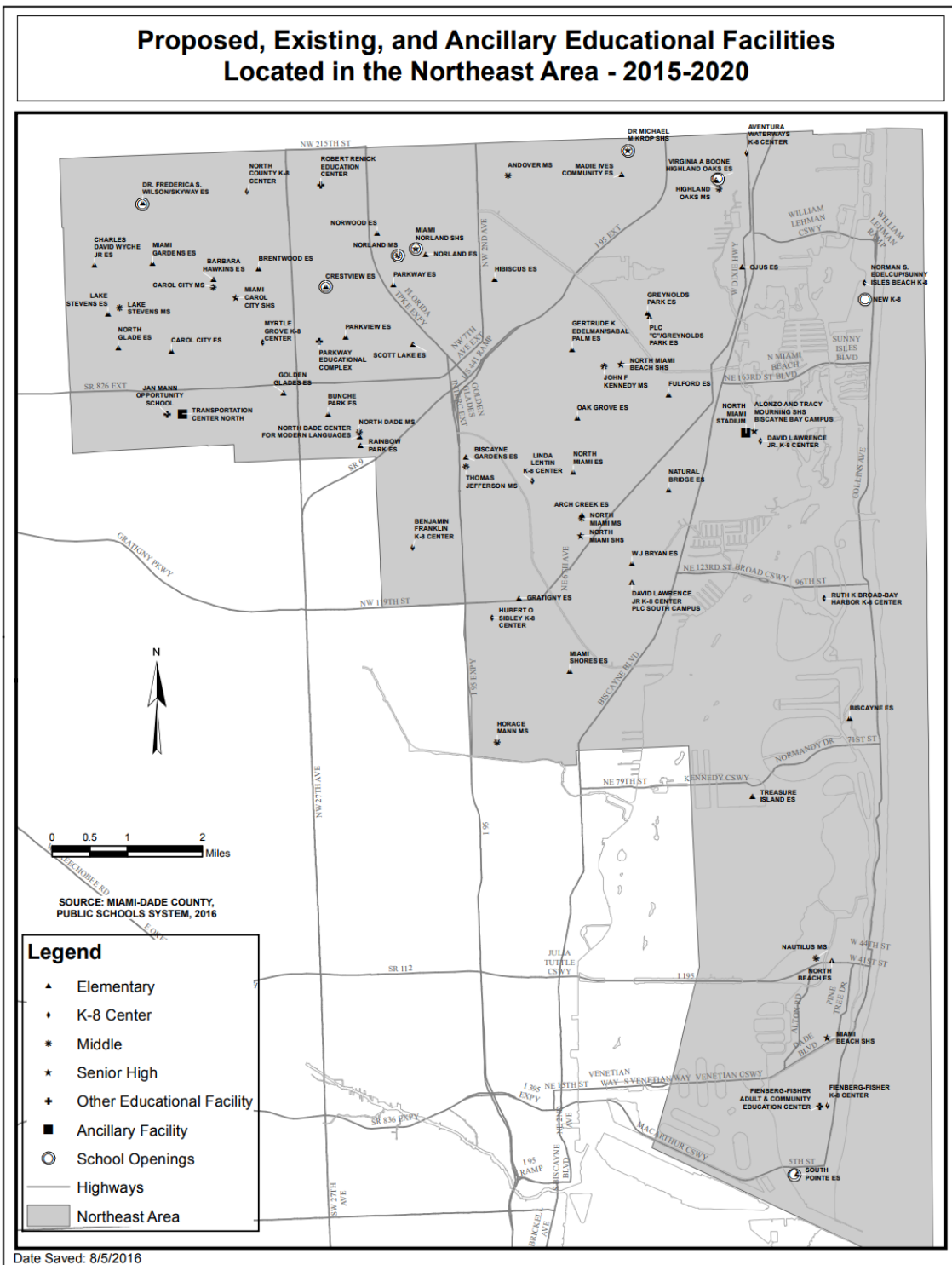


Figure 10C – Southwest Area Education Facilities

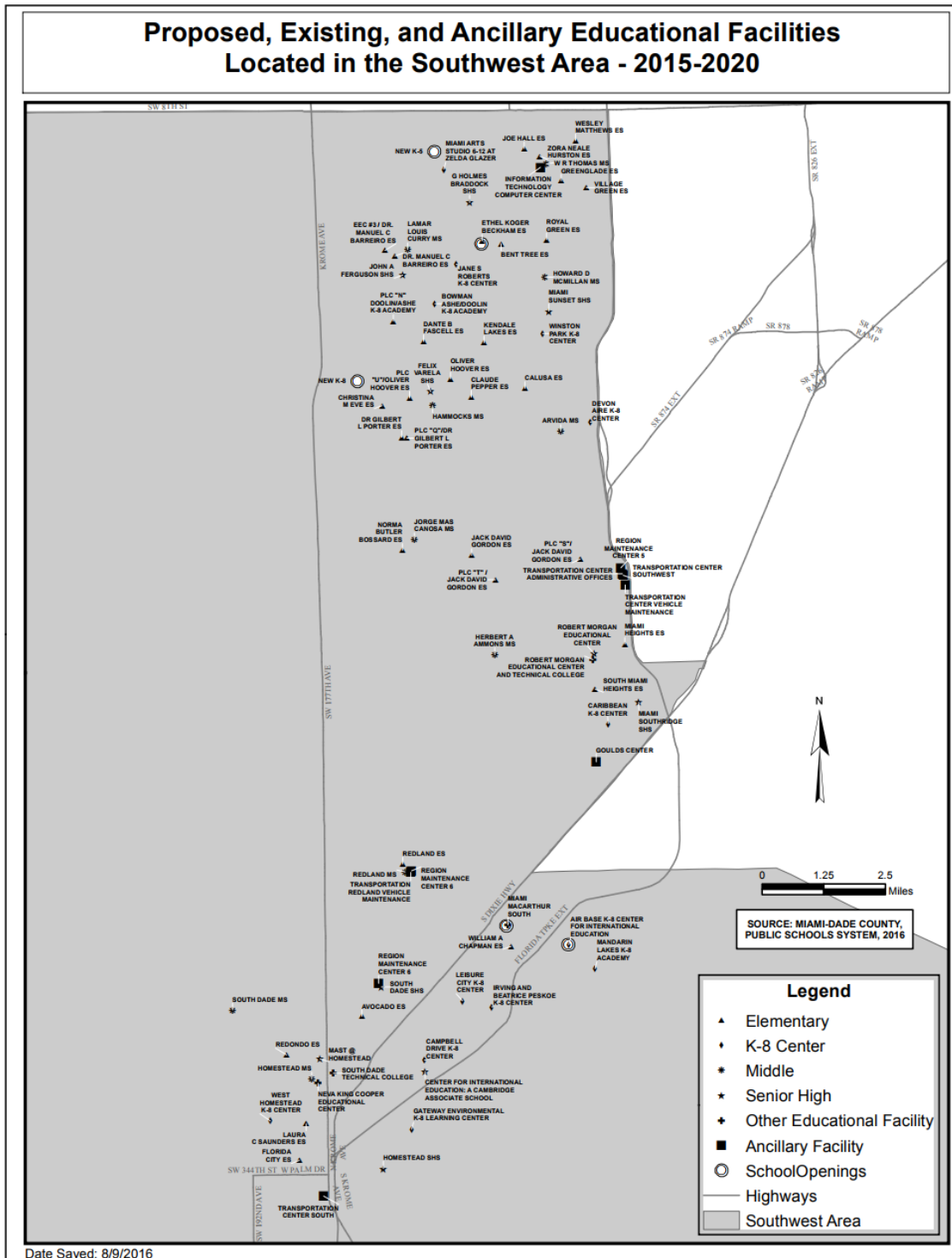
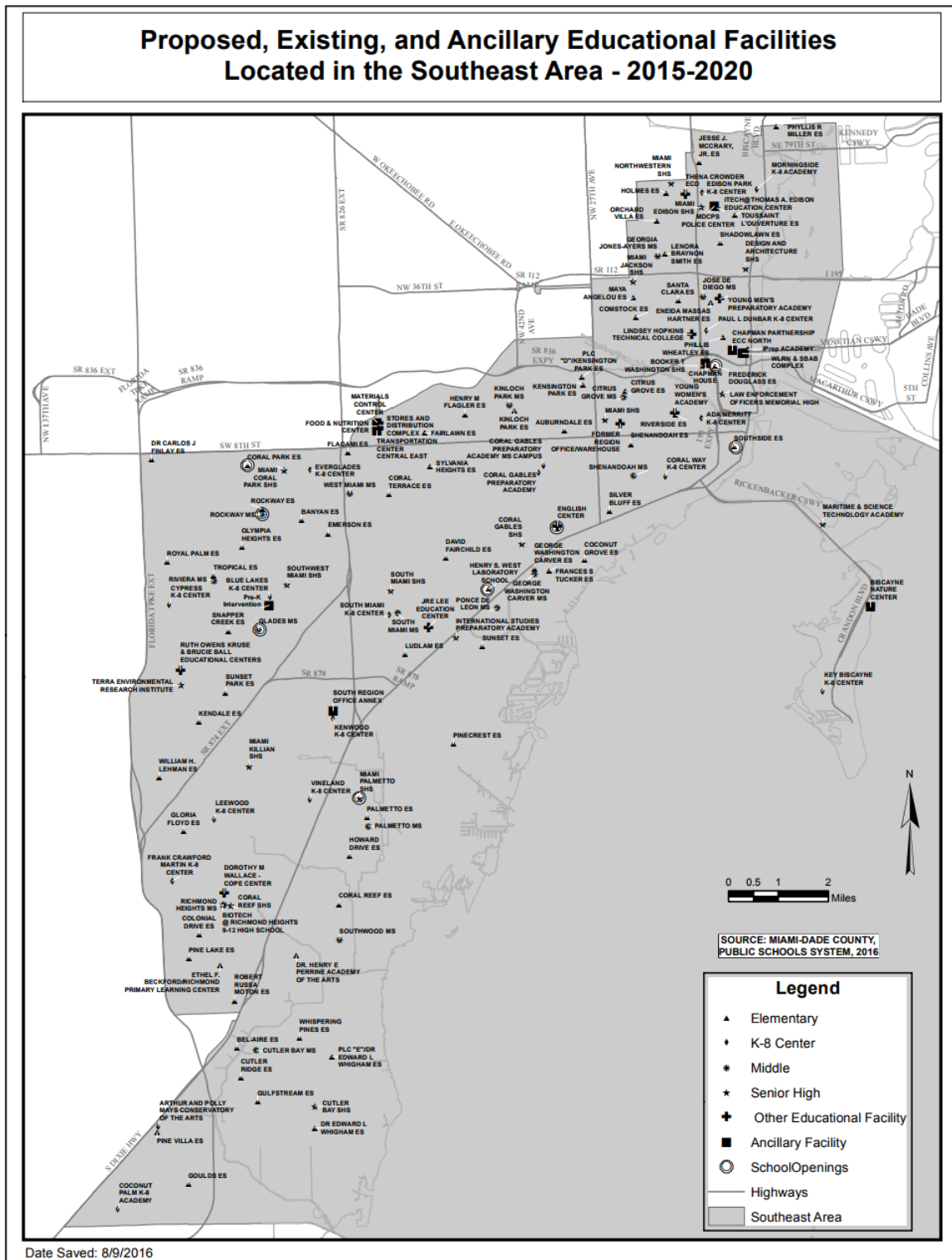


Figure 10D – Southeast Area Educational Facilities



Ron DeSantis
GOVERNOR



Meredith Ivey
ACTING SECRETARY

March 27, 2023

Mr. Hector Gomez
Acting Town Manter
Town of Surfside
9293 Harding Avenue
Surfside, Florida 33154

Subject: City of Surfside Evaluation and Appraisal Notification Letter

Dear Mr. Gomez:

This is to acknowledge receipt of your Evaluation and Appraisal Notification Letter, which was due on January 1, 2024 and received by the Department on March 20, 2023.

Please note that your proposed comprehensive plan amendments based on your Evaluation and Appraisal should be transmitted to the Department by **March 20, 2024**, within one year of your notification, pursuant to Section 163.3191(2), Florida Statutes. The amendments are subject to the **State Coordinated Review Process** as outlined in Section 163.3184(4), Florida Statutes.

James Stansbury of the Department's staff is available to assist and provide technical guidance to your questions concerning the contents of the Evaluation and Appraisal based comprehensive plan amendments and may be reached at 8512.

If you have any questions concerning the processing of the Evaluation and Appraisal based amendments, please contact Donna Harris, Plan Processor, at 850.717.8491.

Sincerely,

Barbara Powell, Deputy Bureau Chief
Bureau of Community Planning and Growth

BP/dh

Florida Department of Economic Opportunity | Caldwell Building | 107 E. Madison Street | Tallahassee, FL 32399
(850) 245.7105 | www.FloridaJobs.org | www.Twitter.com/FLDEO | www.Facebook.com/FLDEO

An equal opportunity employer/program. Auxiliary aids and service are available upon request to individuals with disabilities. All voice telephone numbers on this document may be reached by persons using TTY/TTD equipment via the Florida Relay Service at 711.



RECEIVED

MAR 20 2023

Town Manager's Office
9293 Harding Avenue, Florida 33154
Phone: 305.993.1052

March 13, 2023

Mr. D. Ray Eubanks, Plan Processing Administrator
Division of Community Development
Florida Department of Economic Opportunity
The Caldwell Building
107 East Madison – MSC 160
Tallahassee, Florida 32399-4120

RE: Town of Surfside, Florida
Evaluation and Appraisal Notification Letter

Dear Mr. Eubanks:

Pursuant to Section 163.3191(1), Florida Statutes and the Evaluation and Appraisal Notification Schedule Second Round Due Date, the Town of Surfside has completed an evaluation of its Comprehensive Plan. Based on this evaluation, the Comprehensive Plan must be amended to incorporate the following items:

- A Property Rights Element
- Update the Town's 2015 Water Supply Facility Work Plan
- Update the Base Floor Flood Elevation to 8.00 + 2.00 Feet NGVD
- Address Changes to Statutory Requirements of Chapter 163
- Minor Updates to the Comprehensive Plan and Socio-Economic Characteristics

In accordance with 163.3191(2), the Town shall transmit the Comprehensive Plan Amendments for review within one year of the date of this letter.

Sincerely,


Hector Gomez,
Acting Town Manager

cc: Mayor and Town Commission
Walter H. Keller, PE, AICP., Consultant Planner



Town of Surfside Commission Communication

Agenda #:

Agenda Date: December 8, 2015

Subject: Water Supply Facilities Work Plan

From: Sarah Sinatra Gould, AICP, Town Planner

Background: According to Florida Statute (F.S.) Chapter 163 and Chapter 373, the Town is required to complete a Water Supply Facilities Work Plan (Work Plan) with a minimum planning horizon of 10 years that is consistent with the regional Lower East Coast Water Supply Plan (LEC Plan) developed by the South Florida Water Management District (SFWMD). The Town's Work Plan must be updated within 18 months of an update to the LEC Plan. The most current update to the LEC Plan was adopted in September 2013. As such, the Town must also update and adopt its own Water Supply Facilities Work Plan in order to comply with State requirements.

In addition to updating its Work Plan, the Town is also required to review its Comprehensive Plan for consistency with the Work Plan and revise any data, inventory, analysis (DIA) or goals, objectives, policies (GOP) as they relate to potable water supply sources, existing and future facilities, water conservation, reuse, and alternative water supply.

The Planning and Zoning Board considered the amendments to the Town's Work Plan and Comprehensive Plan on March 26, 2015 and recommended approval to transmit the proposed Comprehensive Plan text amendments to the Department of Economic Opportunity and other State agencies. The Town Commission held a public hearing approving transmittal of the proposed text amendments to the Department of Economic Opportunity (DEO) and other State agencies on May 12, 2015.

In response to comments received by DEO and other State Agencies additional changes have been made since the initial review and transmittal. These changes are shown in double strikethrough and underline format and have been incorporated as follows:

1. References to the “Lower East Coast Water Supply Plan” have been amended to read “2013 Lower East Coast Water Supply Plan Update”.
2. The planning timeframe for the 15-Year Work Plan has been clarified as 2015-2030.
3. To address regional concerns, additional GOP have been added to the Comprehensive Plan which focus on resiliency of existing and future water resources in areas vulnerable to climate change related impacts (see Chapter 4: Infrastructure Element, Objective 6 – Infrastructure Resiliency and accompanying policies.) Coordination with Miami-Dade County in mitigating the impacts of Climate Change and Sea Level Rise on potable water supply has also been included.
4. Separate population estimates, water demand projections and per capita use rates for the Town have been extrapolated and included in Table 3.4 and 3.6 of the Work Plan, and Table 4-2 and 9-1 of the Comprehensive Plan.
5. Information related to the Miami-Dade County Water Use Permit Modification Application #14-627-12, which was approved by the South Florida Water Management District on February 9, 2015, has been updated.
6. Section 3.6, 3.7, 3.8, and 3.9 related to water conservation, reuse, and specific actions by the County and the Town to address water related issues have been deleted and moved to Section 2.2 Relevant Regional Issues.
7. References to “ultra-low volume” water saving devices have been replaced with “high-efficiency” water saving devices.
8. The Level of Service (LOS) standard has been updated to reflect the goals identified in Policy WS-2-2A of the County’s Water and Sewer Element.
9. Infrastructure Policy 1.7 has been revised to adopt by reference the Town of Surfside 15-Year Water Supply Facilities Work Plan dated December 2015 and the Miami Dade Water and Sewer Department 20-Year Water Supply Facilities Work Plan (2014 – 2033) inclusive of all potable water projects.
10. References to gallons per day (gpd) have been changed to gallons per capita per day (gpcd) where appropriate. In addition, the gpcd rate has been clarified to differentiate between the system-wide average (137.2 gpcd) and the Town average (148.04 gpcd).
11. The Miami-Dade County Capital Improvements Schedule related to potable water projects has been updated.
12. Statements pertaining to coordination with Miami-Dade County and the SFWMD have been added to Section 5.0 Goals, Objectives and Policies of the Work Plan.

Requested Action: Approval and adoption of an update to the Town's Water Supply Facilities Work Plan and corresponding amendments to the Town's Comprehensive Plan as it relates to potable water supply required by Florida Statute Chapter 163 and Chapter 373.

Only the sections of each element of the Comprehensive Plan related to water supply are amended.

Budget Impact: \$7,500 was funded in the FY14-15 Budget

Growth Impact: N/A

Staff Impact: N/A

Staff Recommendation: Staff recommends the Town Commission approve and adopt this Ordinance on second reading.

Exhibits:

- A. Water Supply Facilities Work Plan - Attached to the Ordinance
- B. Comprehensive Plan - Attached to the Ordinance
- C. Department of Economic Opportunity Comments
- D. South Florida Water Management District Comments
- E. Miami-Dade County Comments



Sarah Sinatra Gould, AICP, Town Planner



Guillermo Olmedillo, Town Manager

EXHIBIT C

TOWN OF SURFSIDE

Florida Department of Economic Opportunity Comments

Rick Scott
GOVERNOR



Jesse Panuccio
EXECUTIVE DIRECTOR

June 19, 2015

The Honorable Daniel Dietch, Mayor
Town of Surfside
9293 Harding Avenue
Surfside, Florida 33154

Dear Mayor Dietch:

The Department of Economic Opportunity has completed its review of the proposed comprehensive plan amendment for the Town of Surfside (Amendment No. 15-1ESR), which was received on May 22, 2015. We have reviewed the proposed amendment pursuant to Sections 163.3184(2) and (3), Florida Statutes (F.S.), and identified no comment related to important state resources and facilities within the Department's authorized scope of review that will be adversely impacted by the amendment if adopted.

We are, however, providing two technical assistance comments consistent with Section 163.3168(3), F.S. The Agency's technical assistance comments will not form the basis of a challenge but are offered to strengthen the Town's comprehensive plan or ensure compliance with the provisions of the Community Planning Act.

The first technical assistance comment pertains to a revised strategy (unnumbered) proposed to be included in the capital improvements element. This strategy states that "The Town shall incorporate by reference the potable water projects for the FY12-13 period in the Miami-Dade 20-Year Water Supply Facilities Work Plan (2014-2033) adopted November 2014." The strategy does not state the document into which the Town will adopt the Miami-Dade Water Supply Facilities Work Plan. The referenced time period for those potable water projects that will be incorporated by reference, FY12-13, is three years ago. In response, the Town is encouraged to revise the strategy prior to adoption to explicitly state the document into which the Town will adopt the Miami-Dade Water Supply Facilities Work Plan, and to update the listing of those projects referenced.

The second technical assistance comment pertains to the proposed inclusion of tables referring to water use and water demand. These tables are inaccurately labeled. They refer to water use in terms of *gallons per day*, whereas the data provided are actually *gallons per day per capita*, and to system-wide water demand in *gallons per day*, whereas the data provided are actually *million gallons per day*. To correct these inaccuracies, the tables should be revised to use appropriate water use and demand metrics.

The Town is reminded that pursuant to Section 163.3184(3)(b), F.S., other reviewing agencies have the authority to provide comments directly to the Town. If other reviewing agencies provide comments, we recommend the County consider appropriate changes to the amendment based on those comments. If unresolved, such comments could form the basis for a challenge to the amendment after adoption.

The Town should act by choosing to adopt, adopt with changes, or not adopt the proposed amendment. Also, please note that Section 163.3184(3)(c)1, F.S., provides that if the second public hearing is not held and the amendment adopted within 180 days of your receipt of agency comments, the amendment shall be deemed withdrawn unless extended by agreement with notice to the state land planning agency and any affected party that provided comment on the amendment. For your assistance, we have enclosed the procedures for adoption and transmittal of the comprehensive plan amendment.

We appreciate the opportunity to work with the Town of Surfside on planning and community development issues. If you have any questions concerning this review, please contact Adam Antony Biblo, at (850) 717-8503, or by email at Adam.Biblo@deo.myFlorida.com.

Sincerely,



Ana Richmond, Chief
Bureau of Community Planning

AR/aab

Enclosure: Procedures for adoption of comprehensive plan amendments

cc: Sarah Sinatra Gould, AICP, Town Planner, Town of Surfside
James F. Murley, Executive Director, South Florida Regional Planning Council

**SUBMITTAL OF ADOPTED COMPREHENSIVE PLAN AMENDMENTS
FOR EXPEDITED STATE REVIEW**

Section 163.3184(3), Florida Statutes

NUMBER OF COPIES TO BE SUBMITTED: Please submit three complete copies of all comprehensive plan materials, of which one complete paper copy and two complete electronic copies on CD ROM in Portable Document Format (PDF) to the State Land Planning Agency and one copy to each entity below that provided timely comments to the local government: the appropriate Regional Planning Council; Water Management District; Department of Transportation; Department of Environmental Protection; Department of State; the appropriate county (municipal amendments only); the Florida Fish and Wildlife Conservation Commission and the Department of Agriculture and Consumer Services (county plan amendments only); and the Department of Education (amendments relating to public schools); and for certain local governments, the appropriate military installation and any other local government or governmental agency that has filed a written request.

SUBMITTAL LETTER: Please include the following information in the cover letter transmitting the adopted amendment:

_____ State Land Planning Agency identification number for adopted amendment package;

_____ Summary description of the adoption package, including any amendments proposed but not adopted;

_____ Identify if concurrency has been rescinded and indicate for which public facilities. (Transportation, schools, recreation and open space).

_____ Ordinance number and adoption date;

_____ Certification that the adopted amendment(s) has been submitted to all parties that provided timely comments to the local government;

_____ Name, title, address, telephone, FAX number and e-mail address of local government contact;

_____ Letter signed by the chief elected official or the person designated by the local government.

ADOPTION AMENDMENT PACKAGE: Please include the following information in the amendment package:

_____ In the case of text amendments, changes should be shown in strike-through/underline format.

_____ In the case of future land use map amendments, an adopted future land use map, **in color format**, clearly depicting the parcel, its future land use designation, and its adopted designation.

_____ A copy of any data and analyses the local government deems appropriate.

Note: If the local government is relying on previously submitted data and analysis, no additional data and analysis is required;

_____ Copy of the executed ordinance adopting the comprehensive plan amendment(s);

Suggested effective date language for the adoption ordinance for expedited review:

The effective date of this plan amendment, if the amendment is not timely challenged, shall be 31 days after the state land planning agency notifies the local government that the plan amendment package is complete. If timely challenged, this amendment shall become effective on the date the state land planning agency or the Administration Commission enters a final order determining this adopted amendment to be in compliance. No development orders, development permits, or land uses dependent on this amendment may be issued or commence before it has become effective. If a final order of noncompliance is issued by the Administration Commission, this amendment may nevertheless be made effective by adoption of a resolution affirming its effective status, a copy of which resolution shall be sent to the state land planning agency.

_____ List of additional changes made in the adopted amendment that the State Land Planning Agency did not previously review;

_____ List of findings of the local governing body, if any, that were not included in the ordinance and which provided the basis of the adoption or determination not to adopt the proposed amendment;

_____ Statement indicating the relationship of the additional changes not previously reviewed by the State Land Planning Agency in response to the comment letter from the State Land Planning Agency.

EXHIBIT D

TOWN OF SURFSIDE

South Florida Water Management District Comments



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

June 24, 2015

Ms. Sarah Sinatra-Gould
Town Planner
Town of Surfside
9293 Harding Avenue
Surfside, FL 33154

**Subject: Town of Surfside, DEO #15-1ESR
Comments on Proposed Comprehensive Plan Amendment Package**

Dear Ms. Gould:

The South Florida Water Management District (District) has completed its review of the proposed amendment package from the Town of Surfside (Town). The amendment updates the Town's Water Supply Facilities Work Plan (Work Plan) and associated goals, objectives and policies of the Comprehensive Plan. The District offers the following recommendations for revising the proposed amendment package and requests that the Town address these recommendations prior to adopting the amendment:

- Revise references to the "Lower East Coast Water Supply Plan" throughout the amendment to the "2013 Lower East Coast Water Supply Plan Update".
- Clarify the planning timeframe period for the Work Plan. The cover page of the Work Plan, Sections 1.0 and 2.2, and Infrastructure Element Policy 1.6 indicate the Work Plan is for 20 years. However, planning timeframes for population and water demand projections throughout the Work Plan only go through the year 2035, which is an 18 year timeframe. Revise the Work Plan and Policy 1.6, as needed, to reflect the actual timeframe of the Work Plan, either 20 years or 18 years.
- Revise Section 2.2 to include a narrative of the effects of the identified regional issues from the 2013 Lower East Coast Water Supply Plan Update upon the Town and describe the Town's policies addressing these regional concerns.
- Section 3.0, Data and Analysis, and Section 3.4, Population and Potable Water Demand Projections, includes population and water demand projections for the Miami-Dade County Water Supply System as a whole. Specific data and analysis for the Town has been deleted and is no longer included for the Town. Please revise Sections 3.0, 3.4, and other sections of the proposed Work Plan, as needed, to include separate projections of population and water demands for the Town.

- Revise Section 3.1, Water Supply Providers, Section 3.4, Population and Water Demand Projections, and Section 4.0, Capital Improvements, to reflect that Miami-Dade County's Water Use Permit Modification Application with the District (Application #14-627-12) was approved by the District on February 9, 2015. Include the information that the County's Water Use Permit, Permit #13-00017-W will now expire on February 9, 2035.
- Section 3.3, Potable Water Level of Service (LOS) Standard, deletes the analysis of the Town's LOS Standard and includes a LOS Standard for the Miami-Dade County Water Supply System as a whole. The LOS Standard and the analysis of the LOS Standard for the Town should not be deleted; needs to be included in the Town's Comprehensive Plan. The LOS Standard should be consistent with the 2014 Miami-Dade County Work Plan (Work Plan) for the per capita rate, or Level of Service Standard (LOS Standard), for the Town. If the LOS Standard has changed, it should be as consistent as possible with the LOS Standard identified in the 2014 Miami-Dade County Work Plan, Appendix C. If there is a significant difference in the LOS Standard, please provide an explanation of the differences. Exhibit C-2 Municipal Per Capita – Water Supplied by Miami-Dade Water And Sewer Department from the County's Work Plan includes a potable water consumption per capita rate for the Town of 148.04 gpd for the Town.
- Clarify why Sections 3.6, 3.7, 3.8, and 3.9, which address water conservation and reuse issues in the existing adopted Work Plan, are proposed to be deleted. These Sections should not be deleted and should be revised to include a review of existing conservation and reuse efforts of the Town to determine whether they need to be updated or revised based on how they have been implemented or because of changes in statutory requirements. The updated information should address the following, as applicable:
 - An analysis of the existing levels of water conservation, use, and protection and the applicable policies of the Town, the District, and the 2013 Lower East Coast Water Supply Plan Update.
 - An identification of options to conserve water, including rate structures, education programs, Florida-friendly landscape ordinances, irrigation ordinances, etc.
 - How reclaimed water has been used, if applicable.
 - How successful the Town's enforcement of water shortage and other irrigation restrictions has been.
 - New conservation and reuse efforts to be studied and/or implemented by the Town.
- Section 4.2, Capital Improvements Schedule, and Figure 4.2, WASD Water/Alternative Water Supply CIE Projects, should be revised to address the following:
 - The inclusion of all projects for a five year timeframe after the adoption of the Work Plan Update.

- An indication if projects are either funded or unfunded. If a project is unfunded, provide a level of priority for funding. Include Miami-Dade WASD funded projects.
- An explanation of projects outside the 5-Year Schedule (such as a needed project in year seven (7) of a 10-year plan) and how they will be addressed.
- A description of how projects are coordinated with the applicable Regional Water Supply Plan.
- Include in Section 5.0 a narrative of how the Town will ensure and coordinate with Miami-Dade WASD to provide sufficient water to the residents of the Town throughout the planning period of the Work Plan. The narrative should address the following, as applicable:
 - A review of the goals, objectives, and policies of the Town's Comprehensive Plan to determine if they need to be updated or revised based on how they have been implemented or because of changes in statutory requirements.
 - Coordination activities with Miami-Dade WASD.
 - Explain coordination with the 2013 Lower East Coast Water Supply Plan Update.
- Revise Exhibit B, Town of Surfside Comprehensive Plan Chapters, to be consistent with the Town's proposed updated Work Plan and to address the comments raised above.
- Revise Infrastructure Policy 1.7 to include the dates of adoption of the Town's Work Plan and the County's Work Plan. The policy should also be revised to include the title of the County's Work Plan, as adopted by the County.
- Revise Infrastructure Policy 4.1 and Capital Improvements Element Policy 2.1 to include the LOS Standard or gallons per capita per day rate of the Town, not the County-wide gallons per capita per day rate.

The District offers its technical assistance to the Town and the Department of Economic Opportunity in developing sound, sustainable solutions to meet the Town's future water supply needs and to protect the region's water resources. Please forward a copy of adopted amendments to the District. For assistance or additional information, please contact Terry Manning, Planning and Policy Analyst, at (561) 682-6779 or tmanning@sfwmd.gov.

Sincerely,



Dean Powell
Water Supply Bureau Chief
DP/tm/lmr

Ms. Sarah Sinatra-Gould
June 24, 2015
Page 4

c: Ray Eubanks, DEO
Terry Manning, SFWMD
Jim Murley, SFRPC
Suzanne Ray, DEP
James Stansbury, DEO
Maria Valdes, Miami-Dade County
Mark Woerner, Miami-Dade County

EXHIBIT E

TOWN OF SURFSIDE

Miami Dade County Comments



miamidade.gov

Department of Regulatory and Economic Resources
Planning Division, Metropolitan Planning Section
111 NW 1 Street • Suite 1250
Miami, Florida 33128-1902
T 305-375-2835 F 305-375-1091
www.miamidade.gov/business/planning.asp

June 25, 2015

Sarah Sinatra-Gould, AICP, Town Planner
Town of Surfside
9293 Harding Avenue
Surfside, Florida 33154

Re: Town of Surfside Water Supply Facilities Work Plan Update; DEO No. 15-1ESR

Dear Ms. Sinatra-Gould:

The Miami-Dade County Department of Regulatory and Economic Resources (Department) has reviewed the Town's proposed Water Supply Facilities Work Plan Update. Our review is conducted to identify points of consistency or inconsistency with the goals, objectives, policies and relevant provisions of the Miami-Dade County Comprehensive Development Master Plan (CDMP), and whether the proposed amendments impact County public facilities and services.

Based on the information provided and the County CDMP's goals, objectives and policies, the Planning Division finds the proposed Water Supply Facilities Work Plan Update generally consistent with the CDMP. However, the Miami-Dade County Water and Sewer Department (MDWASD) offer the following comments:

Water Supply Facilities Work Plan

- 1. Page 13; Section 3.1: Water Supply Providers: Revise the first paragraph to indicate that SFWMD issued a revised Water Use Permit to MDWASD on February 9, 2015 with a total annual allocation of 140,915.50 million gallons (386.07 MGD) and a maximum monthly allocation of 12,330.11 million gallons. The permit has a duration of 20 years and expires on February 9, 2035.
2. Pages 19-20; Section 3.3: Potable Water Level of Service Standard: The Town should include the Potable Water Level of Service Standard in this Section.
3. Page 30; Section 4.1: Work Plan Projects: Revise the first paragraph to indicate that the alternative water supply projects are according to the County's 20-Year Water Use Permit issued on February 9, 2015.
4. Page 35; 1st paragraph, Section 4.2: Capital Improvements/Schedule: Please note that the completion date of the South Miami Heights Water Treatment Plant is now scheduled for December 31, 2019.

Appendix B: Comprehensive Plan Chapters

- 5. Chapter 4; Infrastructure Element: Potable Water Level of Service – Data, Inventory and Analysis: Please note that the County's water level of service standard does not include the

Delivering Excellence Every Day

Sarah Sinatra-Gould, AICP
Town of Surfside
June 25, 2015
Page 2 of 2

County's systemwide per capita of 137.2 gallons per capita per day (GPCD). It should also be noted that the Town has a per capita of 148.04 gpcd as indicated in Appendix C-7 of the County's WSFWP.

6. Chapter 4: Infrastructure Element: Goals, Objectives and Policies:
 - a. Policy 4.1—Potable Water Level of Service: Please see the note above regarding the County's systemwide per capita of 137.2 gpcd.
 - b. Policy 5.1: Please delete the reference to "ultra-low volume" and replace with high-efficiency water savings devices.
7. Chapter 9: Capital Improvement Element –Goals, Objectives and Policies: Policy 2.1 - Potable Water Level of Service: Please see the note above regarding the County's systemwide per capita of 137.2 gpcd.
8. Consider adopting policies to address and coordinate with Miami-Dade County efforts on Climate Change.

Thank you for the opportunity to comment on this amendment. If you, or any member of your staff, have any questions regarding these comments please do not hesitate to contact me or Napoleon Somoza, Section Supervisor, at 305-375-2835.

Sincerely,



Mark R. Woerner, AICP
Assistant Director for Planning

MRW:NVS:smd

Cc: Ray Eubanks, Administrator, Plan Review and Processing
Department Economic Opportunity
Maria Valdes, Miami-Dade Water and Sewer Department

ORDINANCE NO. 15 - _____

AN ORDINANCE OF THE TOWN OF SURFSIDE, FLORIDA, AMENDING THE TOWN'S WATER SUPPLY FACILITIES WORK PLAN AND APPLICABLE ELEMENTS WITHIN THE TOWN'S COMPREHENSIVE PLAN RELATING TO WATER SUPPLY PLANNING; PROVIDING FOR INCLUSION IN THE TOWN OF SURFSIDE COMPREHENSIVE PLAN; PROVIDING FOR REPEAL OF CONFLICTS; PROVIDING FOR SEVERABILITY; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, Section 163.3167, Florida Statutes, requires each local government to address in its Comprehensive Plan, the water supply sources necessary to meet and achieve the existing and projected water use demand for an established planning period; and

WHEREAS, the Town of Surfside recognizes the need for integration between land use planning and water supply planning; and

WHEREAS, Section 163.3177, Florida Statutes, requires that local governments prepare and adopt at least a 10-Year Water Supply Facilities Work Plan and to update the Work Plan, at a minimum, every five years; and

WHEREAS, in order to reflect recent updates to state and regional Water Supply Facilities Work Plans, the Town desires to amend its Water Supply Facilities Work Plan and related elements within the Town's Comprehensive Plan; and

WHEREAS, pursuant to Section 90.17 of the Town Code, the Planning and Zoning Board is designated as the Local Planning Agency for the Town; and

WHEREAS, the Planning & Zoning Board in its capacity as the Local Planning Agency, has reviewed proposed amendments to the Future Land Use Element of the Comprehensive Plan as substantially contained herein and recommended approval to the Town Commission on March 26, 2015; and

WHEREAS, on May 12, 2015, the Town Commission reviewed the recommendation of the Planning and Zoning Board and, after duly noticed public hearings in accordance with the Florida Statutes and the Town Code, found that this Ordinance is in the best interest and welfare of the residents of the Town; and

WHEREAS, on December 8, 2015, the Town Commission conducted a second duly noticed public hearing on these regulations as required by law and has further found that the Town's Water Supply Facilities Work Plan and amendments to the Town's Comprehensive Plan correspond to the

potable water supply required by Chapter 163 and Chapter 373, Florida Statutes.

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COMMISSION OF THE TOWN OF SURFSIDE, FLORIDA:

Section 1. Recitals. The foregoing “Whereas” clauses are hereby ratified and incorporated as the legislative intent of this Ordinance.

Section 2. Recommendation of Approval by the Local Planning Agency. The Planning and Zoning Board, in its capacity as the Local Planning Agency, has reviewed the proposed amendments to the Town’s Comprehensive Plan and recommends approval by the Town Commission.

Section 3. Amendment of Water Supply Facilities Work Plan. The Town Commission hereby adopts an amendment to its Water Supply Facilities Work Plan and also incorporates by reference its Water Supply Facilities Work Plan into its Comprehensive Plan as supporting data and analysis for the amendments adopted in this Ordinance. A copy of the Water Supply Facilities Work Plan is provided in “Exhibit A.”

Section 4. Amendment of the Town’s Comprehensive Plan. The Town Comprehensive Plan is hereby amended as provided in Exhibit “B,” which is attached hereto and made a part of this Ordinance.

Section 5. Severability. Should any section, paragraph, sentence, clause, phrase or other part of this Ordinance be declared by a court of competent jurisdiction to be invalid, such decision shall not affect the validity of this Ordinance as a whole or any portion thereof, other than the part so declared to be invalid.

Section 6. Conflict. That all Sections or parts of Sections of the Code of Ordinances, all Ordinances or parts of Ordinances, and all Resolutions, or parts of Resolutions, in conflict with this Ordinance are repealed to the extent of such conflict.

Section 7. Effective Date. This Ordinance shall be effective thirty one days after the state Department of Economic Opportunity notifies the Town that the plan amendment package is complete, or if timely challenged, on the date a final order is issued by the Department of Economic Opportunity or Administration Commission finding the Plan Amendment in compliance in accordance with Section 163.3184, Florida Statutes.

PASSED and ADOPTED on First Reading the _____ day of _____, 2015.

PASSED and ADOPTED on Second Reading this _____ day of _____, 2015.

Daniel Dietch, Mayor

ATTEST:

Sandra Novoa, Town Clerk

**APPROVED AS TO FORM AND LEGALITY FOR THE USE
AND BENEFIT OF THE TOWN OF SURFSIDE ONLY:**



Linda Miller, Town Attorney

On Final Reading Moved by: _____

On Final Reading Seconded by: _____

VOTE ON ADOPTION:

Commissioner Barry Cohen	yes	_____	no	_____
Commissioner Michael Karukin	yes	_____	no	_____
Commissioner Marta Olchyk	yes	_____	no	_____
Vice Mayor Eli Tourgeman	yes	_____	no	_____
Mayor Daniel Dietch	yes	_____	no	_____

EXHIBIT A

TOWN OF SURFSIDE

15-Year Water Supply Facilities Work Plan



15-Year Water Supply
Facilities Work Plan
(2015-2030)

Prepared by



Calvin, Giordano & Associates, Inc.

EXCEPTIONAL SOLUTIONS™

1800 Eller Drive, Suite 600 · Fort Lauderdale, FL 33316

(phone) 954.921.7781 · (fax) 954.266.6487

Certificate of Authorization #514

November 26, 2008 December 2015

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Appendix A – Miami Dade Water & Sewer Department Water Agreement

1.0 INTRODUCTION

The purpose of the Town of Surfside 15-Year 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~~ Town'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 water management district approves a regional water supply plan. The ~~updated 2013~~ 2013 Lower East Coast Water Supply Plan Update was approved by the South Florida Water Management District (SFWMD) ~~on February 15, 2007~~ in September 2013; therefore, the deadline for local governments within the Lower East Coast jurisdiction to amend their comprehensive plans, and adopt a Work Plan is ~~August 15, 2008~~ March 2015.

Residents of the Town of Surfside purchase their water directly from Miami Dade Water and Sewer Department (WASD). Under this arrangement, the Town of Surfside Public Works Department coordinates with Miami Dade to ensure that adequate capacity is available for existing and future customers and that supporting infrastructure, such as the water lines, are adequately maintained.

The Town of Surfside Water Supply Facilities Work Plan will reference data from WASD's 20 year water supply plan (2014-2033), since the Ttown is a wholesale customer. The intent of the ~~County water supply plan~~ is to meet the statutory requirements ~~mentioned~~ outlined in subsection 1.2 below, of this plan and to coordinate WASD's water supply initiatives with the 2013 Lower East Coast Water Supply Plan Update, prepared by the South Florida Water Management District.

According to Florida state guidelines Statutes, the Work Plan and the ~~any corresponding~~ comprehensive plan amendment 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 a minimum of a 10-Year planning period. This plan ~~matches the WASD plan in planning length of 20 years~~ has a planning horizon of 15 years for the Town from 2015-2030.

The Town's Work Plan is divided into six sections:

1. Introduction
2. Background Information
3. Data Analysis
4. Capital Improvements
5. Goals, Objectives, and Policy Discussion
6. Conclusion

1.1 Statutory History

In 2002, 2004, and 2005 and 2011 the Florida Legislature enacted bills 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. The bills require local governments to identify how future water supply needs will be met through preparation of a Water Supply Facilities Work Plan with a minimum planning horizon of 10 years. The Work Plan must also be incorporated into a state-approved local comprehensive plan. ~~In addition,~~ ~~†~~ These bills established the basis for improving coordination between ~~the~~ local land use planning and water supply planning.

1.2 Statutory Requirements

The following highlights the statutory requirements:

1. Coordinate appropriate aspects of ~~its~~ the Town of Surfside's comprehensive plan with the ~~appropriate water management district's regional water supply plan~~ South Florida Water Management District (SFWMD) 2013 Lower East Coast Water Supply Plan Update (2013 LEC Plan). [163.3177(4) (a), F.S.]
2. Ensure ~~that its~~ the Town's 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 amendments submitted to the Department of ~~Community Affairs~~ Economic Opportunity (DCAEO) 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 Future Land Use Map 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, pursuant to S. 373.709(2)(a), F.S., or alternative project(s) proposed by the local government under S. 373.709(8)(b), F.S.~~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.]~~ The Work Plan must address the water supply sources necessary to meet and achieve the existing and projected water use demand for the region through the 2030 planning period as established by the 2013 LEC Plan [s. 163.3167(9), 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 five-year period [s. 163.3177(3)(a)4, F.S.].
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 2013 LEC Plan~~appropriate regional water supply plan, the applicable District Water Management Plan, as well as applicable consumptive use permit(s)- [s.163.3177(6)(d)3, F.S.]~~[s.163.3177 (6) (d), F.S.]

~~If the established planning period of a comprehensive plan is greater than ten 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. ~~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.]~~
98. 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.] While an Evaluation and Appraisal Report is not required, local governments are encouraged to comprehensively evaluate, and as necessary, update comprehensive plans to reflect changes in local conditions. The evaluation could address the extent to which the local government has implemented the need to update their Work Plan, including the development of alternative water supplies, and determine whether the identified alternative water supply projects, traditional water supply projects, and conservation and reuse programs are meeting local water use demands [s.163.3191 (3), F.S.]

2.0 – BACKGROUND INFORMATION

2.1 Overview

The Town of Surfside is located between Miami Beach to the south and Bal Harbour to the north with the Atlantic Ocean to the east and the Village of Indian Creek and Bay Harbor Islands, separated by Indian Creek to the west. The Town of Surfside was incorporated on May 18, 1935 by 35 residents who signed the incorporation documents as members of the private Surf Club, which remains a significant landmark in Surfside.

The Town of Surfside is an evolving municipality consisting of approximately 329.5367.45 acres. Approximately 6758.33% is comprised of residential uses,

2.1.84% General Retail Services, 2.61.83% Community Facilities and 238% of all other uses as shown in **Table 2.1 Existing Land Use**. The largest increase seen from 1995 to 2007 has been an increase in Moderate Density Residential. Private recreation facilities and parking have been redeveloped into residential to provide additional housing.

Figure 2.1 illustrates the Town of Surfside existing land use and **Figure 2.2** illustrates future land use.

Table 2.1
Existing Land Use
For Illustrative Purposes Only

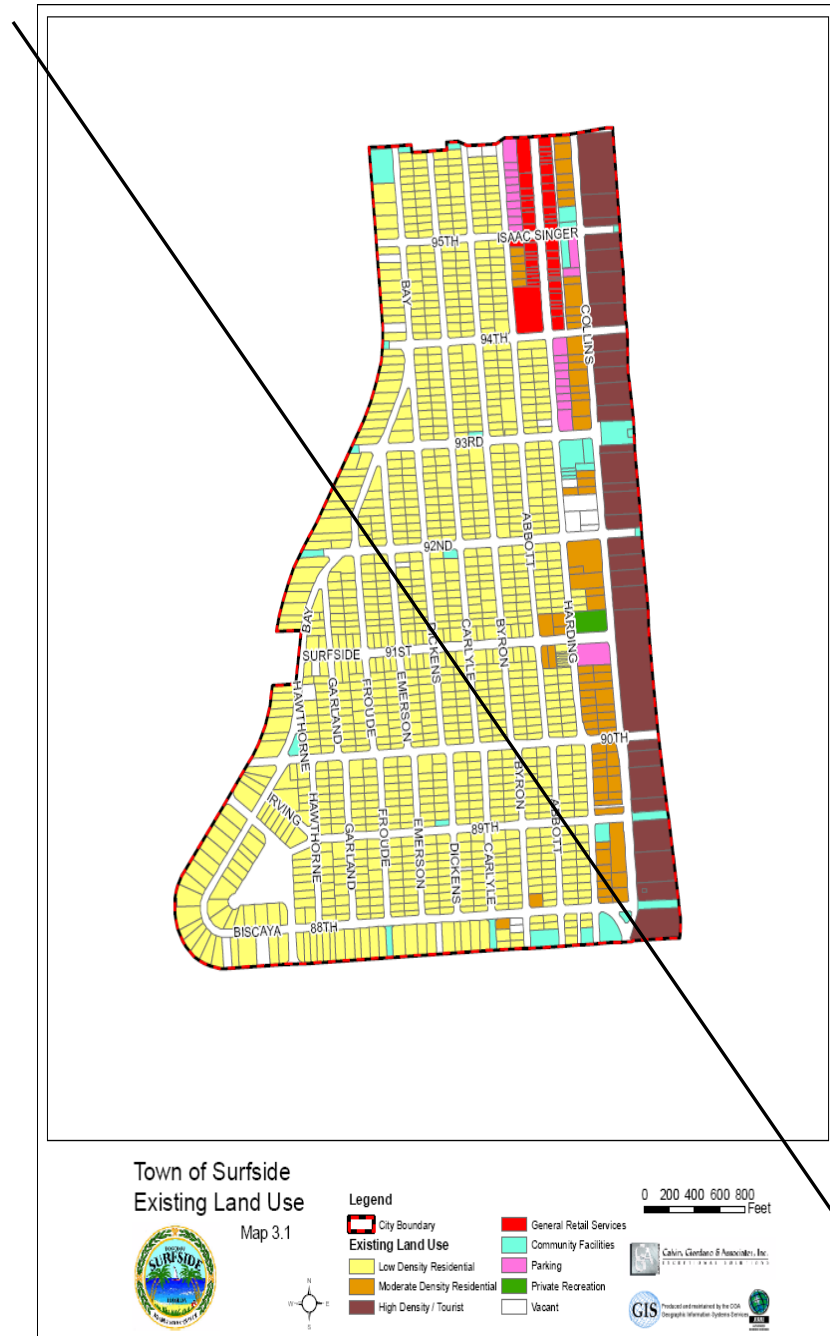
Existing Land Use	Land Area (ac)		
	1995	2007	% Change
Low Density Residential	173.8	173.7	-0.06
Moderate Density Residential	1.8	17.2	+855
High Density Residential/Tourist	33.7	31.1	-8
General Retail Services	5.5	6.8	+23
Private Recreation	18.6	0.8	-2,226
Community Facilities	37.0 +/- 35	8.5 +/- 35	-335
Parking	10.0	4.5	-123
Vacant/Undeveloped	2.8	4.3	+55
ROW	81.6	82.5	+1
Total Town Area (ac)	365	365	No Change

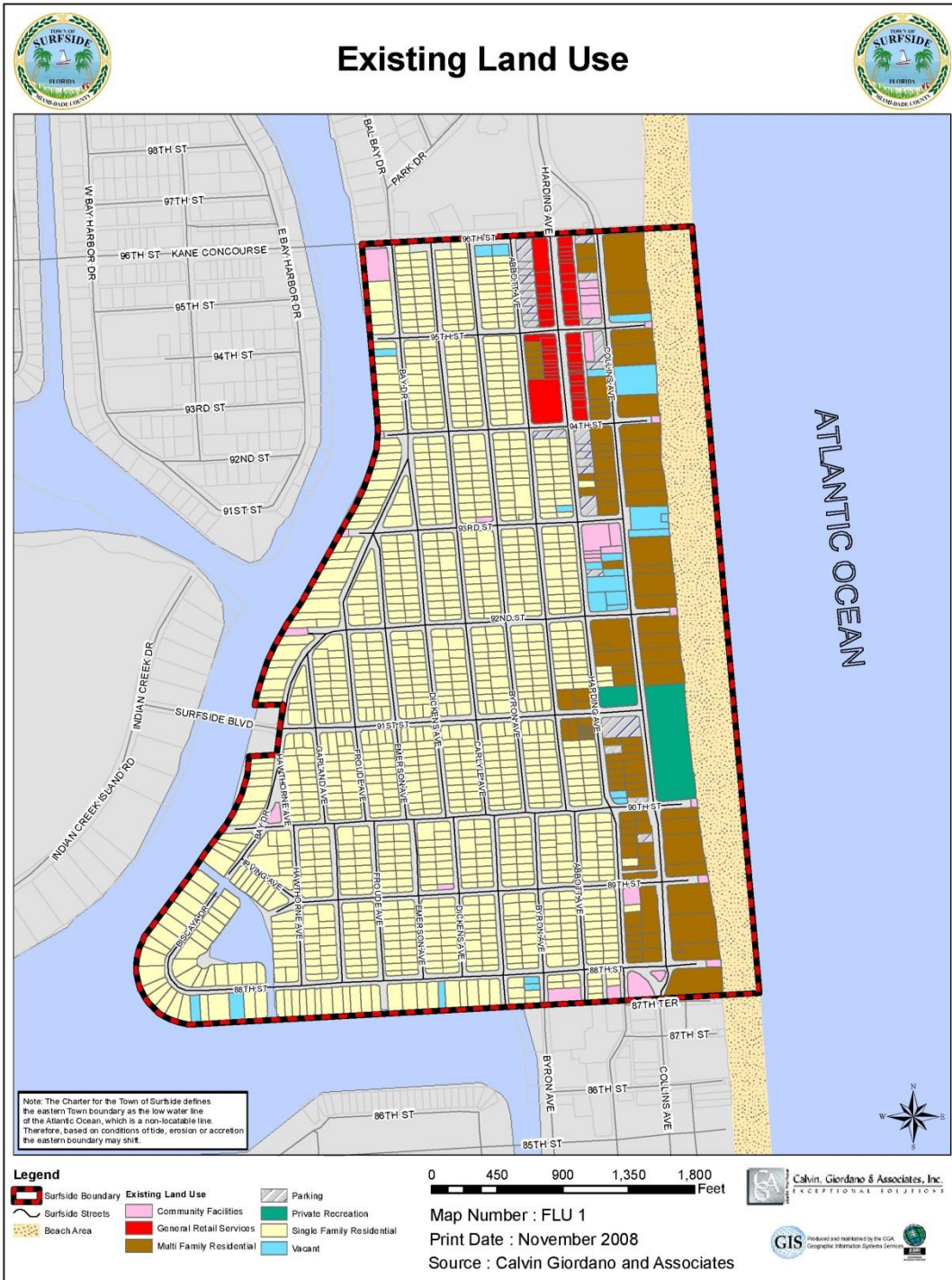
<u>EXISTING Land Use</u>	<u>Acres</u>	<u>% of Total Acres</u>
<u>Community Facilities</u>	<u>6.72</u>	<u>1.83%</u>
<u>General Retail Services</u>	<u>6.76</u>	<u>1.84%</u>
<u>Multi-Family Residential</u>	<u>39.10</u>	<u>10.64%</u>
<u>Parking</u>	<u>5.45</u>	<u>1.48%</u>
<u>Private Recreation</u>	<u>5.72</u>	<u>1.56%</u>
<u>Single Family Residential</u>	<u>175.25</u>	<u>47.69%</u>
<u>Vacant</u>	<u>7.07</u>	<u>1.93%</u>
<u>ROW</u>	<u>121.38</u>	<u>33.03%</u>
<u>TOTAL ACREAGE</u>	<u>367.45</u>	<u>100.00%</u>

Source: Town of Surfside 1989-2010 Comprehensive Plan; 1995-EAR GIS calculations prepared by the Town of Surfside; Calvin, Giordano & Associates, 2007.

The largest increase from 1995 to 2007 has been in Moderate Density Residential land use. Private recreation facilities and parking have been redeveloped into residential use to provide additional housing. **Figure 2.1** illustrates the Town of Surfside existing land use and **Figure 2.2** illustrates future land use.

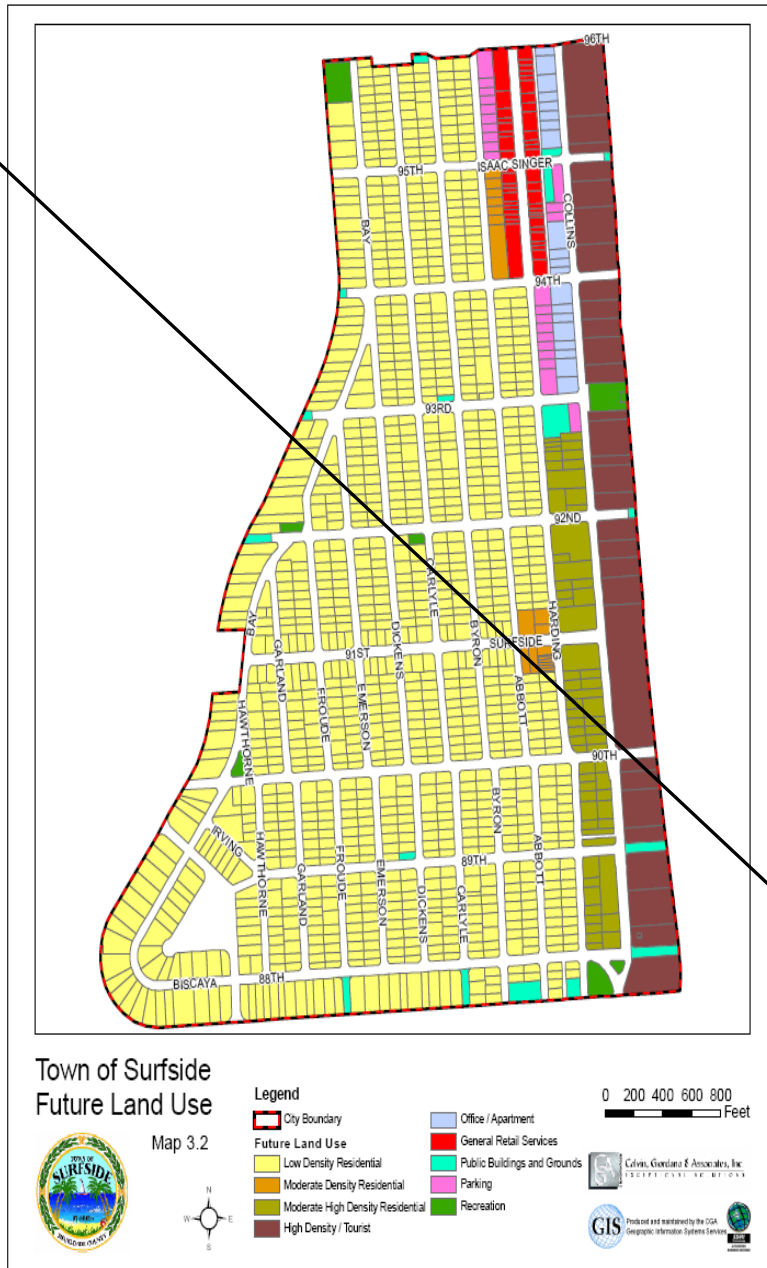
Figure 2.1





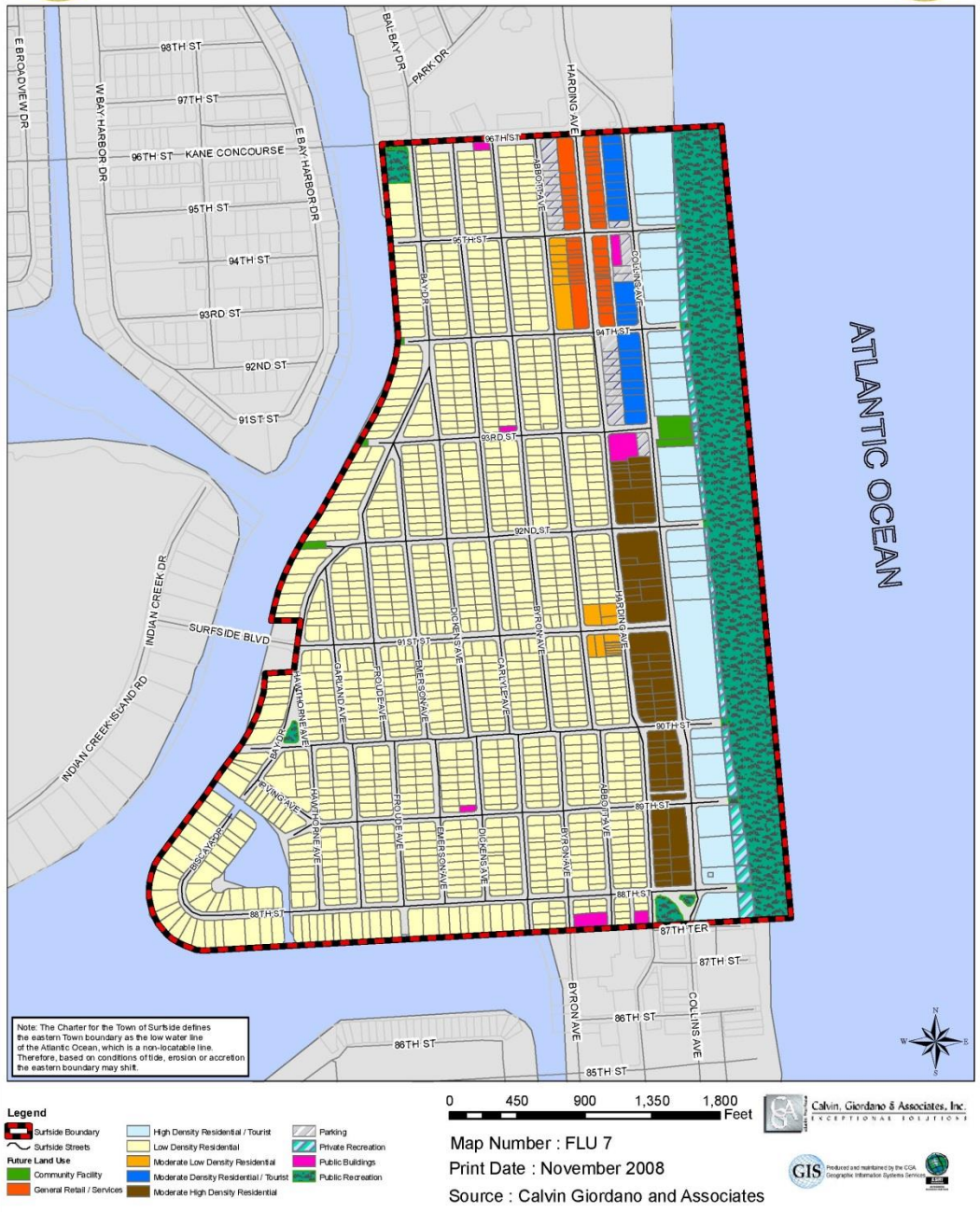
Source: Town of Surfside 2010 Comprehensive Plan

Figure 2.2





Future Land Use (2030)



Source: Town of Surfside 2010 Comprehensive Plan

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 increased on the Everglades ecosystem resource, 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 15, 2007 as part of the SFWMD's Consumptive 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.~~

As the state agency responsible for water supply planning within the Lower East Coast region, the South Florida Water Management District (SFWMD) plays a pivotal role in ensuring an adequate supply of water to protect, enhance and restore natural systems; meet population demands; and address all other existing and projected needs for water supply. The SFWMD 2013 LEC Plan identified several current issues of importance to the region's water supply including:

1. The need to reduce reliance on the regional system for future water supply needs by developing alternative water supplies.
2. The need for increased conservation, reclamation and re-use methods in order to reduce per capita use and delay or avoid adding capacity.
3. The need to better integrate energy and water management.
4. The need to consider climate change and its hydrogeological effects such as sea level rise and salt water intrusion in water supply planning.
5. The need to limit withdrawals from both the Surficial Aquifer System and surface water from Lake Okeechobee.
6. The need to relieve pressure on the Everglades ecosystem by seeking alternative water supply sources that are not dependent upon the Everglades for recharge as per the 2007 Regional Water Availability Rule.
7. The need to reduce nutrient loadings to the environment by eliminating the use of six ocean outfalls in southeastern Florida as the primary means of disposal for treated domestic wastewater by December 20, 2025 as per the 2008 Leah G. Schad Ocean Outfall Program.

The Town of Surfside 15-Year Water Supply Facilities Work Plan aids in addressing regional challenges by providing data and analysis to SFWMD, and by collaborating with other local municipalities and the Miami Dade Water and Sewer Department (WASD) to strengthen the water supply planning process. The Town fully supports regulatory changes, water conservation programs and alternative water supply projects under the purview of SFWMD and the WASD, inclusive of actions which help to address climate change such as salt water intrusion monitoring, groundwater modeling and infrastructure assessments.

The Town works closely with the WASD to achieve targeted goals as outlined in the “Miami Dade Water and Sewer Department 20-year Water Use Efficiency Goal Based Plan” approved by SFWMD in May 2007. Included in the water use efficiency plan are the Water Conservation Best Management Practices (BMP) along with a countywide BMP implementation schedule, costs and water savings projections. Water conservation within the WASD service area is in accordance with SFWMD Water Use Permit No. 13-00017-W, expiring February 9, 2035.

The Town has already implemented several of its own water saving policies and procedures as identified below:

- In an attempt to reduce overall water consumption, Surfside adopted a tiered structure water billing plan. This unit rate billing discourages high consumption users by charging a higher unit rate each time a tier of consumption is reached.
- Surfside installed automated water meters Town-wide. These meters monitor daily consumption and alert Public Works staff via email and text message of any water leaks 24 hours per day 7 days per week. This automated response reduces the duration of an active water leak or line break, thus reducing overall water consumption and waste.
- Established policies within the Comprehensive Plan to improve the Town’s Code of Ordinances by incorporating water conservation based irrigation requirements, native species list, lawn watering restrictions, and use of ~~ultra low volume~~ high efficiency water saving devices for substantial rehabilitation and new construction.

The Town will continue to implement practices, update its Code of Ordinances and expand existing goals, objectives and policies within the Comprehensive Plan which support and promote water conservation in a cost-effective and environmentally sensitive manner such as:

- Establish a graphic water demand model which provides information on pipe data and pump data, captures water meter readings, records changes in demand for existing development, simulates future flow contributions for proposed development, and identifies any system deficiencies within the Town.
- Incorporation of goals, objectives and policies within the Comprehensive Plan that ensure resiliency of existing and future water resources in areas vulnerable to climate change related impacts (see Objective 6 and Policy 6.1 thru 6.5 of Chapter 4: Infrastructure Element).
- Utilize water bills as a tool to educate residential, commercial and other potable water consumers about water conservation and water reuse.
- Adopt a Florida Friendly landscape ordinance requiring the use of Florida-friendly landscaping materials.

- Research strategies which assist in reducing the per capita water demand rate for the Town from 148.04 gpcd to be more on par with the system wide average of 137.2 gpcd.
- Research opportunities for partnership with large consumers of water such as hotels to reduce water consumption and waste.

3.0 – DATA AND ANALYSIS

3.1 Water Supply Providers

The Town of Surfside is one of fifteen a-wholesale customers who and purchases its~~their~~ finished water directly from the Miami Dade Water and Sewer Department (WASD)- under 20-year water use agreements.

The WASD’s service area is the entire all of Miami-Dade County within the Urban Development Boundary (UDB), excluding portions of North Miami, North Miami Beach, Homestead and Florida City which have their own water supply facilities. ~~The areas within the Urban Expansion are included in the planning horizon after 2015.~~

~~The Application No. 14-627-12 for modification to the Miami Dade WASD 20-Year Water Use Permit (WUP) No. 13-00017-W was approved by the SFWMD Governing Board on February 9, 2015. The permit limits the annual allocation to 140,915.50 million gallons (386.07 MGD) and the maximum monthly allocation to 12,330.11 million gallons until the permit expires on February 9, 2035. These allocations are further limited by the wellfield operational plan described in Limiting Condition 27 of the water use permit. On June 20, 2014 WASD submitted an application for modification and extension of the existing WUP. Said modification includes new water demand projections based on 2010 population data and revised alternative water supply and rouse projects.~~

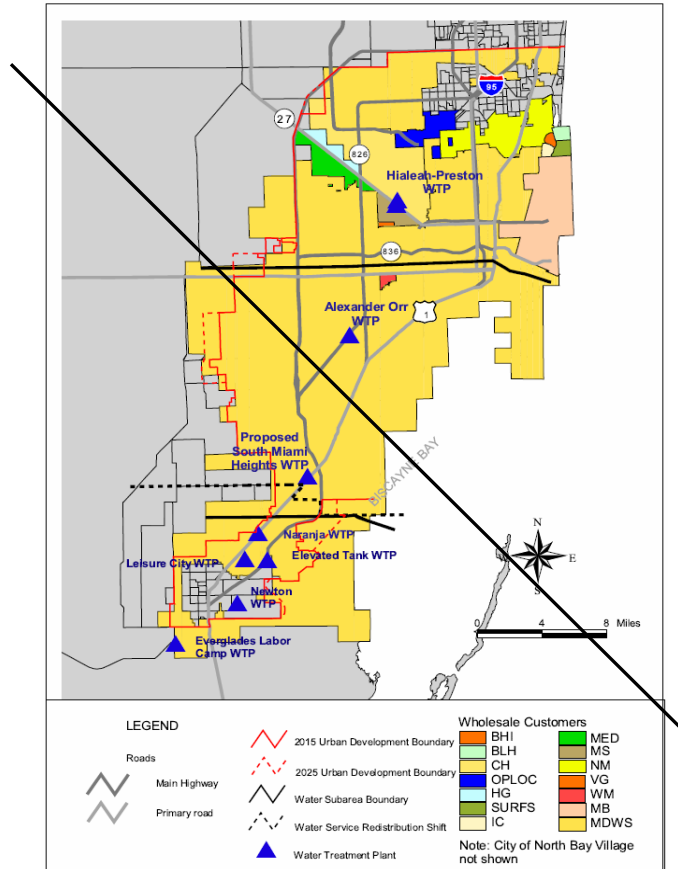
~~The supply capacity and treatment capacity of WASD service area are 724.44 MGD and 517.19 MGD respectively. As will be shown in more detail in the “Data Analysis” section, the WASD water supply and treatment systems have sufficient installed capacity to produce more potable water than is currently required within its service area to meet current demands and future projections.~~

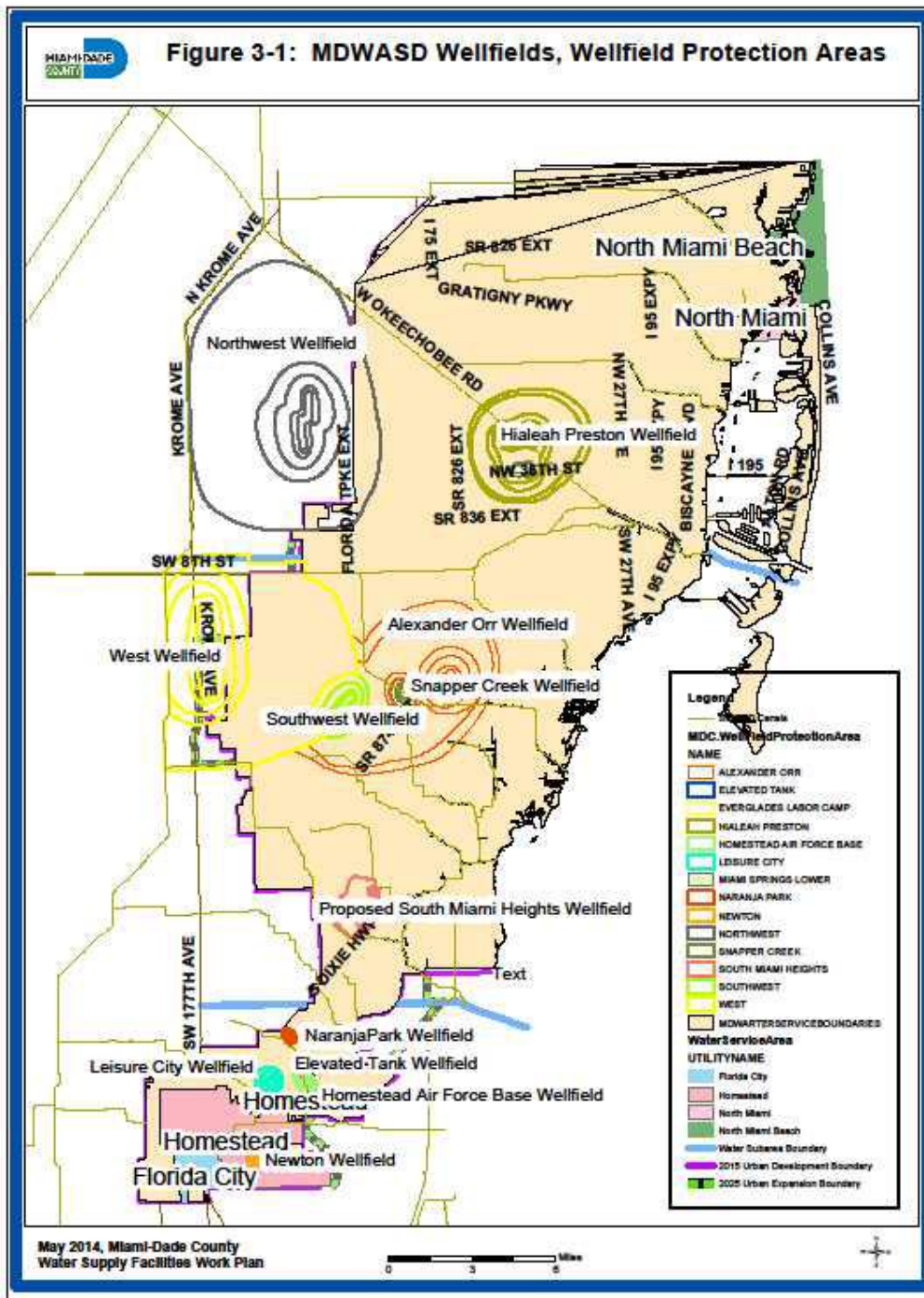
3.2 Map of Areas Served Hialeah Preston Water Service Area and Facilities

The Town of Surfside is a wholesale customer and receives water ~~in~~ from the Miami-Dade Water and Sewer Department’s Hialeah-Preston service area. The Hialeah-Preston Water Treatment Plants (WTPs) and their associated wellfields

and finished water lines are service area and its associated is illustrated in **Figure 3.1** and **Figure 3.2** respectively.

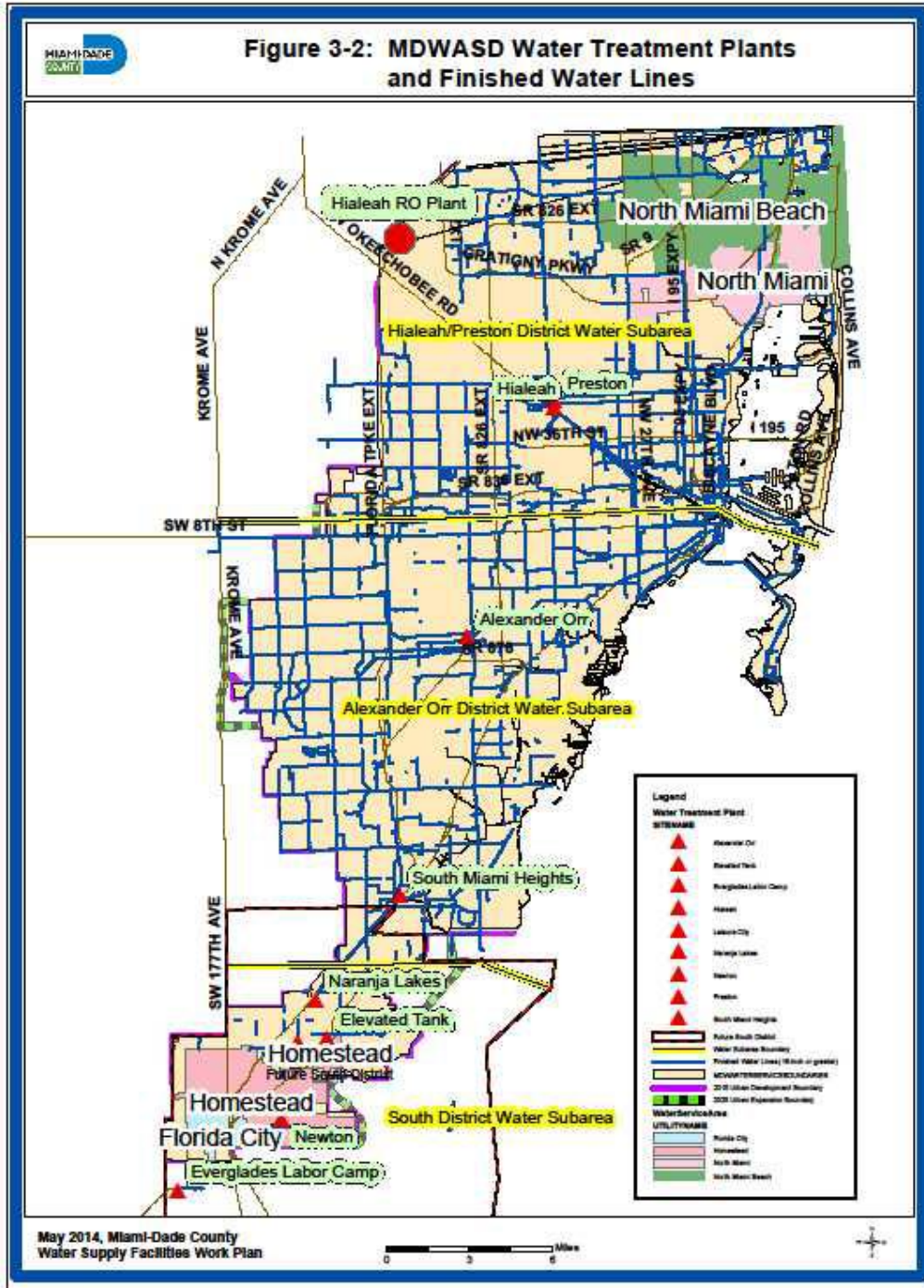
Figure 3.1





Source: Miami-Dade County 2008 Water Supply Facilities Work Plan.
Source: WASD's 20 year water supply plan (2014-2033)

Figure 3.2



Source: WASD's 20 year water supply plan (2014-2033)

Hialeah Water Treatment Plant (WTP)

The Hialeah WTP was originally designed in 1924 with a total capacity of 10 mgd. By 1935, the plant's capacity totaled 40 mgd. In 1946, capacity was increased to 60 mgd. Air strippers with a capacity of 84 mgd were added to the treatment process in 1991 to remove volatile organics from the finished water. A 3.2 MG storage reservoir for both the Hialeah and John E. Preston WTPs was also added in 1991. The Hialeah WTP has a current rated capacity of 60 mgd and there are plans to rerate and upgrade the Hialeah WTP to a capacity of 70 mgd, if necessary. The treatment process for this WTP includes lime softening with sodium silicate activated by chlorine, recarbonation, chlorination, ammoniation, fluoridation, filtration, and air stripping. The plant site is relatively small, and is surrounded by residential areas.

Hialeah WTP Wellfields

The source water for the Hialeah WTP is from the Hialeah-Miami Springs Wellfields, supplemented by the Northwest Wellfield. There are three active wells located in the Hialeah Wellfield constructed in 1936. Each well is 14 inches in diameter, 115 feet deep and have casing depths of 80 feet. The total wellfield capacity is 12.54 mgd or 8,700 gpm (2,900 gpm for each well). The twenty active wells located in the Miami Springs Wellfield were constructed between 1924 and 1954. These wells are 14 inches and 30 inches in diameter, 80 to 90 feet deep and have casing depths of 80 feet. The total wellfield capacity is 79.30 mgd or 55,070 gpm (ranging between or 2,500 and 5,000 gpm for each well). The Northwest Wellfield has fifteen active wells that were constructed in 1980. The wells are 40 inches and 48 inches diameter and 80 to 100 feet deep, with casing depths ranging from 46 to 57 feet. These wells have two-speed motors. The total nominal capacity of the wells at the low speed flow rate is 149.35 mgd. The capacity of each well, except well No. 10, is 10 mgd at the low speed flow rate. Well No. 10 has a low speed capacity of 9.35 mgd. The total nominal capacity for the wells at the high speed flow is 220.94 mgd.

John E. Preston Water Treatment Plant (WTP)

The John E. Preston WTP was originally designed as a 60 mgd plant in 1968 and upgraded to 110 mgd in 1980. The plant was re-rated to a total capacity of 130 mgd in 1984. The plant reached its present capacity of 165 mgd with another addition in 1988. In 1991, the plant was modified with an air stripping capacity of 185 mgd to remove VOCs. In 2005, plant process modifications to provide enhanced softening for reduction of color and total organic carbon came on line. The main source of water for the Preston WTP is from the Northwest Wellfield. The current rated capacity is 165 mgd with a treatment process similar to that of the Hialeah WTP. This includes lime softening with ferric and other coagulant

and chemicals added prior to lime for enhanced softening, recarbonation, chlorination, ammoniation, fluoridation, filtration, and air stripping. The Preston plant is also located in a residential area of Hialeah.

John E. Preston WTP Wellfields

The seven active wells located in the John E. Preston Wellfield were constructed in 1966 and 1972. Each well is 42 inches in diameter, 107 feet deep and have casing depths of 66. The capacity of wells No. 1 through No. 6 is 5,000 gallons per minute (gpm) each and the capacity of well No. 7 is 7,000 gpm. The total wellfield capacity is 53.28 mgd.

Hialeah-Preston Water Distribution Facilities

Finished water from the Hialeah and John E. Preston WTPs is pumped through a system of dedicated low-pressure pipelines to remote storage tanks and pumping facilities. This system provides water service to the southeastern part of the Hialeah Preston subarea. The low pressure system starts at the Hialeah WTP with a 42-inch diameter main heading due east along N.W. 62nd Street, and 36-inch and 42-inch diameter mains running southeast along Okeechobee Road then parallel to the Miami River. The main on N.W. 62nd Street connects to the N.W. 67th Street pumping station, which pumps the water to the south through a 30-inch diameter main running along N.W. 10th Ave. The 30-inch diameter main continues south and connects into the N.W. 36th Street pumping station. This main continues further south and connects into the golf ground pump station.

The 36-inch and 42-inch diameter mains combine into a 54-inch diameter main at N.W. 42nd Avenue. They split again into a 36-inch and a 42-inch diameter main at N.W. 32nd Avenue. These mains connect to the 30th Avenue pump station. The 30th Avenue pump station feeds two 36-inch diameter mains that connect to the 20th Street pumping station to complete the loop. The pipe loop is made predominantly of concrete and cast iron pipes that were installed in the early 1930s. Some segments of this loop having been in service for more than 60 years. Replacement of these pipes are scheduled in the WASD maintenance program.

The remaining part of this subarea is served by a high pressure system. Water is pumped into the system by five high service in-plant pumps with a total capacity of 34.1 mgd at 167 feet total dynamic head (TDH). The high pressure system delivers water service to Hialeah, Miami Springs, and a high pressure main connected to the City of Miami. The northern section of the subarea is supplied by one major piping loop. The loop begins at the plant with a 72-inch diameter main heading north along West 2nd Avenue, next it turns west at West 20th Street, and then it turns North along West 4th Avenue to NW 191st Street. At this location, it turns east until it reaches N.E. 18th Avenue. It then turns south and connects into a 54-inch diameter main that connects to the N.W. 67th Street pumping station.

The southwestern portion of the subarea is supplied by a 36-inch diameter main that connects to the 54-inch diameter main heading out of the John E. Preston WTP at West 25th Street. The main heads west on N.W. 74th Street then turns south on N.W. 107th Avenue. It eventually interconnects with the Alexander Orr, Jr. subarea piping network on S.W. 56th Street around S.W. 117th Avenue.

Hialeah-Preston Finished Water Storage Facilities

The finished water storage facilities for the Hialeah-Preston subarea consist of both “in-plant” and remote storage facilities. The storage facilities are summarized below in **Table 3.1**.

Table 3.1
Hialeah-Preston Finished Water Storage Facilities

<u>Location</u>	<u>Description</u>	<u>Capacity (MG)</u>
<u>Hialeah WTP</u>	<u>Reservoir – Ground Storage</u>	<u>3.0</u>
<u>Hialeah WTP</u>	<u>Clearwell</u>	<u>1.7</u>
<u>John E. Preston WTP</u>	<u>Ground Storage Tank No. 1</u>	<u>9.0</u>
<u>John E. Preston WTP</u>	<u>Ground Storage Tank No. 2</u>	<u>14.0</u>
<u>John E. Preston WTP</u>	<u>Clearwell</u>	<u>1.1</u>
<u>N.W. 20th Street</u>	<u>Ground Storage Tank</u>	<u>7.5</u>
<u>N.W. 36th Street</u>	<u>Ground Storage Tank</u>	<u>5.0</u>
<u>N.W. 67th Street</u>	<u>Ground Storage Tank</u>	<u>8.2</u>
<u>N.W. 30th Street</u>	<u>Ground Storage Tank</u>	<u>2.5</u>
<u>N.E. 79th Street</u>	<u>Elevated Storage Tank</u>	<u>2.0</u>
<u>Carol City</u>	<u>Ground Storage Tank</u>	<u>2.0</u>
<u>Total Storage</u>		<u>56.0</u>

Source: WASD’s 20 year water supply plan (2014-2033)

3.3 Potable Water Level of Service Standard

The Town of Surfside currently coordinates with WASD to meet existing and projected demands based on level of service (LOS). The existing LOS for the Town of Surfside based on WASD goals for potable water is as follows:

- ~~a) The regional treatment system shall operate with a rated maximum daily capacity no less than 2 percent above the maximum daily flow for the preceding year, and an average daily capacity 2 percent above the average daily system demand for the preceding 5 years.~~
- ~~b) Water shall be delivered to users at a pressure no less than 20 pounds per square inch (psi) and no greater than 100 psi.~~
- ~~c) Water quality shall meet all federal, state, and County primary standards for potable water.~~

- ~~d) Countywide storage capacity for finished water shall equal no less than 15 percent of the Countywide average daily demand.~~
- ~~e) The level of service (LOS) standard for potable water facilities shall be 155 gallons capita per day.~~

(a) The regional treatment system shall operate with a rated maximum daily capacity no less than 2 percent above the maximum daily flow for the preceding year, and an average daily capacity 2 percent above the average daily system demand for the preceding 5 years. The maximum daily flow shall be determined by calculating the average of the highest five single day flows for the previous 12 months.

(b) Water shall be delivered to users at a pressure no less than 20 pounds per square inch (psi) and no greater than 100 psi. Unless otherwise approved by the Miami-Dade Fire Rescue Department, minimum fire flows based on the land use served shall be maintained as follows:

<u>Land Use</u>	<u>Min. Fire Flow (gpm)</u>
<u>Single Family Residential Estate</u>	<u>500</u>
<u>Single Family and Duplex; Residential on minimum lots of 7,500 sf</u>	<u>750</u>
<u>Multi-Family Residential:</u>	<u>1,500</u>
<u>Semiprofessional Offices</u>	
<u>Hospitals; Schools</u>	<u>2,000</u>
<u>Business and Industry</u>	<u>3,000</u>

~~The 155 gallons capita per day (gpcd) value is WASD system wide finished water rate which was calculated by taking historical data. In 2007 the actual gpcd value for the town of surfside was 206 gpcd. The Town of Surfside is aware of this high gpcd value and is currently working with WASD to implement Water efficiency plans, public education, and BMPs to reduce the Town of Surfside's gpcd value.~~

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

~~For the purposed of this report WASD population projections will be used to calculate projected water demands. WASD gathered population data found in **Table 3.1** from Miami-Dade County Department of Planning and Zoning (P&Z)~~

and was derived from Transportation Analysis Zones (TAZ). The population projection were presented and accepted by the South Florida Water Management District (SFWMD).

**Table 3.1
WASD Gathered Population Data**

Municipality	Municipal Population Projections					
	Year					
	2007	2010	2015	2020	2025	2030
Town of Surfside	5,159	5,280	5,483	5,680	5,878	6,076

Source: Miami-Dade County Planning and Zoning Department, WASD 20 Year Water Supply Plan.

Population projections for WASD's entire service area in five year increments from year 2007 to 2027 and year 2030 are shown in **Table 3.3**. Overall, the population served by WASD is expected in increase approximately 26.2% from year 2006 to year 2030. WASD's population projections are illustrated in Section 3.0 **Table 3.2**.

**Table 3.3
WASD Population Projections**

Year	Total WASD	Total County
2007	2,250,944	2,494,805
2012	2,349,221	2,670,569
2017	2,487,519	2,834,172
2022	2,609,268	2,979,533
2027	2,731,018	3,124,894
2030	2,804,068	3,212,111

Source: Miami-Dade Planning & Zoning Department

The Town of Surfside does not provide its own water supply and as a result it purchases water from WASD. The following projections are based on the WASD 20-Year Water Supply Facilities Work Plan.

HISTORIC WATER DATA **Historic Population**

This section presents historical and projected population projections from Year 2004 through Year 2030 for WASD's service area. Population data were obtained from the Miami-Dade County Department of Regulatory and Economic Resources (RER) Planning Division, based on the 2010 Census and derived from Traffic Analysis Zones (TAZ). ~~On June 20, 2014~~ February 9, 2015, WASD ~~submitted~~ SFWMD approved an application for modification and extension of the 20-year Water Use Permit (WUP) No. 13-00017-W. ~~The modification and extension to the current WUP are request was~~ a result of revised population projections based on the 2010 Census and the continued successful implementation of the County's Water Conservation Plan. The requested modification to the WUP included new population data, revised water demand

projections and alternative water supply projects to support water demands through the year 2033. WAsD's Reuse projects were listed but they are not required to address water supply. The revised population projections for the year ~~2030~~ Water Use Permit expiring February 9, 2035 are consistent with or slightly lower than the projections in the SFWMD 2013 Lower East Coast Water Supply Plan Update, dated ~~September 2013~~.

Historical populations served by the WAsD system are shown in **Table 3.2** in one year increments from Year 2004 to Year 2013. The population in the WAsD's service area grew approximately 2.8% between Year 2010 and year 2013. The WAsD system served approximately 86% of the County's total population in 2013. Table 3.2 also provides a summary of historical use for both finished water and raw water.

Table 3.42
TOWN OF SURFSIDE HISTORIC WATER DATA
MIAMI DADE WATER AND SEWER DEPARTMENT
HISTORIC POPULATION AND WATER USE

Municipality	Water Consumptions (MGD)			Municipal Population			Per Capita		
	2005	2006	2007	2005	2006	2007	2005	2006	2007
Town of Surfside	1.06	1.09	1.06	5078	5119	5159	209	214	206

Source: Miami Dade County WAsD.

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	
	<u>FINISHED WATER HISTORICAL USE</u>						<u>RAW WATER HISTORICAL USE (a)</u>						
<u>Year</u>	<u>Population Served *</u>	<u>Per Capita Usage (gpcd)</u>	<u>Total Annual Use (MG)</u>	<u>Average Month Use (MG)</u>	<u>Max Month Use (MG)</u>	<u>Ratio Max: Aver. Month</u>	<u>Per Capita Usage (gpcd)</u>	<u>Total Annual Use (MG)</u>	<u>Average Month Use (MG)</u>	<u>Max Month Use (MG)</u>	<u>Ratio Max: Aver. Month</u>	<u>Ratio Finished:Raw (Total Annual Use)</u>	
<u>TOTAL WASHD WATER SYSTEM SERVICE AREA **</u>													
2004	2,090,099	162.5	124,301	10,358	10,861.1	1.05	165.6	126,685	10,557	11,063	1.05	1.019	
2005	2,101,772	161.8	124,098	10,342	10,734.8	1.04	165.1	126,670	10,556	11,031	1.04	1.021	
2006	2,113,445	161.6	124,677	10,390	10,988.6	1.06	164.7	127,019	10,585	11,170	1.06	1.019	
2007	2,125,118	150.3	116,602	9,717	10,485.4	1.08	151.6	117,585	9,799	10,648	1.09	1.008	
2008	2,136,791	138.1	108,029	9,002	9,583.0	1.06	149.4	116,820	9,735	10,508	1.08	1.081	
2009	2,148,464	142.3	111,627	9,302	9,662.7	1.04	151.2	118,575	9,881	10,550	1.07	1.062	
2010	2,160,138	141.4	111,453	9,288	9,700.0	1.04	151.0	119,056	9,921	10,346	1.04	1.068	
2011	2,181,073	140.2	111,585	9,299	9,597.6	1.03	149.2	118,768	9,897	10,273	1.04	1.064	
2012	2,202,008	134.8	108,626	9,052	9,693.9	1.07	142.5	114,807	9,567	10,223	1.07	1.057	
2013	2,222,944	136.5	110,388	9,199	9,483.7	1.03	144.6	117,623	9,802	10,252	1.05	1.066	
<u>3-year Average (2011-2013)</u>	=	<u>137.2</u>	=	=	=	<u>1.04</u>	<u>145.4</u>	=	=	=	<u>1.05</u>	<u>1.062</u>	

Source: WASHD's 20 year water supply plan (2014-2033)

~~Table 3.4 indicates historic potable water consumed by the Town of Surfside. Table 3.4 was developed by gathering billing data from the Town of Surfside and Miami Dade Water and Sewer Department (WASD).~~

Water DemandPopulation Projections

~~The Town of Surfside does not provide its own water supply and as a result it purchases water from WASD. The following projections are based on WASD 20-Year Water Supply Facilities Work Plan.~~

~~Population projections for WASD's service area in five year increments from Year 2015 to 2030 are shown in Table 3.3. Overall, the population served by WASD is expected to increase approximately 17.78% from Year 2014 to Year 2033. In 2033, WASD will serve potable water to approximately 85% of the total County population.~~

Table 3.3
Population Projections to be Served by WASD

<u>Year</u>	<u>Total WASD</u>	<u>Total* County</u>
<u>2015</u>	<u>2,266,092</u>	<u>2,631,629</u>
<u>2020</u>	<u>2,370,769</u>	<u>2,766,823</u>
<u>2025</u>	<u>2,475,446</u>	<u>2,902,018</u>
<u>2030</u>	<u>2,580,123</u>	<u>3,037,212</u>

Source: WASD's 20 year water supply plan (2014-2033)

~~Population projections for the Town of Surfside in five year increments from Year 2015 to 2030 are shown in Table 3.4.~~

Table 3.4
Town of Surfside Population Projections

<u>Year</u>	<u>Town of Surfside</u> <u>Population</u>
<u>2015</u>	<u>5,866</u>
<u>2020</u>	<u>6,019</u>
<u>2025</u>	<u>6,173</u>
<u>2030</u>	<u>6,326</u>

Source: WASD's 20 year water supply plan (2014-2033)

Water Demand Projections

WASD water demand projections are based on initial system-wide finished water daily per capita use rate of 155 gallons per capita per day (gpcd). Historic raw and finished water uses for year 2001 through year 2006 are illustrated in **Table 3.5**. In addition, **Table 3.6** provides the projected raw and finished water use for year 2007 through year 2030. **Table 3.6** also provides projected raw water from the Biscayne and Floridan Aquifer in five-year increments to indicate future demands. Finally, **Table 3.7** provides water supply demands according to wholesale customers.

Table 3.5 provides the projected water use for Year 2015 through Year 2030 for the WASD service area. The water demand projections are based on a system wide finished water daily per capita use rate of 137.2 gallons per capita per day (gpcd). The per capita use rate was determined by taking a 3-year average from 2011 to 2013.

Table 3.5
Miami-Dade Water and Sewer Department (WASD)
Past Water Use (2001-2006)

Year	FINISHED WATER HISTORICAL USE						RAW WATER HISTORICAL USE				
	Population served	Per Capita Usage (gpcd)	Total Annual Use (MG)	Average Month Use (MG)	Max Month Use (MG)	Ratio Max: Average Month	Total Annual Use (MG)	Average Month Use (MG)	Max Month Use (MG)	Ratio Max: Average Month	Ratio Finished: Raw (Total Annual Use)
TOTAL WASD WATER SYSTEM SERVICE AREA											
2001	2,073,679	151.28	114,493	9,541	9,927.5	1.04	117,159	9,763	10,129	1.04	1.0233
2002	2,103,951	156.99	120,614	10,051	10,961.4	1.09	122,931	10,244	11,163	1.09	1.0192
2003	2,134,223	158.51	123,511	10,293	10,676.1	1.04	125,884	10,490	10,878	1.04	1.0192
2004	2,164,495	156.90	124,301	10,358	10,861.1	1.05	126,685	10,557	11,063	1.05	1.0192
2005	2,194,768	154.96	124,098	10,341	10,734.8	1.04	126,670	10,556	11,031	1.04	1.0207
2006	2,225,040	153.30	124,677	10,390	10,988.6	1.06	127,019	10,585	11,170	1.06	1.0188
	5-year average (02-06)	156.13			3-year average (04-06)	1.05			3-year average (04-06)	1.05	1.02

Source: Miami-Dade County Planning and Zoning Department, WASD 20 Year Water Supply Plan.
From WASD Raw and Finished Water Historical Data 2001-2006

**Table 3.65
Miami-Dade Water and Sewer Department (WASD) Water Demand Projection**

Year	Population	Finished Water Use (gpcd)	AADD Finished Water Use (MGD)	Water Conservation (MGD) Credit	Adjusted Finished Water Demand (MGD)	Adjusted Finished Water Use (gpcd)
2007	2,250,944	155	348.90	1.09	347.81	154.52
2008	2,230,894	155	345.79	2.24	343.55	154.00
2009	2,260,476	155	350.37	3.53	346.84	153.44
2010	2,290,058	155	354.96	4.82	350.14	152.90
2011	2,319,639	155	359.54	6.34	353.20	152.27
2012	2,349,221	155	364.13	7.77	356.36	151.69
2013	2,378,803	155	368.71	9.28	359.43	151.10
2014	2,408,385	155	373.30	10.09	363.21	150.81
2015	2,438,819	155	378.02	10.89	367.13	150.53
2016	2,463,169	155	381.79	11.70	370.09	150.25
2017	2,487,519	155	385.57	12.51	373.06	149.97
2018	2,511,869	155	389.34	13.30	376.04	149.71
2022	2,609,268	155	404.44	16.46	387.98	148.69
2027	2,731,018	155	423.31	19.62	403.69	147.82
2030	2,804,068	155	434.63	19.62	415.01	148.00

Year	Population ¹	Finished Water Use (gpcd)	AADD ² Finished Water Use (MGD)	Water ³ Conservation Credit (MGD)	Reuse ⁴ Reclaimed Water Credit	Adjusted ⁵ Finished Water Demand (MGD)	Adjusted Finished Water Use (gpcd)
2015	2,266,092	137.2	310.84	2.04	0.00	308.80	136.27
2020	2,370,769	137.2	325.20	5.44	0.00	319.76	134.88
2025	2,475,446	137.2	339.56	8.84	0.00	330.72	133.60
2030	2,580,123	137.2	353.92	9.55	0.00	344.37	133.47

Source: Miami-Dade County Planning and Zoning Department, WASD 20 Year Water Supply Plan.
Source: WASD's 20 year water supply plan (2014-2033)

Footnotes

- (1) Population Served represents the TAZ population projections based on 2010 Census Data provided by the MDC RER Planning Division.
- (2) Annual Average Daily Demand (AADD) Finished Water Projections between 2015 and 2030 assume 137.2 gpcd (a decrease from 145.4 gpcd) total water system demand prior to application of credits (e.g. conservation).
- (3) WASD has implemented a 20-year water use efficiency plan and is experiencing reductions in per capita water consumption. Water Conservation projections were revised based on the 2010 Annual Water Conservation Plan Conserve Florida Report (March 2011). Real losses in non-revenue water (e.g. unaccounted-for-water) are assumed to remain at less than 10%. The conservation amounts experienced through 2010 (6.54 MGD) were deducted from the 20-year conservation amount in the Conserve Florida Report and the remaining conservation amounts were distributed for the balance of the 20-year period (2011-2027).
- (4) Not Used
- (5) Adjusted after taking credit in finished water demand projections for reductions in finished water use associated with water conservation.

Table 3.6 provides the projected water use for Year 2015 through Year 2030 for the Town of Surfside utilizing the Town’s finished water use rate of 148.04 gallons per capita per day, which is higher than the system wide average of 137.2 gallons per capita per day (gpcd).

Table 3.6
Town of Surfside Water Demand Projection

<u>Year</u>	<u>Population</u>	<u>Per Capita Consumption GPCD</u>	<u>Projected Consumption</u>	
			<u>GPD</u>	<u>MGD</u>
<u>2015</u>	<u>5,866</u>	<u>148.04</u>	<u>868,399</u>	<u>.87</u>
<u>2020</u>	<u>6,019</u>	<u>148.04</u>	<u>891,073</u>	<u>.89</u>
<u>2025</u>	<u>6,173</u>	<u>148.04</u>	<u>913,747</u>	<u>.91</u>
<u>2030</u>	<u>6,326</u>	<u>148.04</u>	<u>936,421</u>	<u>.94</u>

Source: WASD's 20 year water supply plan (2014-2033)

Table 3.7
Water Supply Service Area
Wholesale Customers

Municipality	Water Supply by WASD-Projected AADF Finished Water (mgd) – 155 gpcd					
	Year					
	2007	2010	2015	2020	2025	2030
Bay Harbour	0.63	0.65	0.68	0.71	0.74	0.77
Bay Harbour Islands	0.96	0.99	1.04	1.08	1.12	1.17
Hialeah	35.40	36.42	38.13	39.35	40.58	41.81
Hialeah Gardens	3.62	3.84	4.20	4.57	4.93	5.30
Indian Creek Village	0.01	0.01	0.04	0.04	0.04	0.04
Medley	0.09	0.10	0.11	0.11	0.12	0.13
Miami Beach	16.47	17.15	18.29	19.30	20.30	21.31
Miami Springs	2.42	2.45	2.51	2.55	2.59	2.63
North Bay Village	1.26	1.30	1.38	1.45	1.53	1.61
North Miami	10.76	11.24	13.0	12.43	13.00	13.41
North Miami Beach	7.60					n/a
Opa Locka	2.86	2.91	3.01	3.09	3.17	3.25
Surfside	0.80	0.82	0.85	0.88	0.91	0.94
Virginia Gardens	0.33	0.34	0.35	0.36	0.38	0.39
West Miami	0.91	0.92	0.92	0.93	0.93	0.93
Total	84.17	79.14	84.47	86.82	90.32	93.65

Source: 2007 Miami Dade 20 Year Water Supply Plan.

3.5 Water Supply Provided by Other Entities

The Miami-Dade County 20-Year Water Supply Facilities Work Plan was completed in 2008. The intent of the County Work Plan is to meet the statutory requirements mentioned in subsection 1.2 of this plan and to coordinate WASD’s

water supply initiatives with the Lower East Coast Water Supply Plan Update, prepared by the South Florida Water Management District.

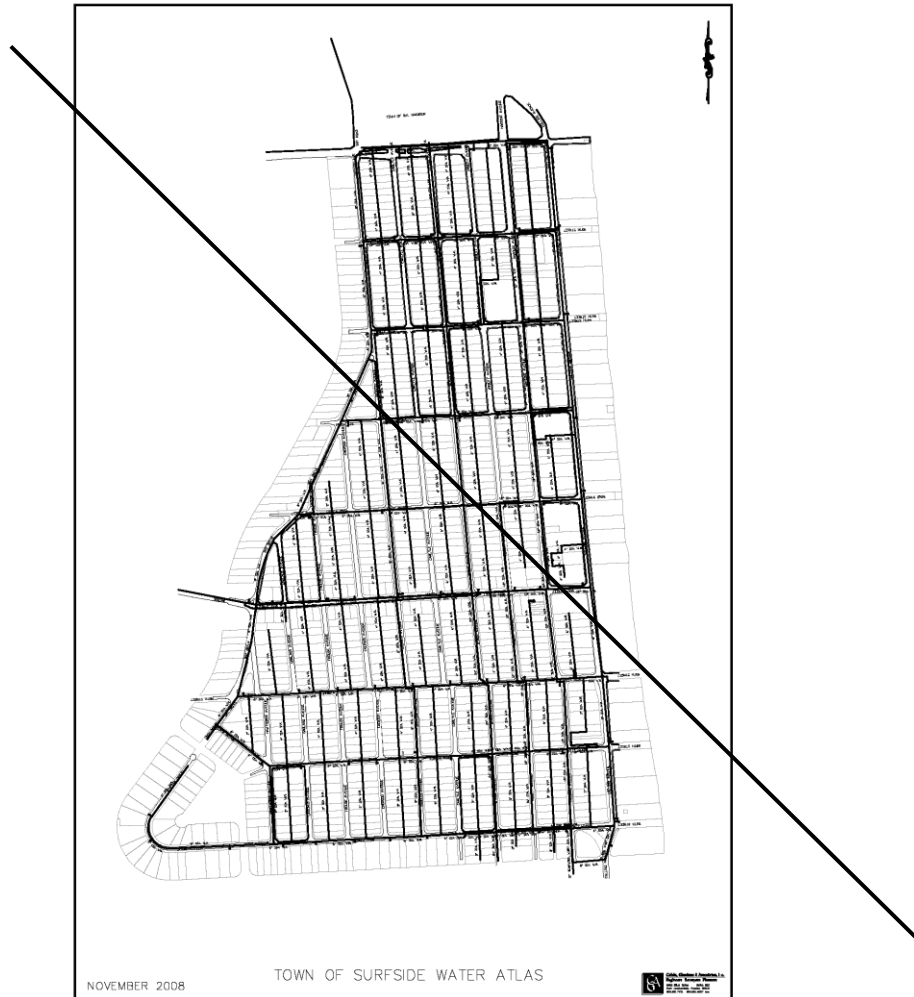
The WASD's service area is the entire Miami-Dade County within the Urban Development Boundary (UDB), excluding portions of North Miami, North Miami Beach, Homestead and Florida City. The areas within the Urban Expansion are included in the planning horizon after 2015. The following summarizes WASD Work Plan:

- Description of population and water demand projections (Table 3.6 and 3.7 Water Supply Service Area, Retail and Wholesale Customers, respectively, by Municipality provides municipal population projections and projected AADF "Annual Average Daily Flow" finished water based on 155 gpcd. The population information was derived from Miami-Dade County Department of Planning and Zoning Transportation Analysis Zone (TAZ) 2004 population data. This subsection also provides a brief discussion of WASD's conservation and reuse programs.);
- Water Supply Facilities Work Plan details the facilities and proposed alternative water supply (AWS) projects that are planned in order to meet the water demands through 2030. The intent of the AWS projects is to assist WASD in meeting the water demands within their respective service area. These projects are expected to be completed increments consistent with the projected growth set forth in the Plan. The AWS projects and annual average daily demand (AADD) assumes that all current wholesalers will remain in WASD system through 2030, except for the City of North Miami Beach. The AWS projects are included in the County's Capital Improvement Element.

In the 20-Year Work Plan, WASD is committed to meet the water demand for the municipalities within the service area. The Town of Surfside is served by the Hialeah-Preston subarea. The Hialeah and John E. Preston WTPs are located at 200 W. 2nd Avenue and 1100 W. 2nd Avenue, respectively. The adjacent facilities in Hialeah share interconnected source water and finished water storage capacity. These two plants serve the Hialeah-Preston subarea, generally, the service area that lies north of Flagler Street. The two plants have similar treatment processes. The Hialeah-Preston WTPs are to receive groundwater from five Upper Floridan Aquifer wells located in the Miami Springs Wellfield and the Northwest Wellfield. These blending activities of brackish and fresh water are proposed to occur at the Hialeah-Preston WTPs by 2010. There are plans to re-rate and upgrade the Hialeah WTP to a capacity of 70 mgd, if necessary. The Town of Surfside water distribution system consists of 11 miles of cast iron pipe installed in 1938 (see Figure 3-2). Primary mains feeding the system run under the Town's streets and vary in size from 6-inch to 16-inches in diameter, which feed three-inch and four-inch water lines located along the rear property lines. The four-inch lines provide service. The existing meters are constantly

being calibrated and serviced to improve the accuracy of the flow readings for the entire system. The service area is the municipal boundary.

Figure 3-2



3.6 Conservation

Countywide Issues

The Miami-Dade Water Use Efficiency Plan

Currently, the Miami-Dade Water and Sewer Department (WASD) is implementing all Best Management Practices (BMPs) included in the 20-year Water Use Efficiency Plan, which was approved by the South Florida Water Management District. The Town of Surfside is currently working with WASD to implement the efficiency plan. The Town's Engineers are currently evaluating the existing water system by gathering data and performance data analysis to

identify any type of flaws in the system. City engineers coordinate existing and proposed projects with WASD to assure all BMPs are being met.

Water Conservation Plans and Development Codes

In addition, all of WASD's wholesale customers are required to submit a Water Conservation Plan to the Department's Water Use Efficiency Section as mandated by County Ordinance 06-177, Section 32-83.1 of the Miami-Dade County Code. The Plan is currently in the process of being adopted by the Town of Surfside. The plan will identify BMPs based on population characteristics and type of service for each municipal service area.

Miami-Dade County has developed recommendations for new development that would achieve higher water use savings than currently required by code. The recommendations were developed by an Advisory Committee and were presented to the Board of County Commissioners (BCC) on June 5, 2007. These Water Conservation recommendations were adopted by Ordinance on February 5, 2008. The Ordinance requires that a manual for implementation of the recommendations be developed by July 2008. These Water efficiency recommendations represent an additional 30% to the water savings identified in the 20-year Water Use Efficiency Plan. All applicants will be required to comply with these future code requirements. The list of recommendations submitted to the BCC and the Ordinance relating to water use efficiency standard are presented in Appendix D and are also posted in the Miami-Dade Water Conservation Portal.

Per Capita Consumption

Furthermore, Miami-Dade Water and Sewer Department will establish per capita consumption for all municipalities including those in WASD's retail customer service area. Based on this data, the Department will work with the municipalities to address those with higher than average per capita's and will target programs for those areas. The County anticipates that the implementation of the BMPs identified in the 20-year Water Use Efficiency Plan will result in an adjusted system wide per capita of 155 gpcd by year 2027.

Historically the Town of Surfside's per capita value was over the system average of 155 gpcd. The Town of Surfside is aware of the high per capita value and is currently working with WASD to reduce the per capita value down to 155 gpcd by 2010.

The Town of Surfside will continue to comply with all Miami-Dade County water use efficiency requirements. The Town of Surfside recently completed the Utility Profile required by County Ordinance 06-177, and will continue to work with WASD's Water Use Efficiency Section to develop the Town's Water Conservation Plan and identify best management practices (BMPs).

3.7 — Local Government Specific Actions, Programs, Regulations, Opportunities

The Town will coordinate future water conservation efforts with WASD and SFWMD to ensure that proper techniques are applied. In addition, the Town will continue to support and expand existing goals, objectives and policies in the comprehensive plan that promotes water conservation in a cost-effective and environmentally sensitive manner. The Town will continue to actively support the SFWMD and Miami-Dade County in the implementation of new regulations or programs that are design to conserve water during the dry season.

The Town of Surfside engineers are aware of the need for future water conservation and will coordinate with WASD and the SFWMD to assure BMPs, regulations, and other conservation plans are being implemented.

3.8 — Regional and County-wide Issues

For the past years, the State of Florida is leading the nation in water reuse. The water reuse effort in the state is primarily led by utilities, local governments, the water management districts and state agencies. The intent of their efforts is to implement water reuse programs that increases the volume of reclaimed water used and promotes public acceptance of reclaimed water. In addition to the public and private efforts, there are two sections of the Florida Statutes (Secs.403.064(1) and 373.250(1) F.S.) that promote water reuse as a formal state objectives. According to the Florida Statutes, "These sections further conclude 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., concludes that "reuse is a critical component of meeting the state's existing and future water supply needs while sustaining natural systems."

The Town of Surfside is in full support of the water reuse initiatives under consideration by both the SFWMD and Miami-Dade County. The County has committed to implement a total of 170 mgd of water reuse as noted in the County's 20-year water use permit. In the 20-year Work Plan, the County identified a number of water reuse projects and their respective schedule. According to the Work Plan, "reuse projects will recharge the aquifer with highly treated reclaimed water and will be in place before additional withdrawals over the base condition water use are made from the Alexander Orr and South Dade sub area wellfields. In addition, reuse irrigation projects are anticipated for the North and Central District Wastewater Treatment Plants. These projects will be implemented in the City of North Miami and North Miami Beach, and currently under construction for Key Biscayne."

3.9 Reuse

The Town of Surfside currently does not have a wastewater treatment facility, therefore no reuse system currently online. The Town of Surfside is in full support of the water reuse initiatives under consideration by both the SFWMD and Miami Dade's WASD.

4.0 CAPITAL IMPROVEMENTS

As shown in the water demand projections presented above, the WASD's projected finished water demands are now significantly lower than anticipated when the first 20-year water use permit application was submitted to South Florida Water Management District (SFWMD) in 2007. The updated water demand projections have resulted in 71 million gallons per day decrease by the year 2030. This demand reduction has eliminated the anticipated supply shortages which were the basis for an ambitious schedule of several costly alternative water supply projects which are no longer required or needed. As such, reuse projects to address water supply have been eliminated. However, WASD will be implementing a total of 117.5 mgd of reuse to address the Ocean Outfall Legislation which includes 27.6 mgd of Floridan Aquifer Recharge and up to 90 mgd of reuse water to FPL for Turkey Point Units 5, and 6.

4.1 Work Plan Projects

The following proposed alternative water supply (AWS) projects are to meet MDWAS's increased water demands through 2030, which encompasses the proposed 20-year Consumption Use Permit period. AWS projects have been identified to meet water demands in the WASD service area and are presented in **Table 4.1** and **Figure 5-1** (of the MSWASD 20 Year Water Supply Plan). It is important to note that any improvements made to the Hialeah Preston Plant have direct affects on the Town of Surfside and neighboring local governments. Improvement made to the plant will increase the capacity and allow opportunity for future redevelopment within its service areas. based on the projected decrease in water demands reflected in the application for modification and extension of the 20-year Water Use Permit (WUP) submitted by the WASD on June 20, 2014 County's modified 20-Year Water Use Permit (WUP) No. 13-00017-W expiring February 9, 2035. Water conservation activities are funded annually through the operations and maintenance budget and are therefore not included in the capital budget.

The improvements described herein in **Table 4.1** and illustrated in **Figure 4.1** will be sufficient to meet water demand through the County's 20-year planning horizon and the Town's 15-year planning horizon. These projects assume that all current wholesalers will remain on the WASD system.

**Table 4.1
Proposed Alternative Water Supply Projects**

Year	Annual Average Finished Water Quantity in MGD and Source		
2007	7.20	ASR Ultraviolet (UV) Disinfection System for ASR Sys. @ W&SW Wellfield	AWS
2009	4.70	Floridan Aquifer Blending Wellfield at Hialeah/Preston	AWS
2011	8.50	Hialeah Floridan R.O. W.T.P. Phase 1 (WTP Initial Capacity 10.0 MGD)	AWS
2012	2.00	North District W.W.T.P. Reuse Projects	Credit
2012	1.00	Central Distr. W.W.T.P. Reuse Project	Credit
2013	18.60	South Distr. W.R.P. Groundwater Recharge Ph 1	Offset
2017	4.50	Hialeah Floridan R.O. W.T.P. Phase 2 (WTP Total Capacity 15.0 MGD)	AWS
2020	21.00	West District W.R.P. Canal Recharge Ph 2	Offset
2025	16.00	West District W.R.P. Canal Recharge Phase 3	Offset
2027	2.00	Hialeah Floridan R.O. W.T.P. Phase 3 (WTP Total Capacity 17.5 MGD)	AWS
Subtotal	85.50		
Water Conservation	19.62	20-year Water Use Efficiency Plan (4/6/2007)	Credit
Total	105.12		

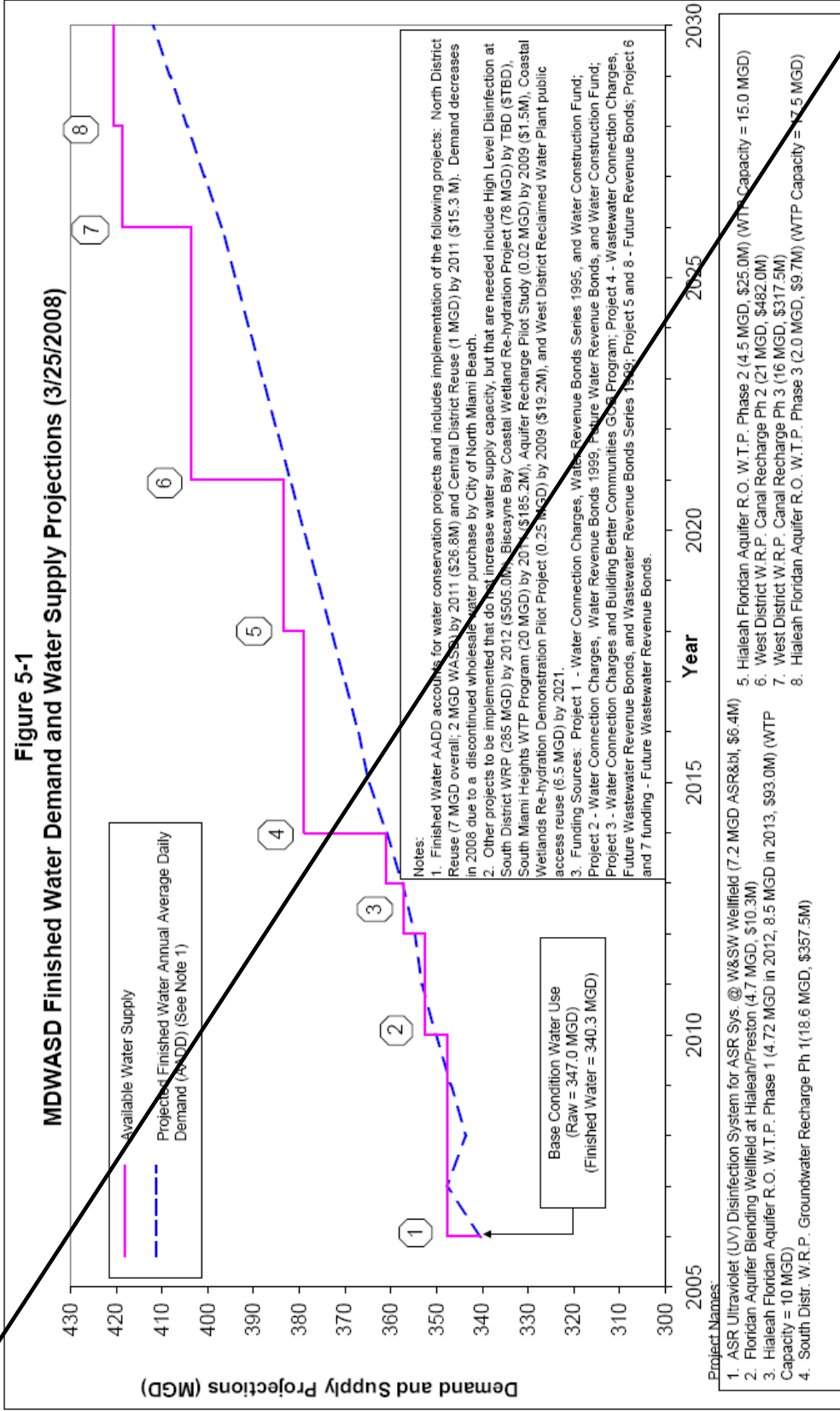
Note:
 Non-revenue potential real water loss reduction target is 14.25 MGD by 2017
 No credit give for reuse projects in North District and Central District W.W.T.P.s. Future credits may be given to offset increases in per capita consumption.

Source: WASD 20-Year Water Supply Facilities Work Plan

<u>Year</u>	<u>Project Title</u> <u>Annual Average Finished Water Quantity in MGD</u>		<u>Source</u>
<u>2013</u>	<u>7.5</u>	<u>Hialeah Floridan Aquifer RO WTP-Phase 1-a, 10 MGD & 6 Floridan Aquifer supply wells</u>	<u>AWS</u>
<u>2015</u>	<u>2.5</u>	<u>Hialeah Floridan Aquifer RO WTP-Phase 1-b, 4 Floridan Aquifer supply wells</u>	<u>AWS</u>
<u>2018</u>	<u>12.45</u>	<u>South Miami Heights WTP Phase 1 (RO portion)</u>	<u>AWS</u>
<u>2030</u>	<u>5.0</u>	<u>South Miami Heights WTP Phase 2 (RO portion)</u>	<u>AWS</u>
<u>Total</u>	<u>27.45</u>		

Source: WASD's 20 year water supply plan (2014-2033)

Figure 5-1
MDWASD Finished Water Demand and Water Supply Projections (3/25/2008)

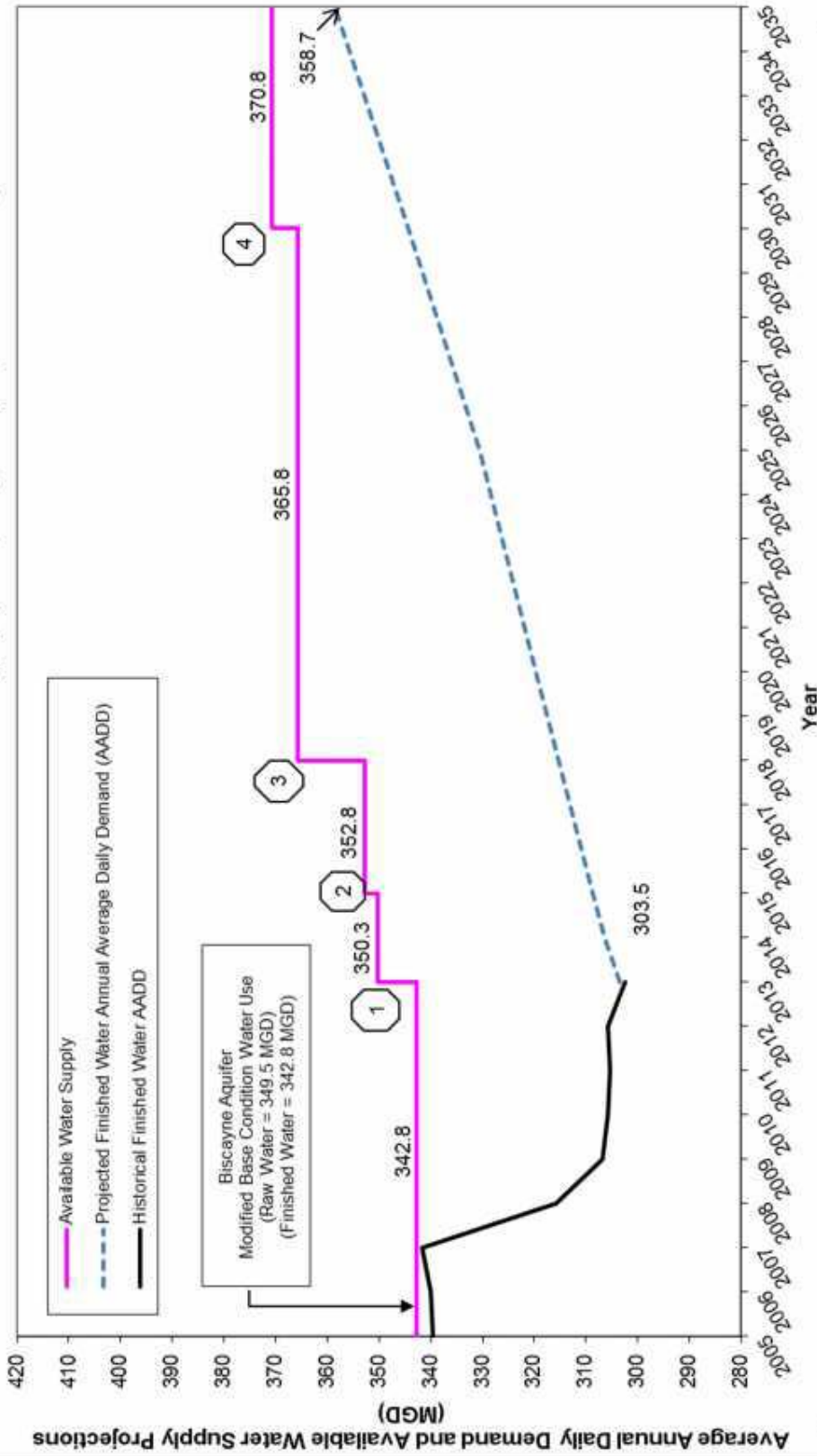


3/25/2008
 Figure 5-1 stepChart rev.18

Source: W&SW 20-Year Water Supply Facilities Work Plan

Figure 4.1

MDWASD Alternative Water Supply (AWS) Projects (September 2014)



AWS Projects:

1. Hialeah Floridan Aquifer R.O. W.T.P. Phase 1a (Capacity 7.5 MGD, Operational 12/31/13)
2. Hialeah Floridan Aquifer R.O. W.T.P. Phase 1b (2.5 MGD addition, Capacity 10.0 MGD, Available 12/31/15)
3. South Miami Heights Biscayne/Floridan Aquifer R.O. W.T.P. Phase 1 (Capacity 15 MGD max. day, 13 MGD aver. Oper. 12/31/18)
4. South Miami Heights Additional Floridan Aquifer R.O. W.T.P. Phase 2 (Capacity 20 MGD max. day, 18 MGD aver. Oper. 12/31/30)

Note:
Year represents actual and projected flows and capacities at year ending on December 31 each year.

Source: WASD's 20 year water supply plan (2014-2033)

4.2 Capital Improvements/Schedule

As mentioned in the previous sections, the latest lower population projections based on the 2010 Census results and historically lower per capita daily finish water use have reduced the projected finish water demands, eliminating the need for other alternative water supply projects by several years. The WASD Water and Alternative Water Supply (AWS) projects to address water demands include the South Miami Water Treatment Plant and Wellfield and the Hialeah Reverse Osmosis Water Treatment Plant shown in Figure 4.12 and Figure 4.2 are and summarized further below to be completed in increments commensurate with the projected growth. Table 4.2 indicated WASD Water/Alternative Water Supply CIE Program.

South Miami Heights W.T.P. and Wellfield (20 MGD) 17.45MGD Floridan Aquifer RO and 2.55 MGD Biscayne Aquifer Start 2014/Finish 2019

Design of the South Miami Heights (SMH) Water Treatment Plant (WTP) and Wellfield began commencement in 2014. The WTP will be located at 18800 SW 208 Street in Miami. The RO WTP and associated facilities will have a capacity to produce 20 mgd (max day) finished water using a combination of 17.45 mgd from the Floridan Aquifer and 2.55 mgd from the Biscayne Aquifer. Phase 1 will have a maximum capacity of 15 mgd to be operational by December 31, 2019, and Phase 2 will have a maximum capacity of 20 mgd, operational by December 31, 2030. A total of five (5) Biscayne Aquifer wells and seven (7) Floridan Aquifer wells are planned to be constructed.

Upon completion of the WTP, the Elevated Tank, Leisure City, and Naranja WTPs will be abandoned and their associated allocations will be transferred to the SMHs WTP. Everglades Labor Camp and Newton WTPs will remain on stand-by service.

Hialeah Floridan Aquifer R.O. W.T.P (10 MGD)

A new upper Floridan Aquifer Reverse Osmosis (RO) water treatment plant was constructed in 2013, and is located at 4250 W. 114th Terrace in the City of Hialeah. The WTP was constructed pursuant to a Joint Participation Agreement between the City of Hialeah and the County which was approved by the Board of County Commissioners on July 24, 2007 and called for the design, construction, and operation of a water treatment plant constructed in the annexation area and supplied by the brackish Floridan aquifer to produce initially 10 mgd with the capacity to expand to 17.5 mgd. Approval from the Florida Department of Health to produce and distribute water was received in November 2013. The WTP utilizes the Floridan Aquifer as the alternative water supply using the RO treatment to remove the salt. The initial operational phase of the Plant is 7.5 mgd, increasing to 10 mgd by the end of 2015 when construction of additional wells is expected to be completed.

Phase 1-a (7.5 MGD) - Completed 2013

Phase 1-a of the RO WTP included a 10 mgd plant and an initial six (6) Floridan Aquifer supply wells. The phase 1-a cost was about \$95 million.

Phase 1-b (2.5 MGD) - Start 2014/Finish 2015

Phase 1-b of the RO WTP will consist of the construction of four (4) Floridan Aquifer supply wells for a maximum treatment capacity of 10 mgd. The Phase 1-b cost is estimated at approximately \$5 million.

Miscellaneous Projects

In addition to the Alternative Water Supply (AWS) projects described above, WASD will also utilize tools to evaluate and plan for sea level rise and climate change. The primary concern as it pertains to the WASD water supply is salt water intrusion into the freshwater Biscayne aquifer, the primary source of drinking water in Miami-Dade County. Results of initial evaluation and data analysis indicate that within the next thirty years WASD will be able to operate its wellfields and water treatment facilities as designed. Groundwater modeling indicates that even with a high level of projected sea level rise, the wellfields will not be impacted by salt water intrusion. Further modeling is currently underway to extend the planning scenarios fifty years out, and will include climate changes such as increases and decreases in annual precipitation and extreme weather events.

Water conservation projects are also currently being implemented by WASD as part of the County's 20-Year Water Use Efficiency Plan, expected to reduce potable water demand by 19.62 MGD over that time period. Examples of ongoing conservation projects include bathroom and kitchen retrofit, rebates for high efficiency toilets, and landscape irrigation evaluations for residential, commercial and governmental use.

Miami-Dade Reuse and Alternative Water Supply Conceptual Programs (3/25/2008)

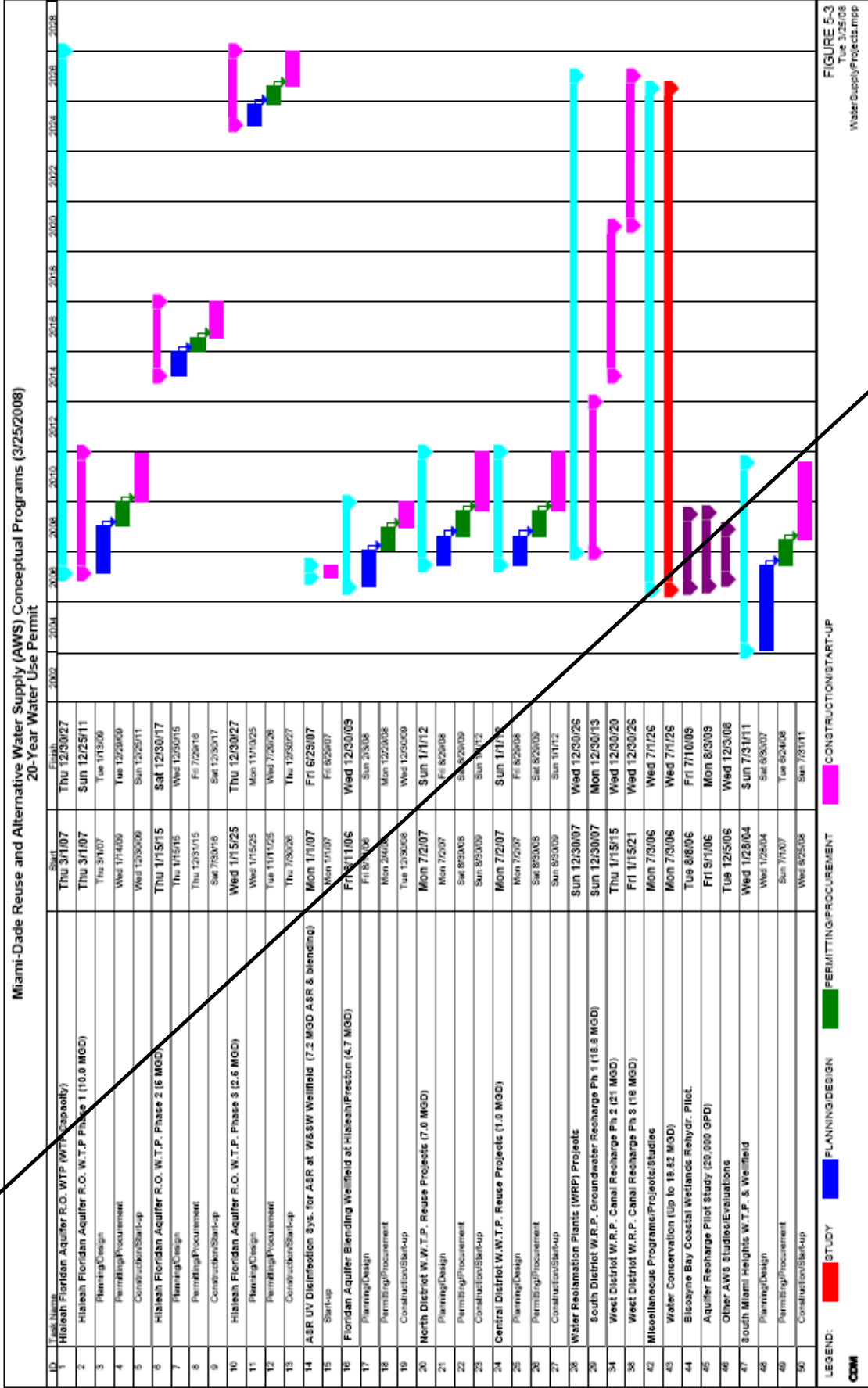
ID	Project	Reuse Flow(s) (MGD)	Estimated Capital Cost(s) (\$Million)	2002	2005	2008	2010	2012	2014	2016	2018	2020	2022	2024	2026	2028
1	HLD at SDWAWTP		505.0													
2	Hialeah Floridan Aquifer R.O. WTP (WTP Capacity)															
3	Hialeah Floridan Aquifer R.O. W.T.P. Phase 1 (10.0 MGD)		93.0													
7	Hialeah Floridan Aquifer R.O. W.T.P. Phase 2 (5.0 MGD)		25.0													
11	Hialeah Floridan Aquifer R.O. W.T.P. Phase 3 (2.5 MGD)		9.7													
15	ASR Ultraviolet (UV) Disinfection System for ASR system at W&SW Wellfield (7.2 MGD ASR & Blending)		6.4													
17	Floridan Aquifer Blending at Hialeah/Preston (4.7 MGD)		10.3													
21	North District W.W.T.P. Reuse Projects (7.0 MGD)	7	26.8													
25	Central District W.W.T.P. Reuse Project (1.0 MGD)	1	15.3													
29	Water Reclamation Plants (WRP) Projects															
30	South District W.R.P. Groundwater Recharge Ph 1 (18.6 MGD)	30	357.5													
35	West District W.R.P. Canal Recharge Ph 2 (21 MGD)	28	482													
39	West District W.R.P. Canal Recharge Ph 3 (16 MGD)	21	317													
43	Miscellaneous Programs/Projects/Studies															
44	Water Conservation/UFW Reduction Program (Up to 19.62 MGD)		25.2													
45	Biscayne Bay Coastal Wetlands Rehydr. Pilot.		19.2													
46	Aquifer Recharge Pilot Study (20,000 GPD)	0.02	1.0													
47	Other AWS Studies/Evaluations		2.0													
48	South Miami Heights W.T.P. & Wellfield		185.2													

FIGURE 5-2
Tue 3/25/08
Reuse Program Scheduler.mpp

(a) Exclusive of Coastal Wetlands Rehydration Project (78 mgd)
(b) December, 2006 (EAW GCI = 100%)

Source: WASH 20-Year Water Supply Facilities Work Plan

Figure 4-2



Source: W&S 20-Year Water Supply Facilities Work Plan

**Table 4.2
WASD Water/Alternative Water Supply CIE Program**

Project Name	Expenditure ^(a) (In Millions of Dollars)						Six Year Totals
	2007/ 2008	2008/ 2009	2009/ 2010	2010/ 2011	2011/ 2012	2012/ 2013	
Sewer Facilities							
Village of Key Biscayne Reuse Distr. System	2.85	0.00	0.00	0.00	0.00	0.00	2.85
Biscayne Bay Coastal Wetlands Rehydr. Pilot.	0.11	2.98	9.12	5.56	0.00	0.00	17.77
Aquifer Recharge Pilot Study (20,000 gpd)	0.24	2.00	0.00	0.00	0.00	0.00	2.24
North District W.W.T.P. Reuse Projects (7.0 mgd)	1.53	6.17	12.93	6.16	0.00	0.00	26.79
Central District W.W.T.P. Reuse Project (1.0 mgd)	0.90	3.36	7.03	4.00	0.00	0.00	15.29
South District W.R.P. Groundwater Recharge Ph 1 (18.6 mgd)	8.93	17.87	34.48	78.81	121.40	96.00	357.49
West District W.R.P. Canal Recharge Ph 2 (21 mgd)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
West District W.R.P. Canal Recharge Ph 3 (16 mgd)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Biscayne Bay Coast. Wetlands Reh. (75.7 mgd)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Facilities							
South Miami Heights W.T.P. & Wellfield	13.14	19.12	26.58	12.92	12.48	0.00	84.24
ASR Ultraviolet (UV) Disinfection System for ASR Syst. @W&SW Wellfield(7.2 mgd ASR&bl)	6.83	0.00	0.00	0.00	0.00	0.00	6.83
Floridan Aquifer Blending at Hialeah/Preston(4.7 mgd)	0.82	2.57	6.60	0.00	0.00	0.00	9.99
Hialeah Floridan Aquifer R.O. W.T.P. Phase 1 (10.0 mgd)	10.49	18.29	34.44	26.67	2.66	0.00	92.55
Hialeah Floridan Aquifer R.O. W.T.P. Phase 2 (5.0 mgd)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hialeah Floridan Aquifer R.O. W.T.P. Phase 3 (2.5 mgd)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals	45.84	72.36	131.18	134.12	136.54	96.00	616.04

Source: MDWASD CDMP CIE

^(a) December, 2006 Dollars (ENR CCI=7888)

Figure 4.42
WASD Water/Alternative Water Supply CIE Projects



MIAMI-DADE WATER AND SEWER DEPARTMENT
2014-2020 CAPITAL BUDGET AND MULTI-YEAR CAPITAL PLAN
Projection by Project Sub-project by Year - Water
As of: 9/30/2013

Version 4

Proj Sub-Proj	Sub-Proj Description	Current Bond/Fund Allocation	Expenditures As of 9/30/2013	Remaining Bond/Fund Allocation	PROJECTIONS									
					2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
1075	101546 WATER TREATMENT MODIFICATIONS TO COMPLY WITH SURFACE WATER TREATMENT AND DISINFECTANT/DISINFECTION BY PRODUCT REGULATIONS	532,824,088	13,200,885	519,623,203	300,000	1,000,000	7,500,000	20,000,000	176,682,053	180,710,573	133,430,577	0	0	0
	101891 NEW NWWF HIGH SERVICE PUMP STATION	43,250,000	0	43,250,000	0	0	1,500,000	10,000,000	15,000,000	14,500,000	2,250,000	0	0	0
	TOTAL - 1075	585,954,088	13,200,885	572,753,203	300,000	1,300,000	12,200,000	33,300,000	194,762,053	195,210,573	135,680,577	0	0	0
1077	101364 SOUTH MIAMI HEIGHTS WTP AND WF - NEW WATER TREATMENT PLANT	75,456,139	5,389,891	70,066,248	200,000	1,500,000	20,000,000	26,913,097	5,727,131	15,726,020	0	0	0	0
	101365 SOUTH MIAMI HEIGHTS WTP AND WF - NEW WELLFIELD	20,878,062	2,836,758	18,041,304	100,000	1,500,000	7,500,000	8,941,305	0	0	0	0	0	0
	101575 CONSTRUCTION MANAGEMENT AT SOUTH MIAMI HEIGHTS WTP	4,700,000	1,993,567	2,706,433	123,356	500,000	1,460,764	622,313	0	0	0	0	0	0
	101778 DESIGN AND CONSTRUCTION OF PROPOSED 16 INCH WATER MAIN	4,500,000	1,477,596	3,022,404	144,249	1,400,000	1,478,155	0	0	0	0	0	0	0
	102020 SOUTH MIAMI HEIGHTS FA MEMBRANES WTP	42,000,000	0	42,000,000	0	0	0	0	0	0	0	42,000,000	0	0
	102021 SOUTH MIAMI HEIGHTS - FA WELLS AND PIPING	21,600,000	0	21,600,000	0	0	0	0	0	0	0	21,600,000	0	0
	TOTAL - 1077	169,134,201	11,697,812	157,436,389	567,605	4,900,000	30,438,919	36,476,715	5,727,131	15,726,020	0	63,600,000	0	0
1078	101368 TELEMETERING SYSTEM - WATER	17,297,263	2,650,110	14,647,153	2,214,885	1,133,067	2,433,067	2,433,067	2,433,067	2,000,000	2,000,000	0	0	0

Prepared by Capital Planning and Coordination Section



MIAMI-DADE WATER AND SEWER DEPARTMENT
2014-2020 CAPITAL BUDGET AND MULTI-YEAR CAPITAL PLAN

Projection by Project Sub-project by Year - Water
As of: 9/30/2013

Version 4

Proj Sub-Proj Sub-Project Description	Current Bond/Fund Allocation	Expenditures Remaining As of 9/30/2013	Allocation	PROJECTIONS											Total		
				2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	Future			
TOTAL - 1078	17,297,263	2,650,110	14,647,153	2,214,885	1,133,067	2,433,067	2,433,067	2,433,067	2,000,000	2,000,000	2,000,000	0	0	0	0	0	14,647,153
101679 HIALEAH FLORIDAN AQUIFER R.O. W.T.P. PHASE 1 (10 MGD) - GOB IN 1065.101956	45,008,637	44,756,907	851,730	851,730	0	0	0	0	0	0	0	0	0	0	0	0	851,730
101737 HIALEAH FLORIDAN AQUIFER R.O. W.T.P. PHASE 2 (5 MGD)	12,816,075	0	12,816,075	0	0	0	0	0	0	0	0	12,816,075	0	0	0	0	12,816,075
101738 HIALEAH FLORIDAN AQUIFER R.O. W.T.P. PHASE 3 (2.5 MGD)	6,099,000	0	6,099,000	0	0	0	0	0	0	0	0	6,099,000	0	0	0	0	6,099,000
TOTAL - 1080	64,233,712	44,756,907	19,766,805	851,730	0	0	0	0	0	0	0	18,915,075	0	0	0	0	19,766,805
1081 101966 INSTALLATION OF 12-INCH DIWM ON EAST DRIVE FROM NW 36 ST. TO LABARON DR.	687,042	602,944	84,098	50,000	34,098	0	0	0	0	0	0	0	0	0	0	0	84,098
TOTAL - 1081	687,042	602,944	84,098	50,000	34,098	0	0	0	0	0	0	0	0	0	0	0	84,098
1082 101969 WATER - PIPES AND INFRASTRUCTURE PROJECTS	83,608,444	29,122,587	54,485,877	10,775,476	8,000,000	14,906,409	6,201,688	5,547,738	4,874,170	4,180,396	4,180,396	0	0	0	0	0	54,485,877
TOTAL - 1082	83,608,444	29,122,587	54,485,877	10,775,476	8,000,000	14,906,409	6,201,688	5,547,738	4,874,170	4,180,396	4,180,396	0	0	0	0	0	54,485,877
TOTAL - Water	4,067,616,612	410,768,117	3,656,848,495	83,880,760	119,010,688	214,146,080	255,797,526	418,171,885	403,102,053	305,885,696	1,852,270,268	2,583,540	2,000,000	0	0	0	3,656,848,496

5.0 GOALS, OBJECTIVES AND POLICIES

The Town of Surfside has adopted several ~~new~~ goals, objectives and policies into the Future Land Use, Potable Water, Conservation, Capital Improvement and Intergovernmental Coordination Elements of the Comprehensive Plan that address water supply sources and facilities and climate change adaptation strategies., ~~as well as conservation and reuse programs based on the comprehensive plan requirements in Chapter 9J-5, Florida Administrative Code.~~ The Town of Surfside intends to implement and monitor compliance with this ~~10-Year~~ 15-Year Water Supply Facilities Work Plan throughout the 2030 ~~planning horizon~~ the adoption and review of amendments to the Comprehensive Plan as part of its future Evaluation and Appraisal Reports.

The Town will continue to ensure and coordinate with Miami-Dade WASD and the SFWMD to provide sufficient water to the residents of the Town throughout the planning period. The Town will also periodically review goals, objectives and policies related to water supply planning and consider whether or not there is a need for updates, revisions, or changes based on newly adopted statutory requirements or input from the County or SFWMD. In addition, through annual reporting the Town will provide updates on progress made towards implementation of the Work Plan and the LEC plan.

6.0 CONCLUSION

~~The South Florida Water Management District has determined that the Biscayne Aquifer water source is not sufficient to meet future demands.~~ Miami Dade County Water and Sewer Department currently supplies potable water services to the Town of Surfside through a mutual agreement. Miami Dade County Water and Sewer Department has evaluated the impact of implementing new alternative water sources projects to meet the projected water demands for all their existing and proposed customers, inclusive of the Town of Surfside. The ~~w~~Water s~~S~~upply w~~W~~ork p~~P~~lan is formulated to demonstrates that the Miami Dade County Water and Sewer Department has the capacity to provide potable water to the Town of Surfside and all other their wholesale customers ~~for the next 20 year~~ over the Town's 15-year planning period. The Town of Surfside ~~must~~ will continue to coordinate with Miami Dade Water and Sewer Department and the South Florida Water Management District in regional efforts to reduce water consumption, conserve potable water supplies, address climate change and sea level rise, and strengthen the water supply planning process ~~continue research and implement future projects to reduce the reliance on the Biscayne Aquifer.~~

APPENDIX A

CONTRACT
BETWEEN
MIAMI-DADE COUNTY
AND
TOWN OF SURFSIDE, FLORIDA
PROVIDING FOR THE RENDITION OF WATER SERVICE

THIS CONTRACT, made and entered into this 26th day of July, 2007 between Miami-Dade County, a political subdivision of the State of Florida, referred to as the "COUNTY" and TOWN OF SURFSIDE, a municipal corporation organized and existing under the laws of the State of Florida, referred to as the "TOWN".

W I T N E S S E T H:

WHEREAS, on May 2, 1995, the COUNTY and the TOWN entered into a Contract providing for the rendition of water service by the COUNTY to the TOWN, and

WHEREAS, on May 10, 2006, the COUNTY and the South Florida Water Management District (SFWMD) entered into a contract which requires the COUNTY to obtain twenty (20) year water service contracts with its volume water customers to coincide with the request of the COUNTY for twenty (20) year Consumptive Use Permits issued by the SFWMD, and

WHEREAS, without a twenty (20) year contract with the TOWN, the water supply source for the TOWN, may be allocated from an alternative more expensive source for the TOWN, and

WHEREAS, the COUNTY and the TOWN desire to enter into this Contract so the COUNTY can continue to render water service to the TOWN for a twenty (20) year period, and

WHEREAS, the Miami-Dade Water and Sewer Department, referred to as the "Department", operates and maintains the COUNTY's water system.

NOW, THEREFORE, in consideration of the mutual covenants and obligations set forth, the COUNTY and TOWN agree as follows:

Town of Surfside
Water Service Contract
04/09/2007

1

1. Insofar as it may be lawful to do so in accordance with the terms and limitations of any Consumptive Use Permit issued the COUNTY by the SFWMD and subsequent to the terms herein, the COUNTY shall sell and deliver to the TOWN, and the TOWN shall purchase and receive from the COUNTY all potable water necessary to fulfill the water requirements of the TOWN during the effective period of this Contract. All water delivered by the COUNTY shall be of good and potable quality satisfactory for domestic use and shall be of similar quality as that furnished to the COUNTY's other customers. Potable water obtained by the TOWN from the COUNTY may be utilized to serve the TOWN's customers in its existing water service area or future water service area(s) that the TOWN is legally authorized to serve.

2. Notwithstanding the obligations of Paragraph 1 above, if the COUNTY should have an insufficient supply of water available to fulfill the total requirements of all customers of the COUNTY due to prohibitions, restrictions, limitations or requirements of local, state or federal governments having jurisdiction over such matters or due to any other cause beyond the COUNTY's control including but not limited to those specifically set forth in Paragraph 22 below, the COUNTY shall be deemed to have fully performed its duties and to have discharged its obligations if it furnishes and delivers the TOWN's prorata share of such supply as determined by the COUNTY. The COUNTY will not be discriminatory in its delivery of water service. The COUNTY shall give expeditious notice to the TOWN whenever the COUNTY becomes aware of conditions which could reasonably lead to an outage or shortage of such potable water supply or which may bring about such condition. Notwithstanding the preceding, the County shall not be obligated to take or omit any action to ensure current or future water supply to the TOWN.

3. The TOWN agrees to be bound by existing and future standards, laws, rules and regulations which may be enacted by the COUNTY or as may be necessary to ensure continued compliance with local, state and federal laws and regulations and permit conditions.

4. The water furnished will be delivered by the COUNTY and will be accepted and received by the TOWN at the following points of delivery:

- a. 88 Street and Byron Avenue
- b. 91 Street and Byron Avenue
- c. 95 Street and Byron Avenue

Additional points of delivery may be established at such times and places as shall be mutually agreed by the Director of the Department and the TOWN. The TOWN shall bear the entire cost and expense of establishing each such additional point of delivery,

obtaining such easements as may be needed and furnishing all necessary labor and materials required to connect with the COUNTY's main, all in accordance with plans and specifications which are subject to approval of the COUNTY. The TOWN will supply and install meter(s) and transfer ownership to the COUNTY. The TOWN shall convey to the COUNTY, by appropriate bill of sale, as shown on Exhibit "A" attached hereto, and Grants of Easements, all of the TOWN's right, title and interest in and to the tees or crosses in the feeder mains, meters, meter vaults and all piping, valves and appurtenances between and including the aforesaid tees or crosses and the valve immediately on the discharge side of the meters. The COUNTY shall thenceforth own, control, operate and maintain such facilities. Readings of each meter at all points of delivery shall be taken by the COUNTY on or about the 28th day of each month and shall be used for monthly billing purposes under the provisions of Paragraph 11 below.

5. The Parties agree and warrant that their respective water distribution and transmission system and any extensions shall be constructed, operated and maintained in accordance with the requirements of all applicable federal, state, county and other local laws, rules and regulations. The operation and maintenance of all facilities on the TOWN side of the meters shall be the responsibility of the TOWN. Upon reasonable notice that the TOWN is in violation of this Agreement, the TOWN shall provide the COUNTY with access to the TOWN's distribution and transmission system. Said inspections shall be made at reasonable times and upon reasonable notice in such manner as to least disturb the normal operation of the TOWN.

6. In order for the COUNTY to adequately plan for future water demands, within ninety days following execution of this contract and on or before each January 1 thereafter, the TOWN shall submit to the COUNTY the TOWN's projected annual water needs for the next five years. Within 120 days of the COUNTY's receipt of the TOWN's projected annual water needs for the next five years, the COUNTY will notify the TOWN of the COUNTY's ability or inability to meet such needs, which is subject to local, state and federal agencies and other regulatory bodies having jurisdiction over such matters. The TOWN agrees that the COUNTY shall not be liable or in any way responsible for any cost, claims or losses incurred by the TOWN as a result of actions by regulatory bodies.

Notwithstanding the preceding, nothing contained herein shall require the COUNTY to take or omit any action to ensure that the expected demand is satisfied. Any representation as to the County's ability to satisfy expected demands is conditional, and shall not obligate the County to deliver any specific amount of water.

7. The COUNTY shall own, operate and maintain metering stations at the points of delivery listed above which will measure all potable water delivered by the COUNTY to the TOWN. The metering stations shall be of standard make and type installed in a readily accessible location with checking or calibration devices. The installation shall indicate flow with an error not to exceed plus or minus two percent of full scale reading (true accuracy). The Department, at its sole expense, shall check the accuracy of each metering installation once every six months, or at such other time intervals as it may deem appropriate. The Department shall provide the results of the checking to the TOWN's Public Works Director no later than thirty (30) days after the meter is checked. Such checking shall be at a reasonable time, mutually agreeable to the Department and the TOWN. If found to be in error exceeding two (2) percent of true accuracy, the meter shall be recalibrated to the satisfaction of the parties. If such error of more than two (2) percent is discovered, bills for the periods following the prior meter accuracy check shall be adjusted to reflect the quantity of over-read or under-read exceeding two (2) percent. In calculating such billing adjustment it will be assumed that the meter inaccuracy existed for the entire time interval between meter accuracy tests. The billing adjustment shall be made at the same rate in effect during the period of meter inaccuracy.

8. The TOWN may request and the COUNTY agrees to perform a meter accuracy test at any reasonable time acceptable to both parties. If the meter is found to be in error exceeding two percent true accuracy, it shall be recalibrated as described above and the entire cost for such testing and recalibration shall be paid for by the COUNTY. If the meter is found performing within two (2) percent true accuracy, the meter accuracy test shall be paid for by the TOWN within thirty (30) days of receiving the COUNTY's invoice.

9. In the event of complete or partial failure of any meters to register the TOWN's water consumption, the COUNTY may determine the estimated water consumption based on the most recent twelve (12) full months of consumption measured by the meters when they were operating properly or another method mutually agreed upon by the Department and the TOWN. To the extent possible, the COUNTY shall repair all failed meters within thirty (30) days of the determination that the meter has completely or partially failed.

10. It shall be the obligation and duty of the TOWN to transmit the water at its own expense from each point of delivery to the place or places of ultimate use. The COUNTY shall not be responsible for insufficient pressure for either domestic or fire flow service, nor be required to correct any fluctuation in pressure occurring beyond any point of delivery. The existing normal level of service to the TOWN is 50-55 psig at an average

daily flow of approximately 4,000,000 gallons per day into the 30" Broad Causeway water main referenced in Paragraph 14. In the event that the pressure on the COUNTY's point of delivery drops to the low pressure telemetry alarm level setting of 40 psig, the COUNTY shall notify Surfside Police Department and the Miami-Dade County Fire Department of such low pressure alarm condition by a telephone auto-dialer (the "Auto-Dialer"). The COUNTY shall provide at least a 72 hour notice before any planned decrease in pressure which would affect the TOWN's and the Miami-Dade County Fire Department's ability to deliver services to any TOWN customer.

11. The TOWN shall pay to the COUNTY, as compensation for the treatment and transmission of all water delivered to the TOWN, a monthly charge for such service based on a uniform rate for the COUNTY's volume customers. The rate shall be calculated for each Department fiscal year based on projections from the prior Department fiscal year and based on the sum of the following:

(a) That portion of all budgeted annual operating and maintenance expenses, including taxes assessed, if any, for the COUNTY's regional water system divided by the projected total amount of flow used to bill all the COUNTY's water customers over the same time period.

(b) That portion of the budgeted annual renewal and replacement expenses for the COUNTY's regional water system divided by the total projected amount of flow used to bill all the COUNTY water customers over the same time period.

(c) That portion of the COUNTY's budgeted annual interest obligations of outstanding notes and bonds for the COUNTY's regional water system divided by the projected total amount of flow used to bill all the COUNTY water customers over the same time period.

(d) That portion of the budgeted annual charge for the amortization of the COUNTY's outstanding notes and bonds for the COUNTY's regional water system, to be consistent with the requirements under law, divided by the total projected amount of flow used to bill all the COUNTY's water customers over the same time period.

(e) That portion of the budgeted annual charge for customer accounting and service, for the COUNTY's regional water system divided by the total projected of flow used to bill all the COUNTY's water customers over the same time period.

(f) That portion of projected annual administration and general expenses, for the COUNTY's regional water system, divided by the total projected amount of flow used to bill all the COUNTY's water customers over the same time period.

(g) That portion of the charge for debt service coverage requirement for bond issues for the COUNTY's regional

water system divided by the total projected amount of flow used to bill all the COUNTY's water customers over the same time period.

12. The TOWN, with the assistance of the COUNTY, shall prepare a water conservation plan for its distribution system, to the satisfaction of the COUNTY, and shall implement the tenets of such plan. This plan shall comply with applicable local, state and federal conservation rules and guidance, as appropriate. The COUNTY may impose a surcharge on the use of such amounts of water by the TOWN as could be conserved by the TOWN through the implementation of a conservation plan, provided that the surcharge is applied uniformly to all volume water customers of COUNTY. The amount of the surcharge is subject to the review and approval of the Board of County Commissioners. Water conservation is necessary to meet the public water supply demands of the COUNTY.

13. The COUNTY reserves the right to revise or modify the rate and the method of calculation included in Paragraph 11 as may be approved by the Board of County Commissioners in accordance with applicable law and the TOWN agrees to be bound thereby. The COUNTY will attempt to provide the TOWN with a preliminary rate and shall to provide such rate a minimum of six (6) weeks in advance of any rate increase effective date. The TOWN recognizes and agrees that the adopted rate may differ from the preliminary rate. The TOWN recognizes and agrees that the COUNTY intends to implement in the future such charges or rate structures, including but not limited to peak flow surcharges, as it deems necessary to fairly recover its costs for any needed infrastructure improvements. The TOWN further recognizes and agrees that the COUNTY's right to revise or modify the rate or methods of calculation under this paragraph is not limited solely to revisions or modifications allowing the COUNTY to recover costs for infrastructure improvements.

14. In addition to the monthly payment calculated in accordance with Paragraph 11 hereinabove, the TOWN shall pay to the COUNTY an asset charge representing the TOWN's proportionate share of the COUNTY's costs for the construction of water main improvements in Broad Causeway and Kane Concourse which costs are calculated as shown below:

A charge per month for interest and depreciation in an amount equal to fifteen thousand one hundred twenty-five dollars and sixty-four cents (\$15,125.64) representing seven-tenths of one percent (0.7%) of \$2,160,805 for the cost of the thirty (30) inch main in Broad Causeway; plus two thousand eight hundred dollars (\$2,800.00) representing seven-tenths of one percent (0.7%) of \$400,000 for the cost of installing the twenty-four (24) inch main in Kane Concourse. This charge shall remain in effect through December 2008.

15. For the purpose of billing the TOWN for the charges specified in Paragraph 14 hereinabove, the COUNTY will establish the TOWN's proportionate share by dividing the TOWN's metered consumption by the total water consumption of the TOWN, Indian Creek Village, Bay Harbor Islands and Bal Harbour Village.

16. The COUNTY grants the TOWN the right to audit all Department records related to the computation of the rates for each fiscal year. Upon written notice, the COUNTY shall make available for the TOWN such records at the offices of the Department on an annual basis. In the event that such audit indicates any discrepancy between the rates used by the COUNTY in computing the monthly service charges to the TOWN and the amount paid by the TOWN determined as a result of the audit, and following the COUNTY's acceptance of the audit findings, the COUNTY shall make an adjustment, for that fiscal year, in the service charges previously paid by the TOWN. The audit must be completed on or before the end of each fiscal year for which the rates apply. Adjustments shall not be made for prior fiscal years.

17. Billings for services provided in accordance with this contract shall be rendered monthly. Invoices will be mailed by the tenth day of the month following the month for which service has been provided, based on meter readings taken by Department employees on or about the 28th day of each month. Amounts billed on such invoices are due when rendered. In the event the TOWN disputes a bill, the TOWN shall provide the COUNTY with notice of the reasons for non-payment and shall escrow such portion of the bill that is disputed in an interest-bearing account. The parties shall promptly meet and use good faith efforts to resolve the dispute within forty-five(45) days of the notice. Except for any portion of a bill disputed by the TOWN, payments not received by the Department on or before twenty-five (25) days after the postmark date of the bill shall be considered past due. All past due invoices shall be subject to a late charge as established by the COUNTY, such charge to reimburse the Department for costs in processing and otherwise administering late payments. In addition, per annum interest shall accrue on the past due charges including the late charges at the maximum legal rate provided by Florida law for contracts in which no interest rate is specified, for each day, including Saturdays, Sundays and holidays, from the past due date until the date of receipt by the Department. For purposes of this paragraph, date of receipt shall be the date of actual receipt by the Department if hand delivered or mailed, or date of transfer to the Department's bank, if electronic funds transfer is used.

18. Any and all suits brought by either party shall be instituted and maintained in any court of competent jurisdiction in Miami-Dade County, Florida. In all such suits, the prevailing party shall be entitled to receive costs and reasonable attorney's fees. The amount of such costs and fees shall be determined by the court in which such actions are brought.

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19. The TOWN shall accept delivery of water transmitted at a flow rate as nearly uniform as practical throughout each daily 24-hour period during November, December, January, February, March and April of each year and at all such other times when the daily quantity delivered shall exceed the average daily quantity delivered during the preceding six (6) months set forth above. The COUNTY shall have the right to make such tests as it shall deem necessary, and at such times as it shall deem to be appropriate, to determine to what extent the maximum 60-minutes sustained demand imposed upon the facilities of the COUNTY by the requirements of the TOWN between the hours of 6:00 A.M. and 9:00 P.M. is exceeding the average daily demand for the same month. For the purpose of making each such test and of ascertaining and utilizing the result to give effect to the provisions of this Paragraph, the COUNTY shall use a recording flow meter installed at each of the points of delivery provided for in Paragraph 4 above. Such tests shall apply to each of the six (6) months set forth above and to any other month in which the average daily demand is equal to or greater than the average daily demand for the six (6) months considered collectively. Provided however, that no test allowed by this paragraph shall occur on less than three (3) business days notice to the TOWN.

20. The TOWN shall establish, impose, maintain and collect, or shall cause to be established, imposed, maintained and collected at all times throughout the effective period such rates and charges for water distributed as will enable it to pay in full all amounts to which the COUNTY shall be entitled.

21. No property taxes shall be levied or collected by the TOWN upon the properties of the Department. Additionally, the TOWN shall not impose any zoning changes upon the properties of the Department.

22. Any cessation of water services and any consequences caused by force majeure, inevitable accident or occurrence or cause beyond the reasonable control of either Party, shall not constitute a breach of this Contract and neither party shall be liable to the other or its inhabitants or customers for any damage resulting from such cessation or interruption of water service. Force majeure shall mean an act of God which includes but is not limited to sudden, unexpected or extraordinary forces of nature such as floods, washouts, storms, fires, earthquakes, landslides, hurricanes, epidemics, explosions or other forces of nature, strikes, lockouts, other industrial disturbances, wars, blockades, acts of terrorism, insurrections, riots, federal, state, county and local governmental restrictions, regulations and restraints, military action, civil disturbances, or conditions in federal, state, county and local permits.

Neither party shall be liable for its failure to carry out its obligations under the contract during a period when such party is rendered unable, in whole or in part, by force majeure or inevitable accidents or occurrences to carry out such obligations, but the obligations of the party or parties relying on such force majeure shall be suspended only during the continuance of any inability so caused and for no longer period of an unexpected or uncontrollable event, and such cause shall, so far as possible, be remedied with all reasonable dispatch. It is further agreed and stipulated that the right of any party to excuse its failure to perform by reason of force majeure shall be conditioned upon such party giving, to the other party, written notice of its assertion that a force majeure delay has commenced within ten (10) working days after such commencement, unless there exists good cause for failure to give such notice, in which event, failure to give such notice shall not prejudice any party's right to justify any non-performance as caused by force majeure unless the failure to give timely notice causes material prejudice to the other party.

23. In accordance with the provision of County Ordinance No. 89-95 as currently in effect and as may be amended or revised in the future, the TOWN shall require all new retail users, as defined in the Ordinance, to pay the COUNTY's water and sewer connection charges. The TOWN shall not render water service, sewer service or both to any new retail user until a written receipt from the Department is provided to the TOWN. Pursuant to Ordinance No. 05-167, the provision of water and/or sewer service to new retail users by the TOWN who did not pay the appropriate charges, shall render the TOWN liable to the COUNTY for the payment of such charges.

24. In consideration of good and valuable consideration received from the COUNTY and in consideration of the covenants in this Contract, the TOWN agrees to indemnify and save harmless forever, the COUNTY, its officers, agents and employees from all claims, liability, actions, loss, cost and expense, including attorney's fees, which may be sustained by the COUNTY, its officers, agents, and employees due to, caused by, or arising from the negligence of the TOWN, its officers, employees and agents in connection with the performance of this Contract. The TOWN agrees to defend against any claims brought or actions filed against the COUNTY, its officers, agents and employees in connection with the subject of the indemnities contained herein.

25. In consideration of good and valuable consideration received from the TOWN and in consideration of the covenants in This Contract, the COUNTY agrees to indemnify and save harmless forever, the TOWN, its officers, agents and employees from all claims, liability, actions, loss, cost and expense, including attorney's fees, which may be sustained by the TOWN, its officers,

agents, and employees due to, caused by, or arising from the negligence of the COUNTY, its officers, employees and agents in connection with the performance of this Contract. The COUNTY agrees to defend against any claims brought or actions filed against the TOWN, its officers, agents and employees in connection with the subject of the indemnities contained herein.

26. Notwithstanding the above, nothing shall create any liability of the COUNTY or TOWN beyond the scope of Section 768.28 Florida Statutes, as currently in effect or as lawfully amended in the future.

27. No rights pursuant to this contract shall be assignable by the TOWN unless the COUNTY agrees in writing.

28. This Contract shall be and remain in full force and effect for a period of twenty (20) years from the date of execution of this Contract providing the SFWMD extends the current Consumptive Use Permits for a twenty (20) year period. The TOWN shall comply with the terms and conditions of the Consumptive Use Permit issued by the SFWMD and any revisions or modifications to such permit. Where the Consumptive Use Permit requires reporting of various measures to the SFWMD, or requires actions be taken to the satisfaction of the SFWMD, the TOWN shall make such reports or take such actions as necessary to comply with the terms of the Permit. The County shall notify the TOWN of any such actions which are necessary and shall allow a reasonable time for compliance by the TOWN.

29. The TOWN grants to the COUNTY the right to provide reuse water for non-drinking purposes, when available, within the TOWN subject to federal, state and local laws and regulations in effect and as may be amended in the future, subject to the issuance of construction permits by the TOWN and upon the TOWN's Manager giving approval in writing which shall not be unreasonably withheld. The TOWN agrees to accept and utilize re-use water in lieu of potable water, if such water is provided by the COUNTY through a distribution system installed in the TOWN at the COUNTY's expense, to the extent the use for which the COUNTY is offering such re-use water is permitted by law.

30. All notices required pursuant to this Contract shall be properly given if mailed by United States registered or certified mail addressed to the party to which notice is to be given at the following respective addresses:

Miami-Dade County
c/o The Director
Miami-Dade Water and Sewer Department
3071 SW 38 Avenue
Miami Florida 33146

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TOWN OF SURFSIDE
Mayor
9293 Harding Avenue
Surfside, Florida 33154

31. This contract shall be governed by and construed according to the laws of the State of Florida, and venue shall be in Miami-Dade County, Florida.

32. This Contract contains the entire Contract of the parties with respect to the subject matter and replaces and supersedes all prior contracts or understandings, oral or written, with respect to such subject matter, and such contracts or understandings are now void and no longer in effect.

33. If any Section of this Contract is found to be null and void, the other Sections shall remain in full force and effect.

(THE REST OF THIS PAGE IS INTENTIONALLY LEFT BLANK)

IN WITNESS WHEREOF, the parties have caused this instrument to be executed in their names and their corporate seals affixed and to all duplicates by their respective officers all as of the day and year above.

 Clerk 7/26/07

MIAMI-DADE COUNTY

By: [Signature] (SEAL)
County Mayor

ATTEST:

TOWN OF SURFSIDE

By: [Signature]
Town Clerk

By: [Signature] (SEAL)
Town Manager

Approved as to form and legal sufficiency:

Approved as to form:

[Signature]
Assistant County Attorney

[Signature]
Attorney for Town of Surfside

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Exhibit "A"

ABSOLUTE BILL OF SALE

KNOW ALL MEN BY THESE PRESENTS, That TOWN OF SURFSIDE, a municipal corporation organized and existing under the laws of the State of Florida, hereinafter called GRANTOR, for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration, paid and delivered by Miami-Dade County, a political subdivision of the State of Florida, hereinafter called GRANTEE, the receipt whereof is hereby acknowledged, has granted, bargained, sold, transferred and delivered, and by these presents does grant, bargain, sell, transfer and deliver unto the GRANTEE, its successors and assigns, that portion of the GRANTOR's water facilities installed to provide an additional point of connection south of _____ Street and _____ Avenue in Miami-Dade County.

The GRANTOR hereby assigns and transfers to the GRANTEE all of its rights, title and interest to the following:

- a. Any and all rights, licenses and permits from the Department of the Army Corps of Engineers and State of Florida, Department of Environmental Regulation issued to the TOWN in connection with the construction of the sewage facilities.
- b. Any and all other rights, interest, easements, licenses and permits issued or granted by any other governmental authority, person, firm or corporation in connection with the sewage facilities conveyed to the GRANTEE hereunder.

TO HAVE AND TO HOLD the same unto the GRANTEE, its successors and assigns forever. GRANTOR does covenant to and with the GRANTEE, its successors and assigns, that GRANTOR is the lawful owner of the above described; that said property is free from all encumbrances; that GRANTOR has good right to sell the same aforesaid; that GRANTOR will warrant and defend the sale of the said property unto the GRANTEE, its successors and assigns, against the lawful claims and demands of all persons whomsoever.

IN WITNESS WHEREOF, the GRANTOR has hereunto set its hand and seal this _____ day of _____, 2007.

ATTEST:

TOWN Clerk

TOWN OF SURFSIDE

TOWN Manager

EXHIBIT B

TOWN OF SURFSIDE

Comprehensive Plan Chapters

CHAPTER 1: FUTURE LAND USE ELEMENT

DATA, INVENTORY AND ANALYSIS

Page 1-5

Potable Water Facilities

The Town of Surfside's potable water is provided by the Miami-Dade County Water and Sewer Department (MDWASD). The water is distributed to residents and commercial business by approximately 11 miles of cast iron pipe installed in 1938. The Town of Surfside is serviced by the Hialeah-Preston Water Treatment Plant service area which includes the northern part of Miami-Dade County. ~~The Hialeah and Preston Water Treatment Plants (WTPs) are currently being modified and will receive ground water from five Upper Floridan Aquifer wells by 2010. A new upper Floridan Aquifer Reverse Osmosis (RO) water treatment plant was constructed in 2013, and is located at 4250 W. 114th Terrace in the City of Hialeah. The WTP was constructed pursuant to a Joint Participation Agreement between the City of Hialeah and the County which was approved by the Board of County Commissioners on July 24, 2007 and called for the design, construction, and operation of a water treatment plant constructed in the annexation area and supplied by the brackish Floridan aquifer to produce initially 10 mgd with the capacity to expand to 17.5 mgd. Approval from the Florida Department of Health to produce and distribute water was received in November 2013. The WTP utilizes the Floridan Aquifer as the alternative water supply using the RO treatment to remove the salt. The initial operational phase of the Plant is 7.5 mgd, increasing to 10 mgd by the end of 2015 when construction of additional wells is expected to be completed.~~ The quantity of water available to serve MDWASD's North District, as reflected in permitted withdrawal allocations, provides more than adequate capacity.

~~The 155 gallons capita per day (gpcd) value is a MDWASD system wide finished water rate is 137.2 gallons per capita per day (gpcd). The gpcd value for the Town of Surfside is higher than the system wide average at 148.04 gallons per capita per day. In 2007 the actual gpcd value for the Town of Surfside was 206 gpcd. The Town of Surfside is aware of this high gpcd value, and is currently working with MDWASD to implement water efficiency plans, public~~

~~education, and BMPs to reduce the Town of Surfside's gpcd value. The Town adopted its most recent 15-Year Water Supply Facilities Work Plan in 200815.~~

The level of service will be met for Surfside in the short term and long term planning periods.

CHAPTER 4: INFRASTRUCTURE ELEMENT

DATA, INVENTORY AND ANALYSIS

Page 4-1

POTABLE WATER

This section evaluates the potable water system serving the Town of Surfside. ~~Potable water facilities are defined in Rule 9J-5.003, F.A.C. as "a system of inclusive of all structures designed to collect, treat, and distribute potable water in addition to water wells, treatment plants, reservoirs and distribution mains."~~

Miami Dade County Water and Sewer Department Geographic Service Area

The Town of Surfside's potable water is provided by a system operated by the Miami-Dade County Water and Sewer Department (MDWASD) which provides service for approximately ~~two~~ 2.6 million customers in Miami-Dade County. The MDWASD water service area illustrated in Figure ~~2-43.1~~ (Appendix ~~B4-A-Miami Dade County Town of Surfside 15-Year Water Supply Facilities Work Plan~~) is interconnected and functions as a single service area. The Town of Surfside is serviced by the Hialeah-Preston Water Treatment Plant service area which includes the northern part of Miami-Dade County.

The water is distributed to residents and commercial business by approximately 11 miles of cast iron pipe installed in 1938. Primary mains feeding the system run under the Town's streets and vary in size from 6-inch to 16-inches in diameter, which feed three-inch and four-inch water lines located along the rear property lines.

Water Source

~~The Hialeah-Preston Water Treatment Plant (WTP) located at 200 W. 2nd Avenue and 1100 W. 2nd Avenue; both plants are interconnected with adjacent facilities with a main source of water from the Biscayne Aquifer. The WTP's are currently being modified and will receive ground water from five Upper Floridan Aquifer wells by 2010. The wells will be located in Miami Springs Wellfield and the Northwest Wellfield according to MDWASD.~~

The source water for the Hialeah Water Treatment Plant (WTP) is from the Hialeah-Miami Springs Wellfields, supplemented by the Northwest Wellfield. There are three active wells located in the Hialeah Wellfield constructed in 1936. Each well is 14 inches in diameter, 115 feet deep and have casing depths of 80 feet. The total wellfield capacity is 12.54 mgd or 8,700 gpm (2,900 gpm for each well). The twenty active wells located in the Miami Springs Wellfield were constructed between 1924 and 1954. These wells are 14 inches and 30 inches in diameter, 80 to 90 feet deep and have casing

depths of 80 feet. The total wellfield capacity is 79.30 mgd or 55,070 gpm (ranging between or 2,500 and 5,000 gpm for each well). The Northwest Wellfield has fifteen active wells that were constructed in 1980. The wells are 40 inches and 48 inches diameter and 80 to 100 feet deep, with casing depths ranging from 46 to 57 feet. These wells have two-speed motors. The total nominal capacity of the wells at the low speed flow rate is 149.35 mgd. The capacity of each well, except well No. 10, is 10 mgd at the low speed flow rate. Well No. 10 has a low speed capacity of 9.35 mgd. The total nominal capacity for the wells at the high speed flow is 220.94 mgd.

The seven active wells located in the John E. Preston Wellfield were constructed in 1966 and 1972. Each well is 42 inches in diameter, 107 feet deep and have casing depths of 66. The capacity of wells No. 1 through No. 6 is 5,000 gallons per minute (gpm) each and the capacity of well No. 7 is 7,000 gpm. The total wellfield capacity is 53.28 mgd.

Water Treatment Plants (WTPs)

~~The Hialeah and Preston Plants are currently fed by forty five wells, including the Northwest Wellfield and the Hialeah/Preston on-site wells. The quantity of water available to serve MDWASD's North District, as reflected in permitted withdrawal allocations, provides more than adequate capacity.~~

~~The Hialeah WTP was originally designed in 1924 with a total capacity of 10 mgd. By 1935, the plant's capacity was 40 mgd. In 1946, capacity was increased to 60 mgd. There are plans to rerate and upgrade the Hialeah WTP to a capacity of 70 mgd, if necessary. The source of water for the Hialeah WTP comes from the Hialeah-Miami Springs Wellfields, supplemented by the Northwest Wellfield. The Hialeah WTP has a current rated capacity of 60 mgd.~~

~~The John E. Preston Water Treatment Plant was originally designed as a 60 mgd plant in 1968 and upgraded to 110 mgd in 1980. The plant was rerated to a total capacity of 130 mgd in 1984.~~

~~The plant reached its present capacity of 165 mgd and 185mgd in 2005 with the addition of air stripping capacity. The main source of water for the Preston WTP is from the Northwest wellfield.~~

The Hialeah WTP was originally designed in 1924 with a total capacity of 10 mgd. By 1935, the plant's capacity totaled 40 mgd. In 1946, capacity was increased to 60 mgd. Air strippers with a capacity of 84 mgd were added to the treatment process in 1991 to remove volatile organics from the finished water. A 3.2 MG storage reservoir for both the Hialeah and John E. Preston WTPs was also added in 1991. The Hialeah WTP has a current rated capacity of 60 mgd and there are plans to rerate and upgrade the

Hialeah WTP to a capacity of 70 mgd, if necessary. The treatment process for this WTP includes lime softening with sodium silicate activated by chlorine, recarbonation, chlorination, ammoniation, fluoridation, filtration, and air stripping. The plant site is relatively small, and is surrounded by residential areas.

The John E. Preston WTP was originally designed as a 60 mgd plant in 1968 and upgraded to 110 mgd in 1980. The plant was re-rated to a total capacity of 130 mgd in 1984. The plant reached its present capacity of 165 mgd with another addition in 1988. In 1991, the plant was modified with an air stripping capacity of 185 mgd to remove VOCs. In 2005, plant process modifications to provide enhanced softening for reduction of color and total organic carbon came on line. The main source of water for the Preston WTP is from the Northwest Wellfield. The current rated capacity is 165 mgd with a treatment process similar to that of the Hialeah WTP. This includes lime softening with ferric and other coagulant and chemicals added prior to lime for enhanced softening, recarbonation, chlorination, ammoniation, fluoridation, filtration, and air stripping. The Preston plant is also located in a residential area of Hialeah.

Potable Water Level of Service

~~In order to maintain level of service town-wide, a water maintenance program will be implemented in 2010. Currently, construction documents are being prepared for a Town-wide replacement of the water mains, meters, and fire hydrants. The program will evaluate the existing infrastructure and replace pipes in poor condition and in need repairs.~~

The Town of Surfside currently coordinates with MDWASD and the South Florida Water Management District to meet existing and projected demands based on level of service (LOS). ~~The Town's MDWASD's~~ projected water demands shown in **Table 4-1** below were developed by ~~incorporating the County's~~ utilizing an average gallons per capita per day (gpcd) value of 455 137.2 gpcd.

**Table 4-1
Water Supply Level of Service
Miami-Dade Water and Sewer Department (MDWASD) Water Demand Projection**

PROJECTED WATER SUPPLY			
Year	2010	2015	2030
Population	5,280	5,483	5,680
Proposed Per Capita (gallons per day finished water)	155	155	155
(all potable volumes are finished water)	MGD	MGD	MGD
Potable Water Demand (daily average)	0.82	0.850	0.88

Source: Calvin, Giordano & Associates, Inc., 2009.

<u>Year</u>	<u>Population</u>	<u>Finished Water Use (gpcd)</u>	<u>AADD Finished Water Use (MGD)</u>	<u>Water Conservation Credit (MGD)</u>	<u>Reuse Reclaimed Water Credit</u>	<u>Adjusted Finished Water Demand (MGD)</u>	<u>Adjusted Finished Water Use (gpcd)</u>
<u>2015</u>	<u>2,266,092</u>	<u>137.2</u>	<u>310.84</u>	<u>2.04</u>	<u>0.00</u>	<u>308.80</u>	<u>136.27</u>
<u>2020</u>	<u>2,370,769</u>	<u>137.2</u>	<u>325.20</u>	<u>5.44</u>	<u>0.00</u>	<u>319.76</u>	<u>134.88</u>
<u>2025</u>	<u>2,475,446</u>	<u>137.2</u>	<u>339.56</u>	<u>8.84</u>	<u>0.00</u>	<u>330.72</u>	<u>133.60</u>
<u>2030</u>	<u>2,580,123</u>	<u>137.2</u>	<u>353.92</u>	<u>9.55</u>	<u>0.00</u>	<u>344.37</u>	<u>133.47</u>

Source: MDWASD's 20 year water supply plan (2014-2033)

The 155 gallons capita per day (gpcd) value is a MDWASD system wide finished water rate which was calculated from taking historical data. In 2007 the actual gpcd value for the Town of Surfside was 206 gpcd. The Town of Surfside is aware of this high gpcd value, and is currently working with MDWASD to implement water efficiency plans, public education, and BMPs to reduce the Town of Surfside's gpcd value. In addition, the planned replacement of the leaking water valves, mains, fire hydrants, meters and service laterals will reduce the total water consumption.

Table 4.2 provides the projected water use for Year 2015 through Year 2030 for the Town of Surfside utilizing the finished water use rate of 148.04 gallons per capita per day.

**Table 4-2
Town of Surfside Water Demand Projection**

<u>Year</u>	<u>Population</u>	<u>Per Capita Consumption</u> <u>GPCD</u>	<u>Projected Consumption</u>	
			<u>GPD</u>	<u>MGD</u>
<u>2015</u>	<u>5,866</u>	<u>148.04</u>	<u>868,399</u>	<u>.87</u>
<u>2020</u>	<u>6,019</u>	<u>148.04</u>	<u>891,073</u>	<u>.89</u>
<u>2025</u>	<u>6,173</u>	<u>148.04</u>	<u>913,747</u>	<u>.91</u>
<u>2030</u>	<u>6,326</u>	<u>148.04</u>	<u>936,421</u>	<u>.94</u>

Source: MDWASD's 20 year water supply plan (2014-2033)

Table 5-2 Figure 4.1 in the Miami-Dade County Town of Surfside 15-Year Water Supply Facilities Work Plan indicates that there will be no deficit of finished water through 2030. Therefore, level of service will be met for Surfside in the short term and long term planning periods.

To assure adequate level of service, potable water facilities shall meet the following level of service standards as identified in the MDWASD goals for potable water:

(a) The regional treatment system shall operate with a rated maximum daily capacity no less than 2 percent above the maximum daily flow for the preceding year, and an average daily capacity 2 percent above the average daily system demand for the

preceding 5 years. The maximum daily flow shall be determined by calculating the average of the highest five single day flows for the previous 12 months.

(b) Water shall be delivered to users at a pressure no less than 20 pounds per square inch (psi) and no greater than 100 psi. Unless otherwise approved by the Miami-Dade Fire Rescue Department, minimum fire flows based on the land use served shall be maintained as follows:

<u>Land Use</u>	<u>Min. Fire Flow (gpm)</u>
<u>Single Family Residential Estate</u>	<u>500</u>
<u>Single Family and Duplex; Residential on minimum lots of 7,500 sf</u>	<u>750</u>
<u>Multi-Family Residential;</u>	<u>1,500</u>
<u>Semiprofessional Offices</u>	
<u>Hospitals; Schools</u>	<u>2,000</u>
<u>Business and Industry</u>	<u>3,000</u>

~~The existing LOS for the Town of Surfside based on MDWASD goals for potable water is as follows:~~

~~The regional treatment system shall operate with a rated maximum daily capacity of no less than 2 percent above the maximum daily flow for the preceding year, and an average daily capacity of 2 percent above the average daily system demand for the preceding 5 years.~~

- ~~A. Water shall be delivered to users at a pressure no less than 20 pounds per square inch (psi) and no greater than 100 psi.~~
- ~~B. Water quality shall meet all federal, state, and county primary standards for potable water.~~
- ~~C. MDWASD storage capacity for finished water shall equal no less than 15 percent of the average daily demand.~~
- ~~D. The level of service (LOS) standard for potable water facilities shall be 155 gallons per capita per day.~~

Storage Capacity

The finished water storage facilities for the Hialeah-Preston subarea consist of both "in-plant" and remote storage facilities. The total combined storage capacity between both plants inclusive of remote storage facilities is 28,2856.0 MG. Additional information on MDWASD's capacity improvements finished water storage facility capacities can be found in Table 3.1 of Appendix B4-A (Miami-Dade Town of Surfside 15-Year Water Supply Facilities Work Plan).

Water Supply Facilities Work Plan

The purpose of the Town of Surfside 15-Year Water Supply Facilities Work Plan (Work Plan) is to identify and plan for the water supply sources, as well as facilities needed to serve the 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 water management district approves a regional water supply plan. Surfside adopted their Work Plan in ~~December 2008~~ December 2015. ~~The Work Plan is developed to coordinate with MDWASD's 20-Year Water Supply Facilities Work Plan (2014-2033).~~

On a regional level, the Town falls within the South Florida Water Management District (SFWMD) and within the SFWMD's Lower East Coast (LEC) Planning Area. The ~~2005-2006~~ 2013 Lower East Coast Water Supply Plan Update (2005-2006 2013 LEC Plan Update), approved by the SFWMD ~~on February 15, 2007~~ in September 2013, is one of ~~four~~ five, long-term comprehensive regional water supply plan updates the District SFWMD has developed for its planning areas. The planning horizon for the ~~2005-2006~~ 2013 LEC Plan Update is ~~2025~~ 2010-2030.

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NATURAL GROUNDWATER AQUIFER RECHARGE

The principal ground water resources for the Lower East Coast (LEC) Planning Area are the Surficial Aquifer System (SAS), including the Biscayne Aquifer, and the Floridan Aquifer System (FAS). The Surficial and Biscayne aquifers provide ~~most of the fresh water for more than 1 billion gallons a day for public water supply and other uses such as agriculture and landscape irrigation~~ within the LEC Planning Area. ~~The 2005-2006 LEC Plan Update identifies the following:~~

Although the Biscayne Aquifer is part of the Surficial Aquifer System (SAS), it exists only along the coastal areas in Miami-Dade, Broward and southern Palm Beach counties. The Biscayne Aquifer is highly productive with high-quality fresh water. The extension of the SAS through central and northern Palm Beach County is less

productive, but is still used for consumptive uses, including potable water. These aquifers are shallow, generally located within 200 feet of ground surface, and are connected to surface water systems, including canals, lakes and wetlands.

The Biscayne Aquifer and the extension of the SAS into northern Palm Beach County provide more than 1 billion gallons per day of high-quality, inexpensive fresh water for the populations of Palm Beach, Broward and Miami-Dade counties and the Florida Keys portion of Monroe County. In 2010, fresh groundwater accounted for 94 percent of potable water produced by public water supply utilities.

This volume is heavily supported, especially during the annual dry season, as well as in periodic droughts, by water from the regional system, primarily the Everglades. During droughts, water from Lake Okeechobee has been required to supplement water from the Everglades to meet the needs of the coastal counties. In 2008, the United States Army Corps of Engineers (USACE) implemented the “2008 Lake Okeechobee Federal Regulation Schedule,” lowering the operation levels at the lake to reduce the risk of dike failure and minimize impacts to the lake’s ecology. This resulted in a projected decline in the level of certainty for agricultural users to rely on the lake, and increased the expectation that the lake would exceed its minimum flow and levels criteria more frequently. In response, the South Florida Water Management District (SFWMD) adopted regulatory criteria to limit future additional withdrawals from Lake Okeechobee and connected water bodies to protect the lake and prevent further erosion to the level of certainty for existing legal users. The Okeechobee Utility Authority in the Kissimmee Basin Planning Area is the only remaining utility using water directly from Lake Okeechobee. Since the 2005-2006 LEC Plan update, Clewiston, South Bay, Belle Glade, and Pahokee have all discontinued the use of Lake Okeechobee as their supply source and now use Floridan Aquifer System water treated by reverse osmosis.

The Biscayne Aquifer is designated as a sole source aquifer by the U.S. Environmental Protection Agency (USEPA) under the *Safe Drinking Water Act* because it is a principal source of drinking water and is highly susceptible to contamination due to its high permeability and proximity to land surface in many locations. ~~Protection of the Biscayne Aquifer is provided for through the District’s *Basis of Review for Water Use Permit Applications* (SFWMD 2003) and in Chapter 373, Florida Statutes (F.S.), which limit the water availability for consumptive uses.~~ As of the 2013 LEC Plan Update, SFWMD has placed limitations on additional allocations from the Biscayne Aquifer. As a result, use of alternative water sources has expanded and a Comprehensive Water Conservation Program has been adopted by SFWMD.

The Floridan Aquifer System (FAS) exists not just in the LEC Planning Area, but throughout the entire state and portions of adjacent states. The Upper Floridan Aquifer in southeast Florida contains brackish water, and is increasingly being tapped as a

source of raw water for treatment with reverse osmosis (RO) to create potable water. Brackish water from the Floridan Aquifer is also blended with fresh water prior to conventional water treatment to expand water supplies during the dry season. Additionally, the Floridan Aquifer is used for seasonal storage of treated fresh water within aquifer storage and recovery (ASR) systems. Until recent years, ~~the~~ Floridan Aquifer ~~has been~~ was more extensively developed in the Upper East Coast (UEC) and Lower West Coast (LWC) planning areas of the South Florida Water Management District (SFWMD or District) than in the LEC Planning Area.

From Jupiter to southern Miami, water from the FAS is highly mineralized and not suitable for drinking water without specialized treatment. More than 600 feet of low permeability sediments confine this aquifer and create artesian conditions in the LEC Planning Area. Although the potentiometric surface of the aquifer is above land surface, the low permeability units of the intermediate confining unit prevent significant upward migration of saline waters into the shallower freshwater aquifers.

The top of the Upper Floridan Aquifer is approximately 900 feet in southeast Florida, and the base of the Upper Floridan extends as deep as 1,500 feet. At the base of the Lower Floridan Aquifer, there are cavernous zones with extremely high transmissives collectively known as the boulder zone. Because of their depth and high salinity, these deeper zones of the Lower Floridan Aquifer are used primarily for disposal of treated wastewater.

The Miami-Dade Water Supply Facilities Work Plan outlines a number of Alternative Water Supply (AWS) and conservation strategies designed to protect water sources and comply with recent regulations limiting withdrawals and allocations and eliminating the use of existing ocean outfalls. ~~recharge aquifers with reclaimed water.~~

CHAPTER 4: INFRASTRUCTURE ELEMENT

GOALS, OBJECTIVES AND POLICIES

Page 4-8

Objective 1 - ~~Correct deficiencies and increase~~ Ensure sufficient capacity of potable water and sanitary sewer facilities:

In general, ~~correct potable water and sanitary sewer system deficiencies and increase~~ ensure sufficient potable water and sanitary sewer system capacity in the most cost effective manner possible. This objective shall be made measurable by its implementing policies. ~~[9J-5.011 (3) (b) 1, 2 and 3]~~

Policy 1.1 - The Town shall continue use of Miami-Dade County Water and Sewer Authority ~~Department~~ facilities at the Central District Wastewater Treatment Plant on Virginia Key and the Hialeah/Preston Water Treatment Plant or such other Miami-Dade County facilities as may be appropriate.

Policy 1.2 - The Town shall upgrade the potable water distribution system and the sanitary sewer collection system through ongoing maintenance. ~~[9J-5.011 (3) (c) 1]~~

Policy 1.6 - The Town shall maintain a ~~the Surfside 20-Year~~ Water Supply Facilities Work Plan with a minimum planning horizon of at least 10 years, dated November 26, 2008, and shall ensure coordination between land uses and future water supply planning within 18 months of the adoption of the Lower East Coast Water Supply Plan, or its update, as required by Chapter 163, Florida Statute.

Policy 1.7 - The Town of Surfside 15-Year Water Supply Facilities Work Plan dated December 2015 is hereby adopted by reference into the Comprehensive Plan, along with the Miami Dade Water and Sewer Department 20-Year Water Supply Facilities Work Plan (2014 – 2033) inclusive of all potable water projects. The Work Plan will be updated as needed, at a minimum every five years, or concurrent with the any updates of to the Miami Dade Water and Sewer Department 20-Year Water Supply Facilities Work Plan (2014 – 2033).

Objective 4 – Level of service: Achieve adequate facility capacity to serve existing development and new development concurrent with the impact of that development. Achievement of this objective shall be measured by the implementation of the following policies:

Policy 4.1 – The Town will enforce the following level of service standards as identified in the MDWASD goals for potable water:

Potable Water: ~~The County wide “maximum day flow” of the preceding year shall not exceed 98 percent of the County treatment and storage system’s rated capacity. The pressure shall be at least 20 pounds per square inch at the property line. The potable water consumption standard shall be 155 average gallons per capita per day. [9J-5.011 (2) (c) 2d]~~

(a) The regional treatment system shall operate with a rated maximum daily capacity no less than 2 percent above the maximum daily flow for the preceding year, and an average daily capacity 2 percent above the average daily system demand for the preceding 5 years. The maximum daily flow shall be determined by calculating the average of the highest five single day flows for the previous 12 months.

(b) Water shall be delivered to users at a pressure no less than 20 pounds per square inch (psi) and no greater than 100 psi. Unless otherwise approved by the Miami-Dade Fire Rescue Department, minimum fire flows based on the land use served shall be maintained as follows:

<u>Land Use</u>	<u>Min. Fire Flow (gpm)</u>
<u>Single Family Residential Estate</u>	<u>500</u>
<u>Single Family and Duplex; Residential on minimum lots of 7,500 sf</u>	<u>750</u>
<u>Multi-Family Residential:</u>	<u>1,500</u>
<u>Semiprofessional Offices</u>	
<u>Hospitals; Schools</u>	<u>2,000</u>
<u>Business and Industry</u>	<u>3,000</u>

Objective 5 - Water conservation: Conserve and protect potable water resources by optimizing the utilization of water resources through effective water management practices. [9J-5.011 (2) (b) 4]

Policy 5.1 - The Town shall maintain and improve land development code and other regulations that include: 1) water conservation-based irrigation requirements; 2) water conservation-based plant species requirements derived from the South Florida Water Management District's list of native species and other appropriate sources; 3) lawn watering restrictions; 4) mandatory use of ~~ultra low volume~~ high-efficiency water saving devices for substantial rehabilitation and new construction; and 5) other water conservation measures, as feasible. [9J-5.011 (2) (c) 3]

Policy 5.2 - The Town shall promote education programs for residential, commercial and other uses which will discourage waste and conserve potable water. [9J-5.011 (2) (c) 3]

Objective 6 – Infrastructure resiliency: Ensure resiliency of existing and future water resources, and water, wastewater and storm water infrastructure to the impacts of climate change and consider the development of adaptation strategies for areas vulnerable to climate change-related impacts.

Policy 6.1 – Coordinate with Miami-Dade County to assess the adequacy of water

supply and water/wastewater facilities and infrastructure to effectively capture, store, treat, and distribute potable water and reuse under variable climate conditions, including changes in rainfall patterns, sea level rise, and flooding, with potential water quality and quantity impacts.

Policy 6.2 - Coordinate adaptive management implementation strategies for water and wastewater resources that address the potential impacts of climate change for long term operations.

Policy 6.3 - Evaluate cost/benefit analysis for implementing adaptive management strategies including: planning, siting, construction, replacement and maintenance of public infrastructure as well as fortification or retrofitting of existing infrastructure.

Policy 6.4 – Work with Miami-Dade County to develop water demand projection scenarios that account for potential changes in demands if temperatures increase and drought conditions become more frequent or persistent.

Policy 6.5 - Evaluate infiltration and inflow programs to strategically reduce the flow of groundwater and stormwater to wastewater collection and treatment facilities.

~~**9J-5.011 Objective and policy requirements not applicable to the Town of Surfside:** Rule 9J-5 of the Florida Administrative Code requires communities to adopt as part of their Infrastructure Element objectives and policies which address various issues, except where those issues are not reasonably applicable to a particular community. The following objective and policy provisions of Rule 9J-5 are deemed by the Town of Surfside to be inapplicable to Surfside:~~

~~9J5.011 (3) (b) 3 Addressing [maximizing the use of existing facilities] and minimizing urban sprawl.~~

~~9J5.011 (3) (b) 5 Addressing the function of natural groundwater recharge areas and natural drainage features.~~

CHAPTER 6: CONSERVATION ELEMENT

GOALS, OBJECTIVES AND POLICIES

Page 6-12

~~Policy 3.7 — The Town shall continue to decrease potable water consumption and achieve at a minimum a 5% per capita reduction in water consumption by the year 2011, from the rate of 165 gallons per capita per day documented for 2007 in the Town's 20 year Water Supply Plan.~~

CHAPTER 8: INTERGOVERNMENTAL COORDINATION

DATA, INVENTORY AND ANALYSIS

Page 8-2

Florida Departments and Agencies

~~Community Affairs, Division of Community Planning
Department of Economic Opportunity~~

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Infrastructure

The Town of Surfside purchases its water directly from the Miami-Dade County Water and Sewer Department (MDWASD). The Town's Water Supply Facilities Work Plan was adopted in ~~December 2008~~December 2015 and coordinated with the Miami-Dade County Water and Sewer Department 20-Year Water Supply Facilities Work Plan (2014-2033) and the South Florida Water Management District's 2013 Lower East Coast Water Supply Plan Update. Further coordination with the Florida Department of Environmental Protection (DEP) will be important to ensure stormwater quality and impacts on the Biscayne Bay.

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Florida Departments and Agencies

Agency	Subject Coordination	Nature of Relations	Existing and Anticipated Coordination Mechanisms	Effectiveness of Existing Coordination Mechanisms	Surfside Office with Primary Responsibility for Coordination

Community Affairs, Division of Community Planning Department of Economic Opportunity	Comprehensive planning	AP, TA	Oversight of Comprehensive Plan, EAR, Regulation of Land Development Code	Effective	Planning
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CHAPTER 9: CAPITAL IMPROVEMENTS ELEMENT

DATA, INVENTORY AND ANALYSIS

Page 9-2

POTABLE WATER

The Town of Surfside's potable water is provided by the Miami-Dade County Water and Sewer Department (MDWASD) which provides service for approximately ~~two~~ 2.6 million customers in Miami Dade County. The Town of Surfside is serviced by the Hialeah-Preston Water Treatment Plant service area which includes the northern part of Miami-Dade County.

The water is distributed to residents and commercial business by approximately 11 miles of cast iron pipe installed in 1938. Primary mains feeding the system run under the Town's streets and vary in size from 6 inch to 16-inches in diameter, which feed three-inch and four-inch water lines located along the rear property lines.

Water Source

~~The Hialeah and Preston Water Treatment Plants (WTPs) located at 200 W. 2nd Avenue and 1100 W. 2nd Avenue are interconnected with adjacent facilities with a main source of water from the Biscayne Aquifer. The WTPs are currently being modified and will receive groundwater from five Upper Floridan Aquifer wells by 2010. The wells will be located in Miami Springs Wellfield and the Northwest Wellfield according to MDWASD.~~

The source water for the Hialeah Water Treatment Plant (WTP) is from the Hialeah-Miami Springs Wellfields, supplemented by the Northwest Wellfield. There are three active wells located in the Hialeah Wellfield constructed in 1936. Each well is 14 inches in diameter, 115 feet deep and have casing depths of 80 feet. The total wellfield capacity is 12.54 mgd or 8,700 gpm (2,900 gpm for each well). The twenty active wells located in the Miami Springs Wellfield were constructed between 1924 and 1954. These

wells are 14 inches and 30 inches in diameter, 80 to 90 feet deep and have casing depths of 80 feet. The total wellfield capacity is 79.30 mgd or 55,070 gpm (ranging between or 2,500 and 5,000 gpm for each well). The Northwest Wellfield has fifteen active wells that were constructed in 1980. The wells are 40 inches and 48 inches diameter and 80 to 100 feet deep, with casing depths ranging from 46 to 57 feet. These wells have two-speed motors. The total nominal capacity of the wells at the low speed flow rate is 149.35 mgd. The capacity of each well, except well No. 10, is 10 mgd at the low speed flow rate. Well 10 have a low speed capacity of 9.35 mgd. The total nominal capacity for the wells at the high speed flow is 220.94 mgd.

The seven active wells located in the John E. Preston Wellfield were constructed in 1966 and 1972. Each well is 42 inches in diameter, 107 feet deep and have casing depths of 66. The capacity of wells No. 1 through No. 6 is 5,000 gallons per minute (gpm) each and the capacity of well No. 7 is 7,000 gpm. The total wellfield capacity is 53.28 mgd.

Water Treatment Plants (WTPs)

~~The Hialeah and Preston Plants are currently fed by forty five wells, including the Northwest Wellfield and the Hialeah/Preston on-site wells. The quantity of water available to serve MDWASD's North District, as reflected in permitted withdrawal allocations, provides more than adequate capacity.~~

~~The Hialeah WTP was originally designed in 1924 with a total capacity of 10 mgd. By 1935, the plant's capacity was 40 mgd. In 1946, capacity was increased to 60 mgd. There are plans to re-rate and upgrade the Hialeah WTP to a capacity of 70 mgd, if necessary. The source of water for the Hialeah WTP comes from the Hialeah-Miami Springs Wellfields, supplemented by the Northwest Wellfield. The Hialeah WTP has a current rated capacity of 60 mgd.~~

~~The John E. Preston Water Treatment Plant was originally designed as a 60 mgd plant in 1968 and upgraded to 110 mgd in 1980. The plant was re-rated to a total capacity of 130 mgd in 1984. The plant reached its present capacity of 165 mgd and 185 mgd in 2005 with the addition of air stripping capacity. The main source of water for the Preston WTP is from the Northwest wellfield.~~

The Hialeah WTP was originally designed in 1924 with a total capacity of 10 mgd. By 1935, the plant's capacity totaled 40 mgd. In 1946, capacity was increased to 60 mgd. Air strippers with a capacity of 84 mgd were added to the treatment process in 1991 to remove volatile organics from the finished water. A 3.2 MG storage reservoir for both the Hialeah and John E. Preston WTPs was also added in 1991. The Hialeah WTP has

a current rated capacity of 60 mgd and there are plans to rerate and upgrade the Hialeah WTP to a capacity of 70 mgd, if necessary. The treatment process for this WTP includes lime softening with sodium silicate activated by chlorine, recarbonation, chlorination, ammoniation, fluoridation, filtration, and air stripping. The plant site is relatively small, and is surrounded by residential areas.

The John E. Preston WTP was originally designed as a 60 mgd plant in 1968 and upgraded to 110 mgd in 1980. The plant was re-rated to a total capacity of 130 mgd in 1984. The plant reached its present capacity of 165 mgd with another addition in 1988. In 1991, the plant was modified with an air stripping capacity of 185 mgd to remove VOCs. In 2005, plant process modifications to provide enhanced softening for reduction of color and total organic carbon came on line. The main source of water for the Preston WTP is from the Northwest Wellfield. The current rated capacity is 165 mgd with a treatment process similar to that of the Hialeah WTP. This includes lime softening with ferric and other coagulant and chemicals added prior to lime for enhanced softening, recarbonation, chlorination, ammoniation, fluoridation, filtration, and air stripping. The Preston plant is also located in a residential area of Hialeah.

Potable Water Level of Service

~~In order to maintain level of service Town-wide, a water maintenance program will be implemented in 2010. Currently, construction documents are being prepared for a Town-wide replacement of the water mains, meters, and fire hydrants. The program will evaluate the existing infrastructure and replace pipes in poor condition and in need of repairs. The project and funding source is listed in Table 9-8B of the Schedule of Capital Improvements.~~

The Town of Surfside currently coordinates with MDWASD and the South Florida Water Management District to meet existing and projected demands based on level of service (LOS). The Town's projected water demands shown in Table 9-1 below were developed by ~~incorporating~~utilizing the ~~county's~~ Town's average per capita value of ~~455 gpcd~~ 148.04 gallons per capita per day.

**Table 9-1
Water Supply Level of Service
Town of Surfside Water Demand Projection**

PROJECTED WATER SUPPLY			
Year	2010	2015	2030
Population	5,280	5,483	5,680
Proposed Per Capita (gallons per day finished water)	155	155	155
(all potable volumes are finished water)	MGD	MGD	MGD
Potable Water Demand (daily average)	0.82	0.85	0.88

Source: Calvin, Giordano & Associates, Inc., 2009.

<u>Year</u>	<u>Population</u>	<u>Per Capita Consumption</u> <u>GPCD</u>	<u>Projected Consumption</u>	
			<u>GPD</u>	<u>MGD</u>
<u>2015</u>	<u>5,866</u>	<u>148.04</u>	<u>868,399</u>	<u>.87</u>
<u>2020</u>	<u>6,019</u>	<u>148.04</u>	<u>891,073</u>	<u>.89</u>
<u>2025</u>	<u>6,173</u>	<u>148.04</u>	<u>913,747</u>	<u>.91</u>
<u>2030</u>	<u>6,326</u>	<u>148.04</u>	<u>936,421</u>	<u>.94</u>

Source: MDWASD's 20 year water supply plan (2014-2033)

~~The 155 gallons per capita per day (gpcd) value is a MDWASD system wide finished water rate which was calculated from taking historical data. In 2007 the actual gpcd value for the Town of Surfside was 206 gpcd. The Town of Surfside is aware of this higher gpcd value, and is currently working with MDWASD to implement water efficiency plans, public education, and BMPs to reduce the Town of Surfside's gpcd value. In addition, the planned replacement of the leaking water valves, mains, fire hydrants, meters and service laterals will reduce the total water consumption.~~

~~Table 5-2 Figure 4.1 in the Town of Surfside 15-Year Water Supply Facilities Work Plan indicates that there will be no deficit of finished water through 2030. ~~Therefore, level of service will be met for Surfside in the short term and long term planning periods.~~~~

The existing LOS for the Town of Surfside based on MDWASD goals for potable water is as follows:

- ~~A. The regional treatment system shall operate with a rated maximum daily capacity of no less than 2 percent above the maximum daily flow for the preceding year, and an average daily capacity of 2 percent above the average daily system demand for the preceding 5 years.~~
- ~~B. Water shall be delivered to users at a pressure no less than 20 pounds per square inch (psi) and no greater than 100 psi.~~
- ~~C. Water quality shall meet all federal, state, and county primary standards for potable water.~~
- ~~D. MDWASD storage capacity for finished water shall equal no less than 15 percent of the average daily demand.~~
- ~~E. The level of service (LOS) standard for potable water facilities shall be 155137.2 gallons per capita per day.~~

(a) The regional treatment system shall operate with a rated maximum daily capacity no less than 2 percent above the maximum daily flow for the preceding year, and an average daily capacity 2 percent above the average daily system demand for the preceding 5 years. The maximum daily flow shall be determined by calculating the average of the highest five single day flows for the previous 12 months.

(b) Water shall be delivered to users at a pressure no less than 20 pounds per square inch (psi) and no greater than 100 psi. Unless otherwise approved by the Miami-Dade Fire Rescue Department, minimum fire flows based on the land use served shall be maintained as follows:

<u>Land Use</u>	<u>Min. Fire Flow (gpm)</u>
<u>Single Family Residential Estate</u>	<u>500</u>
<u>Single Family and Duplex; Residential on minimum lots of 7,500 sf</u>	<u>750</u>
<u>Multi-Family Residential;</u>	<u>1,500</u>
<u>Semiprofessional Offices</u>	
<u>Hospitals; Schools</u>	<u>2,000</u>
<u>Business and Industry</u>	<u>3,000</u>

Storage Capacity

The finished water storage facilities for the Hialeah-Preston subarea consist of both "in-plant" and remote storage facilities. The total combined storage capacity between both plants inclusive of remote storage facilities is ~~28.28~~56.0 MG.

CHAPTER 9: CAPITAL IMPROVEMENTS ELEMENT

GOALS, OBJECTIVES AND POLICIES

Page 9-13

The Town ~~shall hereby~~ incorporate by reference into its Comprehensive Plan the ~~potable water projects for the FY10-14 period in the Miami-Dade 20-Year Water Supply Facilities Work Plan (2014-2033) adopted on April 24, 2008~~ November 2014 inclusive of all potable water projects.

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Objective 2 – In general, the ~~coordination of~~ coordinate land use decisions and available or projected fiscal resources, with a schedule of capital improvements which maintains adopted level of service standards and meets existing and future facility needs. In particular, achieve coordinated Town use of: 1) existing and already approved development; 2) the Future Land Use Plan; 3) the financial analyses in this Element, and 4) the established Level of Service Standards in both reviewing development applications and in preparing the annual schedule of capital improvements.

Policy 2.1 – The following Level of Service (LOS) standards shall be maintained:

Potable Water. ~~The County wide “maximum day flow” of the preceding year shall not exceed 98 percent of the County treatment and storage system’s rated capacity. The pressure shall be at least 20 pounds per square inch at the property line. The potable water consumption standard shall be 155 average gallons per capita per day.~~

(a) The regional treatment system shall operate with a rated maximum daily capacity no less than 2 percent above the maximum daily flow for the preceding year, and an average daily capacity 2 percent above the average daily system demand for the preceding 5 years. The maximum daily flow shall be determined by calculating the average of the highest five single day flows for the previous 12 months.

(b) Water shall be delivered to users at a pressure no less than 20 pounds per square inch (psi) and no greater than 100 psi. Unless otherwise approved by the Miami-Dade Fire Rescue Department, minimum fire flows based on the land use served shall be maintained as follows:

<u>Land Use</u>	<u>Min. Fire Flow (gpm)</u>
<u>Single Family Residential Estate</u>	<u>500</u>
<u>Single Family and Duplex; Residential on minimum lots of 7,500 sf</u>	<u>750</u>
<u>Multi-Family Residential;</u>	<u>1,500</u>
<u>Semiprofessional Offices</u>	
<u>Hospitals; Schools</u>	<u>2,000</u>
<u>Business and Industry</u>	<u>3,000</u>

Table 9-B Town Wastewater and Potable Water Projects

Project Name	Location	FY 2010	FY2011	FY2012	FY2013	FY2014	Total
Wastewater System Rehabilitation Program	Townwide	1,145,000	1,145,000	725,000	20,000	20,000	3,055,000
Water System Program	Townwide	1,428,000	285,600	285,600	285,600	285,600	2,570,400
Total Cost of Projects		2,573,000	1,430,600	1,010,600	305,600	305,600	5,625,400
Funding Sources	Water and Sewer Fund-Fund Balance	1,533,328	1,910,593	2,159,126	2,245,491	2,335,311	10,183,849
	General Fund	210,672					
	General Obligation Bond	829,000					829,000
Total Funding Available for Stormwater Pollution Control Project		2,362,328	1,910,593	2,159,126	2,245,491	2,335,311	11,012,849
Balance		0	479,993	1,148,5260	1,939,891	2,029,711	5,387,449



**Town of Surfside
Planning and Zoning Board Meeting
November 16, 2023**

DISCUSSION ITEM MEMORANDUM

Agenda #: 2.B

Date: November 16, 2023

From: Walter Keller, Consulting Town Planner

Subject: Design Guidelines Review

Suggested Action: –

Staff Recommendation: It is suggested the Planning and Zoning Board perform a preliminary review of the 2007 Design Standards and **Attachment A:** Guidelines Draft.

Background/Analysis: –

Background: The Town's Design Standards were adopted in 2007. A copy of the Design Standards is provided in the Agenda Package for the Special Planning and Zoning Board meeting. While the Design Standards provide guidance in the development of residential and non-residential uses, the standards are not consistent with the current Town Zoning Code. For example, the recommendations for single family residential depict 3 story buildings which are not allowed with the current Zoning Code.

A formulation process is underway to update the design standards. A Literature Survey was performed to Identify other municipal or governmental Codes and Design Standards with particular appeal for use in Surfside. The preliminary Design Review Procedure is expected to include the following:

- Building Styles are being Categorized with Associated Architectural Features
- A Uniform Rating Criteria will be the basis for Analyzing Submitted Site Plan Applications
- The Design Professional will be Required to Sign-Off on a Design Feature Checklist
- Town Planning Staff will Prepare a Design Review Finding for New or Expanded Buildings
- The Planning and Zoning Board will Confirm a Design Review Finding in the Approval of Site Plans with New and or Expanded Buildings and,
- If a Project is Denied, the Applicant can Appeal to the Design Review Group.

The Special Planning and Zoning Board meeting on November 16, 2023 is an initial presentation and discussion on the Zoning and Design Review Standards. The presentation is still being prepared and will be provided prior to the meeting. In the interim, the following items are attached in **Attachment A:**

- Draft Outline of the Design Standards
- 3 Examples of Architectural Style Sheets

TOWN OF SURFSIDE

Design Guidelines

November 2023

PREPARED FOR:



Surfside
FLORIDA

Town of Surfside
9293 Harding Avenue
Surfside, FL 33154

PREPARED BY:

MARLIN

MARLIN Engineering, Inc.
3363 W Commercial Blvd, Suite 115
Fort Lauderdale, FL 33309





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ARCHITECTURAL STYLE – SPANISH



Description

Various Spanish architectural styles, including Colonial and Mission Revival, have made enduring contributions to public buildings, commercial structures, and private residences throughout the state of Florida. They also exerted a significant influence on the modernist architectural trends that Florida architects embraced throughout the 20th century. Spanish architecture's adaptability to different building types has consistently made it a preferred choice, and this adaptability stems from deliberate design features:

- The incorporation of large, uncomplicated building components to achieve simplicity.
- The discrete utilization of well-placed, well-designed, and well-executed details. When combined with the straightforward building components that might otherwise appear uninteresting, these details contribute to a cohesive and expressive design. Additionally, pergolas and other garden structures are employed to complement and mitigate the overall mass of the building.

Main Characteristics

<p>1. Massing and Volume</p>	<ul style="list-style-type: none"> - Low Massing: Spanish-style homes typically have low, horizontal massing with a focus on one or two-story structures. This low profile helps the building blend with the landscape and provides shade in warm climates. - Symmetrical Massing: Many Spanish-style homes feature a symmetrical layout with a central core, often containing the main living spaces, flanked by wings or courtyard areas. This symmetry contributes to a balanced and harmonious appearance. - Courtyards: Courtyards are a common feature in Spanish-style architecture, and they play a significant role in defining the massing and volume. Courtyards are often surrounded by a series of buildings or wings, creating a central focal point that enhances the overall volume of the property.
<p>2. Rooflines</p>	<ul style="list-style-type: none"> - Clay Tile Roof: Perhaps the most iconic feature, Spanish-style buildings often have roofs covered in terra cotta or clay tiles. These tiles can be curved or flat and provide a warm and rustic appearance.

	<ul style="list-style-type: none"> - Low-Pitched Roofs: Spanish-style roofs typically have low slopes. This design helps with climate control, as it provides shade and ventilation while also being well-suited for the Mediterranean and Southwestern climates. - Overhanging Eaves: The eaves of Spanish-style roofs are often extended and provide additional shade to the building. - Exposed Wooden Beams: In some cases, exposed wooden beams or vigas can be seen on the underside of the roof. This adds a rustic and authentic touch to the architecture. - Gabled Roofs: While flat roofs are more common in Spanish-style architecture, gabled roofs can also be used, particularly in variations like the Spanish Colonial Revival style.
<p>3. Walls</p>	<ul style="list-style-type: none"> - Stucco Walls
<p>4. Windows and Openings</p>	<ul style="list-style-type: none"> - Recessed windows with minimal frames - Arched Doorways and Openings: Arches are a common architectural feature in Spanish-style homes. Entryways, windows, and door openings frequently have rounded or segmented arches, adding elegance and character.
<p>5. Color</p>	<ul style="list-style-type: none"> - The colors of the roof tiles and stucco exteriors in Spanish-style architecture often harmonize, typically using warm and earthy tones like red, terracotta, or beige. - Pale walls customary - Roof may be light, medium, or dark - Brown or other rich trim color
<p>6. Details</p>	<ul style="list-style-type: none"> - Stained Glass Windows: Some Spanish-style homes incorporate stained glass windows with colorful patterns and designs, typically found in or near entryways. - Decorative Tilework: Intricate ceramic and talavera tiles are often used for accents on stair risers, and countertops, and as decorative elements in kitchens and bathrooms. - Courtyard Fountains: Courtyards in Spanish-style homes may include fountains as a central feature, contributing to the atmosphere and aesthetics of the space. - Wooden Doors: Solid wood doors with ornate carvings and hardware are common in Spanish-style homes. These doors are often quite substantial and serve as focal points.
<p>Rating Criteria:</p> <p>Contextual Sensitivity: Evaluate how well the design integrates, respects, and enhances the cultural, historical, or natural context of the site.</p> <p>Innovation and Sustainability: Examine innovative design solutions and sustainable practices that contribute to the project's architectural quality and long-term viability.</p> <p>Visual Harmony: Examine the project's aesthetics and coherence in relation to the architectural style and the Town's design guidelines.</p> <p>Durability and Longevity: Consider the project's ability to withstand the test of time in terms of materials and design features, as well as long-term maintenance considerations.</p> <p>Materials and Craftsmanship: Examine the choice of materials and the quality of craftsmanship, ensuring that they align with the project's goals and the architect's vision.</p>	

ARCHITECTURAL STYLE – MEDITERRANEAN



Description

Mediterranean architecture is a style that reflects the design traditions of the Mediterranean region, which includes countries such as Italy, Spain, Greece, and southern France. This architectural style is known for its warmth, elegance, relaxed and timeless appeal. Mediterranean architecture is particularly popular in regions with warm summers and mild winters.

Main Characteristics

1. Massing and Volume	<ul style="list-style-type: none"> - Courtyards and Patios: Mediterranean homes often feature interior courtyards and outdoor patios that allow for indoor-outdoor living. These spaces are typically surrounded by the home, creating a private and inviting atmosphere. - Terraces and Balconies: Mediterranean architecture often includes terraces and balconies with wrought iron railings that provide elevated outdoor spaces for enjoying the views and the climate.
2. Rooflines	<ul style="list-style-type: none"> - Red-Tiled Roofs: One of the most distinctive features of Mediterranean architecture is the use of red, terracotta, or clay-tiled roofs. These tiles not only add a vibrant color but also help reflect the sun's heat. - Exposed Beams: High, exposed wooden beams in ceilings are a common feature in Mediterranean homes. They add a rustic, old-world charm to the interior.
3. Walls	<ul style="list-style-type: none"> - White-washed walls for a clean and bright appearance that contrasts with the blue sky. - Stucco Exteriors: Mediterranean homes typically feature stucco exteriors, which provide a textured and weather-resistant surface. The stucco is often painted in earthy, warm tones like terracotta, beige, or creamy whites.
4. Windows and Openings	<ul style="list-style-type: none"> - Arched Doorways and Windows: Arches are a prominent architectural element in Mediterranean design. Arched doorways and windows are common and add a sense of grandeur to the design.

	<ul style="list-style-type: none"> - Wooden Shutters: Wooden shutters on windows are used for practical purposes and can be both functional and decorative. They provide shade, privacy, and protection from the elements.
<p>5. Color</p>	<ul style="list-style-type: none"> - Neutral Color Palette: Coastal contemporary interiors typically feature a neutral color palette, with shades of white, beige, gray, and soft blues. These colors evoke a sense of serenity and mimic the colors found in the sand, sky, and sea.
<p>6. Details</p>	<ul style="list-style-type: none"> - Mosaic Tile Accents: Mosaic tiles are used as accents in various parts of the home, such as in the kitchen, bathrooms, or as decorative elements on staircases and fountains. These tiles often feature vibrant colors and intricate patterns. - Wrought Iron Details: Wrought iron railings, gates, and decorative elements are often used, providing both functionality and aesthetic appeal. These details can feature intricate patterns and designs. - Lush Landscaping: Mediterranean homes are often surrounded by lush, colorful landscaping with an abundance of plants such as bougainvillea, palm trees, and olive trees. Courtyards and outdoor spaces are often adorned with potted plants and garden features.
<p>Rating Criteria:</p> <p>Contextual Sensitivity: Evaluate how well the design integrates, respects, and enhances the cultural, historical, or natural context of the site.</p> <p>Innovation and Sustainability: Examine innovative design solutions and sustainable practices that contribute to the project's architectural quality and long-term viability.</p> <p>Visual Harmony: Examine the project's aesthetics and coherence in relation to the architectural style and the Town's design guidelines.</p> <p>Durability and Longevity: Consider the project's ability to withstand the test of time in terms of materials and design features, as well as long-term maintenance considerations.</p> <p>Materials and Craftsmanship: Examine the choice of materials and the quality of craftsmanship, ensuring that they align with the project's goals and the architect's vision.</p>	

ARCHITECTURAL STYLE – COASTAL CONTEMPORARY



Description

Coastal contemporary architecture is a design style that combines elements of modern and contemporary design with a focus on coastal and beachside living. This architectural style is characterized by its clean lines, open spaces, and neutral colors.

Main Characteristics

1. Massing and Volume

- Open Floor Plans: Coastal contemporary homes often feature open and spacious floor plans that promote a sense of flow and connectivity between indoor and outdoor spaces. Large windows and sliding glass doors are used to maximize natural light and offer unobstructed views of the surrounding landscape.
- Minimalist Aesthetic: While coastal contemporary design embraces modern elements, it tends to be more restrained and less cluttered than purely contemporary styles. Minimalist furnishings and decor contribute to a clean and uncluttered look.

2. Rooflines

- Flat Roofs: Flat or nearly flat roofs are a common feature in contemporary coastal homes. These roofs provide a modern, streamlined look and can help maximize outdoor rooftop spaces, such as rooftop gardens or terraces. Flat roofs are often seen in beachfront properties with minimalist designs.
- Shed Roofs: Shed roofs have a single, sloping plane that typically slopes away from the water view. This roof style is effective at shedding rainwater and directing it away from the building. It's a practical choice for coastal homes in areas prone to heavy rain or strong winds.
- Butterfly Roofs: Butterfly roofs are a distinctive feature of contemporary coastal architecture. They consist of two upward-sloping roof planes that meet at a central valley, resembling the shape of a butterfly's wings. This design not only adds a unique architectural element but also allows for the collection of rainwater, making it an environmentally friendly choice.

3. Walls

- Stone Walls

<p>4. Windows and Openings</p>	<ul style="list-style-type: none"> - Plaster - Emphasis on Views: Coastal contemporary homes are often designed to take full advantage of their surroundings. Large windows and outdoor living spaces, such as decks, patios, and balconies, allow residents to enjoy panoramic views of the ocean, coastline, or surrounding landscape. - Glass Doors
<p>5. Color</p>	<ul style="list-style-type: none"> - Neutral Color Palette: Coastal contemporary interiors typically feature a neutral color palette, with shades of white, beige, gray, and soft blues. These colors evoke a sense of serenity and mimic the colors found in the sand, sky, and sea.
<p>6. Details</p>	<ul style="list-style-type: none"> - Minimalist Aesthetic: While coastal contemporary design embraces modern elements, it tends to be more restrained and less cluttered than purely contemporary styles. Minimalist furnishings and decor contribute to a clean and uncluttered look. - Sustainable Design: Many coastal contemporary homes incorporate sustainable design elements, such as energy-efficient windows, solar panels, and eco-friendly building materials. This aligns with the desire to minimize the environmental impact on the coastal areas.

Rating Criteria:

Contextual Sensitivity: Evaluate how well the design integrates, respects, and enhances the cultural, historical, or natural context of the site.

Innovation and Sustainability: Examine innovative design solutions and sustainable practices that contribute to the project's architectural quality and long-term viability.

Visual Harmony: Examine the project's aesthetics and coherence in relation to the architectural style and the Town's design guidelines.

Durability and Longevity: Consider the project's ability to withstand the test of time in terms of materials and design features, as well as long-term maintenance considerations.

Materials and Craftsmanship: Examine the choice of materials and the quality of craftsmanship, ensuring that they align with the project's goals and the architect's vision.

town of surfside

design guidelines for
single family residential properties
multifamily and commercial properties

Acknowledgements

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Introduction

These guidelines are intended to help secure a high quality of environment, regarding livability, visual interest, identity and sense of place, in Surfside's residential neighborhood by providing guidance for the design of new houses, additions and/or remodeling efforts in the existing neighborhood. These guidelines are intended to focus on the characteristics of neighborhood compatibility and to leave individual homeowners the maximum flexibility to build, expand or remodel to meet their own needs and objectives.

All new house construction, additions and remodeling projects must conform to the development standards of the zoning districts in which they are located. These guidelines presented herein are intended to go beyond the basic requirements of the Zoning Ordinance and, in greater detail, address issues specifically related to neighborhood character compatibility without changing existing setbacks or height limitations or regulations. In addition, these guidelines are intended to encourage the design and construction of houses which harmonize with their surroundings and which demonstrate a high standard of quality.

It is important to acknowledge the suburban quality of the existing neighborhood and the community's expressed desire to increase the walkability of the area. Part of this agenda is ensuring that homes maintain an intimate relationship with the street they front. One of the challenges addressed through these guidelines is to accommodate the needs of a car-oriented lifestyle, while limiting the impact of the vehicles on the streetscape experience.

Lastly, the guidelines acknowledge that the existing houses are, in the majority of the instances, too small to accommodate today's lifestyles which encompass greater square footages of livable areas. In order to establish a sense of historical significance, the Town of Surfside encourages the architecturally authentic restoration of existing structures. Where restoration can become a minimum, these guidelines further encourage the preservation of the existing structure.

Applicability

The Guidelines should apply to all new construction within the Town. These Guidelines are provided for the use of homeowners, builders, contractors, architects, designers, Town Staff and Town decision makers. The Guidelines are expected to be useful for making design decisions about residential construction at a number of levels:

- Homeowners, builders, architects and other designers are encouraged to consult the Guidelines prior to designing new houses, additions or remodeling projects for ideas and advice.
- The Guidelines will be used by City Staff and decision makers as the criteria for making permit decisions. It should be noted that the Guidelines present illustrated 'suggestions,' which should be interpreted as such and not as intended requirements for permit approval.
- Neighborhood residents should consult the Guidelines to understand the neighborhood compatibility concepts which will apply to new construction.

The transition of this new policy should be as follows:

Any development within the Town approved by the Planning and Zoning Design and Review Board on or before September 11, 2007 is not subject to this policy. In the event of a major revision to an existing draft approval where the developer has an approved agreement, the Town will generally apply this policy.

Any development within the Town approved by the Planning and Zoning Design and Review Board after September 11, 2007 should provide conformity to the Town's Preservation Zone Design Guidelines.

Objectives

The objectives of the Guidelines include:

- To encourage harmonious and attractive neighborhood experiences through attention to the exterior architectural quality and appearance;
- To diminish the visual prominence of garages from the street and promote a neighborly experience;
- To encourage a variety of options for building designs;
- To establish the appropriate articulation of buildings within the limitations of the zoning ordinances having regard for mass, volume, architectural detailing, finishes and location within the community;
- To establish design requirements for buildings prominent in community locations;
- To assist architects, designers and builders in the preparation of acceptable building designs;
- To promote the preservation of the existing quality and character of the neighborhood; and
- To provide implementation suggestions for the encouragement of the architectural historic character of potentially contributing or designated historic buildings.

Organization

The guidelines address four (4) general themes:

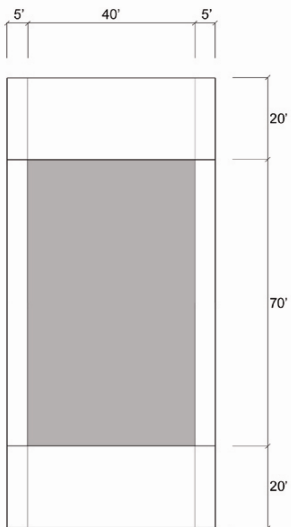
- **Elements of Building Design**
Identifies and addresses design integrity within the individual building.
- **Relationships to Adjacent Properties**
Identifies and addresses the interfaces between new construction and adjacent existing buildings.
- **Neighborhood Patterns**
Identifies building characteristics which are most apt to define a neighborhood's appeal and identity.

Parameters

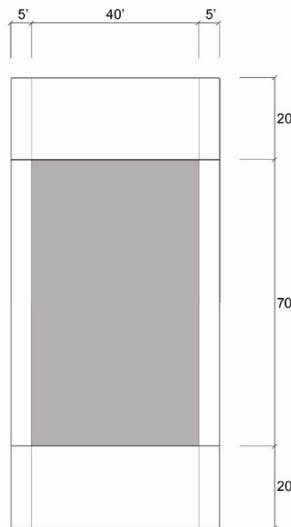
The zoning existing within the town's ordinances, with respect to use designation and maximum heights, are not recommended to change. Within the residential neighborhood, the maximum height is 30 feet and the setbacks are as reflected in the illustrations and the attached chart.

The zoning remains consistent in and applicable in all its provision except one. These design guidelines recommend that the provision limiting construction to two (2) stories be increased to three (3), provided that the building's height does not exceed the established maximum height of thirty (30) feet.

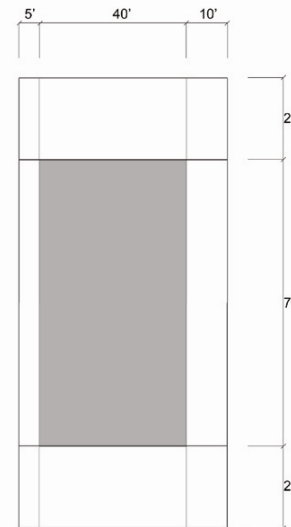
District		Minimum Lot Requirements				Maximum Height		Minimum Yard Requirements			
Zoning	Description	Lot Width	Minimum Area	Lot area per dwelling unit	Max. Lot Coverage	Stories	Feet	Front Yard	Side Yard	Corner	Rear
RS-1	Single Family	50 ft.	2,500 sf.	8,000 sf.	40%	3	30	20 ft.	5 ft.	10 ft.	20 ft.
RS-2	Single Family	50 ft.	1,800 sf.	5,600 sf.	40%	3	30	20 ft.	5 ft.	10 ft.	20 ft.



Waterfront Lots / RS-1



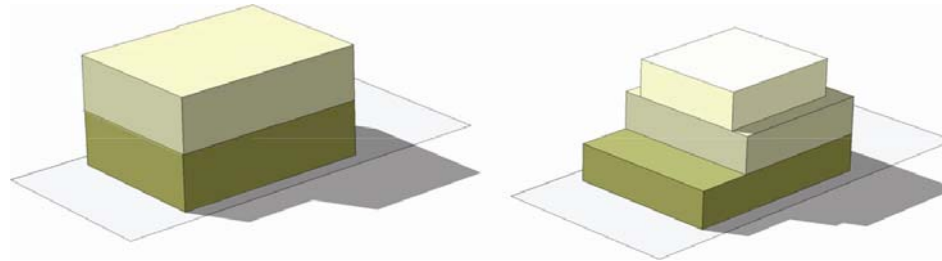
Interior Lots / RS-2



Corner Lots / RS-2

Building Massing

By increasing the number of stories permitted, from two (2) to three (3) and maintaining the height limitation to thirty (30) feet, the property owners are given more flexibility to internally distribute the space in accordance to the parameters described herein. Without the increase of stories, the only provisions of these guidelines that can realistically be implemented are those affecting the building's elevation only. Opportunities to resolve the volumetric distribution and massing of the legally permissible build-able area will have been missed. Because lots are limited in size, increasing the number of allowable stories to increase the floor areas' opportunities allows property owners to implement the parameters without incurring any liabilities upon the Town. Massing distribution should conform to Option A or Option B of the *Mass and Volume Distribution Criteria*.



Maximum Volume Build-out - Allowable Massing versus Proposed

Roof Lines

Because the Town has a variety of architectural roof treatments, the character of the neighborhood does not predicate the use of a specific roof-type. This allows for the homeowner to select a roof style that can accommodate their needs. This will be beneficial for those home owners who choose to maximize the buildability of their lots. Never the less, designs should attempt to provide roof lines and roof designs that, when viewed from the street, are harmonious with abutting properties. All roof slopes on a single building should have the same angle unless different slopes are inherent in the design's style.



Elevation - Maximum Volume Build-Out

Mass and Volume Distribution – Option A

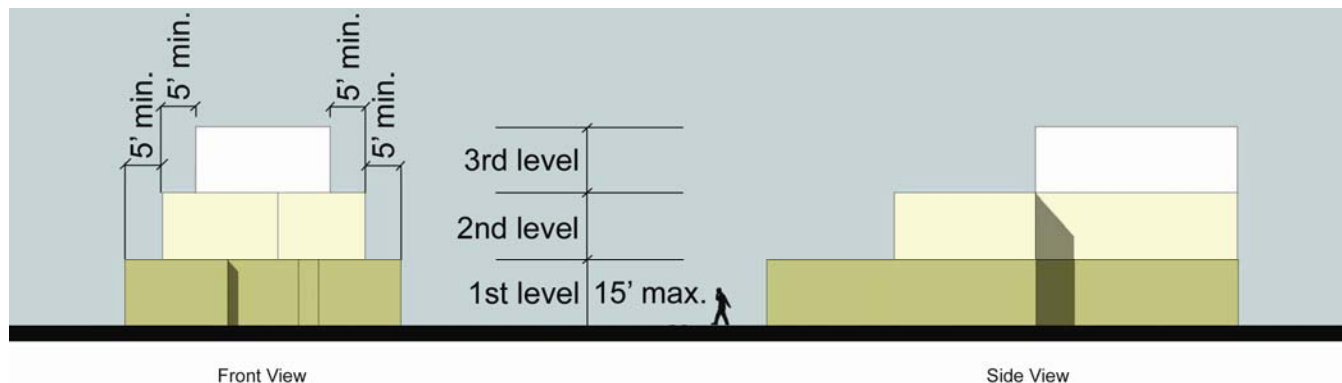
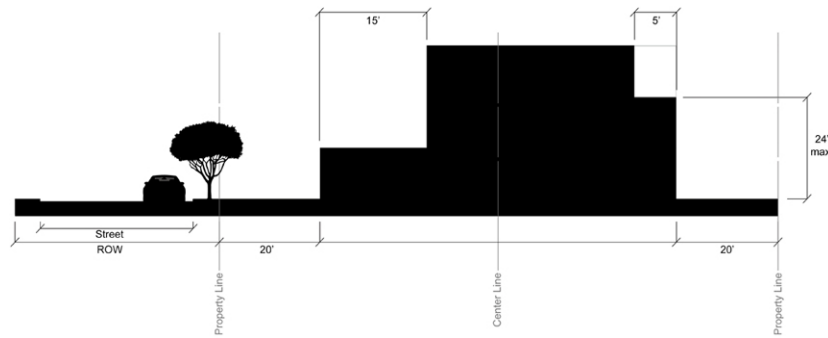
The massing of any new residential building or addition should be sensitive to the profiles of adjacent buildings and should locate second and third stories adequately to reduce the apparent overall scale of the building. This is necessary to ensure an adequate architectural and spatial relationship between new and existing buildings.

The first story should adhere to established zoning setbacks.

The second story should not exceed the ground floor area by 70% and should be setback a minimum of 15 feet from the front façade and a minimum of 5 feet from sides and rear facades.

Third stories or any wall planes exceeding 24 feet in height should provide an additional minimum 5 foot setback from all sides and rear elevations only, but should not be required from the front.

Building forms should be varied enough to avoid monotony and to avoid pyramidal massing and should be compatible with surrounding houses.



Mass and Volume Distribution – Option B

The front façade of a building should be allowed to extend vertically a maximum of two (2) stores in height, provided that at least two (2) of the following criteria are met:

- A) The building should provide an open-air, transitional and habitable architectural element, such as a front porch or wrap-around balcony, for the entirety of the two-story façade (frontage and height). The transitory space should be a minimum of eight (8) feet deep and should be accessible from its corresponding floor elevation.



- B) A maximum of 60% of the facades frontage may be allowed to abut the front setback, with the remaining 40% setback an additional minimum of 12 feet;



- C) The building's façade should in its entirety be set back an additional 12 feet from the setback linear an additional 8 feet from any abutting property's single-story façade, whichever is greater but should not exceed 15 feet. Required transitory architectural elements may be allowed to encroach into the additional setback by 80%.



Transparency and Void Requirements

All elevations should provide for a minimum of 10% wall openings. Wall openings should be defined as either windows, doors or transitional spaces defined by porches, porticoes or colonnades.

Voids should be distributed throughout all facades facing a public Right-of-Way so as to create balance in the facades mass-void proportions and relationships.

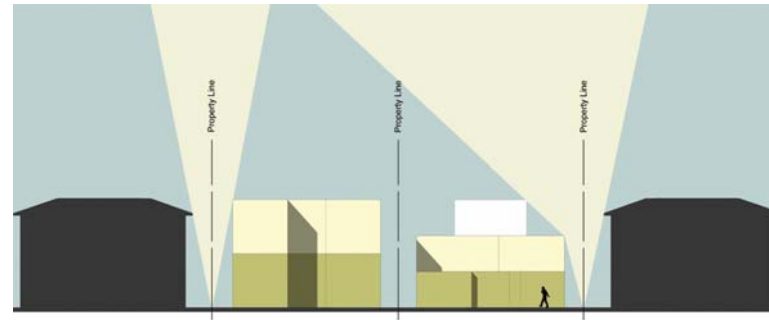
Treatment of voids and transparencies should be consistent on all facades of buildings. Glass may be clear or lightly tinted, but should never be darkly tinted or should never have a reflective finish.

New windows should be placed to avoid direct views into existing neighboring windows. Large second story windows overlooking adjacent rear yards should be articulated to minimize views into adjacent rear yards.



Building Forms

Buildings' massing, as provided with the controlled volumetric distribution, should provide for increased light-plane access in-between buildings, even if maximum build-out occurs. This is critical for ensuring that adjacent properties have adequate access to natural light and ventilation. Additionally, properties should provide for greater privacy between buildings on the upper stories.



Natural Light Diagram

Main Entries

Main entries are critical in their established relationships to the street. Increase prominence and visibility from the street, promote a greater architectural relationship between the public and private realms and encourages a sense of neighborhood.

Main entries should be:

- Prominent and oriented to the street;
- Rendered in appropriate scale for the block as well as the individual building;
- Entry feature should not extend above the eave line of the structure; and
- Should not be obstructed from view by fences, landscaping or other visual barriers.



Decorative Features

Decorative features such as porch or balcony rails and columns, other columns and capitals, window sills and any other decorative elements should be stylistically consistent throughout the entire building.

Some elements, such as decorative window trims, should be consistent on all parts of the house, while others, such as porch and balcony rails, may apply only to those individual structures, typically those located at or near the front of the house.

For purposes of decorative features, consistency means the same materials, dimensions and design elements. Decorative consistency is perhaps most critical for additions to houses with architectural styles which include decorative features as important elements of the style. Decoration added to a house's addition only, where the original structure previously had none or a stylistically different decoration, should not be allowed.

Overall Architectural Style

The overall style of each house should be consistent on all sides of the building, as well as among all portions of the roof. Particular care should be taken that building elevations and roof elements visible from streets and other public or adjacent spaces are stylistically consistent. Consistency should be determined by evaluating each of the building's elevations' components.



Mailboxes

The Town highly encourages mailboxes to be attached to the house. In the event that this does not apply, the following provisions should be implemented:

- 1) Materials should be true and consistent with the architectural character of the building in both color and texture.
- 2) Landscape planting or approved architectural elements should be used to minimize the visibility of the mailboxes from the public Right-Of-Way.

Decorative Permanent Elements

Decorative permanent elements should include any decorative feature not a part of the architectural facades, including but not limited to bird-baths, statuary, lighting poles and fixtures, columns, fountains, signage and outdoor artwork. Property owners should seek approval prior to installation of these elements.

Decorative permanent elements should be further defined as:

- 1) Any element larger than 36 inches in height or 60 inches in width;
- 2) Any outdoor element that remains installed for a period of time longer than 45 days;
- 3) Any element that requires a footing; or
- 4) Any element that utilizes electricity.

All decorative permanent elements should be in scale with all the façades of the property and should be consistent with the materials, colors and textures predominant of the architecture of the building. Consistency should mean the same materials, dimensions, proportions and design elements.



Garages and Parking Driveways

In general, new garages should be located and sized consistent with the established pattern of the neighborhood.

Attached garages located at the front or side of the house should be no wider than one necessary to accommodate the width of one car, and should never exceed 50% of the overall length of the facade. If a garage is provided to accommodate 2 cars, the garage entrances must have an exterior expression of two separate entrances, each a maximum of 10' wide, and separated by a minimum 18" wide vertical element consistent with the facade.

Attached garages on corner lots should be located to avoid driveway paving at or near the corner.

The width of paved driveways on private property as well as driveway cuts at the curb should be as narrow as possible. Curb cuts should not be two-cars wide, even if they provide direct access to a two-car wide driveway.

Paving accessible for parking in the front setback area should be limited to the width required for access to a garage or other required parking spaces.

Driveways should have a 2% cross slope or appropriate to promote containment of drainage on-site.

Driveway Treatments:

Asphalt driveways should not be permitted;

Driveways should be composed of materials and textures consistent with the overall character of the building;

The Town encourages the use of pavers, concrete may be used provided that it is color- and texture- treated;

Coloring on concrete should be consistent throughout the entire composition; and

Painted concrete should not be permitted.



Balconies, Decks and Lighting

New balconies or decks located more than 5 feet above grade on new or existing houses should be built no closer than 5 feet to adjacent single family side-property lines and no closer than 20 feet to adjacent rear property lines.

Lighting should never be allowed to shine directly onto adjacent residential properties. The view of light sources should be entirely shielded from adjacent properties.

Large, two-story building masses at the sides and rear of adjacent single family yards should be avoided to help preserve privacy and sunlight access for the neighboring property.



Wall Materials and Finishes

Wall material finishes should be appropriate to the style and style era of the house. For example, materials developed after the establishment of a particular architectural style are not appropriate on buildings of that style unless the new material is a high quality and deliberate reproduction of the original material. The same material should be used on all building elevations unless multiple materials are a legitimate expression of the particular style.

False, foam materials should not be allowed.



Roof Materials, Types and Slopes

Roof materials should be appropriate to the style of the house and, except for flat roofs or flat roof portions, should be the same product for the entire roof system. New materials designed for fire resistance are entirely appropriate as long as they replicate the traditional material.

Roof types and slopes should be generally the same over all parts of a single building. Exceptions are roof styles or architectural styles that traditionally involve varying slopes, such as architectural styles that sometimes combine flat and sloped roofs. In addition, hip overall roof designs are often used in combination with very small gable or shed roofs used to highlight a prominent element.

Restricted materials for roofs are pre-determined in the Town's Building Code, which restricts roofing materials to:

1. Clay tile;
2. White concrete tile;
3. Solid color cement tile which color is impregnated with the same color intensity throughout, provided said color is first approved by the planning and zoning board; and
4. Metal.



Windows and Trims

Window styles (double hung, casement, sliding, fixed, etc.) and frame materials (aluminum, wood, steel, etc.) are particularly important expressions of architectural style and should always be consistent among all elevations of a building. Window styles may vary depending on the specific use or size of the window for some architectural styles. Frame materials should never vary on a single building except in some limited cases when the frame material is being upgraded as in the case of renovations.

Window sizes and proportions are also important expressions of architectural style and should be consistent with the architectural style of the house. While window sizes on a single house most often vary by the purpose of the room, several styles, typically include larger uniform window heights all around the building. Several styles also traditionally employ the same window repeated in groups of two, three or four as a fundamental expression of the style.

Window, door and eave trim should be consistent on all elevations of the house, in terms of material, material dimensions and decorative features such as shape, carving, routing, reveals, etc. Replicating the original trim style for additions or remodels of older, traditional styles is particularly important.



Green Design

It is encouraged for all new construction to follow the LEED certification program. Higher LEED certifications (silver, platinum, etc.) are also encouraged.

Rehabilitation of existing structures should achieve the following standards to the greatest feasible extent:

- Use of energy-efficient features in window design (exterior shading devices, low-E and insulated glass, etc);
- Use of operable windows and ceiling fans to promote natural ventilation when weather permits;
- Reduced coverage by asphalt, concrete, rock and similar substances in driveways and other areas to improve storm-water retention and reduce heat island effects.
- Installation of energy-efficient lighting in buildings, driveways, yards, and other interior and exterior areas;
- Selection, installation and maintenance of native plants, trees, and other vegetation and landscape design features that reduce requirements for water, maintenance and other needs;
- Planting of native shade trees to provide reasonable shade while remaining clear of overhead and underground utilities;
- Passive solar orientation of structures, as possible, to reduce solar heat gain by walls and to utilize the natural cooling effects of the wind;
- Provision for structural shading (e.g., trellises, awnings and roof overhangs) wherever practical when natural shading cannot be used effectively;
- Inclusion of shaded porch/patio areas; and

Historic Preservation

Initiate inventory of existing building stock by an architectural historian to determine and designate categories of historic preservation:

- Designated Historic Property
- Contributing Historic Property

Develop parameters to address the preservation,

- The restoration of at least 50% of the existing overall structure
- Restoration and preservation of 100% of the street front facades
- Historic Preservation-specific design review processes in accordance to the standards of the Secretary of the Interior.



Neighborhood Patterns

One of the challenges posed by new construction projects in existing residential neighborhoods is to create relationships between properties and streets that maintain adequate space, light and a sense of openness that complement the existing neighborhood's character.

Because the major objective of these guidelines is to ensure that new homes, additions and remodeling projects are appropriately compatible with the surrounding neighborhood, compliance with the guidelines in this chapter is essential for the preservation of the neighborhood character, and consistency with them will be an important component for those projects which qualify for approval.

Neighborhood Patterns Topics

Overall Neighborhood Pattern Scheme

Priority Lot Properties

Property Designation Diagram

Community Gateway Properties

Community Window Properties

Corner Lot Properties

Waterfront Properties

Upgraded Rear and Side Architecture

View Terminus Properties

Interior Lots

Multifamily

Commercial

Overall Neighborhood Pattern Requirements

The Overall Neighborhood Pattern Requirements should be applicable to all lots, irrespective of designation. These buildings should pay particular attention to the relationship between the street fronting facades, its treatment and articulation, and the street, always enforcing a pedestrian quality and character.

Priority Lot Properties

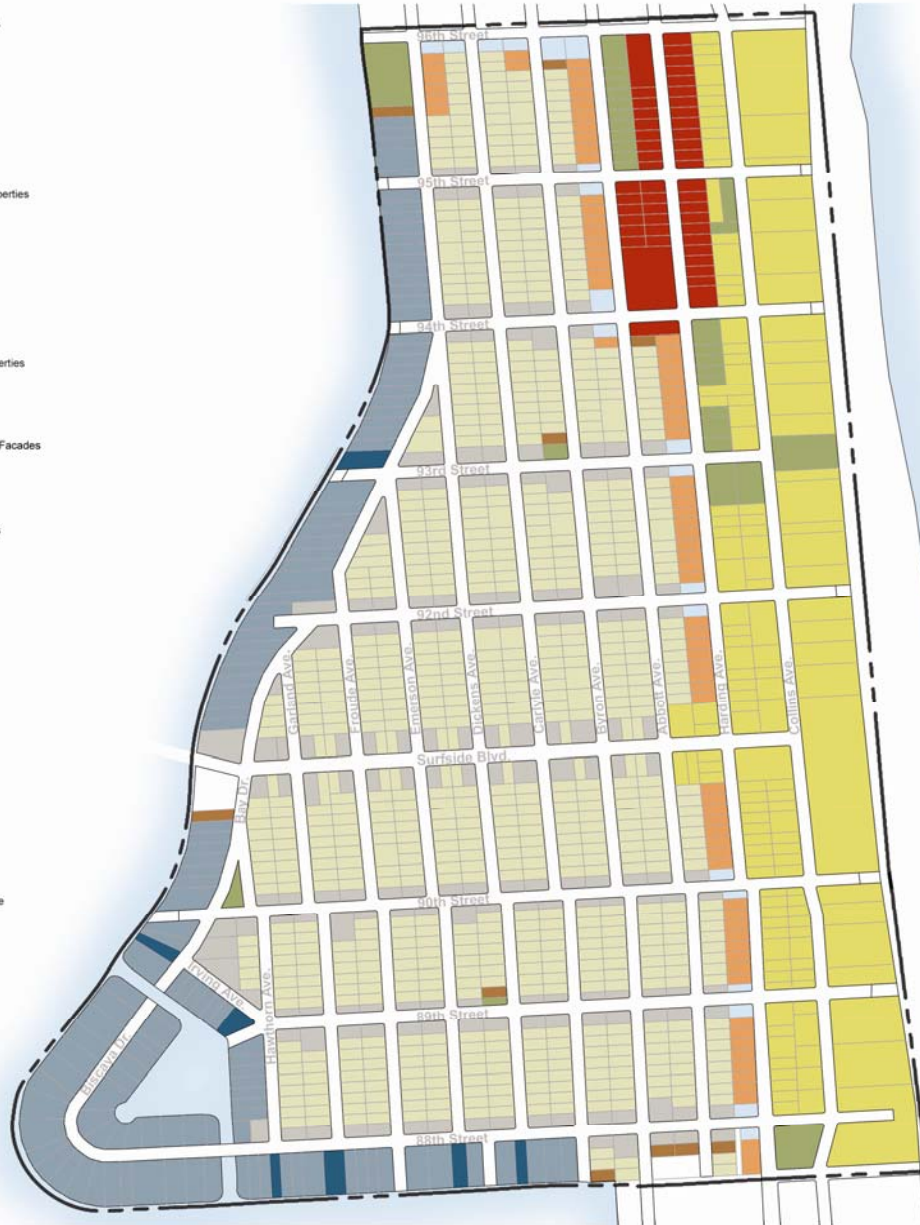
These guidelines identify important properties that aide in the definition of the edges defining the existing residential neighborhood. The strategic approach to identifying each and their importance acknowledges that dwellings in prominent locations, or "Priority Lots," have a higher degree of visibility within the public realm. Special design consideration is required for the publicly exposed elevations of these dwellings.

These priority lots are categorized as follows:

- Community Gateway Properties – properties that are located at important gateways to the neighborhood;
- Community Window Properties – properties that front an important visible edge to the neighborhood;
- Corner Lot Properties – properties that are located at corner lots within the neighborhood;
- Waterfront Properties – properties that have a waterfront exposure;
- Upgraded Rear and Side Facades – properties that have a rear or side façade that is publicly exposed.
- View Terminus – properties which location lines up with city street ends.
- Interior Lot Properties – properties located in the inner lots of the city blocks.

Property Designation Legend

-  View Terminus Properties
 -  Waterfront Properties
 -  Community Gateway Properties
 -  Corner Lot Properties
 -  Community Window Properties
 -  Upgraded Rear and Side Facades
 -  Municipal Use Zoned Lots
 -  Interior Lot Properties
 -  Multi-Family
 -  Commercial
 -  Not Applicable
 -  Historic Preservation Zone Boundary
- 



surfside

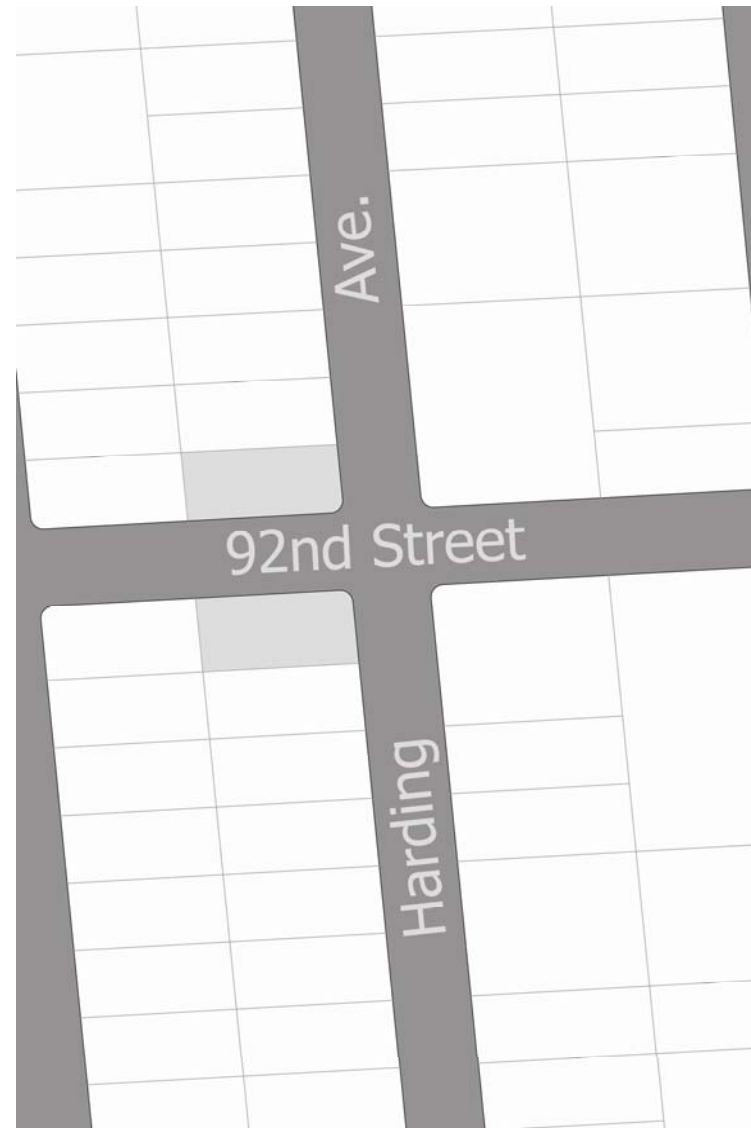
residential
design guidelines

Priority Lots – Community Gateway Properties

Community Gateway Properties are located at the entrances to the community from the external road system, principally Harding Avenue and 96th Street. These properties play an important role in expressing the image, character and quality of the community to residents, visitors and passersby. A high degree of architectural design quality will be expected for all elevations of these properties.

The preferred design is one that acknowledges the importance of the location and acknowledges the corner condition. The main entrance and driveways to garages or carports should face the entry roadway and should not face Harding Avenue or 96th Street. Special attention to the massing, height, articulation, fenestrations, material finishes and detailing is required for all exposed elevations of a Community Gateway Property, ensuring that:

- Wall finish treatments are consistent on all sides of the building;
- A prominent entrance feature is encouraged;
- Wrap-around porches should be provided;
- There is provided sufficient fenestrations on front and flanking elevations displaying balanced proportions;
- Highly articulated flanking elevations are required to avoid flat, blank, or uninteresting facades;
- Roof forms should be enhanced;
- Rear elevations should be upgraded to include detailing and window treatment consistent with the front and flanking elevations;
- Garages should be recessed with the front entrance feature;
- Distinctive corner architectural elements should be employed where architecturally appropriate; and
- Special attention to the exterior color package is required to compliment the use of upgraded materials, such as stone, and finishes.



Community Gateway Property Diagram



Massing Example



Property Designation	Use Restrictions	Allowable Height	Frontage Setbacks	
Community Gateway Properties	Per Existing Zoning Ordinance	30' Overall*, 3 stories	Front	20' Ground
			Rear	20' Ground
			Corner	10' Ground
			Interior Side*	5' Ground



Priority Lots – Community Window Property

Community Window Properties are located along the edges of the community, principally Harding Avenue, Abbott Avenue between 94th Street and 96th Street and on Bay Drive just across the street from the 96th Street Park. These properties play an important role in expressing the image, character and quality of the community to residents, visitors and passersby.

A high degree of architectural design quality will be expected for the street facing elevations of these properties. Special attention to the massing, height, articulation, fenestrations, material finishes and detailing is required for the aforementioned elevation of a Community Window Property.

The facades should ensure that:

- Wall finish treatments are consistent on all sides of the building;
- A prominent entrance feature is encouraged;
- Highly articulated flanking elevations are required to avoid flat, blank, or uninteresting facades for at least half the depth of the side elevations, measured from the front facade;
- Roof forms should be enhanced;
- Garages should be recessed from the front entrance feature;
- Distinctive architectural elements should be employed where architecturally appropriate; and
- Special attention has been given to the exterior color package is required to compliment the use of upgraded materials, such as stone, and finishes.



Community Window Property Diagram



Massing Example



Property Designation	Use Restrictions	Allowable Height	Frontage Setbacks	
Community Window Properties	Per Existing Zoning Ordinance	30' Overall*, 3 stories	Front	20' Ground
			Rear	20' Ground
			Corner	N/A
			Interior Side*	5' Ground

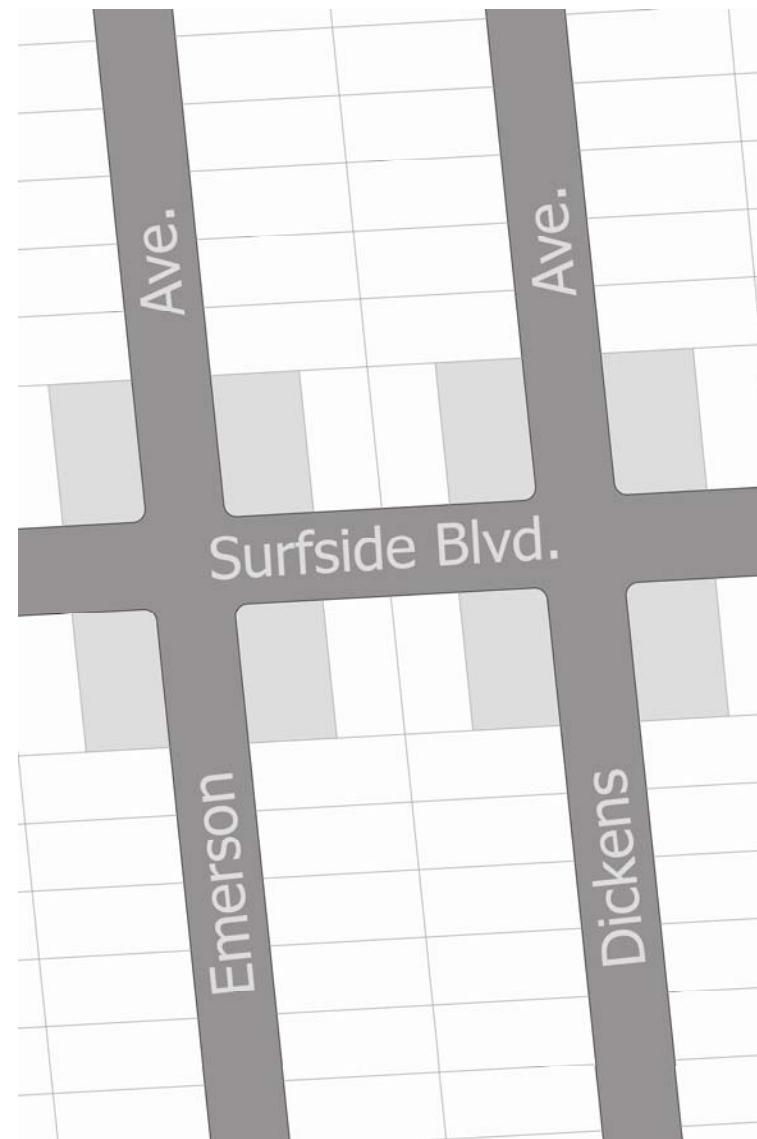
Priority Lots – Corner Lot Properties

Corner Lot Properties are located at the internal street intersections. These properties play an important role in setting the image, character and quality of the street. These properties should address both street frontages in a consistent manner and incorporate ground-level detailing which reinforces the pedestrian scale of the street. The following criteria should apply:

- The main entrance and driveways to garages or carports should face the long side of the lot;

Special attention to the massing, height, articulation, fenestrations, material finishes and detailing is required for all exposed elevations of a Corner Lot Property, ensuring that:

- Wall cladding and finish treatments are consistent on all sides of the building;
- A prominent entrance feature is encouraged;
- There is provided sufficient fenestrations on front and flanking elevations displaying balanced proportions;
- Highly articulated flanking elevations are required to avoid flat, blank, or uninteresting facades;
- Roof forms should be enhanced;
- Rear elevations should be upgraded to include detailing and window treatment consistent with the front and flanking elevations;
- Garages should be recessed with the front entrance feature;
- Distinctive architectural elements should be employed where architecturally appropriate; and
- Special attention to the exterior color package is required to compliment the use of upgraded materials, such as stone, and finishes.



Corner Lot Property Diagram



Massing Example



Property Designation	Use Restrictions	Allowable Height	Frontage Setbacks	
Corner Lot Properties	Per Existing Zoning Ordinance	30' Overall*, 3 stories	Front	20' Ground
			Rear	20' Ground
			Corner	10' Ground
			Interior Side*	5' Ground

Priority Lots – Waterfront Properties

Waterfront Properties are located at the waterfront edges of the neighborhood with at least one frontage onto Biscayne Bay. These properties play an important role in setting the image, character and quality of the neighborhood as perceived from the water. These properties should address both the street frontage and its water frontage in a consistent manner. The buildings should also incorporate ground-level detailing which reinforces a pedestrian scale at the street elevation.



Waterfront Property Diagram

Priority Lots – Waterfront Properties

The following criteria should apply:

- Wall finish treatments are consistent on all sides of the building;
- There is provided sufficient fenestrations on front and flanking elevations displaying balanced proportions;
- Highly articulated flanking elevations are required to avoid flat, blank, or uninteresting facades;
- Roof forms should be enhanced;
- Rear elevations should be upgraded to include detailing and window treatment consistent with the front and flanking elevations;
- Garages should be recessed with the front entrance feature;
- Front elevations should engage the street and should not be obstructed behind dense landscaping, carports or excessive setbacks.
- Building mass and volume distribution should be distributed so as to not create imposing structures abutting the street or abutting properties;
- Distinctive corner architectural elements should be employed where architecturally appropriate; and
- Special attention to the exterior color package is required to compliment the use of upgraded materials, such as stone, and finishes.





Massing Example



Property Designation	Use Restrictions	Allowable Height	Frontage Setbacks	
Waterfront Properties	Per Existing Zoning Ordinance	30' Overall*, 3 stories	Front	20' Ground
			Rear**	50' Ground
			Corner	10' Ground
			Interior Side*	5' Ground



Priority Lots – Upgraded Rear and Side Architecture Properties

Upgraded rear and side architectural elevations are required where these elevations are exposed to public view. This occurs in the following situations:

- Reverse frontage lots which back or flank onto a public road, or
- Lots which back or flank onto highly visible public uses such as open spaces, roads, parks, public walkways, institutional uses and commercial uses.

The exposed side and/or rear elevations of these buildings should have a level of quality and detail consistent with the front elevation. This should include, but not be limited to, features including:

- Enhanced window styles compatible with the architectural style of the overall design;
- Introduction of architectural features to evade blank, uninteresting walls;
- A balance of mass and voids achieved through the proper use of fenestrations; and
- The level of upgrade should be consistent with the level of public exposure.



Upgraded Rear & Side Architecture Property Diagram



Massing Example



Property Designation	Use Restrictions	Allowable Height	Frontage Setbacks	
Upgraded Rear and Side Architecture Properties	Per Existing Zoning Ordinance	30' Overall*, 3 stories	Front	20' Ground
			Rear	20' Ground
			Corner	N/A
			Interior Side*	5' Ground

Priority Lots – View Terminus Properties

Terminus Lot Properties occur at the top of “T” intersections, where one road terminates at a right angle to the other. These properties play an important role in the streetscape by terminating a long view corridor. Corner lots opposite these properties should frame the view from the street. Because of their prominence, View Terminus Properties should include such enhancement features as:

- Driveways should be located to the outside of a pair of View Terminus Properties to increase landscaping opportunities and reduce the prominence of the garage on the view;
- A greater setback from adjacent dwellings is encouraged where lot depth permits; and
- Architectural treatments which provide visual interest will be required for these parcels.



View Terminus Property Diagram



Massing Example

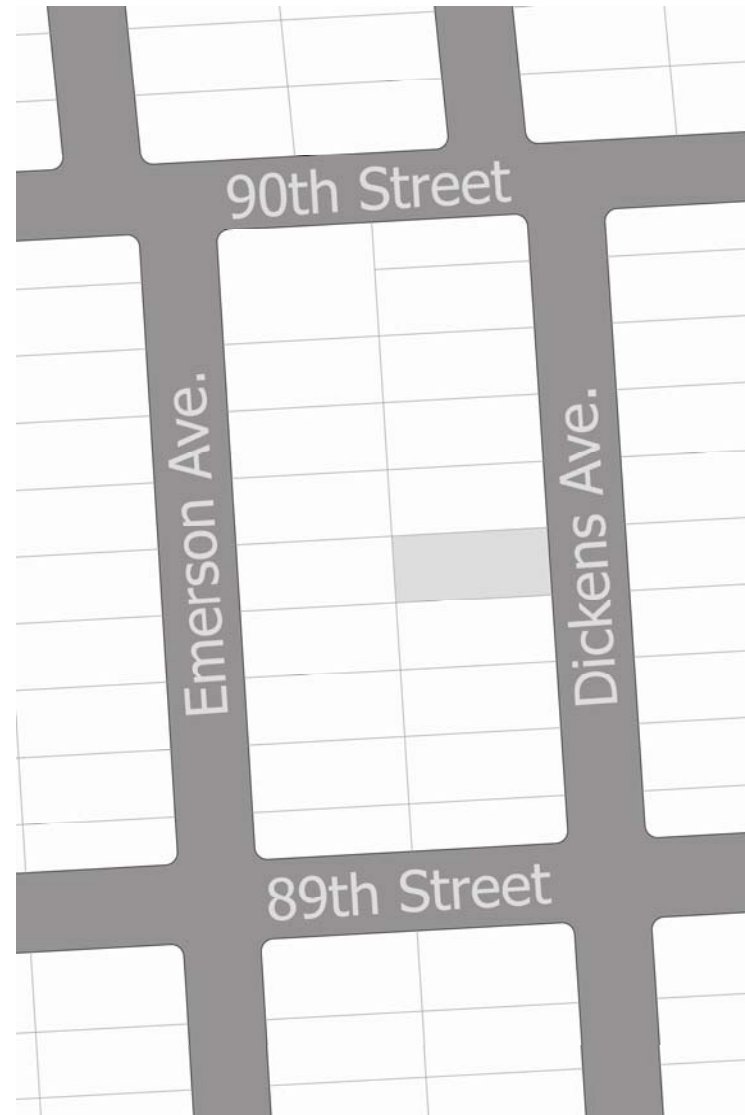


Property Designation	Use Restrictions	Allowable Height	Frontage Setbacks	
View Terminus Properties	Per Existing Zoning Ordinance	30' Overall, 3 stories	Front	20' Ground
			Rear	20' Ground
			Corner	N/A
			Interior Side*	5' Ground

Priority Lots – Interior Lot Properties

Interior lots will be applicable to the general design criteria applicable as the basis for all lots, including criteria determining:

- Massing and Volumes
- Decorative Features
- Overall Style
- Garage and Parking Driveways
- Relationships to Adjacent Properties
- Roof Materials, Types and Slopes
- Wall Material Finishes
- Windows and Trims



Interior lot Property Diagram



Massing Example



Property Designation	Use Restrictions	Allowable Height	Frontage Setbacks	
Interior Lot Property	Per Existing Zoning Ordinance	30' Overall*, 3 stories	Front	20' Ground
			Rear	20' Ground
			Corner	N/A
			Interior Side*	5' Ground



Introduction

These guidelines are intended to help secure a high quality of environment, regarding livability, visual interest, identity and sense of place, in Surfside's commercial and multifamily districts by providing guidance for the design of new buildings within the existing area. These guidelines are intended to focus on the characteristics of architectural compatibility and to leave individual property-owners the maximum flexibility to build to meet their own needs and objectives.

All new building construction must conform to the development standards of the zoning districts in which they are located. These guidelines presented herein are intended to go beyond the basic requirements of the Zoning Ordinance and, in greater detail, address issues specifically related to character compatibility without changing existing setbacks or height limitations or regulations. In addition, these guidelines are intended to encourage the design and construction of buildings which harmonize with their surroundings and which demonstrate a high standard of quality.

Lastly, in order to establish a sense of historical significance, the Town of Surfside encourages the architecturally authentic restoration of existing structures. Where restoration can become a minimum, these guidelines further encourage the preservation of the existing structure.

Applicability

The Guidelines should apply to all new construction within the Town. These Guidelines are provided for the use of property-owners, builders, contractors, architects, designers, Town Staff and Town decision makers. The Guidelines are expected to be useful for making design decisions about multifamily residential and commercial construction at a number of levels:

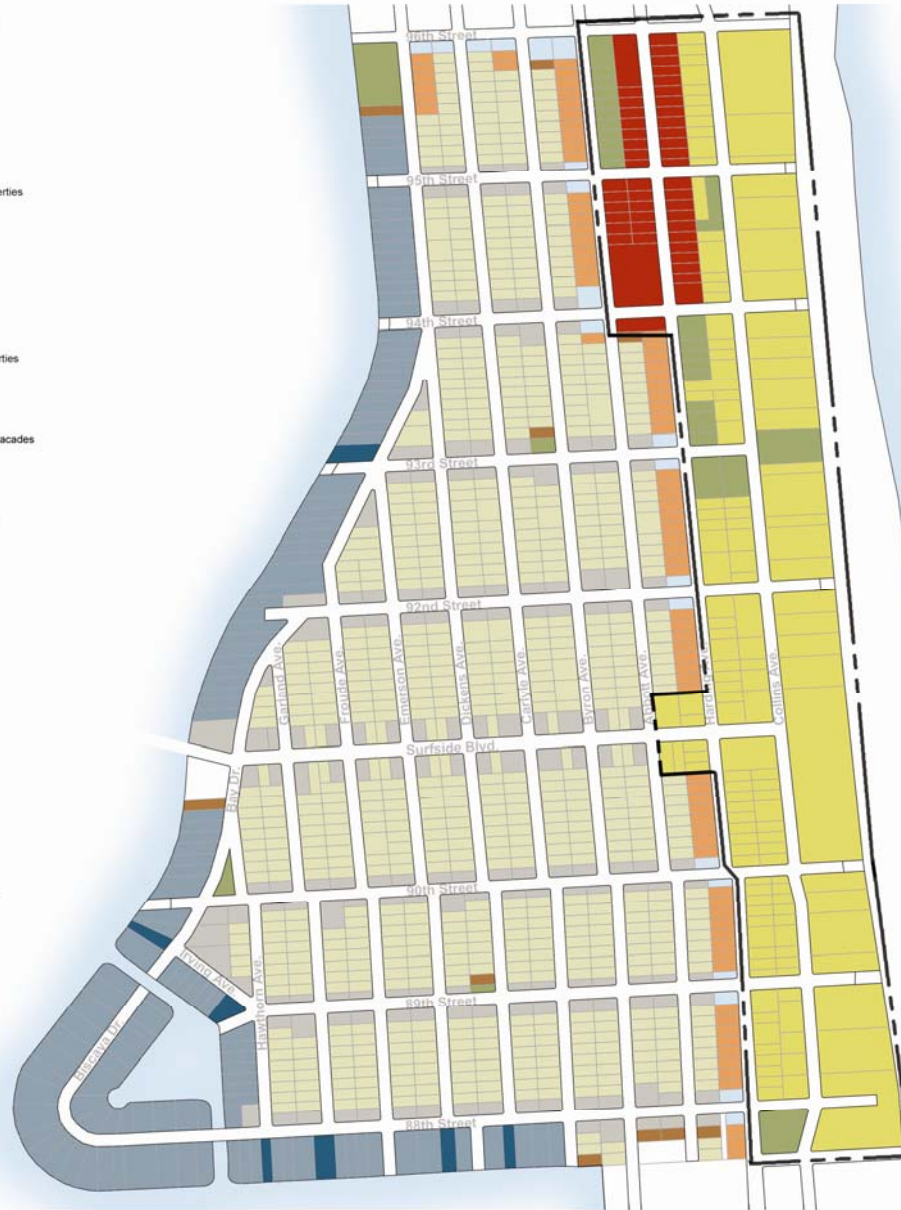
- Property-owners, builders, architects and other designers are encouraged to consult the Guidelines prior to designing new buildings, additions or remodeling projects for ideas and advice.
- The Guidelines will be used by City Staff and decision makers as the criteria for making permit decisions.
- Town residents should consult the Guidelines to understand the compatibility concepts which will apply to new construction.

The transition of this new policy should be as follows:

Any development within the Town approved by the Planning and Zoning Design and Review Board on or before September 11, 2007 is not subject to this policy. In the event of a major revision to an existing draft approval where the developer has an approved agreement, the Town will generally apply this policy.

Any development within the Town approved by the Planning and Zoning Design and Review Board after September 11, 2007 should provide conformity to the Town's Preservation Zone Design Guidelines.

Property Designation Legend



multifamily residential & commercial
design guidelines

A. STYLE AND BUILDING FORM

New construction should recognize the historic context and should be compatible in massing, scale, proportion and articulation with the context. The predominant characteristics of these architectural articulations include:

Art Deco: Flat roofs, applied decoration, symmetrical or asymmetrical massing, openings are variable in size, shape and proportion

Mediterranean Revival: low pitched roofs, monumental massing, textured stucco, arched openings, varied ornamentation

Mid-Century Modern: horizontal emphasis, flat roofs with extended overhangs, asymmetrical, emphasized material changes, minimal to non-existent ornamentation

Streamline/Moderne: soft flowing masses, round corners, smooth surfaces, asymmetry, flat roofs with parapets, minimal to non-existent ornamentation

The Town highly discourages the literal replication of historic buildings or styles.

B. VOLUMETRICS

1. Building volumes and heights should be articulated to express different building components, features and programmatic elements. Buildings with one continuous height are prohibited.
2. Building lengths should not exceed those limitations as expressed in the zoning code.
3. Additional height articulation beyond those regulated by these requirements is encouraged to provide appropriate scale, rhythm and articulation, provided that no element exceeds the maximum height limitation.

C. ARTICULATION

1. Wall Plane

Building facades should incorporate breaks in the wall plane to provide massing and articulation compatible with the historic context. No single wall plane should exceed 60 feet in length on any exterior façade and should provide a minimum of a 6-foot separation from abutting wall planes.

2. Height Variations

Height variations among architectural elements should have an expression of no less than 5 feet in variation. Buildings with one continuous height should not be allowed.

3. Façade Articulations

All building facades, including alleyways, should be rendered consistently with the overall architectural treatment of the building.

4. Roof Articulations

The town highly encourages the promotion of roof-top gardens on the commercial district, especially for properties with rooftop visible from residential uses or for rooftops overlooking the public Right-of-Way.

D. ENTRANCES, WINDOWS & STOREFRONTS

(Requirements affecting all building façades fronting a public Right-of-Way)

1. Pedestrian entrances should be easily recognizable and oriented towards the street.
2. Divided light window mullions, where provided, should be through the pane (i.e. true divided).
3. Exterior burglar bars, fixed “shutters” or similar security devices are prohibited.
4. Security shutters, if provided, should be constructed of a see-through, non-solid grate material. Roll-up casings and attachment hardware should be obscured by architectural features or awnings and should be finished to blend with the overall architectural character of the building and its surface materials.
5. Impact resistant glass should be used in all window exposures, except ground level non residential uses.
6. Window and storefront articulations should utilize similar proportions as those within the surrounding context and should be primarily oriented towards the street.

7. Multiple storefronts within a larger building should have consistent material qualities and articulation and should relate to the detailing of the entire building.
8. The bottom edge of windows should be no less than 24 inches above the fronting finished sidewalk elevation
9. For non-residential uses, the first vertical 10 feet of building elevation should be composed of 50% minimum transparency. Required percentages of transparency should be applied to street-facing building facades and walls that provide separation between conditioned interior and un-conditioned exterior space. Requirements should be applied within the first 10 feet of height above the public sidewalk. When possible, the bottom of transparent openings should be no higher than 36 inches above the public sidewalk. Display windows used to satisfy these requirements should have a minimum vertical dimension of 4 feet and should be internally illuminated.
10. Mirrored and heavily tinted glass should not be permitted.
11. The use of exterior shading devices and insulated glass is highly encouraged.

E. AWNINGS, CANOPIES, 'EYEBROWS' AND BALCONIES

1. Balconies should not extend into the frontage setbacks and should not be less than five feet (5') in depth.
2. Awnings and canopies should be incorporated to provide pedestrian protection from the elements as well as reduce overall building heat gain. Encroachments by awnings and non-permanent canopies over the public sidewalk are permitted, but should not be greater than 6' or the width of the sidewalk, whichever is less.
3. Awnings, canopies, "eyebrows" and balconies should have consistent height and depth;
4. Awnings, canopies, "eyebrows" and balconies should remain consistent with architectural details and proportions harmonious with the overall building design and historic context;
5. Awnings, canopies, "eyebrows" and balconies should be consistent on multiple storefronts within a larger building.
6. Awnings should be fabric or metal. Plastic awnings are discouraged.
7. To reduce visual clutter, awnings should be solid colors rather than patterned.
8. Awnings should utilize down lighting. Backlighting is prohibited.

9. Awning valances should generally be straight rather than curved, except for special architectural elements to be compatible with historic building styles.
10. Awnings should be attached to the building façades and should not be supported by vertical elements within the R.O.W.
11. All new and replacement awnings should meet these requirements.

F. SERVICE AREAS AND MECHANICAL EQUIPMENT

1. Service bays, mechanical equipment, garbage and delivery areas, to the greatest extent possible, should be fully enclosed, screened or located within the interior of the building. These areas should not be visible from the Right of Way and should not be visible from properties with adjacent residential or hotel uses.
2. Central air conditioning is required for trash rooms.
3. All exterior equipment should be placed on the roofs and should be screened by an architectural feature. This feature may be allowed to exceed the maximum height limitation.
4. All exterior equipment should be architecturally screened.

G. UNDERGROUND AND ABOVE-GROUND UTILITIES

1. All utilities including telephone, cable, and electrical systems should be installed underground.
2. Large transformers should be placed on the first floor/ground and contained with pad mounts, enclosures or vaults.
3. All exterior facilities, including but not limited to electrical raceways and transformers, permitted above ground should be fully concealed and screened by landscape.

H. PARKING REQUIREMENTS

1. PARKING STRUCTURES

- a. Entrances to parking garages should not be from Collins or Harding Avenue frontages.
- b. Enclosed parking levels should have an exterior architectural treatment designed to be compatible with neighboring buildings and the area's context.
- c. All ground levels of a parking structure facing a public Right-of-Way should be lined with active liner uses or screened.

I. MATERIALS AND FINISHES

1. The predominant surface is stucco with various finish applications. Similar finishes are encouraged, as well as the use of prevalent vernacular materials, such as stone (with native characteristics), metal, glass block and accent wood. Materials vernacular or characteristic to other regions such as flagstone, adobe, etc. are highly discouraged.
2. Materials should be true and genuine, rather than simulated. Multiple storefronts within a larger building should have consistent material qualities and articulation.
3. Within high traffic areas, higher quality materials that are easily maintained (in lieu of painted stucco) should be incorporated at the building's base.
4. Asphalt shingles should be prohibited.
5. Site accessories and materials that have a demonstrated durability and lend themselves to recycling or are produced through recycling means should be preferred. Materials should be made to limit the use of non-renewable resources, retain cultural resources, reduce waste and reduce the impact of manufacturing and transport of materials.
6. Woods that are certified as being from sustainable sources as designated by the Forest Stewardship Council should be utilized.
7. CCA treated woods should be prohibited for finish surfaces.

J. MULTIFAMILY RESIDENTIAL AND HOTEL DESIGN CRITERIA

1. Separating elements, such as fences or walls should not be permitted between multifamily residential uses and fronting streets.
2. Entrances to residential and hotel uses should be kept separate from entrances to other uses in the building.

K. COMMERCIAL USES DESIGN CRITERIA

1. Frontages along Harding Avenue are encouraged to provide a minimum six foot (6') wide continuous non-removable awning.
2. External street-level entrances should be recessed and centered a minimum of 36" from the building frontage.
3. Restaurant uses should have air conditioned trash and garbage facilities.

L. EXTERIOR LIGHTING

1. All exterior lighting should avoid unnecessary, excessively strong or inefficient lighting through selection of appropriate fixtures for each application, use of high-efficiency fixtures and photocell controls to turn lights off during daylight.
2. Energy efficient fixtures and lamps such as Metal Halide cut-off lamps with efficient light distribution and up-to-date energy-efficient light bulbs are encouraged.
3. Solar power (photovoltaic panels) energy supply for outdoor lights should be provided where possible.
4. All lighting should be controlled by photocell controls.
5. Lighting provisions should be designed in a manner that reduces light pollution and are turtle-friendly with a full cut-off for 'dark skies.'

M. ENVIRONMENTAL STANDARDS

1. It is highly encouraged for all new construction to achieve LEED certification. Higher LEED certifications (silver, platinum, etc.) are also highly encouraged.
2. Rehabilitation of existing structures should achieve the following standards:
 - a. Provision of bicycle racks or storage facilities in recreational, office, commercial and multifamily residential areas;
 - b. Use of energy-efficient features in window design (exterior shading devices, low-E and insulated glass, etc);
 - c. Use of operable windows and ceiling fans to promote natural ventilation when weather permits;
 - d. Installation of energy-efficient appliances and equipment;
 - e. Reduced coverage by asphalt, concrete, rock and similar substances parking lots and other areas to improve storm-water retention and reduce heat island effects.
 - f. Installation of energy-efficient lighting in buildings, parking areas, recreation areas, and other interior and exterior public areas;
 - g. Selection, installation and maintenance of native plants, trees, and other vegetation and landscape design features that reduce requirements for water, maintenance and other needs;
 - h. Planting of native shade trees to provide a minimum of 40% shade for all recreation areas, sidewalks and parking areas in addition to east and west faces of buildings.
 - i. Passive solar orientation of structures, as possible, to reduce solar heat gain by walls and to utilize the natural cooling effects of the wind;

- j. Provision for structural shading (e.g., trellises, awnings and large roof overhangs) wherever practical when natural shading cannot be used effectively; use of the Florida Solar Energy Center Document FSECON-8-86 should be utilized for proper sizing and placement of shade devices.
- k. Inclusion of shaded porch/patio areas in residential units; and
- l. Use of recycled materials.
- m. Use of light-colored materials.
- n. Use of “cool roof” techniques (light colored roof, high reflectance EPDM membrane roof or a planted roof).
- o. Provision of natural daylighting to lower energy use for lighting and to lower cooling loads.
- p. Provision of natural ventilation strategies to induce air movement through the building such as breezeways, interior courtyards, water elements to create a cooling effect, operable windows, high ceilings, and fans.

N. POTABLE WATER STANDARDS

- 1. All development should make adequate provisions for water conservation in accordance with the standards established by the USGBC LEED Rating System.

O. SECURITY SHUTTERS STANDARDS

- 1. Security shutters should be constructed of a see-through, non-solid grate material. Roll-up casings and attachment hardware should be obscured by architectural features or awnings and should be finished to blend with surface materials.