

NOTE: A three-minute maximum time limit will be imposed on all comments from the public, regardless of the subject matter. A request form is available from the Deputy Town Clerk; fill it in and return it to her prior to the start of the meeting. When you speak, you must come to the podium in the front and clearly state your name and address for the record. Please turn off or mute your cell phone or pager

TOWN OF BAY HARBOR ISLANDS
QUASI-JUDICIAL PUBLIC HEARING
AGENDA
February 9, 2015

AGENDA

CALL TO ORDER: Set for Approximately 7:00 p.m.

ROLL CALL

1. Consideration of recommendations from the Local Planning Agency with respect to the proposed amendment to the 10-Year Water Supply Facilities Work Plan to be adopted and incorporated into the Town's Comprehensive Plan. Enclosed is a memorandum from Town Planner Michael Miller and a copy of the proposed plan amendment.
2. **Public comment** with regard to the proposed amendment to the Town's Comprehensive Plan (10 Year Water Supply Facilities Work Plan).
3. **Consideration and Approval** of an ordinance on first reading amending the Town's Comprehensive Plan by adopting amendments to its adopted 10 year Water Supply Facilities Work Plan provisions required by Florida Statutes. Enclosed is the proposed ordinance and back up information.

**AN ORDINANCE OF THE TOWN COUNCIL OF THE
TOWN OF BAY HARBOR ISLANDS, FLORIDA,
AMENDING THE TOWN'S COMPREHENSIVE PLAN BY
ADOPTING AMENDMENTS TO ITS ADOPTED 10-YEAR
WATER SUPPLY FACILITIES WORK PLAN TO ADDRESS
WATER SUPPLY PLANNING PROVISIONS REQUIRED BY
FLORIDA STATUTES; INCLUDING A PROVISION FOR
INCLUSION IN THE TOWN'S
COMPREHENSIVE PLAN; REPEALING CONFLICTING
ORDINANCES; PROVIDING FOR SEVERABILITY AND
PROVIDING AN EFFECTIVE DATE.**

STAFF RECOMMENDATION: Council Discretion.

POLL VOTE

CONCLUSION OF PUBLIC HEARING - Approximately 7:30 p.m.

Pursuant to Florida Statutes 286.0105, the Town hereby advises the public that should any person decide to appeal any decision of the Town Council with respect to any matter to be considered at this meeting or hearing, he or she will need a record of the proceedings, and that, for such purpose he or she may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based.

AGENDA ITEM REPORT

February 9, 2015

ITEM NUMBER: 3.

ITEM: Consideration and Approval of an ordinance on first reading amending the Town's Comprehensive Plan by adopting amendments to its adopted 10 year Water Supply Facilities Work Plan provisions required by Florida Statutes. Enclosed is the proposed ordinance and back up information.

DESCRIPTION:

The 2014 updated Town of Bay Harbor Islands WSP has been prepared based upon the Town's existing WSP that was adopted in 2009 in accordance with statutory requirements. The draft Comprehensive Plan amendments appended to the Town's WSP are intended to address the statutory requirements for coordination of the SFWMD Lower East Coast WSP and Miami-Dade County's WSP with the Town's adopted Comprehensive Plan.

Town Planner Miller recommends the Town Council Approve the attached draft 2014 update to the Town of Bay Harbor Islands "10 year Water Supply Facilities Work Plan" (WSP) and associated draft Comprehensive Plan Amendments on 1st reading and authorize transmittal of the documents to the Florida Department of Economic Opportunity (DEO) and other required review agencies for comment.

RECOMMENDED ACTION:

Council Discretion.

FINANCIAL ANALYSIS:

BUDGET IMPACT:

Submitted By: Alba Chang, Recording Secretary
Michael Miller, Town Planner

ATTACHMENTS

1.	Proposed Ordinance	BHI WSP Update Draft Ord Jan 28 2015.docx
2.	Exhibit A	BHI WSP Update Ord 2-.pdf
3.	Water Supply work plan	BHI Final Draft 2014 WSP Update Jan 15 2015.pdf
4.	MM Staff report	BHI TC Staff Report WSP Update Jan 15 2015.pdf
5.	Analysis	BHI LOS Analysis.docx

ORDINANCE NO. _____

AN ORDINANCE OF THE TOWN COUNCIL OF THE TOWN OF BAY HARBOR ISLANDS, FLORIDA, AMENDING THE TOWN'S COMPREHENSIVE PLAN BY ADOPTING AMENDMENTS TO ITS ADOPTED 10-YEAR WATER SUPPLY FACILITIES WORK PLAN TO ADDRESS WATER SUPPLY PLANNING PROVISIONS REQUIRED BY FLORIDA STATUTES; INCLUDING A PROVISION FOR INCLUSION IN THE TOWN'S COMPREHENSIVE PLAN; REPEALING CONFLICTING ORDINANCES; PROVIDING FOR SEVERABILITY AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, Section 163.3167(9) Florida Statutes requires all local governments to address in its comprehensive plan, the water supply sources necessary to meet / achieve the existing and projected water use demand for an established planning period; and

WHEREAS, Section 163.3177(4)(a), Florida Statutes requires coordination of the local comprehensive plan with the applicable water management district's regional water supply plan; and

WHEREAS, the Town recognizes the need for integration between land use planning and water supply planning; and

WHEREAS, Section 163.3177(6)(c), Florida Statutes requires that local governments prepare and adopt a water supply facilities work plan covering at least a 10 year planning period and also amend their comprehensive plan within 18 months after the applicable regional water management district approves a regional water supply plan or its update; and

WHEREAS, the Town Council has proposed amendments to various elements of its adopted comprehensive plan to (1) incorporate new or modify existing Objectives and Policies contained in the adopted Bay Harbor Islands Comprehensive Plan; (2) to amend the adopted Bay Harbor Islands Water Supply Facilities Work Plan; and (3) to integrate water supply and land use planning; and

WHEREAS, the Bay Harbor Islands Water Supply Facilities Work Plan also serves as the supporting data and analysis for the proposed amendments to the Town's Comprehensive Plan; and

WHEREAS, the Bay Harbor Islands Local Planning Agency (LPA), at a duly advertised public hearing, reviewed the proposed Water Supply Facilities Work Plan (WSFWP) and the proposed comprehensive plan amendments contained herein and find both are consistent with the Town's Comprehensive Plan and Florida law, and recommend adoption of this Ordinance to the Town Council; and

WHEREAS, after reviewing the Local Planning Agency's recommendation, the recommendation of Town staff, and the comments from the public, the Town Council finds the proposed amendments to the Town's Comprehensive Plan, attached as Exhibit "A" to this Ordinance, are in compliance with and consistent with Florida law and its adopted Comprehensive Plan.

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF BAY HARBOR ISLANDS, FLORIDA:

Section 1: Recitals. That the foregoing "Whereas" clauses are hereby ratified and confirmed as being true, correct and reflective of the legislative intent underlying this Ordinance and are hereby made a specific part of this Ordinance.

Section 2: Amendment and Adoption of updates to the Bay Harbor Islands Water Supply Facilities Work Plan. That the Bay Harbor Islands Water Supply Facilities Work Plan updates prepared by Michael Miller Planning Associates, Inc., as Town Planner, is hereby amended and adopted and approved as the current Bay Harbor Islands Water Supply Facilities Work Plan and as supporting data and analysis for the amendments to the Town's Comprehensive Plan contained in Exhibit "A", attached to this Ordinance.

Section 3: Amendment and Adoption of Comprehensive Plan Amendments.

That the Future Land Use Element, Potable Water Sub-Element of the Infrastructure Element, Conservation Element, Intergovernmental Coordination Element, and the Capital Improvements Element, as shown in attached Exhibit “A”, are hereby amended and adopted.

Section 4: Transmittal. That the Town staff is authorized to transmit copies of this Ordinance, the Water Supply Facilities Work Plan and the related amendments to the Town’s Comprehensive Plan as shown in the attached Exhibit “A” to the Ordinance to the Florida Department of Economic Opportunity, all other units of local government and governmental agencies as required by Florida law for review and comment, after a vote on first reading of this Ordinance.

Section 5: Conflicts. That all Ordinances, parts of Ordinances, Resolutions or parts of Resolutions in conflict herewith be and the same are hereby repealed to the extent of such conflict.

Section 6: Severability. That is any section, paragraph, sentence or word of this Ordinance or the application thereof to any person or circumstance is held invalid, that the invalidity shall not affect the other sections, paragraphs, sentences, words or application of this Ordinance but they shall remain in effect, it being the legislative intent that this Ordinance shall stand notwithstanding the invalidity of any part.

Section 7: Inclusion in the Bay Harbor Islands Comprehensive Plan. That it is the intention of the Town Council of the Town of Bay Harbor Islands, and it is therefore ordained, that the provisions of the Ordinance shall become and be made a part of the Town of Bay Harbor Islands’ Comprehensive Plan, that sections of this Ordinance may be re-numbered or re-lettered to accomplish such intentions, and that the word “Ordinance” shall be changed to “Section” or other appropriate word.

Section 8: Effective Date. That this Ordinance shall be effective immediately upon passage by the Town Council on second reading, except that the effective date of the comprehensive plan amendments approved by this Ordinance shall be the date a final order is issued by the Florida Department of Economic Opportunity or Administrative Council finding the plan amendments in compliance in accordance with Section 163.3184, Florida Statutes, whichever occurs earlier. The Florida Department of Economic Opportunity notice of intent to find the plan amendments in compliance shall be deemed to be the final order if no timely petition challenging the plan amendment is filed.

PASSED AND ADOPTED on First Reading this 9th day of February, 2015.

PASSED AND ADOPTED on Second Reading this ____ day of March, 2015.

MAYOR

ATTEST:

TOWN CLERK

APPROVED AS TO FORM AND LEGAL SUFFICIENCY:

TOWN ATTORNEY

EXHIBIT "A"

TOWN OF BAY HARBOR ISLANDS WATER SUPPLY FACILITIES WORK PLAN PROPOSED AMENDMENTS TO THE TOWN'S COMPREHENSIVE PLAN

THE FOLLOWING AMENDMENTS ARE PROPOSED TO BE INCORPORATED INTO THE FUTURE LAND USE ELEMENT:

Note: Text with ~~strikethrough~~ formatting represents existing text to be removed.
Text which is underlined represents new text proposed for adoption.

**The following amendments are proposed to be included on Page 45 and 46 of 54 of the
Future Land Use Element.**

OBJECTIVE 4: Public facilities must meet or exceed the minimum level of service standards adopted in the Capital Improvement Element of this plan before any development orders and permits shall be issued for future development and redevelopment that impact in the adequacy of facilities and services.

Policy 4.1: Higher densities and intensities of development shall be located in areas where public facilities are available to adequately handle impacts (e.g., increased water and sewage flows) from development. If adequate facilities are not available, the development shall be required to provide at least a fair share of the needed facilities necessary to serve the development.

Policy 4.2: The location, design and management if public facilities shall maximize the efficiency of services provided, minimize cost and minimize impacts on the natural environment.

Policy 4.3: The Town of Bay Harbor Islands shall encourage the continued collocation of public facilities, where appropriate, with existing school facilities. Collocation of public schools shall be considered when:

- Improvements to the Bay Harbor Elementary School are funded in the School Board's Capital Budget; or
- Improvements to existing facilities located adjacent to the Bay Harbor Elementary School are funded in the Town's Capital Improvement Plan; or
- Joint-use projects / agreements are created and implemented.

In considering the potential collocation of public facilities with existing public schools, the Town Council shall base a determination of appropriateness upon the following factors:

- Impacts on adjacent properties and existing and future development patterns of the Town of Bay Harbor Islands.
- Location of existing public facilities.

- Adequacy of resources (staff, resource materials, amenities, facilities, etc.) to serve the needs of patrons/visitors/residents to the proposed facility as well as of the students.
- Existing traffic levels on the regional and local roadway network.
- Availability of public utilities.
- Availability of mass transit facilities within ¼ mile of the site.
- Access to the site is convenient for patrons/visitors/residents while insuring safety for students utilizing the facilities. Ingress and egress shall not create detrimental impacts on roads and/or adjacent properties.
- Approaches to the site shall be safe for pedestrians, bicycles, motor vehicles and buses.

Policy 4.4: Prior to approving a building permit the Town shall consult with the Miami-Dade County Water and Sewer Department (WASD) to determine whether adequate water supplies will be available to serve the new development no later than the anticipated date of issuance of a certificate of occupancy or its functional equivalent.

OBJECTIVE 5: New development and redevelopment shall be coordinated with the appropriate resource planning and management plan as prepared by Miami-Dade County and/or other affected agencies pursuant to Chapter 380, F.S. and approved by the Governor and the Cabinet.

Policy 5.1: Requests for development and redevelopment orders or permits shall be reviewed for plan consistency and coordinated, as appropriate, with Miami-Dade County, the South Florida Regional Planning Council, and the South Florida Water Management District, and state and federal agencies.

**THE FOLLOWING AMENDMENTS ARE PROPOSED TO BE INCORPORATED INTO THE
SANITARY SEWER, SOLID WASTE, DRAINAGE, POTABLE WATER & NATURAL
GROUNDWATER AQUIFER RECHARGE ELEMENT (INFRASTRUCTURE ELEMENT):**

Note: Text with ~~strikethrough~~ formatting represents existing text to be removed.
Text which is underlined represents new text proposed for adoption.

**The following amendments are proposed to be included on Page 44 of 62 of the
Infrastructure Element.**

POTABLE WATER SUB-ELEMENT

Regulatory Framework

Federal

The federal government has established quality standards for the protection of water for public use, including operating standards and quality controls for public water systems. These regulations are provided in the Safe Drinking Water Act, Public law 93-523. This law directed the Environmental Protection Agency (EPA) to establish minimum drinking water standards. The EPA standards are divided into "primary" (those required for public health) and "secondary" (recommended for aesthetic quality) categories.

State

In accordance with federal requirements, the Florida Legislature has adopted the Florida Safe Drinking Water Act, Sections 403.850-403.864, F.S. The Florida Department of Environmental Regulation (DER) is the state agency responsible for implementing this act. In this regard, DER has promulgated rules classifying and regulating public water systems under Chapter 17-22 of the F.A.C. The primary and secondary standards of the Federal Safe Drinking Water Act are mandatory in Florida.

The regional water management district (WMD) is responsible for managing water supplies to meet existing and future demands. Regulation of consumptive use is achieved through a permitting system, through which water resources are allocated among the permitted consumers (See below for more information).

County

The Water Control Division of the Dade County Department of Environmental Resources management is responsible for enforcement of the programs required by the DER regulations. Water quality and production records are submitted by the Dade County Public Works Department to the Water Control Division for determination of compliance with DER regulations.

Local

The Town of Bay Harbor Islands has jurisdiction over all water systems in place or planned within its boundaries. It owns and operates a small water distribution system, under the maintenance of the Town's Department of Public Works. The Town has adopted regulations

regarding water and sewer service connections to ensure that all connections are compatible with the design of the system.

Coordination with the Regional Water Supply Plan and Adoption of Water Supply Facilities Work Plan

The Florida Legislature has enacted bills in the 2002, 2004, and 2005, and 2011 sessions to address the state's water supply needs. These bills, especially Senate Bills 360 and 444 (2005 legislative session), significantly changed Chapter 163 and 373 Florida Statutes (F.S.) by strengthening the statutory links between the regional water supply plans prepared by the water management districts and the comprehensive plans prepared by local governments. In addition, these bills established the basis for improving coordination between the local land use planning and water supply planning.

~~In April of 2008~~ Miami-Dade County has adopted and updated a 20-Year Water Supply Facilities Work Plan as required by state law. The Work Plan contains a capacity analysis of the Miami-Dade County system, service area population projections, historical water use and water demand projections, goals for water conservation and reuse as well as a Water Supply Facilities Work Plan. The plan will be updated by Miami-Dade County every 5 years consistent with the SFWMD Lower East Coast Supply Plan. Included within the Work Plan are capital improvement projects designed not only to meet the projected needs of the service area but also to improve the efficiency/conservation and reuse of the existing service area. As indicated previously the Miami-Dade Plan concludes that adequate capacity for finished water will be available to meet the service area demands, including the Town of Bay Harbor Islands, through the year ~~2030~~ 2035.

Pursuant to Chapter 163.3177(4)(a) Florida Statutes Local Governments are required to coordinate their Comprehensive Plans with the appropriate Water Management Districts Regional Water Supply Plan. Chapter 163.3177 further requires local governments that are subject to a regional water supply plan to adopt amendments to their Comprehensive Plan addressing specific water supply and planning issues no later than 18 months following adoption of the regional water supply plan by the appropriate water management district. The Town is located within the boundaries of the SFWMD and is subject to the Lower East Coast Water Supply Plan (~~adopted February 15th, 2007~~). In accordance with state statutes, to ensure consistency with the Regional Water Supply Plan and ensure that adequate water facilities are available to service the existing and future demand for water in the Town of Bay Harbor Islands, in 2008 the Town has prepared the Bay Harbor Islands Water Supply Facilities Work Plan. The Work Plan covers a 20-year planning period and addresses water supply facilities needed to serve development within the Town and coordination with the regional water supply plan and Miami-Dade County's 20-Year Water Supply Facilities Work Plan in accordance with Chapter 163.3177(6)(c), F.S. The latest *Lower East Coast Water Supply Plan Update* was approved by the South Florida Water Management District (SFWMD) on September 12th, 2013. Therefore, local governments within the Lower East Coast jurisdiction must amend their Comprehensive Plans to adopt a Work Plan by March 12th, 2015. The Town's Water Supply Work Plan has been updated as required.

The following amendments are proposed to be included on Page 45 of 62 of the Infrastructure Element.

Note: Text with ~~strikethrough~~ formatting represents existing text to be removed.
Text which is underlined represents new text proposed for adoption.

II. EXISTING CONDITIONS

The Town does not contain any potable water treatment plants or wells. Rather the Town purchases water, as a "Consecutive User", from the Miami-Dade County Water and Sewer Department (MDWASD) to provide potable water to its residents and non-residential users. In conjunction with Miami-Dade County's application for a Consumptive Use Permit, the SFWMD requested the County to obtain 20-year service agreements with each of its volume municipal water customers. In accordance with this requirement, in July 2007, the Town renewed its contract with Miami-Dade County for a new period of 20 years. The agreement between Miami-Dade County and the Town provides for cost-sharing of maintenance, renewal and replacement costs for Miami-Dade County's regional water distribution system on a pro-rata share based on flow. The agreement also requires coordination of population projections with Miami-Dade County and participation in the water conservation programs. The Miami-Dade 20-Year Water Supply Facilities Work Plan, adopted in 2008 2014 concludes that adequate capacity for finished water will be available to meet the service area demands, including the Town of Bay Harbor Islands, through the year ~~2030~~ 2035.

The Town owns the potable water infrastructure system from the MDWASD master meter located on Kane Concourse (96th Street) and distributes potable water to all users within the Town. The potable water is received from a MDWASD 30-inch water transmission main which connects to the Town from across the Broad Causeway to Kane Concourse. Water is also supplied to the Bal Harbour Village and the Town of Surfside through the same water transmission main. The Town's water distribution system was updated through a capital enhancement project that was completed in 2013 ~~consists of C900 PVC pipe and there is one section that is the original cast iron pipe.~~ The Town regularly conducts leak detection exercises and makes repairs as needed.

Prior to the installation of the 30" main from MDWASD, a 24" main in Bal Harbour on 96th Street was constructed to provide and improved service from MDWASD through the 75th Street pumping station in Miami Beach. This line increased water pressure in the Town to acceptable levels. The Town's water reticulation system is connected directly to the County's infrastructure and the Town was able to eliminate the 750,000 gallon water tank that the Town needed in order to maintain water pressure during peak periods.

A level of service standard has been developed for the Town of Bay Harbor Islands. The standard is based on historical average day demand expressed in gallons per capita per day. According to data supplied by the Town of Bay Harbor Islands Public Works Department, for the fiscal year ending September ~~2007~~ 2013, yearly water consumption amounted to ~~372,982~~ 303,230 million gallons (mg). Dividing this value by the BEBR estimated ~~2007~~ 2013 population of ~~5,148~~ 5,808 and converting to daily demand amounts to a water consumption of ~~498.5~~ 143 gallons per capita per day (gpcd). This rate is rounded to ~~200~~ 150 gpcd, and is adopted as the

level of service standard for the Town of Bay Harbor Islands, and is similar to the rate adopted my Miami-Dade County for the Town of 149.38 gpcd.

**The following amendments are proposed to be included on Page 46 of 62
Infrastructure Element.**

Note: Text with strikethrough formatting represents existing text to be removed.
Text which is underlined represents new text proposed for adoption.

Miami-Dade County Water Facilities Plan

The Town of Bay Harbor Islands receives its water supply from Dade County facilities. The tie-in to the county system is as shown in Fig. W-1. The water comes from the Hialeah / John E. Preston Water Treatment Plants, the location of which is depicted in Fig. W-2.

The Miami-Dade Water and Sewer Department (WASD) which operates the Miami-Dade County water facilities does ~~not~~ allocate proportional capacities to each municipality. ~~Rather demand is calculated and projected using service zones.~~ The average gallon per capita per day (gpcd) consumption is set at ~~455~~ 149.38. This figure, multiplied by the population served by WASD gives the total capacity allocated to the Hialeah / Preston Water Treatment Plant. The reader is referred to the Miami-Dade County 20-Year Water Supply Facilities Work Plan (2008) for further information.

3. NEEDS ASSESSMENT

Capacity Assessment

The distribution system of the municipal water supply system has a design life of fifty years, and are expected to provide adequate capacity beyond the current planning period of ten years. The existing distribution system then represents the final design for the municipal water supply system as related to present policies.

The "Projected Average & Maximum Daily Water Demand" Table shows the projected daily water demand for the years ~~2010 and 2020~~ 2014 through 2035.

The following amendments are proposed to be included on Page 48 of 62 of the Infrastructure Element.

Note: Text with ~~strikethrough~~ formatting represents existing text to be removed.
Text which is underlined represents new text proposed for adoption.

**TABLE W-1
PROJECTED
DAILY WATER DEMAND**

	2010	2020 <u>2035</u>
Level of Service	200	200 <u>150</u>
Projected functional Population	5,247	5,536 <u>6,350</u>
Projected Daily Water Demand	1.049 mgd	1.107 <u>0.93</u> mgd

Source: Town of Bay Harbor Islands and Michael Miller Planning Associates, Inc.

Performance Assessment

The distribution system within the Town of Bay Harbor Islands is generally in good condition. The Town does conduct regular leak detection exercises and repairs leaks as needed. The Town completed a capital enhancement project in 2013 that updated the water lines throughout the Town. ~~In the 1980's, perimeter lines on the east island were replaced with 10" diameter pipes while on the west island 6" diameter pipes were replaced with 8" pipes.~~ Hydrants were placed every 300' on the perimeter of the multi-family district and every 500' on the single-family residential area.

Summary and Recommendations

As discussed above, various upgrading programs and improvements by MDWASD provided for a two-source system of supply and improve existing service in the Town of Bay Harbor Islands. Since the Town is almost totally built up incapacities on the part of the distribution system (mains and distributor lines have been replaced with larger diameter pipes) are highly unlikely since population is not expected to increase considerably.

The following amendments are proposed to be included on Pages 58 & 59 of 62 of the Infrastructure Element.

Note: Text with ~~strikethrough~~ formatting represents existing text to be removed.
Text which is underlined represents new text proposed for adoption.

GOALS, OBJECTIVES, AND POLICIES

GOAL: PROTECT THE SUBSTANTIAL INVESTMENTS IN EXISTING PUBLIC FACILITIES AND PLAN FOR AND FINANCE NEW FACILITIES TO SERVE RESIDENTS AND BUSINESSES IN A TIMELY, ORDERLY, AND EFFICIENT MANNER.

OBJECTIVE 1.1: The Town will implement procedures to ensure that existing deficiencies will be corrected and that adequate facility capacities will be available to meet future needs.

Policy 1.1.1: To assure adequate level of service, the following LOS standards are hereby adopted, and shall be used as the basis for determining facility capacity and the demand to meet future development:

Facility	Level of Service Standards
Sanitary Sewer Facilities Peak Flow Coefficient	156 gallons per capita per day As shown in Figure S-3.
Solid Waste Facilities	0.632 tons per capita per year
Drainage Facilities	Design LOS standard to meet to 10 year storm and as specified by the Dade County Public Works Manual, Section D-4, 1984; and no ponding water for more than 48 hours.
Potable Water Storage Capacity Pressure	200 <u>150</u> gallons per capita per day One-half of average day demand Shall comply with Miami-Dade County fire flow standards.

Policy 1.1.2: The Town shall prepare annual summaries of capacity, demand, and general performance data for sanitary sewer, potable water, drainage, and solid waste facilities.

Policy 1.1.3: All improvements for replacements, expansions, or increase in capacity of public facilities shall conform with the adopted level of service standards.

Policy 1.1.4: No development order authorizing new developments or substantial expansion to an existing use shall be issued unless existing sanitary sewer, drainage, potable water, and solid waste facilities meet the adopted level of service standards for these facilities or will meet these standards concurrent with the completion of the development.

Policy 1.1.5: Procedures and programs to monitor level of service for each facility shall be established for use by agencies which issue development orders.

Policy 1.1.6: The Town shall adopt a Water Supply Facilities Work Plan (WSFWP) with at least a 10-year planning period that will assess projected water needs and sources for the Town. The WSFWP will be adopted within 18 months of the adoption of the South Florida Water Management District's regional water supply plan, as required by Chapter 163, Florida Statutes.

Policy 1.1.7: The Town shall consider the most current Lower East Coast Water Supply Plan provide by the South Florida Water Management District when updating or proposing any amendments to the Town's WSFWP.

OBJECTIVE 1.2: The Town will improve on the level of service of public facilities, through the implementation of those projects listed in the Capital Improvements Element.

Policy 1.2.1: Proposed facility improvements will be evaluated and ranked according to the following priority level criteria:

Level One: includes improvements which are necessary to protect the health, safety, and environmental integrity of the community; improvements necessary to meet existing deficiencies in capacity and performance, and Town's legal commitment to provide facilities and service.

Level Two: includes improvements to increase efficiency of use of existing facilities; prevention or reduction of improvement costs; extend service to previously un-served developed areas and; promotes in-fill development.

Level Three: includes improvements which represent a logical extension of facilities and services within a designated service area.

Policy 1.2.2: Potable water, sanitary sewer and solid waste facilities improvements shall be implemented in conformance with the schedule provided in the Capital Improvements Element.

Policy 1.2.3: The Town shall coordinate scheduled projects to minimize disruption of services and duplication of labor.

OBJECTIVE 1.3: The Town shall continue to implement procedures aimed at maximizing the use, effectiveness and efficiency of existing public facilities.

Policy 1.3.1: The Town shall continue its preventive maintenance and performance monitoring program for existing sanitary sewer, potable water, solid waste and drainage facilities.

OBJECTIVE 1.4: The Town will cooperate and aid in the implementation of regional and county water conservation programs.

Policy 1.4.1: The Town will participate in regional campaigns to disseminate information for water conservation strategies.

Policy 1.4.2: The Town shall promote an educational program for residential and commercial consumers which will encourage the conservation of water.

Policy 1.4.3: The Town shall implement applicable regional and county water conservation programs. Including the following strategies:

- a). Require water reduction devices in new construction and evaluate and incorporate additional advances in water conservation into Town Code as needed;
- b). Require ~~xeriscaping~~ Florida Friendly techniques and native vegetation use when reviewing and approving development applications;
- c). Continue to enforce and maintain regulations of the South Florida Water Management District lawn and irrigation water restrictions;

THE FOLLOWING AMENDMENTS ARE PROPOSED TO BE INCORPORATED INTO THE CONSERVATION ELEMENT

Note: Text with strikethrough formatting represents existing text to be removed.
Text which is underlined represents new text proposed for adoption.

**The following amendments are proposed to be included on Pages 5 of 9 of the
Conservation Element.**

E. Water Use & Conservation

South Florida is extremely dependent on water resources for human consumption and industrial, agricultural, environmental and recreational uses. Large amounts of water are consumed by four primary sectors: agricultural, industrial, environmental and residential. The availability, quantity and quality of water is of extreme importance to South Florida. The balance between adequate supplies and scarcity is, indeed, a delicate one. The urban complex, which includes Bay Harbor islands, continually draws water away from the (Biscayne Aquifer) water conservation districts.

The Town gets its water supply from Miami-Dade County; and for more information on water quality, and quantity of water available to meet demands, the reader should refer to Miami-Dade County Comprehensive Plan and the Miami-Dade County Water Supply Facilities Work Plan (2008). For current and projected water needs for the next ten years, refer to the Potable Water Sub-Element of this Comprehensive Plan.

MDWASD requires wholesale customers to have Water Conservation Plans under the Conserve Florida Program. The Town of Bay Harbor Islands, as a wholesale customer, is coordinating the development of the required Conservation Plan using the web-based tool provided by the Department of Environmental Protection. This tool allows MDWASD to consolidate the Water Conservation Plans of the wholesale customers and combine them with the Plan or Annual Report for reporting to the water management district. The Miami-Dade Board of County Commissioners adopted Ordinance No. 06-177 establishing that a goal-based Water Conservation Plan shall be submitted to MDWASD; said plan shall be updated for the County's approval every five years and annual reports shall be filed with MDWASD within two months following the previous year's implementation.

The Town is coordinating with Miami-Dade County who is undertaking a 20-year water conservation plan to evaluate ways for reducing water consumption. Activities and projected water conservation savings are included in the overall 20 Year Water Supply Work Plan adopted by Miami-Dade County. While, in 2008, there are no specific projects for water conservation proposed by Miami-Dade within Bay Harbor Islands, the Town provides strict enforcement of the limitations on irrigation in accordance with the water restrictions imposed by the SFWMD, the Town is incorporating into its building requirements the use of high efficiency devices including toilets and fixtures in new construction and provides educational materials at the Town Hall and within the Town's newsletter relating to water conservation and programs that Town residents are eligible to participate. Furthermore, the Town will continue to follow conservation guidelines required by the County and SFWMD and will investigate ways to increase water conservation throughout the Town.

F. Mineral Resources

The following amendments are proposed to be included on Pages 6 of 9 of the Conservation Element.

Note: Text with ~~strikethrough~~ formatting represents existing text to be removed.
Text which is underlined represents new text proposed for adoption.

GOALS, OBJECTIVES, AND POLICIES

GOAL: PROVIDE FOR THE PROTECTION, CONSERVATION AND PROPER UTILIZATION OF NATURAL RESOURCES.

OBJECTIVE 1: By 1990, the Town shall coordinate and cooperate with other public agencies in meeting air quality standards.

Policy 1.1: Cooperate with county and state regulatory agencies in developing policies related to air quality protection.

Policy 1.2: The Town shall aid in the dissemination of information provided by other regulatory agencies.

OBJECTIVE 2: By 1990, the Town shall coordinate and cooperate with other public agencies in protecting the quality of ground and surface waters resources.

Policy 2.1: Cooperate with the county and state regulatory agencies in developing and implementing policies related to ground and surface water quality protection.

Policy 2.2: The Town shall continue to implement an annual street cleaning program, aimed at reducing pollutant loads at the beginning of the rainy season.

Policy 2.3: By 1990, the Town shall amend, adopt and implement land development regulations and policies to ensure that:

- a) Site plans provide measures to assure that water is naturally absorbed in the ground, or that other means of reducing pollutant loads shall be utilized before runoff is discharged into the bay.
- b) General design and construction standards for on-site drainage systems for new developments shall ensure that post-development runoff rates and pollutant loads not exceed pre-development conditions.
- c) Existing developments sufficiently control and abate runoff.

OBJECTIVE 3: The Town shall continue to implement a water conservation program and shall coordinate with the water conservation programs of other public agencies.

Policy 3.1: The Town shall continue to expand and explore water conservation practices to maintain a low per capita consumption of potable water.

Policy 3.2: The Town shall continue to coordinate with Miami-Dade County in implementation of the Town's water conservation programs utilizing the County's Web-Based Conservation Tool.

Policy 3.3: The Town shall cooperate with the South Florida Water Management District (SFWMD) in implementing water conservation programs as well as enforcing water restriction imposed by SFWMD.

Policy 3.4: The Town will continue to utilize all available resources to disseminate information about water conservation to the Town's residents.

Policy 3.5: The Town will coordinate with the Miami-Dade Water and Sewer Department in the development of Alternative Water Supply projects, as needed.

**THE FOLLOWING AMENDMENTS ARE PROPOSED TO BE INCORPORATED INTO
THE CAPITAL IMPROVEMENTS ELEMENT:**

Note: Text with ~~striketrough~~ formatting represents existing text to be removed.
Text which is underlined represents new text proposed for adoption.

**The following amendments are proposed to be included on Page 20 of 23 of the
Capital Improvements Element.**

OBJECTIVE 3: By 1990, the municipality will manage its fiscal resources to ensure the provision of needed capital improvements for previously issued development orders and for future development and redevelopment.

Policy 3.1: Prior to the issuance of certificates of occupancy, the municipality shall provide for public facilities needed to serve developments for which development orders were previously issued.

Policy 3.2: In providing capital improvements, the municipality shall limit the maximum ratio of outstanding indebtedness to no greater than 25% of the property tax base.

Policy 3.3: The municipality shall adopt a 5-Year capital improvement program and annual capital budget, as a part of its budgeting process.

Policy 3.4: Efforts shall be made to secure grants, or private funds, available to finance the provision of capital improvements.

OBJECTIVE 4: By 1992, decisions regarding the issuance of development orders and permits will be based upon coordination of the development regulations, and the availability of necessary public facilities needed to support such development, at the time needed.

Policy 4.1: The municipality shall use the LOS standards, as adopted in each element, in reviewing the impacts of new development and redevelopment upon public facilities. The LOS are indicated in the following elements:

Sanitary Sewer	156 gallons capita, per day
Solid Waste	0/632 tons per capita, per year
Drainage	Design storm as LOS Standards: 10 year storm Dade County Public Works Manual, Section D-4, 1988.
Potable Water	200 <u>150</u> gallons per capita, per day
Local Streets	LOS "B" at peak hour
Arterial Roadway	LOS "C" at peak hour

**THE FOLLOWING AMENDMENTS ARE PROPOSED TO BE INCORPORATED INTO
THE INTERGOVERNMENTAL COORDINATION ELEMENT:**

Note: Text with ~~strikethrough~~ formatting represents existing text to be removed.
Text which is underlined represents new text proposed for adoption.

**The following amendments are proposed to be included on Page 4 of 12 of the
Intergovernmental Coordination Element.**

**TABLE I-1
AGENCY / ELEMENT RELATIONSHIP**

ELEMENT	TOWN AGENCY	COUNTY AGENCY	AREAWIDE	STATE SGENCY	OTHER
SANITARY SEWER, SOLID WASTE, DRAINAGE & POTABLE WATER					
Sanitary Sewers	Public Works	Miami – Dade Water & Sewer Authority; Dept. Environmental Resources Management; Health Dept.		Department of Environmental Regulation	City of North Miami; EPA
Solid Waste	Public Works	Solid Waste Div. of WSA		Department of Environmental Regulation	Private firm
Drainage	Building Dept; Public works	Department of Environmental Resources Management	South Florida Water Management District	Department of Environmental Regulation	
Potable Water	Public Works	Miami-Dade Water & Sewer Authority Department	WASD	Dept. of Environmental Regulation	EPA; Cities of Hialeah N. Miami N. Miami Beach

SFRPC – South Florida Regional Planning Council
HUD – Housing & Urban Development
DOT – Department of Transportation
MTA – Metropolitan Transit Authority

OTA – Office of Transportation Admin.
SFWMD – S. Florida Water Management District
WASD – Water & Sewer Department
~~DERM – Dept. of Environmental Regulation~~ RER
– Regulatory and Economic Resources

The following amendments are proposed to be included on Page 10 of 12 of the Intergovernmental Coordination Element.

Note: Text with ~~strikethrough~~ formatting represents existing text to be removed.
Text which is underlined represents new text proposed for adoption.

GOALS, OBJECTIVES AND POLICIES

GOAL: THE MUNICIPALITY WILL CONTINUE TO ESTABLISH AND DEVELOP SHORT-TERM AND LONG-TERM OBJECTIVES AND POLICIES WHICH ARE INTENDED TO FOSTER BETTER INTER-GOVERNMENTAL COORDINATION.

OBJECTIVE 1: The municipality will coordinate the comprehensive plan with the various levels of government and other agencies to effectuate effective inter-governmental relationships.

Policy 1.1: Coordinate with the various levels of government which include the county, the South Florida Regional Planning council, the Miami-Dade County Board of Public Instruction, and the various other agencies that are identified in Table I-1 which have regulatory authority with reference to the use of land and other elements in the comprehensive plan.

Policy 1.2: The municipality will review developments in the area to ensure that they are compatible with its existing comprehensive plan and the comprehensive plans of adjacent local governments.

OBJECTIVE 2: The municipality will work to achieve a high level of coordination with adjacent municipalities, Miami-Dade, Broward, and Monroe counties, the region, and the state with regard to the impacts of land development.

Policy 2.1: The municipality will coordinate its development efforts with those of adjacent municipalities, the county, adjacent counties, and the South Florida Regional Planning Council, as appropriate, to ensure that proposed developments do not adversely impact them without their knowledge and to allow them to make input to the municipality with reference to proposed developments.

Policy 2.2: Proposed developments will be reviewed to ensure that they are not inconsistent and do not adversely affect the existing comprehensive plans of adjacent local governments.

Policy 2.3: The South Florida Regional Planning Council's informal mediation process will be utilized to resolve conflicts, as appropriate.

Policy 2.4: The municipality will coordinate efforts in the management of Biscayne Bay and estuaries surrounding the Town.

Policy 2.5: The Town shall adopt a Water Supply Facilities Work Plan (WSFWP) with at least a 10-year planning period that will assess projected water needs and sources for the Town. The WSFWP and any updates will be adopted within 18 months of the adoption of the South Florida Water Management District's regional water supply plan, as required by Chapter 163, Florida Statutes.

Policy 2.6: The Town shall consider the most current Lower East Coast Water Supply Plan provide by the South Florida Water Management District when updating or proposing any amendments to the Town's WSFWP.

6.0 APPENDIX A

Miami-Dade County (WASD) Water Supply Facilities Work Plan

Note: Not included to large volume of document. Document on file with Florida Department of Economic Opportunity.

EXHIBIT "B"

THE TOWN OF BAY HARBOR ISLANDS, FLORIDA

WATER SUPPLY FACILITIES WORK PLAN



Prepared For
**Florida Department of ~~Community Affairs~~
Economic Opportunity and South Florida Water
Management District**

Prepared By
**Michael Miller Planning Associates, Inc.
Consultant Town Planner**

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Statutory History

1.2 Statutory Requirements

2.0 BACKGROUND INFORMATION

2.1 Overview

2.2 Relevant Regional Issues

3.0 DATA AND ANALYSIS

3.1 Population Information

3.2 Maps of Current and Future Areas Served

3.3 Potable Water Level of Service Standard

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

3.5 Water Supply Provided by Local Government

3.6 Water Supply Provided by Other Entities

3.7 Conservation

3.7.1 Countywide Issues

3.7.2 Local Government Specific Actions, Programs, Regulations, or Opportunities

3.7.3 Identify any Local Financial Responsibilities as Detailed in the CIE or CIS

3.8 Reuse

3.8.1 Regional and Countywide Issues

3.8.2 Local Government Specific Actions, Programs, Regulations, or Opportunities

4.0 CAPITAL IMPROVEMENTS

4.1 Work Plan Projects

4.2 Capital Improvements Element/Schedule

5.0 GOALS, OBJECTIVES AND POLICIES

6.0 APPENDIX A

Miami-Dade County (WASD) Water Supply Facilities Work Plan

1.0 INTRODUCTION

The purpose of the Town of Bay Harbor Islands Water Supply Facilities Work Plan (Work Plan) is to identify and plan for the water supply sources and facilities needed to serve existing and new development within the local government's jurisdiction. Chapter 163, Part II, F.S., requires local governments to prepare and adopt Work Plans into their Comprehensive Plans within 18 months after the water management district approves a regional water supply plan or its update. The latest Lower East Coast Water Supply Plan Update was approved by the South Florida Water Management District (SFWMD) on February 15th, 2007 September 12th, 2013. Therefore, the deadline for local governments within the Lower East Coast jurisdiction to amend their Comprehensive Plans to adopt a Work Plan is August 15th, 2008 March 12th, 2015.

The Town does not contain any potable water treatment plants or wells. Rather the Town purchases water, as a "Consecutive User", from the Miami-Dade County Water and Sewer Department (WASD) to provide potable water to its residents and non-residential users. Approximately 87% of the county's water supply is provided by WASD. In conjunction with Miami-Dade County's application for a new Consumptive Use Permit (CUP), the SFWMD requested the County to obtain 20-year service agreements with each of its volume municipal water customers. In accordance with this requirement, in July 2007, the Town renewed its contract with Miami-Dade County for a new period of 20 years. WASD is, therefore, responsible for ensuring that enough capacity is available for existing and future customers. The agreement between Miami-Dade County and the Town provides for cost-sharing of maintenance, renewal and replacement costs for Miami-Dade County's regional water distribution system on a pro-rata share based on flow. Therefore, the Town pays a share of all costs associated with the maintenance, renewal and replacement costs of the Miami-Dade County system servicing the Town. The agreement also requires coordination of population projections with Miami-Dade County and participation in the water conservation programs. Under this arrangement, the Town's Utilities Department coordinate with WASD to ensure that enough capacity is available for existing and future customers and that supporting infrastructure, such as the water lines, are adequately maintained.

The Town's Water Supply Facilities Work Plan (Work Plan) will reference the initiatives already identified in the County's 20-year Water Supply Facilities Work Plan (See Appendix A) since the Town is a "consecutive user" wholesale buyer of water. According to state guidelines, the Work Plan and any Comprehensive Plan amendments must address the development of traditional and alternative water supplies, bulk sales agreements and conservation and reuse programs that are necessary to serve existing and new development for at least a 10-year planning period. The Town's Work Plan will have the same planning time schedule as the County's 20-year Work Plan.

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

Section 1 – Introduction

Section 2 – Background Information

Section 3 – Data and Analysis

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

Section 5 – Goals, Objectives, Policies

1.1 Statutory History

The Florida Legislature has enacted bills in the 2002, 2004, and 2005, and 2011 sessions to address the state's water supply needs. These bills, especially Senate Bills 360 and 444 (2005 legislative session), significantly changed Chapter 163 and 373 Florida Statutes (F.S.) by strengthening the statutory links between the regional water supply plans prepared by the water management districts and the comprehensive plans prepared by local governments. In addition, these bills established the basis for improving coordination between the local land use planning and water supply planning.

1.2 Statutory Requirements

Each local government must comply with the following requirements:

1. Coordinate appropriate aspects of its comprehensive plan with the appropriate water management district's regional water supply plan, [163.3177(4)(a), F.S.]
2. Ensure that its future land use plan is based upon availability of adequate water supplies and public facilities and services [s.163.3177(6)(a), F.S., effective July 1, 2005]. Data and analysis demonstrating that adequate water supplies and associated public facilities will be available to meet projected growth demands must accompany all proposed Future Land Use Map amendments submitted to the Department for review. The submitted package must also include an amendment to the Capital Improvements Element, if necessary, to demonstrate that adequate public facilities will be available to serve the proposed Future Land Use Map modification.
3. Ensure that adequate water supplies and facilities area available to serve new development no later than the date on which the local government anticipates issuing a certificate of occupancy and consult with the applicable water supplier prior to approving building permit, to determine whether adequate water supplies will be available to serve the development by the anticipated issuance date of the certificate of occupancy [s.163.3180 (2)(a), F.S., effective July 1, 2005]. This "water supply concurrency" is now in effect, and local governments should be complying with the requirement for all new development proposals. In addition, local governments should update their comprehensive plans and land development regulations as soon as possible to address these statutory requirements. The latest point at which the comprehensive plan must be revised to reflect the concurrency requirements is at the time the local government adopts plan amendments to implement the recommendations of the Evaluation and Appraisal Report (EAR).
4. For local governments subject to a regional water supply plan, revise the General Sanitary Sewer, Solid Waste, Drainage, Potable Water, and Natural Groundwater Aquifer Recharge Element (the "Infrastructure Element"), within 18 months after the water management district approves an updated regional water supply plan, to:
 - a. Identify and incorporate the alternative water supply project(s) selected by the local government from projects identified in the updated regional water supply plan, or the alternative project proposed by the local government under s. 373.0364(7) 709(8), 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)3, 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)3, 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)(e), F.S.]~~
5. Revise the Five-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 appropriate regional water supply plan, the applicable District Water Management Plan, as well as applicable consumptive use permit(s). [s.163.3177 (6)(d), F.S.] The plan must address the water supply sources necessary to meet and achieve the existing and projected water use demand for the established planning period, considering the applicable regional water supply plan [s.163.3167(9), 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. 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. 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(3) (2)(4), F.S.]

2.0 BACKGROUND INFORMATION

2.1 Overview

The Town of Bay Harbor Islands was incorporated in 1947. The boundaries of the Town encompass an area of approximately 268 acres or 0.42 square miles. Since the Town consists of three (3) islands, it is surrounded on all sides by water. Adjacent municipalities across the waterways surrounding the Town include: the Village of Bal Harbour and the Town of Surfside to the east; the Village of Indian Creek to the south; and the City of North Miami to the west. The Town's two (2) main islands were originally developed with the west island being reserved for single-family housing while the east island was reserved for multi-family housing and commercial activity. A third island (westernmost) was incorporated later that forms a part of Broad Causeway which contains only a gas station and the toll plaza for the Causeway. The

Town islands' distinct land uses remain in place today and have not changed since their original incarnation.

The Town is substantially built-out (98.2 ~~97.5~~%). Between 1990 and 2000, the Town population grew from 4,703 to 5,146, an increase of 9.4%, based on U.S. Census figures. The 2010 U.S. Census indicated that the Town's population had increased to 5,628 representing a 9% increase from 2000. The most recent population projections prepared by the University of Florida Bureau of Economic and Business Research (BEBR) in 2007 ~~2013~~ estimated that the Town's population has increased to ~~5,148~~ 5,808 permanent residents. The 2013 population projection represents a 3% increase from 2010. ~~The 2007 estimated population is virtually the same as the 2000 US Census population. This lack of population change is attributed to redevelopment projects which began several years ago but have been slowed due to the current housing market. As the market begins to pick up and new residentially projects experience occupancy, the population should increase slightly again.~~ Future growth will only include redevelopment activities, as the Town is substantially built-out, with future development potential and population growth limited by the scarcity of vacant and developable land as well as development controls.

In ~~2008~~ 2013, an evaluation of the existing gross acreage by land uses revealed that ~~212.44~~ 210.78 acres or ~~79.4~~ 78.8% of the total gross acreage in the Town is dedicated to residential use. The remaining gross acreages are allocated to non-residential such as commercial (19.85 acres or 7.4%); public (13.38 acres or 5.0%); park and open space (17.02 acres or 6.4%); and vacant (~~4.94~~ 6.56 acres or ~~4.8~~ 2.5%). The Town does not anticipate any increases in land area in the future nor any changes to the Town boundaries. The residential and non-residential growth rate is anticipated to remain flat or be minimal for the next 10 to 20 years. The only development occurring in the Town in recent years is remodeling or the re-building of older single-family / multi-family structures. According to the ~~2000~~ 2010 US Census, approximately ~~7~~ 8.9% of the residential units in the Town are used as a seasonal residence.

2.2 Relevant Regional Issues

As the state agency responsible for water supply in the Lower East Coast planning area, the SFWMD plays a pivotal role in guiding the region in resource protection, water supply planning, water conservation, and alternative supply development. ~~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 water use permit program. This reduced reliance on the regional system for future water supply needs, mandates the development of alternative water supplies, and increasing conservation and reuse.~~ The regional issues identified for 2030 in the Lower East Coast Water Supply Plan 2013 update for the planning area are:

1. Increased withdrawals from both the Surficial Aquifer System and surface water from Lake Okeechobee are limited;
2. Conservation continues to be relied upon to reduce per capita use and a means to potentially delay or perhaps avoid adding capacity;
3. Use of reclaimed water continues to be important alternative source in the region and helps to meet requirements of the 2008 Leah G. Schad Ocean Outfall Program.

The Town of Bay Harbor Islands will continue to work with its potable water supplier, Miami-Dade County Water and Sewer Department (WASD), to insure that these important regional issues are met.

3. DATA AND ANALYSIS

3.1 Population Information

As stated above, the Town is substantially built-out (98.2 97.5%). Between 1990 and 2000, the Town population grew from 4,703 to 5,146, an increase of 9.4%. The 2010 U.S. Census indicated that the Town's population had increased to 5,628 representing a 9% increase from 2000. The most recent population projections prepared by the University of Florida BEBR in 2007 2013 estimated that the Town's population has increased to 5,148 5,808 permanent residents. The 2013 population projection represents a 3% increase from 2010. ~~The 2007 estimated population is virtually the same as the 2000 US Census population. This lack of population change is attributed to redevelopment projects which began several years ago but have been slowed due to the current housing market. As the market begins to pick up and new residentially projects experience occupancy, the population should increase slightly again.~~ Future growth will only include redevelopment activities since the Town is substantially built-out and landlocked. Future development potential and population is growth limited by the scarcity of vacant and developable land. ~~The 2004 EAR Based Amendments for the Town's Comprehensive Plan estimated the future population for the Town in 2005 to be 5,203, in 2010 to be 5,248, and in 2015 to be 5,343. The 2004 EAR Base Amendments projections are generally consistent with the current BEBR estimate and the Town's estimates listed below in Table 1.~~

According to Florida Housing Data Clearinghouse estimates, by 2010 2015 the Town's permanent population is anticipated to increase to 5,424 5,841; 2015 2020 to 5,594 6,102; and 2025 2030 to 5,829 6,614 (represents an increase of about 13% 17% over the 2007 2010 population). The Miami-Dade County Water Supply Facilities Work Plan contains population projections for all wholesale users served by WASD. The latest Miami-Dade Water Supply Work Plan uses Transportation Analysis Zone (TAZ) data and indicates a 2030 population projection for the Town of 6,205 persons (represents an increase of about 10% over the 2010 population). The following table indicates and compares the population projections prepared by Miami-Dade County; and Florida Housing Data Clearinghouse and Town of Bay Harbor Islands:

Table 1
Town of Bay Harbor Islands
Comparisons of Projected Permanent Population

Source	2007	US Census 2010	2015	2020	2025	2030
MDPZ	6,200	6,379 5,628	6,678 5,772	6,965 5,917	7,253 6,061	7,540 6,205
BHI	5,148	5,247	5,476	5,536	5,596	5,655
FHDC	n/a	5,424 5,628	5,594 5,841	5,734 6,102	5,829 6,362	5,926 6,614

MDPZ - Miami-Dade County Water Supply Facilities Work Plan 2008 / 2014 Update
Exhibit C-2 "Water Supply Service Area - Wholesale Customers"
Exhibit "C-3" MDWASD Wholesale Customers Population Projections

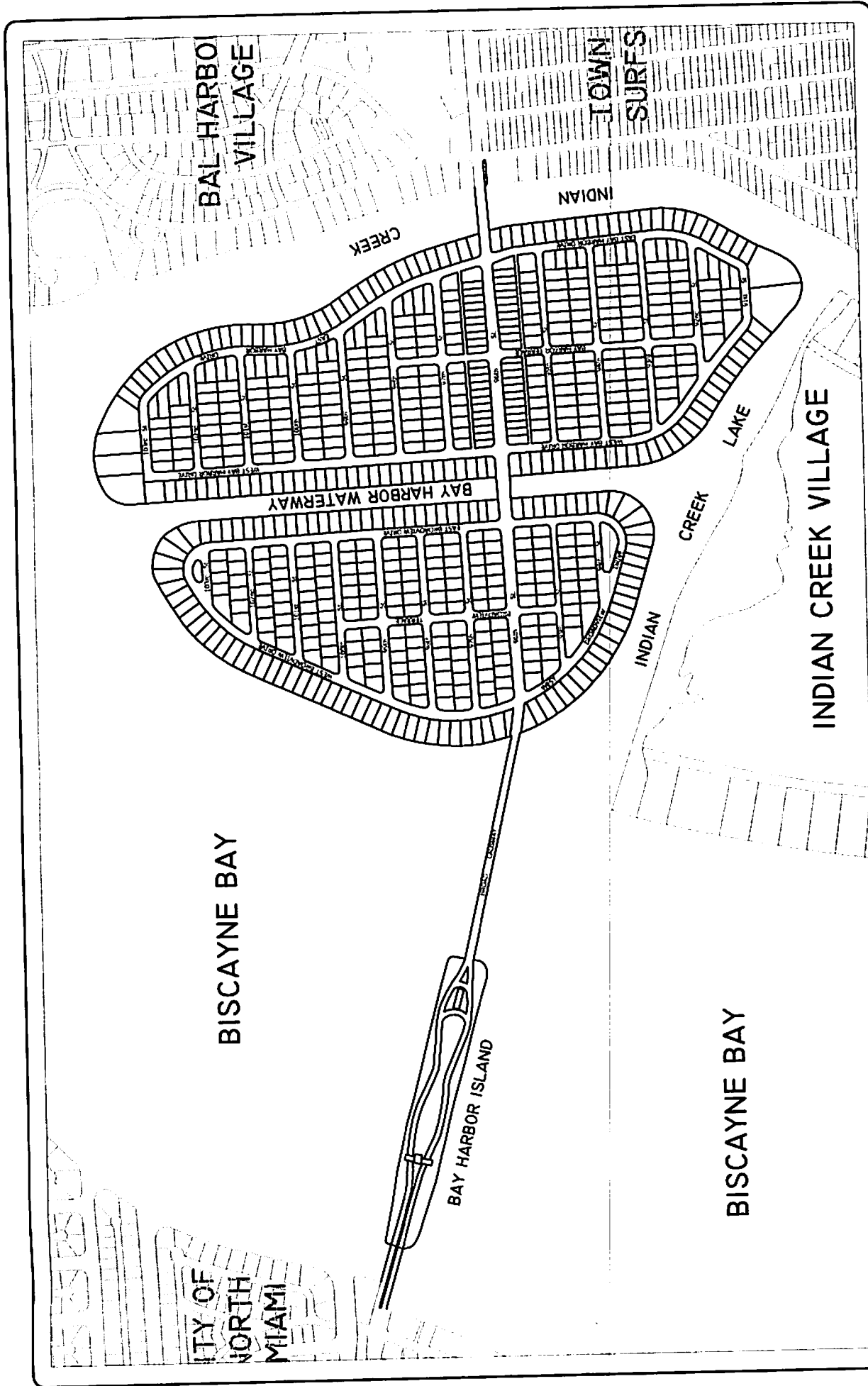
BH - Michael Miller Planning Associates (MMPA), 2008

FHDC - Florida Housing Data Clearinghouse - University of Florida, Shimerberg Center, 2006 2013

~~Generally, the population projections prepared by Miami-Dade County and the Florida Housing Data Clearinghouse are similar. Due to limited redevelopment opportunities (limited number of allowable DU) and the landlocked nature of the Town, the Town believes the projections prepared by Miami-Dade County are more in-line with current trends. As can be seen in the table above the Miami-Dade County population projections are much higher than the projections prepared by the Town of Bay Harbor Islands planning staff. The Town questions these estimates as being too high given the build-out nature of the community; however, in accordance with Statutory requirements and consistency with the with the regional water supply plans they are presented herein for discussion purposes. The projections prepared by Town planning staff are based upon a housing unit method similar to the methodology utilized by the University of Florida Bureau of Economic and Business Research (BEBR), in that the projections are derived based upon the anticipated number of housing units that could be constructed with an assumption that the occupancy, persons per unit and percent of units held for seasonal use will be relatively stable as compared with the most recent (2000) decennial census. It should be noted that the projections prepared by the Town planning staff are generally between 2% to 4% different from the estimates prepared by the Florida Housing Data Clearinghouse. According to the projections prepared by MDZP, the Town would experience an approximately 47% increase in the permanent population by the year 2030 which does not seem reasonable given the built-out nature of the Town.~~

3.2 Maps of Current and Future Areas Served

No changes are proposed to the boundaries of the Town, now or in the future. The current and future Town boundaries that will be served by the WASD are provided in Figure 1.



SHEET NO. 1 PROJECT		SCALE	
FIGURE - 1 2014 WATER SUPPLY FACILITIES WORK PLAN TOWN BOUNDARIES			
PREPARED FOR TOWN OF BAY HARBOR ISLANDS			
MICHAEL MILLER PLANNING ASSOCIATES, INC. 7432 Wiles Rd. Suite 1000 Fort Lauderdale, FL 33309 Tel. (954) 781-0000 Fax (954) 781-1000			
Designed: MM Drawn: MM Checked: MM	Date: 11/11/11	Revision:	Scale:

3.3 Potable Water Level of Service Standard

The Town is a "consecutive user" of potable water acquired from WASD. The Town owns the potable water infrastructure system from the Miami-Dade WASD master meter location on Kane Concourse (96th Street) and distributes potable water to all properties within the Town. The potable water is received from a Miami-Dade WASD 30-inch water transmission main which connects to the Town from across the Broad Causeway to Kane Concourse (96th Street). Water is also supplied to the Village of Bal Harbour and the Town of Surfside through the same water transmission main. The current 30-inch water main replaced the original supply transmission lines to the Town and eliminated the need for the previous ground storage tank. Unbilled water loss has averaged 42% 14.9% over the past 10 years. However, it should be noted with the completion of the Town's Capital Enhancement project, which replaced the waterlines throughout the Town, the unbilled water loss has been steadily declining. The Town Engineer would like to establish an unaccounted for water level of service standard of 10% or less.

The adopted Comprehensive Plan for the Town includes a potable water Level of Service (LOS) standard of ~~486.6~~ 200 gallons per capita per day (gpcd). This number was based on the yearly water consumption divided by the estimated Town population and converted to daily demand. In reviewing current water consumption numbers reported by the Town over the last 8 years, dividing by the 2000 US Census population figure of 5,146 for years 2006-2009, the 2010 US Census population figure of 5,628 for years 2010-2012, the 2013 BEBR population projection figure of 5,808 for the year 2013 and converting to daily demand, the current average potable water LOS usage for the Town is 143.0 ~~209.3~~ gpcd. However, the yearly water consumption rates have been falling over the last several years and with increase water restrictions and water conservation programs the Town ~~has adopted a new LOS of 200 gpcd~~ proposes to adopt a revised LOS of 150 gpcd based on current usage and the LOS utilized in the Miami-Dade County 20-Year Water Supply Facilities Work Plan. Land use in the Town is primarily residential and has remained consistent over the last 20 years and is expected to remain consistent for the next 20 years since there is no significant vacant land or area to annex into the Town. ~~The 2000~~ 2010 US Census indicated that there were ~~3,403~~ 3,199 housing units within the Town. The 2010 US Census does not indicate the make-up of those housing units; however, the Town keeps detailed records. The 2013 Town records indicate that there were 3,169 housing units of which 354 ~~279~~ 279 were single-family residences and ~~2,752~~ 2,890 were attached/multi-family residences. Other uses within the Town include a small amount of commercial use along Kane Concourse on the East Island, an elementary school, and municipal services complex. Therefore the Town will utilize a single LOS for the entire Town since the Town is primarily residential. At present, the entire potable water system continues to have adequate capacity to meet the current and future projected development within the Town.

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

The population estimates and water demand included in the Table 3 were obtained from the Miami-Dade Water Supply Plan. The Population data was obtained from the Miami-Dade County Department of Regulatory and Economic Resources (RER), Planning Division, based on the 2010 Census and derived from Transportation Analysis Zone (TAZ) which reported a 2007 ~~Town population estimate that is approximately 1,000 persons higher than the actual published BEBR population estimate for the Town (6,200 vs. 5,148).~~ The Town is 98.2% built-out as of 2008 and has been so for many years. The Town believes the estimated 2030 permanent population will be about 5,655 persons or about 1,885 persons less than the county estimate. The Town's actual potable water demand has remained fairly consistent for many years ranging

from about 1.0 MGD to 1.2 MGD been declining in recent years ranging from about 1.1 MGD to 0.8 MGD (See Table 2).

Table 2
Bay Harbor Islands Historical Water Usage Average Daily Flow (ADF)
Million Gallons Per Day (MGD)

FY Year	<u>2000</u> <u>2006</u>	<u>2004</u> <u>2007</u>	<u>2002</u> <u>2008</u>	<u>2003</u> <u>2009</u>	<u>2004</u> <u>2010</u>	<u>2005</u> <u>2011</u>	<u>2006</u> <u>2012</u>	<u>2007</u> <u>2013</u>
ADF –	1.043	0.963	1.109	1.070	1.187	1.145	1.079	1.022
	<u>1.079</u> MGD	<u>1.022</u> MGD	<u>0.980</u> MGD	<u>0.801</u> MGD	<u>0.868</u> MGD	<u>0.826</u> MGD	<u>0.850</u> MGD	<u>0.831</u> MGD

Source: Town of Bay Harbor Islands and MMPA

The Miami-Dade County 20-Year Water Supply Facilities Plan demand projections for the Town appear to be are based upon the County's overall average baseline wholesale per capita consumption rate of ~~155~~ 149.38 gpcd for the Town. This figure appears to be derived based upon a total service area demand divided by service area population and may be appropriate for a service area wide discussion of demand. However, when this average rate is applied on a micro-level to the Town of Bay Harbor Islands the result is a projected demand for the Town that is slightly less than the actual demand for water provided to the Town in 2007 (Miami Dade projected a 2007 demand of 0.96 mgd and actual demand was 1.02 mgd which represents a + 6.25% difference). However, by 2030 the MDWASD projections indicate the Town will need 1.17 mgd while the Town projections indicated a need of 1.13 mgd. The Town projections indicate that the Town believes it will be utilizing 3.33% less water in 2030 than MDWASD has projected that the Town will use. During the same time period (2007 to 2030), the Town projects a 10.5% increase in mgd for the Town while MDWASD projects a 21.9% mgd increase for the Town. Therefore, the data in Table 3 is provided pursuant to state requirements; however, the Town has added its own current / future population and water demand estimates based on realistic conditions including actual demand and projected demand based upon historical usage, known redevelopment activities and continued implementation and enforcement of conservation programs. Unless the community demographics change substantially, the conditions should not change significantly. Table 3 is provided pursuant to State requirements and the Town is in agreement with the Miami-Dade County population projections as stated previously in Table 1. The Miami-Dade 20-Year Water Supply Facilities Work Plan concludes that adequate capacity for finished water will be available to meet the service area demands including the Town of Bay Harbor Islands, through the year 2030 2035.

**TABLE 3 - POPULATION & DEMANDS
TOWN OF BAY HARBOR ISLANDS WATER SUPPLY FACILITIES WORK PLAN**

WATER SUPPLY UTILITY SERVICE WITHIN LOCAL GOVERNMENT'S JURISDICTION												
UTILITY SERVICE AREA	POPULATION PROJECTIONS (medium-BEBR)						WATER SUPPLY DEMAND (MGD)					
YEAR ►	2007 2014	2010 2015	2020	2025	2030	2035	2007 2014	2010 2015	2020	2025	2030	2035
Miami-Dade County Projections from Exhibit G-2 Water Supply Service Area Wholesale Customers from 20-Year Water Supply Facilities Work Plan C-3 MDWASD Wholesale Customers Population Projections*												
TOTAL Population (BEBR) MDPZ WATER SUPPLY FACILITIES WORK PLAN	6200 5,743	6379 5,772	6678 5,917	6965 6,061	7253 6,205	7540 6,350	0.96 0.86	0.99 0.86	1.04 0.88	1.08 0.91	1.12 0.93	1.17 0.95
"Own Utility"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
"Another Utility"	6200	6379	6678	6965	7253	7540	0.96	0.99	1.04	1.08	1.12	1.17
Miami-Dade WASD	5,743	5,772	5,917	6,061	6,205	6,350	0.86	0.86	0.88	0.91	0.93	0.95
Self-Served	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Calculated Total	6200 5,743	6379 5,772	6678 5,917	6965 6,061	7253 6,205	7540 6,350	0.96 0.86	0.99 0.86	1.04 0.88	1.08 0.91	1.12 0.93	1.17 0.95
Town of Bay Harbor Islands Projections**												
Total Population and Demand	5148	5247	5476	5536	5596	5655	1.022	1.049	1.095	1.107	1.119	1.131
"Own Utility"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
"Another Utility"	5148	5247	5476	5536	5596	5655	1.022	1.049	1.095	1.107	1.119	1.131
Miami-Dade WASD	5148	5247	5476	5536	5596	5655	1.022	1.049	1.095	1.107	1.119	1.131
Self-Served	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Calculated Total	5148	5247	5476	5536	5596	5655	1.022	1.049	1.095	1.107	1.119	1.131

Source: * Miami-Dade County 20-Year Water Supply Facilities Work Plan
 ** Town of Bay Harbor Islands and MMPA; projected demand based on LOS of 200 gpcd

TABLE 4 - OUTSIDE JURISDICTION SERVICE & BULK SALES AGREEMENTS TOWN OF BAY HARBOR ISLANDS WATER SUPPLY FACILITIES WORK PLAN											
BULK SALES TO LOCAL GOVERNMENT UTILITY BY OTHERS											
UTILITY PROVIDING		BULK SALES WATER RECEIVED (MGD)									
YEAR ▶		2005 2014	2007 2015	2010 2020	2015 2025	2020 2030	2025 2035	2030 2035			
Miami-Dade WASD		1.145 0.86	1.022 0.86	1.049 0.88	1.095 0.91	1.107 0.93	1.119 0.95	1.119 0.95	1.131		
Calculated Total		1.145 0.86	1.022 0.86	1.049 0.88	1.095 0.91	1.107 0.93	1.119 0.95	1.119 0.95	1.131		

Source ~~Town of Bay Harbor Islands, MMPA-Miami-Dade County 20-Year Water supply Facilities Work Plan~~

3.5 Water Supply Provided by Local Government

As a "Consecutive User" the Town of Bay Harbor Islands does not own a water utility, rather it owns only a distribution system to provide water that is purchased from Miami-Dade County WASD and delivered to Town residents.

3.6 Water Supply Provided by Other Entities

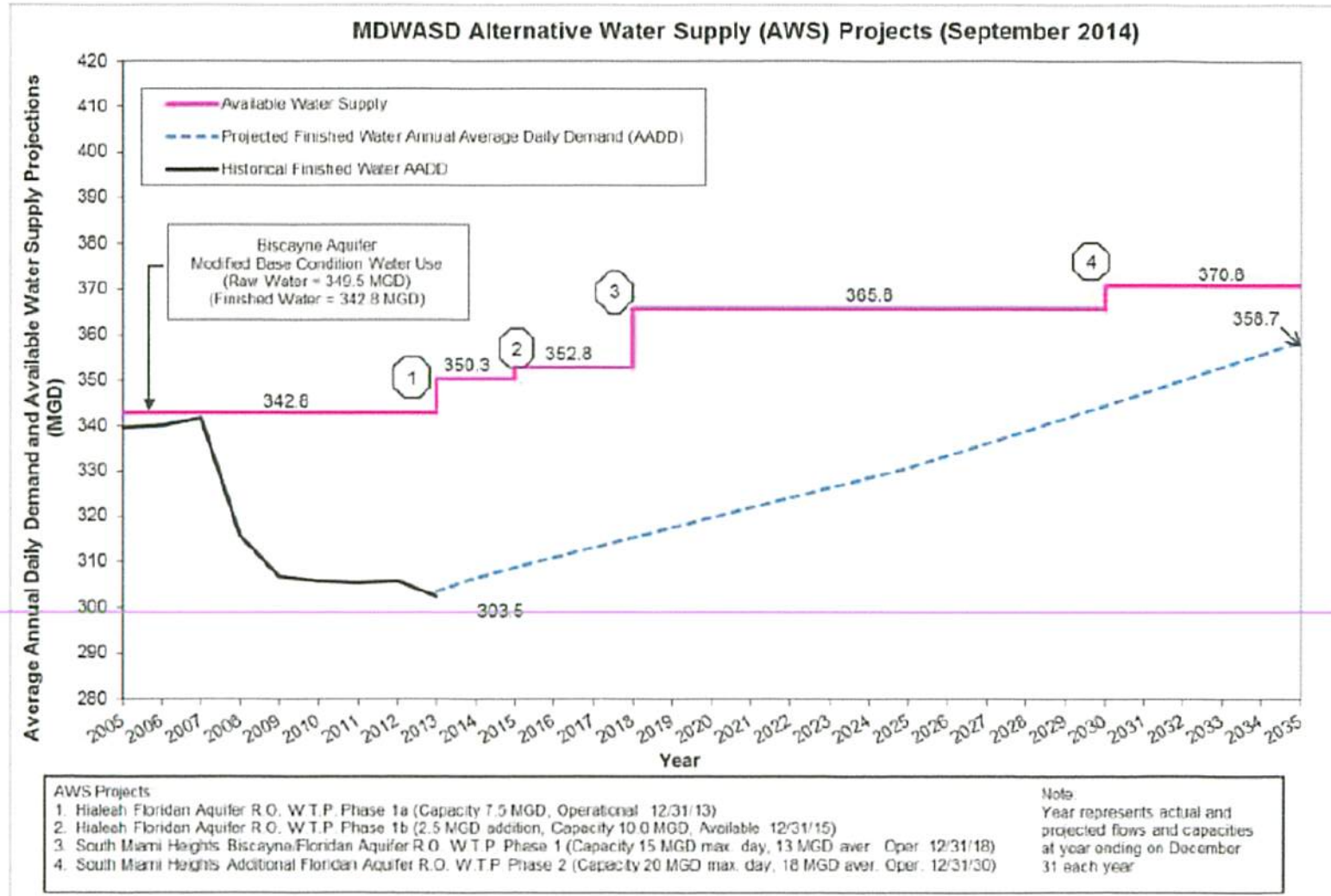
As a "Consecutive User" the Town purchases water to provide to its residents from Miami-Dade County WASD. As referenced previously, in conjunction with Miami-Dade County's application for a new Consumption Use Permit, the SFWMD requested the County obtain 20-year service agreements with each of its volume municipal water customers in order to insure that the permit contained adequate capacity and improvements necessary to accommodate projected demand for water, that by virtue of the agreements, WASD is contractually obligated to accommodate. In accordance with this requirement, in July 2007, the Town renewed its contract with Miami-Dade County for a new period of 20 years. WASD is, therefore, responsible for ensuring that enough capacity is available for existing and future customers. The following figure (Figure 2) from the Miami-Dade County 20-Year Water Supply Facilities Work Plan indicates that WASD will have adequate capacity to accommodate the water demands of the entire service area through the next 20 years.

The agreement between Miami-Dade County and the Town provides for cost-sharing of maintenance, renewal and replacement costs for Miami-Dade County's regional water distribution system on a pro-rata share based on flow. Therefore, the Town pays a share of all costs associated with the maintenance, renewal and replacement costs of the Miami-Dade County system servicing the Town. The Town has no input on what source WASD obtains the water supply from. If WASD is required to alter the water supply source, the Town will be involved only to the extent of increased rates. Future water supply increases are necessary only for newly developing or redeveloping areas wherein additional density or intensity is involved. At this time there are no such increases in density or intensity proposed within the Town of Bay Harbor Islands. The Town has been built out for many years and strictly adheres to the density and intensity standards adopted in the Town Comprehensive Plan. Since the Town has received potable water from WASD or others since its inception and the Town is built out with only a few developable residential lots remaining, the Town has very little impact on water demand. The Town has been experiencing some redevelopment of multi-family residential lots but the redevelopment has been consistent with existing development.

The following information relates to the applicable consumptive use permit for Miami-Dade County: On November 15, 2007 the South Florida Water Management District issued a permit (Permit No. 13-00017W) to the Miami-Dade County Water and Sewer Department. This permit allows for the continuation of the existing use of ground water from the Biscayne Aquifer and Upper Florida Aquifer for public water supply use and allows for an annual allocation of 152,741 million gallons with a monthly maximum allocation of 13,364 million gallons. The permit is valid through November 15, 2027.

Figure 2: MDWASD Finished-Water-Demand-and-Supply-Projections-MDWASD Alternative Water Supply (AWS) Projects

Source: Miami-Dade County 20-Year Water Supply Facilities Work Plan



The Miami-Dade County 20-Year Water Supply Facilities Work Plan is attached as Appendix A. The intent of the County Work Plan is to meet the statutory requirements mentioned in subsection 1.2 of this plan and to coordinate the WASD's water supply initiatives with the SFWMD's *Lower East Coast Water Supply Plan Update*.

The WASD's service area is all portions of Miami-Dade County within the Urban Development Boundary (UDB), excluding all or portions of North Miami, North Miami Beach, Aventura, Sunny Isles, Biscayne Park, Miami Gardens, Homestead and Florida City. The areas within the Urban Expansion are included in the planning horizon after 2015. The following summarizes Miami-Dade County's Work Plan:

- Description of population and water demand projections (~~Exhibit C-1 and C-2, 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 ~~455~~ 136.9 gallons per capita per day (gpcd). The population information was ~~prepared by~~ derived from Miami-Dade County Department of Regulatory and Economic Resources, Planning Division, and Zoning based on the 2010 US Census and derived from Transportation Analysis Zone (TAZ) 2004 population data. This subsection also provides a brief discussion of WASD's conservation and reuse programs.) ~~In preceding sections of this document, Town staff has presented differing projections of population and water demand than those indicate in the Water Supply Facilities Work Plan. Pursuant to the agreement with Miami-Dade County the Town coordinates with WASD relative to population projections and demand related issues and the Town will therefore continue to address the discrepancies in population projections with staff to insure the most accurate representation of realistic demands.~~
- The 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 ~~2033~~ 2027. These projects are expected to be completed in 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 the WASD system through ~~2033~~ 2027, ~~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, the WASD is committed to meet the water demand for the municipalities within the service area. The Town of Bay Harbor Islands is located in the Hialeah Preston Sub-Area. According to the Miami-Dade County Water Supply Facilities Work Plan this sub-area is comprised of dedicated low-pressure pipelines, remote storage tanks, pumping facilities and high pressure systems. The system delivers water to Hialeah, Miami Springs, the City of Miami, and other portions of northeastern Miami-Dade County as indicated on Figure 4 which is generally north of Flagler Street.

Figure 3: MDWASD Wholesale Customers and Service Areas
Source: Miami-Dade County 20-Year Water Supply Facilities Work Plan

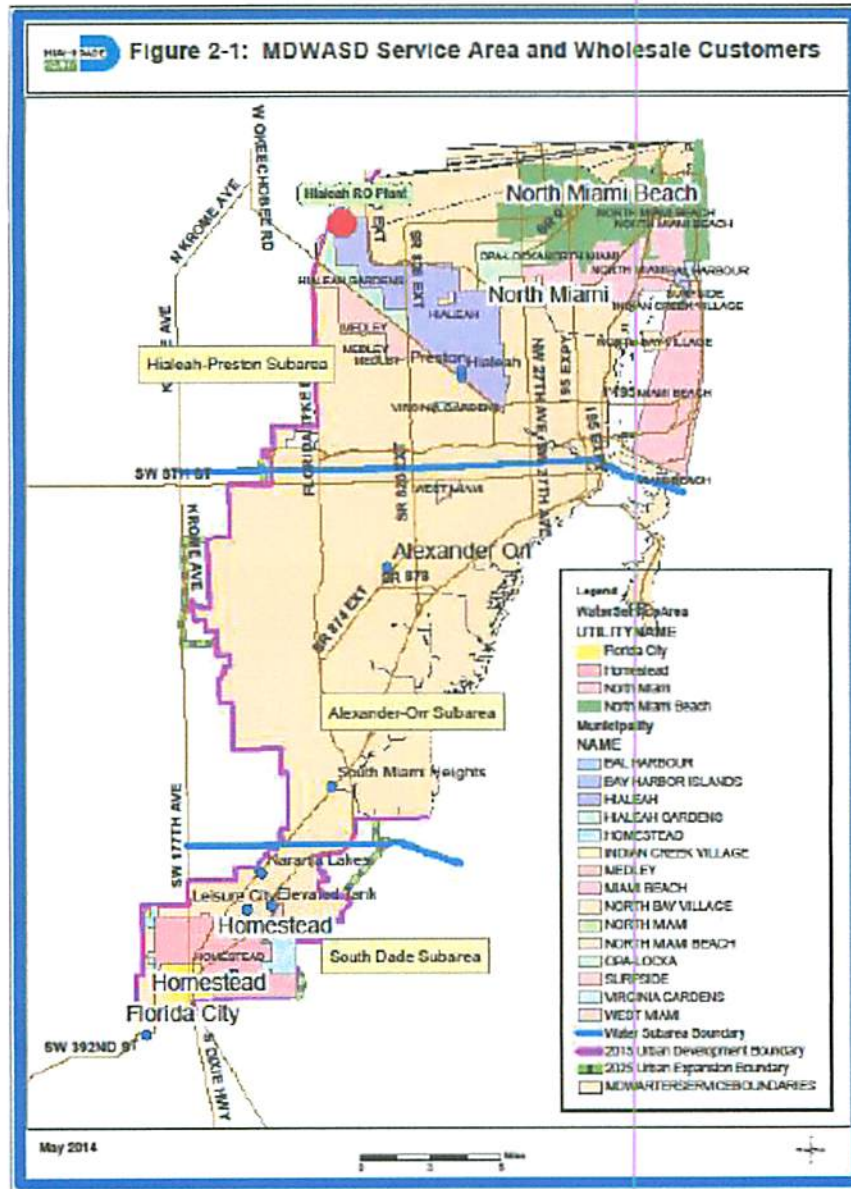


Figure 4 MDWASD Hialeah-Preston Sub-Area and Water Treatment Plants
Source: Miami-Dade WASD 20-Year Water Supply Facilities Work Plan



The Hialeah Preston Water Treatment Plants are supplied by four water supply well fields (Hialeah – capacity 12.54 MGD, John E. Preston 53.28 MGD, Miami Springs – capacity 79.30 MGD, Northwest - capacity 149.345 MGD) with a total design capacity of approximately 295 million gallons per day (MGD). In addition to these well fields, four abandoned wells at a Medley well field (capacity 43.20 48.96 MGD) have been rehabilitated and would be available on a stand-by- basis in the event of an emergency. Total Storage capacity in the Hialeah-Preston Sub-Area is 56.0 million gallons. Due to lower than anticipated demands from the 2007 County Water Supply Plan, several ambitious and costly Alternative Water Supply (AWS) projects are no longer required. In the current plan several AWS projects are still proposed, but do not affect the Hialeah Preston subarea. As part of the Alternative Water Supply Projects proposed by WASD, in 2008 there are five Upper Floridan Aquifer wells which are proposed to be constructed in the Hialeah Preston Wellfield. The Upper Florida Wells will be utilized to blend brackish water with fresh water and will have a design capacity of 12.50 MGD. The wells will be used on a first on/last off priority basis.

3.7 Conservation

Miami-Dade WASD requires wholesale customers to have Water Conservation Plans under the Conserve Florida Program. The Town of Bay Harbor Islands, as a wholesale customer, is coordinating the development of the required Conservation Plan using the web-based tool provided by the Department of Environmental Protection. This tool allows WASD to consolidate the Water Conservation Plans of the wholesale customers and combine them with the Plan or Annual Report for reporting to the water management district. This is a strategic advancement in water conservation effectiveness. Due to the fact that historically agencies wholesale water to municipalities and typically are ultimately responsible for the implementation of water conservation measures and Best Management Practices (BMP) and general demand management that are required by the Water Use Permits. Yet these agencies usually have no authority to require their wholesale customers to help them to meet demand management goals. The Miami-Dade Board of County Commissioners adopted Ordinance 06-177 establishing that a goal-based Water Conservation Plan shall be submitted to MDWASD; said plan shall be updated for the County's approval every five years and annual reports shall be filed with WASD within two months following the previous year's implementation.

~~The Town is coordinating~~ continues to coordinate with Miami-Dade County ~~who is undertaking a related to the~~ 20-year water conservation plan to evaluate ways for reducing water consumption. Activities and projected water conservation savings are included in the overall 20-Year Water Supply Work Plan adopted by Miami-Dade County. While there are no specific projects for water conservation proposed by Miami-Dade within Bay Harbor Islands, the Town provides strict enforcement of the limitations on irrigation in accordance with the water restrictions imposed by the SFWMD, requires the use of high efficiency devices including toilets and fixtures in new construction and provides educational materials in Town Hall relating to water conservation and programs that the Town residents are eligible to participate in. Additionally, as part of the Town's continued conservation efforts, the Town will be evaluating the implementation of rate structures that encourage conservation.

3.7.1 County-wide Issues

The Miami-Dade Water Use Efficiency Plan

Currently, the 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 (SFWMD) in May 2007.

Water Conservation Plans and Development Codes

In addition, as one of the WASD's wholesale customers, the Town coordinates with Miami-Dade County's web-based Conserve Florida Program in the development of a Water Conservation Plan as mandated by County Ordinance 06-177, Section 32-83.1 of the Miami-Dade County Code. The Miami-Dade County Plan will identify BMPs based on population characteristics and type of service for each municipal service area.

In addition, 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 percent 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

WASD is evaluating per capita consumption for all municipalities including those in its retail customer service area. Based on this data, the WASD will work with the municipalities to address those with higher than average per capita and will target programs for those areas. When discussing per capita consumption in Bay Harbor Islands several factors are important to consider. Due to the fact that the Town is a series of islands surrounded by the Biscayne Bay, the groundwater is brackish and is not suitable for irrigation. With no planned or existing reuse facilities available to the Town, residents are forced to use potable water for irrigation. Some Town residents have a second meter that is dedicated to irrigation only. 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 447.82 133.29 gpcd by 2027 2033.

3.7.2 Local Government Specific Actions, Programs, Regulations, or Opportunities

The Town will coordinate future water conservation efforts with the WASD and the 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.

3.7.3 Identify any Local Financial Responsibilities as Detailed in the CIE or CIS

As stipulated in the Service Agreement with Miami-Dade WASD, Bay Harbor Islands shares in the cost of maintenance and improvement of the water supply facilities serving the Town which are owned by Miami-Dade County. These costs are assessed on a pro-rata share based upon flow in the rates charged to the Town. Due to the fact that there are no supply facilities (other than a distribution system) located in the Town of Bay Harbor Islands and none of the system wide alternative water supply projects proposed by Miami-Dade WASD are located in the Town, the Town does not have an ability to complete any of the water supply projects proposed by

Miami-Dade County. The Town will share in the costs of system improvements pursuant to the executed service agreement.

3.8 Reuse

At this time there are no existing or planned reuse facilities proximate to the Town. Pursuant to the agreement with WASD the Town is required to accept and utilize reuse 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.

3.8.1 Regional and County-wide Issues

State law supports reuse efforts. For the past years, Florida's utilities, local governments, and water management districts have led the nation in implementing water reuse programs that increase the quantity of reclaimed water used and public acceptance of reuse programs. Section 373.250(1) F.S. provides that "water reuse programs designed and operated in compliance with Florida's rules governing reuse are deemed protective of public health and environmental quality." In addition, Section 403.064(1), F.S., provides that "reuse is a critical component of meeting the state's existing and future water supply needs while sustaining natural systems."

The Town of Bay Harbor Islands supports water reuse initiatives under consideration by both the SFWMD and Miami-Dade County. In June 2013, WASD reported a total of 117.5 MGD of reuse would be implemented, out of that 27.6 MGD of reclaimed water would be used to recharge the Floridan Aquifer. 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 Plan, "reuse projects to recharge the aquifer with highly treated reclaimed water will be in place before additional withdrawals over the base condition water use are made from the Alexander Orr and South Dade subarea wellfields." In addition, reuse irrigation projects are anticipated for the North and Central District Wastewater Treatment Plants. These projects will be implemented in the Cities of North Miami and North Miami Beach, and are currently under construction for Key Biscayne."

3.8.2 Local Government Specific Actions, Programs, Regulations, or Opportunities

The Town will support the SFWMD and Miami-Dade County water reuse projects, and implementation of new regulations or programs designed to increase the volume of reclaimed water used and public acceptance of reclaimed water.

4.0 CAPITAL IMPROVEMENTS

4.1 Work Plan Projects

The following table (Figure 5) is excerpted from the Miami-Dade County WASD 20-Year Water Supply Facilities Work Plan and includes alternative water supply projects proposed to be completed by Miami-Dade County WASD to meet the anticipated demands of service. As the Town is located within the Hialeah Preston service area, not all of these projects will impact the supply facilities serving the Town of Bay Harbor Islands. However, for consistency purposes the entire table has been included.

Figure 5

Proposed Alternative Water Supply Projects

Source: Miami-Dade County 20-Year Water Supply Facilities Work Plan

Table 5-1: MDWASD) Proposed Alternative Water Supply Projects From Alternative Water Supply Project Development Submitted to SFWMD June 2014

Year	Annual Average Finished Water Quantity in MGD and Source		
2013	7.5	Hialeah Floridan Aquifer RO WTP-Phase 1-a, 10 MGD & 6 Floridan Aquifer supply wells	AWS
2015	2.5	Hialeah Floridan Aquifer RO WTP-Phase 1-b, 4 Floridan Aquifer supply wells	AWS
2018	12.45	South Miami Heights WTP Phase 1(RO portion)	AWS
2030	5.0	South Miami Heights WTP Phase 2(RO portion)	AWS
Total	27.45		

4.2 Capital Improvements Element/Schedule

As referenced in preceding sections the Town is built out and it is anticipated that redevelopment activities that will occur will not significantly impact the Town's demand for water through 2030 2035. Furthermore, due the Town's conservation efforts and enforcement of water restrictions, demand for potable water has been reduced from at peak in FY 2004 2006 of 4.187 1.079 MGD to 4.022 0.831 MGD in FY 2007 2013 representing a 14% 23% reduction. In the near future, the Town would like to partner with MDWASD to conduct system-wide leak detection and remedy any problems discovered to further reduce consumption rates. The Town had previously considered ~~is also considering~~ installing additional meters at Town entry points to more accurately measure water being used within the Town. However, this activity is not currently in the Capital Plan.

Although the Town has projected some redevelopment of its multi-family residential areas, the Town believes its potable water usage will remain at current usage levels or continue to decrease as it has since 2004 2006 due to conservation efforts, system-wide improvements, and water use restrictions imposed by the SFWMD. ~~The Town projections for water demand (see Table 4) indicate that the Town will see a 10.6% increase in demand between 2007-2030 which is below the 21.9% demand increase that MDWASD has projected.~~

Due to the fact that the Town's demand for water has been reduced over the past several years and is projected to remain below historical consumption rates and that Miami-Dade County has identified that there will be adequate capacity to meet the needs of the service area throughout 2030 2035, there are no capital improvements to the Town's Water System deemed necessary for the Town to maintain adopted level of service.

~~The following table (Table 5) is provided for referenced purposes and lists the Capital Improvements benefiting the Hialeah-Preston Service Area that are proposed to be completed by WASD as part of their 20-Year Water Supply Facilities Work Plan. Due to a reduction of population projections and the success of water conservation efforts, the Miami-Dade County 20-Year Water Supply Facilities Work Plan has reduced or eliminated alternative water supply projects that had previously been proposed. The current Miami-Dade County 20-Year Water Supply Facilities Work Plan is proposing several projects to address demands through 2033. A review of these projects indicates that none of the proposed projects are located the Town of Bay Harbor Islands. Please see the Miami-Dade County 20-Year Water Supply Facilities Work Plan for further details.~~

TABLE 5 - PROJECTS & PROGRAMS from the MIAMI-DADE WASD WATER SUPPLY FACILITIES WORK PLAN

ALL PUBLIC, PRIVATE & REGIONAL UTILITY PROJECTS & PROGRAMS SERVING THE LOCAL GOVERNMENT							
UTILITY SERVING LOCAL GOVERNMENT'S JURISDICTION	FUTURE PROJECT OR PROGRAM PROVIDING WATER TO JURISDICTION	FINISHED WATER (MGD)	WATER SOURCE FOR PROJECT OR PROGRAM	DATE PROJECT ONLINE	CAPITAL COST	POPULATION SERVED WITHIN JURISDICTION	
Miami Dade WASD	Hialeah Floridan Aquifer R.O. WTP						
	Phase 1	10	Floridan Aquifer	2012	93	3058	
	Phase 2	5	Floridan Aquifer	2018	25	3058	
	Phase 3	2.5	Floridan Aquifer	2028	9.7	3058	
Miami Dade WASD	Hialeah/Prenton - Florida Aquifer Blending	4.7	Floridan Aquifer	2010	1.03	3058	
Miami Dade WASD	North District W.W.T.P. Reuse Projects	2		2012	26.8	3058	
Miami Dade WASD	Conservation 20 Year Water Use Efficiency Plan	10.62		ongoing	25.2	3058	
TOTAL		43.82			180.73		

Source: Miami Dade County 20 Year Water Supply Facilities Work plan

5.0 GOALS, OBJECTIVES AND POLICIES

In order to comply with the Statutory Requirements, the Town will be adopting the Town of Bay Harbor Islands Water Supply Facilities Work Plan by reference into the Town's Comprehensive Plan. The following draft amendments to pertinent sections of the Town's Comprehensive Plan have been prepared based upon the statutory requirements to insure coordination of the Town's Comprehensive Plan with the latest SFWMD Lower East Coast Water Supply Plan, the Miami-Dade County 20-Year Water Supply Facilities Work Plan and the Bay Harbor Islands Water Supply Facilities Work Plan.

EXHIBIT "A"

TOWN OF BAY HARBOR ISLANDS WATER SUPPLY FACILITIES WORK PLAN PROPOSED AMENDMENTS TO THE TOWN'S COMPREHENSIVE PLAN

THE FOLLOWING AMENDMENTS ARE PROPOSED TO BE INCORPORATED INTO THE FUTURE LAND USE ELEMENT:

Note: Text with ~~strikethrough~~ formatting represents existing text to be removed.
Text which is underlined represents new text proposed for adoption.

**The following amendments are proposed to be included on Page 45 and 46 of 54 of
the Future Land Use Element.**

OBJECTIVE 4: Public facilities must meet or exceed the minimum level of service standards adopted in the Capital Improvement Element of this plan before any development orders and permits shall be issued for future development and redevelopment that impact in the adequacy of facilities and services.

Policy 4.1: Higher densities and intensities of development shall be located in areas where public facilities are available to adequately handle impacts (e.g., increased water and sewage flows) from development. If adequate facilities are not available, the development shall be required to provide at least a fair share of the needed facilities necessary to serve the development.

Policy 4.2: The location, design and management if public facilities shall maximize the efficiency of services provided, minimize cost and minimize impacts on the natural environment.

Policy 4.3: The Town of Bay Harbor Islands shall encourage the continued collocation of public facilities, where appropriate, with existing school facilities. Collocation of public schools shall be considered when:

- Improvements to the Bay Harbor Elementary School are funded in the School Board's Capital Budget; or
- Improvements to existing facilities located adjacent to the Bay Harbor Elementary School are funded in the Town's Capital Improvement Plan; or
- Joint-use projects / agreements are created and implemented.

In considering the potential collocation of public facilities with existing public schools, the Town Council shall base a determination of appropriateness upon the following factors:

- Impacts on adjacent properties and existing and future development patterns of the Town of Bay Harbor Islands.
- Location of existing public facilities.

- Adequacy of resources (staff, resource materials, amenities, facilities, etc.) to serve the needs of patrons/visitors/residents to the proposed facility as well as of the students.
- Existing traffic levels on the regional and local roadway network.
- Availability of public utilities.
- Availability of mass transit facilities within ¼ mile of the site.
- Access to the site is convenient for patrons/visitors/residents while insuring safety for students utilizing the facilities. Ingress and egress shall not create detrimental impacts on roads and/or adjacent properties.
- Approaches to the site shall be safe for pedestrians, bicycles, motor vehicles and buses.

Policy 4.4: Prior to approving a building permit the Town shall consult with the Miami-Dade County Water and Sewer Department (WASD) to determine whether adequate water supplies will be available to serve the new development no later than the anticipated date of issuance of a certificate of occupancy or its functional equivalent.

OBJECTIVE 5: New development and redevelopment shall be coordinated with the appropriate resource planning and management plan as prepared by Miami-Dade County and/or other affected agencies pursuant to Chapter 380, F.S. and approved by the Governor and the Cabinet.

Policy 5.1: Requests for development and redevelopment orders or permits shall be reviewed for plan consistency and coordinated, as appropriate, with Miami-Dade County, the South Florida Regional Planning Council, and the South Florida Water Management District, and state and federal agencies.

**THE FOLLOWING AMENDMENTS ARE PROPOSED TO BE INCORPORATED INTO THE
SANITARY SEWER, SOLID WASTE, DRAINAGE, POTABLE WATER & NATURAL
GROUNDWATER AQUIFER RECHARGE ELEMENT (INFRASTRUCTURE ELEMENT):**

Note: Text with ~~strikethrough~~ formatting represents existing text to be removed.
Text which is underlined represents new text proposed for adoption.

**The following amendments are proposed to be included on Page 44 of 62 of
the Infrastructure Element.**

POTABLE WATER SUB-ELEMENT

Regulatory Framework

Federal

The federal government has established quality standards for the protection of water for public use, including operating standards and quality controls for public water systems. These regulations are provided in the Safe Drinking Water Act, Public law 93-523. This law directed the Environmental Protection Agency (EPA) to establish minimum drinking water standards. The EPA standards are divided into "primary" (those required for public health) and "secondary" (recommended for aesthetic quality) categories.

State

In accordance with federal requirements, the Florida Legislature has adopted the Florida Safe Drinking Water Act, Sections 403.850-403.864, F.S. The Florida Department of Environmental Regulation (DER) is the state agency responsible for implementing this act. In this regard, DER has promulgated rules classifying and regulating public water systems under Chapter 17-22 of the F.A.C. The primary and secondary standards of the Federal Safe Drinking Water Act are mandatory in Florida.

The regional water management district (WMD) is responsible for managing water supplies to meet existing and future demands. Regulation of consumptive use is achieved through a permitting system, through which water resources are allocated among the permitted consumers (See below for more information).

County

The Water Control Division of the Dade County Department of Environmental Resources management is responsible for enforcement of the programs required by the DER regulations. Water quality and production records are submitted by the Dade County Public Works Department to the Water Control Division for determination of compliance with DER regulations.

Local

The Town of Bay Harbor Islands has jurisdiction over all water systems in place or planned within its boundaries. It owns and operates a small water distribution system, under the maintenance of the Town's Department of Public Works. The Town has adopted regulations regarding water and sewer service connections to ensure that all connections are compatible with the design of the system.

Coordination with the Regional Water Supply Plan and Adoption of Water Supply Facilities Work Plan

The Florida Legislature has enacted bills in the 2002, 2004, and 2005, and 2011 sessions to address the state's water supply needs. These bills, especially Senate Bills 360 and 444 (2005 legislative session), significantly changed Chapter 163 and 373 Florida Statutes (F.S.) by strengthening the statutory links between the regional water supply plans prepared by the water management districts and the comprehensive plans prepared by local governments. In addition, these bills established the basis for improving coordination between the local land use planning and water supply planning.

~~In April of 2008~~ Miami-Dade County has adopted and updated a 20-Year Water Supply Facilities Work Plan as required by state law. The Work Plan contains a capacity analysis of the Miami-Dade County system, service area population projections, historical water use and water demand projections, goals for water conservation and reuse as well as a Water Supply Facilities Work Plan. The plan will be updated by Miami-Dade County every 5 years consistent with the SFWMD Lower East Coast Supply Plan. Included within the Work Plan are capital improvement projects designed not only to meet the projected needs of the service area but also to improve the efficiency/conservation and reuse of the existing service area. As indicated previously the Miami-Dade Plan concludes that adequate capacity for finished water will be available to meet the service area demands, including the Town of Bay Harbor Islands, through the year ~~2030~~ 2035.

Pursuant to Chapter 163.3177(4)(a) Florida Statutes Local Governments are required to coordinate their Comprehensive Plans with the appropriate Water Management Districts Regional Water Supply Plan. Chapter 163.3177 further requires local governments that are subject to a regional water supply plan to adopt amendments to their Comprehensive Plan addressing specific water supply and planning issues no later than 18 months following adoption of the regional water supply plan by the appropriate water management district. The Town is located within the boundaries of the SFWMD and is subject to the Lower East Coast Water Supply Plan (~~adopted February 15th, 2007~~). In accordance with state statutes, to ensure consistency with the Regional Water Supply Plan and ensure that adequate water facilities are available to service the existing and future demand for water in the Town of Bay Harbor Islands, in 2008 the Town has prepared the Bay Harbor Islands Water Supply Facilities Work Plan. The Work Plan covers a 20-year planning period and addresses water supply facilities needed to serve development within the Town and coordination with the regional water supply plan and Miami-Dade County's 20-Year Water Supply Facilities Work Plan in accordance with Chapter 163.3177(6)(c), F.S. The latest *Lower East Coast Water Supply Plan Update* was approved by the South Florida Water Management District (SFWMD) on September 12th, 2013. Therefore, local governments within the Lower East Coast jurisdiction must amend their Comprehensive Plans to adopt a Work Plan by March 12th, 2015. The Town's Water Supply Work Plan has been updated as required.

The following amendments are proposed to be included on Page 45 of 62 of the Infrastructure Element.

Note: Text with ~~strikethrough~~ formatting represents existing text to be removed.
Text which is underlined represents new text proposed for adoption.

II. EXISTING CONDITIONS

The Town does not contain any potable water treatment plants or wells. Rather the Town purchases water, as a "Consecutive User", from the Miami-Dade County Water and Sewer Department (MDWASD) to provide potable water to its residents and non-residential users. In conjunction with Miami-Dade County's application for a Consumptive Use Permit, the SFWMD requested the County to obtain 20-year service agreements with each of its volume municipal water customers. In accordance with this requirement, in July 2007, the Town renewed its contract with Miami-Dade County for a new period of 20 years. The agreement between Miami-Dade County and the Town provides for cost-sharing of maintenance, renewal and replacement costs for Miami-Dade County's regional water distribution system on a pro-rata share based on flow. The agreement also requires coordination of population projections with Miami-Dade County and participation in the water conservation programs. The Miami-Dade 20-Year Water Supply Facilities Work Plan, adopted in 2008 2014 concludes that adequate capacity for finished water will be available to meet the service area demands, including the Town of Bay Harbor Islands, through the year ~~2030~~ 2035.

The Town owns the potable water infrastructure system from the MDWASD master meter located on Kane Concourse (96th Street) and distributes potable water to all users within the Town. The potable water is received from a MDWASD 30-inch water transmission main which connects to the Town from across the Broad Causeway to Kane Concourse. Water is also supplied to the Bal Harbour Village and the Town of Surfside through the same water transmission main. The Town's water distribution system was updated through a capital enhancement project that was completed in 2013 ~~consists of C900 PVC pipe and there is one section that is the original cast iron pipe.~~ The Town regularly conducts leak detection exercises and makes repairs as needed.

Prior to the installation of the 30" main from MDWASD, a 24" main in Bal Harbour on 96th Street was constructed to provide and improved service from MDWASD through the 75th Street pumping station in Miami Beach. This line increased water pressure in the Town to acceptable levels. The Town's water reticulation system is connected directly to the County's infrastructure and the Town was able to eliminate the 750,000 gallon water tank that the Town needed in order to maintain water pressure during peak periods.

A level of service standard has been developed for the Town of Bay Harbor Islands. The standard is based on historical average day demand expressed in gallons per capita per day. According to data supplied by the Town of Bay Harbor Islands Public Works Department, for the fiscal year ending September ~~2007~~ 2013, yearly water consumption amounted to ~~372,982~~ 303,230 million gallons (mg). Dividing this value by the BEBR estimated ~~2007~~ 2013 population of 6,148 5,808 and converting to daily demand amounts to a water consumption of ~~498.5~~ 143 gallons per capita per day (gpcd). This rate is rounded to ~~200~~ 150 gpcd, and is adopted as the level of service standard for the Town of Bay Harbor Islands, and is similar to the rate adopted by Miami-Dade County for the Town of 149.38 gpcd.

**The following amendments are proposed to be included on Page 46 of 62
Infrastructure Element.**

Note: Text with ~~strikethrough~~ formatting represents existing text to be removed.
Text which is underlined represents new text proposed for adoption.

Miami-Dade County Water Facilities Plan

The Town of Bay Harbor Islands receives its water supply from Dade County facilities. The tie-in to the county system is as shown in Fig. W-1. The water comes from the Hialeah / John E. Preston Water Treatment Plants, the location of which is depicted in Fig. W-2.

The Miami-Dade Water and Sewer Department (WASD) which operates the Miami-Dade County water facilities does ~~not~~ allocate proportional capacities to each municipality. ~~Rather demand is calculated and projected using service zones.~~ The average gallon per capita per day (gpcd) consumption is set at ~~455~~ 149.38. This figure, multiplied by the population served by WASD gives the total capacity allocated to the Hialeah / Preston Water Treatment Plant. The reader is referred to the Miami-Dade County 20-Year Water Supply Facilities Work Plan (2008) for further information.

3. NEEDS ASSESSMENT

Capacity Assessment

The distribution system of the municipal water supply system has a design life of fifty years, and are expected to provide adequate capacity beyond the current planning period of ten years. The existing distribution system then represents the final design for the municipal water supply system as related to present policies.

The "Projected Average & Maximum Daily Water Demand" Table shows the projected daily water demand for the years ~~2010 and 2020~~ 2014 through 2035.

The following amendments are proposed to be included on Page 48 of 62 of the Infrastructure Element.

Note: Text with ~~strikethrough~~ formatting represents existing text to be removed. Text which is underlined represents new text proposed for adoption.

TABLE W-1
PROJECTED
DAILY WATER DEMAND

	2010	2020 <u>2035</u>
Level of Service	200	200 <u>150</u>
Projected functional Population	5,247	5,536 <u>6,350</u>
Projected Daily Water Demand	1.049 mgd	1.407 <u>0.93</u> mgd

Source: Town of Bay Harbor Islands and Michael Miller Planning Associates, Inc.

Performance Assessment

The distribution system within the Town of Bay Harbor Islands is generally in good condition. The Town does conduct regular leak detection exercises and repairs leaks as needed. The Town completed a capital enhancement project in 2013 that updated the water lines throughout the Town. ~~In the 1980's, perimeter lines on the east island were replaced with 10" diameter pipes while on the west island 6" diameter pipes were replaced with 8" pipes.~~ Hydrants were placed every 300' on the perimeter of the multi-family district and every 500' on the single-family residential area.

Summary and Recommendations

As discussed above, various upgrading programs and improvements by MDWASD provided for a two-source system of supply and improve existing service in the Town of Bay Harbor Islands. Since the Town is almost totally built up (incapacities on the part of the distribution system (mains and distributor lines have been replaced with larger diameter pipes) are highly unlikely since population is not expected to increase considerably.

The following amendments are proposed to be included on Pages 58 & 59 of 62 of the Infrastructure Element.

Note: Text with strikethrough formatting represents existing text to be removed.
Text which is underlined represents new text proposed for adoption.

GOALS, OBJECTIVES, AND POLICIES

GOAL: PROTECT THE SUBSTANTIAL INVESTMENTS IN EXISTING PUBLIC FACILITIES AND PLAN FOR AND FINANCE NEW FACILITIES TO SERVE RESIDENTS AND BUSINESSES IN A TIMELY, ORDERLY, AND EFFICIENT MANNER.

OBJECTIVE 1.1: The Town will implement procedures to ensure that existing deficiencies will be corrected and that adequate facility capacities will be available to meet future needs.

Policy 1.1.1: To assure adequate level of service, the following LOS standards are hereby adopted, and shall be used as the basis for determining facility capacity and the demand to meet future development:

Facility	Level of Service Standards
Sanitary Sewer Facilities Peak Flow Coefficient	156 gallons per capita per day As shown in Figure S-3.
Solid Waste Facilities	0.632 tons per capita per year
Drainage Facilities	Design LOS standard to meet to 10 year storm and as specified by the Dade County Public Works Manual, Section D-4, 1984; and no ponding water for more than 48 hours.
Potable Water Storage Capacity Pressure	200-150 gallons per capita per day One-half of average day demand Shall comply with Miami-Dade County fire flow standards.

Policy 1.1.2: The Town shall prepare annual summaries of capacity, demand, and general performance data for sanitary sewer, potable water, drainage, and solid waste facilities.

Policy 1.1.3: All improvements for replacements, expansions, or increase in capacity of public facilities shall conform with the adopted level of service standards.

Policy 1.1.4: No development order authorizing new developments or substantial expansion to an existing use shall be issued unless existing sanitary sewer, drainage, potable water, and solid waste facilities meet the adopted level of service standards for these facilities or will meet these standards concurrent with the completion of the development.

Policy 1.1.5: Procedures and programs to monitor level of service for each facility shall be established for use by agencies which issue development orders.

Policy 1.1.6: The Town shall adopt a Water Supply Facilities Work Plan (WSFWP) with at least a 10-year planning period that will assess projected water needs and sources for the Town. The WSFWP will be adopted within 18 months of the adoption of the South Florida Water Management District's regional water supply plan, as required by Chapter 163, Florida Statutes.

Policy 1.1.7: The Town shall consider the most current Lower East Coast Water Supply Plan provide by the South Florida Water Management District when updating or proposing any amendments to the Town's WSFWP.

OBJECTIVE 1.2: The Town will improve on the level of service of public facilities, through the implementation of those projects listed in the Capital Improvements Element.

Policy 1.2.1: Proposed facility improvements will be evaluated and ranked according to the following priority level criteria:

Level One: includes improvements which are necessary to protect the health, safety, and environmental integrity of the community; improvements necessary to meet existing deficiencies in capacity and performance, and Town's legal commitment to provide facilities and service.

Level Two: includes improvements to increase efficiency of use of existing facilities; prevention or reduction of improvement costs; extend service to previously un-served developed areas and; promotes in-fill development.

Level Three: includes improvements which represent a logical extension of facilities and services within a designated service area.

Policy 1.2.2: Potable water, sanitary sewer and solid waste facilities improvements shall be implemented in conformance with the schedule provided in the Capital Improvements Element.

Policy 1.2.3: The Town shall coordinate scheduled projects to minimize disruption of services and duplication of labor.

OBJECTIVE 1.3: The Town shall continue to implement procedures aimed at maximizing the use, effectiveness and efficiency of existing public facilities.

Policy 1.3.1: The Town shall continue its preventive maintenance and performance monitoring program for existing sanitary sewer, potable water, solid waste and drainage facilities.

OBJECTIVE 1.4: The Town will cooperate and aid in the implementation of regional and county water conservation programs.

Policy 1.4.1: The Town will participate in regional campaigns to disseminate information for water conservation strategies.

Policy 1.4.2: The Town shall promote an educational program for residential and commercial consumers which will encourage the conservation of water.

Policy 1.4.3: The Town shall implement applicable regional and county water conservation programs. Including the following strategies:

- a). Require water reduction devises in new construction and evaluate and incorporate additional advances in water conservation into Town Code as needed;
- b). Require ~~xeriscaping~~ Florida Friendly techniques and native vegetation use when reviewing and approving development applications;
- c). Continue to enforce and maintain regulations of the South Florida Water Management District lawn and irrigation water restrictions;

THE FOLLOWING AMENDMENTS ARE PROPOSED TO BE INCORPORATED INTO THE CONSERVATION ELEMENT

Note: Text with strikethrough formatting represents existing text to be removed.
Text which is underlined represents new text proposed for adoption.

**The following amendments are proposed to be included on Pages 5 of 9 of the
Conservation Element.**

E. Water Use & Conservation

South Florida is extremely dependent on water resources for human consumption and industrial, agricultural, environmental and recreational uses. Large amounts of water are consumed by four primary sectors: agricultural, industrial, environmental and residential. The availability, quantity and quality of water is of extreme importance to South Florida. The balance between adequate supplies and scarcity is, indeed, a delicate one. The urban complex, which includes Bay Harbor islands, continually draws water away from the (Biscayne Aquifer) water conservation districts.

The Town gets its water supply from Miami-Dade County; and for more information on water quality, and quantity of water available to meet demands, the reader should refer to Miami-Dade County Comprehensive Plan and the Miami-Dade County Water Supply Facilities Work Plan (2008). For current and projected water needs for the next ten years, refer to the Potable Water Sub-Element of this Comprehensive Plan.

MDWASD requires wholesale customers to have Water Conservation Plans under the Conserve Florida Program. The Town of Bay Harbor Islands, as a wholesale customer, is coordinating the development of the required Conservation Plan using the web-based tool provided by the Department of Environmental Protection. This tool allows MDWASD to consolidate the Water Conservation Plans of the wholesale customers and combine them with the Plan or Annual Report for reporting to the water management district. The Miami-Dade Board of County Commissioners adopted Ordinance No. 06-177 establishing that a goal-based Water Conservation Plan shall be submitted to MDWASD; said plan shall be updated for the County's approval every five years and annual reports shall be filed with MDWASD within two months following the previous year's implementation.

The Town is coordinating with Miami-Dade County who is undertaking a 20-year water conservation plan to evaluate ways for reducing water consumption. Activities and projected water conservation savings are included in the overall 20 Year Water Supply Work Plan adopted by Miami-Dade County. While, in 2008, there are no specific projects for water conservation proposed by Miami-Dade within Bay Harbor Islands, the Town provides strict enforcement of the limitations on irrigation in accordance with the water restrictions imposed by the SFWMD, the Town is incorporating into its building requirements the use of high efficiency devices including toilets and fixtures in new construction and provides educational materials at the Town Hall and within the Town's newsletter relating to water conservation and programs that Town residents are eligible to participate. Furthermore, the Town will continue to follow conservation guidelines required by the County and SFWMD and will investigate ways to increase water conservation throughout the Town.

F. Mineral Resources

The following amendments are proposed to be included on Pages 6 of 9 of the Conservation Element.

Note: Text with ~~strikethrough~~ formatting represents existing text to be removed.
Text which is underlined represents new text proposed for adoption.

GOALS, OBJECTIVES, AND POLICIES

GOAL: PROVIDE FOR THE PROTECTION, CONSERVATION AND PROPER UTILIZATION OF NATURAL RESOURCES.

OBJECTIVE 1: By 1990, the Town shall coordinate and cooperate with other public agencies in meeting air quality standards.

Policy 1.1: Cooperate with county and state regulatory agencies in developing policies related to air quality protection.

Policy 1.2: The Town shall aid in the dissemination of information provided by other regulatory agencies.

OBJECTIVE 2: By 1990, the Town shall coordinate and cooperate with other public agencies in protecting the quality of ground and surface waters resources.

Policy 2.1: Cooperate with the county and state regulatory agencies in developing and implementing policies related to ground and surface water quality protection.

Policy 2.2: The Town shall continue to implement an annual street cleaning program, aimed at reducing pollutant loads at the beginning of the rainy season.

Policy 2.3: By 1990, the Town shall amend, adopt and implement land development regulations and policies to ensure that:

- a) Site plans provide measures to assure that water is naturally absorbed in the ground, or that other means of reducing pollutant loads shall be utilized before runoff is discharged into the bay.
- b) General design and construction standards for on-site drainage systems for new developments shall ensure that post-development runoff rates and pollutant loads not exceed pre-development conditions.
- c) Existing developments sufficiently control abate runoff.

OBJECTIVE 3: The Town shall continue to implement a water conservation programs and shall coordinated with the water conservation programs of other public agencies.

Policy 3.1: The Town shall continue to expand and explore water conservation practices to maintain a low per capita consumption of potable water.

Policy 3.2: The Town shall continue to coordinate with Miami-Dade County in implementation of the Town's water conservation programs utilizing the County's Web-Based Conservation Tool.

Policy 3.3: The Town shall cooperate with the South Florida Water Management District (SFWMD) in implementing water conservation programs as well as enforcing water restriction imposed by SFWMD.

Policy 3.4: The Town will continue to utilize all available resources to disseminate information about water conservation to the Town's residents.

Policy 3.5: The Town will coordinate with the Miami-Dade Water and Sewer Department in the development of Alternative Water Supply projects, as needed.

**THE FOLLOWING AMENDMENTS ARE PROPOSED TO BE INCORPORATED
INTO THE CAPITAL IMPROVEMENTS ELEMENT:**

Note: Text with ~~strikethrough~~ formatting represents existing text to be removed.
Text which is underlined represents new text proposed for adoption.

**The following amendments are proposed to be included on Page 20 of 23 of
the Capital Improvements Element.**

OBJECTIVE 3: By 1990, the municipality will manage its fiscal resources to ensure the provision of needed capital improvements for previously issued development orders and for future development and redevelopment.

Policy 3.1: Prior to the issuance of certificates of occupancy, the municipality shall provide for public facilities needed to serve developments for which development orders were previously issued.

Policy 3.2: In providing capital improvements, the municipality shall limit the maximum ratio of outstanding indebtedness to no greater than 25% of the property tax base.

Policy 3.3: The municipality shall adopt a 5-Year capital improvement program and annual capital budget, as a part of its budgeting process.

Policy 3.4: Efforts shall be made to secure grants, or private funds, available to finance the provision of capital improvements.

OBJECTIVE 4: By 1992, decisions regarding the issuance of development orders and permits will be based upon coordination of the development regulations, and the availability of necessary public facilities needed to support such development, at the time needed.

Policy 4.1: The municipality shall use the LOS standards, as adopted in each element, in reviewing the impacts of new development and redevelopment upon public facilities. The LOS are indicated in the following elements:

Sanitary Sewer	156 gallons capita, per day
Solid Waste	0/632 tons per capita, per year
Drainage	Design storm as LOS Standards: 10 year storm Dade County Public Works Manual, Section D-4, 1988.
Potable Water	200 <u>150</u> gallons per capita, per day
Local Streets	LOS "B" at peak hour
Arterial Roadway	LOS "C" at peak hour

**THE FOLLOWING AMENDMENTS ARE PROPOSED TO BE INCORPORATED
INTO THE INTERGOVERNMENTAL COORDINATION ELEMENT:**

Note: Text with ~~strikethrough~~ formatting represents existing text to be removed.
Text which is underlined represents new text proposed for adoption.

**The following amendments are proposed to be included on Page 4 of 12 of the
Intergovernmental Coordination Element.**

**TABLE I-1
AGENCY / ELEMENT RELATIONSHIP**

ELEMENT	TOWN AGENCY	COUNTY AGENCY	AREAWIDE	STATE SGENCY	OTHER
SANITARY SEWER, SOLID WASTE, DRAINAGE & POTABLE WATER					
Sanitary Sewers	Public Works	Miami – Dade Water & Sewer Authority; Dept. Environmental Resources Management; Health Dept.		Department of Environmental Regulation	City of North Miami; EPA
Solid Waste	Public Works	Solid Waste Div. of WSA		Department of Environmental Regulation	Private firm
Drainage	Building Dept; Public works	Department of Environmental Resources Management	South Florida Water Management District	Department of Environmental Regulation	
Potable Water	Public Works	Miami-Dade Water & Sewer Authority Department	WASD	Dept. of Environmental Regulation	EPA; Cities of Hialeah N. Miami N. Miami Beach
SFRPC – South Florida Regional Planning Council HUD – Housing & Urban Development DOT – Department of Transportation MTA – Metropolitan Transit Authority			OTA – Office of Transportation Admin. SFWMD – S. Florida Water Management District WASD – Water & Sewer Department DERM – Dept. of Environmental Regulation <u>RER – Regulatory and Economic Resources</u>		

The following amendments are proposed to be included on Page 10 of 12 of the Intergovernmental Coordination Element.

Note: Text with ~~striketthrough~~ formatting represents existing text to be removed.
Text which is underlined represents new text proposed for adoption.

GOALS, OBJECTIVES AND POLICIES

GOAL: THE MUNICIPALITY WILL CONTINUE TO ESTABLISH AND DEVELOP SHORT-TERM AND LONG-TERM OBJECTIVES AND POLICIES WHICH ARE INTENDED TO FOSTER BETTER INTER-GOVERNMENTAL COORDINATION.

OBJECTIVE 1: The municipality will coordinate the comprehensive plan with the various levels of government and other agencies to effectuate effective inter-governmental relationships.

Policy 1.1: Coordinate with the various levels of government which include the county, the South Florida Regional Planning council, the Miami-Dade County Board of Public Instruction, and the various other agencies that are identified in Table I-1 which have regulatory authority with reference to the use of land and other elements in the comprehensive plan.

Policy 1.2: The municipality will review developments in the area to ensure that they are compatible with its existing comprehensive plan and the comprehensive plans of adjacent local governments.

OBJECTIVE 2: The municipality will work to achieve a high level of coordination with adjacent municipalities, Miami-Dade, Broward, and Monroe counties, the region, and the state with regard to the impacts of land development.

Policy 2.1: The municipality will coordinate its development efforts with those of adjacent municipalities, the county, adjacent counties, and the South Florida Regional Planning Council, as appropriate, to ensure that proposed developments do not adversely impact them without their knowledge and to allow them to make input to the municipality with reference to proposed developments.

Policy 2.2: Proposed developments will be reviewed to ensure that they are not inconsistent and do not adversely affect the existing comprehensive plans of adjacent local governments.

Policy 2.3: The South Florida Regional Planning Council's informal mediation process will be utilized to resolve conflicts, as appropriate.

Policy 2.4: The municipality will coordinate efforts in the management of Biscayne Bay and estuaries surrounding the Town.

Policy 2.5: The Town shall adopt a Water Supply Facilities Work Plan (WSFWP) with at least a 10-year planning period that will assess projected water needs and sources for the Town. The WSFWP and any updates will be adopted within 18 months of the adoption of the South Florida Water Management District's regional water supply plan, as required by Chapter 163, Florida Statutes.

Policy 2.6: The Town shall consider the most current Lower East Coast Water Supply Plan provide by the South Florida Water Management District when updating or proposing any amendments to the Town's WSFWP.

6.0 APPENDIX A

Miami-Dade County (WASD) Water Supply Facilities Work Plan

Note: Not included to large volume of document. Document on file with Florida Department of Economic Opportunity.

**TOWN OF BAY HARBOR ISLANDS
COMMUNITY DEVELOPMENT
MEMORANDUM**

To: Mayor and Town Councilmembers
Town of Bay Harbor Islands

From: Michael J. Miller, AICP *MJM*
Consultant Town Planner

Date: January 15th, 2015

Subject: Town of Bay Harbor Islands
10-Year Water Supply Facilities Work Plan (WSP)
2014 Update to WSP / Related Comprehensive Plan Amendments
1st Reading / Transmittal to Review Agencies
MMPA Project No.: 01-0702-0107

RECOMMENDED ACTION

MMPA recommends the Town Council **APPROVE** the attached draft 2014 update to the Town of Bay Harbor Islands "10-Year Water Supply Facilities Work Plan" (WSP) and associated draft Comprehensive Plan Amendments on 1st reading and authorize transmittal of the documents to the Florida Department of Economic Opportunity (DEO) and other required review agencies for comment.

The 2014 updated Town of Bay Harbor Islands WSP has been prepared based upon the Town's existing WSP that was adopted in 2009 in accordance with statutory requirements. Furthermore, the draft Comprehensive Plan amendments appended to the Town's WSP are intended to address the statutory requirements for coordination of the SFWMD Lower East Coast WSP and Miami-Dade County's WSP with the Town's adopted Comprehensive Plan.

ISSUE

Pursuant to Section 163.3177(6)(c), Florida Statutes, local governments that are subject to a regional water supply plan must adopt a Water Supply Facilities Work Plan and any related Comprehensive Plan amendments into their Comprehensive Plans. The purpose of a 10-Year Water Supply Facilities Work Plan (WSP) is to identify and plan for the water supply sources and facilities needed to serve existing and new development within the local government's jurisdiction. Chapter 163, Part II, F.S., requires local governments to prepare and adopt Work Plans into their Comprehensive Plans within 18 months after the water management district approves a regional water supply plan or its update. The latest *Lower East Coast (LEC) Water Supply Plan Update* was approved by the South Florida Water Management District (SFWMD) on September 12th, 2013. The LEC Plan must be updated every five (5) years. Therefore, the

Town of Bay Harbor Islands
Town Council Staff Report
Water Supply Facilities Work Plan / Related Complan Amendments
January 15th, 2015
Page 2

deadline for local governments within the Lower East Coast jurisdiction to amend their Comprehensive Plan to adopt a Work Plan is March 12th, 2015. Since Miami-Dade County provides all of the Town's potable water, this work effort was coordinated with the latest Miami-Dade County WSP update, which was recently completed.

BACKGROUND

The Florida Legislature enacted bills during the 2002, 2004, 2005, and 2011 sessions to address the state's water supply needs. These bills, especially Senate Bills 360 and 444 (2005 legislative session), significantly changed Chapter 163 and 373 Florida Statutes (F.S.) by strengthening the statutory links between the regional water supply plans prepared by the water management districts and the comprehensive plans prepared by local governments. In addition, these bills established the basis for improving coordination between the local land use planning and water supply planning.

The Town does not contain any potable water treatment plants or wells. Rather, the Town purchases water, as a "Consecutive User," from the Miami-Dade County Water and Sewer Department (WASD) to provide potable water its residents and non-residential users. WASD is, therefore, responsible for ensuring that enough capacity is available for existing and future customers. Since the Town relies on WASD as their sole provider of potable water service, the Town's 10-Year Water Supply Facilities Work Plan (WSP) references the initiatives already identified in the County's long-term 20-Year Water Supply Facilities Work Plan. The Town's WSP has the same overall planning time schedule as the County's short-term 10-Year Work Plan. The Town's WSP is required to be updated every five (5) years within eighteen (18) months of the adoption of the update to the LEC Plan which will be prepared by the SFWMD.

The draft work plan and associated proposed Comprehensive Plan amendments must address the following required subject matter:

1. Coordinates appropriate aspects of the Town's Comprehensive Plan with the SFWMD Lower East Coast Water Supply Plan, [163.3177(4)(a), F.S.]
2. Ensures that 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]. The work plan contains data and analysis demonstrating that adequate water supplies and associated public facilities will be available to meet projected growth.
3. Ensures 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].
4. The WSF Work Plan contains proposed Comprehensive Plan amendments (as needed) to the Future Land Use, Capital Improvement, Conservation, Infrastructure and Intergovernmental Coordination Elements of the Comprehensive Plan which:

- a. Identify and incorporate the alternative water supply project(s) identified in the updated regional water supply plan [s. 373.709(8), F.S.] and [s. 163.3177(6)(c), F.S.]. It should be noted that the Town has no ability to complete water supply related projects due to the fact that there are no water supply facilities (wells or treatment plants) located within the Town.
 - 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)3, 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)3, F.S.]
5. Ensures the Conservation Element to assess projected water needs and sources for at least a 10-year planning period, considering the LEC Water Supply Plan and Miami-Dade County consumptive use permit(s). [s.163.3177 (3)(a)(4), F.S.]
 6. Reviews the Intergovernmental Coordination Element to ensure coordination of the Comprehensive Plan with applicable regional water supply plans and regional water supply authorities' plans and Miami-Dade County Water Supply Facilities Work Plan. [s.163.3177(6)(h)1., F.S.].

LOCAL PLANNING AGENCY RECOMMENDATION

The Local Planning Agency met on February 9th, 2015, discussed the matter and voted unanimously to forward a recommendation of **ARROVAL** to the Town Council to approve the Water Supply Facilities Work Plan (WSFWP) and related Comprehensive Plan amendments.

Year:	2012-13	2011-12	2010-11	2009-10	2008-09	2007-08	2006-07	2005-06	2004-05	2003-04
Gallons Purchased:	303,230	310,352	301,588	316,643	292,510	357,946	372,982	393,978	417,991	434,552
2000 Pop (5,146)					155.73	190.50	198.58	209.75	222.54	231.34
2010 Pop (5,628)	147.61	151.08	146.81	154.14						
2013 BEBR (5,808)	143.04									
		Average: (2000, 2010 Pop)		180.81						
		Average: (2000, 2010, BEBR Pop)		180.35						

** Gallons Purchased / 365 / year population = LOS