

Application No. 7

Countywide

APPLICATION SUMMARY

Applicant/Representative:	Bill Johnson, Director Miami-Dade County Water and Sewer Department 3071 SW 38th Avenue, Suite 547 Miami, Florida 33146
Location:	Countywide
Requested Text Changes:	Amend the Comprehensive Development Master Plan (CDMP) Water and Sewer Subelement of the Water, Sewer, & Solid Waste Element as follows: <ol style="list-style-type: none">1. Revise introductory text to reflect changes to the County's Water Use Permit.2. Revise CDMP Policy WS-7A to reflect an update to the County's Water Supply Facilities Work Plan and add a requirement that the Work Plan address climate change and sea level rise that may impact potable water infrastructure and sources.3. Revise Table 1: Alternative Water Supply Projects (2014-2033) to reflect changes to the alternative water supply projects and modifications to the County's Water Use Permit.
Amendment Type:	Standard Text Amendment

RECOMMENDATIONS

Staff:	TRANSMIT WITH CHANGE AND ADOPT (August 2014)
Community Councils:	NOT APPLICABLE
Planning Advisory Board (PAB) acting as the Local Planning Agency:	TO BE DETERMINED (October 20, 2014)
Board of County Commissioners:	TO BE DETERMINED (November 19, 2014)
Final Action of Board of County Commissioners:	TO BE DETERMINED (February/March, 2015)

Staff recommends: **TRANSMIT WITH CHANGE AND ADOPT** the application to amend the Comprehensive Development Master Plan (CDMP) Water, Sewer, & Solid Waste Element text based on the following reasons:

Principal Reasons for Recommendation:

1. The principal purpose of the proposed amendment is to adopt the latest update to the Water Supply Facilities Work Plan ("Work Plan") into the CDMP and revise associated CDMP text and tables, as required by state law. Section 163.3177(6)(c), Florida Statutes requires all local governments to adopt a water supply work plan that identifies the alternative water supply projects, traditional water supply projects and conservation and reuse measures necessary to meet projected water demand. The work plan is to be updated, at a minimum, every five years and within 18-months of an adopted update to the regional water supply plan. The Lower East Coast Regional Water Supply Plan was adopted by the South Florida Water Management District Governing Board in September 2013.
2. The proposed update to the Water Supply Facilities Work Plan and associated amendments to the CDMP reflect reductions in the projected potable water demand that resulted from slower projected population growth and the continued successful implementation of the County's Water Conservation Plan (see Appendix B: Water Supply Facilities Work Plan – Executive Summary). Reductions in the projected finished water demand have eliminated the need for several costly alternative water supply projects in their entirety and postponed the need for other alternative water supply projects by several years. The proposed amendment includes revisions to "Table 1: Alternative Water Supply Projects (2014-2033)" to reflect the elimination or postponement of selected alternative water supply projects.
3. The proposed amendment includes other revisions to the Water, Sewer and Solid Waste Element that are necessary to maintain consistency between elements of the CDMP and reflect revisions to the County's Water Use Permit. The County's current Water Use Permit (No. 13-00017-W) was issued by the South Florida Water Management District in November 2007 and modified in November 2010 and July 2012. On June 20, 2014, the Miami-Dade County Water and Sewer Department submitted an application to modify and extend the Water Use Permit to reflect the changes to the projected water demand.
4. The proposed amendment revises Water, Sewer and Solid Waste Element Policy WS-7A to require that the Water Supply Facilities Work Plan address climate change and sea level rise that may impact the potable water infrastructure and sources. This will further the intent of Land Use Element Policy LU-3I which states that "Miami-Dade County shall make the practice of adapting the built environment to the impacts of climate change an integral component of all planning processes, including but not limited to comprehensive planning, infrastructure planning, building and life safety codes, emergency management and development regulations, stormwater management, and water resources management".

REQUESTED TEXT AMENDMENT¹

1. Amend the Comprehensive Development Master Plan (CDMP) Water, Sewer, & Solid Waste Element as follows:

The Water, Sewer, and Solid Waste Element is composed of two subelements. The Water and Sewer Subelement contains a goal, objectives, policies, and monitoring measures for the County's water services. The Miami-Dade Water and Sewer Department (WASD) is one of the largest public utilities in the United States providing direct water and wastewater service to more than 440,000 customers ~~to~~in the unincorporated areas of Miami-Dade County, wholesale water service to 14 municipalities and wholesale wastewater service to 13 municipalities. In November 2007, WASD received a historic 20-year Water-Use Permit (WUP) from the South Florida Water Management District (SFWMD). On November 1, 2010, the SFWMD District approved an extension to Miami-Dade County's WUP because of a reduction in water demands, with the permit now extended until 2030. The permit is a plan for meeting the present and future water needs of the County while protecting natural resources such as the Everglades. The permit requires WASD to develop alternative water supply sources and continue with its Water-Use Efficiency Program. It ensures water will be available for Miami-Dade County's needs and lays the groundwork for ~~very ambitious~~ capital improvements programmed or planned for the next ~~two~~ decades. ~~Some of the~~ alternative water supply sources include ~~reclaimed water projects~~ using the Floridan Aquifer as an alternative water supply, a comprehensive water ~~use efficiency~~conservation program and a water loss reduction program.

WS-7A. The Miami-Dade County Water Supply Facilities Work Plan (Work Plan), as prepared by the Miami-Dade County Water and Sewer Department and adopted by the Miami-Dade County Board of County Commissioners in April 2008 and subsequent approvals, is incorporated by reference into the CDMP. This document is designed to: assess current and projected potable water demands; evaluate the sources and capacities of available water supplies; and, identify those water supply projects, using all available technologies, necessary to meet the County's water demands for a 20-year period. The Work Plan shall remain consistent with the County's Water Use Permit renewals and with the goals of the South Florida Water Management District's *Lower East Coast Regional Water Supply Plan*. The Work Plan will be updated, at a minimum, every 5-years and within 18 months after the South Florida Water Management District's approval of an updated *Lower East Coast Regional Water Supply Plan*. Updates to the water supply facilities necessary to satisfy projected water demands shall be provided to the South Florida Water Management District in the Annual Lower East Coast Progress Report. The Work Plan shall address climate change and sea level rise that may impact the potable water infrastructure and sources. The potable water supply facilities necessary to satisfy projected water demands during the ~~2010-2030~~ 2014-2033 period are shown in Table 1, below.

¹ Words stricken through shall be deleted. Words underscored constitute the amendment proposed. Words double-underlined or double-stricken constitute the additional changes proposed following publication of the Applications Report. Remaining provisions are now in effect and remain unchanged.

Table 1 Alternative Water Supply and Wastewater Reuse Projects 2012-2030 2014-2033				
Project No/ CIE Table ¹	Project Name ²	Project Description	Construction Completion Date	Estimated Cost (\$million) ³
Alternative Water Supply Projects				
16, Table 12	South Miami Heights WTP and Wellfield (20 mgd)	Reverse osmosis and ultra-filtration membranes provide treatment of 20 mgd of finished water from the of Biscayne/Floridan aquifers water from 13 wells.	2015 2018	194.7 212.78
	Hialeah Floridan Aquifer R.O. WTP	A new upper Floridan aquifer reverse osmosis water treatment plant is to be constructed in the northern part of the County (i.e., Hialeah). The WTP will directly utilize the Floridan Aquifer as the alternative water supply using the RO treatment to remove salt. The City and the County will be equal partners in funding the project. Estimated cost is based on total project cost. MDWASD's share of the total cost is \$46.17. The Hialeah RO WTP has a capacity to produce 7.5 MGD of finished water. An additional 2.5 MGD will be available in 2015 upon construction completion of 4 additional wells.	2013 2014 (7.5 MGD) 2015 (2.5 MGD)	92.4
49B-30, Table 12	Phase 1 (10 MGD)			
49C, Table 12	Phase 2 (5 MGD)		2026	25.6
49D, Table 12	Phase 3 (2.5 MGD)		2026	42.2
Wastewater Reclamation Projects				
26, Table 8	North District WWTP Reuse Projects (7.0 MGD)	The scope of these projects will be determined as part of the Ocean Outfall legislation implementation plan due to the Secretary of FDEP by July 1, 2013.	2025	43.5
27, Table 8	Central District WWTP Reuse Project (27.1 MGD)	The scope of this project will be determined as part of the Ocean Outfall legislation implementation plan due to the Secretary of FDEP by July 1, 2013.	2025	26.3
29, Table 8 See note	West District W.R.P. Canal Recharge Phase 1 (21 mgd)	This water reclamation plant project includes the construction of a new wastewater plant incorporating technologies capable of achieving those treatment levels required for canal recharge or any other alternative discharge that may be approved. This plant will be expanded for Phase 3.	2021	665
	West District W.R.P. Canal Recharge Phase 2 (16 mgd)		2021	593
32, Table 8	72-inch Reclaimed Water Pipeline—SDWWP to FPL	90-MGD of reclaimed water to meet FPL's cooling water needs for Units 5 & 6	2023	95

¹ CIE Table References are per CIE adopted on ~~November 18, 2010~~ October 2, 2013 by Ordinance No ~~40-80~~ 13-96.

² Alternative Water Supply projects and construction completion dates based on a proposed modification to the current Water Use Permit issued by SFWMD on July 16, 2012.

³ Estimated cost based on adopted FY 2012-2013 budget. ~~The estimated cost for West District W.R.P. Phase 1 and Phase 2 is based on a Planning construction cost and not included in the adopted FY 2012-2013 budget and is included in the County's Water Use Permit issues by SFWMD on July 16, 2012.~~

STAFF ANALYSIS

The 2005 Florida Legislature enacted legislation with regard to water supply that amended Chapter 163, Florida Statutes and required local governments to adopt a new Water Supply Facilities Work Plan into their comprehensive plans. The intent of the legislation, with regard to water supply, was to:

- Better coordinate local government comprehensive planning with water management districts' regional water supply plans.
- Establish a closer link between development decisions and the availability of water by requiring local governments to determine whether adequate water supplies will be available no later than issuance of a certificate of occupancy.
- Provide for more comprehensive regional water supply plans, permitting incentives for development of alternative water supplies.

The purpose of water supply planning is to develop strategies to meet future water demands of urban and agricultural uses, while also meeting the needs of the environment. This process identifies areas where historically used sources of water will not be adequate to meet future demands, and evaluates several water source options to meet those demands. Under the legislation, local governments subject to a regional water supply plan were required to identify alternative water supply projects necessary to meet existing and future development needs. To meet the new legislative requirements, the Water and Sewer Department developed a Water Supply Facilities Work Plan that was adopted into the CDMP by reference in 2008. Other policies were added or revised to maintain consistency between elements of the comprehensive plan as required by state statute.

The Lower East Coast Regional Water Supply Plan was adopted by the South Florida Water Management District Governing Board in September 2013. Pursuant to Section 163.3177(6)(c) of the Florida Statutes, the County is required to revise the Water, Sewer and Solid Waste Element ("Element") of the Comprehensive Development Master Plan (CDMP) to update the Water Supply Facilities Work Plan ("Work Plan") at least every 5 years within 18 months after the South Florida Water Management District (SFWMD) governing board approves an updated regional water supply plan. The Element must identify alternative water supply projects, traditional water supply projects and conservation and reuse measures necessary to meet water needs and include a work plan, covering at least a 10-year planning period, for development of public, private, and/or regional water supply facilities, including development of alternative water supplies from those projects identified in the regional water supply plan. Miami-Dade County uses a 20-year planning period to correspond to the timeframe of the County's Water Use Permit and comply with CDMP Objective WS-7. The update of the Water Supply Facilities Work Plan and associated revisions to the CDMP are in response to these mandated requirements.

The County's projected finished water demands are now markedly lower than anticipated when the Water Use Permit was issued in 2007 and modified in 2010 and 2012. This decrease is due to slower population growth and the continued successful implementation of the County's Water Conservation Plan. Reductions in the projected finished water demands have eliminated the need for several costly alternative water supply projects in their entirety and postponed the need for other alternative water supply projects by several years. The proposed amendment revises "Table 1: Alternative Water Supply Projects (2014-2033)" of the Water and Sewer Subelement of the CDMP to remove and postpone the alternative water supply projects that were no longer needed as a result of reductions in projected water demand. On June 20, 2014, the Miami-Dade County

Water and Sewer Department submitted an application to modify and extend the Water Use Permit to reflect the changes to the projected water demand. Corresponding revisions to the CDMP text are proposed to reflect the proposed extension and modification of the Water Use Permit.

The proposed amendment revises CDMP Policy WS-7A to require that the Water Supply Facilities Work Plan address climate change and sea level rise that may impact the potable water infrastructure and sources. This will provide consistency with CDMP Policy LU-3I which states that “Miami-Dade County shall make the practice of adapting the built environment to the impacts of climate change an integral component of all planning processes, including but not limited to comprehensive planning, infrastructure planning, building and life safety codes, emergency management and development regulations, stormwater management, and water resources management”.

Consistency Review with CDMP Goals, Objectives, Policies, Concepts and Guidelines

Approval of the proposed Application No. 7 would further the implementation of the following CDMP objectives and policies:

Policy CON-4G. In accordance with the goals of the South Florida Water Management District's Lower East Coast Regional Water Supply Plan and Objective WS-7, and its related policies, Miami-Dade County shall develop alternative water supply sources to supplement withdrawals from the Biscayne Aquifer. Such sources may include withdrawals from the Floridan Aquifer, implementation of water conservation methods and projects, and development of reclaimed and wastewater reuse strategies and projects.

Policy WS-6A. Miami-Dade County shall continue to utilize, expand and pursue the development of new potable water wellfields and alternative water supplies to meet the County's existing and future water supply needs. After 2013, Miami-Dade County will meet all water supply demands associated with new growth from alternative water supply sources, which may include: withdrawals from the Floridan Aquifer, implementation of water conservation methods, and development of reclaimed and wastewater reuse strategies.

Policy WS-6D. In the development of its future potable water supplies, Miami-Dade County shall, to the maximum extent feasible, utilize methods which preserve the integrity of the Biscayne Aquifer, protect the quality of surface water and related ecosystems, consider and are compatible with the South Florida Water Management District's Lower East Coast Regional Water Supply Plan and the current Water Use Permit, and comply with the land use and environmental protection policies of the Miami-Dade County CDMP, the Strategic Regional Policy Plan for South Florida, and the State Comprehensive Plan.

Objective WS-7. Miami-Dade County shall create a Water Supply Facilities Work Plan that identifies and develops those water supply projects necessary to meet the County's projected water demands for a 20-year period.

Policy WS-7A. The Miami-Dade County Water Supply Facilities Work Plan (Work Plan), as prepared by the Miami-Dade County Water and Sewer Department and adopted by the Miami-Dade County Board of County Commissioners in April 2008 and subsequent approvals, is incorporated by reference into the CDMP. This document is designed to: assess current and projected potable water demands; evaluate the sources and capacities of available water supplies; and, identify those water supply projects, using all available technologies, necessary to meet the County's water demands for a 20-year period. The Work Plan shall remain consistent with the County's Water Use Permit renewals and with the goals of the South Florida Water Management District's Lower East Coast Regional Water Supply Plan. The Work Plan will be updated, at a minimum, every 5-years and within 18 months after the South Florida Water Management District's approval of an updated Lower East Coast Regional Water Supply Plan. Updates to the water supply facilities necessary to satisfy projected water demands shall be provided to the South Florida Water Management District in the Annual Lower East Coast Progress Report. The potable water supply facilities necessary to satisfy projected water demands during the 2010-2030 period are shown in Table 1, below.

Policy WS-7B. The County shall consider the most recent approved version of South Florida Water Management District's Lower East Coast Regional Water Supply Plan in developing and updating its 20-Year Work Plan.

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APPENDICES

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Appendix A

Amendment Application

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**APPLICATION REQUESTING AMENDMENT TO THE
COMPREHENSIVE DEVELOPMENT MASTER PLAN**

1. APPLICANT

Miami-Dade County Water and Sewer Department
3071 SW 38th Avenue, Suite 547
Miami, Florida 33146
(786) 552-8120

2. APPLICANT'S REPRESENTATIVE

Bill Johnson, Director
Miami-Dade County Water and Sewer Department
3071 SW 38th Avenue, Suite 547
Miami, Florida 33146

By:  June 2014

3. DESCRIPTION OF REQUESTED CHANGES¹

Amend the Comprehensive Development Master Plan (CDMP) Water, Sewer, & Solid Waste Element as follows:

WS-7A. The Miami-Dade County Water Supply Facilities Work Plan (Work Plan), as prepared by the Miami-Dade County Water and Sewer Department and adopted by the Miami-Dade County Board of County Commissioners in April 2008 and subsequent approvals, is incorporated by reference into the CDMP. This document is designed to: assess current and projected potable water demands; evaluate the sources and capacities of available water supplies; and, identify those water supply projects, using all available technologies, necessary to meet the County's water demands for a 20-year period. The Work Plan shall remain consistent with the County's Water Use Permit renewals and with the goals of the South Florida Water Management District's *Lower East Coast Regional Water Supply Plan*. The Work Plan will be updated, at a minimum, every 5-years and within 18 months after the South Florida Water Management District's approval of an updated *Lower East Coast Regional Water Supply Plan*. Updates to the water supply facilities necessary to satisfy projected water demands shall be provided to the South Florida Water Management District in the Annual Lower East Coast Progress Report. The Work Plan shall address climate change and sea level rise that may impact the potable water infrastructure and sources. The potable water supply facilities necessary to satisfy projected water demands during the ~~2010-2030~~ 2014-2033 period are shown in Table 1, below.

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19B-30, Table 12	Phase 1 (10 MGD)				
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29, Table 8 See note	West District W.R.P. Canal Recharge Phase 1 (21 mgd)	This water reclamation plant project includes the construction of a new wastewater plant incorporating technologies capable of achieving those treatment levels required for canal recharge or any other alternative discharge that may be approved. This plant will be expanded for Phase 3.	2021	665	
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³ Estimated cost based on adopted FY 2012-2013 budget. ~~The estimated cost for West District W.R.P. Phase 1 and Phase 2 is based on a Planning construction cost and not included in the adopted FY 2012-2013 budget and is included in the County's Water Use Permit issued by SFWMD on July 16, 2012.~~

4. REASONS FOR CHANGE

The Lower East Coast Regional Water Supply Plan was adopted by the South Florida Water Management District Governing Board in September 2013. Pursuant to Section 163.3177(6)(c)3 of the Florida Statutes, the County is required to revise the Water, Sewer and Solid Waste Element ("Element") of the Comprehensive Development Master Plan (CDMP) to adopt a water supply facilities work plan at least every 5 years within 18 months after a water management district's governing board approves an updated regional water supply plan. The Element must identify alternative water supply projects, traditional water supply projects and conservation and reuse necessary to meet water needs and include a work plan, covering at least a 10-year planning period, for development of public, private, and/or regional water supply facilities, including development of alternative water supplies from those projects identified in the regional water supply plan. The update of the Water Supply Facilities Work Plan and associated updates to the CDMP are in response to these mandated requirements.

In addition, CDMP Policy WS-7A is being amended to require that the Water Supply Facilities Work Plan address climate change and sea level rise that may impact the potable water infrastructure and sources. This will provide consistency with CDMP Policy LU-3I which states that "Miami-Dade County shall make the practice of adapting the built environment to the impacts of climate change an integral component of all planning processes, including but not limited to comprehensive planning, infrastructure planning, building and life safety codes, emergency management and development regulations, stormwater management, and water resources management".

5. ADDITIONAL MATERIALS SUBMITTED

None

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APPENDIX B

Water Supply Facilities Work Plan – Executive Summary

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Water Supply Facilities Work Plan Update

Executive Summary

The Update to the Miami-Dade Water and Sewer Department's (MDWASD) 20-Year Water Supply Facilities Work Plan is prepared as required by Section 163.3177(6)(c)3 of the Florida Statutes. Said statutory provision requires all local governments to adopt a water supply work plan that identifies the alternative water supply projects, traditional water supply projects and conservation and reuse measures necessary to meet projected water demand. The work plan is to be updated, at a minimum, every five years and within 18-months of an adopted update to the regional water supply plan. The Lower East Coast (LEC) Regional Water Supply Plan was adopted by the South Florida Water Management District Governing Board in September 2013.

The Water Supply Facilities Work Plan Update presents MDWASD's water supply systems and provides a plan for implementing water supply facilities, including the development of traditional and alternative water supplies necessary to serve existing and new development.

This Water Supply Facilities Work Plan Update includes the following primary sections:

Section 1 - Introduction

Section 2 – Water Service Area

Section 3 – Existing Water Supply Facilities

Section 4 – Population and Water Demand Projections

Section 5 – Planned Water Supply Facilities

Section 6 – Climate Change and Sea Level Rise Plan

The County's projected finished water demands are now significantly lower than anticipated when the first 20-year water use permit application was submitted to South Florida Water Management District (SFWMD) in 2007. The updated water demand projections have resulted in a 71 million gallons per day (mgd) decrease by the year 2030. This demand reduction has eliminated the anticipated supply shortages which were the basis for an ambitious schedule of several costly alternative water supply projects which are no longer required or needed. As such, reuse projects to address water supply have been eliminated. However, MDWASD will be implementing a total of 117.5 mgd of reuse to address the Ocean Outfall Legislation which includes 27.6 mgd of Floridan Aquifer Recharge and up to 90 mgd of reuse water to FPL for Turkey Point Units 5, and 6.

The decrease in water demands has been a result of the successful implementation of the County's Water Conservation Plan, and new population projections based on the 2010 Census.

Through 2013, a total of 11.2 mgd have been saved through the implementation of the Water Conservation Plan Best Management Practices. Additionally, Miami-Dade County has enacted water use efficiency-legislation including permanent landscape irrigation restrictions, landscape ordinances requiring Florida Friendly landscaping in new construction, in right of ways, and the installation of high efficiency plumbing fixtures in new construction

Based on the decrease in water demands, MDWASD submitted an application for modification and extension of the 20-year Water Use Permit (WUP) on June 20, 2014. The requested modification to the WUP included new population data, revised water demand projections and alternative water supply projects to support water demands through the year 2033. The alternative water supply project includes a new South Miami Heights Reverse Osmosis Water Treatment Plant with a capacity of 17.45 mgd. This update to the Water Supply Plan reflects the water supply projects required per the WUP Modification request, which is anticipated to be approved by November 2014.

In addition, MDWASD's evaluation and planning for sea level rise and climate change is detailed over the planning horizon in the Work Plan. The primary concern to MDWASD water supply is salt water intrusion into the freshwater Biscayne aquifer, the primary source of drinking water in Miami-Dade County. Results of evaluation and data analysis completed to date indicate that within the next thirty years, MDWASD will be able to operate its wellfields and water treatment facilities as designed, as groundwater modeling indicates even with a high level of projected sea level rise, the wellfields will not be impacted by salt water intrusion. Further modeling is currently underway to extend the planning scenarios fifty years out, and will include climate change such as increases and decreases in annual precipitation, and extreme weather events.