

4. INFRASTRUCTURE ELEMENT

Goals, Objectives and Policies

GOAL 4-1: TO CONTINUE PROVISION OF COST-EFFECTIVE WASTEWATER TREATMENT AND ENVIRONMENTALLY ACCEPTABLE EFFLUENT DISPOSAL.

OBJECTIVE 4-1.1: MAXIMIZE USE OF EXISTING WASTEWATER TREATMENT SYSTEM. The City shall maximize use of the regional wastewater treatment system by efficiently maintaining the system's infrastructure and operations according to acceptable operating health standards and without relying upon or placing a burden on the City's General Fund.

Policy 4-1.1.1: Priority for the Replacement of Force Mains. Priority for the replacement of force mains shall be given to lines serving designated Activity Centers according to the following order:

- a. Regional Business Center
- b. West Town Center
- c. East Town Center
- d. Gateway Center

Policy 4-1.1.2: Prohibit Package Treatment Plants and Septic Tanks. The City will prohibit package wastewater treatment plants and septic tanks by requiring all new development to connect to the central wastewater system prior to issuance of a certificate of occupancy.

Policy 4-1.1.3: Elimination of Septic Tanks. The City shall evaluate solutions and programs for the elimination of existing septic tanks by requiring connection to the City's wastewater system. The City will not issue building permits for any new development, or redevelopment, using septic tanks within the City limits, except on an interim basis as approved by the City Engineer.

Policy 4-1.1.4: Service to Annexed Properties. All properties seeking annexation to the City shall agree to connect to the City sewer system as a condition of the annexation. If sewer lines are not accessible to the property at the time of annexation, an annexation agreement shall require the property owner to connect to the system according to the schedule set forth within said agreement at cost to the property owner. Undeveloped properties will be required to connect to the City's system at the time of development.

Policy 4-1.1.5: New Development to Connect to Project APRICOT. The City will continue to require all new development to connect to Project APRICOT (the reclaimed water system).

Policy 4-1.1.6: Cost Containment for Operation and Maintenance. The wastewater treatment system, including Project APRICOT, shall establish and levy user fees capable of supporting operation and maintenance costs without relying upon revenues within the City's General Fund.

Policy 4-1.1.7: Operation of Wastewater System. The Regional Wastewater Reclamation Facility and APRICOT shall be maintained and operated to comply with mandated Florida Department of Environmental Protection (FDEP) health and operation standards. Highest priority

for the funding of system improvements shall be given to those necessary to maintain required State operating standards.

Policy

OBJECTIVE 4-1.2: MAINTAIN CAPACITY PURSUANT TO WASTEWATER LEVEL OF SERVICE STANDARDS. System capacity shall be provided consistent with adopted level of service (LOS) standards.

Policy 4-1.2.1: Wastewater LOS Standards. The City's wastewater treatment system shall provide capacity according to the following LOS standard for each of the following land use types:

City Service	LOS Standard
Sanitary Sewer	105 gallons per capita per day
Land Use Service Category	LOS Standard
Single Family Residential	300 gallons per day per unit
Multi-family Residential	135 gallons per day per unit
Commercial	175 gallons per day per 1,000 SF
Hotel and Motel	175 gallons per day per unit
Office	150 gallons per day per 100 SF
Industrial and Warehouse	25 gallons per day per 1,000 SF

Policy 4.1.2.2: System Improvements to Maintain LOS Standards. The City shall annually assess the availability and capacity to estimate future demand generated by anticipated growth and development within the regional service area to update capacity needs for the current fiscal year and at least the following four fiscal years. Should the analysis indicate future demands would exceed design capacity of the wastewater system, the City shall plan and schedule improvements to expand system capacity according to available revenues generated by customer user fees.

Policy 4-1.2.3: LOS Evaluation for Multiple Use Developments. The LOS standards shown above will also apply to projects with multiple uses according to the proportional share for each use within the project.

Policy 4-1.2.4: LOS Analysis for Development within the City. The City shall evaluate wastewater demands for new development within the City according to LOS standards set forth in Policy 4-1.2.1.

Policy 4-1.2.5: LOS Analysis for Development outside the City. The City has entered into agreements with other local governments to provide them with wastewater treatment services according to a designated allocation of the wastewater system's design capacity. The City shall evaluate available capacity for development and growth within the City according to the net capacity remaining after reducing system capacity assigned to other public or private agencies. However, each local government or private agency receiving wastewater treatment service from Altamonte Springs shall be responsible for evaluating and monitoring growth and development within their communities or service area according to the system capacity assigned within their wastewater

agreement with the City of Altamonte Springs. The City shall be responsible for assuring that capacity is available to other local governments consistent with the service agreement, but shall not be responsible for assigning capacity to development within those communities. Assignment of capacity to development outside the City shall be the concurrency management responsibility of the local government in which the development occurs.

OBJECTIVE 4-1.3: SERVICE EXTENSION OUTSIDE CITY LIMITS. The City shall not allow the extension of wastewater transmission lines beyond the current City limits except in furtherance of an interlocal agreement to provide wholesale or retail service in conformance with the 201 Facility Plan.

Policy 4-1.3.1: Septic Tank and Treatment Plant Failures. In agreement with neighboring public or private agencies, the City shall commit any available capacity for service should septic tanks fail or any treatment plant fail to meet FDEP requirements.

Policy 4-1.3.2: Assure Capacities for Development within Altamonte Springs and for Current Customers. At the time the City enters into an interlocal agreement or contract to provide, or provide additional, wholesale or retail sewer to another public entity, the City, prior to approval of the agreement or contract and an accompanying comprehensive plan amendment, would project such flows into its Concurrency Management System to evaluate whether available capacity exists for the expansion for the planning period and evaluate the capacity of the system to ensure that the levels of service are maintained for development and customers within the City and for capacity commitments to whole and retail customers.

Policy 4-1.3.3: Wholesale Wastewater Service Agreements. The City commits to maintaining existing wholesale wastewater service agreements and contracts to the term limits stated in these agreements; or, if term limits are not specified, then the City commits to maintaining service indefinitely or at such a time the agreement is modified.

OBJECTIVE 4-1.4: IMPLEMENTATION OF WASTEWATER IMPROVEMENTS. The City will implement the capital improvements program for sanitary sewer contained in the Capital Improvement Element in order to maintain the adopted LOS standard.

Policy 4-1.4.1: Gravity Sewer Line Improvements. The City will implement the Capital Improvement Program as shown in the Capital Improvement Element to construct gravity sewers as operational improvements.

Policy 4-1.4.2: Elimination of Deficiencies. Should a deficiency occur in plant capacity, the City will amend the Plan to correct identified plant capacity deficiencies.

OBJECTIVE 4-1.5: SYSTEM DESIGN TO DISCOURAGE SPRAWL. The City will discourage sprawl by maximizing the use of existing sewer services and facilities in infill development areas, enclave areas and Activity Centers consistent with the Future Land Use Element:

Policy 4-1.5.1: Maximize Existing System. The City shall maximize the use of existing sewer capacity by maintaining existing systems and upgrading existing systems to support infill areas, enclave areas and Activity Centers.

Policy 4-1.5.2: Evaluate Effects of Wastewater Service Area Expansion. Prior to the expansion of the wastewater system's retail sewer service area, the City shall require a finding that the expansion will not have a detrimental effect on the City's ability to provide service to all areas.

Policy 4-1.5.3: Priorities for System Extensions. The City shall give priority to providing sewer service to areas that are infill, enclave or redevelopment areas before providing service to fringe areas or areas external to the City limits boundaries.

Policy 4.1.5.4: Extension Consistent with Comprehensive Plans. The City shall not provide sewer service for areas outside the City that would permit uses inconsistent with the City's and Seminole County's land use plans or that would permit or encourage urban sprawl. Service would not be provided until the property to be serviced is redeveloped or a determination is made that the service would not permit or encourage urban sprawl.

Policy 4-1.5.5: Service to Properties outside the City Limits. The City will allow sanitary sewer connections to those properties that are within the municipal boundaries of Altamonte Springs. Those properties located outside of the municipal boundaries of the City that are requesting connection to the sanitary sewer system must either (1) annex into the City prior to receiving sanitary sewer service, or (2) pay an outside City surcharge for sanitary sewer service to cover administrative costs that may otherwise be funded through other City general revenue.

GOAL 4-2: TO PROVIDE EFFICIENT SOLID WASTE COLLECTION SERVICES AT THE LOWEST COST POSSIBLE AND TO DECREASE SOLID WASTE GENERATION RATES.

OBJECTIVE 4-2.1: PROVIDE ADEQUATE SOLID WASTE COLLECTION SERVICES. The City will ensure that enough solid waste collection facilities and equipment are available at all times to provide no less than 1) weekly pickup for commercial and industrial customers by private franchises and 2) twice weekly pickup for single family residential customers by the City. The City will coordinate with Seminole County to ensure that the County provided facilities will continue to maintain sufficient capacity to accommodate solid waste generated by the City. This objective shall be measured through the implementation of the following policies.

Policy 4-2.1.1: Solid Waste Disposal LOS Standards. The City hereby adopts the following Seminole County solid waste LOS standards and will work with Seminole County to recalculate the LOS standards when needed. The LOS standards are as follows:

Planning Period	LOS Standard (PCD)	
	Seminole County Landfill At Osceola Road	Central Transfer Station
Thru 2030	4.2	4.3

PCD – pound per capita per day.

Policy 4-2.1.2: Solid Waste Collection LOS. The City shall provide a minimum LOS standard of one pickup per week for standard service to single family and duplex residential customers. Such service includes standard trash but does not include recycling, yard waste, large items that require special pickup.

Policy 4-2.1.3: Solid Waste Collection Service for Multi-Family Residential and Non-Residential. Through its franchise agreements with refuse collection companies serving multi-family and non-residential customers, the City will continue to ensure that collection occurs no

less than one time per week; that refuse is transferred to fully licensed disposal facilities; and that all materials, including those banned from Class I landfills, are deposited in proper facilities.

Policy 4-2.1.4: Intergovernmental Task Force on Solid Waste. The City will continue to participate in the Seminole County Intergovernmental Task Force on Solid Waste Management and Recycling to ensure that solid waste disposal is coordinated in order to maximize the use of existing facilities and that adequate solid waste facilities are provided to maintain the current LOS standard.

OBJECTIVE 4-2.2: RECYCLING PROGRAMS. The City waste management system shall maintain a recycling rate consistent with the requirements of the Florida State Solid Waste Management Act through the development of cost-effective measures that reduce the amount of waste requiring disposal. Such measures shall include an increased reliance on recycling programs.

Policy 4-2.2.1: Continue Recycling Programs. The City will continue to engage in recycling of clear glass, plastics, newspapers, steel and aluminum cans from single family residence through an Interlocal agreement with Seminole County.

Policy 4-2.2.2: Yard Waste. The City will continue to provide yard waste pickup for single family and duplex properties.

Policy 4-2.2.3: Hazardous Waste. The City through an interlocal agreement will continue to participate in the amnesty days coordinated by Seminole County and utilize the County's household hazardous waste collection sites in order to provide for the disposal of hazardous waste by households.

Policy 4-2.2.4: Intergovernmental Coordination Regarding Recycling. The City will continue participation in the Intergovernmental Task Force on Solid Waste Management and Recycling in order to examine waste stream reduction and recycling practices.

Policy 4-2.2.5: Expand Markets for Recycled Products. Promote new and expanded markets for products and materials created from recycled wastes through cooperative State and Federal efforts, County and City purchasing policies, and by encouraging the purchase of such products by County and City vendors, clients and citizens.

GOAL 4-3: TO CONTINUE TO SUPPLY POTABLE WATER TO MEET EXISTING AND FUTURE NEEDS, TO CONSERVE RESOURCES AND TO REDUCE POTABLE WATER SYSTEM DEMAND THROUGH WASTEWATER EFFLUENT RECLAMATION.

OBJECTIVE 4-3.1: MAINTAINING AND FUNDING POTABLE WATER SYSTEM. The City shall maintain LOS standard for potable water to meet both existing and future needs identified in this Plan through implementation of required extension of distribution lines and routine system maintenance to be funded through user fees. Extension of potable water lines shall be funded by the developments being served on an equitable pro rata cost sharing basis. All improvements for replacement, expansion or increase in system capacity shall conform to the adopted LOS standards.

Policy 4-3.1.1: System-Wide LOS Standard. On a system wide basis, the City shall provide a LOS standard of at least 135 gallons per capita per day.

(Revised: Ordinance 1676-14, Adopted 7/1/14)

Policy 4-3.1.2: LOS Standard by Land Use Type. The City's potable water system will use the following recommended LOS standards:

City Service	LOS Standard	
Potable Water	135 gallons per capita per day	
Land Uses	Average Daily Flow	Peak Daily Flow
Commercial	175 GPD per 1,000 sq. ft.	260 GPD per 1,000 sq. ft.
Office	150 GPD per 1,000 sq. ft.	255 GPD per 1,000 sq. ft.
Industrial	25 GPD per 1,000 sq. ft.	40 GPD per 1,000 sq. ft.
Hotel/Motel	175 GPD per room	300 GPD per room
Single Family Residential	300 GPD per unit	560 GPD per unit
Multifamily Residential	135 GPD per unit	225 GPD per unit
Public Education Facilities ⁽¹⁾	15 GPD per student	25 gals/day/student

Note: ⁽¹⁾ The public education standards are estimated from current use records.
(Revised: Ordinance 1676-14, Adopted 7/1/14)

Policy 4-3.1.3: Multiple Use Projects. The LOS standards shown in Policy 4-3.1.2 will also apply to multi-use projects in proportion to the percentage of the use in the project.

Policy 4-3.1.4: LOS for Fire Safety Purposes. In order to ensure that adequate fire flow is available, all new construction for the potable water system shall be designed and maintained at a minimum of 20 pounds per square inch (psi) and pressure tested at 150 psi.

Policy 4-3.1.5: 10-Year Water Facilities Work Plan. The City, in cooperation with the St. Johns River Water Management District (SJRWMD) and affected local governments, completed a 10-Year Water Facilities Work Plan to include the development of alternative water supplies as necessary to serve existing and new development. This Work Plan meets the requirements of section 163.3177(4)&(6) F.S., and is consistent with the SJRWMD's updated Water Supply Plan approved pursuant to section 373.0361 F.S, and included with this Element as an exhibit. The City of Altamonte Springs' Water Supply Facility Work Plan is hereby incorporated into this Plan in Chapter 8, the Capital Improvement Element Policy 8-1.2.11. The City shall include in its annual update of the City's Five-Year Capital Improvement Plan (CIP) the first five years of the 10-year Water Supply Facility Work Plan to ensure consistency between the potable water sub-element and the Capital Improvement Element.

Policy 4-3.1.6: Alternative Water Supplies. The City shall continue to coordinate with the SJRWMD and public and private water suppliers in the research, analysis and possible implementation of viable alternative water supply and conservation projects, including the following active projects:

- (a) *Reclaimed Storage and Retrieval Pond:* The City shall construct additional reclaimed water storage to better manage seasonal/peak demand and reduce groundwater use for irrigation in accordance with CUP condition No. 20.
- (b) *Cranes Roost Integrated Stormwater and Reclaimed Water Facility Feasibility Study:* The City shall evaluate an integrated reclaimed water (stormwater) reuse system to more efficiently manage seasonal reclaimed water demands, reduce groundwater withdrawals and river discharges, and provide reclaimed water to regional partners.

OBJECTIVE 4-3.2: CONTINUE RECLAIMED WATER PROGRAMS AND SERVICES. The City shall continue to encourage the use of reclaimed water for all non-potable water needs within Altamonte Springs.

Policy 4-3.2.1: Trunk Line Extensions. The City will continue construction of the main trunk lines for the reclaimed water system.

Policy 4-3.2.2: Maximize Use of Dual Distribution System. The City will require that all customers use the dual distribution water system for non-potable uses to the maximum extent possible.

OBJECTIVE 4-3.3: POTABLE WATER CONSERVATION. In order to implement the potable water LOS standards, the City shall conserve potable water supply by continuing distribution of reclaimed water as a source for non-potable water. Similarly, the policies directed below shall serve to implement the City's potable water conservation objective by requiring water saving fixtures in new construction and mandating use of low water use vegetation for purposes of reducing demands for irrigation. The City shall also assist in implementing the SJRWMD's emergency water conservation programs as necessary.

Policy 4-3.3.1: Conservation Enforcement. The City will cooperate in the enforcement of any emergency water conservation plans instituted by SJRWMD by continuing to direct the City's Police Department to issue citations to those individuals who do not comply with emergency water conservation rules where reclaimed water is not available.

Policy 4-3.3.2: Promote Low Water Use Landscaping and Plants. The Land Development Code shall continue to require the use of waterwise vegetation in required landscaping areas.

Policy 4-3.3.3: Water Conservation Education Programs. The City will continue to educate water users in the use of water conservation techniques in the home.

Policy 4-3.3.4: Evaluate APRICOT Impact on Water Consumption Rates. The City shall annually evaluate the effects Project APRICOT has on the reduction of potable water use on the City's water system.

Policy 4-3.3.5: Continue Reclaimed Water Program and Improvements. The City will continue construction and maintenance of the main trunk lines for the reclaimed water system.

Policy 4-3.3.6: Mandatory Connection to APPRICOT System. All new development shall be required to connect to the Project APRICOT system prior to the issuance of a Certificate of Occupancy. If Project APRICOT system lines are not accessible to the property, no Certificate of Occupancy shall be issued until the property owner has executed a recordable agreement with the City requiring connection at cost to the property owner within one year after Project APRICOT systems lines are accessible to the property.

OBJECTIVE 4-3.4: DISCOURAGE URBAN SPRAWL. The City will discourage sprawl by maximizing use of existing water services and facilities provided to infill development areas, enclave areas and Activity Centers consistent with the uses allowed in the Future Land Use Element.

Policy 4-3.4.1: Emergency Assistance to Adjacent Governments and Utility Agencies. The City commits to maintaining existing emergency potable water connection agreements with adjacent utilities to the term limits as stated in these agreements; or, if term limits are not specified, then the City commits to maintaining service indefinitely or at such time the agreement is modified.

Policy 4-3.4.2: Service to Development Outside City Limits. Prior to the expansion of the City's retail potable water service area, the City shall require a finding that the expansion will not have a detrimental effect on the City's ability to provide service to all areas within the current service area.

Policy 4-3.4.3: Assure Capacity for Users within the City. The City commits to maintaining existing wholesale potable water service agreements and contracts to the term limits as stated in these agreements; or, if term limits are not specified, then the City commits to maintaining service indefinitely or at such time the agreement is modified.

Policy 4-3.4.4: Service Extension Compatible with Comprehensive Plans. The City shall not provide potable water service for areas outside the City that would serve uses inconsistent with the City's and Seminole County's land use plans or what would permit or encourage urban sprawl. Service would not be provided until the property is redeveloped or developed with use(s) consistent with both plans and a determination is made that such expansion will not permit or encourage urban sprawl.

Policy 4-3.4.5: Connections outside the City. The City will allow potable water connections to those properties that are within the municipal boundaries of Altamonte Springs. Those properties located outside of the municipal boundaries of the City that are requesting connection to the potable water system must either (1) annex into the City prior to receiving potable water service or (2) pay the outside City surcharge for potable water service.

Policy 4-3.4.6: Petitions for Annexations. All petitions for annexation involving properties not connected to the City's utilities shall enter into an agreement with the City that establishes a schedule for connection to City potable water, sanitary sewer, and the Project APRICOT systems. All costs to connect to these systems shall be borne by the property owner. If all systems are not within right-of-way or easements accessible to the property, the City shall include as part of the annexation agreement conditions mandating connection at cost to the property owner according to the schedule determined by the City. Such agreement shall be executed prior to any City Commission final hearing regarding the annexation petition, but in no manner will execution of said agreement represent City approval of the annexation prior to final public hearing. The City may require a performance bond or cash escrow to assure compliance with the connection schedule.

GOAL 4-4: TO MANAGE STORMWATER THROUGH A COST-EFFECTIVE PROGRAM WHICH WILL MINIMIZE DEGRADATION OF SURFACE WATERS AND PREVENT FLOODING THROUGHOUT THE CITY.

OBJECTIVE 4-4.1: ADEQUATE STORMWATER FACILITIES. The City shall continue to identify and correct existing stormwater deficiencies on an annual basis and meet long-term needs. Priorities will be placed on basins where water bodies have an established Total Maximum Daily Load (TMDL) and areas where flooding poses a threat to public safety.

Policy 4-4.1.1: Master Stormwater Management Plan. The City will continue to assess, prioritize, and implement stormwater capital improvement projects and retrofits identified in the City's Master Stormwater Management Plans (MSMPs) more specifically, the Altamonte Springs Stormwater Management Master Plan (ASSMMP) (1996); the Wekiva Parkway and Protection Act Master Stormwater Management Plan (WPPAMSMP) (November 2005); and the Little Wekiva River Watershed Management Plan (LWRWMP) (November 2005).

Policy 4-4.1.2: Prioritize Improvements and Deficiencies. The City will prioritize any capital improvements and deficiencies which affect stormwater management in the Wekiva Study Area (defined in section 369.316 Florida Statutes) as identified in the Wekiva Parkway and Protection Act Master Storm Water Management Plan. Within the Wekiva Study Area, the City shall prioritize those projects that meet the conditions outlined in Objective 4-4.1.

Policy 4-4.1.3: Project Funding. The City shall utilize its Stormwater Utility Fee to fund projects identified in the Wekiva Parkway and Protection Act Master Storm Water Management Plan, which have not already been addressed and implemented. Additionally, the City will seek alternative funding sources (i.e., grants), and joint partnerships that will result in more efficient construction or an improved LOS.

Policy 4-4.1.4: Capital Improvement Element Update. The City shall ensure that the Capital Improvement Element be evaluated annually, and amended as necessary, to reflect those projects identified in the Wekiva Parkway and Protection Act Master Storm Water Management Plan.

(Revised: Ordinance 1676-14, Adopted 7/1/14)

Policy 4-4.1.5: Stormwater Utility Fee. The City will continue to use the proceeds of the Stormwater Utility Fee exclusively for stormwater improvements and maintenance.

Policy 4-4.1.6: LOS Standard. The City hereby establishes the following LOS standards for stormwater quantity and quality and such LOS standards shall apply to all development and redevelopment:

- (a) The lowest floor elevation of a habitable structure must be at least one foot above the 100-year, Base Flood Elevation (BFE) flood plain as set by the Federal Emergency Management Agency (FEMA). In areas designated as flood hazard areas but where a BFE has not been established by FEMA, a flood study by a Florida-registered Professional Engineer and accepted by the City is required to determine the 100-year flood plan. No portion of any structure which reduces the storage capacity of the flood hazard area may be constructed within the limits of the flood hazard area unless equal replacement storage volume is provided by acceptable stormwater construction techniques. No construction shall result in a rise in floodways established by FEMA.

(b) Sites shall conform to the following design standards:

Development Type	Standard
Landlocked drainage basin-primary system design standard:	
New Development	Retain the difference in pre-development versus post-development run-off volume during the 100-year, 24-hour storm event (10.6 inches) and the SJRWMD criteria for water quality and water quantity treatment, independent of project size.
Redevelopment	Retain the difference in pre-development versus post-development run-off volume during the 100-year, 24-hour storm event (10.6 inches) and the SJRWMD criteria for water quality and water quantity treatment, independent of project size. In addition, under no circumstances should the volume of storage be reduced from what is provided in the existing condition.
Activity Centers	Retain the difference in pre-development versus post-development run-off volume during the 25-year, 6-hour storm event (6 inches) and the SJRWMD criteria for water quality treatment, independent of project size. In addition, under no circumstances should the pre versus post development runoff exceed existing conditions.
Positive Outfall (Riverine) drainage basis-primary system design standard:	
New Development	Detain the difference in pre-development versus post-development run-off volume and rate of the 10-year, 3-hour storm event (4.3 inches) and the SJRWMD criteria for water quantity and quality, independent of project size.
Redevelopment	Detain the difference in pre-development versus post-development run-off volume and rate of the 10-year, 3-hour storm event (4.3 inches) and the SJRWMD criteria for water quantity and quality, independent of project size. In addition, under no circumstances should the volume of storage be reduced from what is provided in the existing condition.
For secondary system such as roads and storm sewer systems, the design storm shall be the 10-year storm event, using the "Rational method."	

- (c) Flooding of major arterial roadways shall be limited to one half of the outer travel lane width using peak intensity for the 10-year storm.
- (d) Flooding of local streets shall be limited from exceeding one inch above the crown of the road.
- (e) Local streets shall not flood to such an extent that they become impassable to emergency vehicles.
- (f) Any existing structure with a first floor elevation below the 100-year floor elevation will be treated as a nonconforming use.
- (g) Any new development will be built in such a manner that the development will not exceed the downstream capacity for rate and volume of runoff for the storm events listed above.
- (h) Discharge to natural water bodies shall be consistent with state standards as stated in 62.302.560, F.A.C., and the National Pollution Discharge Elimination System (NPDES) Stormwater Standards.
- (i) For projects located within an area common to the city’s Regional Business Center (also known as the Central Business District or CBD) and Cranes Roost water shed, the City may allow the

project to be developed using the SJRWMD conceptual permit criteria associated with the Cranes Roost Integrated Surface Water and Reclaimed Water Facility.

- (j) Design requirements may be waived by the City Engineer for developments that discharge into a permitted master system that has been designed, permitted, and improved by the City for the purpose of facilitating development within the City's activity centers.

(Revised: Ordinance 1676-14, Adopted 7/1/14)

Policy 4-4.1.7: Flood Program Information. The City will provide information to those residents and to the business community whose homes or structures are in the current 100-year floodplain as how to flood-proof their property in a manner consistent with FEMA, Housing and Urban Development (HUD), state and local standards.

Policy 4-4.1.8: Stormwater System Maintenance. As a permittee of the National Pollutant Discharge Elimination System (NPDES) Stormwater Program, the City shall continue to conduct annual inspections of public and private stormwater systems, as well as, provide adequate maintenance on publicly maintained stormwater systems.

Policy 4-4.1.9: Annual Update of the Capital Improvement Element. The City shall ensure that necessary projects and maintenance activities are included in the annual update of the Capital Improvement Element to address identified deficiencies of publicly maintained stormwater systems.

Policy 4-4.1.10: Stormwater Best Management Practices. The City shall require that all development, except non-substantial redevelopment projects, utilize best management practices (BMP) in combinations to protect water quality and minimize flooding. BMPs shall be used in the design of stormwater management systems. The following stormwater BMPs shall be instituted to reduce the nutrient loading within the Wekiva Study Area:

- (a) All residential development shall use swales with swale blocks or raised driveway culverts whenever possible, except when soil, topography, or seasonal high water conditions are inappropriate for infiltration as determined by a professional engineer licensed in the State of Florida.
- (b) Vegetated infiltration areas shall be used to provide stormwater treatment and management on all sites except when conditions listed under (a) are present. Design of the stormwater systems for residential and commercial uses shall use bio-retention areas (below grade vegetated areas) to increase stormwater treatment and reduce stormwater volume. Downspouts for both residential and commercial development shall be directed from the roof to vegetated areas for uptake.
- (c) Whenever infiltration systems are not feasible, wet detention systems shall be used for stormwater treatment and management.
- (d) Sensitive karst features, including sinkholes with a direct connection to the aquifer and stream-to-sink features, shall not be utilized as stormwater management facilities. Prior to subdivision approval, all depressions will be investigated by a licensed professional geologist using a professionally acceptable methodology for suitability of water retention area using generally accepted geo-technical practices with an emphasis on identification of potential connections to the aquifer. If connections are determined to exist, the depression shall not be used for stormwater retention and the area draining to this feature under pre-development conditions shall be preserved through a conservation easement.

- (e) Karst features with a direct connection to the aquifer will be identified and placed in a conservation easement so that they will be thereafter used solely for passive recreation subject to permitted activities in subparagraph (d) herein. Based on data and analysis, karst features in the Wekiva Study Area are defined as any sinkholes with a direct connection to the aquifer and stream-to-sink features (swallets).
- (f) All development approval by the City shall require the applicant to submit to the City a copy of the SJRWMD or the FDEP stormwater permit and the NPDES notice of intent to be covered by the construction generic permit prior to any land clearing.
- (g) The City will evaluate and adopt, as appropriate and feasible, BMPs for all stormwater management systems located in the Wekiva Study Area. Systems in high recharge areas and karst sensitive areas should be designed to address maintenance of water quality. Such BMPs may include lining of stormwater ponds, use of biological treatment trains for nutrient and contaminant removal, incorporation of stormwater management systems into landscaping and irrigation, and minimizing directly connected impervious surface areas. These BMPs can include, but not be limited to, those found in the *Wekiva River Basin Coordinating Committee Final Report*, dated March 16, 2004.

Policy 4-4.1.11: Stormwater Reuse Technology. The City shall seek out the best available stormwater reuse technologies and practices for study and implementation.

Policy 4-4.1.12: Reclamation Augmentation. The City shall continue to augment its Regional Wastewater Reclamation Facility with surface water as outlined in the City's Consumptive Use Permit (CUP) authorized by SJRWMD.

OBJECTIVE 4-4.2: PROTECT STORMWATER SYSTEM. In order to ensure the City's ability to meet its established LOS for stormwater facilities and to discourage urban sprawl, the City shall protect its current stormwater management capacity.

Policy 4-4.2.1: Stormwater Impacts from Outside City. Drainage facilities on private property or maintained by the City shall not accept stormwater runoff from sources outside the City limits unless an interlocal agreement has been established with the adjacent local government. In the case of properties subject to a Petition for Annexation, the City Commission may accept stormwater runoff from sources outside the annexed property if such situation exists prior to annexation and the recommendation of the City Engineer. As a condition of annexation, the City may also require modification to the stormwater system at cost to the property owner. Such conditions shall be set forth in an annexation agreement with a schedule for completion of the stormwater improvements.

OBJECTIVE 4-4.3: PROTECT NATURAL DRAINAGE FEATURES. The City will protect its natural drainage features, wetlands and flood prone areas, through enforcement of its existing Flood Hazard Avoidance Regulations and, where appropriate, through the designation of conservation areas by implementing the following policies.

Policy 4-4.3.1: Development in Flood-Prone Lands. A combination of the following requirements governs the limitation and density of development or redevelopment in the city for flood prone lands and protects the natural function of flood plains:

- (a) All development or redevelopment must provide at minimum 25 percent green space;

- (b) Must meet the requirements of the Flood Hazard Avoidance Regulations for the provision of compensating storage. The regulation specifically states:

"No portion of any structure which reduces the storage capacity of the flood hazard area may be constructed within the limits of the flood hazard area unless equal replacement storage volume is provided by acceptable engineering techniques."

Additionally no construction shall result in a rise in floodways established by FEMA.

- (c) Development or redevelopment of any site is subject to the provisions of the Land Development Code in Section 6.1.11 to comply with the stormwater management requirements for prime and non-prime recharge areas or Chapters 62-40, 40C-41, and 40C-42, F.A.C., whichever is more stringent; and
- (d) Development or redevelopment of any site is subject to the provisions of the Land Development Code in Section 6.1.11 and Policy 4-4.1.4. herein to comply with the stormwater management and permitting requirements for attenuation and water quality or Chapters 62-4, 62-40, and 62-302, F.A.C. and Chapters 40C-1, 40C-4, 40C-40, 40C-41, 40C-42, and 40C-44, F.A.C.

Policy 4-4.3.2: Conservation Areas. A conservation area is a floodway of a river or a wetland of sufficient size that hosts a viable wetland habitat and may act as a wildlife corridor. A conservation area is an environmentally sensitive land. The City's Lake Lotus parcel, the acreage owned by Florida Audubon Society, and the floodway of the Little Wekiva River will be identified as conservation areas on the Future Land Use Map and will be subject to the limited uses, i.e., passive parks, as identified in the Future Land Use Element.

Policy 4-4.3.3: Wetland Analysis. Should a proposed development contain any land use cover classification that indicates there is a wetland greater than five acres, the City will require a study of the wetlands by an ecologist, biologist or similar professional to determine whether it is of sufficient size to host a viable wetland habitat and may act as a wildlife corridor. If the study indicates the above is valid, then the City will designate the area a Conservation Area. If it is not found to be a Conservation Area, the land will then be subject to the City's floodplain regulations.

Policy 4-4.3.4: Pre-Treated Runoff. All runoff recharging the Floridan Aquifer shall be pre-treated to remove nutrients and other contaminants so post-development water quality equals pre-development recharge water quality to the greatest extent possible.

Policy 4-4.3.5: Sinkhole Evaluation. All stormwater management and drainage systems proposed to be constructed in karst sensitive areas, areas with known sinkholes, and areas with shallow depth to limestone bedrock, shall be evaluated for the presence of sinkholes through appropriate geotechnical testing. All drainage retention areas shall be tested for the presence of cavities and voids beneath them. No drainage retention areas or other stormwater facilities, excluding conveyance facilities, shall be located over unfilled voids.

Policy 4-4.3.6: Site Plan Recommendations. If there is an existing sinkhole within or adjacent to a development site, or any indication that a sinkhole may develop in the future, then a detailed geological/geotechnical investigation shall be required. This investigation shall be conducted by a professional geologist or engineer experienced in geohydrology and requires a report to be submitted to the City for review. The geologic investigation shall be comprehensive enough that

recommendations for site planning, engineering design, and construction techniques may be made. The City may approve or deny development proposals based upon the scale of the development and the hazards revealed within the investigation.

Policy 4-4.3.7: Land Development Regulations. The City will coordinate with the SJRWMD and administer regulations in the Land Development Code specific to requirements for stormwater structures or facilities located within karst sensitive areas. Such requirements may include evaluations by professional geologists or engineers experienced in geohydrology that certify the area is safe and there is no subsurface connection that may cause contamination or damage to the groundwater.

GOAL 4-5: TO AUGMENT AQUIFER RECHARGE AND PROTECT WELLFIELD CONES OF INFLUENCE.

OBJECTIVE 4-5.1: PROTECT GROUNDWATER RESOURCES. The quality of groundwater will be maintained at levels which are at or above applicable state water quality standards as set forth in Rules 62-520, F.A.C.; and the quality of groundwater will be protected.

Policy 4-5.1.1: Minimum Open Space Requirement. The City will continue to require all development or redevelopment to provide a minimum of 25 percent open space as required in the Land Development Code.

Policy 4-5.1.2: Reuse Practices. The City shall prohibit the use of private irrigation wells for landscape irrigation once property is connected to the City's reclaimed water system. The use of reclaimed water shall not be required if the reclaimed water supply becomes unavailable, is inadequate, or another source is authorized by the SJRWMD.

Policy 4-5.1.3: Reclaimed Water Requirement for New Development. To increase groundwater recharge in the Altamonte Springs area, the City will require all new development and all existing non-residential and multi-family developments to utilize reclaimed water for irrigation.

Policy 4-5.1.4: Promote Use of Reclaimed Water. To increase groundwater recharge in the Altamonte Springs area, the City will promote the use of reclaimed water through citywide efforts to educate residents and the business community on the merits of using reclaimed water.

Policy 4-5.1.5: Enforce SJRWMD Requirements. The City shall enforce the requirements of the SRJWMD as they relate to the retention requirements as stated in Chapter 40C-41.063(3), F.A.C., by requiring SJRWMD permits, where applicable, as a predicate to development activity.
(Revised: Ordinance 1676-14, Adopted 7/1/14)

Policy 4-5.1.6: Protect Cones of Influence. Wellfield standards adopted in the Comprehensive Plan and Land Development Code will restrict or regulate activities in the cones of influence in order to protect water wells from contamination.

Policy 4-5.1.7: Wellfield Protection Zone. The City hereby establishes a 200 feet interim wellfield protection zone. Within the 200 feet wellfield protection zone, land uses are restricted to low density residential (gross residential density range of 0 to 5 dwelling units per acre) or low intensity commercial uses (intensity range of a 0 to 0.25 Floor Area Ratio). Also, within the 200 feet wellfield protection zone, the non-residential use, sale, generation, or storage of hazardous

materials or waste is prohibited. Septic systems are not permitted within the wellfield protection zone.

Policy 4-5.1.8: Septic Tank Prohibited in Recharge Areas. No septic tanks will be permitted in the recharge areas where sewer is available within 100 feet of the property line of the parcel to be developed.

Policy 4-5.1.9: Development Restrictions within Wellfield Protection Zones. The City will issue no permits for development within the 200 feet protection zone which could result in the introduction of potential sources of groundwater contamination around potable water wells. Further, the City shall not construct or permit to be constructed potable wells, except in conformance with the requirements of 62-521, 62-532, and 62-555, F.A.C.

Policy 4-5.1.10: Hazardous Materials. Industries and other businesses which use, sell, generate, or store hazardous materials or sell hazardous wastes shall be either prohibited by zoning or sited, designed, operated and monitored to ensure that releases of hazardous materials or wastes do not degrade groundwater or surface waters.

Furthermore, such industries and businesses shall not be located in flood prone areas, use septic tanks, or within 200 feet of an existing or planned potable waterwell. These industries and businesses shall keep on file with the City their emergency response plans, as well as their proof of financial responsibility for clean-up costs. The following land uses are determined to be incompatible with existing land uses and have significant environmental impacts; therefore, such uses are not permitted within the city limits of the City of Altamonte Springs:

Asphalt Plants; Landfills; Industrial Effluent Injection Wells; Plating Plants; Stripping Vats; Food Irradiation Plants; Hazardous Waste Storage or Processing Facilities; Incinerators; Cement Plants; Automobile or Heavy Equipment Junkyards; Fiberglass Manufacturing Plants; Electric Power Transmission Lines In Excess of 240 Kilovolts; Boilers fueled by Anything Other Than Natural Gas or #2 Fuel Oil; Bulk Fuel Storage Facilities; Petroleum Pipelines; Bulk Chemical Storage or Processing Facilities; Citrus Processing; Crematorium; Blast Furnaces; Smelting Plants; Pickling Plants (wood or metal); Battery Manufacturing Facilities; Refineries; Waste Tire Storage or Processing Facilities.

(Revised: Ordinance 1676-14, Adopted 7/1/14)

Policy 4-5.1.11: County Hazardous Waste Disposal Programs. The City through interlocal agreement will continue to participate in the amnesty days coordinated by Seminole County and utilize the County's household hazardous waste collection sites in order to provide for the disposal of hazardous waste by households.

Policy 4-5.1.12: Participate on Solid Waste and Recycling Task Force. The City will continue to participate in the Intergovernmental Task Force on Solid Waste Management and Recycling in order to examine waste stream reduction and recycling practices.

Policy 4-5.1.13: Coordination with the FDEP on Hazardous Waste. The City shall continue to coordinate with the FDEP in the Small Quantity Hazardous Waste Generator Program which regulates non-residential small quantity generating businesses by providing FDEP with a copy of all permits issued to such businesses and requiring the applicant to provide evidence of permitting by all regulatory agencies having jurisdiction.

Policy 4-5.1.14: Compliance with Hazardous Waste Regulatory Agencies. Prior to issuance of a development permit for an activity or structure that involves the use, sale, generation or storage of hazardous materials or hazardous wastes, the City shall require the applicant to verify occupancy is in compliance with all regulatory agencies having jurisdiction.

**COMPREHENSIVE PLAN
EXHIBIT 4-1**

CITY OF ALTAMONTE SPRINGS

WATER SUPPLY FACILITIES WORK PLAN



Prepared By:

BFA Environmental Consultants
Barnes, Ferland and Associates, Inc.
1230 Hillcrest Street, Orlando, FL, 32803
PH: (407) 896-8608 FAX: (407) 896-1822

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WATER SUPPLY FACILITIES WORK PLAN
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EXHIBIT 4-1 WATER SUPPLY FACILITIES WORK PLAN

1.0 INTRODUCTION

1.1 Statutory History and Requirements

According to the State Legislature (ss.163.3177 and 163.3191), local governments are required to revise the Potable Water element of their Comprehensive Plans to include a Water Supply Facilities Work Plan (Work Plan) for at least a 10-year planning period. The Work Plan must include:

- A projection of the local government's needs for at least a 10-year period;
- Identification and prioritization of the water supply facilities and sources of water that will be required to meet those demands; and
- Inclusion of the capital projects identified as needed for the first five years in the 5-Year Schedule of Capital Improvements, including financially feasible revenue sources.

In addition, local governments are required to revise their comprehensive plans to incorporate the selected alternative water supply project(s) that are identified in the regional water supply plan(s) or otherwise proposed by the local government.

1.2 Planning Period

Pursuant to the requirements imposed by the State Legislature, the City of Altamonte Springs (City) has retained Barnes, Ferland & Associates, Inc. (BFA) to assist in the preparation of the City's 20-Year Water Supply Facilities Work Plan, covering the calendar years 2010 through 2030. Per s.163.3177(6)(c), the Work Plan is intended to be updated every five years within eighteen months of the water management district governing boards approving the updated regional water supply plans, or if needed, as future needs and plans change.

2.0 SERVICE AREA

The City of Altamonte Springs is located in the Seminole County, Florida. A location map of the City is shown in **Figure 1**. The City's current potable water and reclaimed water service area boundaries are depicted in **Figures 2 and 3**. Currently, the City has several wholesale and emergency interconnect agreements to provide water, receive reclaimed water and to treat sewer from adjacent utilities. These agreements are discussed in detail in Sections 4.4 and 5.4. The City is committed to maintaining these agreements as long as required by the customers. In the future, the City would like to pursue more agreements with the adjacent utilities to utilize the wastewater treatment plant's full capacity and to receive and distribute more reclaimed/alternative water.

3.0 WATER SOURCES

Groundwater is the potable water source for the City. The City uses both upper and lower Floridan Aquifer wells to supply its customers. The City is permitted to withdraw groundwater through the St. Johns River Water Management District (SJRWMD) Consumptive Use Permit (CUP) No. 8372.

CUP No. 8372 was issued on March 7, 2006 and expires on March 8, 2026. The CUP authorizes the City to withdraw a combined maximum annual flow from 12 active wells in the Floridan Aquifer as shown in **Table 1**.

Table 1
Annual Permitted Groundwater Withdrawals

Year	Maximum Annual (MG)	Daily Annual Average (MGD)	Year	Maximum Annual (MG)	Daily Annual Average (MGD)
2006	2668.2	7.3	2017	3106.2	8.5
2007	2715.6	7.4	2018	3131.7	8.6
2008	2763.0	7.6	2019	3160.9	8.7
2009	2810.5	7.7	2020	3186.5	8.7
2010	2861.6	7.8	2021	3197.4	8.8
2011	2898.1	7.9	2022	3208.4	8.8
2012	2934.6	8.0	2023	3219.3	8.8
2013	2974.8	8.2	2024	3230.3	8.9
2014	3011.3	8.3	2025	3241.2	8.9
2015	3051.4	8.4	2026	3241.2	8.9
2016	3077.0	8.4			

Wastewater effluent from the Altamonte Springs Regional Water Reclamation Facility (RWRf) is the main reclaimed water source. The City is permitted to use wastewater effluent for irrigation through the Florida Department of Environmental Protection (FDEP) Domestic Wastewater Facility Permit. The RWRf is described in more detail in Section 5.2.

The City is permitted to use surface water for irrigation through two (2) SJRWMD CUPs. CUP No. 3826 was issued on December 7, 2004 and expires on December 7, 2024. This CUP authorizes the City to withdraw a combined maximum annual 200 MG from four water bodies; see Section 5.3 for more detailed information for each water body. CUP No. 94888 was issued on June 15, 2005 and expires on June 19, 2025. This CUP authorizes the City to withdraw a maximum annual 30 MG from Weathersfield pond.

4.0 POTABLE WATER SUPPLY SYSTEM

The City of Altamonte Springs currently owns, operates, and maintains three (3) potable water treatment plants (WTPs): WTP Nos. 2, 4 and 5. WTP Nos. 2 and 5 are the primary water plants for supplying potable water to the City's customers. The City provides potable water to almost every property in the City, which includes residential, commercial and public properties. Based on the City's billing records, there is only one residential customer in the City's service area with an individual well for potable water. There are also two properties within the City limits that are provided water service by another utility and include:

- Spring Lake Elementary site located at the intersection of Orange Avenue and SR 436 includes parcel numbers: 15-21-29-508-0A00-0000, 15-21-29-509-2200-0010, 15-21-29-509-2700-0010 and 15-21-29-509-210A-0000; owned by the Seminole County School Board and served by Utilities Inc. under CUP No. 8346
- Property located just north east of Jamestown Blvd off Sanlando Rd., parcel number 04-21-29-300-031D-0000. This property is owned by Vol Enterprises Inc and served potable water by Seminole County Utilities, under CUP 8359.

All other parcels within the City limits are serviced by the City of Altamonte Springs Utilities. Utilities Inc. and Seminole County do serve enclaves that are unincorporated Seminole County but may still have an Altamonte Springs address. A map identifying the City of Altamonte Springs and surrounding utilities water service areas is included as **Figure 4**.

Pursuant to Chapter 62-550.320(15), WTP Nos. 2 and 5 facilities have a combined capacity of 11.29 million gallons per day (MGD) based on annual average daily flow (ADF). The combined capacity is presented because WTP Nos. 2 and 5 are an interconnected system. The locations of WTP Nos. 2, 4 and 5 are illustrated in **Figure 2**. **Table 2** summarizes the water treatment plant and well water supply information for the City of Altamonte Springs.

Currently, WTP No. 4 is not in use and is disconnected from the potable water system. The City received FDEP approval for the discontinuance of WTP No. 4 on October 13, 2008. WTP No. 4 was no longer needed after the expansion of WTP No. 5 in 1998, the expansion of WTP No. 2 in 2005, and the planned addition of a fourth high service pump at both plants this year.

The City also owns WTP No. 3, which is not used for potable water supply. The facility is used for groundwater augmentation of the reclaimed water system. Detailed information about WTP No. 3 is provided in Section 5.

4.1 WTP No. 2

WTP No.2 is located on Oakland Road in the southeast side of the City. The treatment processes at the facility include aeration for hydrogen sulfide removal, chlorination, fluoridation, and corrosion control. The facility is supplied by three (3) Lower Floridan Aquifer wells: Well Nos. 11, 15 and 16 as presented in **Table 2**. The facility includes two (2) 0.75 million gallon (MG) concrete ground storage tanks with aerators, a high service pump station and a standby power generator. The permitted capacity is 9.19 MGD based on max daily flow (MDF) which is 5.93 MGD ADF.

4.2 WTP No. 4

WTP No.4 is located on San Sebastian Prado in the northwest side of the City. The treatment processes at the facility consist of aeration, chlorination and corrosion control. The facility is supplied by two (2) Upper Floridan Aquifer wells: Well Nos. 6 and 9 as summarized in **Table 2**. The facility includes a 0.2 MG concrete ground storage tank with aerator, a high service pump station and a standby power generator. The permitted capacity is 0.56 MGD MDF and 0.36 MGD ADF. For reasons referenced above, the WTP is currently not in use.

4.3 WTP No. 5

WTP No.5 is located on McNeil Road in the west side of the City. The treatment processes at the facility consist of aeration, chlorination, fluoridation, and corrosion control. The facility is supplied by one (1) Lower Floridan Aquifer well, Well No. 14, and two (2) Upper Floridan wells, Well Nos. 12 and 17 as shown in **Table 2**. The facility includes one (1) 1.6 MG and one (1) 0.5 MG concrete ground storage tanks with aerators, a high service pump station and a standby power generator. The permitted capacity is 8.31 MGD MDF and 5.36 MGD ADF.

Table 2
Water Treatment Plant and Well Information¹

WTP ID	Permit Capacity (MGD)	Well ID	GRS Station ID	Floridan Aquifer	Casing Dia. (inches)	Casing Depth (feet)	Total Depth (feet)	Pump Capacity (gpm)	Date Drilled	Well Status
2	9.19	11	15672	Lower	12	722	1200	2400	1983	Primary
		15	19978	Lower	16	656	1120	2400	1999	Primary
		16	19979	Lower	16	804	1316	2400	1999	Primary
3 ²	Not Applicable	5	15666	Upper	12	154	382	2000	1972	Reclaimed Augmentation
		8	15669	Upper	16	280	720	2000	1978	Reclaimed Augmentation
4	0.56	6	15667	Upper	14	520	690	700	1970	Not in use
		9	15670	Upper	16	382	680	1600	1980	Not in use
5	8.31	12	15673	Upper	16	465	705	2200	1983	Primary
		14	15674	Lower	24	700	1200	2500	1988	Primary
		17R	35875	Upper	24	220	600	2500	2004	Primary

Note: ¹ Source: CUP No. 8372

² WTP No. 3 is discussed under Nonpotable Water System Section

4.4 Agreements

The City has a wholesale water interconnect agreement with Seminole County to serve Fern Park. With this agreement, the City provides potable water service to 193 residential connections. The City is committed to maintaining this agreement to meet customer demand but does not anticipate future growth in this area. Refer to Comprehensive Plan Infrastructure Element Objective 4-3.4 regarding the City's policies towards providing water service for customers outside the city limits and Policy 4-3.4.1 and 4-3.4.3 that enable the City's current agreements.

The City has emergency interconnect agreements with: 1) Seminole County; 2) Utilities, Inc. of Florida; and 3) Aqua America. These interconnects are activated for emergency purposes only and are unidirectional from the City to the adjacent utility.

5.0 NONPOTABLE WATER SUPPLY SYSTEM

5.1 Reclaimed Water System

Project APRICOT (A Prototype Realistic Innovative Community of Today) is the name of the City's reclaimed water system. Project APRICOT was one of the first systems for residential and commercial reclaimed water irrigation in the State of Florida. Project APRICOT provides reclaimed water service to over 98% of the City's residential, commercial and public properties. It supplies reclaimed water for irrigation of highway medians, parks, golf courses and other recreational facilities. **Figure 3** shows the City's reclaimed water service area and location of the Altamonte Springs Regional Water Reclamation Facility (RWRF).

Reclaimed water is mainly supplied by the RWRF with a small volume of reclaimed water received from the Sanlando Utilities Corporation through an interconnect agreement. The City periodically augments the reclaimed water supply from surface water, stormwater and groundwater from WTP No. 3 or the potable water system during peak demand periods.

The nonpotable water demand in 2009 was 5.87 MGD ADF. The demand was met with 5.10 MGD from RWRF, 0.63 MGD from Sanlando Utilities and 0.14 MGD from the alternative and supplemental water supply sources.

The City has been proactive in implementing reclaimed water reuse as a nonpotable supply over the last twenty years. The City's use of high quality groundwater has been significantly reduced by using reclaimed water, surface water and stormwater for irrigation. Refer to Comprehensive Plan Infrastructure Element Objective 4-3.2 and 4-3.3 regarding the City's policies towards providing reclaimed water service for customers inside the City limits to the maximum extent possible and conservation of potable water.

5.2 Water Reclamation Facility

The City owns, operates and maintains a 12.5 MGD ADF activated sludge advanced domestic wastewater treatment plant. Treatment consists of influent screening, grit removal, primary sedimentation, anoxic/aerobic nitrification, secondary clarification, flocculation, denitrification, filtration, a chemical feed system, post aeration, chlorination, dechlorination/neutralization, and one (1) 0.25 MG effluent holding tank. Residual treatment consists of aerobic digestion followed by gravity thickening and belt filter press dewatering. The location of the RWRf is shown in **Figure 3**. The facility is authorized by FDEP to reuse the reclaimed water within Project APRICOT. Currently, the facility utilization rate is approximately 50% of its full capacity.

Central wastewater service is available to the City's entire service area; however, there are 288 residential units scattered throughout the service area that use septic tanks. The City plans to evaluate alternative solutions and programs for the elimination of existing septic tanks by requiring connection to the City's wastewater system. (Infrastructure Element Objective 4-1.1, Policy 4-1.1.3)

5.3 Alternative Water Supply System

As discussed above, the City has existing alternative water supply sources. A combination of surface water from several lakes and stormwater sources within the City has created a reliable supplemental source for the reclaimed water supply system. The City's alternative water use in 2009 consisted of 0.0276 MGD from surface water and stormwater.

Table 3 summarizes the City's alternative water supply sources. The alternative water supply source facilities are illustrated in **Figure 3**.

Table 3
Alternative Water Supply Sources

Source	Type	Permit Capacity (MGD)	Permit Minimum Elevation (FT NGVD)
Cranes Roost	Surface Water	2.0	48.0
Lake Orienta	Surface Water	2.0	59.0
Lake Maltbie	Surface Water	0.25	82.0
W. Altamonte Pond	Surface Water	0.5	54.0
Weathersfield	Stormwater	0.082	45.0

The City has a standard protocol based on CUP 8372 Condition No. 19 to use the lowest quality water first for irrigation purposes. When reclaimed demand exceeds the flow from the RWRP, the City uses water stored in Cranes Roost first, and then uses the other sources as listed in **Table 3**. If these sources still do not meet the reclaimed water demand, the City uses groundwater from WTP No. 3, and then potable water. Surface and stormwater for reclaimed augmentation is routed through the City's wastewater collection system to the RWRP for treatment. The groundwater from WTP No.3 is chlorinated prior to direct injection into the reclaimed distribution system for irrigation purposes.

5.4 Agreements

The City has wastewater wholesale agreements with the Cities of Eatonville, Maitland and Winter Park, Nuon (Utilities, Inc.) and Seminole County and has 0.8567 MGD ADF reserved capacity for these customers. These agreements are based on metered water usage and do not expire. The City commits to maintaining agreements indefinitely. Growth is not anticipated in these service areas. Refer to Comprehensive Plan Infrastructure Element Policy 4-1.2.5 and 4-1.5.5 regarding wastewater service for customers outside the City limits and Policy 4-1.3.3 that enables the City's current agreements.

The City has a reclaimed water wholesale agreement with Sanlando Utilities. The agreement states that the City receives a maximum of 1.4 MGD annual average daily flow of reclaimed water from Sanlando Utilities. The City commits to maintaining this agreement as it automatically renews every 10 years. In 2009, the City received 0.63 MGD ADF to supplement the reclaimed water supply.

6.0 PROJECTED POPULATION AND WATER DEMANDS

The City's 2009 potable water demand was 5.30 MGD ADF based on water use data (EN-50) submitted to the SJRWMD. A total of 11,817 accounts were serviced (including master metered accounts), equal to a population of approximately 49,757.

Projections of future population and water demand were generated in conjunction with the development of the City's 2010 Comprehensive Plan Update and based on the District's Draft Water Supply Assessment 2008. A breakdown of the City's projected 20-year water demands and the anticipated water sources is presented in **Table 4**.

The City currently uses multiple alternative water supply sources as described in Section 5.3 to meet existing water demands. It is anticipated that the City will continue to use and enhance these sources to meet future demands. Reclaimed water will continue to be the primary source for alternative water supply. The City will increase our efforts to more efficiently utilize local surface water sources for reclaimed system augmentation and seek additional sources for reclaimed storage capacity to manage demand variations. It is estimated that the combination of the proposed system improvements and continued water conservation is projected to reduce groundwater withdrawals by 0.409 MGD ADF over the next five years as shown in **Table 4**.

Table 4
Projected Water Demand and Source

Year	Population	Projected Water Demand ² (MGD)			Water Supply Source (MGD)	
		Inside City ¹	Outside City	Total Utility ³	Groundwater	Alternative Water
2010	49995	5.837	0.872	6.709	6.709	
2011	50470	5.893	0.880	6.773	6.754	0.019
2012	50945	5.948	0.889	6.837	6.818	0.019
2013	51419	6.003	0.897	6.900	6.818	0.077
2014	51894	6.059	0.905	6.964	6.823	0.077
2015	52369	6.114	0.914	7.028	6.887	0.409
2020	54912	6.411	0.958	7.369	6.960	0.409
2025	55284	6.455	0.964	7.419	7.010	0.409
2030	56928	6.647	0.993	7.640	7.231	0.409

¹Inside City water demand is an average 87% of total demand based on 2005-2009 billing records.

²Projected water demand based on 134.2 gpd gross per capita demand from SJRWMD Draft WSA 2009 update.

³Includes potable system demand and reclaimed supplemental demand

7.0 CAPACITY ANALYSIS

The City's water supply facilities were assessed to determine whether the projected twenty-year water demands were attainable with the City's existing water supply infrastructure. Presently, the City WTPs have a combined well production capacity of 8.92 MGD. Well production capacity was based on the total daily pumping capacity for all City wells excluding the well with the highest pump capacity. The wells from WTP No.4 were excluded from this analysis since the plant is not currently in use. The existing treatment capacity of the combined WTPs is 11.29 MGD including the capacity of the high service pumps to be installed this year.

Based on this analysis, the City's existing water supply facilities are sufficient to meet the projected twenty year water demands. No additional infrastructure for water production or treatment is needed within the next twenty years.

A summary of the analysis is provided in **Table 5**. Since the analysis did not indicate a deficit in well production capacity, the reduction of groundwater demand via reclaimed water and conservation practices was not included in the analysis.

Table 5
Capacity Analysis

Analysis Items (MGD)	2010	2015	2020	2025	2030
Total Water Demand	6.71	7.03	7.37	7.42	7.64
Total Well Production Capacity	8.92	8.92	8.92	8.92	8.92
Total Treatment Capacity	11.29	11.29	11.29	11.29	11.29
CUP Allocation	7.8	8.4	8.7	8.9	-
<i>Well Production Capacity Surplus</i>	<i>2.21</i>	<i>1.89</i>	<i>1.55</i>	<i>1.50</i>	<i>1.28</i>
<i>Treatment Capacity Surplus</i>	<i>4.58</i>	<i>4.26</i>	<i>3.92</i>	<i>3.87</i>	<i>3.65</i>

8.0 FUTURE WATER SUPPLY PLANS

8.1 Water Conservation and Reuse Practices

The City has implemented a number of successful conservation programs to protect the Floridan Aquifer. The City plans to maintain these conservation programs, and where possible, improve upon these efforts.

- Maintain the average daily groundwater withdrawal near the 1987 levels (Conservation Element, Objective 5-1.2);
- Require all new development to connect to the APRICOT reclaimed water system as specified in the Land Development Code (LDC) (Conservation Element, Objective 5-1.2, Policy 5-1.2.1);
- Continue the program of educating residents in water conservation practices (Conservation Element, Objective 5-1.2, Policy 5-1.2.2);
- Cooperate with SJRWMD to implement the emergency water conservation plan (Conservation Element, Objective 5-1.2, Policy 5-1.2.3);
- Enforce the emergency water conservation plan through regulations and active inspections. (Conservation Element, Objective 5-1.2, Policy 5-1.2.3);
- Continue to enforce the land development code requirements for connection to the reclaimed water system and to offer incentives for voluntary connection to the system (Conservation Element, Objective 5-1.2, Policy 5-1.2.4);
- Cooperate with SJRWMD, FDEP and other utility agencies to seek alternative sources of water supply in order to encourage a further reduction in groundwater usage. This shall include a 10-Year Water Facilities Work Plan to include the development of alternative water supplies as necessary to serve existing and new development and be consistent with the Water Management District's updated water supply plan (Conservation Element, Objective 5-1.2, Policy 5-1.2.5);
- Ensure densities and intensities of all future development are consistent with the capacity of water and sewer plant capacity and their adopted level of service (Future Land Use Element, Objective 1-1.3, Policy 1-1.3.9);
- Promote the use of reuse and use of waterwise vegetation when needed as part of median landscaping, park expansion and natural open space areas throughout the City (Future Land Use Element, Objective 1-1.6, Policy 1-1.6.2);

- Continue to augment RWRP with surface water as outlined in the City's CUP authorized by SJRWMD (Infrastructure Element, Objective 4-4.1, Policy 4-4.1.9); and
- In the event the SJRWMD declares a water shortage pursuant to chapter 40C-21, Florida Administrative Code, that includes all or part of the city, the conditions and restrictions set forth in the district's water shortage order and any amendments thereto, shall supersede any City's provisions that conflict with the provisions of the water shortage order, until such time as the water shortage order may be rescinded by the SJRWMD (City Ordinance 26-179).

8.2 Water Source Protection Practices

The City will continue to protect the quality and quantity of groundwater as a single source of the potable water system by:

- Establishing a 200 feet wellfield protection zone (Conservation Element, Objective 5-1.8, Policy 5-1.8.1);
- Limiting development within the 200 feet wellfield protection zone to low density residential or low intensity commercial uses (Conservation Element, Objective 5-1.8, Policy 5-1.8.1);
- Prohibiting septic tanks, the non-residential use, sale, generation, or storage of hazardous materials or waste within the wellfield protection zone. (Conservation Element, Objective 5-1.8, Policy 5-1.8.1);
- Limiting activities in the cones of influence in order to protect water wells from contamination (Conservation Element, Objective 5-1.8, Policy 5-1.8.2); and
- Coordinating with Seminole County to direct household wastes to a designated County sites for proper disposal to prevent groundwater contamination (Conservation Element, Objective 5-1.8, Policy 5-1.8.3).

8.3 Reclaimed Water Supply Projects

The City plans to connect additional properties in the City's service area currently using potable water for irrigation to the reclaimed water system. This reclaimed water expansion project is the Reclaimed Water Pocket Project at Douglas Avenue which will be installed in phases and is listed in the Capital Improvement Plan shown in **Table 6**. Phase One of this project will be complete in FY 2011, reducing groundwater withdrawals by a projected 0.019 MGD and Phase Two will be complete in FY 2013, reducing groundwater withdrawals by a projected 0.036 MGD. The groundwater offsets for these reuse expansion projects are represented in **Table 4** "Projected Water Demand and Source".

The City also plans to make improvements to Lift Station 8 which includes pumping for Lake Orienta surface water, an existing alternative water supply source. The project will allow for greater pumping ability and reliability when Lake Orienta is needed to supplement reclaimed water sources. The project is listed in **Table 6**.

8.4 Alternative Water Source Projects

The City's existing alternative water supply system is described in Section 5.0. The City plans to implement projects to more efficiently utilize these alternative water sources.

SJRWMD has identified two multi-jurisdictional reclaimed water source projects for the City of Altamonte Springs: the Altamonte Springs and Apopka Project APRICOT and Seminole County/Sanlando Utilities Interconnect with Altamonte Springs Project. These projects have been listed in the SJRWMD Water Supply Plan and its addendums since 2005 but the Apopka APRICOT project should not be included in the next update of the District's Water Supply Plan. The active AWS project is the Reclaimed Water Storage Pond at the Water Reclamation Facility and that is the project that should be listed in the District's WSP. The current status of these projects is described below.

8.4.1 Altamonte Springs and Apopka Project APRICOT

For years the City actively pursued this alternative water supply project also known as Renew Apricot with the Florida Department of Transportation (FDOT), the City of Apopka, and the Orlando Utilities Commission (OUC). Unfortunately, the commitment to the project by the other parties faltered, which has left the City of Altamonte Springs seeking other alternative water supply projects, including additional surface water augmentation and the construction of large reclaimed water ponds.

The City has recently commissioned Barnes, Ferland and Associates, Inc. to evaluate viable alternative water supply projects and update the Water Supply Facilities Work Plan through 2030. The City has initiated a feasibility study for the Cranes Roost Integrated Stormwater and Reclaimed Water. The study will be completed in the next fiscal year and will identify specific infrastructure improvements and new facilities required to reduce groundwater needed for reclaimed water system augmentation.

The feasibility study is listed in the **Table 6**. These projects are anticipated to increase the effective storage capacity of Cranes Roost, reduce groundwater withdrawals by approximately 0.332 MGD, and significantly reduce or potentially eliminate groundwater supplement of the reclaimed system during a typical rainfall and demand year. The feasibility study will also determine how much additional surface and/or reclaimed water is available for supply to potential regional partners. At the end of this study, the City will identify potential regional partnerships with adjacent municipalities and utilities to develop future regional alternative water supply projects if deemed feasible.

8.4.2 Seminole County/Sanlando Utilities Interconnect with Altamonte Springs Project

The City currently has a reclaimed water interconnect and agreement with Sanlando Utilities as described in Section 5.0. This interconnect piping was initially installed in 2002. Operational and metering improvements were made in 2005 to better manage reclaimed water demand and to reduce groundwater withdrawals. The City continues to coordinate with Seminole County and Sanlando Utilities to identify projects to utilize alternative water sources more efficiently.

8.4.3 Reclaimed Water Storage Pond

The City's current AWS project is the Reclaimed Water Storage Pond at the RWRP. The City plans to construct an additional 8 MG of reclaimed water storage. This project will be completed by FY 2012 and is listed in **Table 6**. This project is projected to reduce groundwater withdrawals for reclaimed system augmentation by 0.022 MGD. The groundwater offsets for these reuse expansion projects are represented in **Table 4** "Projected Water Demand and Source".

The City actively participates in regional alternative water supply planning efforts. Representatives from the City regularly attend meetings for the SJRWMD Water Conservation Subgroup, Central Florida Coordinator Group, the Central Water Supply Planning Area Work Group and the Seminole Soil and Water Conservation District.

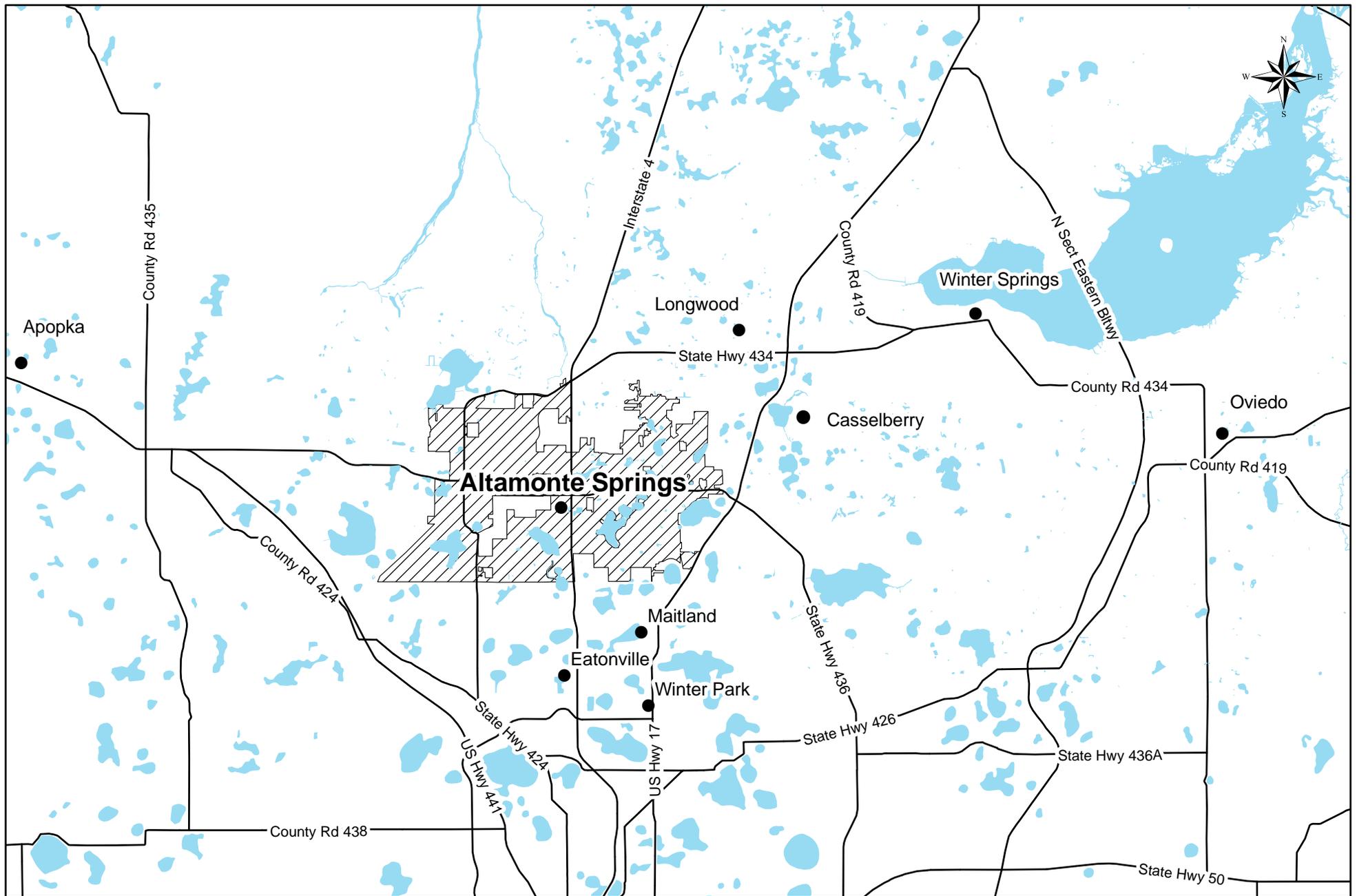
The City has committed to participate in the regional coordination of alternative water supply sources and solutions with Comprehensive Plan Policy 4-3.3.7. The City will continue to coordinate with the water management districts, state and federal regulatory agencies, other public and private utility suppliers to develop and implement cooperative solutions for development and implementation of regional alternative water sources and solutions necessary to supplement groundwater supplies consistent with the latest SJRWMD's District Water Supply Plan.

9.0 CAPITAL IMPROVEMENT PLAN

The City's updated Five-Year Capital Improvements Plan (CIP) is presented in Chapter 8 of the Comprehensive Plan. This update includes the projects listed in **Table 6**, which are necessary to provide adequate water supply for the City's future growth and development. Because the City has sufficient potable water supply and treatment capacity, the proposed projects represent expansion and improvement of the nonpotable water supply system to reduce groundwater withdrawals and provide reclaimed water to regional partners.

**Table 6
Future Water Source and Supply Projects**

Project Name	Purpose	Estimated Project Cost	Funding Sources	Schedule			
				Planning	Engineering	Permitting	Construction
WTP 2 & 5 High Service Pumps	To provide standby pumping for increased reliability of the Water Distribution System	\$450,000	WTR/SWR Fund Revenues		2010	2010	2011
Potable Water Storage Facilities at WTP 5	To provide water storage for system equalization and fire flow per FDEP requirements	\$1,000,000	WTR/SWR Fund Revenues				2013
Lake Orienta Surface Water Augmentation (part of Lift Station replacements)	To increase pumping capacity and reliability at LS 8, which also pumps water from Lake Orienta for reclaimed augmentation.	\$400,000	WTR/SWR Fund Revenues				2011
Reclaimed Water Pocket Project at Douglas Avenue	To expand the use of reclaimed water for irrigation purposes as a means of reducing potable water usage for irrigation.	\$150,000	WTR/SWR Fund Revenues				Phase 1-2011 Phase 2-2012
Reclaimed Storage and Retrieval Pond	To increase reclaimed water storage by 8-17 MG to manage seasonal/peak demands and reduce groundwater use for irrigation.	\$6,000,000	WTR/SWR Fund Revenues	2010	2011	2011	2011-2012
Cranes Roost Integrated Stormwater and Reclaimed Water Facility Feasibility Study	To evaluate an integrated reclaimed water (stormwater) reuse system to more efficiently manage seasonal reclaimed water demands, reduce groundwater withdrawals and river discharges, and provide reclaimed water to regional partners.	\$230,000	WTR/SWR Fund Revenues	2010-2011			

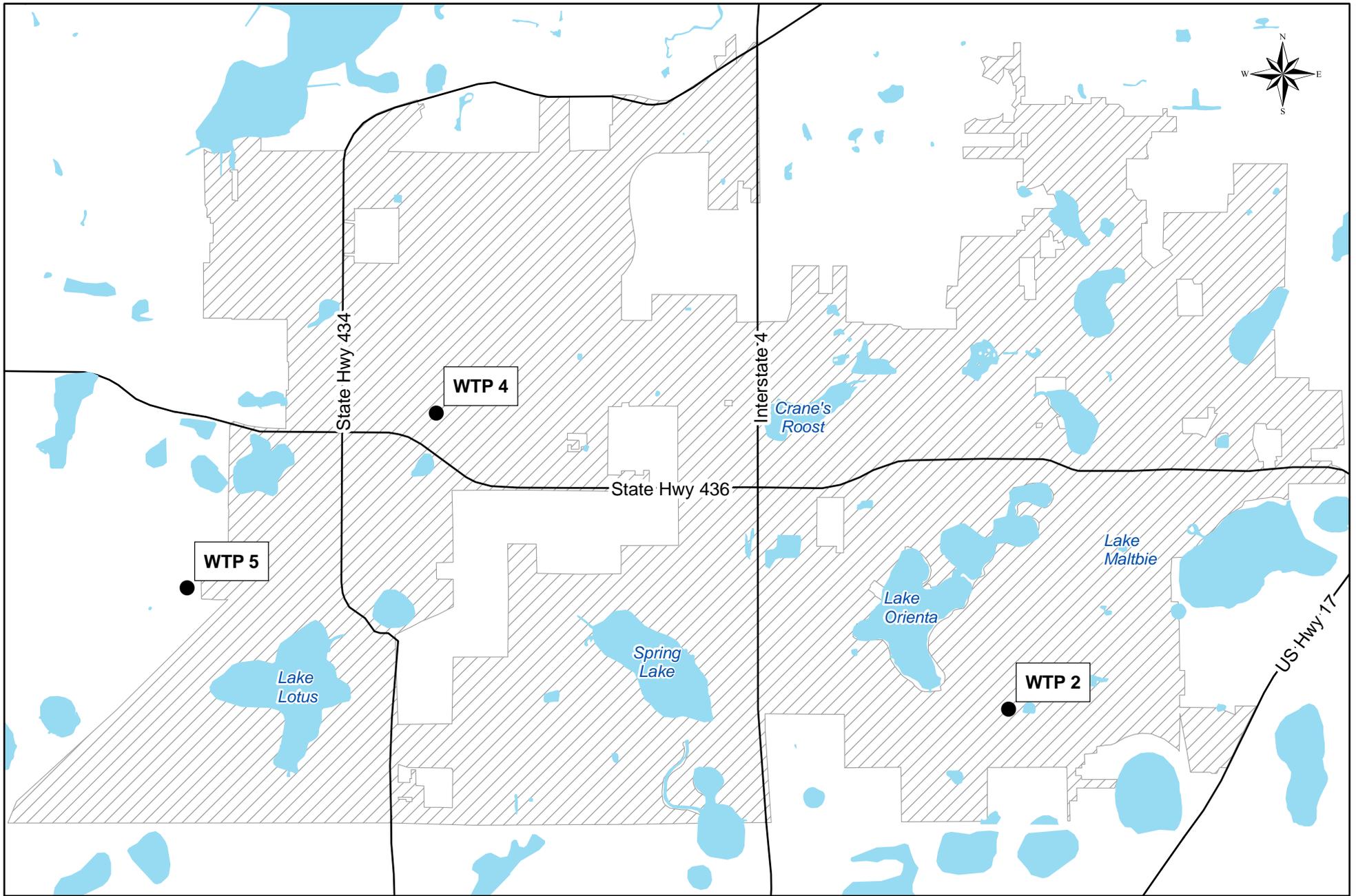


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1
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**FIGURE 1
 LOCATION MAP**

City of Altamonte Springs
 Water Supply Facilities Work Plan
 April 2010



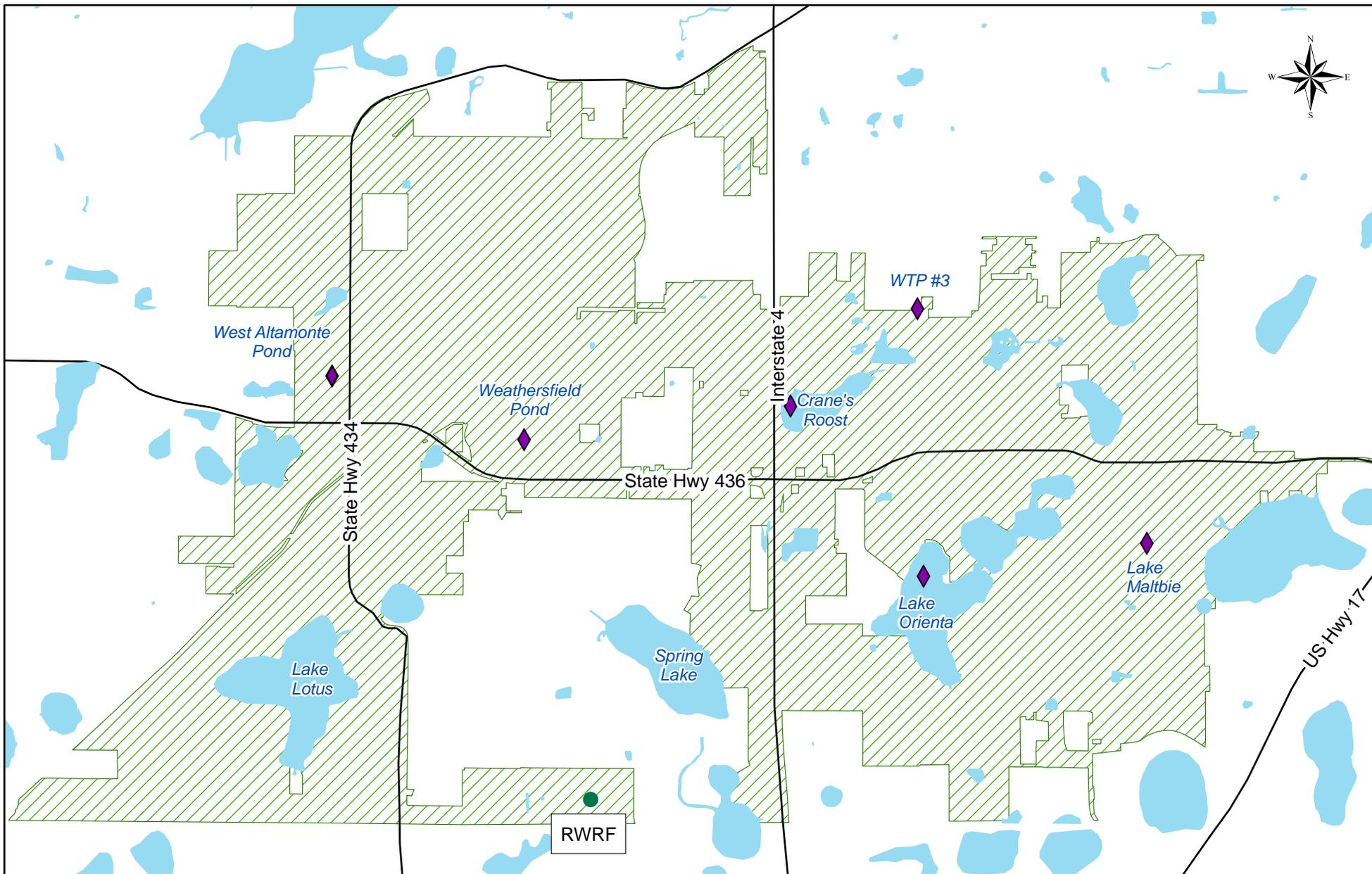
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Legend

- Water Treatment Plant
- ▨ City of Altamonte Springs Water Service Area

**FIGURE 2
WATER SERVICE AREA AND SUPPLY FACILITIES**

City of Altamonte Springs
Water Supply Facilities Work Plan
April 2010



Legend

- ◆ Alternative Water Supply Sources
- Altamonte Springs Regional Water Reclamation Facility
- ▨ City of Altamonte Springs Reclaimed Water Service Area

**FIGURE 3
RECLAIMED WATER SERVICE AREA, RWRP,
AND ALTERNATIVE WATER SUPPLY SOURCES**

City of Altamonte Springs
Water Supply Facilities Work Plan
April 2010

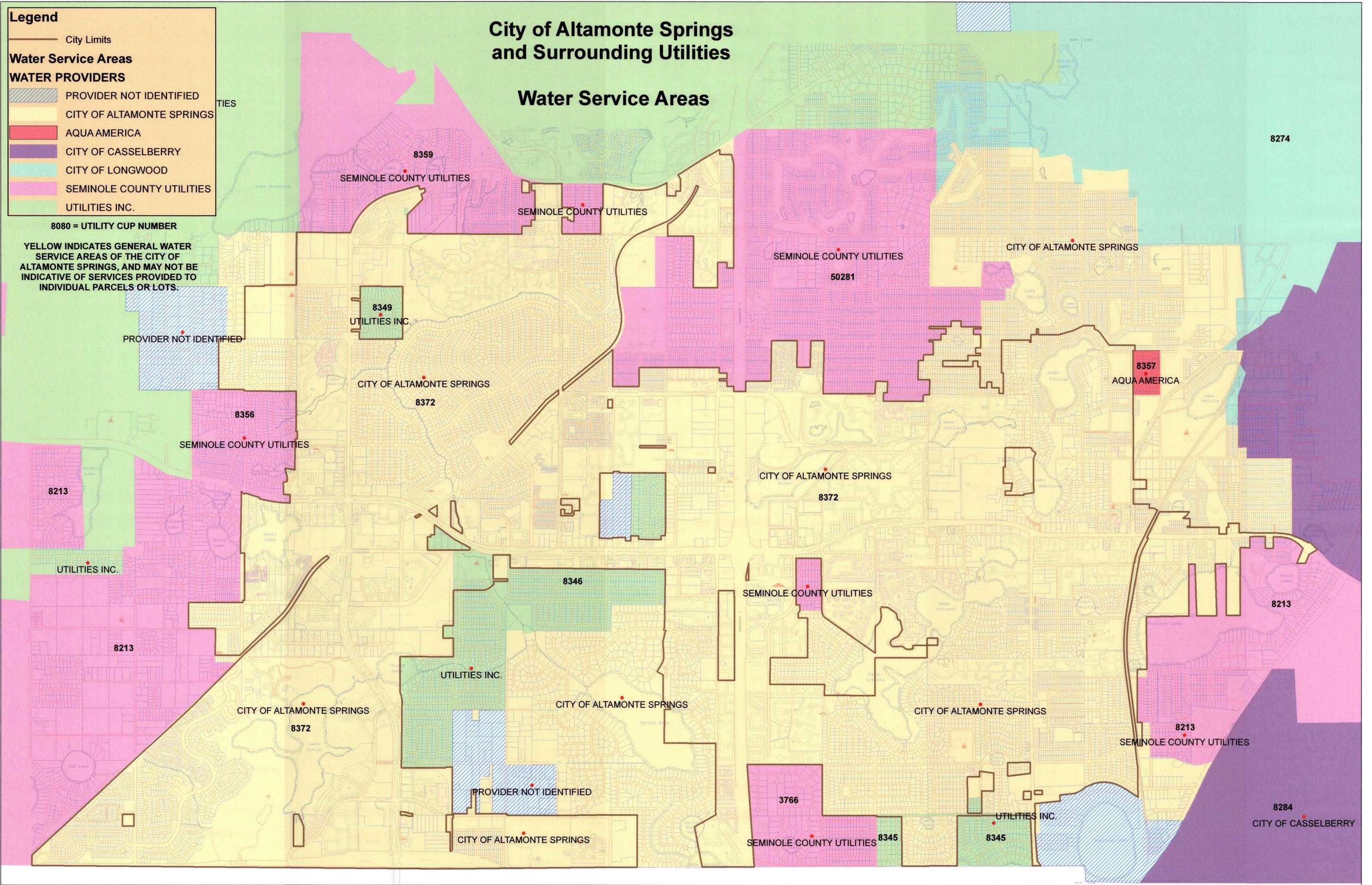


Figure 4

APPENDICES

Appendix A

Historic Water Demand

Appendix B
Projected Water Demand and Source

Projected Water Demand and Source														
Year	Population	Annual Growth %	Projected Water Demand (MGD)										Water Supply Source (MGD)	
			Inside City ¹	Outside City	For Potable System ²	Reduce w/ CIP Projects	For Potable System w/ CIP Projects	For Reclaimed Supplement ³	Reduce w/ CIP Projects	For Reclaimed Supplement w/ CIP Projects	Total Utility ⁴	Reclaimed Demand ⁵	Ground water	Alternative Water
2010	49995	0.48%	5.837	0.872	6.398		6.398	0.311		0.311	6.709	6.225	6.709	
2011	50470	0.95%	5.893	0.880	6.459	(0.019)	6.440	0.314		0.314	6.773	6.284	6.754	0.019
2012	50945	0.94%	5.948	0.889	6.520		6.501	0.317		0.317	6.837	6.343	6.818	0.019
2013	51419	0.93%	6.003	0.897	6.580	(0.036)	6.525	0.320	(0.022)	0.298	6.900	6.402	6.823	0.077
2014	51894	0.92%	6.059	0.905	6.641		6.586	0.323		0.301	6.964	6.461	6.887	0.077
2015	52369	0.91%	6.114	0.914	6.702		6.647	0.326	(0.332)	-0.028	7.028	6.520	6.619	0.409
2016	52878	0.97%	6.174	0.923	6.767		6.712	0.329		-0.025	7.096	6.584	6.687	0.409
2017	53386	0.96%	6.233	0.931	6.832		6.777	0.332		-0.022	7.164	6.647	6.755	0.409
2018	53895	0.95%	6.292	0.940	6.897		6.842	0.336		-0.018	7.233	6.710	6.824	0.409
2019	54403	0.94%	6.352	0.949	6.962		6.907	0.339		-0.015	7.301	6.774	6.892	0.409
2020	54912	0.93%	6.411	0.958	7.027		6.972	0.342		-0.012	7.369	6.837	6.960	0.409
2021	54986	0.14%	6.420	0.959	7.037		6.982	0.342		-0.012	7.379	6.846	6.970	0.409
2022	55061	0.14%	6.429	0.961	7.046		6.991	0.343		-0.011	7.389	6.856	6.980	0.409
2023	55135	0.14%	6.437	0.962	7.056		7.001	0.343		-0.011	7.399	6.865	6.990	0.409
2024	55210	0.13%	6.446	0.963	7.065		7.010	0.344		-0.010	7.409	6.874	7.000	0.409
2025	55284	0.13%	6.455	0.964	7.075		7.020	0.344		-0.010	7.419	6.883	7.010	0.409
2026	55613	0.59%	6.493	0.970	7.117		7.062	0.346		-0.008	7.463	6.924	7.054	0.409
2027	55942	0.59%	6.531	0.976	7.159		7.104	0.348		-0.006	7.507	6.965	7.098	0.409
2028	56270	0.59%	6.570	0.982	7.201		7.146	0.350		-0.004	7.551	7.006	7.142	0.409
2029	56599	0.58%	6.608	0.987	7.243		7.188	0.352		-0.002	7.596	7.047	7.187	0.409
2030	56928	0.58%	6.647	0.993	7.285		7.230	0.354		0.000	7.640	7.088	7.231	0.409
					Total	(0.055)			(0.354)					
Notes:														
1. Inside City water demand is an average 87% of total demand based on 2005-2009 billing records.														
2. Potable water demand is Total Utility demand minus Reclaimed Supplement demand.														
3. Projected groundwater used to supplement the reclaimed system is an average 4.6% of total reclaimed demand based on 2005-2009 flow records.														
4. Projected water demand based on 134.2 gpd gross per capita demand from SJRWMD Draft WSA 2009 update.														
5. Projected reclaimed demand based on average reclaimed demand from 2005-2009 flow records (6.195MGD) escalated by the same growth rate as service area population.														

Appendix C

Billed Consumption

City of Altamonte Springs
Billed Consumptions in Thousands of Gallons
of accounts are average per 12 month period

*Figures are generated using Cognos report:
 WA billed Consumption 2009 UT475AP*

		2005	2006	2007	2008	2009	
		Billed Consumption					
Bulk (Commercial prior to	Inside	29,011	34,295	31,536	27,114	11,785	
	Outside						
Bulk (Commercial prior to	Sub-Total	29,011	34,295	31,536	27,114	11,785	
Commercial	Inside	421,881	416,669	410,088	401,849	372,026	
	Outside	26,766	26,232	26,038	24,044	21,752	
Commercial	Sub-Total	448,647	442,901	436,126	425,893	393,778	
Multi-Family	Inside	837,325	759,794	717,075	704,917	688,523	
	Outside	13,992	11,975	10,127	10,498	10,994	
Multi-Family	Sub-Total	851,317	771,769	727,202	715,415	699,517	
Potable Irrigation	Inside	52,819	52,712	53,192	52,763	49,433	
	Outside	12,734	16,124	15,396	21,817	15,212	
Potable Irrigation	Sub-Total	65,553	68,836	68,588	74,580	64,645	
Residential	Inside	515,188	506,495	483,965	467,854	471,160	
	Outside	189,100	214,389	195,677	185,002	184,433	
Residential	Sub-Total	704,288	720,884	679,642	652,856	655,593	
Totals		2,098,816	2,038,685	1,943,094	1,895,858	1,825,318	
Inside City Consumption %		88%	87%	87%	87%	87%	
Commercial & Bulk		477,658	477,196	467,662	453,007	405,563	Average Commercial
		21.45%	22.02%	22.58%	22.38%	20.76%	21.84%
Residential, single & Multi-Family		1,555,605	1,492,653	1,406,844	1,368,271	1,355,110	Residential
		69.86%	68.89%	67.93%	67.61%	69.37%	68.73%
Irrigation		65,553	68,836	68,588	74,580	64,645	Irrigation
		2.94%	3.18%	3.31%	3.69%	3.31%	3.29%
Unaccounted Water Use (2008 Water Audit)		79000	79000	79000	79000	79000	Unaccounted
		3.55%	3.65%	3.81%	3.90%	4.04%	3.79%
Utility Water Use (2008 Water Audit)		49000	49000	49000	49000	49000	Utility
		2.20%	2.26%	2.37%	2.42%	2.51%	2.35%
Total		2,226,816	2,166,685	2,071,094	2,023,858	1,953,318	

City of Altamonte Springs
Billed Consumptions in Thousands of Gallons
of accounts are average per 12 month period

*Figures are generated using Cognos report:
 WA billed Consumption 2009 UT475AP*

City of Altamonte Springs
 Billed Consumptions in Thousands of Gallons
 # of accounts are average per 12 month period

Actual Altamonte Data	2000	2001	2002	2003	2004
	Billed Consumption				
Bulk (Commercial prior to 6/03) (1)				7,739	30,255
Commercial	470,955	433,956	428,161	434,684	442,688
Multi-Family	797,591	763,470	743,274	776,957	797,989
Potable Irrigation	98,564	66,161	63,051	65,153	65,049
Residential	790,905	724,784	713,790	696,494	713,790
Totals	2,158,015	1,988,371	1,948,276	1,981,027	2,049,771

SJRWMD Permit Breakout Based on Consumption	2000	2001	2002	2003	2004	5 yr Average
Commercial and Bulk	470,955	433,956	428,161	442,423	472,943	21.25%
Potable Irrigation	98,564	66,161	63,051	65,153	65,049	3.37%
Residential	1,588,496	1,488,254	1,457,064	1,473,451	1,511,779	71.08%
Water Utility (2)	39970	39970	39970	39970	39970	1.89%
Unaccounted For (2)	50796	50796	50796	50796	50796	2.40%
Totals	2,248,781	2,079,137	2,039,042	2,071,793	2,140,537	

(1) Bulk = Interconnects (all but one is emergency as of June 2005, Fern Park - Seminole County formerly FWS is a wholesale water customer)
 (2) Data taken from 2002 Water Audit Form completed for CUP 8372

Appendix D
Water Supply Pumping and Storage
Facilities Capacities

**Altamonte Springs Water System
Water Supply, Pumping and Storage Facilities Capacities**

Water Supply Wells

Well #	Source	Water Plant Served	Well Pump Design Capacity (MGD)
11	Lower Floridan Aquifer	Water Plant #2	3.46
15	Lower Floridan Aquifer	Water Plant #2	3.60
16	Lower Floridan Aquifer	Water Plant #2	3.60
12	Upper Floridan Aquifer	Water Plant #5	3.17
14	Lower Floridan Aquifer	Water Plant #5	3.60
17	Upper Floridan Aquifer	Water Plant #5	3.60
Total Supply Capacity (MGD)			21.02
Fire Flow Capacity (5,000gpm)			(7.20)
Total Permitted Supply Capacity (MDF-MGD)⁽¹⁾			13.82
Total Permitted Supply Capacity (ADF-MGD)			8.92

⁽¹⁾ Permitted Supply Capacity (MDF) determined pursuant to 62-555.315(3) where total supply capacity must be equal to or greater than MDF plus fire flow (5,000gpm)

Finished Water Storage Facilities

Name/ Location	Type of Storage	Useful Fire Storage Capacity (MG)⁽²⁾	Useful Equalization Storage Capacity (MG)	Total Useful Storage Capacity (MG)
Water Plant #2 Storage	Ground Storage Tank	0.45	1.05	1.5
Water Plant #5 Storage	Ground Storage Tank	1.05	1.05	2.10
Western Elevated Tank	Elevated	0.25	0.25	0.50
Southwestern Elevated Tank	Elevated	0.25	0.25	0.50
Plant 3 Elevated Tank	Elevated	0.50	0.50	1.00
Fire Station Elevated Tank	Elevated	0.50	0.50	1.00
Total Storage Capacity (MG)		3.000	3.600	6.60
System MDF Capacity (MGD)			14.40	
(Useful Equalization Storage Volume equals 25% MDF Capacity)				

⁽²⁾ Permitted Storage Capacity (MDF) determined pursuant to 62-555.320(19) where storage capacity for fire protection must be equal to the design fire flow rate (5,000gpm) and duration (10hrs).

**Altamonte Springs Water System
Water Supply, Pumping and Storage Facilities Capacities**

Water Plant Pumping ⁽³⁾

Water Plant	High Service Pump #	Pump Capacity (MGD)	
Water Plant #2	HSP #1	4.90	
	HSP #2	4.90	
	HSP #3	4.90	
	HSP #4	4.90	2010 Installation
	Total Capacity (MGD)	19.60	
	Firm Capacity (MGD-PHF)	14.70	Largest Pump Out
	PHF/MDF Ratio	1.60	
	Permit Capacity (MGD- MDF)	9.19	
	Permit Capacity (MGD-ADF)	5.93	
Water Plant #5	HSP #1	4.43	
	HSP #2	4.43	
	HSP #3	4.43	
	HSP #4	4.43	2010 Installation
	Total Capacity (MGD)	17.72	
	Firm Capacity (MGD-PHF)	13.29	Largest Pump Out
	PHF/MDF Ratio	1.60	
	Permit Capacity (MGD- MDF)	8.31	
	Permit Capacity (MGD- ADF)	5.36	

System Capacity Based on Total HSP Capacity = MDF + Fire Flow ⁽⁴⁾

Total High Service Pumping Capacity (PHF-MGD)	37.32
Total Firm Capacity (MGD-PHF)	27.99
Fire Flow Capacity (5,000gpm)	(7.20)
Total Permitted HSP Capacity (MDF-MGD)	20.79

System Capacity Based on PHF = 1.6*MDF ⁽⁵⁾

Total Firm Capacity (MGD-PHF)	27.99
Fire Flow Capacity (5,000gpm)	1.60
Total Permitted HSP Capacity (MDF-MGD)	17.49
Total Permitted HSP Capacity (ADF-MGD)	11.29

⁽³⁾ Treatment at each plant consists of tray aeration, disinfection (liquid chlorine) and corrosion control

⁽⁴⁾ Permitted HSP pumping capacity determined pursuant to 62-555.320 (15) for interconnected system with elevated storage- MDF plus fire flow (5,000gpm).

⁽⁵⁾ Permitted HSP pumping capacity determined by using PHF/MDF ratio of 1.6 which is based on the continuous flow meter readings for highest average flow over one hour during a typical maximum flow day (June 24, 2007; 9am to 10am).

Appendix E
SJRWMD Population and Demand
Projections

Altamonte Springs Population and Demand Projections										
	Population					Demand				
	Table 2 from CUP	Table from City's 2006 work plan	SJRWMD WSA 2003	SJRWMD Draft WSA 2008 (2009 update)		Table 2 from CUP (129 gpcd)	Table from City's 2006 work plan (129 gpcd)	SJRWMD WSA 2003 (139 gpcd)	SJRWMD Draft WSA 2008 (2009 update)	
2005	55,576	55,576	55,576	48,805		7.19	7.19	7.69	6.15	
2006	56,550	56,550	56,550			7.31	7.31	7.3		
2007	57,541	57,541	57,541			7.44	7.44	7.4		
2008	58,550	58,550	58,550			7.57	7.57	7.6		
2009	59,576	59,576	59,576			7.7	7.7	7.7		
2010	60,620	60,620	60,620	49,995		7.84	7.84	8.39	6.71	
2011	61,401	61,401	61,401			7.94	7.94	7.9		
2012	62,191	62,191	62,191			8.04	8.04	8.0		
2013	62,992	62,992	62,992			8.15	8.15	8.2		
2014	63,803	63,803	63,803			8.25	8.25	8.3		
2015	64,625	64,625	64,625	52,369		8.36	8.36	8.94	7.03	
2016	65,198	65,198	65,198			8.43	8.43	8.4		
2017	65,776	65,776	65,776			8.51	8.51	8.5		
2018	66,359	66,359	66,359			8.58	8.58	8.6		
2019	66,947	66,947	66,947			8.66	8.66	8.7		
2020	67,540	67,540	67,540	54,912		8.73	8.73	9.34	7.37	
2021	67,772	67,772	67,772			8.76	8.76	8.8		
2022	68,004	68,004	68,004			8.79	8.79	8.8		
2023	68,237	68,237	68,237			8.82	8.82	8.8		
2024	68,469	68,469	68,469			8.85	8.85	8.9		
2025	68,701	68,701	68,701	55,284		8.88	8.88	9.5	7.42	
2026	68,701	68,701	68,701					8.9		
2027										
2028										
2029										
2030				56,928					7.64	
Population in 2006 work plan identical to CUP data and WSA 2003 data						Demand in 2006 work plan identical to CUP data, but less than WSA 2003 due to lower gpcd calculation based on historical data				

Revised Population and Demand Projections for Draft Water Supply Assessment 2008

February 10, 2010

The St. Johns River Water Management District (SJRWMD) prepares water supply assessments for the purposes of identifying future water supply needs and areas where those needs cannot be met by the continued development of currently used water supply sources without unacceptable impacts to water resources and related natural systems.

Areas in which unacceptable impacts would occur, if projected water withdrawals were allowed, are designated as priority water resource caution areas (PWRCA). PWRCA are identified in SJRWMD's Water Supply Assessment, which is prepared in accordance with the requirements of Subparagraph 373.036(2)(b)4, *Florida Statutes*.

The draft Water Supply Assessment 2008 (WSA 2008) projections were made in 2006 and 2007. The data used to make these projections — including the county-level projections of the University of Florida's Bureau of Economic and Business Research (BEER) — reflected the peak of the unprecedented growth of the prior five years. Because of the dramatic downturn in growth during the past several years, SJRWMD reconsidered the draft WSA 2008 population and water demand projections and concluded that these projections should be revised to be consistent with the latest BEER population forecasts (April 2009). SJRWMD's revised projections are consistent at the county level with 2009 BEER medium projections, and they reflect the latest plans for developments of regional impact (DRI) and other large plans for development.

Therefore, the draft WSA 2008 (dated Jan. 23, 2009) is to be updated to reflect SJRWMD's revised population and water demand projections, with associated groundwater modeling results and water resource constraint analyses. The following are descriptions of tables 1, 5, and 5a that reflect SJRWMD's revised projections.

Table 1

Table 1 shows historic and projected population through 2030 for each of the 18 counties within SJRWMD. Population is divided into four components. Population is shown for the entire county (county population) and for the county population located within SJRWMD (SJRWMD population). The SJRWMD population is then divided into the SJRWMD public supply population category and the SJRWMD domestic and small utility population category.

Table 5

Table 5 lists historic and projected water use demand through 2030 for each public supply utility that had an average use of above 0.10 million gallons per day (mgd) in 2005. Historic and projected public supply water use figures for each planning horizon

are displayed by groundwater, surface water, and total water demand. (To assist the reader, utilities are listed alphabetically by county, with alphabetized counties listed in successive order.)

Table 5a

Table 5a lists historic and projected public supply population through 2030 for each public supply utility that had an average use of above 0.10 mgd in 2005.

For additional information about the revised population and water demand projections, please contact:

David Hornsby, Ph.D.
Technical Program Manager
St. Johns River Water Management District
Division of Water Supply Management
4049 Reid Street, Palatka, FL 32178

(386) 312-2371 or e-mail dhornsby@sjrwmd.com

Table 5a—Continued

Utility	1995 Population	2005 Population	2010 Projected Population	2015 Projected Population	2020 Projected Population	2025 Projected Population	2030 Projected Population	Percent Change 1995 - 2030
Apopka, City of	28,610	52,977	59,036	66,288	80,829	98,878	119,275	317
Aqua Utilities Florida	1,644	2,515	2,972	3,666	9,177	14,357	18,397	1,019
Casselberry, City of	1,515	1,496	1,501	1,503	1,510	1,513	1,514	0
East Central Florida Services Inc.	0	0	134	218	338	487	661	*
Eatonville, Town of	2,312	2,091	2,142	2,195	2,433	2,516	2,557	11
General Utilities Corp.	1,250	1,954	1,954	1,954	1,954	1,954	1,954	56
Hometown America	1,175	1,667	1,667	1,667	1,667	1,720	1,749	49
Maitland, City of	10,238	10,291	10,842	11,004	11,292	11,402	11,457	12
Mount Dora, City of**	0	0	7	21	45	87	148	*
Oakland, Town of	867	2,120	2,872	3,088	3,883	4,436	5,033	481
Ocoee, City of	21,241	30,358	31,370	32,257	33,287	34,816	36,033	70
Orange County Public Utilities	150,468	326,155	364,792	406,302	435,285	455,863	473,624	215
Orlando Utilities Commission	225,253	231,105	236,526	238,601	248,328	254,019	257,999	15
Wedgfield Utilities Inc.	1,523	3,896	4,484	4,798	5,419	5,775	6,082	299
Winter Garden, City of	12,086	28,382	32,900	36,067	41,708	45,201	50,358	317
Winter Park, City of	62,081	56,771	57,664	58,050	58,686	59,016	59,176	-5
Zellwood Station Community Assoc.	1,937	1,838	1,883	1,894	1,896	1,897	2,440	26
Zellwood Water Users Inc.	735	940	1,011	1,120	1,835	2,146	2,279	210
Orange County Total	522,935	754,556	813,757	870,693	939,572	996,083	1,050,736	101
East Central Florida Services Inc.	0	0	149	386	861	1,445	2,133	*
Toho Water Authority	0	0	947	1,065	1,296	1,560	1,859	*
Osceola County Total	0	0	1,096	1,451	2,157	3,005	3,992	*
Crescent City	1,802	1,765	1,817	1,862	1,913	1,963	2,007	11
Melrose**	260	458	463	466	477	486	491	89
Palatka, City of	9,701	11,154	11,154	11,154	11,154	11,230	12,066	24
Putnam County	0	0	406	1,824	2,723	3,625	4,505	*
Welaka, City of**	575	877	880	898	917	935	949	65
Putnam County Total	12,338	14,254	14,720	16,204	17,184	18,239	20,018	62
City of St. Augustine Utilities**	16,213	21,818	28,554	32,673	37,442	41,362	44,993	178
Intercoastal Utilities**	6,216	7,596	8,563	9,526	10,229	10,594	10,843	74
JEA	12,392	39,669	48,758	61,089	73,722	86,561	99,357	702
North Beach Utilities	1,668	3,997	5,023	5,361	5,615	5,793	5,954	257
St. Johns County Utilities	27,943	51,234	69,572	84,576	103,037	122,395	141,276	406
Hastings, Town of	471	1,503	1,745	1,945	2,190	2,404	2,562	444
St. Johns County Total	64,903	125,817	162,215	195,170	232,235	269,109	304,985	370
Altamonte Springs, City of	44,708	48,805	49,995	52,369	54,912	55,284	56,928	27
Aqua Utilities Florida	2,745	4,109	4,292	4,730	5,302	5,418	5,470	99
Casselberry, City of	40,302	43,576	44,458	45,795	47,264	47,408	48,564	21
Lake Mary, City of	7,186	13,778	14,189	14,973	15,805	17,760	18,134	152
Longwood, City of	12,410	13,051	13,606	15,159	16,439	16,570	18,403	48
Oviedo, City of	21,241	30,787	31,947	34,162	36,343	37,066	38,051	79
Sanford, City of	38,364	55,365	56,973	59,889	64,909	66,611	67,921	77
Sanlando Utilities Corp.	28,574	29,758	30,120	30,871	31,539	31,682	32,807	15
Seminole County Environmental Services	79,983	119,531	123,402	130,866	138,225	143,646	146,333	83
Utilities Inc. of Florida	5,762	5,905	5,952	6,059	6,275	6,306	6,506	13
Winter Springs, City of	24,518	31,271	32,025	33,442	34,684	39,034	40,278	64
Seminole County Total	305,793	395,936	406,959	428,315	451,697	466,785	479,395	57

Table 5—Continued: Putnam, St. Johns, and Seminole

Utility	1995 Water Use			2005 Water Use			2010 Projected Water Demand Average Rainfall Year			2015 Projected Water Demand Average Rainfall Year			2020 Projected Water Demand Average Rainfall Year		
	Ground	Surface	Total	Ground	Surface	Total	Ground	Surface	Total	Ground	Surface	Total	Ground	Surface	Total
Crescent City	0.32	0.00	0.32	0.22	0.00	0.22	0.43	0.00	0.43	0.43	0.00	0.43	0.44	0.00	0.44
Melrose	0.08	0.00	0.08	0.12	0.00	0.12	0.11	0.00	0.11	0.11	0.00	0.11	0.11	0.00	0.11
Palatka, City of	2.82	0.00	2.82	2.31	0.00	2.31	2.16	0.00	2.16	2.24	0.00	2.24	2.28	0.00	2.28
Putnam County	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.09	0.39	0.00	0.39	0.58	0.00	0.58
Welaka, City of	0.10	0.00	0.10	0.09	0.00	0.09	0.13	0.00	0.13	0.13	0.00	0.13	0.14	0.00	0.14
Putnam County Total	3.32	0.00	3.32	2.74	0.00	2.74	2.91	0.00	2.91	3.29	0.00	3.29	3.55	0.00	3.55
City of St. Augustine Utilities	1.66	0.00	1.66	2.99	0.00	2.99	4.52	0.00	4.52	5.43	0.00	5.43	6.34	0.00	6.34
Intercoastal Utilities	1.07	0.00	1.07	1.91	0.00	1.91	1.95	0.00	1.95	2.17	0.00	2.17	2.33	0.00	2.33
JEA	1.70	0.00	1.70	2.28	0.00	2.28	6.29	0.00	6.29	7.88	0.00	7.88	9.51	0.00	9.51
North Beach Utilities	0.22	0.00	0.22	0.36	0.00	0.36	0.60	0.00	0.60	0.64	0.00	0.64	0.67	0.00	0.67
St. Johns County Utilities	3.20	0.00	3.20	7.37	0.00	7.37	10.76	0.00	10.76	13.05	0.00	13.05	15.88	0.00	15.88
Hastings, Town of	0.08	0.00	0.08	0.15	0.00	0.15	0.19	0.00	0.19	0.21	0.00	0.21	0.23	0.00	0.23
St. Johns County Total	7.93	0.00	7.93	15.06	0.00	15.06	24.31	0.00	24.31	29.37	0.00	29.37	34.96	0.00	34.96
Altamonte Springs, City of	6.51	0.00	6.51	6.15	0.00	6.15	6.71	0.00	6.71	7.03	0.00	7.03	7.37	0.00	7.37
Aqua Utilities Florida	0.23	0.00	0.23	0.36	0.00	0.36	0.33	0.00	0.33	0.36	0.00	0.36	0.41	0.00	0.41
Casselberry, City of	5.71	0.00	5.71	4.77	0.00	4.77	5.82	0.00	5.82	6.00	0.00	6.00	6.19	0.00	6.19
Lake Mary, City of	1.75	0.00	1.75	3.56	0.00	3.56	4.13	0.00	4.13	4.35	0.00	4.35	4.60	0.00	4.60
Longwood, City of	2.00	0.00	2.00	1.92	0.00	1.92	2.10	0.00	2.10	2.34	0.00	2.34	2.54	0.00	2.54
Oviedo, City of	2.82	0.00	2.82	4.05	0.00	4.05	4.52	0.00	4.52	4.84	0.00	4.84	5.15	0.00	5.15
Sanford, City of	5.74	0.00	5.74	6.35	0.00	6.35	7.60	0.00	7.60	7.99	0.00	7.99	8.66	0.00	8.66
Sanlando Utilities Corp.	8.81	0.00	8.81	8.87	0.00	8.87	9.26	0.00	9.26	9.50	0.00	9.50	9.70	0.00	9.70
Seminole County Environmental Services	12.08	0.00	12.08	15.92	0.00	15.92	17.39	0.00	17.39	18.45	0.00	18.45	19.48	0.00	19.48
Utilities Inc. of Florida	0.78	0.00	0.78	0.65	0.00	0.65	0.58	0.00	0.58	0.59	0.00	0.59	0.61	0.00	0.61
Winter Springs, City of	3.05	0.00	3.05	3.64	0.00	3.64	4.29	0.00	4.29	4.48	0.00	4.48	4.64	0.00	4.64
Seminole County Total	49.48	0.00	49.48	56.24	0.00	56.24	62.73	0.00	62.73	65.92	0.00	65.92	69.35	0.00	69.35

Table 5—Continued, for Putnam, St. Johns, and Seminole

Utility	2025 Projected Water Demand Average Rainfall Year			2030 Projected Water Demand Average Rainfall Year			Percent Change 1995 - 2030
	Ground	Surface	Total	Ground	Surface	Total	
Crescent City	0.45	0.00	0.45	0.46	0.00	0.46	44
Melrose	0.11	0.00	0.11	0.11	0.00	0.11	40
Palatka, City of	2.33	0.00	2.33	2.36	0.00	2.36	-16
Putnam County	0.77	0.00	0.77	0.96	0.00	0.96	*
Welaka, City of	0.14	0.00	0.14	0.14	0.00	0.14	40
Putnam County Total	3.80	0.00	3.80	4.03	0.00	4.03	21
City of St. Augustine Utilities	6.46	0.52	6.97	6.74	1.03	7.77	368
Intercoastal Utilities	2.41	0.00	2.41	2.47	0.00	2.47	130
JEA	11.17	0.00	11.17	12.82	0.00	12.82	654
North Beach Utilities	0.69	0.00	0.69	0.71	0.00	0.71	225
St. Johns County Utilities	17.46	1.35	18.81	18.88	2.70	21.58	575
Hastings, Town of	0.26	0.00	0.26	0.27	0.00	0.27	243
St. Johns County Total	38.45	1.87	40.31	41.89	3.73	45.62	475
Altamonte Springs, City of	7.42	0.00	7.42	7.64	0.00	7.64	17
Aqua Utilities Florida	0.42	0.00	0.42	0.42	0.00	0.42	83
Casselberry, City of	6.21	0.00	6.21	6.36	0.00	6.36	11
Lake Mary, City of	5.16	0.00	5.16	5.27	0.00	5.27	201
Longwood, City of	2.56	0.00	2.56	2.84	0.00	2.84	42
Oviedo, City of	5.25	0.00	5.25	5.39	0.00	5.39	91
Sanford, City of	8.89	0.00	8.89	9.06	0.00	9.06	58
Sanlando Utilities Corp.	9.75	0.00	9.75	10.09	0.00	10.09	15
Seminole County Environmental Services	20.25	0.00	20.25	20.63	0.00	20.63	71
Utilities Inc. of Florida	0.61	0.00	0.61	0.63	0.00	0.63	-19
Winter Springs, City of	5.22	0.00	5.22	5.39	0.00	5.39	77
Seminole County Total	71.73	0.00	71.73	73.72	0.00	73.72	49