

I. INTRODUCTION

A. Purpose

The purpose of the Potable Water Sub-element is to inventory the existing water supply, treatment, and distribution facilities, determine existing and projected water demands, assess the existing facilities with respect to the existing needs, future needs, and regulatory requirements, and determine the deficiencies of the potable water system for meeting current and future water demand and regulatory agency requirements. Where deficiencies exist, whether they are current or future, the element provides a plan for improvements of existing facilities and construction of new facilities. Goals, objectives, and policies are included to insure an adequate water supply for the City of Ocoee.

B. Terms and Concepts

Definition of Terms:

AVERAGE DAY DEMAND (ADD) is the domestic water demand which is equal to the annual average daily water consumption.

DOMESTIC WATER DEMAND is the water consumed or used by the public.

MAXIMUM DAY DEMAND (MDD) is the highest daily domestic water demand experienced in a single 24-hour period over the entire year.

PEAK HOUR DEMAND (PHD) is the highest hourly domestic water demand experienced in a single hour over a 24 hour period.

NEEDED FIRE FLOW (NFF) is the required water demand as defined by the Insurance Services Office (ISO) for fighting a fire. This flow is usually expressed in gallons per minute.

POTABLE WATER is drinkable water that meets the requirements of Federal and State drinking water quality standards.

A potable water supply system normally consists of a water supply source, a treatment plant and a distribution and storage network. The supply source for a system is usually either surface water or groundwater, or some combination of the two. The selection of a source for any system must consider the type and quality of sources available and the cost of developing the source for use. The supply must provide a reliable quantity of water for the long-term needs of the community, and preferably will have a quality that minimizes the amount of treatment required.

Historically in Central Florida, the most common supply source for potable water has been groundwater from the Floridan Aquifer because up to now, the aquifer has been an adequate long term supply with a purity that requires minimal treatment. Most of the new wells installed in west Orange County over the past ten years have been to a depth to withdraw groundwater from the lower portion of the Floridan Aquifer where the water

quality is more acceptable and less treatment is required to meet the Federal and state drinking water regulations.

Before being used for public consumption, all water must be treated at some level. The minimum level would be disinfection only with more treatment-required dependent upon the contaminants found in the water. The primary objective of water treatment for public supply is to take water from the best available source and to subject it to processing that will assure that it is always safe for human consumption and is aesthetically acceptable to the consumer. The treatment process adds to the cost of supplying water but it also expands the range of raw water sources that can be utilized.

After treatment, the water is supplied to individual users in a community by way of a network of pipes and storage reservoirs. Large transmission lines carry water to major demand areas and interconnect with a network of smaller lines, the distribution system, which eventually supply individual customers. Both the transmission mains and distribution network should be interconnected to form flow loops to allow water to circulate from various portions of the system to areas of highest momentary demand.

Water is delivered under pressure throughout the transmission and distribution system in order to ensure adequate flow to meet demands. Demand fluctuates during each day, usually exhibiting peaks during the morning and evening, corresponding to periods of highest residential use. Localized demand peaks also occur when the system is utilized for fire fighting purposes.

In order to provide adequate quantities and pressure to meet peak use and fire flow demands, storage tanks are used with the distribution system to ensure the availability of water. During low demand periods, these tanks are filled as water is pumped into the system. During the peak demand periods, water flows from the tanks into the distribution system to augment peak demand flows and maintain pressure. Ground level and elevated storage tanks are both commonly used.

Generally, the minimum combined well capacity available at all the water plants should exceed the actual, or predicted, maximum day demand. This ensures that water service can be provided even on days when the City experiences its highest water demand.

The available ground storage tank capacity should be at least 25% of the maximum daily water demand plus any volume of water needed to store the most stringent fire flow. In Ocoee, the most stringent fire flow, as defined in the City of Ocoee Master Water Plan, is a 3,000 gpm flow for 3 hours, or 540,000 gallons. Therefore, the minimum required storage capacity is 25 percent of the maximum day demand plus 540,000 gallons. This storage capacity can be the combined capacity at all of the water plants and can be the combination of ground and elevated storage.

In general, the hydrostatic pressure in the water distribution system should have a daily variation of 50 to 70 pounds per square inch gage (psig), with 60 psi as a goal. The normal allowable lower low pressure in the system should not range below 40 psig. Furthermore, a minimum residual pressure of 20 psig should be provided at any point in the water distribution system during maximum day plus fire flow demand condition.

II. EXISTING CONDITIONS

A. Regulatory Framework

Federal - The federal government has established quality standards for the protection of water for public use, including operating standards and quality controls for public water systems. These regulations are provided in the Safe Drinking Water Act, Public Law 93-523, as enacted in 1974. The U.S. Environmental Protection Agency was directed to establish national standards for drinking water.

Increased concern about toxins in the drinking water led Congress to amend the Safe Drinking Water Act in 1986 and 1996, making it stricter and more inclusive. The Safe Drinking Water Act and its amendments has had significant effect on improvements in both water quality and water supply management. These acts give the administrator of the Environmental Protection Agency (EPA) the authority to control the quality of the drinking water in public water systems through the development of regulations, or by other methods.

The EPA water quality standards are divided into "primary" (those required for public health) and "secondary" (recommended for aesthetic quality) categories, and are presented in terms of Primary and Secondary Maximum Contaminant Levels (MCLs).

The primary MCLs are subdivided into six categories as shown below:

1. Inorganic chemicals
2. Organic chemicals
3. Radionuclides
4. Turbidity
5. Microbiological contaminants
6. Disinfection By-Products

The secondary MCLs have been established by the EPA for substances that may be a nuisance to the consumer at high concentrations. These substances may adversely affect the aesthetic quality of the drinking water, but health implications may result if their concentrations are substantially in excess of the recommended values.

The secondary MCLs are guidelines, and are not enforced by the EPA, although they represent reasonable and prudent goals for drinking water quality. Individual states are encouraged to set standards based on the secondary MCL values set forth by the EPA. The EPA does not have the authority to require that secondary MCLs be met.

State - In accordance with federal requirements, the Florida Legislature has adopted the Florida Safe Drinking Water Act and its amendments, Sections 403.850 - 403.864, F.S. The Florida Department of Environmental Protection (DEP) is the state agency responsible

for implementing this act by formulating and enforcing the rules pertaining to drinking water. In this regard, DEP has promulgated rules classifying and regulating public water systems under Chapters 62-550, 62-555, and 62-560 of the F.A.C. The primary and secondary standards of the Federal Safe Drinking Water Act are mandatory in Florida.

St. Johns River Water Management District (SJRWMD) - SJRWMD is the primary regional water management district (WMD) is responsible for managing water supplies to meet existing and future demands. Regulation of consumptive use is achieved through a permitting system, through which water resources are allocated among the permitted consumers. The WMD rules pertinent to the City of Ocoee are contained in Chapter 40C, FAC.

B. Service Area

Existing Service Area

The existing Ocoee water service area is located in West Orange County and includes the entire City of Ocoee and a few water customers outside the City limits. The existing service area covers approximately 14.8 square miles. The terrain is relatively flat, except for one elevated portion in the north half of the service area, and there are a number of scenic lakes, which provide recreation for many of the residents in the area and assist in recharging the surficial aquifer. Land use within the service area is primarily residential with commercial development concentrated along the State Road 50 corridor, Maguire Road, Clarke Road, Kissimmee Avenue, McKey Street, Taylor Street, and State Road 438. There is some industrial land use, which is located along Enterprise Road, Maguire Road, Kissimmee Avenue, and State Road 438.

Existing Water Demand

The existing Ocoee water service area is a single pressure zone type system. By utilizing water plant operating reports, the average daily water demand for the City of Ocoee was determined. The combined total average daily flow (ADF) for the entire service area is 6.486 million gallons per day (mgd) as provided from the three water treatment plants. The City has approximately 16,200 equivalent residential connections (ERC), thus each ERC creates a demand of 400 gallons per day.

Ocoee currently has three water treatment plants which are the Forest Oaks WTP located on Hackney-Prairie Road in the northeast section of the service area, the South WTP located off of Maguire Road in the south section of the service area, and the Jamela WTP which is located on Wurst Road in the central-hill section of the service area. All three plants pump into the service area with multiple feeds from each plant. Table 8 summarizes the ADF and MDF for each plant.

Table 8
Summary of Existing Water Demand

Water Treatment Plant	Average Daily Demand (mgd)	Maximum Daily Demand (mgd)
Jamela WTP	0.581	1.176
Forest Oaks WTP	2.463	3.162
South WTP	3.442	4.297
Total	6.486	8.635

Source: City of Ocoee Utility Department Monthly Operating Reports, October 2000.

The Kissimmee Avenue WTP was taken out of service and demolished in 1993/94. The wells were grouted in 1999 after the water management district stop using them as data collection points.

C. Water Supply and Treatment Facilities

The City's potable water is currently supplied by three (3) active water treatment plants:

1. Jamela WTP This water treatment plant is located on Jamela Drive and Wurst Road in the central-hill portion of the service area.
2. Forest Oaks WTP This water treatment plant is located along Hackney-Prairie Road in the northeast corner of the service area.
3. South WTP This water treatment plant is located off of Maguire Road in the south portion of the service area.

Jamela Water Treatment Plant

Raw water is supplied to the Jamela Water Treatment Plant from one (1) deep well, which penetrates the Floridan Aquifer. Well No. 3 has a 16-inch diameter casing, is 650 feet deep, and rated at 2,000 gpm. Well No. 3B has been taken out of service.

The flow scheme for the WTP is that as the water is pumped out of the well it is disinfected by the addition of chlorine gas and fluoridated for the prevention of dental caries. The water is physically aerated through a tray aerator as it discharges into the top of the 500,000 gallon ground storage tank. The treated water is pumped into the distribution system by two high service pumps, set up to run per system pressure. There is a third high service pump available in as an emergency backup. Each pump has as rated capacity of 1000 gpm. For emergency power needs, the Jamela WTP is equipped with a 250 kW electrical power generator, which is capable of operating the largest well and one high service pump.

There are two discharge points out of the Jamela WTP, which allow the plant to adequately serve the demands of the system. There is a 16-inch main that projects flow north and second 8 inch main that provides service towards the south. The entire distribution system floats as one pressure zone and each WTP feeds into the system based upon customer demands. There is a 500,000 gallon elevated storage tank located on the Jamela WTP property that aids in maintaining system pressure. The tank stores water for emergency

fire flows and maintains the sufficient static head in the system when the high service pumps are not operating.

Forest Oaks Water Treatment Plant

The Forest Oaks WTP was acquired by the City in 1986 from a private developer. Raw water is supplied by three deep wells used individually or in combination dependent upon system demand. Well No. 1 is a 10-inch well that is 589 feet deep and has a pumping capacity of 700 gpm. Well No. 2 is a 16-inch well that is 340 feet deep and has a pumping capacity of 1,100 gpm. Well No. 3 is a 16-inch well that is 1,500 feet deep and has a pumping capacity of 3,000 gpm. All three penetrate the Floridan Aquifer.

The flow scheme for the WTP is that as the water is pumped out of the wells it is disinfected by the addition of chlorine solution and fluoridated for the prevention of dental caries. The water is physically aerated through tray aerators as it discharges into the top of the 400,000 or 650,000 gallon ground storage tanks. The water is disinfected again, as a polishing effect, as it is pumped into the distribution system. The treated water is pumped into the distribution system by four high service pumps, set up to run per system pressure. The rated capacity of the high service pumps ranges from 600 gpm to 2,500 gpm. For emergency power needs, the Forest Oaks WTP is equipped with a 1,000 kW electrical power generator which is capable of operating the entire plant as system demands with any problem.

There are two discharge points out of the Forest Oaks WTP, which allow the plant to adequately serve the demands of the system. There is a 16-inch main that projects flow south and second 16 inch main that provides service towards the west. The entire distribution system floats as one pressure zone and each WTP feeds into the system based upon customer demands.

South Water Treatment Plant

The South WTP was constructed in 1991/92 and is located off Maguire Road in the southern portion of the service area. Raw water is supplied by two deep wells used individually or in combination dependent upon system demand. Well No. 1 is a 16-inch well that is 1,200 feet deep and has a pumping capacity of 2,500 gpm. Well No. 2 is a 16-inch well that is 1,500 feet deep and has a pumping capacity of 3,500 gpm. Both wells draw water from the Floridan Aquifer.

The flow scheme for the WTP is that as the water is pumped out of the wells it is disinfected by the addition of chlorine solution and fluoridated for the prevention of dental caries. The water is physically aerated through tray aerators as it discharges into the top of the 400,000 or 650,000 gallon ground storage tanks. The water is disinfected again, as a polishing effect, as it is pumped into the distribution system. The treated water is pumped into the distribution system by five high service pumps, set up to run per system pressure. The rated capacity of the high service pumps ranges from 400 gpm to 2,500 gpm. For emergency power needs, the Forest Oaks WTP is equipped with a 500 kW electrical power generator which is capable of operating the entire plant as system demands with any problem.

There are three discharge points out of the South WTP, which allow the plant to adequately serve the demands of the system. There is a 16-inch main that projects flow north, a second 16 inch main that provides service towards the west, and a 12 inch main that directs flow toward the south. The entire distribution system floats as one pressure zone and each WTP feeds into the system based upon customer demands.

Ocoee is in the process of evaluating the ability to operate without the elevated tank that is located on the Jamela WTP property. This tank is in need of a major renovation and if it is determined that the system can operate without this tank, then the rehabilitation of this tank will not be realized. After resolving the issue with the elevated tank, the continued need of the Jamela WTP will be evaluated. This plant is in need of repair and the capacity addition to the overall system makes it not cost effective to repair in comparison to expanding the Forest Oaks and South WTPs or possibly building a new WTP in another area where demand would dictate.

The Forest Oaks WTP and South WTP were upgraded in 1996/97 and again in 2000/01. The first upgrade involved constructing a second ground storage tank, another well, replacement of the disinfection system, and more high service pumps at both plants. The additional tanks, wells, and high service pumps allow for better operation of the plants and also allow for routine maintenance of the various plant components without affecting operations. These facility additions increase the plant capacity for meeting current and future demands as Ocoee continues to grow. The replacement of the disinfection system allowed the City to remove a hazard, chlorine gas, at two of its facilities that are closely surrounded by residential communities.

The second upgrade at the plants replaced and increased capacity of the emergency generator at the Forest Oaks WTP and enhanced the disinfection facilities at both plants. Other small projects have also been realized over the years to upgrade a component and to extend the life of the facilities. The Forest Oaks and South WTPs can easily meet the current demands of the system and into the future for the next thirty years. There is also ample land on the City's property at each plant for expansion requirements. The City also owns property in the west side of the service area if another treatment plant is required.

D. Existing Distribution System

The City of Ocoee's "backbone" water distribution system consists of a network of water mains ranging from 6-inches to 16-inches in diameter. See Figure No. 16, for a layout of the water distribution system. The water mains, fittings and appurtenances are made of various materials including cast iron, ductile iron, asbestos-cement, and PVC. Each year the City replaces any asbestos-cement pipe that is within a construction project area.

In addition to the backbone water distribution system, there is a large number of 2-inch and 4-inch water mains for local service. Many of the 2-inch water mains are steel pipe which have become severely corroded on the interior of the pipes. Much of the flow capacity of these 2-inch mains has been lost and the corroded pipes should be abandoned as replacement water mains are installed. As the distribution system is upgraded through routine maintenance and/or planned projects, the two inch and three inch pipelines are

replaced with larger mains; usually 6 inch mains so fire service can also be provided. The minimum sized pipe diameter allowed in the City is 4 inch and must be on short distances.

The distribution system is all one-pressure zone, there are not separate zones in the north and south anymore. The combining of the two zones allowed for better operation, especially in meeting fire flow demands, and a more stable system wide pressure. Ocoee just finished a major enhancement of its distribution system that added approximately 50,000 linear feet of mostly 12 and 16 inch pipelines, throughout the system. The intent was to enhance looping in previously deficient areas for meeting regular domestic demands and for fire flow requirements.

III. NEEDS ASSESSMENT

A. Service Standards

Water facilities should be designed to provide the populations needed supply. The level of service is an indication of service quality provided by or proposed to be provided by a water facility, based on the operational characteristics of the facility. The normal water consumption, at this time, is 400 gallons per day per connection. The City is aware that the LOS is higher than normal and is aggressively pursuing the development and growth of the City’s reuse system, which should bring the LOS figure back down to the generally accepted figure of 300 gpd/ERC. In addition, 300 gpd/ERC is used as the level of service for projecting future water demands.

Ocoee is continually working to maintain this level of service. The City of Ocoee is in the process of starting up its reuse water system that will start providing treated wastewater effluent for use as irrigation. The continued expansion of the reuse system will aid in keeping the level of service at the acceptable level and possibly reduce it.

B. Projected Population and Water Demands

As of October 2000, the City of Ocoee provides water service to a population of approximately 24,301 people, and operates three water treatment facilities, and approximately 125 miles of water mains. For an explanation of the difference in population served between the utility service area and the City limits, see the Future Land Use Element. Table 9 details the City of Ocoee's service area population projections and water demand projections up to year 2020. This projection is based on the City's anticipation to deliver water capacity to all new developments within the planning area.

**Table 9
Service Area Population and Water Demand Projections**

Year	Projected Population¹	Equivalent Residential Connections (ERC)	Projected Average Daily Water Demand² (mgd)	Projected Maximum Daily Water Demand³ (mgd)
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2000	33,808	16,200	6.48	8.64
2005	38,067	17,667	5.30	7.03
2010	42,351	19,489	5.83	7.78
2020	48,514	21,269	6.38	8.48

1. Total projection includes permanent and seasonal population.
2. Based on an average daily use of 400 gpd/ERC for the year 2000 and reduced to 300 gpd/ERC for the year 2005 and on data based upon aggressive reuse system expansion.
3. Projected maximum daily water demand is 1.33 times greater than the average daily water demand (taken from the 2000 data).

Source: City of Ocoee Utilities Department, October 2000.

C. Water System Improvements

Ocoee completed a major upgrade of its water treatment and transmission and distribution systems in 2000. The Forest Oaks and South WTPs had capacity upgrades by adding wells, ground storage tanks, and high service pumps and by the replacement of the disinfection facilities. The transmission and distribution systems had approximately 20,000 feet of large diameter pipeline additions and approximately 10,000 feet of replacement of small undersized mains installed over the past five years. These upgrades were in accordance with the past Water Master Plan and system hydraulic model prepared in the 1990. Ocoee is in the process of an overall update to the hydraulic model to plan for future system needs and possible additional capacity upgrades as growth in Ocoee warrants.

To meet the growing demand of water treatment in Ocoee, the City has developed a construction schedule for system improvements to assure adequate treatment and distribution facilities. Table 10 details this proposed five-year water system improvement schedule. The locations of these proposed facilities are not shown on Figure 16.

**Table 10
Water System Five-Year Capital Improvements Plan**

Fiscal Years Ending September 30							
Item	Project Description	Dollars to be Spent					Total
		2002	2003	2004	2005	2006	
1	Replace Valves at Jamela WTP		60,000				60,000
2	Rehabilitate Elevated Storage Tank at Jamela WTP	80,000					80,000
3	Booster Pump Station on A.D. Mims Road			300,000			300,000
4	Install Water Mains - Phase 1a (Clarcona-Ocoee, Lauren Beth, and north Clarke)				600,000		600,000
5	Replace Sodium Hypochlorite Generator Anodes at Forest Oaks WTP		50,000				50,000
6	Replace Sodium Hypochlorite Generator Anodes at South WTP			50,000			50,000
7	Decommission Wells at Jamela WTP		100,000				100,000
8	Office Addition at South WTP				50,000		50,000
9	Paint Ground Storage Tanks and Buildings at Forest Oaks WTP			20,000			20,000
10	Paint Ground Storage Tanks and Buildings at South WTP		20,000				20,000
11	Replace Roof on South WTP Operations Building					12,000	12,000
12	Recoat Chemical Containment at both WTPs			24,000			24,000
13	Install Safety Ladders on Salt Tanks at both WTPs	46,000					46,000
14	Enclose Hypochlorite Generator at South WTP				8,000		8,000
15	Hydraulic Modeling of Water Distribution System	100,000					100,000
\$ FY Totals		226,000	230,000	394,000	658,000	12,000	1,520,000

Figures shown include design, construction, and administrative costs. 2001.

Source: City of Ocoee Finance Department,

IV. GOALS, OBJECTIVES, AND POLICIES

GOAL 1:

TO PROVIDE SUFFICIENT WATER SUPPLY, ADEQUATE TREATMENT CAPABILITIES, AND A THOROUGH DISTRIBUTION SYSTEM FOR THE CITY'S GROWING NEEDS, ALONG WITH ECONOMICAL MEANS, TO ENSURE CONTINUOUS SERVICE OF DOMESTIC FLOWS, FIRE FLOWS AND PRESSURES.

Objective 1.1: The City of Ocoee shall direct development to maximize use of the present water system and utilize available capacity.

Policy 1.1.1: Water facility plans and programs shall be designed and coordinated in a manner, which will support the current water master plan.

Policy 1.1.2: The provision of central water service is intended to serve as a growth management tool in that these systems shall be expanded only in the designated reserved planning boundary area. The priority of service provision shall be as follows:

- A. Service to existing areas that present either an immediate threat to public health or safety, or produce serious pollution problems;
- B. Maintenance or upgrading of the existing water systems to meet or exceed adopted level of service standards; and
- C. Service to areas that are scheduled to be developed in the near future as defined in the new Water Master Plan, which is in development.

Policy 1.1.3: Centralized water facilities shall be designed to service the densities and intensities of development projected.

Policy 1.1.4: Water transmission facilities needed above and beyond the development projected by the City of Ocoee shall be provided at the developer's cost.

Policy 1.1.5: Connections to the water transmission lines shall be permitted only where the capacity is available in the line.

Policy 1.1.6: The future City Water Facilities Capital Improvements Program shall plan for extension of services.

Policy 1.1.7: The City Water Facilities Capital Improvements Program shall provide for correction of existing system facility deficiencies.

Policy 1.1.8: Connections to the City water system shall be required within one (1) year from the date of notification that these services are available (at the property owner's expense).

Objective 1.2: The Water Management Plan and Capital Improvements Plan shall identify the needed extensions or increases in capacity of central water facilities to meet future needs.

Policy 1.2.1: The level of service for potable water shall be 300 gallons per day per ERC.

Policy 1.2.2: The City shall plan for water service expansion or increased capacity if the average water pumping capacity falls below a level of service of 300 gallons per day per ERC.

Policy 1.2.3: The City of Ocoee will not issue building permits within a service area where the average water pumping capacity is below 300 gallons per day per ERC.

Objective 1.3: User fees will be established to cover the full costs of operating and maintaining the water system including depreciation and the true cost of water system expansion and interconnection.

Policy 1.3.1: The City shall establish and maintain a current five-year Water Facilities Capital Improvements Program.

Policy 1.3.2: Connection fees shall cover the cost of the needed water system expansion.

Policy 1.3.3: The City of Ocoee water system shall be self-supporting and should not utilize ad valorem taxes.

Objective 1.4: The City of Ocoee shall prevent fragmentation and duplication of water service through intergovernmental coordination and investigation of innovative systems.

Policy 1.4.1: Ocoee will continue to coordinate with adjacent entities to review and modify, as needed, territorial agreements with adjacent municipalities and other utilities regulated by the Public Service Commission in order to encourage this cost-effective service and to avoid unnecessary duplication in the provision of water services.

Policy 1.4.2: The City of Ocoee shall continue to investigate alternative management systems for providing water service.

Objective 1.5: The City shall maintain an acceptable potable water leakage, with the goal being less than 10% unaccounted for water.

Policy 1.5.1: User fees shall be evaluated to ensure funds are available to reduce leakage.

Objective 1.6: The City of Ocoee shall perform an update to the ten-year water supply facility work plan as required under ss.369.321(4), Florida Statutes-**[Wekiva Parkway and Protection Act (WPPA): Ch. 369.321(3), F.S.]**

Policy 1.6.2: In accordance with the update of the ten-year water supply facility work plan, the adoption of any required comprehensive plan amendments shall be completed within six (6) months. For any future land use map amendments adopted prior to the adoption of the 10-year Water Supply Facilities Work Plan and related comprehensive plan amendments, the City shall demonstrate the availability of water supply for a ten-year period including the demand from the future land use map amendment. This shall include the anticipated demand resulting from those amendments and the demand for water supply for the growth anticipated for that same 10-year planning period. Supply shall be based on current resources and improvement schedule. [Wekiva Parkway and Protection Act (WPPA): Ch. 369.321(3), F.S.]

GOAL 2: PROVISION OF WATER SERVICE SHALL BE ENVIRONMENTALLY SOUND, PROMOTE WATER CONSERVATION AND PROTECT THE QUALITY OF THE WATER SUPPLY.

Objective 2.1: Ocoee will continue to set procedures and mechanisms established to ensure a safe and acceptable withdrawal rate from the aquifer, meeting the needs of the City.

Policy 2.1.1: The City of Ocoee shall support and assist the Water Management Districts in implementing the development of a citywide consumptive use study program to monitor the effects of withdrawals from the Floridan Aquifer.

Policy 2.1.2: The City shall continue to develop an active Water Conservation Program and require the installation of water conservation products, which minimize the demand for water in all new developments.

Policy 2.1.3: The City Engineer shall coordinate with Water Management Districts to closely monitor the drilling of new wells, enforce the capping of abandoned wells, and require the placement of valves on existing free flowing wells so water will be used only as required.

Policy 2.1.4: The City Engineer shall coordinate with the Water Management District to closely monitor the amount of groundwater pumped from the aquifer.

Policy 2.1.5: The City shall establish educational programs, quotas and user fees to ensure a safe maximum withdrawal rate from the aquifer.

Policy 2.1.6: All policies of the Natural Groundwater Aquifer Recharge Element shall be implemented.

Policy 2.1.7: The shift to new technologies and operational procedures shall occur as they become economically feasible; e.g., potable and non-potable systems.

Policy 2.1.8: The City shall continue to actively participate in the development of innovative water programs, which protect and conserve water resources. Programs shall include the continued requirement for high efficiency water conservation fixtures and reclaimed water for reuse.

Policy 2.1.9: The City shall provide potable water in compliance with or exceeding minimum Environmental Protection Agency and the Florida Department of Environmental Protection water quality standards.

Policy 2.1.10: The City shall continue to promote the reuse of treated effluent in the City as irrigation for residential and commercial customers and parks and landscaped areas to reduce the demand on existing potable water supplies, and continue to expand its water reclaim and reuse system.

Policy 2.1.11: The City shall continue to adopt laws and policies an enacted by the SJRWMD to meet the District's program goals for water conservation.

Policy 2.1.12: The City shall maintain a Water Conservation Program that meets the requirements of the SJRWMD CUP and implement the Water Conservation Plan submitted as part of the CUP process. The Water Conservation Plan shall be updated as necessary to ensure that the programs address customer water use habits.

Policy 2.1.13: The City shall continue to limit the extent of impervious surfaces and encourage Florida-friendly landscaping through the Land Development Code.

Policy 2.1.14: All service connections to the potable water and reclaimed water distribution system shall be metered and the City shall maintain a meter replacement program.

Policy 2.1.15: The City shall encourage the use of low impact development techniques to minimize impacts to the natural environment and facilitate water conservation.

Policy 2.1.16: The City will complete projects listed in the CFWI Regional Water Supply Plan and as described in the 10-Year WSFWP based on need and economic, technical, and environmental feasibility.

Policy 2.1.17: The City shall identify additional potable, non-potable and alternative water supply sources and facilities required to provide adequate services to existing and future development consistent with the Future Land Use Element.

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