



INFRASTRUCTURE ELEMENT

NATURAL GROUNDWATER AQUIFER RECHARGE SUB-ELEMENT

GOALS, OBJECTIVES & POLICIES

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GOAL AR: NATURAL GROUNDWATER AQUIFER RECHARGE.

It is the goal of the City of Casselberry to provide, maintain, protect and plan environmentally sound infrastructure operations such that natural groundwater aquifer recharge occurs in a manner that maintains sufficient quality and quantity of the public water supply. The City establishes the objectives and policies below, identified by the precedent "AR", towards the accomplishment of this goal.

OBJECTIVE AR 1. GROUNDWATER QUANTITY AND QUALITY PROTECTION. It is the City of Casselberry's objective to perform specific actions during the planning period (2009-2019), to protect the public health safety and welfare by correcting deficiencies which currently exist in protecting the aquifer in both quantity and quality functions.

Policy AR 1.1 Required Environmental Protection. Casselberry shall continue to meet or exceed all federal and state regulations related to aquifer recharge, which provide for the protection of the environment. The functions of groundwater recharge areas shall be protected by regulating land use types, densities and intensities, impervious surface coverage, and stormwater retention levels to ensure that recharge levels are maintained.

Policy AR 1.2 Groundwater Contamination Protection. Within prime recharge areas (i.e. areas shown on Comprehensive Plan Map 16-1 as 8 inches/year or greater), land uses and activities which could contaminate recharge areas including underground storage tanks, septic tanks, and the use, storage, and transport of hazardous materials shall be restricted through development review and permitting processes. Development and Redevelopment within designated commercial/industrial corridors shall require proper permitting and construction techniques to ensure that Policy CO 3.12 of the Conservation Element of the Comprehensive Plan will not be violated.

Policy AR 1.3 Environmental Impact Site Reviews. The City Planning and Zoning Commission/Local Planning Agency shall review a development application for adverse environmental impact to the site's recharge potential, and may require a limitation of density/intensity of development.

Policy AR 1.4 Post-development Recharge. Land use types, densities, intensities, impervious surface coverage, and stormwater retention shall be regulated to insure that post-development recharge rates and volumes are equal to pre-development rates and volumes. Redevelopment that reduces impervious areas and increases recharge rates shall be encouraged.

Policy AR 1.5 Site Plan Review. Site plans will be reviewed by the Development Review Committee for their impacts with regard to: impact on aquifer recharge and any present deficiencies to include (1) existing capacity, (2) existing level of service, (3) desirable capacity or level of service, (4) amount of deficiency, if applicable, (5) alternatives to resolve the deficiency, and (6) recommended option to overcome the deficiency.

- Policy AR 1.6** **Stormwater Injection Well Prohibition.** The City of Casselberry shall not permit additional stormwater injection wells. Stormwater shall continue to be pre-treated prior to injection into the existing stormwater injection well located on Lemon Lane. The water quality standard to be applied will be the same as the Drainage Sub-element Level of Service Standard, Policy DR D (3).
- Policy AR 1.7** **Water Quality Monitoring and Analysis.** The City of Casselberry shall continue to monitor water quality of public water supply wells throughout the planning period (2009-2019), and shall provide and utilize data pertinent to natural groundwater aquifer recharge (i.e. basin studies, surface water quality and quantity data, well water quality and quantity) as it becomes available to determine whether water quality is deteriorating and to identify sources of impact on water quality inside and outside the corporate limits..
- Policy AR 1.8** **Conservation Techniques Education.** The residential water and sewer users of Casselberry shall be educated on water conservation by distribution of notices with utility bills notices and pamphlets at the Utilities Department payment counter. Notices and pamphlets will cover water conservation techniques such as restricted water flow plumbing fixtures, xeriscape (low or no water landscaping), and graywater use.
- Policy AR 1.9** **Water Conservation.** The City of Casselberry shall abide by water use restrictions set by the St. John's River Water Management District.
- Policy AR 1.10** **Interlocal Coordination.** Casselberry shall continue throughout the planning period (2009-2019) to have both informal and formal contact with adjacent municipalities, jurisdictions and other utilities in order to encourage cost effective service and avoid unnecessary duplication in the provision of infrastructures. Contact shall include meetings, telephone exchanges, letters and other written communication, and other forms of coordination up to and including the establishment of interlocal agreements.
- Policy AR 1.11** **Low Impact Development (LID) Techniques through Best Management Practices.** The City shall encourage Low Impact Development techniques for development and redevelopment. LID will utilize techniques to mimic a site's predevelopment hydrologic conditions through "Best Management Practices"
- Policy AR 1.11** **LID Techniques.** Low Impact Development Techniques will be used to address infiltration, attenuation, and treatment according to specific site needs.

EXECUTIVE SUMMARY

The public supply of potable water is provided by the Floridan Aquifer- one of the most productive systems in the United States. Water withdrawals must be balanced with aquifer recharge, which is accomplished either naturally by filtering and seepage of water through the earth, or artificially by injection of stormwater through wells into the aquifer

There are various ways that the contamination of groundwater in the aquifer can occur, such as leakage of hazardous materials into the ground, stormwater pollutant contamination, and improper wastewater disposal. Regulations have been established to prevent contamination of the public groundwater supply.

The agencies which are empowered to administer groundwater contamination prevention are the Florida Department of Environmental Protection (water quality standards, drinking water, underground injection control, and hazardous waste), the St. John's River Water Management District (permitting and consumptive use and water supply wells), and Seminole County (underground tank program and county wellfield protection program).

Casselberry is located in an area with high and moderate well yield, and the groundwater supply is sufficient in both quality and quantity. The City has a recharge well located at Lemon Lane; well water reports have not indicated a degradation of water quality.

Incentives to reduce potable water use have been adopted through the City's Water Supply Facilities Work Plan, and conservation techniques were included.

Since major recharge areas for the lower producing zone are located outside the corporate limits of Casselberry, the city is dependent upon jurisdictions within the prime recharge areas to protect and manage the resource so that there is sufficient potable water to provide the public.