

**COLLIER COUNTY
GROWTH MANAGEMENT PLAN**

**PUBLIC FACILITIES ELEMENT
Natural Groundwater Aquifer Recharge Sub-Element**

Prepared by
Collier County Planning and Zoning Department
Comprehensive Planning Section

Prepared for
COLLIER COUNTY BOARD OF COUNTY COMMISSIONERS
Adopted October, 1997

**AMENDMENTS TO COLLIER COUNTY GROWTH MANAGEMENT PLAN
PUBLIC FACILITIES ELEMENT
Natural Groundwater Aquifer Recharge Sub-Element**

<u>SYMBOL</u>	<u>DATE AMENDED</u>	<u>ORDINANCE NO.</u>
	May 9, 2000	2000-25 **
	May 9, 2000	2000-26 ***
(I)	May 9, 2000	2000-27
(II)	January 25, 2007	2007-13 ****
(III)	January 8, 2013	2013-09 *****

The parenthesized Roman numeral symbols enumerated above appear throughout this Sub-Element and provide informational citations to adopted documents recorded in the Official Records of Collier County, as required by Florida law. These symbols are for informational purposes only, meant to mark entries amended after the 1997 adoption of the full Sub-Element and typically found in the margins of this document, but are not themselves adopted.

* Indicates adopted portions.

** Ordinance No. 2000-25 rescinded and repealed in its entirety Collier County Ordinance No. 99-63, which had the effect of rescinding certain EAR-based (1996 EAR) objectives and policies at issue in Administration Commission Case No. ACC-99-02 (DOAH Case No. 98-0324GM).

*** Ordinance No. 2000-26 amended Ordinance No. 89-05, as amended, the Collier County Growth Management Plan, having the effect of rescinding certain EAR-based (1996 EAR) objectives and policies at issue in Administration Commission Case No. ACC-99-02 (DOAH Case No. 98-0324GM), more specifically portions of the Intergovernmental Coordination Element (Ord. No. 98-56), Natural Groundwater Aquifer Recharge (Ord. No. 97-59) and Drainage (Ord. No. 97-61) sub-elements of the Public Facilities Element, Housing Element (Ord. No. 97-63), Golden Gate Area Master Plan (Ord. No. 97-64), Conservation and Coastal Management Element (Ord. No. 97-66), and the Future Land Use Element and Future Land Use Map (Ord. No. 97-67); and readopting Policy 2.2.3 of the Golden Gate Area Master Plan.

**** Based on 2004 Evaluation and Appraisal Report (EAR).

***** Based on 2011 Evaluation and Appraisal Report (EAR).

(II) **I. INTRODUCTION**

- (II) The Natural Groundwater Aquifer Recharge Sub-Element establishes the manner in which Collier County will identify and protect the natural groundwater aquifers that serve as the primary sources of drinking water for County residents and visitors. This Sub-Element relates only to those aquifer recharge areas located in unincorporated Collier County that serve as potable water wellfields.
- (II) The Implementation Section of this Sub-Element contains a single Goal, divided into five (5) Objectives. Beneath each Objective are the specific County implementing policies.
- (II) The water supply protection Objectives in this Sub-Element include:
- Mapping and delineation of natural aquifer recharge areas;
 - Protection of groundwater quality;
 - Groundwater quality monitoring;
 - Public education with regard to groundwater protection issues; and,
 - Protection of critical recharge areas and groundwater resources.

(III) **GOALS, OBJECTIVES AND POLICIES**

(II)(III) **GOAL:**
TO IDENTIFY AND PROTECT NATURAL GROUNDWATER AQUIFER RECHARGE AREAS FROM ACTIVITIES THAT COULD DEGRADE AND/OR CONTAMINATE THE QUALITY OF GROUNDWATER.

(II)(III) **OBJECTIVE 1: (MAPPING AND DELINEATION OF RECHARGE AREAS)**

Review every three years, and revise as necessary, existing map delineations of County potable water wellfields that are most sensitive to contamination from nearby land development and other surface activities. The three-year review and any subsequent map revisions will be based on geologic, hydrogeologic, hydrologic, and updated anthropogenic contaminant data aggregated since the previous revision.

(II)(III) **Policy 1.1:**

The County shall revise and update its 3-dimensional computer models of groundwater flow around public water supply wellfields, as additional data (e.g., withdrawal rates, numbers and locations of wells within wellfields, and hydrogeologic information) become available.

(II) **Policy 1.2:**

The County shall identify those County potable water wellfields, or portions of wellfields, which are susceptible to contamination, caused by adjacent or nearby land uses, drainage patterns, geomorphic conditions, soil properties, and/or hydrogeologic factors, including the presence or absence of confining units. This information shall be revised and updated as necessary.

(II)(III) **Policy 1.3:**

The County shall maintain and update data on existing land uses and land use activities that possess the greatest potential for groundwater contamination.

(II) **Policy 1.4:**

The County shall maintain and update its maps of sensitive recharge areas as additional anthropogenic and hydrogeologic information becomes available.

(I)(II)(III)

Policy 1.5:

This Sub-Element shall incorporate by reference annual recharge amounts for the Surficial and Lower Tamiami aquifers and deeper aquifers such as the Sandstone and Hawthorne Aquifers, as described in the South Florida Water Management District's Lower West Coast Water Supply Plan, as amended.

(I)(II)(III)

OBJECTIVE 2: (PROTECTION OF GROUNDWATER QUALITY)

Protect groundwater from pollutant discharges that may cause exceedance of applicable Federal and State water quality standards.

(I)(III) **Policy 2.0.1:**

The County shall protect natural aquifer recharge areas to ensure the highest water quality practical toward meeting applicable Federal and State water quality standards for groundwater.

(I)(II) **Policy 2.1:**

The County shall prohibit discharges to sinkholes or other karst related features that have direct hydrologic connections to the Surficial or Intermediate Aquifer Systems.

(I)(II)(III)

Policy 2.2:

Non-agricultural developments requiring an Environmental Resources Permit from the South Florida Water Management District (SFWMD) shall preserve groundwater recharge characteristics as required by the SFWMD and as set forth in the SFWMD's Environmental Resource Permit Information Manual, Volume IV, 2009. Groundwater recharge shall also be protected through the application of the retention/detention requirements and allowable off-site discharge rates for non-agricultural developments specified in Policies 6.2 and 6.3 in the Stormwater Management Sub-Element.

(I)(II)(III)

Policy 2.3:

The County standards for protecting the quality of groundwater recharge within the wellhead protection areas identified in the Future Land Use Element (FLUE) shall be those provided in Policy 3.1.1 of the Conservation and Coastal Management Element.

(I)(II)(III)

Policy 2.4:

Collier County will evaluate the development of Low Impact Design Standards as recommended by the Watershed Management Plan accepted by the Board of County Commissioners on December 13, 2011.

(II)(III) **OBJECTIVE 3: (GROUNDWATER QUALITY MONITORING)**

Collect and evaluate groundwater quality data, identifying ambient water quality values and trends, comparing analyzed concentrations to Florida Ground Water Guidance Concentrations, and providing information to water resources planning and management entities, and to the general public.

(II)(III) **Policy 3.1:**

The County shall continue its existing water quality monitoring program to provide base-line data, evaluate long-term trends, identify water quality problems, and evaluate the effectiveness of the County's groundwater protection program.

(II) **Policy 3.2:**

The County shall coordinate data gathering activities with State and Federal agencies to minimize duplication of efforts and enhance the quality of information gathered.

(II) **Policy 3.3:**

The County will annually assess its groundwater quality monitoring data to determine whether monitoring activities and County Ordinances require expansion, modification or reduction.

(II)(III) **Policy 3.4:**

The County shall continually gather and evaluate relevant, appropriate and professionally accepted data for the purpose of refining and improving the groundwater quality monitoring database used in the County's 3-dimensional groundwater model.

(III) = Plan Amendment by Ordinance No. 2013-09 on January 8, 2013

- (II)(III) **Policy 3.5:**
Collier County shall continue to conduct water resource planning with appropriate County, City of Naples, and South Florida Water Management District staff to provide for groundwater resource development, utilization, and conservation.
- (II)(III) **OBJECTIVE 4: (PUBLIC EDUCATION WITH REGARD TO GROUNDWATER PROTECTION ISSUES)**
Provide the public with educational materials concerning groundwater protection issues in Collier County. These materials include, but are not limited to, the preparation of annual technical publications of groundwater quality data, an informational website for groundwater quality issues, general information publications, establishment of a speakers' bureau, K-12 classroom presentations, and in-service teacher workshops and seminars.
- (II) **Policy 4.1:**
The County shall continue to advise the public on the appropriate disposal methods for hazardous wastes, for the purpose of reducing or avoiding the potential for groundwater contamination. In performing this task, the County may utilize the public educational measures listed within Objective 4 of this Sub-Element, or any other measures which may be appropriate.
- (II) **Policy 4.2:**
The County shall continue to provide information in a manner that can be understood by the general public regarding Collier County's groundwater system, its vulnerability to contamination and measures needed to protect it from contamination. In performing this task, the County may utilize the public educational measures listed within Objective 4 of this Sub-Element, or any other measures which may be appropriate.
- (II)(III) **OBJECTIVE 5: (PROTECTION OF RECHARGE AREAS AND GROUNDWATER RESOURCES)**
Continue implementing plans to preserve groundwater recharge areas and groundwater resources, along with reviewing, evaluating, and revising (if warranted) those plans and actions, based on the best available geologic, hydrologic, hydrogeologic, and anthropogenic contaminant data.
- (II)(III) **Policy 5.1:**
The County shall develop, and continually update, technical criteria for determining those recharge areas, which are critical to the County's long-term groundwater needs.
- (II)(III) **Policy 5.2:**
The County shall continue to identify recharge areas and appropriate protective mechanisms.
- (II)(III) **Policy 5.3:**
The County shall continue to identify costs, funding mechanisms and private property rights issues associated with the protection of recharge areas.

(II) **Policy 5.4:**

The County shall continue to operate the petroleum storage tank inspection program, especially in identified wellfield protection zones, operating within available State funding.

(II)(III) **Policy 5.5:**

Collier County shall continue to operate and maintain a hazardous waste collection facility. The facility will accept household and small business hazardous wastes. Additionally, the County shall continue to hold special events, such as its hazardous waste collection day, targeting residential households and allowing small businesses to participate to insure consumer demand is met.