

Exhibit E

Southwood Preserve DRI (f/k/a Elkton DRI)

SURFACE WATER QUALITY MONITORING PLAN

I. INTRODUCTION

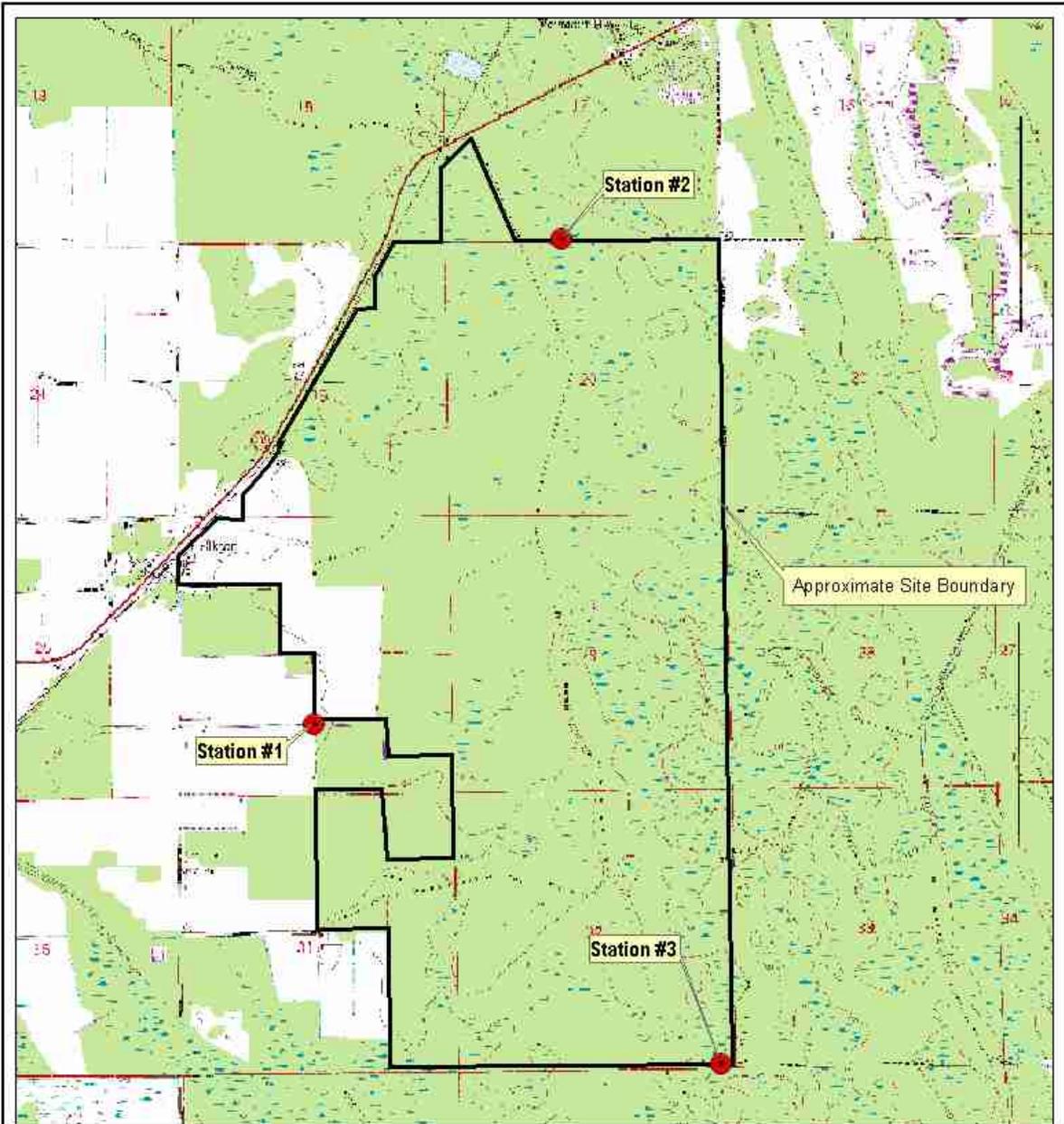
As a condition of the Development of Regional Impact (DRI) Development Order for the Southwood Preserve DRI, the Florida Department of Environmental Protection (FDEP) has required the Developer to conduct a surface water quality-monitoring program. The Developer has contracted Environmental Resource Solutions, Inc. to create and administer a Water Quality Monitoring Plan (WQMP) for this project. This investigation is designed to establish baseline conditions and to monitor water quality throughout the development of the property.

II. SCOPE

A. Location of Sampling Stations

Three (3) sampling stations for the Southwood Preserve DRI are depicted on the Water Quality Monitoring Station Location Map (Exhibit 1). Reference markers will be placed in the field to ensure consistency throughout the sampling events. The sampling stations are designated as follows:

- Station 1: This station is located at a western property corner on a relatively large ditch that carries a large percentage of the drainage from the site (via internal collector ditches) off-site to the west.
- Station 2: This station, located near the northernmost point of the site at a significant culvert, represents the largest source of water introduced to the site.
- Station 3: This station is established on the southern property line near the southeastern corner of the property. This is a significant exit point for water from the extensive wetland system in the eastern half of the property.



Section: 17, 18, 19, 20, 29, 30, 31, & 32

Township: 8 South

Range: 29 East

Lat.: 29° 46' 51.56" N

Long.: 81° 24' 18.36" W

0 5,000 Feet



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Elkton DRI WQMP Location Map

Source: USGS 7.5' Elkton, FL
Topographic Quadrangle

By: SL

Project No.: 05065

Exhibit No.: 1

Date: 06-29-06

Rev. Date:



File Name: 05065 WQMP Location Map

B. Baseline Monitoring Program

Environmental Resource Solutions, Inc. (ERS) will conduct baseline (pre-development) water quality sampling events, commencing no greater than six months and concluding at least seven days prior to the start of development. The baseline-monitoring program is intended to establish pre-development conditions in the watersheds associated with the Southwood Preserve DRI property. Baseline water quality data will be used for comparison to construction-phase sampling results.

Baseline sampling events will include *in situ* measurements of water chemistry and bacteria, including all of the parameters listed in Table 1. All parameters will be monitored at all three stations.

The baseline-monitoring program will assess the influence of rainfall on turbidity, nutrient levels, and other water quality parameters. "Wet" and "Dry" sampling event will be conducted. Dry and wet weather sampling criteria will follow EPA's Environmental Monitoring & Assessment Program (EMAP) protocol. Wet weather samples will be collected within 24 hours after a rain event of greater than 0.1 inches of rainfall, but following an interevent period of at least 72 hours (*i.e.*, three days of dry weather). Dry weather samples will be taken following at least 72 hours of dry weather.

C. Construction-Phase Monitoring Program

Environmental Resource Solutions, Inc. will monitor water quality within the watersheds of the Southwood Preserve DRI property throughout development of project. The construction-phase monitoring program has been designed to identify any impacts, trends, or changes in water quality occurring since the baseline monitoring events.

For five (5) years following commencement of construction activities, the construction-phase monitoring program will comprise quarterly sampling events of the same parameters and at the same stations as the baseline sampling events (Table 1). After five (5) years, if no significant change in water quality has been detected during the quarterly sampling events, sample frequency will be reduced to a semi-annual schedule. All parameters will be monitored at each of the six stations.

Table 1. Water quality parameters and analytical methods for baseline and construction-phase water quality monitoring programs at the Southwood Preserve DRI.

Parameter	Units	Method
Field (in situ) Measurements		
Temperature	°C	EPA 170.1
pH	std. units	EPA 150.1
Dissolved Oxygen (DO)	mg/l	EPA 360.1
Specific Conductance	umhos/cm	EPA 120.1
Turbidity	NTU	EPA 180.1
Secchi Disk Transparency	feet	FDEP SOP
Physical Properties		
Color	CU	EPA 110.2
Volatile Suspended Solids (TDS)	mg/l	EPA 160.1
Total Suspended Solids (TSS)	mg/l	EPA 160.2
Chlorophyll A	mg/l	SM 1002G
Inorganic Anions		
Alkalinity	mg/l	EPA 310.1
Nitrate/Nitrite	mg/l	EPA 353.2
Total Kjeldahl Nitrogen (TKN)	mg/l	EPA 351.2
Metals	mg/l	EPA 200.7
Organics		
Biochemical Oxygen Demand	mg/l	EPA 405.1
Chemical Oxygen Demand	mg/l	EPA 335.1
Organic Carbon	mg/l	EPA 502.2
Ammonia		
Bacteria		
Total Coliform (TC) Bacteria	#per 100 ml	SM 9221-E
Fecal Coliform (FC) Bacteria	#per 100 ml	SM 9221-B

^a FDEP SOPs, Bureau of Laboratories, Biology Section, Tallahassee, Florida.

III. A. Quality Assurance/Quality Control

All field activities (*in situ* measurements and collection of water samples) and laboratory activities will be conducted in accordance with EPA and FDEP approved protocols. Instrument calibrations, replicate sampling, and other specific QA/QC procedures are described in the following sections.

B. Surface Water Sampling

1. Field Measurements and Observations

Weather and water quality conditions and field measurements will be recorded at each station onto ERS field data capture sheets. Weather data will include 24-hour antecedent rainfall. Water quality conditions will include water color, surface clarity, and any nuisance conditions. Field measurements will include total depth, Secchi disk depth, and *in situ* measurements.

The following physico-chemical water quality parameters will be measured *in situ* at each station using a YSI-85: water temperature, dissolved oxygen, and specific conductance. The pH will be measure using a YSI pH-100. The day before each sampling event, the YSI meters will be calibrated for dissolved oxygen, pH, and conductivity. Turbidity samples will be measured in the field using an Orbeco-Hellige portable turbidimeter model 966. The turbidimeter will be calibrated in the field.

2. Collection of Water Samples

Sample collection information, including sampling time, sampling depth, analytical parameters, sample containers, handling procedures and quality assurance protocol, will be recorded at each station onto ERS field data capture sheets. Pre-cleaned containers will be provided (with preservatives added, when appropriate) by the subcontract laboratory. All sample containers will be labeled on site with name, sample identification number, and date and time of collection. Water samples for laboratory analyses will be collected subsurface by hand grab at each station.

A field duplicate sample will be collected sequentially with the primary water sample at one station, and will be submitted as a blind duplicate to the subcontract laboratory. Immediately following collection, all sample containers will be sealed and placed on ice. Chain-of-custody records for the water samples will be initiated at the time of collection and kept with the sealed sample coolers, which will be hand delivered to the subcontract laboratory by ERS personnel.

3. Laboratory Analyses

Water chemistry and bacteriological parameters will be analyzed using EPA-approved methods by a subcontract laboratory. The subcontract laboratory is fully certified for analysis of environmental samples by FDEP and NELAC. The analytical method detection limit (MDL) for each parameter will be lower than its maximum contaminant level (MCL), based on state surface water quality criteria. Copies of the original laboratory reports will be provided as appendices to ERS monitoring reports.

IV. REPORTING

A. Report of Baseline Conditions

The Report of Baseline Conditions will provide all analytical results from the baseline sampling events, including field measurements, laboratory analyses and biological assessments. Results will be presented in tabular format, along with associated water quality criteria (Rule 62-302.530 F.A.C.). Copies of original laboratory reports and chain-of-custody documentation will be appended. This report will describe any changes in scope or methods from those presented in this WQMP. This initial report will be submitted to FDEP and Northeast Florida Regional Planning Council (NEFRPC).

B. Quarterly or Semi-Annual Reports

Reports for each quarterly or semi-annual construction-phase monitoring event will be similar in content and format to the Report of Baseline Conditions, and will include data tables presenting cumulative results of all monitoring events to date. Reports of quarterly or semiannual monitoring events will be submitted semiannually to FDEP for review.

C. Annual Reports

Annual reports summarizing the results of the year's quarterly or semi-annual sampling events will be presented to NEFRPC.

V. REEVALUATION

Every five (5) years, unless otherwise agreed upon by Northeast District FDEP and the Developer, this WQMP shall be reviewed and evaluated pursuant to Chapter 62-302 F.A.C. Sampling methods, locations, parameters, and frequency shall be evaluated and, if necessary, modified. Dates of construction phases and sampling activities may be scheduled during this meeting. Reevaluation may occur sooner than every five (5) years at the request of either the Developer or FDEP with consent of the other party.