



Jack Long, Director  
Southeast District Office

# Florida Department of Environmental Protection

Southeast District Office  
400 N. Congress Avenue, Suite 200  
West Palm Beach, FL 33401  
(561) 681-6600

Charlie Crist  
Governor

Jeff Kottkamp  
Lt. Governor

Michael W. Sole  
Secretary

## FINAL PERMIT COMPREHENSIVE EVERGLADES RESTORATION PLAN REGULATION ACT (CERPRA) PERMIT CONSTRUCTION AND INTERIM OPERATION AUTHORIZATION

### PERMITTEE:

U.S. Army Corps of Engineers,  
Jacksonville District  
701 San Marco Blvd.  
Jacksonville, FL 32207

### ATTENTION:

James McAdams, P.E., Chief  
Environmental Quality Section

**Permit Number:** GL 0288074-001  
**Project:** L-31N (L-30) Seepage Management Pilot Project  
**County:** Miami-Dade

**Date of Issue:** December 16, 2008  
**Expiration Date:** December 15, 2013

This permit is issued under the authority of the Comprehensive Everglades Restoration Plan Regulation Act (CERPRA), Chapter 373.1502, Florida Statutes (F.S.); Title 62, Florida Administrative Code (F.A.C.); and pursuant to the Department of Environmental Protection (Department) authority under Chapters 373 and 403, F.S. The activity is not exempt from the requirement to obtain a CERPRA Permit.

The above named permittee is hereby authorized to initiate the activities described on the application, associated drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof. The activities authorized by this permit must be conducted in conformance with all the provisions of this permit. Failure to comply with all permit conditions and documents referenced herein shall constitute grounds for revocation of the permit and appropriate enforcement action.

This permit constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Management Act, 14 U.S.C. § 1456, and constitutes certification of compliance with water quality standards under Section 401 of the Clean Water Act, 33 U.S.C. § 1341. Activities described in the related documents are not authorized until the project is determined to be in conformance with all applicable rules and with the general and specific conditions of this permit/certification/authorization, as specifically described below.

### PROJECT DESCRIPTION:

The L-31N (L-30) Seepage Management Pilot Project (SMPP) was specifically authorized by the Water Resources Development Act (WRDA) 2000 as part of the Comprehensive Everglades Restoration Plan (CERP). This pilot project will identify, test, and determine the relative effectiveness of seepage management technologies in order to recommend features to control groundwater flow and levee seepage from Water Conservation Area 3B and Everglades National Park. Specific uncertainties that will be addressed by the pilot project include:

- Constructability in the unique south Florida geology;
- Reliability of materials and technologies (structural vs. non-structural);

- Implementability of a seasonally flexible operating system;
- Cost and time requirements for implementation.

Monitoring data will be collected to assess any impacts on both local hydrology and local water quality. The data obtained from the pilot project will be used to calibrate a regional model that will improve the understanding of the regional impacts of seepage management used at a larger scale.

The pilot project is situated between water control structures S-335 and S-334 on a segment of the L-30 Canal known as the “L-30 triangle” (see Figure 1). A field drawdown test and a Preliminary Seepage Report, based on historical data for the area, both found this 1.25 mile segment of the L-30 to have the highest unit seepage rate (cubic feet per second per mile) of all segments in the project vicinity.

The recommended pilot project design includes the installation of a seepage barrier wall (see Figure 2) along the crest of the L-30 levee. This configuration will allow a segment of the Biscayne Aquifer to remain essentially intact. The resulting operable “window” which, when “open”, should allow significant seepage to pass, will be used to test the ability of the seepage management feature to be seasonally operated. To “close” the window, groundwater will be extracted from beyond the limits of the seepage barrier wall, and then infiltrated across the window opening via pumped injection wells. The resulting water mound of infiltrated water is expected to effectively “close” the window, creating a hydraulic barrier that should block all northwest to southeast (the prominent direction) groundwater flow. A network of monitoring wells equipped with hydrologic flow meters will be used to determine the effectiveness of these pumping operations. An observation of flow reversal or change in the normal flow pattern from northwest to southeast would indicate that the hydraulic barrier is functioning as designed.

Once constructed, the project will be operated and monitored for two years by the permittee. After two years of interim operations, the project will be either transferred from the permittee to the South Florida Water Management District (SFWMD) or decommissioned. If the project is transferred to the SFWMD after the interim 2-year period, separate operational authorization to the SFWMD will be required.

The following components are being implemented as part of the L-31N (L-30) SMPP:

#### **SEEPAGE BARRIER WALL:**

The seepage barrier along the crest of the L-30 levee will consist of a 450-ft. long seepage barrier wall (bottom elevation of -63 ft. to -68 ft.) tying into a 100-ft. long seepage barrier (bottom elevation of -22 ft.) which then would tie into another 450-ft. long seepage barrier wall. The opening in the middle of the barrier is 100 ft. wide and has a vertical depth of 41 ft. The wall will extend through the Fort Thompson Formation and into the Tamiami Formation with at least 5 ft. extending below the top of the Tamiami Formation, with depths varying from -75 ft. to -80 ft. below land surface. The seepage barrier wall will be designed and constructed based on performance specifications such as strength and permeability.

#### **INJECTION AND EXTRACTION WELLS:**

Three injection wells will be placed approximately 25 ft. apart and 10 ft. east of the barrier window. Each of these three wells has a capacity of 2 cubic feet per second (cfs) for a total of 6 cfs. Two extraction wells will be placed approximately 100 ft. beyond the north and south ends of the seepage barrier wall at 20 ft. east of the seepage barrier wall alignment with a capacity of 3 cfs each (6 cfs total). See Figure 3.

#### **WELL PUMPING SYSTEM:**

Two electric motor-driven pumps will be installed on equipment pads and located approximately 30 ft. east of the seepage barrier wall and halfway between the window boundary and the end of the seepage barrier wall. Each pump will deliver a minimum of 1350 GPM @ 50 feet of head. Each discharge will be equipped with a backflow preventer, shut-off valve, and flow meter that will monitor daily water output. Water will be extracted from an elevation of approximately -60 ft. and the pumped water will be discharged via a manifold in the underground discharge pipe system through three injection wells into the “window”. The plumes of water created at the injection points will reverse the natural gradient through the “window”, thus blocking flow through the “window”.

**CONTROL CENTER:**

The pumping system design will allow for the pumps to be controlled locally as well as from a remote location using telemetry. A 208 Volt (V) or 480 V, 3-phase, 4-wire electrical service will be installed to power the pumps and accessories. A Motor Control Center (MCC) will be provided to operate the pumps. A suitable, ventilated, control building will be provided to house electrical controls and panels at the approximate mid-point of the seepage barrier. Approximate dimensions of the control building are 10 feet by 10 feet. Exterior site lighting will be provided for security and operation/maintenance.

**HYDROLOGIC MONITORING WELLS:**

Fifteen monitoring wells will be installed in strategic locations around the barrier wall to collect critical hydrologic data (stage, velocity, direction) to verify model predictions. See Figure 3. The pilot project will monitor conditions for a period of 2 years, equating to 2 wet and dry seasons. The magnitude and direction of groundwater flow through the window and in the area of the seepage barrier will be compared to groundwater conditions in the surrounding system. This data will be compiled and analyzed in a Technical Data Report, finalizing the pilot project.

**STAGING AREAS:**

Approximately 2 acres of a dirt/grass area will be used for staging construction trailers and heavy construction equipment on the L-29 (north bank and levee) between S-334 and the south entrance of the L-30 levee (see Figure 1). Along the barrier wall construction site on the L-30, approximately 2 feet of fill material will be imported to build a haul road on the east side of the levee. An area of nearly 2,000 ft. by 45 ft., or approximately 2.07 acres, of wetlands will be filled in for this haul road. An interagency team performed a Uniform Mitigation Assessment Method (UMAM) on January 24, 2008, for this site in order to record the condition of wetlands being filled. The Department will not require mitigation at this time. See Specific Condition No. 9 for more information.

**DISPOSAL AREA:**

The disposal site is within the L-31N levee right-of-way (ROW), beginning approximately 0.4 mile south of the centerline of U.S. Highway 41, and then continuing southward approximately 0.3 mile (see revised Figure 1). The L-31N levee ROW is a grassy area that is already being used for disposal. All cleared, grubbed, and excavated materials will be placed within a 2.25-acre portion of the ROW on the west side of the boundary for a wetland to the east. See Specific Condition No. 18 for more requirements. The estimated disposal quantity is 19,000 cubic yards.

All of the wetlands and other surface waters to be directly impacted by construction of the pilot project are Class III Waters.

The U.S. Army Corps of Engineers (Corps) is the federal sponsor of this project and is responsible for activities performed during the period of construction and interim operations.

**PROJECT LOCATION:**

The pilot project is located along the L-30 Levee and Canal between water control structures S-335 and S-334, north of Tamiami Trail (U.S. Highway 41) and west of Krome Avenue, in Miami-Dade County, Sections 1, 2, 11, and 14; Township 54 South; and Range 38 East. The western boundary of the study area is Water Conservation Area 3B and Everglades National Park, while the eastern boundary is the Lakebelt region which consists of rock mines, agricultural fields, Miami-Dade Well Field, and wetlands. The Miccosukee Tribe of Indians of Florida has a property located southeast of the project site.

**DECLARATION OF REASONABLE ASSURANCES:**

In issuing this permit, the Department finds that the Corps has given reasonable assurances sufficient to satisfy the requirements of the Comprehensive Everglades Restoration Plan Regulation Act, Section 373.1502, F.S. The Department bases this finding on the following documents, listed by Department document number:

- 1) United States Army Corps of Engineers, Jacksonville District, L-31N (L-30) Seepage Management Pilot Project CERPRA Permit Application and associated materials (April 2008);
- 2) United States Army Corps of Engineers, Jacksonville District, L-31N (L-30) Seepage Management Pilot Project Underground Injection Control Permit Application (April 2008);
- 3) United States Army Corps of Engineers, Jacksonville District, L-31N (L-30) SMPP Preliminary Draft Integrated Pilot Project Design Report and Environmental Assessment March 2008 (April 2008);
- 4) United States Army Corps of Engineers, Jacksonville District, L-31N (L-30) SMPP Endangered Species Act, Revised Biological Assessment January 2008 (April 2008);
- 5) United States Army Corps of Engineers, Jacksonville District, L-31N (L-30) SMPP Uniform Wetland Mitigation Assessment Worksheet, Part 1, Impact (January 2008);
- 6) United States Army Corps of Engineers, Jacksonville District, Everglades National Park Seepage Management Project Hazardous, Toxic and Radioactive Waste Assessment (April 2007);
- 7) United States Army Corps of Engineers, Jacksonville District, L-31N (L-30) SMPP Final Geotechnical Report (April 2008);
- 8) United States Army Corps of Engineers, Jacksonville District, L-31N (L-30) SMPP Draft Report for Groundwater and Surface Water Quality Screening January 2007 (April 2008);
- 9) United States Army Corps of Engineers, Jacksonville District, L-31N (L-30) SMPP Response to Request for Additional Information (July 2008);
- 10) United States Fish and Wildlife Service, South Florida Ecological Services Office, L-31N (L-30) SMPP Draft Fish and Wildlife Coordination Act Report (May 2008);
- 11) United States Army Corps of Engineers, Jacksonville District, L-31N (L-30) SMPP Water Quality Monitoring Plan (June 2008 and September 2008).

Specifically, there are reasonable assurances, pursuant to Section 373.1502, F.S., that:

- “The project component will achieve the design objectives set forth in the detailed design documents submitted as part of the application.” This finding is based on document 1 in its entirety, document 3, document 7, and document 9.
- “State water quality standards, including water quality criteria and moderating provisions, will be met. Under no circumstances shall the project component cause or contribute to violation of state water quality standards.” This finding is based on document 1 in its entirety, document 9 with emphasis on responses 2, 7 and 9, and document 11 in its entirety with emphasis on sections 3.0, 4.0, and 5.0.
- “Discharges from the project component will not pose a serious danger to public health, safety or welfare.” This finding is based on document 1 in its entirety, document 2, and document 9 with emphasis on responses 2 and 5.
- “Any impacts to wetlands or threatened or endangered species resulting from implementation of the project component will be avoided, minimized, and mitigated as appropriate.” This finding is based on document 1 in its entirety, document 3, document 4, document 5, and document 10.

The Corps agrees to construct the project in accordance with the provisions of this permit, permit application, and the associated documentation on file with the Department.

**GENERAL CONDITIONS:**

In accordance with Subsection 373.1502(3)(e)(2) of the CERPRA, this permit may include any standard conditions provided by Department rule, which are appropriate and consistent with the CERPRA.

1. This permit, including its general and specific conditions, must be construed in light of the February 2006 Interagency Cooperative Agreement for Civil Works Projects (ICA) between the Department and the Corps. As recognized in the ICA, the Department has the authority to include reasonable conditions in this permit. All of the conditions in this permit, both general and specific, are enforceable to the extent sovereign immunity has been waived under 33 U.S.C. §§ 1323 and 1344(t). The ICA is incorporated herein by reference.
2. All activities approved shall be implemented as set forth in the drawings incorporated by reference and in compliance with the conditions and requirements of this document. The Corps shall notify the Department in writing of any anticipated changes in:
  - a) operational plans;
  - b) project dimensions, size or location;
  - c) ability to adhere to permit conditions;
  - d) project description included in the permit; and,
  - e) monitoring plans.

If the Department determines that a modification to the permit is required, then the Corps shall apply for and obtain the modification. Department approval of the modification shall be obtained prior to implementing the change, unless the change is determined by the Department to reduce the scope of work from that authorized under the original permit, and will not effect compliance with permit conditions or monitoring requirements.

3. If, for any reason, the Corps does not comply with any condition or limitation specified herein, the Corps shall immediately provide the Department with a written report containing the following information:
  - a) a description of and cause of noncompliance;
  - b) the period of noncompliance, including dates and times;
  - c) impacts resulting or likely to result from the non-compliance;
  - d) steps being taken to correct the non-compliance; and,
  - e) the steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

Compliance with the provisions of this condition shall not preclude the Department from taking any enforcement action allowed under state law with respect to any non-compliance.

4. The Corps shall obtain any applicable licenses, permits, or other authorizations which may be required by federal, state, local or special district laws and regulations. Nothing herein constitutes a waiver or approval of other Department permits or authorizations that may be required for other aspects of the total project.

5. Nothing herein conveys to the Corps or creates in the Corps any property right, any interest in real property, any title to land or water, constitutes State recognition or acknowledgment of title, or constitutes authority for the use of Florida's sovereign submerged lands seaward of the mean high-water line or an established erosion control line, unless herein provided, and the necessary title, lease, easement, or other form of consent authorizing the proposed use has been obtained from the State.

6. Any delineation of the extent of a wetland or other surface water submitted as part of the application, including plans or other supporting documentation, shall not be considered specifically approved unless a specific condition of this authorization or a formal determination under section 373.421(2), F.S., provides otherwise.

7. Nothing herein authorizes any entrance upon or activities on property which is not owned or controlled by the Corps or local sponsor, or convey any vested rights or any exclusive privileges.

8 This document or a copy thereof, complete with all conditions, attachments, modifications, and time extensions shall be kept at the work site of the authorized activity. The Corps shall require the contractor to review this document prior to commencement of the authorized activity.

9, The Corps specifically agrees to allow Department personnel with proper identification, at reasonable times and in compliance with Corps specified safety standards access to the premises where the authorized activity is located

or conducted for the purpose of ascertaining compliance with the terms of this document and with the rules of the Department and to have access to and copy any records that must be kept; to inspect the facility, equipment, practices, or operations regulated or required; and to sample or monitor any substances or parameters at any location reasonably necessary to assure compliance. Reasonable time may depend on the nature of the concern being investigated.

10. At least forty-eight (48) hours prior to the commencement of authorized activity, the Corps shall submit to the Department a written notice of commencement of activities indicating the anticipated start date and the anticipated completion date.

11. If historic or archaeological artifacts such as, but not limited to, Indian canoes, arrow heads, pottery or physical remains, are discovered at any time on the project site, the Corps shall immediately stop all activities in the immediate area which disturb the soil and notify the Department and the State Historic Preservation Officer. In the event that unmarked human remains are encountered during permitted activities, all work shall stop in the immediate area and the proper authorities notified in accordance with Section 872.05, Florida Statutes.

12. Within a reasonable time after completion of construction activities authorized by this permit, the Corps shall submit to the Department a written statement of completion. This statement shall notify the Department that the work has been completed as authorized and shall include a description of the actual work completed. The Department shall be provided, if requested, a copy of any as-built drawings required of the contractor or survey performed by the Corps.

#### **SPECIFIC CONDITIONS:**

1. **Instructions to Contractors.** The Corps shall ensure that the conditions contained within this permit are explained to all construction personnel working on the project and shall provide a copy of this permit to each contractor and subcontractor before the authorized work begins. Prior to construction, the Corps shall schedule a pre-construction meeting for attendance by the contractor(s), and representatives from the Corps, the Department, and other environmental regulatory agencies. The Department shall receive at least two weeks notice of the meeting. Within 30 days from the Notice-to-Proceed to the Contractor or upon Corps approval of a proposed construction schedule, whichever occurs first, the Corps shall provide the proposed construction schedule to the Department at the address identified in Specific Condition No. 2.

2. **Addresses.** Reports, schedules, and notices submitted to the Department in accordance with this permit shall be submitted to the Department's Southeast District Watershed Management and Planning Program, 400 N. Congress Avenue, Suite 200, West Palm Beach, Florida, 33401, telephone no. (561) 681-6664. Electronic copies of reports, schedules, and notices required by this permit shall also be sent to [RPPS\\_comp@dep.state.fl.us](mailto:RPPS_comp@dep.state.fl.us).

3. **Threatened and Endangered Species.** The permittee shall coordinate with both the Florida Fish and Wildlife Conservation Commission (FWC) and the U.S. Fish and Wildlife Service (FWS) for appropriate guidance, recommendations and/or necessary authorizations to avoid, minimize or mitigate impacts to listed species. The Corps shall comply with applicable federal and state law with regard to protected species and agree to consider input from and to comply with any applicable requirements of the FWC to the extent that to do so would not create an irreconcilable conflict with the Corps' federal responsibilities. The Corps shall coordinate with all involved federal and state agencies to determine if there are reasonable alternatives that would avoid an irreconcilable conflict. Prior to construction activities taking place, the permittee shall have received the final Fish and Wildlife Coordination Act Report from the FWS. Upon receipt, the permittee shall ensure that the Department has also received a copy of this final report.

4. **Cultural and Historical Resources.** The permittee shall comply with state and federal law with regard to cultural and historical resources and shall coordinate with all appropriate federal and state agencies, if necessary. Should construction activities uncover any unanticipated archaeological finds, activity in the immediate area of the

find shall be discontinued. Construction shall not continue until the site finds are evaluated by a professional archaeologist, the requirements of the State Historic Preservation Office have been met, and the Department has been notified.

### **Construction**

5. **Site Inspections/Construction Meetings.** Throughout the construction phase of the pilot project, the Department may conduct periodic site inspections to ensure permit compliance and to monitor progress. The Department will coordinate with the Construction Manager or other Corps representative prior to performing any on-site inspections. Representatives of the Department may be accompanied by a third-party inspector and/or consultant at any time. Upon, or prior to, receipt of the written statement of completion and certification, the Department shall conduct substantial and final inspections of the Project as defined in the Specifications. It is anticipated that this activity may be completed in conjunction with other regulatory agencies and may be accomplished in stages as the project progresses.

6. **Quality Control Inspections.** For quality control purposes, a Professional Engineer, or a personal representative under his or her direct supervision, shall conduct quality control inspections during all phases of the construction including, but not limited to (as applicable):

- A. Installation of seepage barrier wall;
- B. Installation of hydrologic monitoring wells;
- C. Installation of extraction wells, injection wells, pumps, piping, and related appurtenances;
- D. Installation of control building and any other appurtenances or structures.

7. **Authorized Construction.** The Corps shall construct the L-31N (L-30) SMPP in accordance with the plans and documentation submitted by the Corps as part of the permit application and any subsequent submittals that have been reviewed and are on file with the Department. The permittee shall submit final (100%) plans and technical specifications to the Department for this pilot project for review at least 30 days prior to initiating construction activities. Upon review of the submitted plans and specifications, the Department will determine whether a permit modification will be required.

**This permit does not authorize any blasting.** Any substantial modifications to the construction plan, such as, but not limited to, blasting, must be submitted for review and approval to the Department prior to construction and operation of such modifications. Substantial modifications shall be determined on a case-by-case basis by the Department in consultation with the Corps.

8. **Right-of-Way and Right-of-Entry.** All components and construction activities for the L-31N (L-30) SMPP will be located within right-of-way owned by the local sponsor, the South Florida Water Management District (SFWMD). A copy of the right-of-entry that was granted to the Corps by the SFWMD was included in the CERPRA permit application for this project. Since the current right-of-entry expires on October 31, 2008, the Corps will need to obtain a new right-of-entry for this pilot project. Prior to starting construction, the Corps shall submit a copy of the new right-of-entry to the Department.

9. **Wetland Impact and Restoration.** This pilot project is expected to result in the filling of approximately 2.07 acres of wetland on the east side of the L-30 levee to build a haul road. On January 24, 2008, an interagency team of biologists from the FWS, the Corps, and the Department assessed this impact using the UMAM to be equivalent to 1.10 relative functional loss units (acres). The Department will not require any mitigation to offset this functional loss at this time. The pilot project will resolve critical uncertainties that will benefit the full scale seepage management project which, if implemented successfully, will provide ecologic restoration to the Northeast Shark River Slough and the Everglades. Thus, the ecologic restoration to be derived from the full scale seepage management project will offset the functional loss from the pilot project. Prior to the completion of construction of the pilot project, the Corps shall schedule a meeting with the Department to discuss the status of the full scale seepage management project. If the full scale seepage management project will not be constructed, then the Corps will be required to either restore the impacted wetland to its original condition or perform a suitable mitigation

project. If the full scale seepage management project will be constructed, then the Corps shall include the wetland impact from the pilot project in the evaluation of the total impacts to wetlands for the full scale project. The Department, in consultation with the Corps, shall make a final determination on this issue by no later than the end of the two-year interim operations period.

10. **Future Phases.** This permit does not authorize any construction or operation activities associated with future phases or projects related to full scale seepage management. Future phases, including operations, shall require separate review and approval by the Department.

11. **Construction Best Management Practices (BMPs).** At all times during the construction, the permittee shall use best management techniques for erosion and sedimentation control. All graded areas shall be stabilized and vegetated immediately after construction to prevent erosion. The permittee shall take all reasonable precautions to minimize the suspension and transport of soils and levee materials into waters adjacent to or downstream of the construction site. Prior to commencement of construction activities, the permittee shall submit a BMP plan which details the use of sediment controls to minimize the suspension and transport of soils, levee materials, and roadway materials into waters adjacent to or downstream of the construction site to the Department for review and comment.

12. **Turbidity Monitoring.** Effective means of turbidity control, such as, but not limited to, turbidity curtains shall be employed during all construction activities that may create turbidity so that turbidity shall not exceed 29 NTUs above background in Class III receiving waters. Turbidity controls shall be maintained around the work area to confine turbidity generated by the construction within the work area. All turbidity control devices and/or preventive operation procedures shall remain in place until all turbidity has subsided and the turbidity level at the construction zone meets state standards.

Sampling and analyses shall be performed as required by Chapter 62-160, F.A.C. Turbidity monitoring equipment and personnel trained to use it shall be available on site at all times during construction activities that could result in project-generated turbidity levels beyond the work area that have the potential to be discharged to the receiving water body. During all activities that may create turbidity, the Corps shall monitor turbidity levels at least once every four hours (unless monitoring data shows this to be excessive) as follows:

A. Monitoring samples shall be taken at the surface at the following locations:

1. Background Sample(s): One background sample station, at least 150 meters upstream of the work area, in each adjacent canal, outside any visible plume generated by the construction; and
2. Compliance Sample(s): Monitoring station located in each canal adjacent to the work area, no more than 150 meters down current from the work area within the densest portion of any visible plume.

B. Turbidity monitoring results shall be compiled daily and summarized quarterly (every three calendar months). Beginning with the first calendar month in which activities occur that could generate turbidity in waters adjacent to the project sites, a report containing the summarized turbidity monitoring results for each project shall be submitted quarterly to the Department at the address listed in Specific Condition No. 2. Monitoring data with supporting documents shall be submitted to the Department quarterly during the period of construction, operation, or maintenance activities that warrant turbidity control measures. The report shall contain the following information:

1. Permit number;
2. Dates and time of sampling and analysis;
3. A statement describing the methods used in collection, handling, storage and analysis of the samples;
4. A clear description of project component activities taking place at the time of sampling;
5. A map indicating the sampling locations;
6. Name of individual collecting samples; and,
7. A statement by the individual responsible for implementation of the sampling program concerning the authenticity, precision, limits of detection and accuracy of the data.

C. Monitoring reports shall also include the following information for each sample that is taken:

1. Water depth;
2. Depth of sample;
3. Weather conditions; and,
4. Water level stage and direction of flow.

In the event that project-generated turbidity levels exceed 29 NTUs above background in the receiving waters, project activities contributing to elevated turbidity shall immediately cease and the Department shall be notified within 24 hours. Work shall not resume until the work can be conducted in compliance with these turbidity limits or an accompanying variance, where applicable.

**13. Adjacent Wetlands.** If wetlands exist adjacent to the project component, the perimeter of the protected wetlands adjacent to the area shall be staked and fenced off with construction fencing or other effective physical barriers to prevent encroachment into wetlands prior to the commencement of construction. All areas of exposed soils shall be isolated from wetlands and surface waters to prevent erosion and deposition of sediments into these wetlands during permitted construction activities. All excavated or dredged material shall be placed strategically to prevent the transport of any material into wetlands and surface waters both during and after completion of the construction. Upon completion of the physical barrier installation, the permittee shall contact the Department at the address listed in Specific Condition No. 2 to determine whether inspections of the installed controls are necessary. The barriers shall remain in place until all adjacent construction activities are complete.

**14. Water Quantity, Water Quality, and Flooding Impacts.** The permittee shall be responsible for ensuring that the project is constructed and operated so as to not adversely affect adjacent lands with regards to water quantity, water quality, and/or flooding.

**15. NPDES Generic Permit for Stormwater Discharge from Large and Small Construction Activities.** The issuance of this permit does not constitute coverage under the National Pollutant Discharge Elimination System (NPDES) Generic Permit for Stormwater Discharges from Large and Small Construction Activities (CGP) pursuant to Rule 62-621.300(4)(a), F.A.C. Prior to the commencement of any construction, the permittee is advised to contact the Department's NPDES Stormwater Program at (850) 245-7522 or toll free at (866) 336-6312 or to download application information from the Department's website at <http://www.dep.state.fl.us/water/stormwater/npdes/construction3.htm#permit>.

**16. NPDES General Permit for the Discharge of Produced Ground Water from any Non-Contaminated Site Activity.** The issuance of this permit does not constitute coverage under the NPDES General Permit for the Discharge of Produced Ground Water from any Non-Contaminated Site Activity pursuant to Rule 62-621.300(2), F.A.C. If any offsite discharges will occur due to construction dewatering activities, then coverage under the aforementioned General Permit may be required and the permittee is advised to review Rule 62-621.300(2), F.A.C. Before discharge of produced ground water can occur, analytical tests on samples of the proposed discharge water shall be performed to determine if contamination exists. If the analytical results comply with applicable criteria for use of the General Permit, then a short summary of the proposed activity and copy of the analytical tests shall be sent to the address in Specific Condition No. 2 within one week after discharge begins, and the permittee may proceed with the project component while abiding by all conditions of the General Permit.

**17. Dewatering.** Dewatering is not authorized for this project. If any discharges will occur due to construction dewatering activities, the permittee shall instruct the contractor to submit site-specific dewatering information to the Department for review and approval within a reasonable amount of time prior to commencement of dewatering activities. A permit modification is not required for this condition, but Dewatering shall not commence until the Department has reviewed the dewatering information and provided a written response. The information submitted shall include at a minimum:

- A. Site plan of the project component with the location of the proposed discharge point(s) and their associated water quality monitoring locations;
- B. The location and type of turbidity control devices and methods necessary to ensure state water quality standards shall be met;

- C. Calculations estimating the area of influence of dewatering; the depth of dewatering, pumpage rates, duration and volumes, and a demonstration that the requested allocations represent reasonable dewatering needs;
  - D. Provide reasonable assurance that the dewatering water will remain onsite. If it is not technically feasible to retain dewatering water onsite, then the plan shall also include:
    - 1. Demonstration and documentation that the permittee is authorized to discharge to the receiving water body and/or adjacent lands;
    - 2. Operational plan, which demonstrates that the discharge to the receiving water body shall meet all applicable State Water Quality standards prior to discharge, and also contains the proposed sampling locations and daily turbidity measurements; and,
    - 3. A contingency plan, which includes procedures for ceasing dewatering operations and correcting the situation until water quality standards are met.
18. **Solid and Hazardous Waste.** The Corps' construction personnel and/or contractor shall properly handle, store, and dispose of any solid and hazardous waste encountered while completing this project as follows:
- A. Unacceptable and prohibited materials encountered shall be temporarily stored in containers to prevent spillages and potential stormwater, ground, and/or groundwater contamination. Storage time shall be as follows: twenty-four (24) hours for Class I waste, forty-eight (48) hours for hazardous materials, and thirty (30) days for all others. Materials shall be disposed of at an approved and permitted site.
  - B. Construction and Demolition (C&D) debris and residuals commingled with Class I or Class III material shall be considered Class I or Class III material, respectively, pursuant to Rule 62-701.200(19), F.A.C. C&D debris and residuals commingled with both Classes I and III material shall be considered Class I material. Said materials classified as Class I or Class III material shall be disposed of at an approved and permitted facility within forty-eight (48) hours of encountering such materials.
  - C. A licensed hazardous waste handler shall be contacted to inspect segregated potential hazardous waste. If determined to be hazardous, arrangements shall be made to transport said waste via a licensed hazardous waste transporter to an approved hazardous waste disposal site. Temporary storage of such hazardous materials shall not exceed 48 hours. Any hazardous waste encountered shall be managed in accordance with the provisions of Chapter 62-730, F.A.C.
  - D. All processing of vegetative matter and clean, untreated wood that is made into wood chips, shall be processed and properly disposed at the approved disposal area within sixty (60) days of encountering such materials. **All dead Melaleuca trees shall be taken to the approved disposal area, kept segregated from other debris, and processed into mulch within sixty (60) days of encountering such material.** All woody vegetative matter and clean wood that will not be processed into wood chips or incinerated shall be properly disposed at the approved disposal area within sixty (60) days of encountering these materials. Treated or painted wood shall not be chipped or incinerated and shall be containerized and disposed of at an approved and permitted facility within thirty (30) days of encountering such materials. Local disposal of treated and painted wood is limited to a Class I landfill or a lined Class III landfill.
19. **Pump Testing and Maintenance.** In order to ensure operational readiness, testing and maintenance operations may be required by the construction contractor and/or permittee for the pumps authorized by this permit. Operational readiness requirements of the pumps include operation of the pumps for approximately 2 to 4 hours per month, as necessary, to maintain their mechanical integrity. Therefore, temporary operation of the pumps for testing and maintenance purposes is allowed and is not subject to the operation monitoring criteria of the specific conditions of this permit. However, the permittee shall include all such pump run time as a part of the monitoring requirements of this permit.

### **Interim Operations**

20. **Interim Operations Plan and Modifications.** At least 60 days prior to the commencement of interim operations of the L-31N (L-30) SMPP, the Corps shall submit the Interim Operations Plan for review and approval to the Department at the address listed in Specific Condition No. 2. In addition, the permittee shall submit any revision of the Interim Operations Plan for review and approval to the Department, since the Interim Operations Plan is a living document and subject to change throughout the operations of this project. The Interim Operations Plan shall include, at a minimum, the information described in A-C below.

- A. **Target Frequency and Duration of Pumping Cycles.** The Corps shall provide the planned frequency and duration of pumping cycles of the extraction and injection wells for the two-year test period.
- B. **Hydrologic Monitoring.** The Corps shall provide a description of the hydrologic monitoring equipment and data capture output for the parameters to be measured at the hydrologic monitoring wells.
- C. **Seepage Barrier Performance.** The Corps shall provide a description of the criteria that will be used to evaluate the effectiveness of the flexible operating system for seepage management.

21. **Interim Operations Water Quality Testing.** During the interim operations testing period of two years, the Corps shall monitor the pilot project in accordance with Table 1, the approved Water Quality Monitoring Plan, and in accordance with Specific Condition No. 27. The Corps shall monitor the water quality at the following 3 sampling locations:

- A. A sampling port located on the main header pipe of the injection wells;
- B. A point in the adjacent L-30 Canal nearest to one of the extraction wells; and
- C. One of the three existing monitoring wells (CERP ID #CP06-L30PP-MW-0002-GW-1) along the L-30 Levee.

All samples shall be collected on a monthly basis during the first year and then quarterly during the second year of testing, while pumping occurs. The Corps shall collect the samples during the second half of the pumping cycle as this time period represents a higher likelihood of inducing theoretical pollutants from the L-30 Canal.

22. **Public Health, Safety, or Welfare.** Pursuant to Subsection (3)(b)(3) of the CERCLA, any discharges from the L-31N (L-30) SMPP shall not pose a serious danger to the public health, safety, or welfare.

### **Monitoring**

23. **Water Quality Monitoring Program.** The permittee shall conduct a water quality monitoring program in accordance with Table 1 and the approved Water Quality Monitoring Plan to characterize water quality spatially and seasonally. Any modifications to the Corps' Water Quality Monitoring Plan shall be submitted to the Department for review and approval. Water quality monitoring shall be conducted upon the initiation of interim operations and continuing for a period of two years. If at any time, state groundwater quality standards, pursuant to Chapter 62-520, F.A.C., are exceeded, the permittee shall provide a plan of action for the further evaluation and risk assessment of said exceedances to the Department. Analytical reports shall be submitted to the Department on a quarterly basis, beginning six months after the first sampling event, at the address listed in Specific Condition No. 2.

- A. **Quality Assurance and Quality Control.** Sampling and monitoring data shall be collected, analyzed, reported and retained in accordance with Chapter 62-160, F.A.C. Any laboratory test required by this permit shall be performed by a laboratory that has been certified by the Department of Health (DOH) under Chapter 64E-1, F.A.C., where such certification is required by Rule 62-160.300, F.A.C. The laboratory must be certified for all specific method/analyte combinations that are used to comply with this permit. The

analytical method used shall be appropriate so as to determine if the sample complies with Class I and Class III surface water quality standards as specified in Chapter 62-302, F.A.C., and groundwater standards as specified in Chapter 62-520, F.A.C., whichever is more stringent. All field activities including on-site tests and sample collection, whether performed by a laboratory or another organization, must follow all applicable procedures described in DEP-SOP-001/01 (February 1, 2004). Alternate field procedures and laboratory methods may be used if they have been approved according to the requirements of Rules 62-160.220, and 62-160.330, F.A.C.

**B. Method Detection Limits.** The sample collection, analytical test methods and method detection limits (MDLs) applicable to this permit shall be performed and reported in accordance with Rule 62-4.246, F.A.C. A list of Department established analytical methods, and corresponding MDLs and PQLs (practical quantification limits), which is titled "Florida Department of Environmental Protection Table as Required By Rule 62-4.246(4) Testing Methods for Discharges to Surface Water" dated April 25, 2006, is available from the Department on request. The MDLs and PQLs as described in this list shall constitute the minimum acceptable MDL/PQL values and the Department shall not accept results for which the laboratory's MDLs or PQLs are greater than those described above unless alternate MDLs and/or PQLs have been specifically approved by the Department for this permit. More stringent MDLs and PQLs may be necessary for specific parameters. If required, these will be identified in the permit monitoring table.

### **Reporting, Plans and Records**

**24. As-Built Certification and Record Drawings.** Within 90 days after the completion of construction for the L-31N (L-30) SMPP, the permittee shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law. The statement of completion and certification shall be based on on-site observation of construction or review of as-built drawings for the purpose of determining whether or not the work was completed in compliance with permitted plans and specifications. Additionally, if deviation from the approved drawings is discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted. Both the original and revised specifications must be clearly shown. The plans must be clearly labeled as "as built" or "record" drawings. A registered surveyor shall certify all surveyed dimensions and elevations.

**25. Final Report.** The Corps shall submit a final report, known as a Technical Data Report (TDR), to the Department detailing the evaluation of the L-31N (L-30) SMPP. The TDR will contain the Corps' compilation and analysis of all monitoring data, and conclusions regarding project success in managing seepage. A summary of the problems encountered during the interim operations period and actions taken to address those problems shall be included in this report. The final report shall be submitted to the Department within 180 days after completion of the interim operations period. The permittee may modify the final report submission date to coincide with other reporting requirements and time periods needed for data acquisition and analysis.

**26. Surface/ Groundwater Quality Data.** Records of monitoring information shall include:

1. Date, location, and time of sampling or measurements;
2. Person responsible for performing the sampling or measurements;
3. Dates analyses were performed or the appropriate code as required by Chapter 62-160, F.A.C.;
4. Person responsible for performing the analyses;
5. Analytical techniques or methods used, including MDL;
6. Results of such analyses, including appropriate data qualifiers;
7. Depth of samples;
8. Flow conditions and weather conditions at time of sampling.

**27. Removal of Parameters.** Upon demonstration that a specific parameter(s) is not present (i.e., below detection limit) or is found consistently in compliance with state water quality standards, the Corps may request a modification to the monitoring program as appropriate. A minimum of one year's worth of data, for those parameters being sampled quarterly or more frequently, will be required prior to the Department approving any

modification to the monitoring program. Parameters sampled semi-annually or annually will be examined on a case-by-case basis. The Department may approve a reduction of the monitoring frequency or waive the monitoring requirement for parameters that consistently are reported as in compliance with state water quality standards.

28. **Addition of Parameters.** If the Department has reason to believe that additional parameters exist that may cause or contribute to water quality violations in the project area, those parameters shall be added to the monitoring section of this permit as a permit modification.

### **Factors Impacting Compliance**

29. **Factors Outside the Permittee's Control.** In the event that non-compliance or failure to perform as designed occurs for any reason other than those listed below, the Corps shall take appropriate remedial measures.

- A. **Natural Background.** Deviations from water quality standards may occur as a result of natural background conditions, in accordance with Section 403.021(11), F.S.
- B. **Random Variation.** The Corps shall report any statistical uncertainty in the methodology using acceptable scientific methods.
- C. **Other Factors.** Unavoidable legal barriers or restraints, including those arising from actions or regulations not under the control of the Corps.

### **Renewals and Modifications**

30. **Permit Modifications.** The permittee shall submit proposed modifications to the L-31N (L-30) SMPP to the Department, prior to implementation of the modification, for review and approval by the Department.

31. **Permit Renewal.** At least 60 days prior to the expiration date of this permit, the permittee shall apply for renewal of this permit if necessary. Renewal may be for a period of up to 5 years in accordance with Subsection (3)(g) of the CERPRA.

32. **Department Review and Approval.** Where conditions in this permit require Department review of remedial actions or plan modifications to be implemented pursuant to this permit, the Department shall consult with the permittee to ascertain whether a mutual agreement can be reached. If mutual agreement on the remedial actions or plan modifications cannot be reached, the action of the Department shall be deemed final agency action and shall be subject to judicial or administrative review, as appropriate.

Executed in West Palm Beach, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

Jack Long  
District Director  
Southeast District

JL/DH/sg

Date

12-16-05

**FILING AND ACKNOWLEDGMENT**

FILED, on this date, with the designated Department Clerk, receipt of which is hereby acknowledged.

  
Clerk Date

**Electronic copies to:**

James McAdams, USACE, Jacksonville  
Tiphonie Jinks, USACE, Jacksonville  
Salvador Resurreccion, USACE, Jacksonville  
Paul Karch, USACE, Jacksonville  
Ken Ammon, SFWMD  
John Shaffer, SFWMD  
Maura Merkal, SFWMD  
Art Sengupta, SFWMD  
Georgia Vince, SFWMD  
Roy Sonenshein, ENP  
Agnes McLean, ENP  
Bruce Boler, ENP  
Marcia Steelman, Miami-Dade DERM  
Mary Ann Poole, FFWCC  
Pam Repp, USFWS  
Richard Fike, USFWS  
Johnna Mattson, Dept. of Community Affairs  
Ray Eubanks, Dept. of Community Affairs  
Laura Kammerer, Dept. of State, Div. of Historical Resources  
Rebecca Elliott, FDACS  
Ron Miedema, USEPA  
Aileen Boucle, FDOT  
Gene Duncan, Miccosukee Tribe  
Greg Knecht, FDEP  
Ernie Marks, FDEP  
Garry Payne, FDEP  
Annet Forkink, FDEP  
Stacey Feken, FDEP  
Kenny Hayman, FDEP  
Chad Kennedy, FDEP  
Joe May, FDEP  
Pyara Wilkhu, FDEP  
Dianne Hughes, FDEP  
Inger Hansen, FDEP  
Holly Andreotta, FDEP  
Stan Ganthier, FDEP  
Kelli Edson, FDEP  
Amanda Quirke, Tew Cardenas LLP

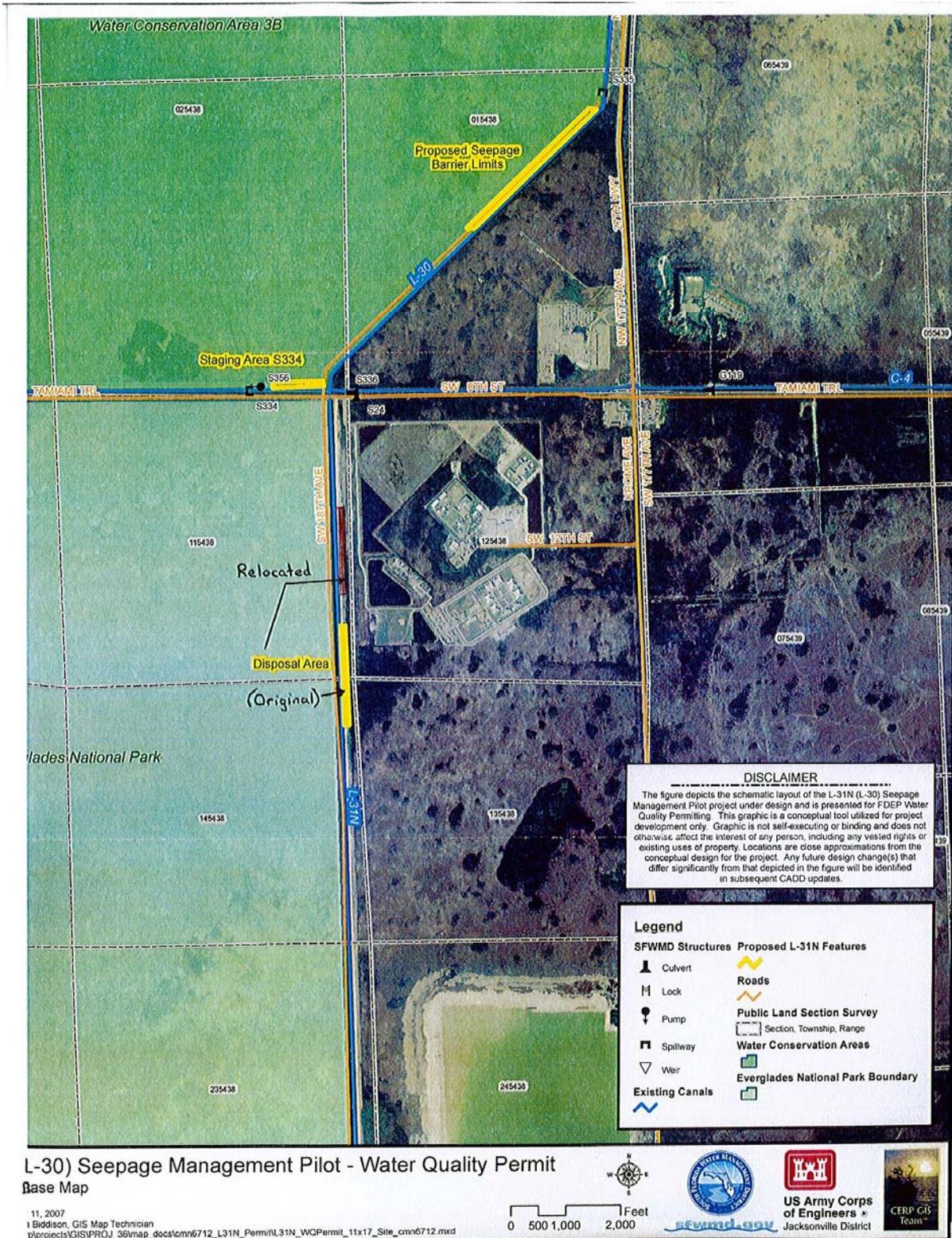


Figure 1 – General Site Plan (Revised)

Figure 2 - Recommended Seepage Barrier

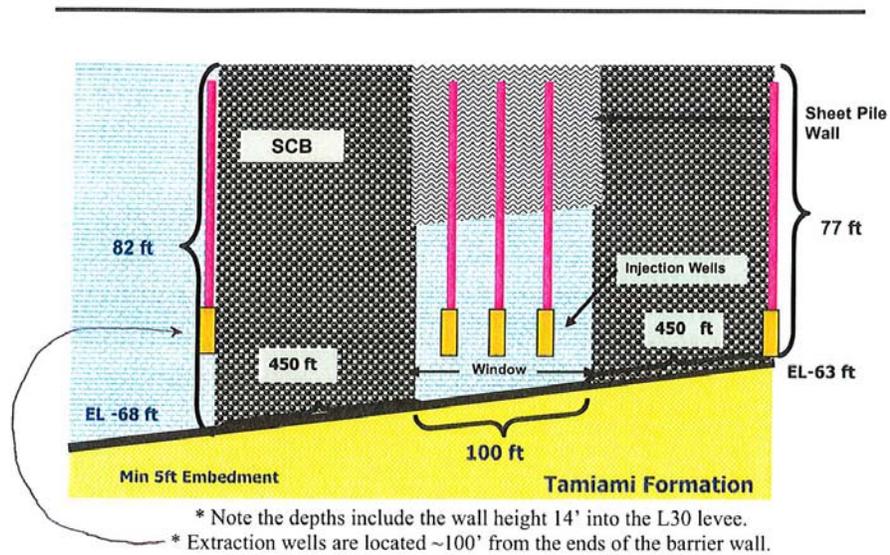
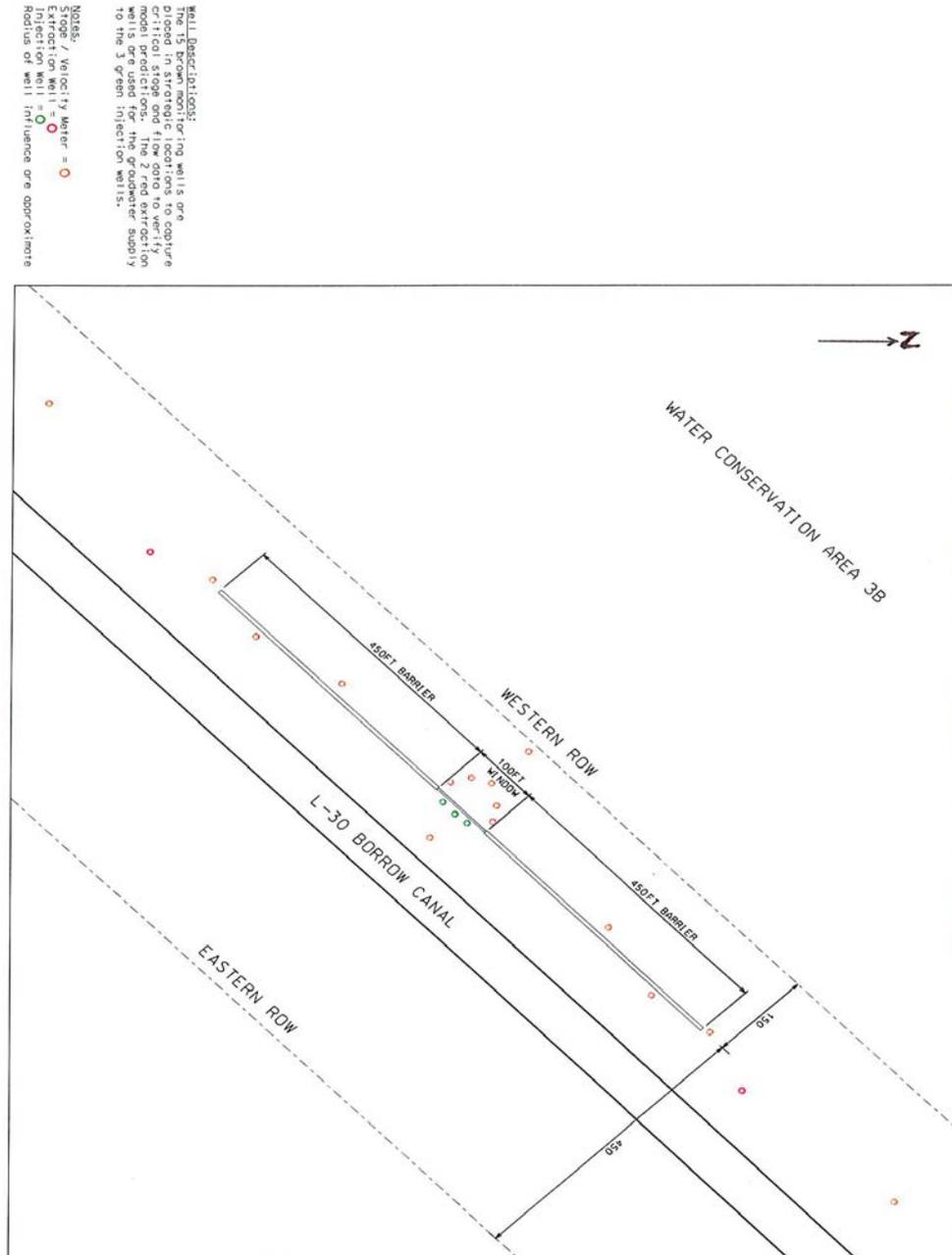


Figure 3 - Well Location Map



**Table Key**

**Sample Type:** G = Grab sample  
 INSITU = In Situ field sample

**Sample Locations:** INJ = Main header pipe of injection wells  
 SW = A point in the L-30 Canal nearest to one of the extraction wells  
 GW = Monitoring Well # CP06-L30PP-MW-0002-GW-1

**Sample Frequency:** M = Monthly during 1<sup>st</sup> year of testing  
 Q = Quarterly during 2<sup>nd</sup> year of testing

**TABLE 1 - ROUTINE MONITORING PROGRAM**

PARAMETER	UNITS	SAMPLE TYPE	SAMPLING FREQUENCY	SAMPLING LOCATION
Total Dissolved Solids	mg/l	G	M, Q	INJ, SW, GW
pH	SU	INSITU	M, Q	INJ, SW, GW
Specific Conductance	Umhos/cm	INSITU	M, Q	INJ, SW, GW
Chloride	mg/l	G	M, Q	INJ, SW, GW
Temperature	Deg C	INSITU	M, Q	INJ, SW, GW