STRUCTURE G-349A

Seepage return pump station G-349A will control and maintain water levels in the north seepage collection canal for STA-5. This structure is located on the north perimeter levee of STA-5, approximately 0.5 mile east of the L-2 borrow canal. It is just east of structure G-360B.

PURPOSE

The purpose of this station is to return seepage from the STA-5 north seepage collection canal to treatment cell 1A at the confluence of the inflow and spreader canals. In addition, working in conjunction with pump stations G-349B, it can also be utilized in times of drought for the purpose of providing supplemental water to the treatment cells to prevent dry-out. No water quality sampling is required by permit at the pump station.

OPERATION

The pump station has two (2) 20-inch diameter axial flow pumps with 60-Hp electric powered engines. Each pump has a discharge capacity of 18-27 cfs depending on headwater and tailwater stages, for a combined capacity of 36-54 cfs. Both manual and remote operation of the pump station is possible. Remote operation is from the SFWMD's operations control center in West Palm Beach. The factory test report, including performance curves, for these pumps are contained in the project files. Telemetry control for remote operation and real-time status of each pump is also available. Headwater and tailwater data are available to the remote operators, while headwater/tailwater staff gauges are available for manual/local operation.

G-349A returns seepage collected in the seepage collection canal along the north side of STA-5 and the seepage canal paralleling the discharge canal along the perimeter of the Rotenberger Tract between STA-5 and the Manley canal, to treatment cell 1A. During seepage return operations, slide gates on the G-343 structures will be opened to allow recycled seepage to enter

into cells 1B for water level maintenance. This pump station can also be operated in conjunction with the G-349B pumping station for the purpose of providing supplemental water to the treatment cells.

Additional operational guidance for the G-349A is based on best professional judgement of operating personnel, taking field condition factors into consideration such existing water levels within the treatment cells, existing vegetative conditions, off-site conditions and seasonality.

DISCHARGE CHARACTERISTICS

Discharge capacity (each pump):	17.8 cfs at maximum static head of 8.25 ft 26.9 cfs at minimum static head of 4.0 ft

DESCRIPTION OF STRUCTURE

Number of pumps: 2 per station

Design headwater elevation: 9.0 ft

Design low water (headwater) elevation: 8.0 ft (assumes 1-foot head loss across trash rack)

Design tailwater elevation: 16.25 ft

Nominal pump operating speed: 740 rpm

Normal “on elevation” (based on operating experience): When Seepage Canal (pump HW elevation) is 10.5 ft NGVD

Normal “off elevation” (based on operating experience): When Seepage Canal (pump HW elevation) is 9.5 ft NGVD

Motor size: 60 Hp

Motor speed: 1700 rpm

Centerline discharge connection: 11.0 ft

Pump station floor elevation: 14.0 ft

Intake floor elevation: +0.7 ft

POWER SOURCE

Prime Movers — Commercial electricity

STATION POWER

Normal — Commercial electricity

Emergency

Date Acceptance into Service: October 1999 *

* Temporary operations authorized for 14-day period in response to Hurricane Irene. Routine operations began June 2000.

HYDRAULIC AND HYDROLOGIC MEASUREMENTS

Staff gauges: On-site staff gauges for local operation and analog and remote digital headwater & tailwater recorders

Telemetry System: Two pumps on telemetry control, pumps monitored for status.

ACCESS: This pump station is located on the north perimeter levee of Stormwater Treatment Area 5. From US 27 take CR 835 South, left on L-1 Borrow Canal Levee 11 miles south to STA-5.