

STRUCTURES 11A, 11B AND 11C

These three structures are reinforced concrete, gated spillways with the discharge of each controlled by four cable operated, vertical lift gates. Operation of the gates is manually controlled, and the gates are operated in accordance with the operational criteria. The structures are located in Levee 38-W between Conservation Areas 2 and 3, about 20 miles west of Fort Lauderdale.

PURPOSE

These three structures provide the principal means of discharge from Conservation Area 2A (relatively minor discharge can also be made by S-38, S-143, S-144, S-145 and S-146). Structures 11A, 11B and 11C also provide the principal sources of gravity flow into Conservation Area 3.

OPERATING CRITERIA

The tentative regulation schedule for WCA 2 will vary seasonally from 11.0 to 13.0 feet NGVD. The peak stage will approximately coincide with the end of the normal rainy season (October 1), then decline to 11.0 feet by February 1, remain at 11.0 feet through June 30, and then begin increasing on July 1. The intent of the schedule is to prevent over-draining of the lower marsh and maintain lower water depths during early spring when plant growth begins to accelerate. The schedule and the timing of the drawdown, however, are intended to result in the marsh continuing to dry during drought years.

Regulation of water levels and operation of discharge structures will be keyed to both the interior marsh stage, as measured by gauge 111, and water levels in the lower marsh as approximated by the headwater at S-11B.

The drawdown will begin on October 1 by creating a 2.0 foot slope in the pool stage between gauge 111 and the L-35B canal (at the headwater of S-11B). This operation will require coordinated operation of the L-35B culverts and the S-11 structures. During this phase of the drawdown, gauge 111 will be used to indicate the level of WCA 2. In establishing the slope, the L-35B culverts (S-144, S-145 and S-146) will be opened first, and S-11 will be opened only if the stage at gauge 111 reaches 0.5 feet above the schedule on a particular date. Once S-11 is opened, it will remain open until the stage at gauge 111 recedes to the schedule.

During this phase of the drawdown, gauge 111 will indicate the stage of WCA 2 until it recedes to 11.5 feet or until December 31, whichever occurs first. After one of those events has

occurred, the WCA 2 stage will be gauged by the headwater at S-11B. This gauge will indicate the stage in WCA 2 until July 1.

On the rising phase, from July 1 to October 1, gauge 111 will again be used to indicate the stage of WCA 2.

Discharges from WCA 1 through S-10 will be offset by similar discharges through S-11.

Instructions from the U.S. Corps of Engineers by letter of 10 June 82: When full gate opening is ordered, open gate 3 feet out of water.

FLOOD DISCHARGE CHARACTERISTICS

	Design		
Discharge Rate (total of 3)	<u>16,700</u> cfs		
	<u>100</u> % SPF		
Headwater Elevation	<u>15.6</u> feet		
Tailwater Elevation	<u>14.6</u> feet		
Type Discharge	<u>submerged uncontrolled</u>		
Estimated Max. Hurricane Tide Hurricane	<u>18.8</u> feet	(Standard	Project
		on a normal pool stage of	13.0 feet)

DESCRIPTION OF STRUCTURE

Type Three fixed crest, reinforced concrete gated spillways

Weir Crest

Net Length 100.0 feet (for each of three structures)

Elevation 7.5 feet

Service Bridge elevation 20.5 feet

Water level which will by-pass structure 20.5 feet

Gates

Number 4 (for each of three structures)

Size 9.0 ft. high by 25.8 feet wide

Type vertical lift

Bottom elevation of gates, full open 18.0 feet

Top elevation of gates, full closed 16.5 feet

Control manual

Lifting Mechanism

Normal power source commercial electricity

Emergency power source gasoline driven generator

Type hoist direct drive electric motor, gear connected to gate stems

ACCESS: Structure located on U.S. Highway #27

HYDRAULIC & HYDROLOGIC MEASUREMENTS

Water Level Upstream and downstream recorder on each structure, telemetry and on-site

Gate Position Recorder None

DEWATERING FACILITIES

Storage U.S. Corps of Engineers, Clewiston Office

Size & number (per bay)

Upstream

Type timber stop logs and vertical aluminum guides

Stop Logs - Number 56

Size 6" X 12" X 6'-4" long

Vertical Guides

Number 3

Size BP8 16'-6" long

Downstream - None