

STRUCTURE 18C

This structure is a reinforced concrete, gated spillway, with discharge controlled by two cable operated, vertical lift gates. Operation of the gates is automatically controlled so that the gate hydraulic operating system opens or closes the gates in accordance with the operational criteria. The structure is located on Canal 111 about 6 1/2 miles upstream from S-197.

PURPOSE

This structure maintains optimum water control stages upstream in Canal 111; it passes the design flood (40 percent of the Standard Project Flood) without exceeding upstream flood design stage, and restricts downstream flood stages and discharge velocities to non-damaging levels; and assists in preventing saline intrusion. It also makes discharges to the eastern panhandle of the Everglades National Park.

OPERATION

In accordance with IOP, this structure is operated according to its headwater stage.

| No WCA-3A Regulatory Releases to SDCs or Shark Slough. | WCA-3A Regulatory Releases to SDCs |
|--|------------------------------------|
| Open: 2.6 | Open: 2.25 |
| Close: 2.3 | Close: 2.00 |

Park Releases

Gate operations will be remotely controlled to make minimum monthly water releases to Everglades National Park as follows:

| <u>MONTH</u> | <u>ACRE-FEET</u> | <u>MONTH</u> | <u>ACRE-FEET</u> |
|--------------|------------------|--------------|------------------|
| JAN. | 1,540 | JULY | 510 |
| FEB. | 630 | AUG. | 860 |
| MAR. | 290 | SEPT. | 2,690 |
| APR. | 110 | OCT. | 4,630 |
| MAY | 110 | NOV. | 4,060 |
| JUNE | 340 | DEC. | 2,230 |

FLOOD DISCHARGE CHARACTERISTICS

| | Design* | Standard Project Flood* |
|------------------------------|----------------------------------|----------------------------------|
| Discharge Rate | <u>2,100</u> cfs | <u>3,200</u> cfs |
| | <u>40</u> % SPF | <u>100</u> % SPF |
| Headwater Elevation | <u>3.3</u> feet | <u>3.8</u> feet |
| Tailwater Elevation | <u>2.8</u> feet | <u>2.8</u> feet |
| Type Discharge | uncontrolled <u>submerged</u> | uncontrolled <u>submerged</u> |
| Estimated Max Hurricane Tide | <u>7.0</u> feet m.s.l. | |

*Stage and discharge from General Design Memorandum, no discharge curves available for flows and stages of this magnitude.

DESCRIPTION OF STRUCTURE

Type Fixed crest, reinforced concrete gated spillway

Weir Crest

Net Length 44.0 feet

Elevation -7.0 feet

Service bridge elevation 8.0 feet

Water level elevation which will by-pass structure 8.0 feet

Gates

Number 2

Type Vertical lift gates

Size 11.0 ft. high X 22.8 ft. wide

Bottom elevation of gates full open 5.7 feet Normal

9.0 feet Maximum

Top Elevation of gates full closed 4.0 feet

Control On-site, automatic headwater control and remote computer control

Lift Mechanism

Normal power source commercial electricity
Emergency power source L.P. gas driven generator
Type hoist hydraulic cylinder actuated by electric motor
 motor driven pump, with emergency hand pump;
 connected to gate by steel cables.

Date of Transfer: April 15, 1966

ACCESS: From U.S. Highway #1 via berm on C-111

HYDRAULIC AND HYDROLOGIC MEASUREMENTS

Water Level: Remote digital upstream and downstream recorder

Gate Position Recorder: Remote digital recorders on all gates

Rain Gauge: Remote, digital recorder

DEWATERING FACILITIES

Storage needles at Homestead Field Station, beams at West Palm Beach
 Field Station

Type needle beams and vertical aluminum needles

Size and Number (per bay)

Upstream and Downstream

Number 1 beam; needles, 5 @ 4', 1 @ 2'

Size beam 14@F84, length 23' -10"
 needles 20' long