

## STRUCTURE 49

This structure is a reinforced concrete, gated spillway with discharge controlled by two stem operated, vertical lift gates. Operation of the gates is automatically controlled so that the gate operating system opens or closes the gates in accordance with the seasonal operational criteria. The structure is located on Canal 24, 2400 feet west of the Sunshine State Parkway.

### PURPOSE

This structure maintains optimum upstream water control stages in Canal 24; it passes the design flood (30% of the Standard Project Flood) without exceeding the upstream flood design stage, and restricts downstream flood stages and channel velocities to non-damaging levels; and it prevents salt water intrusion.

### OPERATING CRITERIA

The operating criteria for this structure vary seasonally. In each season, control is automatic; and in each season, operation is under either normal or flood conditions.

#### Flood Season (normally May 15 to October 15)

##### Normal Conditions

When the headwater elevation rises to 20.2 feet, the gates begin to open.

When the headwater elevation rises or falls to elevation 19.0, the gates become stationary.

When the headwater elevation falls to 18.5, the gates begin to close.

#### Dry Season (normally October 15 to May 15)

##### Normal Conditions

When the headwater elevation rises to 21.2 feet, the gates begin to open.

When the headwater elevation rises or falls to elevation 20.0, the gates become stationary.

When the headwater elevation falls to 19.5, the gates begin to close.

When change is made from high range to low range, monitor the gate opening to avoid erosion downstream.

### FLOOD DISCHARGE CHARACTERISTICS

Design

Standard Project Flood

Discharge	<u>4680</u> cfs	<u>4680</u> cfs
	<u>30</u> % SPF	<u>100</u> % SPF
Headwater Elevation	<u>16.3</u> feet	<u>24.4</u> feet
Tailwater Elevation	<u>2.4</u> feet	<u>2.4 to 8.5</u> feet
Type Discharge	free <u>controlled</u>	free <u>controlled</u>

**DESCRIPTION OF STRUCTURE**

Type Fixed crest, reinforced concrete gated spillway

Weir Crest

Net length 34.0 feet

Elevation 4.4 feet

Service Bridge elevation 26.5 feet

Water level which will by-pass structure 26.5 feet

Gates

Number 2

Size 16'-8" high X 17'-9" wide

Bottom elevation of gates, full open 17.3 feet

Top elevation of gates full closed 21.0 feet

Control automatic, on-site upstream control and remote computer control

Lifting Mechanism

Normal power source commercial electricity

Emergency power source LP engine driven generator

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

Date of Transfer: July 8, 1960 (beneficial occupancy); March 25, 1963

**ACCESS:** South berm of C-24 from the west or east

**HYDRAULIC AND HYDROLOGIC MEASUREMENTS**

Water Level On-site and remote digital headwater and tailwater recorders

Gate Position Recorder On-site and remote digital recorders

**DEWATERING FACILITIES**

Storage Okeechobee Field Station

Type stop logs - aluminum

Size & Number (per bay)\_\_\_\_\_

Upstream

4 needles 4' x 22'

1 spacer 6" x 18" x 22'

1 homemade beam

Downstream

Number none