

STRUCTURE 179

This structure is a reinforced concrete, gated spillway with discharge controlled by cable 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 operational criteria. The structure is located on Canal 103 about 650 feet west of Tallahassee Road in Southern Dade County.

PURPOSE

This structure maintains optimum upstream water control stages in Canal 103; it passes the design flood (40% of the Standard Project Flood) without exceeding the upstream flood design stage, and restricts downstream flood stages and channel velocities to non-damaging levels.

OPERATION

This structure will be operated to maintain an optimum headwater elevation which varies seasonally. Most of the time, this optimum is 3.5 feet, when sufficient water is available to maintain this level. During the first month of the growing season (October 15 to the end of April), the automatic operation is adjusted to the low setting. And then, depending on weather conditions, the high setting is used. During wet conditions, that is, when the high setting would raise the water table into the root zone, the low setting is used. During the non-growing season, the high setting is used. The automatic controls function as follows:

Low Setting

When the headwater elevation rises to 3.1 feet, the gates will open at six inches per minute;

When the headwater elevation rises or falls to 2.9 feet, the gates will become stationary;

When the headwater elevation falls to 2.7 feet, the gates will close at six inches per minute.

High Setting

When the headwater elevation rises to 3.9 feet, the gates will open at six inches per minute;

When the headwater elevation rises or falls to 3.5 feet, the gates will become stationary;

When the headwater elevation falls to 3.1 feet, the gates will close at six inches per minute.

FLOOD DISCHARGE CHARACTERISTICS

	Design
Discharge Rate	<u>1920</u> cfs
	<u>40</u> % SPF
Headwater Elevation	<u>3.8</u> feet
Tailwater Elevation	<u>3.2</u> feet
Type Discharge	controlled <u>submerged</u>

DESCRIPTION OF STRUCTURE

Type reinforced concrete, gated spillway

Weir Crest

Net Length 50.0 feet

Elevation -7.5 feet

Service Bridge Elevation 8.5 feet

Water Level which will by-pass structure 6.0 feet

Gates

Number 2

Size 12.0 ft. high by 25.8 ft. wide

Type vertical slide gates

Bottom elevation of gates, full open 6.0 feet

Top elevation of gates, full closed 4.5 feet

Control On-site automatic and remote computer control

Lifting Mechanism

Normal power source commercial electricity

Emergency power source L.P. gas engine driven generator

Type Hoist hydraulic cylinder actuated by electric motor
driven pump, with emergency hand pump, connected
to gates by steel cables

Date of Transfer: May 10, 1967

ACCESS: from Tallahassee Road via access road on north bank of C-103

HYDRAULIC AND HYDROLOGIC MEASUREMENTS

Water Level Remote digital headwater and tailwater recorder

Gate Position Recorder Remote digital recorder on all gates

Other _____

DEWATERING FACILITIES

Storage Needles, Homestead Field Station - beams, West Palm Beach Field
Station

Type Steel needle beam and aluminum needles

Size and Number (Per bay)

Upstream and downstream

Beam 24" WF 84, 26'-10" long

Needles 4 each, 5' wide; 1 each, 4' wide