STRUCTURE 70

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 in accordance with the established operational criteria. The structure is located on Canal 41 about 8½ miles upstream from S-71 and 10½ miles upstream from Lake Okeechobee.

PURPOSE

This structure maintains optimum upstream water control stages in Canal 41; 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 passes sufficient discharge during low-flow periods to maintain downstream stages and irrigation demands.

OPERATION

This structure will be operated to maintain an optimum headwater elevation between 25.3 and 26.2, insofar as possible, through automatic controls as follows:

When the headwater elevation rises to 26.2, the gates will open at six inches per minute;

When the headwater elevation rises or falls to 25.7, the gates will become stationary;

When the headwater elevation falls to 25.3, the gates will close at six inches per minute.

During low-water periods, minimum releases will be made to satisfy irrigation requirements if water is available.

FLOOD DISCHARGE CHARACTERISTICS

	Design*	Standard Project Flood**
Discharge Rate	4470 cfs	5000 cfs
	30 % SPF	100 % SPF
Headwater Elevation	24.7 feet	30.0 feet
Tailwater Elevation	23.1 feet	24.7 feet
Type Discharge	uncontrolled submerged	uncontrolled submerged

*Design discharge apparently cannot be obtained with given headwater and tailwater elevation even with uncontrolled discharge. No curve available for uncontrolled discharge,

so headwater elevation for design flow unobtainable. Moreover, design headwater elevation of S-71, downstream, is also unobtainable and consequently tailwater elevation and discharge of S-70 unobtainable.

**For Standard Project Flood, headwater and tailwater elevations and maximum gate opening limit discharge to 2800.

DESCRIPTION OF STRUCTURE

Type reinforced concrete, gated spillway

Weir Crest

Net Length 54.0 feet

Elevation 15.0 feet

Service Bridge Elevation 30.0 feet

Water Level which will by-pass structure 30.0 feet

Gates

Number 2

Size 12.0 ft. high by 27.8 ft. wide

Type vertical lift

Bottom elevation of gates, full open 26.7 ft. Normal

28.8 ft. Maximum

Top elevation of gates, full closed 26.9 ft.

Control automatic on-site 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 Cable drum hoist

Date of Transfer: February 13, 1961 (beneficial occupancy); December 27, 1961

ACCESS: from State Road No. 70 via access road on east bank of C-41

Points of possible flooding_____

HYDRAULIC AND HYDROLOGIC MEASUREMENTS

Water Level Remote digital headwater and tailwater recorders

Gate Position Recorder Remote digital recorder on all gates

Other _____

DEWATERING FACILITIES

Storage Okeechobee Field Station

Type needle beam and aluminum needles

Size and Number (per bay)

Upstream

6 needles 4' x 20'

6 needles 4' x 22'

1 needle 2' x 20'

1 needle 2' x 22'

1 spacer 6" to 18" x 20'

1 spacer 6" to 18" x 22'

beam 30WF 210, 28'-10" long

Downstream

Same