

STRUCTURE 352

This structure is a reinforced concrete, gated spillway, with two vertical lift gates, located in L-D9, the perimeter dike of Lake Okeechobee, at the north end of the West Palm Beach Canal at Canal Point. It is a replacement for Hurricane Gate Structure (HGS)-5. Structure completed on March 22, 1989.

PURPOSE

This structure will permit releases to be made from Lake Okeechobee to meet water requirements in the West Palm Beach Canal service areas. It will permit flood flows to be discharged from the Agricultural Area into Lake Okeechobee when the lake level is low. It will also prevent hurricane tides from entering the West Palm Beach Canal. It will be used, under certain conditions, to make regulatory or water supply releases from Lake Okeechobee into coastal Palm Beach County or Water Conservation Area 1.

OPERATION

The gates are normally closed. They are opened for three purposes:

- A) To meet agricultural requirements in the area served by the West Palm Beach Canal between Canal Point and S-5A, or to meet requirements in the Coastal Area east of S-5A. These requirements generally occur in the dry season between mid-October and mid-May. The former requirement is gauged by a dry season stage below 11.0 feet between Canal Point and S-5A, along with other factors. The latter requirement is gauged by a dry season stage below 8.0 feet at S-155.
- B) To discharge flood flows from the Agricultural Area between S-5A and Canal Point when Lake Okeechobee is low (generally below 11.0 feet). Such occasions are very rare but could occur in the late spring.
- C) To make regulatory discharges from Lake Okeechobee when conditions in the EAA will permit.

FLOOD DISCHARGE CHARACTERISTICS

	Design Standard Project Flood	
Discharge Rate	<u>900</u> cfs	<u>1250</u> cfs
Headwater Elevation	<u>10.5</u> feet	<u>24.8</u> feet
Tailwater Elevation	<u>10.0</u> feet	<u>13.5</u>
Maximum Hurricane Tide Elev.	<u>31.5</u> feet	
Wave run-up (above hurricane tide)	<u>7.8</u> feet	

DESCRIPTION OF STRUCTURE

Weir Crest

Net Length 46.0 feetElevation 5.2 feetService Bridge Elevation 36.0 feetWater Level which will by-pass structure 38.0 feet

Gates

Number 2Width X Height (ft) 23.0 X 6.3Bottom Elevation of gates, full open: 11.5 feetTop Elevation of gates, full closed: 11.5 feetBreastwall Elevation (feet) 11.5 to 44.2Control Manual

Lifting Mechanism

Normal power source Commercial ElectricityEmergency power source LP gas engine driven generator
in Control HouseType Hoist a horizontal hydraulic cylinder connected to a
two-part sheave block assembly over which the cables
run**ACCESS:** Structure located adjacent to U.S. 98 at Canal Point

HYDRAULIC AND HYDROLOGIC MEASUREMENTS

- Water Level On-site, upstream and downstream analog recorders and remote digital headwater and tailwater recorder
- Gate Position Recorder On-site analog recorders
- Rain Gauge On-site analog recorder
- Discharge U.S.G.S. flow instruments in West Palm Beach Canal