

**APPENDIX A – DRAFT OPERATING CRITERIA**

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## STRUCTURE 190 (S-190)

Location. S-190 is located in the L-28 Interceptor Canal about one-half mile south of the junction of the West and North Feeder Canals.

Description. Structure 190 is an ogee-shaped concrete spillway with two automatically controlled vertical-lift gates. The structure has a platform and a service bridge.

Purpose. This structure maintains optimum upstream water control stages in the North and West Feeder Canals and prevents overdrainage of these canals.

Regulation. This structure will be operated through automatic controls as follows:

During normal operations, when the headwater elevation rises to 15.8 ft., NGVD, the gates will open. When the headwater elevation rises or falls to 15.5 ft., NGVD, the gates may become stationary. When the headwater elevation falls to 15.2 ft., NGVD, the gates will close. The intent of these gate operations is to maintain an optimum headwater elevation of 15.5 ft., NGVD; therefore, some limited operational flexibility of gate opening and closing for maintaining that level will be allowed.

In the event maximum discharge is required, the gates will open at six inches per minute but the maximum gate opening will be limited to the amounts shown on the "Limiting Gate Opening" curve.

Constraints: To meet structural and stability requirements, the maximum allowable hydrostatic head on the structure should not be allowed to exceed 7.5 ft., NGVD, with a headwater elevation of 15.5 ft., NGVD, and a tailwater elevation of 8.0 ft., NGVD.

STRUCTURE 190 {S-190}

Summary of Hydraulic Design

Location -----			L-28
Design Conditions			
Discharge (cfs)-----			2,960
Type -----	Uncontrol	submerged	
Headwater Elevation {ft.}-----			16.6
Tailwater Elevation (ft.)-----			16.1
Optimum Conditions			
Headwater Elevation (ft.) -----			15.5
Tailwater Elevation (ft.) -----			10.0
Minimum Water Surface Condition, estimated			
Headwater Elevation (ft.) -----			8.0
Tailwater Elevation (ft.) -----			8.0
Crest			
Shape -----		Ogee	
Elevation (ft.) -----			3.5
Net Length (ft.)-----			48.0
Gates			
Number -----			2
Type of Control -----	Automatic vert.	lift	
Width x Height (ft.) -----	24.0 x	12.0	
Bottom Elevation, (ft.), fully open position			18.4
Top Elevation, (ft.), closed position			15.5
Clearance Elevation {ft.} -----			17.6
Protection Elevation {ft.}-----			20.4
Apron			
Elevation (ft.) -----			-0.1
Length (ft.) -----			30.0
End sill elevation (ft.) -----			1.0
Service Bridge Elevation (ft.) -----			20.5
Operating Platform Elevation (ft.) -----			20.5

the interceptor canal to the northern and western extremities of the Seminole Indian Reservation to provide an outlet for excess water; placed Pumping Station S-147 in deferred status; and left an 11-mile gap in L-28 immediately south of the interceptor canal with filling the gap in deferred status until the development of eastern Collier County. Additions were Pumping Station 140 and 147; the interceptor canal, including two feeder canals, each with a headwater control structure; two culverts in L-28 - south of the interceptor canal; Levee 3 tieback borrow canal enlargement; and the necessary lateral inflow culverts. The plan also recommended the deletion of S-16 and S-17. The addendum was approved by the Chief of Engineers on 28 August 1961.

(9) Part I, Supplement 32 - Detail Design Memorandum, dated 2 March 1962 recommended that the previously approved Section 5 be modified to tieback to higher ground. The tieback would block any discharge from WCA No. 3 through the gap and would eliminate the possibility that water would be discharged south along the west side of Levee 28. The addition of the tieback was approved in a letter from the Chief of Engineers on 11 April 1962.

(10) Part I, Supplement 36 - Detail Design Memorandum, dated 31 May 1961 presented a program for the establishment of comprehensive permanent networks of hydrologic and meteorologic stations considered necessary for the operation of the project works in WCA No. 3 and adjoining areas. It also presented a temporary program which would provide sufficient data to determine the approximate seepage rate under interior levees in WCA No. 3 and the total number of levees required to reduce seepage out of the pool to acceptable rates. Approval was made by the Chief of Engineers on 9 August 1961.

(11) Part I, Supplement 37 - Detail Design Memorandum, dated 27 April 1962 presented the same basic plan as Part I, Supplement 33 except S-31 and S-150 were changed from concrete box culverts to corrugated metal-pipe culverts. These changes were made to arrive at the most economical structures. They were approved by the Chief of Engineers on 8 June 1962.

(12) Part I, Supplement 38 - Detail Design Memorandum, dated 22 March 1962 provided supplemental information to Part I, Supplement 33 and presented detailed information on the design criteria and methods for the construction of Levee 68A.

(12.1) Part I, Supplement 40 - Detail Design Memorandum, L-28 Interceptor and Feeder Canals, including Addendum 1, dated 23 August 1963, presented the design of L-28 Interceptor Canal downstream of S-190, design of S-190, as well as the designs for the North and West Feeder Canals upstream of S-190.

(13) Part I, Supplement 41 - Detail Design Memorandum, dated 19 June 1964 presented the design criteria for Pump Station 140 and supplemented Part 1, Supplement 30, including addenda 1 and 2. Pump Station 140 was designed to serve 110 square miles north and east of the interceptor canal and west of Levee 28.

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