

STRUCTURE 57

This structure is a double-barreled corrugated metal pipe culvert, with discharge controlled by stem operated vertical lift gates. Operation of the gates is manually controlled in accordance with the seasonal operational criteria. The structure is located on Canal 30 about 6200 feet downstream from Lake Myrtle.

This structure maintains optimum upstream water control stages in Canal 30 and in Lakes Myrtle, Preston and Joel; it passes the design flood (30% of the Standard Project Flood) without exceeding the upstream flood design stage, and it restricts downstream flood stages and channel velocities to non-damaging levels; it prevents overtopping of the structure by breaking waves from Lake Trout during the design storm and wind tide; it prevents overtopping of the structure during the Standard Project Flood and hurricane wind tide, though it will be overtopped by breaking waves under such conditions; and it passes sufficient discharge during low-flow periods to maintain downstream stages and irrigation demands.

OPERATION

This structure is operated in accordance with the Lake Myrtle-Preston-Joel Regulation Schedule. This schedule, which ranges between elevations 59.5 and 62.0 indicates the desirable water level throughout the year. If the level is above the prescribed level, flood operation is followed; if the level is below the prescribed level, low-water operation is followed. The operation is also dependent on hydraulic and structural limitations of the structure.

Flood Control Operation

When the lake level is within 0.5 foot of the prescribed level, a release schedule, based on forecasted inflow, will be established to return the lake to that level within 15 days. When the lake stage is over 0.5 foot from the prescribed level, maximum releases, subject to hydraulic and structural limitation, will be made.

Low Water Operation

Whenever the lake levels are below the prescribed level, no releases will be made.

Structural Limitations

The maximum water level drop across the structure will be 2.2 feet.

FLOOD DISCHARGE CHARACTERISTICS

	Design		Standard Project Flood
	Lower Profile*	Peak Stage*	
Discharge Rate	<u>110</u> cfs <u>30</u> %SPF	<u>170</u> cfs <u>30</u> %SPF	<u>50</u> cfs <u>100</u> %SPF
Headwater Elevation			
Static	<u>60.7</u> feet	<u>62.8</u> feet	<u>66.8</u> feet
Wind Tide	<u> </u> feet	<u>63.7</u> feet	<u>67.3</u> feet
Wind Tide plus Breaking Wave Height	<u> </u> feet	<u>68.4</u> feet	<u>72.7</u> feet
Tailwater Elevation	<u>60.2</u> feet	<u>61.6</u> feet	<u>66.7</u> feet
Type Discharge	<u>Uncontrolled Submerged</u>	<u>Uncontrolled Submerged</u>	<u>Uncontrolled Submerged</u>

*Peak Stage is based on lake operation for design flood which allows 2.0 feet of storage above historic average levels. Lower Profile is based on no rise in lake levels from historic average. Actual operation will probably be close to Lower Profile for the design flood.

DESCRIPTION OF STRUCTURE

Type	<u>reinforced concrete culvert with upstream control</u>
Number of barrels	<u>2</u>
Size of barrels	<u>54 inch diameter</u>
Length of barrels	<u>80 feet</u>
Flow line elevation	<u>52.5 feet</u>
Service bridge elevation	<u>69.0 feet</u>
Water Level which will by-pass structure	<u>69.0 feet</u>

GATES

Number	<u>2</u>
Type	<u>vertical slide gates</u>
Size	<u>54 inch diameter</u>

Control manual

Lifting Mechanism

Type pedestal mounted electric motor

Source of Power Commercial electricity

Auxiliary Power LP gas engine driven generator

ACCESS: from Nova Road via access road on west (left) side C-32 and C-30

HYDRAULIC AND HYDROLOGIC MEASUREMENTS

Water Level Remote digital (upstream and downstream) recorders

Gate Position Recorder Remote digital recorders

Other _____

DEWATERING FACILITIES (per barrel) None