

SECTION 5 – HYDROLOGY

- **Design Storms and Floods**

The purpose of the S-291 structure is to enable discharge from the L-59 Canal to Lake Okeechobee via the C-40 Canal.

For the S-291 structure, the water stages are generated from the data of G-74 headwater (on L-59 canal) and S-72 tailwater (on C-40 canal). The historical water elevations for the upstream of the existing G-74 structure, and for the downstream of the existing S-72 structure were obtained from the DISTRICT DBHYDRO database based on NGVD 29. The historical daily data between 2003 and 2019 for G-74_H and between 2008 and 2019 for S-72_T are summarized below:

DBHYDRO's Historical Data for L-59 and C-40 Canals				
	G-74_H Historical High Water Elev. (Ft)	G-74_H Historical Low Water Elev. (Ft)	S-72_T Historical High Water Elev. (Ft)	S-72_T Historical Low Water Elev. (Ft)
NGVD 29	20.33	13.93	20.09	9.42
NAVD 88	19.05	12.65	18.81	8.14

SECTION 6 - HYDRAULICS

The S-291 box culvert is an existing structure and the scope of the proposed project does not impact the main water control structure.

SECTION 7 – SUBSURFACE CONDITIONS

The subsurface conditions of the S-291 structure are described in the “Section 00 31 32 Geotechnical Data Report for Herbert Hoover Dike Rehabilitation Structure Replacements S-291 (IP-3) Reconstruction” dated April 10, 2015 and prepared by Geotechnical Branch Engineering Division, Jacksonville District Corps of Engineers. A copy of the report is provided as Appendix B.

SECTION 8 – DAM AND RESERVOIR DESIGN

Not used