

**TURNPIKE SUPPLEMENT
TO THE
FDOT DRAINAGE MANUAL**



**FLORIDA'S TURNPIKE ENTERPRISE
DRAINAGE DESIGN OFFICE**

January 2018

INTRODUCTION

As part of the Turnpike's continuing quality enhancement effort, this ***Supplement to the Drainage Manual*** has been developed to provide consultants, reviewers, and management with a single source of additional Turnpike-specific requirements that modify or add to the requirements included in the ***Florida Department of Transportation (FDOT) Drainage Manual***.

The ***Supplement to the Drainage Manual*** is updated on an annual basis, following the official revision of the ***FDOT Drainage Manual***. Interim updates to the ***Supplement to the Drainage*** will be issued as Addenda to the annual revision.

Should you have any comments or suggestions for this document, please contact the Turnpike Drainage Design Engineer.

The following are changes, additions or deletions to the January 2018 FDOT Drainage Manual, Topic No. 625-040-002, for use on Turnpike projects only.

CHAPTER 1 - INTRODUCTION

1.4 GENERAL

Add the following

The intent of this supplement is to clarify and supplement criteria in the FDOT [Drainage Manual](#), in order to provide additional guidance to designers in providing the Turnpike with safe, economical designs for roadway drainage and least cost maintenance. Some criteria are intended to address construction and maintenance lessons learned from past projects.

CHAPTER 2 – OPEN CHANNEL

2.4.4 Channel Bottom

Replace the second sentence of the 1st paragraph with the following

V-bottom ditches are not allowed on Turnpike-maintained facilities without documented approval from Turnpike Drainage and Maintenance Departments.

CHAPTER 3 – STORM DRAIN HYDROLOGY AND HYDRAULICS

3.9.2 Spread for Temporary Construction

Add the following

The spread resulting from a rainfall intensity of 4 inches per hour shall not encroach onto the adjacent travel lane for design speeds equal to or greater than 55 mph.

3.11 PIPES WITHIN OR ADJACENT TO RETAINED EARTH (WALLED) EMBANKMENT SECTIONS

Add the following sentence to the end of the 2nd paragraph

For Wall Zone Pipes, provide verification of wall zones in design calculations.

3.12.3 Resilient Connectors

Add the following

Resilient connectors are required for all vertical pipes.

CHAPTER 4 – CROSS DRAIN HYDRAULICS

4.8.1.1 Bridges

Add the following paragraphs to the section

ICPR Version 4 is the only acceptable version of *ICPR* for analyzing hydraulic performance of bridges over riverine waterways.

CHAPTER 5 – STORMWATER MANAGEMENT

5.4.1.1 General

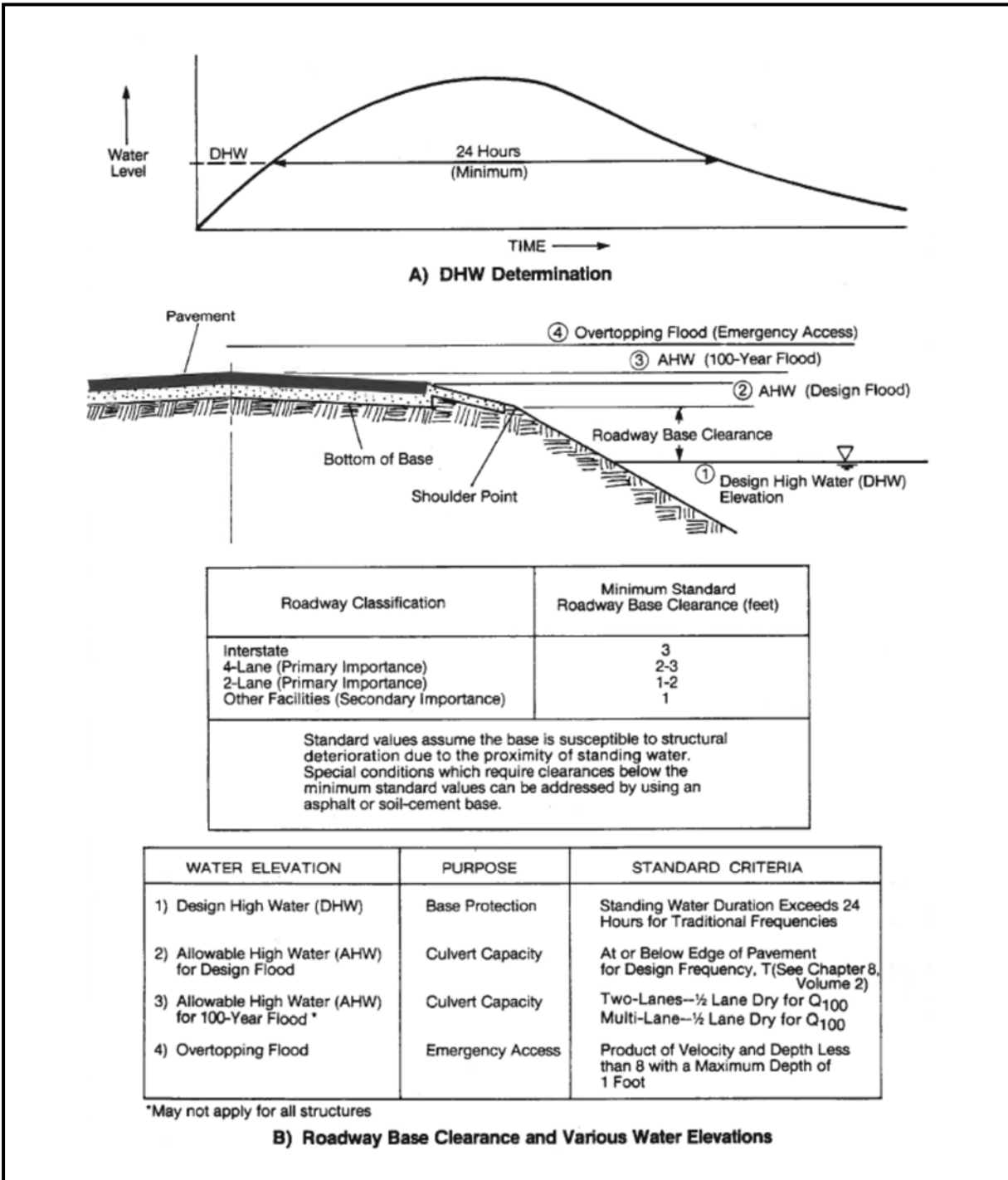
Add the following

For treatment swales, base clearance to the base clearance water elevation (BCWE) shall be considered when establishing roadway grades. The BCWE for roadside treatment swales shall be set at the weir elevation. A lower elevation may be used if all of the following apply:

- In-situ soils are classified as hydrologic soil group A, with high permeability, and
- Geotechnical investigation reveals there is no confining layer to impede drawdown, and

- Construction activities such as heavy equipment, staging, and desilting are limited within the treatment swale to avoid compaction and tracking of silt and muck.

For ponds, BCWE shall be set at the 24-hour design high water elevation (see figure below). In the absence of ponds and treatment swales, the BCWE shall be set at the Seasonal High Water Table elevation.



5.4.4.2 Detention and Retention Ponds

Add the following item

8. Skimmers/Baffles:

All basin outlet structures shall be designed to skim floating debris, oil and grease. Skimmers/baffles shall be UV resistant fiberglass or galvanized steel, rather than aluminum, to minimize theft. Sufficient structural connection and support details shall be shown in the plans.

Figure 5-1

Add the following note

4. *Any borrow excavation occurring within the FDOT right of way shall meet the pond dimensional criteria depicted in Figure 5-1.*

CHAPTER 6 – OPTIONAL CULVERT MATERIALS

6.8 DOCUMENTATION

Add the following to the blue box

The selected materials can also be documented on plan sheets.