

TRANSMITTAL

TO: Mike J. Davis
Tom Pridgen

RE: Addition to Turnpike PPP Handbook

FROM: Kevin G. Stewart 

Type of Update:

New Criteria

Addendum

Lessons Learned

DATE: March 1, 2004

I am sending you Attached
 Under Separate Cover

the following item(s) for review and concurrence:

| COPIES | DATE | No. of Sheets | DESCRIPTION |
|--------|------------|---------------|---|
| 1 | 12/15/2003 | 2 | Elevation Tolerances for Treatment/Attenuation Swales |
| | | | |

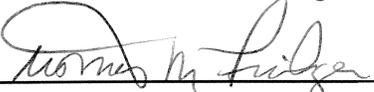
REMARKS:

This issue was discussed at the District Drainage Engineers' Meeting on February 25, 2004. The concern is that the current specification for earthwork tolerance of 0.3 feet +/- can have a drastic effect on providing the required treatment volume when using swales. Many time, treatment is provided within 0.5 to 1.0 foot. If a 0.3 foot tolerance is allowed, then volume could be reduced by as much as 60%. This can cause the project to be in non-compliance with the water management districts.

Attached is what District 1 requires in their roadway plans. I have reviewed the information and it seems reasonable. I recommend we add this to our Handbook.

Concurrence: 
Michael Davis, P.E., Program Manager

3/2/04
Date

Concurrence: 
Thomas Pridgen, P.E., Assistant Turnpike Design Engineer

3/2/04
Date



Florida Department of Transportation

JEB BUSH GOVERNOR

THOMAS F. BARRY, JR. SECRETARY

MEMORANDUM

Date: December 15, 2003
To: District One FDOT and Consultant Project Managers
From: Bernie Masing, District Design Engineer
Copies: Frank Chupka, Edward Gonzalez, Eduardo Ponce, Rhett Harper, Marshall Dougherty, Jr., Eddie Joyner, Jim Wilt, Jose Garcia
Subject: Elevation Tolerances for Treatment and Attenuating Swales and Ditch Blocks

The FDOT Standard Specifications currently show a vertical tolerance of +/- 0.3 feet for general earthwork, including the excavation of ditches. This specification was developed at a time before ditches were used for water quality treatment and/or attenuation and does not meet the more precise requirements dictated by the current stormwater management permits. In order to meet these tolerance requirements, and provide FDOT inspectors a way to enforce them, the following note shall be placed in District I roadway plans that depict a water quality treatment system(s) consisting of ditch blocks or other control devices to retain water in a roadside ditch(s):

id to exhibit 10-1

(7) All bottom profile elevations and cross section elevations for treatment/attenuation swales shall be constructed to within 0.1 feet +/- of the values shown on the plans. Also, ditch-block top elevations and/or any longitudinal berms adjacent to treatment/attenuation swales shall also be constructed within this earthwork tolerance.

id section 1-8

The following labels shall be used to locate and identify treatment swales in the profile view of the plans:

TREATMENT/ATTENUATION WALES

Begin Treatment/Attenuation Swale Sta. 99+99 Left (or Right)

End Treatment/Attenuation Swale Sta. 108+46 Left (or Right)

Construct Ditch Block; Sta. 99+99 Left (or Right); Top Elevation 10.30

Begin Treatment/Attenuation Berm Sta. 99+99 Left (or Right); Top Elevation 10.50

End Treatment/Attenuation Berm Sta. 108+46 Left (or Right); Top Elevation 10.50

For plan sets that do not have a profile view, the stations and elevations above shall be summarized in a table that uses the same naming convention. Suggested formats are shown below:

| Summary of Treatment/Attenuation Swale Locations | | | | |
|--|-----------|-------------|---------|-------|
| Begin Station | Begin DPI | End Station | End DPI | Side |
| 99+99 | 10.30 | 108+46 | 10.30 | Left |
| 103+02 | 10.70 | 106+53 | 10.20 | Right |
| 107+98 | 9.45 | 110+78 | 9.00 | Right |

| Summary of Ditch Blocks | | |
|-------------------------|-------|-----------|
| Station | Side | Top Elev. |
| 99+99 | Left | 10.30 |
| 100+02 | Right | 11.25 |
| 123+56 | Left | 9.70 |

| Summary of Treatment/Attenuation Berm Locations | | | | |
|---|-----------------|-------------|---------------|-------|
| Begin Station | Begin Top Elev. | End Station | End Top Elev. | Side |
| 99+99 | 12.30 | 108+46 | 12.30 | Left |
| 103+02 | 13.00 | 106+53 | 12.50 | Right |

Note that Treatment/Attenuation Berm Locations need only be specified when a special longitudinal berm is to be constructed above natural ground in order to increase storage in the swale. Where the outside boundary of the treatment/attenuation swale is the intersection between the backslope and natural ground, the drainage engineer will ensure that the design high water does not exceed the elevation of the intersection point and no special berm information is necessary in the plans. *See Exhibit 10-1 for a list of General Notes required*

BAM/FWC/do