



*Florida Department of Transportation*

RICK SCOTT  
GOVERNOR

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RACHEL D. CONE  
INTERIM SECRETARY

**MEMORANDUM**

**DATE:** March 29, 2017  
**TO:** Catherine Earp  
**FROM:** Rebecca Frimmel, Specifications Development Specialist  
**SUBJECT:** Proposed Specification: **1201201 Excavation and Embankment – Construction.**

Comments received, regarding the subject modification to the Standard Specifications, are attached. Please review these comments and advise of any further modifications by **April 12, 2017**. You may respond to the comments within the document below. The comments and responses will be posted on the State Specifications Office Web Page and included in the Specifications folder for future reference, should someone question your response. Your assistance will be appreciated.

Please email submittals to [Rebecca.frimmel@dot.state.fl.us](mailto:Rebecca.frimmel@dot.state.fl.us).

Attachment

**EXCAVATION AND EMBANKMENT - CONSTRUCTION.**  
**(REV 02/15/17)**

SUBARTICLE 120-12.1 is deleted and the following is substituted:

**120-12 Construction.**

**120-12.1 Construction Tolerances:** Shape the surface of the earthwork to conform to the lines, grades, and cross-sections shown in the Plans. In final shaping of the surface of earthwork, maintain a tolerance of 0.3 foot above or below the ~~plan~~ cross-section with the following exceptions:

1. Shape the surface of shoulders to within 0.1 foot of the ~~plan~~ cross-section shown in the Plans.
2. Shape the earthwork to match adjacent pavement, curb, sidewalk, structures, etc.
3. Shape the bottom of conveyance ditches so that the ditch impounds no water.
4. When the work does not include construction of base or pavement, shape the entire roadbed (shoulder point to shoulder point) to within 0.1 foot above or below the Plan cross-section.
5. When the work includes permitted linear ~~treatment~~ stormwater management facilities, shape the swales and ditch blocks to within 0.1 feet of the ~~Plans~~ cross-section shown in the Plans.

Ensure that the shoulder lines do not vary horizontally more than 0.3 foot from the true lines shown in the Plans.

1201201 SPECIFICATION  
COMMENTS FROM INTERNAL/INDUSTRY REVIEW

Patricia Moore  
(954)717-2248

Patricia.moore@dot.state.fl.us

Comments: (2-27-17, Industry)

For the language to be added for Note 5, I would offer the following possible edit: 5. When the work includes permitted linear treatment facilities, shape the swales and ditch blocks to within 0.1 feet of the plan cross section or within the tolerance required by the permitting agency, whichever is less. Patrick Kennedy PROJECT MANGER II CARDNO

Response:

The Department prefers to provide direction to the contractor, rather than shift the burden to the Contractor to understand each permitting agency requirements. In order to ensure compliance with required stormwater management volume requirements, the Department has generated this change specifically for linear facilities only.

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Ricky Langley  
(863)860-1478

[Rlanguley@drmp.com](mailto:Rlanguley@drmp.com)

Comments: (2-27-17, Industry)

I have already seen requirements of this type in plans over the last couple of years and find it to be ridiculous. It is apparently being set by designers, and regulatory engineers and officials who have never worked in the field and have no concept of order of accuracy for field conditions, especially for earthwork. I understand the need to find more economical solutions and using swale ditches for treatment and how it looks all nice and neat when calculating volumes for treatment, especially to engineers who sit in the office and never experience work in the field, and if that is what is most important then ignore my note, but in reality getting this kind of accuracy on earthwork is extremely difficult if impossible at times, especially when you are building miles of it. I understand new technologies can cut grades fairly close, but putting sod into the mix and how it is cut and laid can vary the final grade fairly significantly. You will have surveyors who say close enough and sign and seal what's needed, but may not be the truth of what's in place. The whole requirement to that accuracy on earthwork is ridiculous in my opinion. The 0.1' requirement for pavement or bases, yes, as these are hard surfaces with great control in the machinery. I once had a water management official ask me to recalculate the volume of a pond because the weir elevation was less than 0.1' too low. Common sense in engineering has left us which is sad. I usually don't comment because things usually make sense, but this is something that to me does not pass the test of common sense and needs to be mentioned. Thank you for the opportunity to comment!

Response:

The Department feels this is a reasonable request and is only applicable for permitted linear facilities. Providing adequate volume and meeting permit requirements is the Department's responsibility and we are revising design specifications accordingly. Thank you for your comment.

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Tom Segers  
(813) 965-8007  
tsegers@hwolchner.com

Comments: (2-27-17, Industry)

For No. 5, we may want to specify vertically for the 0.1' tolerance. Perhaps state that the bottom elevations must average to the plan grades to ensure the treatment volume is obtained between the bottom elevation and the top of treatment elevation. I suppose that over-excavation and backfilling and the type of backfill and the density are covered in other sections or should this be mentioned. Or the other specifications should be revised to handle the treatment swales to ensure recovery.

Response:

Vertically is implied with this change as with the other construction tolerances listed in this section. Over-excavation and backfill is a separate issue that the Department is currently addressing. Thank you for your comment.

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Brian J Gibbs  
(954) 351-9336  
Brian.g@russellengineering.com

Comments: (2-28-17, Industry)

As stated in this "request for language change", the current tolerance is +/- 0.3 in either direction so statistically; the chance of per plan treatment swales providing more volume are equal to the chance of per plan treatment swales providing less volume. That being fact, in my opinion the "request for language change" is without merit and should result in no change to the current specification as written.

Response:

In order to ensure compliance with permitting agency regulations for linear permitted facilities in particular, the Department does not find it practical to rely on a statistical average. Thank you for your comment.

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Foster Bachschmidt  
(352) 302-3944  
[fosterb@dabcon.com](mailto:fosterb@dabcon.com)

Comments: (2-28-17, Industry)

While I understand that this specification intends to incorporate permit conditions imposed upon the Department by other agencies or entities, it is important to recognize that linear treatment facilities are not always clearly defined in the Contract Documents as a Contractor only receives the permit letters and not the supporting plans and calculations. Unless these linear treatment facilities are clearly shown on the drawings, it can be difficult or impossible for a Contractor to discern them from a normal or special ditch / swale. It is imperative the the PPM be updated to ensure these facilities are clearly denoted to avoid confusion when bidding and building these projects.

Response:

Initial screening of construction plans indicates that linear treatment facilities are designated on the plans. Additional measures have been passed to the Districts to ensure the Contractor is aware of the conditions. Thank you for your comment.

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Tim Noles  
(305) 794-3728  
[tnoles@hardesty-hanover.com](mailto:tnoles@hardesty-hanover.com)

Comments: (2-28-17, Industry)  
For consistency capitalize "Plan(s) throughout.

Response:

Thank you for your comment. This has been corrected to be more consistent.

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Patricia Moore  
(954) 717-2248  
[Patricia.moore@dot.state.fl.us](mailto:Patricia.moore@dot.state.fl.us)

Comments: (3-13-17, Industry)  
TCOPs staff have reviewed the attached Industry Review Document and have the following comments to provide. For the tolerance of permitted treatment facilities, there is a construction tolerance related to the elevation +/- 0.1 feet. I recommend adding a tolerance for the side slope of the treatment facility as well. I know that typically and ERP required a 4:1 design slope for dry treatment areas. They allow a tolerance in the slope so that the states constructed side slope no steeper that 3.5:1. Chad O. Rucks, P.E. FDOT, D4 – Treasure Coast Operations Desk: (772) 429-4938 Fax: (772) 467-3165 [chad.rucks@dot.state.fl.us](mailto:chad.rucks@dot.state.fl.us)

Response:

The 0.1ft construction tolerance applies to the entire permitted linear treatment facility. Thank you for your comment.

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Chris Schwarm  
(305) 525-1853  
[Chris.schwarm@redlandscompany.com](mailto:Chris.schwarm@redlandscompany.com)

Comments: (3-24-17, Industry)  
The recommended change is not feasible nor practical. You cannot shape and grade soil to within .1" If the concern is losing volume due to allowable tolerances then maybe the design specifications need to revised in order to accommodate this potential loss.

Response:

The Department feels this is a reasonable request and is only applicable for permitted linear facilities. Providing adequate volume and meeting permit requirements is the Department's concern and we are revising design specifications accordingly. Thank you for your comment.

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No Name

Comments: (3-24-17, Industry)

Suggest revising language to cover "permitted linear stormwater management facilities" since some ditches are providing both treatment and attenuation functions.

Response:

The Department is in agreement with this suggestion and has implemented this change. Thank you for your comment.

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