

1040600 RESPONSE TO COMMENTS FROM INDUSTRY REVIEW

Missy Hollis

Comments:

104-9 (7) should be changed to length, in feet, of synthetic bales.

RESPONSE: Yes in order to match basis of payment. Change made to spec.

Ed Kestory

The following comments are from our Estimates Section regarding the Performance Turf Spec Revision.

1. It appears that the mowing pay item will become obsolete (pay item 104-4). If the mowing pay item is obsolete and combined with turf pay items, the cost history for pricing purposes of future projects will become invalid. The price for sod, which now will include fertilizer and water, will become indistinguishable to the mowing price by the size of the project and the difference in units, sodding is in square yards and mowing is in acres.

RESPONSE: Understood.

Allen Schrupf

A. In Subarticle 104-6.4.2 Temporary Turf: Should the first added sentence read as follows:

For areas _____ defined as sod, constructing temporary turf by seeding is not an option for temporary erosion control under this section.

RESPONSE: Correct, should read, “For areas defined as sod, constructing....” Spec change made.

B. Subarticle 104-6.4.11 Artificial Coverings has only one subheading associated with it. Normally throughout the Standard Specifications book, if only one subheading is needed, then the text is not separated from the heading above it. Therefore, it would seem that the format of this passage should be changed to do that.

RESPONSE: I'll leave that to the specs office for formatting.

Janna S. Glenn

1. My immediate feeling after reading the spec was that more emphasis is placed on controlling erosion (with silt fences, bales, etc), then on preventing erosion in the first place (by protecting soil surface). For example, "Artificial Coverings" (104-6.4.11, including soil erosion mats) are placed at the end of the spec and are addressed briefly, compared to sandbagging, bales, and silt fences. In addition, "Artificial Coverings" does not include BFM or any other hydraulically-applied erosion product, refers to installation of mats "in accordance with 571-3, which is not a spec I can think of (unless something brand new), and requires testing by Utah State University or Texas Transportation Institute (sounds like it was copied from another state's DOT spec).

I would suggest moving the soil-stabilizing section to the front, adding more options for soil stabilization, and requiring tests by an independent laboratory in Florida.

RESPONSE: Will delete spec reference 571-3. Will leave the order of the options since note takes precedence over the others.

2. There is no mention of PAM, although it is a #1 ingredient in many commercial soil stabilization products. Although still under review, some minimum standards should be set - no cationic PAM, less than 0.05% of acrylamide monomer, maximum application rate, and prevention of spills/pavement overspray.

RESPONSE: This spec is not ready for PAM. When other planned changes come on-line, there will be specification language to address PAM.

3. Limitation of exposure (104-6.1) states that the maximum area to be exposed is 750,000 sf, and that this requirement can be applied separately clearing/excavation. Does that mean that up to 1,500,000 sf of earth can be exposed on a project without a permanent erosion control measures in place? Since I am not familiar with roadway construction, I would not make any suggestions, just comment on the fact that 35 acres can be disturbed at once. Maybe the amount can depend on the extent of the project (brand new roadway construction - understandably involved, shoulder reworking - greatly reduced allowable disturbance).

Engineer is allowed to increase/decrease this amount, but what is this decision based on?

RESPONSE: It does mean that there could be cumulative total of 1.5M sf of exposed erodible earth at any given time. Decision to increase/decrease should be based on performance by the contractor.

4. Seems that there are too many pay items that can be grouped together, but I leave that to pay item specialists.

RESPONSE: Are working with pay items in future revisions. Will leave as currently proposed for time being.

Jo Moore

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104-6 Construction Requirements.

104-6.1 Limitation of Exposure of Erodible Earth: The Engineer may limit the surface areas of unprotected erodible earth exposed by the construction operation and may direct the Contractor to provide erosion or pollution control measures to prevent contamination of any river, stream, lake, tidal waters, reservoir, canal, or other water impoundments or to prevent detrimental effects on property outside the project right-of-way or damage to the project.

Limit

the area in which excavation and filling operations are being performed so that it does not exceed

the capacity to keep the finish grading, ~~grassing~~ *turf*, sodding, and other such permanent erosion

control measures current in accordance with the accepted schedule.

Do not allow the surface area of erodible earth that clearing and grubbing operations or excavation and filling operations expose to exceed 750,000 ft² without specific prior approval by the Engineer. This limitation applies separately to clearing and grubbing operations and excavation and filling operations.

The Engineer may increase or decrease the amount of surface area the Contractor may expose at any one time. *[Jo Moore, RCI, If area available is modified in such a manner that it negatively impacts the Contractor's productivity, then that issue needs to be addressed.]*

RESPONSE: Limitations of the exposed areas would most likely be based on contractor performance. If the contractor is able to satisfactorily maintain sediment and erosion controls, then consideration should be given to allowing a greater area. If contractor unable to maintain these controls, should be restricted to a lesser area.

104-6.2 Incorporation of Erosion Control Features: Incorporate permanent erosion control features into the project at the earliest practical time. Use approved temporary erosion control features to correct conditions that develop during construction which were not foreseen at the time of design, to control erosion prior to the time it is practical to construct

permanent control features, or to provide immediate temporary control of erosion that develops during normal construction operations, which are not associated with permanent erosion control features

[Jo Moore, RCI: Where does it allow for compensation for the contractor for these additional measures?

There also needs to be compensation when the selected measures are not working as planned, through no fault of the contractor. ie fine clay particles go through silt fence and can be washed into wetlands during a storm causing a WQ violation. Additional measures may need to be installed where wetlands may be impacted during rain events (even in areas that are normally dry)]

Response: Compensation should be through existing pay items in the contract. If there are not items in the contract and it is determined that additional work for sediment and erosion control is needed, section 104-10 allows for this to be paid as unforeseeable work.

104-6.4 Details for Temporary Erosion Control Features:

104-6.4.1 General: Use temporary erosion and water pollution control features that consist of, but are not limited to, temporary grassing, temporary sodding, temporary mulching *turf*, sandbagging, slope drains, sediment basins, sediment checks, berms, baled hay or straw *synthetic bales*, floating turbidity barrier, staked turbidity barrier and silt fence. For design details for some of these items, refer to the *Erosion Control and Water Quality* Section of the Design Standards. [Jo Moore, RCI: FDEP does not consider floating turbidity barrier to be an erosion control measure as it does not prevent or control erosion. It only minimizes or mitigates transport of sediment AFTER it is in the water which means after the permit has been violated. (We have been fined for this!) More attention needs to be paid to the type of turbidity barrier specified as well. In wind and wave conditions, type II needs to be spec'd - we have been "stuck" repairing many miles of type I when it wasn't adequately spec'd by the engineer.]

Response: This list is the temporary erosion and water pollution control features, so the use of floating turbidity barriers for water pollution control is acceptable. The contract would most likely need a mixing zone for sediment between the shore and the floating barrier.

104-6.4.2 Temporary Grassing *Turf*: The Engineer may designate certain areas of grassing *turf or sod* constructed in accordance with Section 570 as temporary erosion control features. The Engineer may direct the Contractor to omit permanent type grass seed from grassing and the reduce the specified rate of spread for fertilizer used in conjunction with grassing operations when such work is designated as a temporary erosion control feature. *For areas not defined as sod, constructing temporary turf by seeding only is not an option for temporary erosion control under this Section. The Engineer may waive the turf establishment requirements of Section 570 for permanent performance turf when used as temporary turf under this Section. areas with temporary turf that will not be a part of the permanent construction.*

[Jo Moore, RCI: Are you saying that seeding only (without mulch) won't be acceptable? What about "temporary turf establishment must include mulch application"?)

Response: Language in spec should have stated (and is revised to say), "For areas defined as sod, constructing temporary turf by seeding only is not an option for temporary erosion control under this Section."

104-6.4.4 Temporary Mulching: ~~Furnish and apply a 2 to 4 inch thick blanket of straw or hay mulch to designated areas, then mix or force the mulch into the top 2 inches of the soil in order to temporarily control erosion. Use only undecayed straw or hay which can readily~~

[Jo Moore, RCI: It looks like temporary mulch was completely removed. Mulch is an approved method for stabilization detailed in the FDEP Manual - why wouldn't it be acceptable to FDOT? If there are weed seed concerns, then stipulate only certain kinds of materials such as BFM. In addition, we teach use of ground clearing debris as an acceptable method in the FDEP manual (as long as there are no invasives in the mix)]

Response: Section 570 allows for sod, seeding, hydroseeding, and BFM. Any of these would be allowed for under the statements in 104-6.4.2 Temporary Turf.

104-6.4.108.2 Materials and Installation: Use a geotextile fabric made After installation of sediment control devices, repair portions of any devices damaged at no expense to the Department. [Jo Moore, RCI: Sometimes damage is unforeseen (beyond normal wear and tear) due to wild animals (we experienced a great deal of this out on SR 441 from the wild pigs).

Response: Subarticle 7-14 requires the contractor to be responsible for the work until final acceptance by the Department. The Department does have discretion in this specification so each case should be determined by the engineer on an individual basis. If determined that additional work for sediment and erosion control is needed, section 104-10 allows for this to be paid as unforeseeable work.

What about those damaged by unforeseen weather conditions. Old specs provided a 12 month replacement schedule for silt fence. That is too long for most silt fence to last in Florida sun, but it acknowledged that it needs to be replaced on some sort of schedule.]

Response: As stated above, subarticle 7-14 allows some discretion for certain events.

104-6.4.108.3 Inspection and Maintenance: Inspect all temporary silt fences immediately after each rainfall [Jo Moore, RCI: Each rainfall - or rainfall of a certain depth. This exceeds the minimum in the FDEP permit. Immediately could be interpreted very

harshly as could "each" rainfall. Small showers not leading to run-off wouldn't require inspection ... Are you going to ask for a daily record keeping task as well??? That's quite a lot when the contractor is already responsible for compliance with the NPDES permit by virtue of filing the NOI.]

RESPONSE: Expectation is that permits requirements will be followed and that repairs/replacements made as necessary. Intent is for contractor to be actively ensuring that installed devices are performing as intended and complying with permits.

and at least daily during prolonged rainfall. Immediately [Jo Moore, RCI: The NPDES permit allows for 7 days - of course if there is a violation in the meantime due to lack of repair, the contractor is still responsible. Your inspection form also now allows for 7 days - in conformity with the NPDES permit.]

RESPONSE: Requirement would be for inspection weekly or within 24 hours of every ½ inch rainfall event.

correct any deficiencies. In addition, make a daily [Jo Moore, RCI: If these areas are not "reformed" daily, this, too, is an added and unnecessary burden.]

RESPONSE: Again, expectation is that contractor is in compliance with the permits and attentive to the sediment and erosion control features installed.

review of the location of silt fences in areas where construction activities have changed the natural contour and drainage runoff to ensure that the silt fences are properly located for effectiveness. Where deficiencies exist, install additional silt fences as directed by the Engineer.

Remove sediment deposits when the deposit reaches approximately 1/2 of the volume capacity of the temporary silt fence or as directed by the Engineer. Dress any sediment deposits remaining in place after the temporary silt fence is no longer required to conform with the finished grade, and prepare and seed [Jo Moore, RCI: Seed & Mulch? Seed alone will not stand much of a chance to provide adequate stabilization. Sod may provide a more economical method in these small areas. These may need to be hand seeded and mulched otherwise - especially if silt fence is left until turf grows in ...]

RESPONSE: Section 104 refers contractor to section 570 which allows for use of sod, seeding, hydroseeding, and BFM.

them in accordance with Section 570.

104-6.4.119 Floating Turbidity Barriers and Staked Turbidity Barriers:

Install, maintain, and remove turbidity barriers

Operate turbidity barriers in such a manner to avoid or minimize the degradation of the water quality of the surrounding waters. [Jo Moore, RCI: And minimize damage to the area of concern (barrier that drags the bottom will damage seagrass beds, etc).

RESPONSE: Will add language to state, surrounding waters and minimize damage to areas where floating barrier installed.”

104-6.5 Removal of Temporary Erosion Control Features: In general, remove or incorporate into the soil any temporary erosion control features existing at the time of construction of the permanent erosion control features in an area of the project in such a manner that no detrimental effect will result. The Engineer may direct that temporary features be left in place. [Jo Moore, RCI: Why wouldn't polyacrylimide be allowed as a temporary stabilization product? It works wonderfully and would easily help contractors control dust AND meet the 7 day stabilization requirement under the NPDES permit. These specs don't really address the 7 day stabilization requirement. Is the contractor expected to "include that incidental cost" in his pay items?]

RESPONSE: PAM is being considered for use on FDOT projects and specs being developed to address its use. NPDES permit requirements would need to be followed and bid the stabilization requirement as part of the pay items.

104-9 Method of Measurement.

.....(7) the number of synthetic bales; [Jo Moore, RCI: in Section 104-10, bales are shown to be paid by the foot rather than per each stated here.]

RESPONSE: Spec has been changed to show payment as length, in feet.

Item No. 104- 7- Sediment Basins - each. [Jo Moore, RCI: These can be small or large - and may include pipe and riprap. Should they be paid / cy?]

RESPONSE: Sediment basins should be identified in the plans so payment will be per each.

Item No. 104- 10- Synthetic Bales – per foot [Jo Moore, RCI: Section 104-9 says per each]

Response: Specs have been reconciled to both show payment by the linear foot.

Item No. 104- 11- Floating Turbidity Barrier - per foot.

Item No. 104- 12- Staked Turbidity Barrier - per foot.

Item No. 104- 13- Staked Silt Fence - per foot.

Item No. 104- 16- Rock Bags - each.

Item No. 104- 75- Relocate Floating Turbidity Barrier - per foot. [Jo Moore, RCI: Why have a

separate pay item for relocated when spec 104-9 says it will be paid for in a new location whether or not the material is new or used. Synthetic bales don't have a "relocated" pay item code, even though they can be reused.]

RESPONSE: Correct. There should only be the one pay item. Spec corrected. Also, have added synthetic bales to the listed items in 104-9 that allow for reuse.

Very good comments Jo. Thanks for the review.