1040606, Signed and Sealed As-Built Drawings
Comments from Industry Review

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Patrick M. Muench, P.E.
District 5 Drainage Design and Environmental
Permitting Engineer
386-943-5434

Comment:
In the spec. it mentions “Engineer”. Is that the “Engineer of Record” and if so, shouldn’t it be specified or at least specify which engineer it is referring to?

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Jim Mills
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Comment:

Change "registered" to "licensed" to be consistent with terms used in by the Florida Board of Professional Engineers and Florida Statutes.

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Marshall Douberley
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Comment:
Suggested that the following be added to this specification. 104-6.7 Compensation: All costs involved with providing as-built plans are incidental to the other items of work associated with installed and constructed drainage control systems. Payment for the work associated with installed and constructed drainage control systems will be made at 85% of the unit price bid for installed and constructed drainage control systems. The remaining 15% of the unit price will be made after submittal and acceptance of the As-Built Plans. Final payment is contingent upon acceptance of the as-built drawings by the permitting agency.

Do the as-builts have to be signed and sealed by the contractor even if there are no changes from the design plans? Is the intent for the as-builts to be signed and sealed twice? Once by the EOR and once by the contractor? Would a set of as-builts signed and sealed by the EOR and submitted by the contractor be acceptable if there were no changes or deviations?

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Ed Mackiewicz,
Sr. Project Manager
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407-656-9255

Comments:
The memorandum states the purpose is to submit as built drawings of “installed and constructed drainage control structures” – however, this limitation i.e. only for “installed and constructed drainage structures”, is not mentioned in the language of the specification. In fact, read independently, the spec could be interpreted that the as built drawings need to reflect the entire project. Another ambiguity arises when the spec is viewed as part of section 104 which only speaks to erosion control, not drainage. Interpreting it in this manner would require as built drawings only for those features covered in section 104.

I think the CEI is more equipped to develop as built drawings as they have a licensed engineer in the form of their Senior Project Engineer. As contractors, most would have to hire this out to an outside firm as they may not have a licensed engineer on staff. In such a case, that outside engineer will need to have a licensed surveyor establish the station, offset and elevation of structures, pipes, outfalls, etc. because he (the licensed engineer) will likely not use the contractors information for fear of inaccuracies. This creates a time issue as this will take some time and will usually be done at the end of the job. Will final acceptance be delayed until the drawings are received? What does it do to contract time?

Next, the spec does not speak to any analysis or conclusion as to functionality or effectiveness of the as built condition. Will this be done? Who would do it? The EOR, the contractor’s engineer, the permitting agency? When will this determination be made? Again, reading the spec literally, only an “as built drawing” is required, not any analysis as to functionality of the as built condition. Is that the intent?

The way it was done when I was a CEI Senior Project Engineer, and is still the current procedure to the best of my knowledge, is that the SPE would merely sign and seal a form which states the project was constructed in reasonable compliance with the plans and all authorized revisions and then those revisions were attached. Don’t understand why it has to change.

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JC Miseroy
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Comment:
This is added responsibility for the contractor and should be unnecessary if the CEI does their work correctly.

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B.A. Masing, P.E.
District Design Engineer
(863) 519-2543

Comment:

I suggest the proposed subject specification be further expanded as follows:

ARTICLE 104-6 (of the Supplemental Specifications) is expanded by the following:
104-6.6 Signed and Sealed As-Built Drawings: *Prior to final acceptance of the project, submit to the Engineer two copies of as-built drawings prepared according to the permitting agency's requirements. The drawings for the surface water management system must be signed and sealed by an engineer registered in the State of Florida who has been involved in the design of the project or has provided direct oversight. Final payment is contingent upon acceptance of the as-built drawings by the permitting agency.*

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Karen Akers

Comments:
I agree the contractor should be retaining the engineer to provide as-builts for the permitting agency, since they are developing the original plan, below are 4 comments.

1. The CPAM direction conflicts with this and may cause confusion for the CEI. CPAM 8.2.8 These reference procedure 650-040-002 and 003. These do require contractor compliance with spec section 104. However they do not specify the contractor's engineer must sign and seal final as-builts. *** And does this change who signs the forms submitted to the permitting agency?
2. Additional language should be added to the spec to better match the language used for shop drawings 5-1.4.1 or 125-3.1.4 Working Drawings (Cofferdam), clearly stating the contractor is retaining the engineer. For example: "retain a professional engineer registered in the State of Florida, to …"
3. Is "surface water management system" defined anywhere? I did not see any reference to the phrase when doing a search of the spec book.
4. If the project is final accepted, with the exception of permit agency approval, we may not be able to release contingency funds in a timely manner (because the permitting agency may take longer than 30 days to approve).

******* CPAM 8.2.8
(3) During Construction, the Project Administrator will survey the structure and treatment area elevations of storm water treatment facilities and include such information on the final as-built plans.
(4) The Project Administrator will notify the applicable regulatory agencies, with a reference to the applicable permit(s) of the completion of permitted activities immediately after the permitted activity is completed or as directed by the permit. The Resident Engineer/Consultant Resident Engineer will sign and seal the WMD/DEP completion report when required by the permit. The office sending the notification will send a copy of the notification letter(s) to the District Permit Coordinator.

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Otto R. Carr
Survey Manager
Ranger Construction -South
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Comment:

Please clarify for me ARTICLE 104-6.6 Signed and Sealed As-built Drawings (REV 6-15-09). Is this saying DOT will no longer accept as-built drawings from me a Professional Surveyor and Mapper, Registered by the state of Florida. LS-5892. And must be by an engineer?

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Joy L. Christiano, P.E.
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Comments:

Generally we have had a surveyor sign and seal the elevations shot in the field. I would recommend changing the spec to specify the signing and sealing of these elevations shall be by a registered land surveyor. They can have an Engineer can sign and seal the remaining data. Typically we have been submitting as-built drawings with both a surveyor's seal and an engineer's seal (depending on the sheet and what is on it).

The second concern relates to the verbiage stating final payment is contingent upon acceptance of the as-built drawings by the permitting agency. This could be months after the project is final accepted and each agency is different. Is this referencing release of the final estimate? Are the DCEs statewide willing to let their numbers related to the amount of time until payoff drop due to this issue? This could take four months, or longer.

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Jeff Caster, FASLA
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Comment:

104-6.6 Signed and Sealed As-Built Drawings: *Prior to final acceptance of the project, submit to the Engineer two copies of as-built drawings prepared according to the permitting agency's requirements. The drawings for the surface water management system must be signed and sealed by an engineer registered in the State of Florida. Final payment is contingent upon acceptance of the as-built drawings by the permitting agency.*

Since landscape architects licensed in Florida prepare, sign, and seal surface water management system plans on FDOT projects, should the proposed specification be edited so that as-built drawings must be signed and sealed by the *appropriate licensed professional* registered in the State of Florida?

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Chris Sweitzer
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Comment:

Should we ask for three copies so we can keep one for our records? For example, the St. Johns River Water Management District rule 40C-4.381(j) second sentence requires "When the completed system differs substantially from the permitted plans, any substantial deviations shall be noted and explained and two copies of as-built drawings submitted to the District."

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Christopher Wood
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Comments:
Does this meet the requirements of all D-2 permit agencies ? Who gets the as-built copies ? Why not make the contractor submit signed and sealed plans for all of his work?

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Michael Sandow
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ARTICLE 104-6 (of the Supplemental Specifications) is expanded by the following:

104-6.6 Signed and Sealed As-built Drawings for Projects Under Authority of a Water Management District Permit: *Prior to final acceptance of the project submit to the Engineer three copies of as-built drawings and a certified survey from a Professional Land Surveyor verifying the as-built conditions. The certified survey must also satisfy all of the requirements and special conditions listed in the Water Management District's permit and any applicable local permit. The as-built drawings, certified survey, and as-built certification(s) must be signed and sealed by a Professional Engineer registered in the State of Florida. Final payment is contingent upon acceptance of the as-built drawings by the permitting agency(ies) and the Department.*

104-6.7 Signed and Sealed As-built Drawings for Projects Under Authority of a US Army Corps of Engineers Permit: *Prior to final acceptance of the project submit to the Engineer three copies of as-built drawings and a certified survey from a Professional Land Surveyor verifying the as-built conditions. The certified survey must satisfy all of the requirements and special conditions listed in the US Army Corps of Engineer's permit. The as-built drawings, certified survey, and as-built certification must be signed and sealed by a Professional Engineer registered in the State of Florida. Final payment is contingent upon acceptance of the as-built drawings by the permitting agency and the Department.*

104-6.8 Signed and Sealed As-built Drawings for Projects Under Authority of a US Coast Guard Permit: *Prior to final acceptance of the project submit to the Engineer three copies of as-built drawings and a certified survey from a Professional Land Surveyor verifying the as-built conditions. The certified survey must satisfy all of the requirements and special conditions listed in the US Coast Guard's permit and owner's certification. The as-built drawings and owner's certification must be signed and sealed by a Professional Engineer registered in the State of Florida. Final payment is contingent upon acceptance of the as-built drawings by the permitting agency and the Department.*

Comments:

Developing an effective as-built specification that can be used in every case (regardless of the agency involved) greatly simplifies the Contractor's bidding requirements. At the same time, the new specification can put more of the burden and responsibility for certifying accurate and reliable as-builts on the Contractor where it belongs. The Contractor's certification that the project is constructed in accordance with the Contract Plans will be supported and confirmed by the certified survey. I believe this will also lead to our getting a better product.

I added the reference to "any applicable local permit" in the first paragraph because some of the Districts have agreed to satisfy additional permit conditions requested by the local agencies.

I included the as-built permit requirements for the US Army Corps and the US Coast Guard. The requirements for these agencies are sometimes misunderstood.

The US Army Corps and Southwest Florida Water Management District require two sets of as-built drawings, but we still need a third set to go to the Department. Rather than having different requirements for different agencies, we can maintain continuity by asking all agencies to submit three as-built drawings.

The Department, as the permittee, has some liability regarding the accuracy of the as-built drawings. This can be reduced by having the Contractor provide a certified survey of the actual as-built conditions. It also allows the CEI staff to effectively determine if the requirements of the contract plans have been met without having to do a tremendous amount of additional surveying. When the project is final accepted, Construction will be able to turn over to its maintenance partners a stormwater management system with elevations and dimensions certified and verified. Also, having the same survey and as-built requirements for all agencies ensures better continuity within the Department.

If we are asking the Contractor's P.E. to sign and seal the as-built drawings, it makes sense for him to sign and seal the as-built certifications as well. This will also put more of the liability for the as-built conditions on the Contractor rather than the Department.

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Jennifer Williams
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Comments:

We have concerns with requiring the Contractor to sign and seal something that, according to the Department, was designed in compliance with permits and constructed in accordance with plans and/or design revisions. It seems to be more of an accountability and liability issue whereas the contractor is going to be held responsible for the drainage control system meeting the permit requirements when early involvement by the permitting agency could potentially eliminate this problem.

The permitting agency needs to be involved on all revisions, approve the revisions meeting their requirements, and ensure their acceptance of these revisions as being in compliance as they occur, not after installation.

The problem statement reads: “If the permitting agency finds an issue with drainage system, the contractor can fix the problem before they have demobilized and the Department can have a resolution before final acceptance of the job.”
The Department may not have a problem; if this is the case, there is no resolution until the permit agency finds an issue.
If the intentions are that the permitting agency exclude themselves from all facets of the project until just before final acceptance, then take issue with some aspect and require a FIX, then we strongly disagree with the requirement of the contractor signing and sealing as built plans and encourage involvement by the permitting agency up front.
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