

DISTRICT THREE DESIGN NEWSLETTER



Volume 13, Issue 1

January—March, 2008

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From the Editor's Desk

Scott Golden, P.E., District Design Engineer

What is a Quality Design?

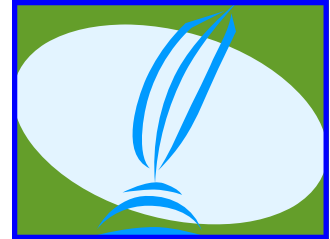
I have asked this question or similar questions to various groups over the last several years. I believe that there are several components contained in a “quality design.” First, there must be a clearly defined goal. In our business, we call this a “scope of services.” Second, the designer must have a well written and **project specific** quality control plan which must be followed throughout the life of the project. Third, the designer should have a realistic schedule with key milestones. With these prerequisites, the designer can begin the production of a quality set of plans.

I have heard the statement from numerous engineers, managers and others that “there is no such thing as a perfect set of plans.” That may be true. However, we should strive for perfection and settle for excellence. The road to excellence has many obstacles. One of our greatest tools to overcome these “obstacles” is our ability to communicate. As a consultant working for the Department, maintaining your communication with the FDOT’s project manager is paramount. The designer should be keeping the PM informed of critical and sensitive issues; issues involving other FDOT Departments (Right of Way, Materials, Environmental Management, etc.); issues that effect budget, schedule, access, public involvement, etc.

Let us assume for a moment that you have just submitted final plans (a perfect set of plans and specifications) to the Department for letting. Is your job as a designer over? Obviously not! The project is not finished until the “rubber meets the road” and the project is finally accepted by Construction. The Engineer of Record (EOR) must be available to Construction. The designer should be proactive, not reactive. Our job as EOR/designer does not end with the preconstruction conference. Once again, communication is the key. I expect our EOR’s to be available and to communicate with Construction. I want us to be proactive. Pick up the phone once a week and call the CE&I staff, more often if necessary. Just because you have a perfect set of plans does not mean that Construction does not have any questions.

With all this, what is a quality design? In summary, it is not just the end product (plans and specifications). It is also the process required to achieve the product. The support we offer to Construction and the contractors. The FDOT is making a true effort to focus on our customers, both internal and external. The only way we can meet these goals is for all associated with the process to be “on board.”

Thank you for your efforts and commitment to the Florida Department of Transportation and District 3. Have a great spring.



District III Quarterly Design Newsletter

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Consultant Selection

Bobby Ellis, P.E., District Consultant Project Management Engineer

It is that time of year again, the 08/09 Work Program should be officially rolled out any day now. Several consultants have come to see us and are always welcome. With the exception of handling a few contracts in the past, this will be my first time administering the entire program as far as getting scopes developed, choosing and balancing the review committees, and determining the selection method for each contract. Since we have a lot of people in new roles with new ideas in District 3 Design, we have decided to try different selection methods than we have in the past. Interviews and technical proposals will still be used, but we wanted to try oral presentations and the plain brown wrapper technical proposal as selection methods as well.

Oral presentations are not a new concept, but they haven't been used much in this District as a sole method of selection. The Department does its best to scope the project and think of everything that may need to be addressed, but a different set of eyes and a different perspective could address unique situations that either expand on how the firm intends on fulfilling the requirements of the scope or identify more innovative ways doing things. Also, with the demand for better communication on our projects to various groups of people on the rise, we feel that this selection method will help us identify a firm that is the most familiar with the project, has innovative ideas, and can best communicate those aspects to other people.

The Plain Brown Wrapper Technical Proposal is a new concept that basically is a "no frills" technical proposal. The proposal will be limited to ten pages and with no pictures allowed (except on the cover). I am a firm believer in solid engineering and that it should not be trumped by a "pretty" presentation. Eliminating the pictures and having a page limit should make the proposal easier to put together for the consultant, give the Department the basic information needed to make a good selection, and should cut down on review time.

The goal of the Department is to select the most competent and prepared firm for each project. We are making a commitment to select firms based on who had the best grasp of the engineering concepts of the project, and who we feel will best be able to communicate and work with the Department. Simply going through the motions thinking "well, it's my turn to win one" will not get you there in these tough times. Selecting the most prepared firm will eliminate problems for all of us in the long run. I encourage each firm to field review each project and to focus on quality, no matter which selection method is used. Good luck and we look forward to hearing from each of you.

Design Spotlight—Jeremy Cushing P.E

Scott Golden, P.E., District Design Engineer



I am pleased to announce that Mr. Jeremy Cushing has accepted the position of the District Utility/ Specifications Engineer for District Three.

Jeremy has been working with the Department as a Project Manager since November 2006. Jeremy graduated from the University of Florida in August of 2000 with a BS degree in Civil Engineering. After graduation, Jeremy went to work for a consulting engineering firm where he worked for 5 years performing CEI duties as an inspector, senior inspector and contract support specialist. He then went to work for a different consulting firm in September 2005 as a Project Manager performing site development design.

Jeremy enjoys hunting, fishing, playing golf, and spending time with his wife and his two children.

We are confident that Jeremy will do an outstanding job as the District Utility/Specifications engineer.

Top Ten Quality Control Comments Jan-Mar 2008

1. Number of Days for the Secondary Unit of Measure for Pay Item 0102-1 should match the approved days by .D.O.T. Construction.
2. A 10% Contingency needs to be added for Weather Days to the Each Day Pay Items.
3. Clear Zone Notes should be included on the Typical Section Sheets, especially, where the Contractor is required to perform work determined by the Clear Zone.
4. On the Key Sheet, update the dates in the Governing Standards and Specifications Note and the Applicable Design Standards Modifications for the applicable Letting Date.
5. Do not over use synthetic bales; suggest the use of silt fence in situations where it would perform as well as bales.
6. Structure numbers and pipe lengths shown on plan views should match those listed in summary of drainage structures.
7. Limits of milling and resurfacing should be shown on side streets.
8. Plans should not show any activity outside of right of way (this includes Landscape Plans).
9. Buried utilities should be shown in the cross sections.
10. Side street's deflection angles should be shown in the plan view portion of the plans.

This country will not be a good place for any of us to live in unless we make it a good place for all of us to live in. ~Theodore Roosevelt

Supplemental Agreement Report –September 2007-Jan. 2008

Scott Golden, P.E., District Design Engineer

This is the Supplemental Agreement Report for the months of September 2007 through January 2008. The four (4) categories of supplemental agreements that are included in this report are codes 112, 113, 115, and 503. This report is included in the Quarterly Design Newsletter as a tool to inform designers of errors and omissions that can lead to Supplemental Agreements and unnecessary costs to the public. Below is a description of those areas and our responses:

Description Code 112: Phasing or plan components not constructible as shown in plans

Description Code 860: FDOT determined risk avoidance cost paid solely to avoid risk in failing to settle disputes

Reason: Improvements under this contract consist of major reconstruction with widening. The Traffic Control Plans in the original Contract Plans indicated a plan in which the Contractor was unable to construct the curb median and traffic separator called for in the plans while maintaining the required number of travel lanes.

Increase = \$135,154.85

Response: The supplemental agreement is being attributed to a design error with premium cost. A claim settlement was agreed upon for resolution of the matter.

Description Code 113: Modification to pavement design required

Reason: Improvements under this contract consist of milling and resurfacing. Due to rutting problems at an intersection and based on the pavement evaluation and condition data collected from core extraction, the Department determined that modifications to the pavement design were required. It was also determined that the modifications to a drainage curb inlet was necessary considering safety of motorists due to an existing hazardous drop-off situation. Modifications to pavement markings were also included to incorporate the existing pedestrian pole at the northwest corner of the intersection.

Increase = \$100,398.42

Response: The supplemental agreement is being attributed to a design error with no premium costs and no action recommended.

Description Code 115: Required drainage modifications

Reason: Improvements under this contract consist of milling and resurfacing. Summary of Side Drain and Mitered End Section was duplicated in the matrix and shown as cross drains on a separate sheet in the plans. The Designer revised the plans for clarification. The comp book also failed to show pipe needed to make connection to inlets. Drainage structures were modified to mitigate for this error.

Decrease = \$1,195.00

Response: The supplemental agreement is being attributed to a design error with no premium costs.

Supplemental Agreement Report – September 2007– Jan. 2008

Scott Golden, P.E., District Design Engineer

Description Code 503: Change resulting from an engineering decision to decrease the quantity of Synthetic Bales used for erosion control along the project.

Reason: Improvements under this contract consist of milling, resurfacing, and adding paved shoulders. Contractor proposed changes to erosion control installations due to overuse of Synthetic Bales.

Decrease = \$80,685.00

Response: The supplemental agreement was not the result of a design error.

Description Code 503:

Reason: Improvements under this contract consist of milling, resurfacing, and median modifications. Plan clarifications were needed to accommodate anticipated growth in the area while improving safety for motorists and pedestrians. Work needed addressed changes in field conditions since originally designed and were the result of EOR input to constructability review.

Increase = \$106,540.72

ERP POND MAINTENANCE PLAN

Miranda Glass, P.E., District Roadway Design Engineer. P.E

Many of us have been working hard to stay apprised of all the changes since Environmental Resource Permitting (ERP) has come into effect in District Three. In our efforts to design to these new requirements, one of our own that can easily be forgotten during this transition process is Operations and Maintenance. Since inspections and reporting periods vary with the type of facility, here are a few things to keep in mind when developing a maintenance plan for your ERP permit.

Once the Construction Engineer has submitted the "As-Built Certification by a Registered Professional" (Form 62-346.900(4)) and "Request for Conversion of Stormwater Management Permit Construction Phase to Operation and Maintenance Phase" (Form 62-346.900(6)) and the facility has been approved for conversion to operation and maintenance phase, inspection of the system must be done at least once every third year with the following exceptions:

Otherwise specified in the permit.

System includes vegetated natural buffers (inspected at least annually)

System located in karst sensitive areas (inspected at least annually)

A report describing the results of the inspection and certifying that the system is operating as designed and permitted must be filed within 30 days after the third-year inspection using Form 62-346.900(8), "Operation and Maintenance Inspection Certification." Regional stormwater management facilities have an annual reporting period with unique requirements and forms.

With such variations in maintenance requirements, it is essential that the Engineer of Record be fully aware of the requirements when developing a maintenance plan for the permit. Maintenance should be included in the review process for each ERP maintenance plan/permit package, with a two (2) week review and approval period. The maintenance plans need to be fairly "cookbook" in nature to prevent what could end up as a wide variety of requirements for similar situations. While Joy Giddens (District Permits Coordinator) Jim Kapinos (District Drainage Engineer) and I are all working on generic maintenance plans for differing facility types, be sure to consider all of these issues when developing your permit package.