Volume 6 **October 2007**



Florida Department of Transportation

District 4 Design Newsletter

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Drainage
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Utilities

From the Editor's Desk

By: Howard Webb, P.E., District Design Engineer

We are currently embarking on one of the largest FDOT projects in history. This I-595 mega project, which is estimated to cost in excess of $1 billion, is the second use of the public-private-partnership (PPP) process by FDOT, and we all excited about the prospect of completing this project on a much accelerated schedule. The request for qualification (RFQ) for this project has been issued, with a return date of November 5, 2007, and we expect this mega project to be completed and open to traffic within 5 to 6 years.

To achieve this goal, we will need major and coordinated efforts by a large portion of our FDOT staff as well as our consultant and construction partners. We are confident that, with the resources available in District 4, we will be able to achieve this goal, while meeting our other work program targets.

We look forward to working with you all in meeting our District goals. These are indeed exciting times and the understanding, effort and enthusiasm by all are greatly appreciated.

Lessons from the Utility Office…

By: Tim Brock, P.E., District Utility/Value Engineer

Hello everyone. My name is Tim Brock, and as the new District Utility Engineer I have been asked to provide my take (and write) on some work related issues and lessons learned. Those that know me realize that I am a firm believer in quality and efficiency and I like reciting adages like, "you don't have to be sick to get better."

One of my recent lessons learned relates to permitting. I recently encountered a situation where a utility permit was submitted to Design for review when the limits for that utility permit were in the same limits of an existing FDOT construction project. Design reviewed the utility permit plans and eventually determined there were no impacts to their design project (which was under construction). Well you guessed it, there were construction impacts and our construction folks were provided unnecessary challenges due to our oversight. This event caught my eye and I simply want to make sure we do not repeat this

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District 4 Quarterly Design Newsletter

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Lessons from the Utility Office…Continued

lesson. If you are reviewing a utility permit and realize the work is within the limits of your project that is either under construction and/or advertisement for construction, then you must send it to the Construction Engineering and Inspection (CE&I) team to continue the permit approval process. The District Utility Office, District Permit Office and the three Operation Centers are currently discussing additional process controls to avoid this lesson, please stay tuned.

Recognizing areas that need improvement is not done with a critical eye nor to point fingers. We, as a group must strive to improve upon each of our jobs and our departments on a daily basis, myself included. If we all share our ideas and openly discuss any areas which need attention, we will attain our stated objective to improve on something each and every day.

Did you know?

Community Awareness Plan (CAP) is required to be part of all plans submittals for review and comments. In other words, the CAP is required as part of the Initial Engineering, Constructability, and Biddability phase submittals. This does not mean simply placing the original CAP into each phase submittal package, but instead, view the CAP as a "living" document that should be updated as you go through the Design process.

As part of the update process, the CAP should briefly document meetings and minutes with local agencies under the P**ublic Involvement Level** section. These meetings should highlight community or FDOT discussions and commitments during the design process.

One additional thought, the Traffic Control Plan (TCP) discussion in the CAP should briefly highlight project specific issues such as phasing, equipment restrictions, seasonal issues, staging, lane closures, etc. Generic statements from the Knowledge Based "sample CAP" should not simply be copied into the project specific TCP section in the CAP.

With the consistent inclusion of these updated CAP items in every phase submittal, reviewers will get a better picture of the design effort and issues as we move through the Design process.

Plans Reviewers: The CAP can be found under the "Project_DOCS" section in the electronic submittal files.

New Utility Coordinator Requirements for Projects

By: L. Wetherell, Anne Endsley and Tim Brock

The purpose of this article is to highlight "Utility Experience" which will make any project manager's job easier and supply a better end product for the public. In order to be more pro-active, diligent and to decrease the amount of utility supplemental agreements, District Four has implemented some job requirements of the utility coordinator. These requirements will be addressed during the selection process to assure the quality of the individual doing the utility coordination.

Currently, as many of you are aware, every project that is processed is required to have a utility clear letter. This document is provided by the District Utility Office, which includes Mr. Tim Brock, Ms. Anne Endsley and Ms. Bonnie Swierski working together as a team. This document states that all utility issues have been resolved. It is issued after the following criteria are met:

- District Utility Office has received, reviewed and approved all the signed utility schedules (if applicable) from all the affected utilities within the project limits
- District Utility Office has received, reviewed and approved all the no-conflict letters from all the affected utilities within the project limits
- The Engineer of Record (EOR) states the construction sequencing has been reviewed with the Traffic Control Plan (TCP) plan **AND** that the project will fit together with the utility's relocation plans.

It is the responsibility of the consultant utility coordinator to provide the above referenced information in order for the District Utility Office to issue the utility clear letter.

The job requirements for the utility coordinator include a more specific description in the project scope under the project description activity 2.3 titled "Utilities". These new requirements include, but are not limited to, the utility coordinator having a minimum of 4 years of experience in performing utility coordination. Also updated with these job requirements are the project scope utility line items (activity 7) which range from the "Kickoff Meeting" (7.1) to "Other Utilities" (7.17).

Everyone is encouraged to be thoroughly familiar with this new language in the project scope documents and to let your Florida Department of Transportation (FDOT) project manager know if you have any questions. This new language in its entirety can be found on the District Four Knowledge Base (D4KB) titled: Utility Coordinator Scope.

Did you know?

Revisions after plans advertisement for letting to contract require to be completed 15 business days prior to letting date. The District Secretary needs to sign the revision memo if it is between 6 and 15 business days of letting date. No revision is allowed within five business days before letting. So we need to act quickly if we are processing a revision. And let's not forget the time needed to run TRNS*PORT, Electronic Delivery and go through another plans review by Final Plans before transmittal to Central Office. So in a nutshell, we need to act quickly. By the way, the designers and/or project managers need to transfer all questions they receive from contractors to District Construction Office. They will determine the nature of responses to all inquiries from contractors. And this needs to happen fast!

Designers' Corner



Fabiana Gonzalez

Fabiana Gonzalez was born and raised in Habana, Cuba until the age of 11 years old when she arrived to the United States along with her mother. She is a former graduate of Florida International University (FIU) with a degree in Civil Engineering. Fabiana was originally hired onto the PE Trainee Program in August of 2006, and is now working permanently in In-house Design Section 1. Some of her hobbies include horseback riding, boating, reading, and outdoor activities.



Christine Nabong Bacomo

I was born and raised in Plant City, FL. I graduated from the University of Florida in 2001 with a Bachelors degree in Civil…GO GATORS! I then made the move down to South Florida, joining the Department as a PE Trainee. After the trainee program, I worked in the Drainage office for 4 years. Earlier this year, I made the move over to Consultant Management (Section 5). I enjoy spending time with my husband, visiting family, hanging out with friends, listening to music, and working on home improvements.



Nigel McGregor

I was born in Brooklyn, N.Y. My nationality is Jamaican. My engineering branches of interest are railway design, tunnel design, rapid transit operation, high-rise structures, museum renovation, and theaters. People of influence are my grandmother (rip), mother and father. My role models are Morgan Freeman, Bill Cosby, Robert Moses, and Jackie Robinson. Hobbies are collecting roadway and major transit system maps, marathon running, modeling, and producing music. I am currently working in Traffic Design



Ashonda Wright

Hi, my name is Ashonda Wright. My past positions include – Broward County School Board, and The City of Pompano Beach (Public Works Dept.). I am currently working on my B.A., and my hobby is shopping. I am currently working as an administrative assistant in the Design dept.

Lessons Learned - Traffic Signal and Bridge Mounted Sign

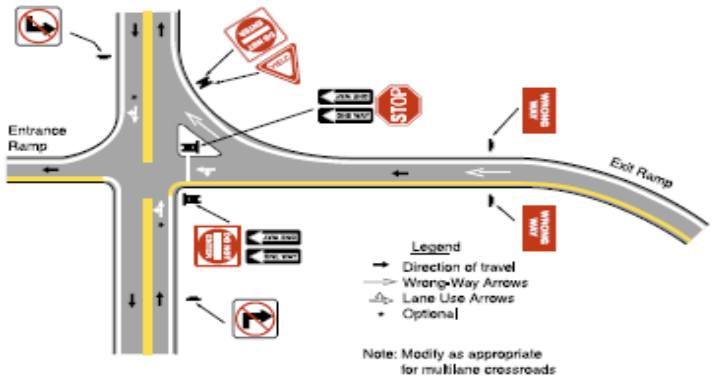
By: Morteza Alian, P.E., District Consultant Project Management Engineer

A picture is worth a thousand words. We all know that no designer ever wants to be associated with a design like this. Nonetheless such a design has been carried out and unfortunately it went through construction. Luckily this does not belong to any of our designers, in-house or consultants but I felt like it is a good example of "don'ts" for design and construction. Good plans review and coordination is the key to successful design. We need to make sure coordination with all designers is occurring to avoid mistakes like this. Project managers are ultimately responsible for an effective coordination between all designers. The construction project engineers could also help to bring up these issues early to the designers for a quick modification to the plans which it would hopefully avoid non-value added dollars on the project.



Identification of existing concrete pavement – You may know that the original State Road 5 (also known as US-1) was constructed using concrete pavement as the driving surface. This is true for the majority of State Road 5 in District 4. It is also noteworthy to say that the original road consists mainly of two lanes. This road over the years has been widened and overlaid with asphalt and in some cases the concrete pavement was filled with embankment and subsurface materials hence it is three to four feet deep in some locations. Typically, as-built plans show the pavement type but the designer needs to do a field investigation and then follow it up with core sampling. A decision to leave the concrete pavement in place or to remove it needs to occur during design phase as a result of data collection. This will cost lots of extra dollars if it is not caught and resolved during the design phase.

Wrong Way and Do Not Enter signs at Interchanges – I am sure all designers know that Wrong Way and Do Not Enter signs are required at the Exit Ramps of any Interchange. This is a typical treatment per Manual on Uniform Traffic Control Devices (MUTCD). As shown on the left side, there shall be at least one Do Not Enter sign and one Wrong Way sign on each side of Exit Ramp. Unfortunately, our latest interstate resurfacing projects did not include these signs in the plans. We must provide these signs in all interstate projects including resurfacing. And designers need to keep this mind on all future similar projects. Designers could refer to Section 2E.50 of MUTCD for more instructions.



Multi-post Sign Structures – These structures are designed to take certain wind loading based on the surface area of the sign. On resurfacing projects, the designer may choose to keep the posts and change the sign only where the effective sign area remains the same. However, the entire sign structure including the posts needs to be changed if the surface area of the sign has increased due to larger letter size. This sounds a routine and logical thing to do but unfortunately it was not done in one of our projects.

Motorist Awareness System (MAS) - You may want to review Index 670 for the requirements of MAS. This system is required on all facilities with posted speed of 55 mph and greater. There is no exception and it needs to be included in the plans. Our recent experience shows that some designers have forgotten about this requirement and as a result, this was omitted from the plans. Please keep this in mind as you are designing your next high speed facility.

District Practice - Revised Project Scheduling Templates

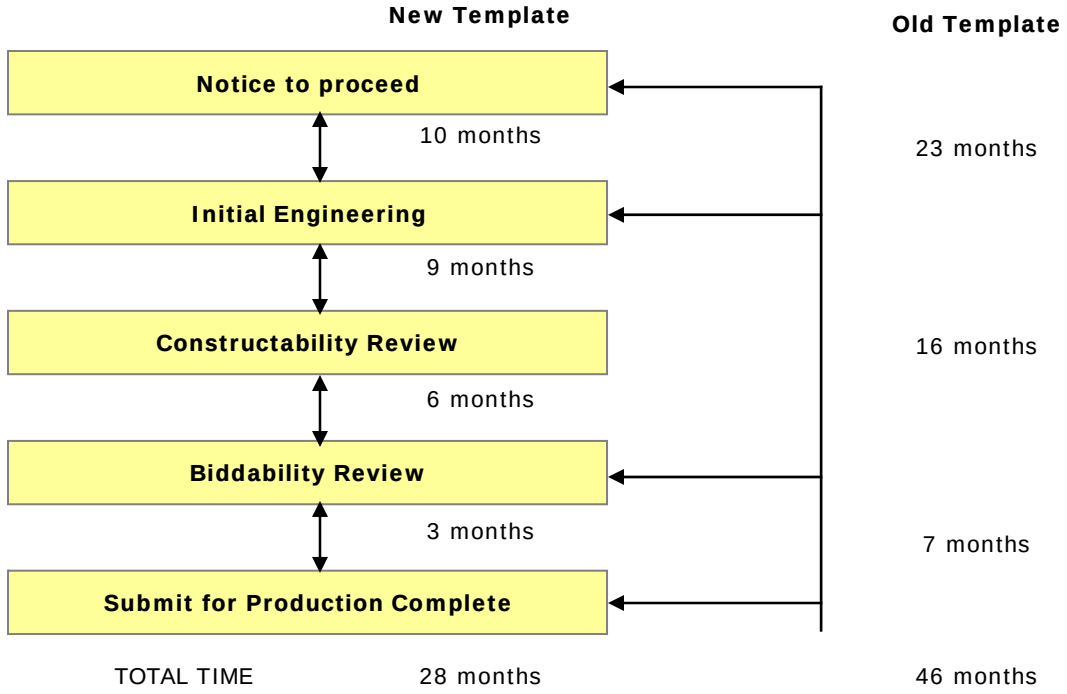
By: Morteza Alian, P.E., District Consultant Project Management Engineer

District Four changed its way of monitoring project activities some six years ago by using Primavera scheduling system for all projects. We developed a highly structured and sophisticated scheduling template for each project type and included many activities in order to do a better job of capturing the status of our projects.

At the same time we moved to two-phase plans review process for all our Resurfacing, Restoration and Rehabilitation (3R) and Add Lanes projects. The two phases were Initial and Final Engineering. This meant that we moved certain activities to an earlier phase and allowed most coordination to occur as part of regular design process rather than as part of phase submittals. One of the coordination activities is Traffic Control Plans (TCP) review which typically occurs prior to Final Engineering review. This activity involves review of plans at about 80% completion by Construction staff and resulted in multiple meetings on most projects before moving on to Final Engineering plans review. This review has become a major part of overall review hence, the district decided to move forward with a change to three-phase plans review process.

The three phases are; Initial Engineering, Constructability, and Biddability. The Initial and Constructability phases are reviewed by all reviewers and local agencies. However, the Biddability phase is only reviewed by District Construction, District Maintenance, the corresponding operations center and Final Plans. You may access District 4 Knowledge Base (D4KB) site for more information and phase details.

Additionally, the district has made changes to the 3R and Add Lanes scheduling templates. These changes have consolidated and simplified project activities in a way that the overall project duration has been reduced for both project types. Here is a comparison of old and new scheduling durations for 3R projects:



Similarly, we have realized time savings for Add Lanes projects that totals 28 months. It went from 75 months to 47 months on projects without right-of-way.

Additionally the district was also on a mission to reduce the overall number of activities for both project types. The old 3R template had 476 activities compared to 310 in new template and the Add Lanes template had 589 activities which was reduced to 369 activities.