

DISTRICT THREE DESIGN NEWSLETTER



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Volume 22, Issue 2

April - December, 2017

From the Editor's Desk -

Rodney Chamberlain, P.E., District Design Engineer



In November, we held the first of what we hope will be an annual meeting on active design projects. The basis of this meeting is to convey new criteria, updates, district preferences and generally to make sure our design consultants are as informed as we are. Change is constant and some changes have more impact than others; bringing everyone together is a very efficient way to convey these changes and updates.

This edition of the Design Newsletter will summarize some of the design-related topics discussed during the Active Design Projects Meeting. In addition to technical matters, the relationship between design consultants and the Department was also a topic, discussed by Secretary Gainer, Director Perdue and myself. As I mentioned, during the past five years, FDOT's budget has increased, now at record levels. At the same time, the agency overall has realized a decrease in internal workforce. This may seem like a counterintuitive business model, but there is a message in the fact that the Department is delivering more (in projects and dollars) with fewer internal resources. It puts a sharp focus on the interactions between consultants and the Department and how together, performance needs to be at optimal levels. We need consultants to advocate for the Department, be proactive in problem solving and think critically. Basically, it's what any good manager would look for in a promising employee.

Likewise, the Department has obligations to those who contract with us. FDOT Project Managers should be sharing information with designers and FDOT managers timely, making sure decisions are made and communicated before unnecessary effort takes place. Look at areas of potential controversy and include design elements that address these areas – think of tree removal. Before a design is modified to avoid any and all tree takes, maybe this is an area where tree removal is justified. I have had at least two meetings recently where a major design issue was identified and eliminated after a brief meeting between Design management and the EOR. The result on the Department's side is a better design; the result on

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District 3 Quarterly Design Newsletter

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 John Whittington

From the Editor's Desk

Rodney Chamberlain P.E., District Design Engineer

(Continued from page 1)

the EOR side is a redo. We should be making ourselves available for these meetings to provide direction early on so that inefficient redesigns are avoided; the designer should always be looking for ways to provide the best design possible.

I have also been made aware of concerns regarding the experience level of Department PM's. While we do have a broad diversity of experience levels on the Department side of project management, all of our PM's have the full confidence and support of Management. Conversely, we see a wide range of experience levels on the consultant side of project management. Some projects need intensive management from our staff while other similar projects require only modest supervision. Bottom-line is if a consultant feels that the project success is in jeopardy because of an inexperienced FDOT PM, I would strongly suggest that they call the District Design Engineer, no matter what district the project is in.

There are a lot of changes around the corner in Design: PPM will be replaced by the FDM; Design Standards have been renumbered and renamed; context classification will govern for design controls; new typical section package process... plus many more smaller changes. Whether you are pursuing a project or designing one, make sure you are fully aware of any changes to the design process.



Adam has a new role as the District Three Roadway Design Engineer. He graduated from Flor-

ida State University with a Bachelor in Science in Civil Engineering in December 2005. While attending school, Adam worked at the FDOT Structures Lab in Tallahassee as an OPS employee. After graduation, he moved to Panama City and worked for a consultant for several years before joining the FDOT in 2016. Since then he has worked as a Roadway Engineering Supervisor in our in-house Roadway Design group. Adam is married to Amber and they have two children, Jackson and Lyla. Adam grew up in the area and recently moved back to Chipley. In his free time, he enjoys spending time with his family and hunting.

Same Face, Different Place

Adam Scurlock, P.E.

District Roadway Design Engineer

Perpetual optimism is a force multiplier.

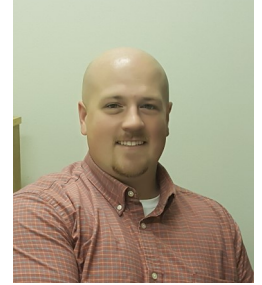
~ Colin Powell ~

Design Spotlight

Aaron White, P.E.

Project Manager/Roadway Designer

Aaron White is joining our Roadway Design Group as a Roadway Supervisor. He will be responsible for leading one of our roadway design teams on



various in-house design projects. Aaron is a registered Professional Engineer in both Alabama and Florida. Aaron graduated from Florida State University with a Bachelor of Science in Civil Engineering (Magna Cum Laude) in May of 2011. While attending college, Aaron worked for a local surveying firm as a draftsman. After graduation, he moved to Tampa for a year and a half and worked for a forensic engineering firm. For the last five years, Aaron has been employed with the Alabama Department of Transportation as a Roadway Engineer and team leader. Aaron enjoys spending time with his family, bass fishing, and going to the beach. He is excited about his new position and the challenges that come with it.

Design Spotlight

John Whittington, P.E.

Project Manager

John Whittington is joining the District 3 Design office as a Project Manager. John received his Bachelor's Degree in Civil Engineering from Florida



State University (Panama City Campus) in 2015. He began his career in engineering, 4 ½ years ago as a student intern for a consulting firm in Panama City. Upon graduation he was hired on by the same consultant where he has worked full time on a variety of different design projects over the last 2 ½ years. He is excited about the opportunity to work for the Department and the new opportunities and challenges of his position. He looks forward to working with and getting to know many new faces across the state. When not working John enjoys hunting, fishing, water sports and the outdoors in general. John is married to Leigh Ellen and they have no kids.

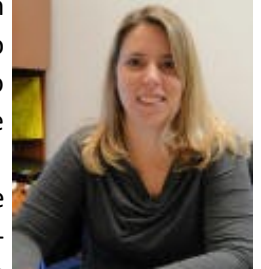
We must open the doors of opportunity. But we must also equip our people to walk through those doors.

~Lyndon B. Johnson~

From Kerrie's Desk

Kerrie Harrell, P.E. - District Consultant Project Management Engineer

In late November, we held our first Active Design Projects Meeting to discuss ongoing issues on active projects that we wanted our designers to be familiar with. This discussion was tailored to provide valuable information to Consultant Project Managers for ongoing projects. I wanted to provide everyone with a brief overview of the information discussed along with access to the presentations shown at the meeting. The highlights are below:



Environmental permitting – the Army Corp of Engineers is no longer participating in the joint permit application process. Coast Guard (USCG) has a new bridge permit application guide. Be aware bridge navigation lighting plans are a separate submittal that is needed typically after the USCG permit is issued. Also, be aware that the permit process is lengthy for projects requiring Army Corp and USCG permits. USCG will not typically review an application until all permits are issued from other agencies and it can take as long as a year to receive a USCG permit.

Environmental Documents and Commitments – make sure you obtain the environmental commitments for your project from the District Environmental Management Office (DEMO). Commitments typically require plan modification or notes or a specific special provision in your specs package. Ensure your designs are creating a minimal footprint to lessen environmental impacts. Keep DEMO informed on design changes that occur after 60% plans submittals since it may require DEMO to modify their construction reevaluation. Remember projects on military base easements require you to obtain proper clearances.

Recent changes in Project Scheduling – Consultants now have access to Project Suite (PSEE) and are required to input their monthly schedule updates for projects that started in FY2018. These updates are required to be completed **NO LATER THAN THE LAST FRIDAY OF THE MONTH**. Projects that began design prior FY2018 will have schedule updates completed by your FDOT Project Manager. If you work in multiple Districts, you will need to select District 3 in the drop-down menu to see your District 3 projects. Make sure you setup a delegate in PSEE who can act on your behalf as necessary

Survey – this message is for Project Managers and not really surveyors. Supplemental survey hours that may be in your contract require the District Surveyor's approval prior to utilization. Keep an eye on this because you do NOT have authorization to utilize all of your limiting amount survey hours if your contract was negotiated with supplemental survey hours in it. As a PM, you need to ensure that your service time on your contract is active and does not expire when you need to send a subconsultant to perform work.

Utility Changes – utility work schedules are based on a set of plans. If this set of plans changes, the utility work schedules must be reviewed to determine if changes are needed. This can be a lengthy process if major changes occur. Keep the Area Utility Coordinator updated as changes occur with your plans. Do not assume that we will ask a utility to move solely because your design created a conflict. Design solutions should be provided that minimize impacts to the utilities. The good engineers not only determine where the impact occurs, but also anticipate where the utility will go and provide room for them. Remember the UAM is a law and not a guideline (i.e. it is pretty important to follow). SUE locates have a 2-foot margin of error.

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From Kerrie's Desk

Kerrie Harrell, P.E. - District Consultant Project Management Engineer

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Errors and Omissions – keep the Project Manager in the loop if design errors or if issues arise that may be interpreted by our Construction Office to be an error in the plans. You will need good documentation of the issue and the resolution. Do not bill us for your mistakes or we will ask for the money back later!

Drainage – see Miranda's article. Kerrie's interpretation regarding ponds in wetlands – they do not belong there and you will likely not be able to get an Army Corp permit. Make sure your design is feasible because non-feasible designs usually end up in a trip to my office. Inverse condemnation – please do not cause one.

Rumble Stripes – see Adam's article.

Miscellaneous Topics – bring us solutions when issues arise. If you have local funds (not related to utilities) on your project, this is special and make sure you and your PM figure out what needs to occur to access the funds. Make sure you submit invoices in a timely manner so your project never appears inactive financially for a long period of time. Make sure you look at the BOE regarding how to properly create summary boxes. Be aware of the latest travel time policy which developed a maximum travel time per district for which you can receive compensation. New requirements coming related to early LRE submittals (i.e. read the scope of services for new language). Make sure you coordinate with your DOT project manager and the Public Information Office for the latest requirements for public information meetings.

Department Budget and Consultant Contracts – money is tight at FDOT. Check your contracts and see if there are unneeded residual balances that can be released. Plans Update – in your original services, the lump sum fee for the design effort covers minor changes and these changes are not a basis to request additional compensation. We are trying to minimize plans update efforts so be prepared to fully explain exactly what needs to change and why. If your project has been on the shelf for less than a year before letting then we may not do any major update to the plans. Do not assume all changes in FDM require modifications during plans update. We will handle these on a case by case basis.

If you would like to review the presentations shown during the meeting, the documents are available on the following website: <https://www.nwflroads.com/adpm>.

Let's Talk About Drainage

Miranda Glass, P.E. - District Drainage Engineer

When it comes to drainage design, it's important to remember that there is no project where drainage does not exist as a consideration. Whether your project includes a simple sidewalk, widening for a turn lane, or is a full-blown capacity project, both temporary and permanent modifications should be reviewed with a "drainage eye". Remember, just because no staff hours were negotiated for drainage specific tasks, that does not mean drainage is not in the scope. Once drainage is impacted, whether flow patterns or structures and pipes, then drainage is a design requirement. Roads get you yelled at, bridges get you fired, and drainage gets you sued! Here are a few tips to remember as it relates to drainage design:



- Minimum drainage documentation
 - Provide verification of existing drainage infrastructure condition
 - Maintenance/local check for drainage issues (ask specific questions based on what is evident in the field)
- Bridge Hydraulic Reports (BHRs)
 - Make sure minimum hydraulic bridge length has been justified based on alternatives analysis (see Drainage Manual for documentation requirements)
 - Include a legible drainage map with topographic information
 - BHRs requiring coastal engineering will require special review assignments and can be coordinated with the District Drainage Engineer
- Pond Siting Reports (PSRs)
 - Should have detailed right of way cost information, not simply ratings (preferably included in an exclusive appendix for easy redaction upon public information requests)
 - Include necessary easements for considered alternatives (ingress/egress, outfall, etc.)
 - The new Environmental Look Around (ELA) process for evaluating innovative stormwater solutions may require legal agreements upon selection
 - Where direct treatment or attenuation can/will not be provided, downstream property owner approval is required per Drainage Manual
 - Wetland avoidance... DO IT
 - Alternatives (3 minimum and vacant preferred but not an eliminator as an alternative... let the vetting process eliminate alternatives)
- Optional Materials
 - Required for all projects with significant drainage
 - For projects with a small amount of pipe, this is case-by-case and is balanced by impact to the Contractor due to limiting options versus cost of geotechnical investigation
 - Pipe extensions require same size and kind as existing
 - For side drains, Specification Section 430-3.2 defines options if not designated in plans
- Upcoming Drainage Feature
 - Map-based listing of known/historical drainage issues and complaints
 - Format will be either Google kmz or ArcGIS
 - Should assist designers/project managers in evaluating known drainage needs/issues

Top Ten Quality Control Comments April – June, 2017

Lester Forrest - QA/QC Plans Reviewer

1. Designers must ensure that they are utilizing the correct Pay Item and Specification when calling for the new” Pre-Formed Thermo” on special emphasis and standard crosswalks signalized or stop controlled intersection. Please label the crosswalk detail in the plans as “Pre-Formed Thermo”. Reference: FY 2017-18 Design Standards, last revision 11/01/16
2. Due to raveling concerns in medians and turn lanes, where there will be braking and turning movements; designers should consider the use of SP or dense friction course. (Consult with District Materials).
3. The Pay Item for retroreflective strips for wrong way signs at ramp intersections, railroad cross buck sign blades, and railroad cross buck sign supports will be necessary to ensure that these are installed.
4. When bridge anchorage assemblies are to be removed and replaced, the Pay Item for removal will be necessary too.
5. Unless otherwise directed by the Department; designers should ensure that Plan Sheets show existing topography at 90% Plans Submittal. Reference: P.P.M Vol. II , Chapter 2.3
6. The pay item for pedestrian longitudinal channelizing devices is necessary when an existing sidewalk will be impacted by construction.
7. On new construction, shoulder widening and lane widening Typical Sections, stabilization thickness should be provided.
8. The summary of special detour quantities are no longer to be included in the plans.
9. Designers must evaluate the need for fencing around proposed detention and retention ponds. The installation of fencing around storm water ponds requires a Design Variation. Reference: Drainage Manual Topic No. 625-040-002, 5.4.4.2, Effective: January 2017.
10. Pay item 0339-1 should be placed in a summary of miscellaneous asphalt pavement. Reference the Basic of Estimates.

Top Ten Quality Control Comments July – September, 2017

Lester Forrest - QA/QC Plans Reviewer

1. Designers should ensure that Traffic Control Notes include the note that pertains to hurricane evacuation or other emergency events. All lanes must be open for traffic within 12 hours of a hurricane evacuation notice or other emergency event and shall remain open for the duration of the event as directed by the Project Administrator.
2. Ensure that the limits of construction are labeled on both sides of Typical Sections.
3. When shoulder construction is being proposed, the shoulder detail should be shown on the Typical or as a separate detail.
4. For pay item 0102-1, the quantity in Transport (APWR) should be the number of days for the secondary unit of measure for the contract time from a Contract Memorandum.
5. Designers should ensure that Turnouts and driveways neither cause water to flow on or across roadway pavement or cause ponding or erosion within Right of Way. Reference: Index No. 515, Sheet 7 of 7, note 1.
6. For pay item 0102-2-2, the Fill Adjustment should be 45% and the Truck Adjustment should be 25%. If the project is within 10 miles of the coast, then the Fill Adjustment should be 35% and Truck Adjustment should be 20%.
7. Ensure that proposed driveway widths are in compliance with Index 515.
8. Ensure that all of the project utility contact information is current. (contact persons name and phone numbers)
9. Wet lands should be shown in the plan view and if needed; proposed erosion control devices indicated.
10. On RRR projects, that require a bicycle lane other than the standard buffer lane width refer to P.P.M Vol. I, 8.4.1 for guidance.

Plans Review Quality Control Comments Spot Light

Lester Forrest - QA/QC Plans Reviewer

1. When designers are proposing turnout construction or turnout modifications; desired radii to be constructed should be provided.
2. When designing Lighting plans; show the service point locations on the Plan Sheets as determined through the utility negotiations. (Reference P.P.M Vol. II, 25.6.2)
3. Miscellaneous asphalt should be two inches thick under guardrail.
4. Design speed is a principal design control that regulates many of the project Standards and Criteria used to design a roadway project therefore; it is essential that design speeds are provided for each typical section. (Reference: P.P.M Vol. II, 6.2)
5. Please ensure the Project Quality Control Plan is up to date with current procedures and is being followed by your company.

Audible & Vibratory Treatment

Adam Scurlock, P.E., District Roadway Design Engineer

According to FDM 210.4.6 consideration for the use of audible and vibratory lane departure warnings is required for flush-shoulder roadways with a posted speed of 50 mph or greater. In August 2016, District Three began removing ground-in rumble stripes from projects that had not let for construction. This was done in response to numerous complaints from residents and businesses regarding the noise level of the rumble stripes. As a result, Central Office Roadway Design has made modifications to Developmental Standard Plans, Index D546-020 that should alleviate most of the noise concerns while still preserving the audible warning intent. The standard types of audible and vibratory treatment are ground-in rumble strips and profiled thermoplastic. The use of each type of audible and vibratory treatment is dependent upon the context of the application. The consultant should evaluate the context of the project and provide the Department's Design Project Manager with treatment recommendations including an explanation of crash history and a *.kml file graphically representing proposed audible and vibratory treatment to pursue approval from the District Three Design Office. If ground-in rumble strips are the selected type of treatment, District Three prefers Detail 'B' and Detail 'C' edge line rumble strip placement.

Supplemental Agreement Report – March, April & May 2017
Carol Kreis - QA/QC Plans Reviewer

Description Code: 503: Change resulting from engineering decision.

Reason: To utilize vibration monitoring for the pile driving operation for an existing structure in the vicinity.

Granted Time: 0 Days

Increase: \$17, 147.00

Response: Unavoidable: No action recommended.

Description Code: 113: Modification to pavement design required.

Reason: Due to an existing ARMI Layer, the Pavement Design was modified to reduce the milling requirements to not impair or cause delamination of the existing ARMI from the concrete pavement.

Granted Time: 0 Days

Decrease: \$-4, 314.30

Response: Unavoidable: No action recommended.

Description Code: 126: Computation error.

Reason: To add additional milling, structural course asphalt, friction course asphalt and associated temporary and permanent striping to correct discrepancies and errors in the original design.

Granted Time: 30 Days

Increase: \$576, 474.55

Response: Avoidable: No action recommended.

Description Code: 101: Necessary Pay Items not included in the contract.

Reason: To adjust water valves to the correct elevations indicated in the Plans after the milling operation is complete.

Granted Time: 0 Days

Increase: \$3, 900.00

Response: Unavoidable: No action recommended.

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Supplemental Agreement Report – March, April & May 2017
Carol Kreis - QA/QC Plans Reviewer

(Continued from page 10)

Description Code: 503: Change resulting from engineering decision.

Reason: To delete widening, add milling and resurfacing of side road connections, plan error correction of drainage structure and address drainage concerns.

Granted Time: 0 Days

Increase: \$169,489.10

Response: Unavoidable: No action recommended.

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

Reason: A field adjustment to the profile grade of the roadway to resolve plan discrepancies resulted in an elevation differential in the proposed guardrail, whereby, special guardrail posts were required to meet design standards for installation.

Granted Time: 18 Days

Increase: \$5,766.10

Response: Unavoidable: No action recommended.

Description Code: 105: Discrepancies between plan notes, details standard indexes and specifications. 108: Plans do not describe scope of work. 112: Phasing or plan components not constructible as shown in the plans.

Reason: To compensate for adding a bullet railing to provide proper height when a bike lane is designated adjacent to a bridge barrier wall, the movement of barrier wall lights to the outsides was a mitigation effort to overcome the lack of an applicable design standard for barrier wall mounted light poles 45' tall; and the new overhead lights on existing sign structure are needed due to the power service change and the existing lights not being compatible with the new power service.

Granted Time: 0 Days

Increase: \$132,769.51

Response: Avoidable: No action recommended.

Supplemental Agreement Report – June, - December 2017
Carol Kreis - QA/QC Plans Reviewer

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

Reason: To compensate for costs related to a Plan Revision to allow the required deflection zones behind barrier wall placed during phase construction and revise MOT phasing and quantities for improved safety during construction and provide work zone widths appropriate for construction operations.

Granted Time: 70 Days

Increase: \$410, 447.88

Response: Avoidable: No action recommended.

Description Code: 503: Change resulting from engineering decision.

Reason: To compensate for a plans revision as directed by the Department to shield a curve with the addition of guardrail to help mitigate safety hazards and concerns from the general public.

Granted Time: 3 Days

Increase: \$32, 712.06

Response: Unavoidable: No action recommended.

Description Code: 106: Inaccurate identification of utility with no Joint Project Agreement.

Reason: To compensate for asphalt base being placed in lieu of Type B Stabilization due to a conflict with an existing utility that was not indicated as in conflict in the plan set.

Granted Time: 0 Days

Increase: \$6, 047.70

Response: Avoidable: No action recommended.

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

Reason: To compensate for changing from utilizing an on-site diversion to an off-site detour at the direction of the Department. The on-site detour was not feasible due to site condition restraints and Railroad scheduling issues. The utilization of an off-site detour enabled the contractor to construct the project with minimal delay from the Railroad.

Granted Time: 0 Days

Increase: \$49, 553.08

Response: Unavoidable: No action recommended.

Description Code: 503: Change resulting from engineering decision.

Reason: To compensate for utilization of 42-inch rigid shoulder barrier wall in lieu of 32-inch which more closely match the existing wall and provided additional median pier protection along the corridor.

Granted Time: 0 Days

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Supplemental Agreement Report – June, - December 2017

Carol Kreis - QA/QC Plans Reviewer

(Continued from page 12)

Increase: \$13, 448.54

Response: Unavoidable: No action recommended.

Description Code: 115: Required drainage modifications.

Reason: To compensate for construction of an additional drainage structure in the median and replacement of a previously installed cross drain with leaking joints and modifications to a drainage structure.

Granted Time: 0 Day

Increase: \$101, 267.53

Response: Unavoidable: No action recommended.

Description Code: 503: Change resulting from engineering decision.

Reason: To compensate for adding Staked Turbidity Barrier as a supplemental erosion control measure.

Granted Time: 0 Days

Increase: \$72, 600.00

Response: Unavoidable: No action recommended.

Description Code: 115: Required drainage modifications.

Reason: To compensate for installation of a side drain and lap sod within the Right of Way for drainage issues associated with a driveway which were not adequately address in the Plans.

Granted Time: 0 Days

Increase: \$17, 020.93

Response: Unavoidable: No action recommended.

Description Code: 101: Necessary pay item(s) not included in contract.

Reason: To compensate for thermoplastic traffic striping removal on an existing bridge before placement of final traffic striping by adding the necessary pay item since the pay item for Thermoplastic Removal was not included in the contract.

Granted Time: 0 Days

Increase: \$4, 950.00

Response: Avoidable: No action recommended.

Description Code: 115: Required drainage modifications.

Reason: To compensate for Plans revisions where drainage structures indicated in the Plans did not match the field conditions. Changes to the MOT, concrete, earthwork, drainage, widening,

(Continued on page 14)

Supplemental Agreement Report – June, - December 2017 **Carol Kreis - QA/QC Plans Reviewer**

(Continued from page 13)

and sodding operations were required. A traffic shift, composed of temporary low profile barrier wall, was required in order to safely perform the work operations. Also, a temporary pedestrian path was required. Revisions also included the installation of new trench drain at a driveway and changes to the concrete.

Granted Time: 0 Days

Increase: \$179, 613.00

Response: Avoidable: Action recommended.

Description Code: 503, Change resulting from engineering decision.

Reason: A plan revision resulted in the addition of Peak Hour Restrictions that were erroneously removed during Final Plans processing which affected the Contractors hours of operation. The work order is to compensate the Contractor for additional work efforts and adjusted time frames in which to conduct their work efforts. The Peak Hour Restrictions were added back into the project in order to avoid negative impacts to the traveling public; school traffic.

Granted Time: 0 Days

Increase: \$25,045

Response: Avoidable: No action recommended.

Description Code: 101, Necessary pay item not included.

Reason: A teleconference was held between Construction, District Three Materials, & the Engineer of Record to discuss the parameters for performance of vibration monitoring by the Contractor during temporary piling & permanent drilled shaft operations. During discussions, the lack of a settlement monitoring directive per the plans was identified; all parties agreed that settlement monitoring should have been provided within the plans to be in conformance with Standard Specification's Section 108 Monitor Existing Structures.

Granted Time: 0 Days

Increase: \$12,800

Response: Avoidable: No action recommended.

Description Code: 003, Harmonize project with adjacent projects or right of way

Reason: Realign structure and pipe to avoid conflict with an existing utility pole that was not shown in the plans.

Granted Time: 0 Days

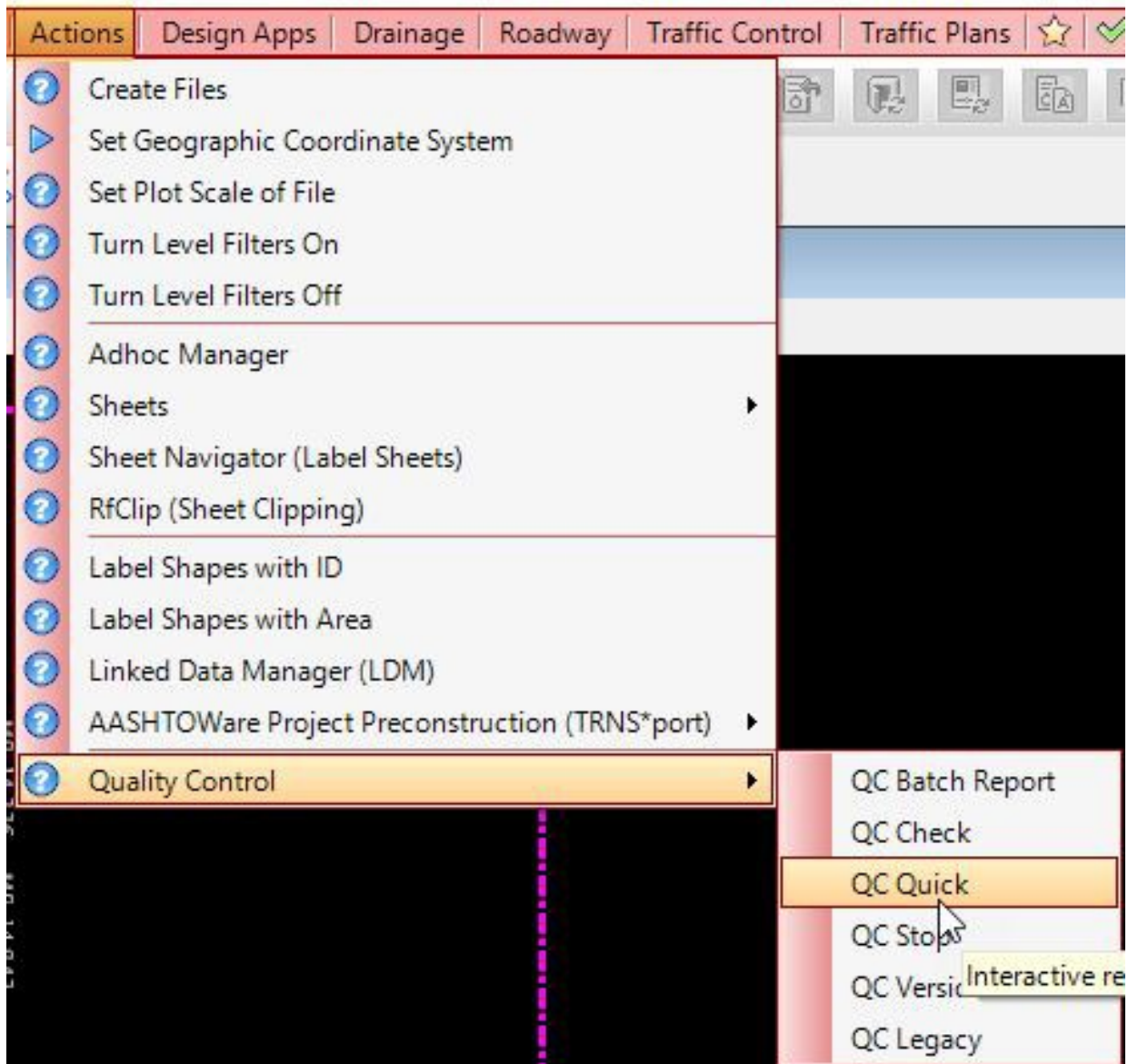
Increase: \$70

Response: Avoidable: No action recommended.

MicroStation Tips & Tricks — How to use QC Quick

Howard Helms, CADD Manager

You can get to it from the FDOTSS4 Toolbar 2 different ways.



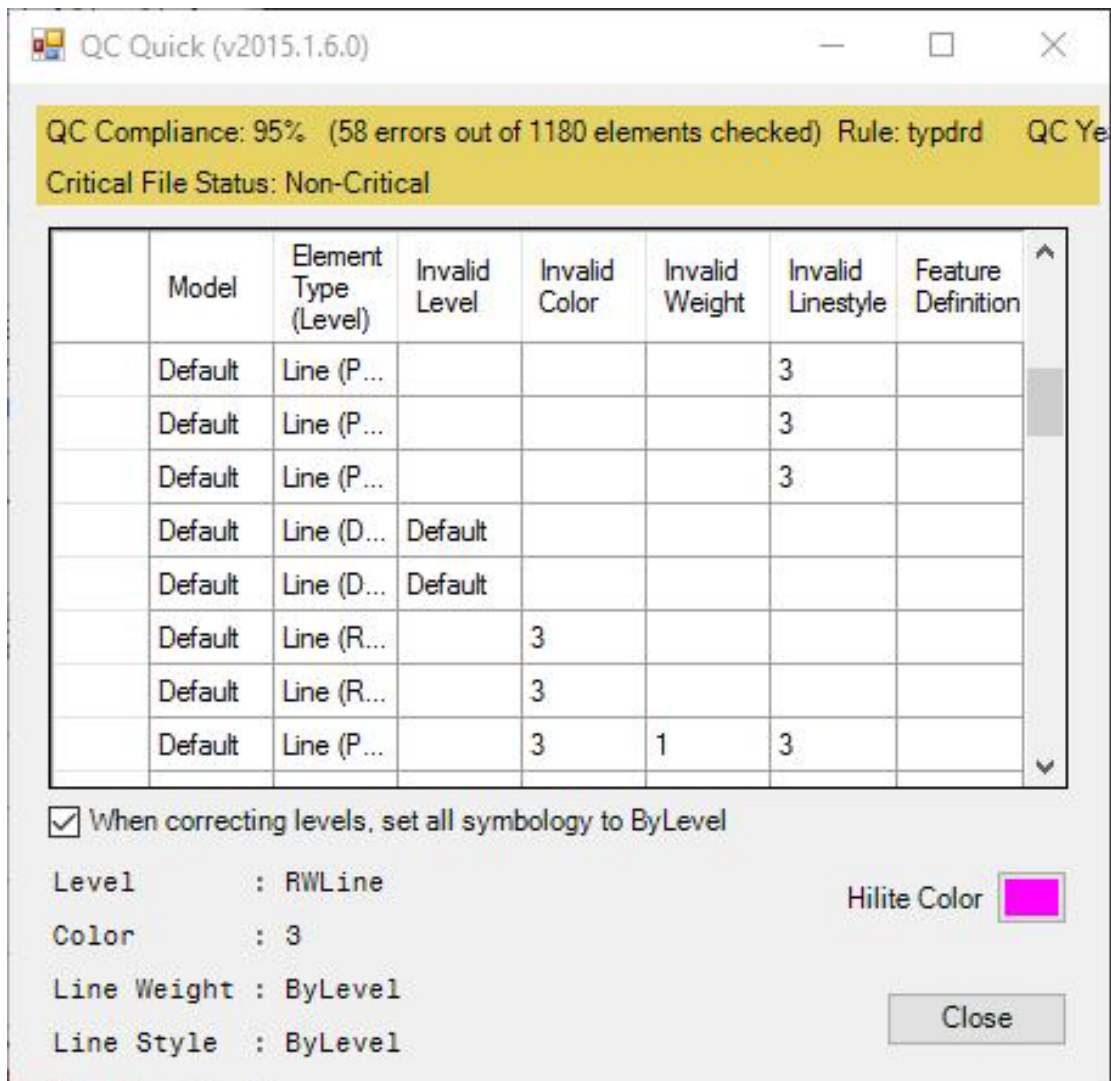
(Continued on page 16)

MicroStation Tips & Tricks

Howard Helms, CADD Manager

(Continued from page 15)

When you bring up the QC Quick tool, it will show the QC Compliance %, how many errors that is in the file, the rule type that is being used to check the file, and if it is a Critical or Non-Critical file.



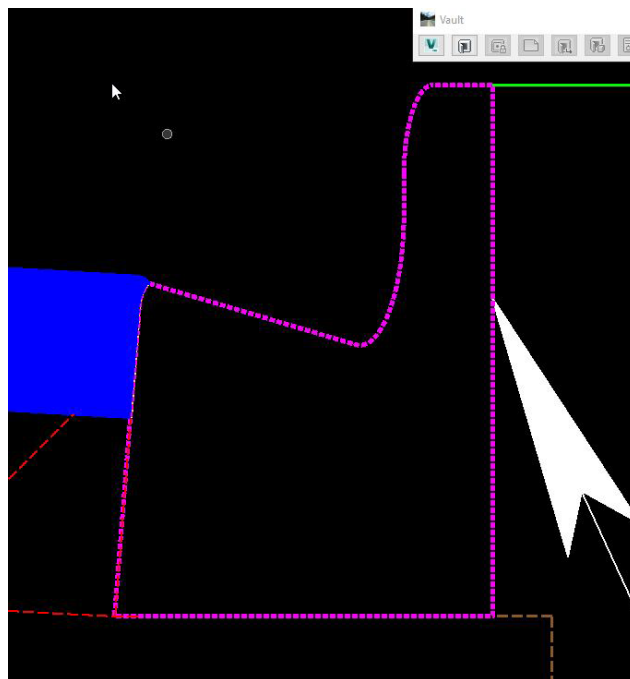
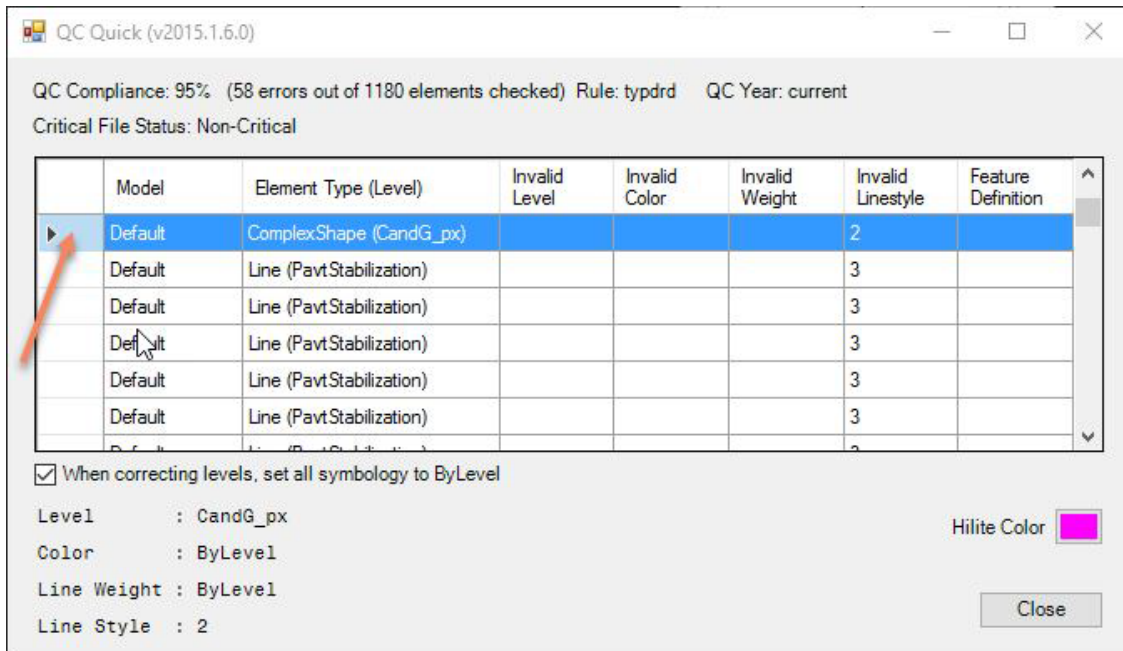
(Continued on page 17)

MicroStation Tips & Tricks

Howard Helms, CADD Manager

(Continued from page 16)

By double clicking beside the error (shown below) it will zoom to the error and highlight it.



Right clicking on the error will give you 3 options to correct the error.

(Continued on page 18)

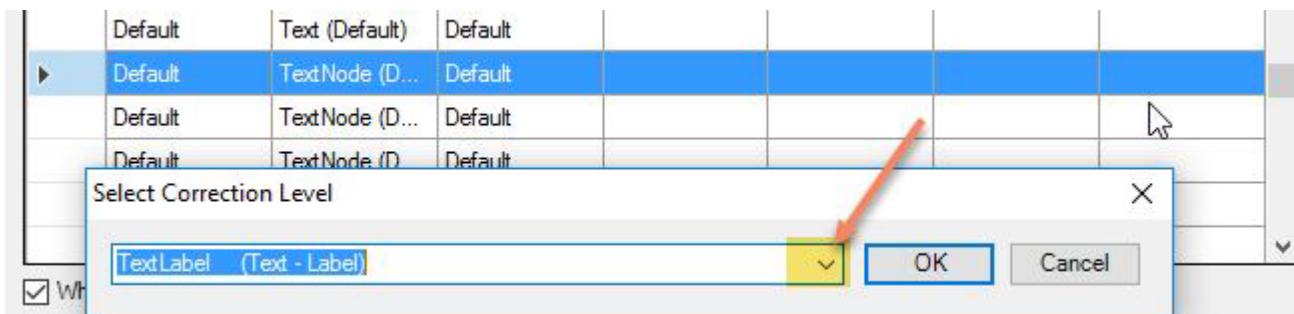
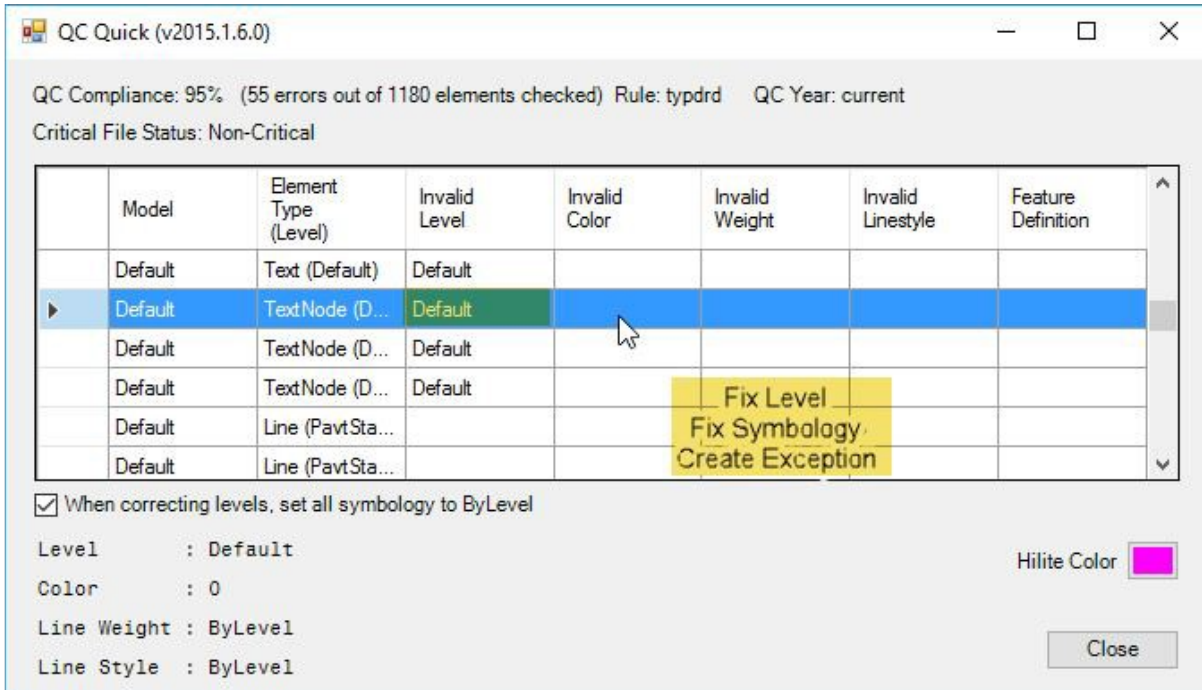
MicroStation Tips & Tricks

Howard Helms, CADD Manager

(Continued from page 17)

Fix Level, Fix Symbology, Create Exception

Fix Level



As long as it is on the correct Symbology, click on **Fix Level**. It will place it on the level you choose from the drop down and fix the error.

After the error is fixed it will remove it from the list.

You can do multiple errors at one time by selecting more than one at time. Hold shift or Ctrl key on keyboard and select them. Then right click and choose **Fix Level**.

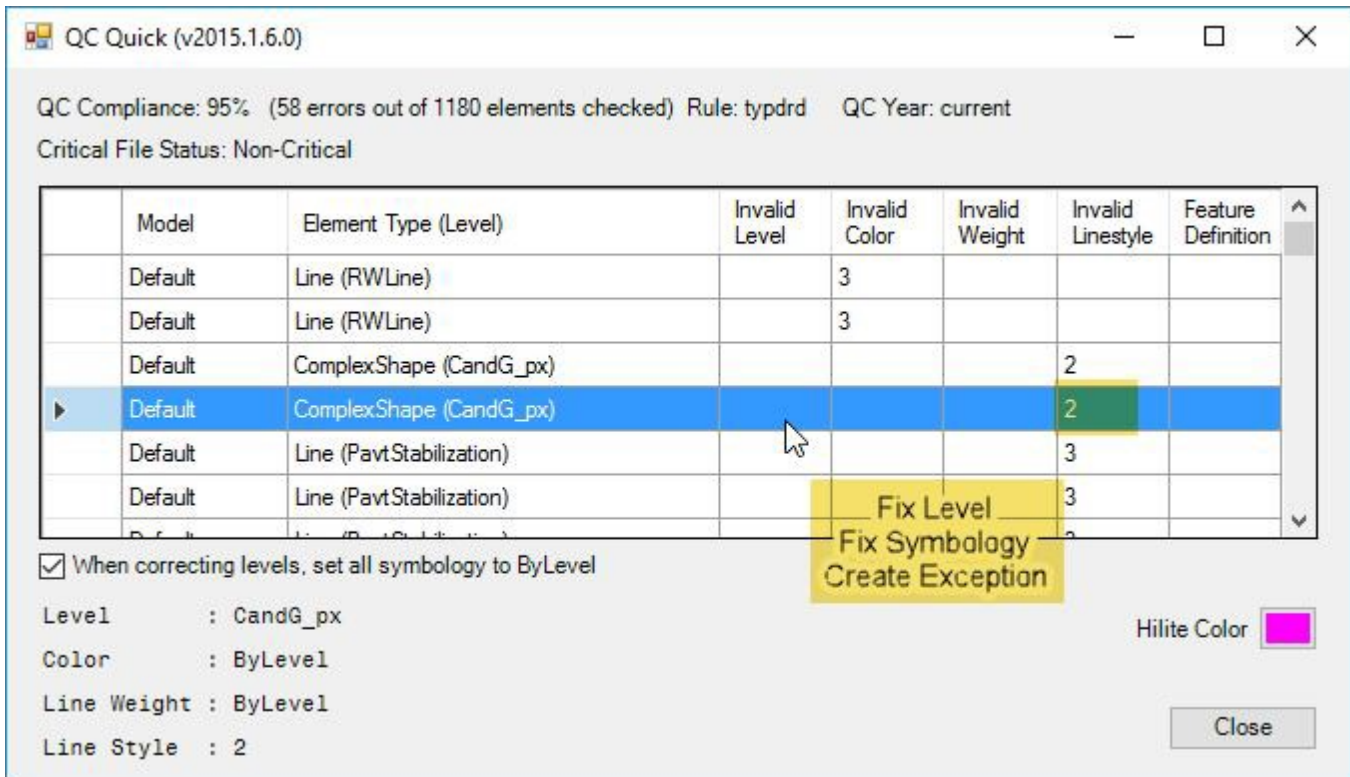
(Continued on page 19)

MicroStation Tips & Tricks

Howard Helms, CADD Manager

(Continued from page 18)

Fix Symbology



As long as it is on the correct Level, click on **Fix Symbology**. It will place everything on ByLevel and fix the error.

After the error is fixed it will remove it from the list.

You can do multiple errors at one time by selecting more than one at time. Hold shift or Ctrl key on keyboard and select them. Then right click and choose **Fix Symbology**.

(Continued on page 20)

MicroStation Tips & Tricks

Howard Helms, CADD Manager

(Continued from page 19)

Create Exception

File: C:\e\projects\43467515201\roadway\TYPDRD01.DGN QC Compliance: 95% (54 errors out of 1180 elements checked) Rule: ty

Critical File Status: Non-Critical

	Model	Element Type (Level)	Invalid Level	Invalid Color	Invalid Weight
	Default	Line (Default)	Default		
	Default	Line (Default)	Default		
▶	Default	Line (RWLine)		3	
	Default	Line (RWLine)		3	
	Default	Line (PavtBase_px)		3	1
	Default	Line (Default)	Default		

When correcting levels, set all symbology to ByLevel

Level : RWLine
Color : 3
Line Weight : ByLevel
Line Style : ByLevel

Enter Exception Information

Exception Name
Line (RWLine)

Exception Description
EOR likes the looks of this.

Current Symbology
Level: RWLine
Color: 3
Weight: ByLevel
Line Style: ByLevel

OK Cancel

When creating an Exception you must give it a name with at least 10 characters and an Exception Description with at least 25 characters. When you click ok to create the Exception it will create a .csv file and place it in your project directory under roadway/eng_data. The .csv file has to follow the .dgn file it was created from or it will show back up as errors.

You can have up to 10 Exceptions per file.

