

DISTRICT THREE DESIGN NEWSLETTER



Volume 8, Issue 4

[HTTP://WWW11.MYFLORIDA.COM/RDDESIGN/D-3/FILES/D3.HTM](http://www11.myflorida.com/rddesign/d-3/files/d3.htm)

October—December 2003

INSIDE THIS ISSUE:

From the Editors Desk	1
FDEP Stormwater General Permits	2
PNC; How Beneficial Is It?	2
Supplemental Agreement Report—September	3
Supplemental Agreement Report—October	4
Big Quality and Little Quality = Total Quality	4
Design Spotlight: Margaret Hicks	5
Access Management in Design	6
District and State Design Conference Update	7

From the Editor's Desk

Larry Kelley, P.E., District Design Engineer



Many of my topics in the past "From the Editor's Desk" articles are related to "change" and "quality". I apologize if that is getting old, but it continues to be items of interest to me and hopefully you.

The first 25 years of my career I did observe and experience growth and change in the transportation industry. However, the last 5 years I categorize change as "exponential" compared to previous decades. This change is not limited to technology, but involves processes, workforce and privatization. I don't see change reaching a plateau. Every new idea and process seems to have spin-offs. Therefore, all of us must have an open mind and a positive attitude toward change. As new processes are developed, there is often a need for detailed and often complicated Quality Control (QC) measures.

I have always respected my father for his wisdom in matters of life. He does not have any fancy degrees nor is he up-to-date on today's technological world. However, his common sense observations of people and life can always be applied to our complicated business life.



One QC measure that I have learned to appreciate over the years resulted from my father's philosophy. That is; "DO WHAT YOU SAY YOU WILL DO". I do not consider myself to be in the top brackets of IQ level. However, I have learned from experience that some things can increase your perceived IQ level and respect from others.

Good organizational skills can simplify your life at home and at work. If you practice good organizational skills, you will have tasks prioritized. There should be no higher priority, in my opinion, than to "do what you say you will do".

If you tell someone you will call them tomorrow; do it. If you tell someone you will advise them of the results of something next week, do it. If some overwhelming issue prevents following through, make contact ahead of time and explain your circumstances. People usually understand.

Also, return phone calls ASAP. People appreciate this. These things are not only good common sense business, but will quickly build for you a good reputation. All of you know that you appreciate the respect someone shows you by following up like he says he will. That should be enough incentive for you to do the same. Be respected. Have a good reputation. "DO WHAT YOU SAY YOU WILL DO."

I think if you will be aggressive with this approach you will find it to be contagious and you will also find the quality of the final product will improve.



District III Quarterly Design Newsletter

Editor.....Larry Kelley
 Layout/Graphics.....Eddie Register
 SUBMISSIONS BY:
Danny Deal
Scott Golden
Larry Kelley
Ronnie Peel

FDEP Stormwater General Permits

Scott Golden, P.E., Assistant District Design Engineer



At the most recent Florida Department of Environmental Protection (FDEP)/Florida Department of Transportation (FDOT) Quarterly Meeting, a discussion was held regarding storm water permitting as it relates to the addition of paved shoulders, bike paths, side walks, turn lanes, etc.

The various scenarios and probable FDEP requirements are listed below.

In general, if the FDOT adds impervious area to one of our facilities then, a FDEP Storm Water General Permit **is required**.

For projects that add bike lanes and sidewalks, a FDEP Storm Water General Permit-Type "C" is required. The Type "C" permit does not require the construction of Storm Water Management Facilities (ponds). The addition of paved shoulders may or may not fit in this category depending on what other improvements are proposed. Paved shoulders must be considered on a case by case basis. The basic purpose of this permit is to document that the FDOT has notified the FDEP of the proposed construction activities.

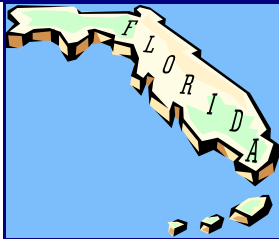
If the proposed project includes turn lane construction then, a General Storm Water Permit is required. Depending on the number and length of the proposed turn lanes, a Type "C" permit may or may not be appropriate. In many cases, the FDOT may be required to construct Storm Water Treatment Facilities.

If you have a project that adds impervious area, a Storm Water General Permit is probably required, please feel free to contact me or the District Environmental Management Office if you have any questions. In addition to FDEP, other agencies may require permits

Christmas is a time when everybody wants his past forgotten and his present remembered.

What I don't like about office Christmas parties is looking for a job the next day.

--Phyllis Diller



PNC (Project Network Control); How Beneficial Is It?

Danny Deal, P.E., District Land Surveyor

PNC, the backbone of all projects, has been utilized for years by the Surveying Office. My goal for this article was to reintroduce PNC and briefly explain the benefits of it.

Nearly all (probably 99%) of our work program has horizontal and vertical PNC established in the early stages of each project. These control monuments are typically set at 1000' intervals throughout the project corridor and out of the anticipated limits of construction. During the Survey and Design process through the use of Caice, Geopak and Microstation all existing and proposed alignments, topography, structures and right of ways are forever positionally relative to this control. The horizontal control component is based on the Florida State Plane Coordinate System and the vertical control component is based on the North American Vertical Datum of 1988 (NAVD88).

All horizontal control can be quickly converted from state plane coordinates to latitude and longitude coordinates for use with GPS equipment. So, who benefits? Well, everyone; everyone that has to reference themselves to a certain feature or layout a particular component of a project. Here's a quick list of key areas that can benefit from PNC: Planning, P,D&E, Surveying, Design, R/W Mapping, Materials, Construction, Final Estimates, and Maintenance.

Whether its during construction layout or a Maintenance employee using a handheld GPS unit to find a drainage structure, the benefits of having a PNC reference system is enormous. If anyone would like to learn more about our PNC reference system or the benefits of it please contact the Design Surveying Office.



Christmas gift suggestions from Oren Arnold:
 To your enemy, forgiveness. To an opponent, tolerance. To a friend,
 your heart. To a customer, service. To all, charity. To every child, a
 good example. To yourself, respect.



Supplemental Agreement Report—September

Larry Kelley, P.E., District Design Engineer

This is the Supplemental Agreement Report for the month of September 2003. The two (2) categories of supplemental agreements that are included in this monthly report are codes 101 and 105. 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 101: Necessary pay item not included.

Reason: Improvements under this contract consist of multi-lane construction, bridge construction, drainage improvements, highway lighting, signalization and signing and pavement markings.

Prior to beginning of construction, a review of the plans showed that the Traffic Control Plans required the contractor to place Removable Pavement Markings at certain locations for the lane shift operations during construction phases 1, 1A and 1B. The quantities for these Removable Pavement Markings were inadvertently included in the totals for the Traffic Striping Pay Item(s).

In order to properly compensate the contractor for the aforementioned work, the Department decided that the quantities for the Removable Pavement Markings would be deleted from the Traffic Striping Pay Item(s) and the appropriate pay item(s) for Removable Pavement Markings was established for the contract.

Increase = \$61,668.70

Response: This supplemental agreement is being attributed to a design error with an estimated premium cost of \$3,889.95. No action to collect the

premium cost is necessary at this time. However, the supplemental agreements on this project will be monitored and if the combined premium cost on all the supplemental agreements reaches the threshold for recovery, then the necessary action will be taken.

Description Code 105: Conflicts resulting from discrepancies, inconsistencies, etc. between plans notes, details, pay items, activities, etc.

Reason: Improvements under this contract consist of milling and resurfacing, adding paved shoulders, safety and drainage improvements and signing and pavement markings.

Subsequent to commencement of construction a review of the contract plans revealed the Designer's intent was to add asphalt overbuild to the curves to correct the superelevation in order to bring the cross slopes and transitions into compliance with Index 510 of the Roadway and Traffic Design Standards.

A further review of the contract documents indicated no provisions were included in the contract to compensate the Contractor for the work. Therefore, the Department negotiated a cost for the utilization of Superpave 9.5 to accomplish the work due to varying application thickness requirements.

Increase = \$173,040.00

Response: This supplemental agreement is being attributed to a design error with an estimated premium cost of \$1,350.00. No action to collect the premium cost is necessary at this time. However, the supplemental agreements on this project will be monitored and if the combined premium cost on all the supplemental agreements reaches the threshold for recovery, then the necessary action will be taken.

It was Christmas and the judge was in a merry mood as he asked the prisoner, "What are you charged with?" "Doing my Christmas shopping early," replied the defendant. "That's no offense," said the judge. "How early were you doing this shopping?" "Before the store opened," countered the prisoner.

Supplemental Agreement Report—October

Larry Kelley, P.E., District Design Engineer

This is the Supplemental Agreement Report for the month of October 2003. The two (2) categories of supplemental agreements that are included in this monthly report are codes 101 and 107. 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 101: Necessary pay item not included.

Reason: Improvements under this contract consist of multi-lane construction, bridge construction, drainage improvements, highway lighting and signing and pavement markings.

This supplemental agreement/work order is to provide Advance Arrow Warning Panels as required for the Maintenance of Traffic within the project limits as indicated by the FDOT Roadway and Traffic Design Standards. The Designer of Record did not include pay item number 2102-76, Advance Arrow Warning Panels in the summary of pay items.

The FDOT Construction Project Manager and the Consultant Senior Project Engineer agreed with the Contractor that Advance Arrow Warning Panels were required in conjunction with other Maintenance of Traffic devices to adequately and safely guide the traveling public through the active work zones within the project limits.

Increase = \$4,020.00

Response: This supplemental agreement is being attributed to a design error with no estimated premium cost.

Description Code 107: Modification of approved MOT plan to accommodate various modes of transportation (i.e. pedestrians, boats, cars, bikes, etc.).

Reason: Improvements under this contract consist of the construction of dual weigh stations on SR 8 (I-10).

Subsequent to commencement of construction a review of the contract plans revealed that the MOT required a lane shift onto the median shoulder pavement due to the installation of temporary barrier wall between the outside lane of traffic and the proposed construction. The Designer however did not address the issues of the cross slope of the median shoulders nor the existence of the rumble strips which had to be paved to provide a safe riding surface for the traveling public for the duration of the lane shifts.

Increase = \$24,960.00

Response: This supplemental agreement is being attributed to a design error with no estimated premium cost.



Big Quality and Little Quality = Total Quality

Larry Kelley, P.E., District Design Engineer

Everyone knows that in order for Quality Control (QC) plans to be successful, it must cover all issues. However, I think that we, as engineers, tend to concentrate on engineering issues. Obviously, the engineering and engineering support items are of extreme importance and can make or break the project. Most reputable engineering firms with experienced personnel do a good job with engineering. The Engineer of Record (EOR) is usually very interested in the quality of the engineering and he or the firms project manager (if a different person) develop a QC plan that adequately addresses engineering issues.

I am always surprised, though, when non-engineering items are not held to the same degree of professional quality. In the last few months I have personally witnessed many non-engineering items that give a firm and District 3 a less than desirable image. I cannot be sure, but it appears that the EOR or project manager ignores QC efforts over many items I will refer to as "little" things. I could have entitled this article "When Little things become Big things".

Title blocks, job numbers and other project or company identification numbers become "big" items when they are incorrect or missing, and this holds up the letting process. These are also "big" issues when I have

(Continued from page 4)

to go to the bosses office and explain why 75% of all the plans pages had corrections required during the letting process. Another little item that becomes a big item is when notices to property owners have incorrect information. Recently there have also many errors with local officials names and titles. These items create a bad image for the Department. Electronic deliverables and specification packages are other items that can cause havoc if not exposed to a good QC effort.

In trying to figure out how these things happen with good reputable firms with very good project management personnel and experience, I can only conclude that items perceived as "little" items get passed off to someone not as interested in quality and the reputation the firm. There simply must be a review process for the little items, just as with the big items.

Total Quality is not possible unless Big Quality and Little Quality are taken seriously. Sometimes it's the little things that have the biggest impact on a reputation. In the highway design arena its often the timing of a little mistake or the negative image it gives the Department engineers or to the Department as a whole. Someone inside the Department always answers, to a degree, for mistakes by consultants. Remember, BIG QUALITY + LITTLE QUALITY = TOTAL QUALITY

It is not the reputation you want to have if you cannot get the little things correct.



Design Spotlight; Margaret Hicks

Larry Kelley, P.E., District Design Engineer

I would like to utilize the "spotlight" article of this issue of the newsletter to introduce Margaret Hicks.

Margaret recently accepted a new and challenging position at DOT. She is the new Administrative Assistant to the District Design Engineer's office. Margaret is a native of

Chipley, Florida and graduated from the Washington County School System. Margaret has many years of experience in the office place. She spent 15 years of her career in the health field at the Washington County Health Department.

For the past 17 years she has worked at DOT, starting in the Fiscal office and then moving to the Survey and Mapping Section. In July, 2003 Surveying and Mapping split as a result of reorganization brought on by downsizing and DROP. Surveying merged with Design and Margaret came to the Design Department as secretary for the District Land Surveyor, Danny Deal.

The Administrative Assistant slot has been vacant for many months, so I am glad to have Margaret on board in this capacity. I know everyone will find Margaret friendly, efficient and professional; which is why she was selected.

Margaret still enjoys life here in the Chipley area and likes to spend time with family. She has one daughter, Sandy, who is an elementary school teacher. Margaret is also proud of two grandchildren, Jonathan and Melea, who are active in church and sports activities.

Margaret does a good job at DOT, and she has her priorities correct as she emphasizes the importance of God and family.



Christmas Traditions

- *Early Christmas trees were often decorated with apples, nuts and candles.
- * In 1834, Queen Victoria's husband, Prince Albert brought the first Christmas tree to Windsor Castle for the Royal family.
- * The tradition of a holiday tree has been around since ancient times and has played an important part in winter celebrations for many centuries.
- * Poinsettia, a flower with close associations to Christmas, originated in Mexico where it is known as Flower of the Holy Night.
- * That old Christmas favorite Jingle Bells, much loved by children at Christmas parties, wasn't actually written for Christmas at all. Originally titled One Horse Open Sleigh, it was written in 1857 by James Pierpoint for the US celebration of Thanksgiving.

Access Management in Design

Ronnie Peel, District Quality Control

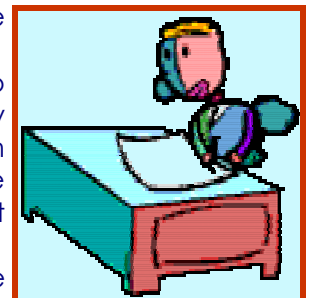
Recently it has come to the Department's attention there is a growing concern over the access management practice of limiting crossovers on Intrastate highways and on future corridor management plans that would apply the spacing criteria for divided highways on urban as well as rural projects. A major concern of many involved in the process is the need to design our facilities to support the U-turn movements that we are pushing as part of access management. The public has a hard time believing that the U-turn movement is safer than a left turn at an existing median opening even though there may not be a left turn lane to provide vehicle deceleration out of the inside through lane. The public is also concerned about making U-turns at openings where there is insufficient pavement width for a full size pickup truck to make a U-turn in one movement without having to back up.

As we consider this problem it is evident that we need to consider providing bulb-outs when deemed necessary by traffic patterns and where possible. The question is what should be considered when determining when and where to provide bulb-outs and does the Department or Third District have any criteria or limitations on bulb-outs?



First, I will not try to provide all the information necessary to design a bulb-out. The Designer should use the Department's Median Handbook as well as other publications, i.e. Plans Preparations Manual, AASHTO, etc. to help determine how and where to provide them. However, I will try and provide a few considerations and directions to use on Third District projects.

1. As a general rule we try to accommodate passenger vehicles and school buses where we think there is a need for them to make a U-turn.
2. We have not tried to accommodate short-units, WB-40's, WB-50's, etc. as there need to make a U-turn should be small. However, their need should probably be considered in highly developed commercial areas. Although some districts apply the policy that commercial vehicles will find a way, District Three wants a case by case consideration of need.
3. On new construction or re-construction projects where R/W is being purchased, the Designer should consider the need for U-turns and Bulb-outs when setting the R/W limits if the additional R/W cost is minimal.
4. On projects where the Department is applying Access Management Practices, i.e removing crossovers, constructing directional median openings, constructing left turn lanes, etc. the Designer should consider the need for U-turns and bulb-outs and construct them at locations as deemed necessary and where possible within existing R/W. However, if the project is not programmed to purchase R/W for other reasons, we will not purchase R/W just to provide bulb-outs (unless directed by the FDOT).
5. The Designer should consider the width of median. If you have a 30' or 40' median and add a left turn lane that will take up 12' of that width, there should still be sufficient width to make a U-turn if it is a 4-lane roadway and there are 4' or 5' paved shoulders. Per page 715 of the 2001 AASHTO or page 825 of the 1990 AASHTO a passenger vehicle can turn just fine where the median width is 18' to 30' without encroaching onto the paved shoulder. This is based on a 19' long vehicle which is more than most cars and probably about the length of a regular pickup truck. I measured a full size king-cab pickup and it was only about 20' long. I would imagine the larger 4 door models would be around 22' or 23' long. I would think that even the larger pickup models can still make a U-turn where there is a 18' wide median by encroaching onto the paved shoulder.
6. On urban curbed projects with a 15.5' to 22' median, bulb-outs definitely need to be considered where there is an anticipated need for them. The Designer especially needs to check the need for bulb-outs at median openings in both directions from a side road where the side road will not have left turn capability into or from the side road or where there are several driveways that would need to make a U-turn. Not all crossovers would necessarily need a bulb-out.
7. The Designer should keep in mind that the construction of bulb-outs will require drainage considerations.





STATE DESIGN CONFERENCE

FDOT Central Office will host the Bi-Annual State Design Conference July 12-14, 2004. Details on location, agenda and etc. will be forthcoming from Brian Blanchard, State Roadway Design Engineer.

DISTRICT THREE DESIGN CONFERENCE

The District will be hosting the District Design Conference every other year; in the year the State Design Conference is not held. Therefore there will be no District Conference in 2004. The next District Design Conference will be in the Spring of 2005.



*A wish for a
Happy and Safe
Holiday Season
from
District Three Design*



"Every year, Tow to Go keeps more potential drunk-drivers off our roads," says Ed Schatzman, senior vice president of automotive services for AAA Auto Club South. "This program not only helps to keep those drivers safe, it protects countless others who are traveling in their cars this holiday season."

According to the National Highway Traffic Safety Administration, drunk-driving crashes killed 904 people in Florida in 2002. "Drunk-driving is 100 percent preventable and through this innovative partnership between AAA and Budweiser, we can hopefully make an impact on bringing those numbers down, especially during the holidays," says Schatzman.

Tow to Go is simple to use. Adults who need a ride home from bars or restaurants this holiday season can simply call 1-800-AAA-HELP. AAA will dispatch a tow truck and will take both the driver and the vehicle home, free of charge.

This is the third year that Tow to Go has been offered throughout the entire state of Florida. The program is also available in the metro Atlanta area and the metro Nashville area. Tow to Go runs from Thanksgiving 2003 through New Year's Day 2004.

<http://www.designateddriver.com/>