MEMORANDUM

DATE: October 3, 2005

TO: Ananth Prasad, State Highway Engineer

FROM: Robert Greer, Director, Office of Design
Brian Blanchard, Director, Office of Construction
Sharon Holmes, Director, Office of Maintenance

COPIES: Kevin Thibault

SUBJECT: Basis of Estimate Handbook – 2005 Mid-Year Update

I approve the Implementation Plan for each issue outlined in the:

2006 Basis of Estimate Handbook
Summary of Major Changes

Robert Greer
Director, Office of Design

Brian Blanchard
Director, Office of Construction

Sharon Holmes
Director, Office of Maintenance
DATE: October 3, 2005
TO: Basis of Estimate Handbook Users
FROM: Paul Herring and Melissa Hollis
E-COPY: Ananth Prasad, Robert Greer, Brian Blanchard, Phillip “Greg” Davis, William Nickas, Duane Brautigam, Sharon Holmes, District Design Engineers, District Project Management Engineers, District Structures Design Engineers, District Construction Engineers, District Pavement Design Engineers, District Estimates Engineers and District Specifications Engineers

SUBJECT: 2006 Basis of Estimates Handbook Summary of Major Changes

The Coordination Team made recommendations for the implementation of changes to pay items and specifications that have been developed within the last six months. The implementation plan for each issue has been approved by the appropriate office, and concurred to by the Directors of Design, Construction, and Maintenance. A detailed description of each of these changes and their implementation date is attached. The following is a summary of issues addressed in this update:

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Summary of Major Changes, October 2005
Minor Issues, Announcements, General Notices

Issue: TRNS*PORT- Blocking Inactive Items
With direction from the Structures and Utilities Offices, over 100 inactive item structures (representing over 2000 items) have been blocked and/or removed from the BOE. A summary of these changes is available in the online BOE Appendices (see attached list.) Effective dates vary by item; refer to item structures for details.

Issue: Design Update Training on CD
This year's Design Update Training will be provided on CD's as a computer based training. A copy of all correlating manuals will be provided on CD. The CBT will be structured similar to the traditional Update Training presentation format with PowerPoint® presentations and information regarding updates to the Plans Preparation Manual (PPM) and other related areas of Design.

The CD's will be mailed to all current PPM holders in January 2006. If you have changed companies or moved to another address within the last two years, please Email your correct information to Lisa.Proctor@dot.state.fl.us

This year's Design Update Training will also be available to all for downloading from the Roadway Design Website in January 2006. If you are not a PPM holder the 2006 Design Manual CD containing the Design Update Training may be requested from Maps and Publication.

Issue: 5 Day Minimum
For Advance Warning Arrow Panels (102-76) and Changeable/Variable Message Sign, Temporary (102-99), the specifications will no longer require a 5 day minimum, effective with the July 2006 letting.

Issue: Fender Systems
No later than July, 2006, the Structures Design Office will issue new standards & specifications for bridge fender systems. Included in these standards will be multiple systems whose selection depends on the type of navigation traffic the channel experiences. Some of these systems will detail plastic piles and wales. Periodically check the Structures Design Office web pages for Design Bulletins.

Issue: Precast Box Culverts
No later than July, 2006, the Structures Design Office will issue new standards & revise existing specifications for precast concrete box culverts. Included in these standards will be typical concrete and reinforcing details as well as design tables for the reinforcing size and spacing that are commensurate with our environmental classifications. Section 410 of the specifications is being completely revised to eliminate reliance on AASHTO and/or ASTM standards to fabricate these products. Periodically check the Structures Design Office web pages for Design Bulletins.
Effective January 2007 letting

Issue: 2007 Master Pay Item File

History: TRNS*PORT was designed to synchronize pay items with updated specifications books, as the department has operated for many years. Programming patches were created to extend the 2000 master file, but after 5+ years with the current file, many pay items were inactive and/or obsolete. A decision was made to update the Master File for 2007, effective with the 2007 Standard Specifications for Road and Bridge Construction.

Note: The “2007 Spec Book” is effective with the January 2007 letting.

Opening Items: The 2007 Master Pay Item file has been created with limited, frequently used pay items. Other items listed on the 2007 Pay Item Structure will be opened upon request, as detailed in Chapter 6 of the BOE. (Items requested by e-mail are normally opened the same day, upon receipt.)

New Items: Items not currently listed in the 2007 structure may also be requested, as detailed in Chapter 6 of the BOE. Please complete a pay item request form. Items will be opened upon approval by the responsible office: Structures, Drainage, Pavement, etc. (Standards, specifications, and/or details may be required.) Please work with your District Estimates and/or District Specifications Offices.

Implementation Plan: Projects with a scheduled letting date of 1/1/07 or later will be programmatically updated within TRNS*PORT PES to use the '07 Master Pay Item File. Projects without a scheduled letting date will not accept pay items. Designers must work with FDOT Project managers to update the letting date field in the FM System.

Designers & Estimators should run a Project Edit Report from the Designer Web Pages to verify that all items are currently valid, with the correct Master File.

District Estimates: Verify that the Letting Date and “Spec Year” fields are correct in TRNS*PORT PES.

Central Office OIS: Update Designer Web Pages for Interface and Reports, effective January 2006 (for projects let January 2007 and later).

District Design: Verify that the Summary of Pay Items on applicable projects includes pay items from 2007 Master Pay Item List.

Specifications: Specifications will be available for the January 2007 letting.

Summary of Major Changes, October 2005
Contact Person(s):

Paul Herring, SC 994-4179, 850-414-4179 for TRNS*PORT PES & Reports; Melissa Hollis, SC 994-4182, 850-414-4182 for Basis of Estimates; Contact your Project Manager, District Specifications or District Estimates Offices for project specific issues.

Approved: Phillip "Greg" Davis  
Signature: [Signature]  
Date: 9.29.05  
State Estimates Engineer

Approved: Robert Greer  
Signature: [Signature]  
Date: 9.30.05  
for State Roadway Design Engineer

Approved: William Nickas  
Signature: [Signature]  
Date: 9.30.05  
State Structures Design Engineer

Approved: Duane F. Brautigam  
Signature: [Signature]  
Date: 09/28/05  
State Specifications Engineer

Approved: David Sadler  
Signature: [Signature]  
Date: 09/30/05  
State Construction Engineer
Effective January 2006 letting

**Issue:** Clearing and Grubbing per Acre (Push Button Contracts Only)

**History:** A clearing and grubbing pay item with a per acre unit of measure has been established for push button type contracts only. This will allow individual work orders to be issued for specific areas where clearing and grubbing is needed. An example application for use of this pay item is to clear areas to allow utility relocation work to occur in advance of letting a major reconstruction project.

**Implementation Plan:**
The following item will be valid, effective January 1, 2006:

110- 2- 1 Clearing and Grubbing (Push Button Contracts Only), AC (HA)

Note: For clearing and grubbing on all other contracts, use Pay Item 110- 1- 1 Clearing and Grubbing LS/AC (LS/HA).

**District Design:** Use this pay item on District wide contracts, when applicable, beginning with the January 2006 letting.

**Specifications:** A specification change to provide for payment by the acre will be available for the July 2006 letting. For use of this pay item prior to July 2006, inquire with the Contact Person below.

**Contact Person(s):** Jim Mills, SC 994-4318, 850-414-4318

**Approved:**
- Robert Greer
  for State Roadway Design Engineer
  Date 9-30-05
- William Nickas
  State Structures Design Engineer
  Date 9-30-05
- Duane F. Brautigam
  State Specifications Engineer
  Date 09/28/05
- Phillip "Greg" Davis
  State Estimates Engineer
  Date 9/29/05
- David Sadler
  State Construction Engineer
  Date 9/30/05

Summary of Major Changes, October 2005
Effective July 2006 letting

Issue: Prepared Soil Layers, Grass Specifications and Reworking Shoulders

History: The following changes have been made in an effort to update, consolidate and clarify specifications related to soil layer, grass specifications and reworking shoulders.

Sections 162 (Finished Soil Layer), 162A (Organic Soil Layer) and 163 (Blanket Material) are now combined in Section 162 Prepared Soil Layer. Sections 162A and 163 are being deleted.

Sections 981 (Grassing and Sodding Materials), 982 (Commercial Fertilizer) and 987 (Prepared Soil Layer Materials) have been updated.

Section 577 Reworking Shoulders and the reworking shoulders pay item are being eliminated. Standard Indexes 104 and 105 in the 2006 Design Standards have been updated to the new specifications.

Implementation Plan:

Central Office Design: Revise Design Indexes 104 and 105.

Central Office Estimates: Establish the following new pay items: (Refer to the Pay Item Structure in BOE)

0162- 1-ab Prepared Soil Layer, SY
   a = 1 (Finish)
   2 (Organic) Note: By Permit Only
   3 (Blanket) Note: By Permit Only
   b = Depth
   1 (6") (Standard)
   2 (12")
   3 (Special)

Permanently block the following pay items on June 30, 2006:
0162-3-abb Finish Soil Layer SY; M2
0162-5 Finish Soil Layer (Landscaping) CY; M3
0163-1-xaa Blanket Material SY; M2
0577-70 Reworking Shoulders SY; M2

District Design: Update plans and Summary of Pay Items to indicate the use of the new pay items beginning with the July 2006 letting.

Specifications: Specifications are currently being developed and will be available for the July 2006 letting.

Contact Person: David Sadler, Office of Construction, (850) 414-5203, SC 994-5203.
<table>
<thead>
<tr>
<th>Approved</th>
<th>Signature</th>
<th>Name</th>
<th>Position</th>
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<tr>
<td>David Sadler</td>
<td><img src="Signature-01.png" alt="Signature" /></td>
<td>David Sadler</td>
<td>State Construction Engineer</td>
<td>9/30/05</td>
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<tr>
<td>Robert Greer</td>
<td><img src="Signature-02.png" alt="Signature" /></td>
<td>Robert Greer</td>
<td>for State Roadway Design Engineer</td>
<td>9/30/05</td>
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<tr>
<td>Phillip “Greg” Davis</td>
<td><img src="Signature-03.png" alt="Signature" /></td>
<td>Phillip “Greg” Davis</td>
<td>State Estimates Engineer</td>
<td>9/29/05</td>
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<tr>
<td>Duane F. Brautigam</td>
<td><img src="Signature-04.png" alt="Signature" /></td>
<td>Duane F. Brautigam</td>
<td>State Specifications Engineer</td>
<td>09/28/05</td>
</tr>
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Issue: Asphalt Binder (PG76-22)

History: In July 2005, the revised Section 334 of the specifications was added to contracts. In this specification section, 334-2.2 included language defining which lifts of structural asphalt are to receive PG 76-22 binder in Traffic level D and E mixes.

Pavement Designers should be alerted to this note and the fact that there are currently separate pay items for asphalt mixes with and without PG 76-22 binder. Designers should ensure that the correct pay items are included in the contract when mixes with and without the PG 76-22 binder are included. This is to reduce the risk to the Department for claims associated with not having the appropriate pay item.

Implementation Plan:

The following items are currently used by Designers:

(2) 334-1 AA Superpave Asphaltic Concrete TN (MT)

AA = Traffic Level
11(A)
12(B)
13(C)
14(D)
15(E)
21(A) (PG76-22)
22(B) (PG76-22)
23(C) (PG76-22)
24(D) (PG76-22)
25(E) (PG76-22)

Central Office Design: Provide guidance to Designers to ensure that correct pay items are included in construction contracts.

Specifications: Specifications are currently available.

Contact Person(s):

Bruce Dietrich  SC 994-4371  850-414-4371
David Sadler  SC 994-5203  850-414-5203
Approved: Bruce Dietrich
           Date 10/4/05
           State Pavement Design Engineer

Approved: Robert Greer
           Date 9-30-05
           for State Roadway Design Engineer

Approved: David Sadler
           Date 9/30/05
           State Construction Engineer

Approved: Duane F. Brautigam
           Date 09/28/05
           State Specifications Engineer

Approved: Phillip “Greg” Davis
           Date 9.29.2005
           State Estimates Engineer
Effective July 2006 letting

**Issue: Intelligent Transportation Systems (ITS)**

**History:** In 2000 the Department established the Intelligent Transportation System (ITS) Program to facilitate the deployment of ITS statewide. To fund this program, the Executive Board approved an initial investment of $496 million over a ten-year period. The funds were then programmed by the Department based on the project recommendations of the Ten-Year ITS Cost Feasible Plan. This plan was developed utilizing guidance from the Statewide ITS Strategic Plan and Statewide ITS Architecture, and provides for a coordinated and logical expenditure of funds for ITS deployments.

To assure standardization in the deployment of ITS devices and to reduce the need for writing technical special provisions, the ITS Program has been developing ITS device specifications.

The draft specifications were developed with input from the Districts, Turnpike Enterprise, ITS professionals as well as from the device vendors and manufacturers. The specifications describe the requirements to be met by designers and contractors in the construction of ITS, and the requirements to be met by manufacturers and equipment suppliers.

The draft specifications for ITS devices are being finalized through the Department’s formal specification acceptance process. The specifications will enable the Department to achieve consistency in the deployment of ITS devices, and also have a standard for the evaluation of ITS devices for inclusion on Department’s Approved Product List (APL). The Special Provisions for ITS components listed below will be implemented effective July 2006 letting.

**Implementation Plan:**

**Central Office Design:** Update PPM Vol 1, Chapter 7.

**Central Office Estimates:** The State Estimates Office will establish an ITS Category in Trns*port. All ITS pay items must be loaded into the ITS Category. Do not use signalization and/or structures pay items for ITS components.

The following new pay items are anticipated, effective with the July 2006 letting. (Refer to the BOE Pay Item Structure for details):

- 0781- 1-abc ITS Dynamic Message Sign Each
- 0781- 2-xab ITS Highway Advisory Radio Each
- 0782- 1-xab ITS Closed Circuit TV Each
- 0782- 2-abc ITS Video Display Each
- 0783- 1-abc ITS Fiber Optic Cable LF
- 0783- 2-xab ITS Fiber Optic Connections Each

Summary of Major Changes, October 2005
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<td>0784- 1-xxa</td>
<td>ITS Managed Field Ethernet Switch</td>
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<td>0784- 2-xxa</td>
<td>ITS Device Server</td>
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<tr>
<td>0784- 3- ab</td>
<td>ITS Digital Video Encoder/Decoder</td>
<td>Each</td>
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**District Design:** Update plans and Summary of Pay Items to indicate the use of the new pay items beginning with the July 2006 letting.

**Specifications:** Specifications are currently being developed and will be available for the July 2006 letting.

**Contact Person:** Gene Glotzbach, ITS Engineer Administrator, Traffic Engineering and Operations Office, (850) 410-5616, SC 210-5616.

**Approved:**
- **Lap Hoang**
  - State Traffic Operations Engineer
  - Date: 10/12/05

- **Duane F. Brautigam**
  - State Specifications Engineer
  - Date: 09/28/05

- **Robert Greer**
  - State Roadway Design Engineer
  - Date: 9-30-05

- **William Nickas**
  - State Structures Design Engineer
  - Date: 9-30-05

- **Phillip "Greg" Davis**
  - State Estimates Engineer
  - Date: 9-29-05

- **David Sadler**
  - State Construction Engineer
  - Date: 9/30/05

Summary of Major Changes, October 2005
Effective January 2007 letting

Issue: Lighting Conduit

History: In an effort to reduce pay items, payment for lighting conduit will be made based on operation and location. Specific sizes and/or materials shall be included in the plans and/or standards, when needed.

Implementation Plan:

The following item will be blocked, effective December 31, 2006:
(2)715- 2-ABC Lighting Conduit LF

The following items will be valid, effective January 1, 2007:
(2)715- 2- AB Lighting Conduit LF
A= Operation
1 (Furnish & Install)
2 (Furnish)
3 (Install)
B= Location
1 (Underground)
2 (Underpavement) Note: Only when sawcutting is necessary
3 (Surface Mount)
Note: For Directional Bore, Jack & Bore, or Vibratory Plowing installations, refer to Sections 555 through 557 of the specifications.
Note: For barrier wall installations, payment for conduit is incidental to the cost of the barrier.

District Design: Update plans and Summary of Pay Items on applicable projects to include pay items for conduit beginning with the January 2007 letting.

District Construction:

Specifications: No specification changes are needed.

Contact Person(s): Chester Henson, SC 994-4117, 850-414-4117

Approved: William Nickas
State Structures Design Engineer

Approved: Duane F. Brautigam
State Specifications Engineer

Summary of Major Changes, October 2005
Approved: Robert Greer  
for State Roadway Design Engineer  
Date 9-30-05

Approved: Phillip "Greg" Davis  
State Estimates Engineer  
Date 9-29-05

Approved: David Sadler  
State Construction Engineer  
Date 9/30/05
Effective July 2006 letting

Issue: Aluminum Light Pole

History: Index 17515 was revised in the 2006 Design Standards. The revision included a modification of the case numbers on the pole data sheets to coincide with the case numbers on the arm data sheets. A problem was created with the Pay item structure, since this created a 2 digit field for pole case numbers and only 1 digit was available in the existing structure. A new pay item structure was created with only a single case entry, since the case numbers are the same in the pole and arm data tables.

This is a QPL Item; no shop drawings are required.

Implementation Plan: Update pay items for Aluminum Light Poles, effective with the 2006 Design Standards.

The following items will be blocked, effective June 30, 2006:
(2)715-ABC-DEE Light Pole Complete (Aluminum Standard), EA

The following items will be valid, effective July 1, 2006:
(2)715- 4A-BCC Aluminum Light Pole- Complete, EA
A= Operation
  1 (Furnish & Install)
  2 (Furnish)
  3 (Install)
  4 (Relocate)
  5 (Adjust /Modify)
  6 (Remove & Dispose)
B= Mounting Height
  1 (Up to 25 ft)
  2 (26-39 ft)
  3 (40-49 ft)
  4 (50+ ft)
C= Case #
  1 (Case 1)
  through
  11 (Case 11)

Central Office Design: 2006 Design Standards have been updated, effective with the July 2006 Letting.

District Design: Update plans and Summary of Pay Items on applicable projects to include pay items for Aluminum Light Poles, beginning with the January 2006 letting.

Specifications: No specification changes are required.
Contact Person(s): Chester Henson, SC 994-4117, 850-414-4117

Approved: William Nickas
            Date 9-30-05
            State Structures Design Engineer

Approved: Robert Greer
            Date 9-30-05
            for State Roadway Design Engineer

Approved: Duane F. Brautigam
            Date 09/28/05
            State Specifications Engineer

Approved: Phillip "Greg" Davis
            Date 9.29.2005
            State Estimates Engineer

Approved: David Sadler
            Date 9/30/05
            State Construction Engineer
Effective July 2006 letting

**Issue: Thermoplastic**

**History:** The Pay Item for Thermoplastic was restructured to include a separate pay item for refurbishment application of Thermoplastic and preformed thermoplastic products.

**Implementation Plan:**

The following items will be blocked, effective June 30, 2006:

- **(2)711- 3-** Pavement Messages LS
- **(2)711- 4-** Directional Arrows EA
- **(2)711- 5- A** Guide Lines, Thermoplastic FT (M1)
- **(2)711- 7-** Pavement Marking, Remove FT (M2)
- **(2)711- 31-** Traffic Stripe Skip, White GM (GK)
- **(2)711- 32-** Traffic Stripe Skip, Yellow GM (GK)
- **(2)711- 33-** Traffic Stripe Skip, White FT (M1)
- **(2)711- 34-** Traffic Stripe Skip, Yellow FT (M1)
- **(2)711- 35-AAA** Traffic Stripe Solid, White FT (M1)
- **(2)711- 36-AAA** Traffic Stripe Solid, Yellow FT (M1)
- **(2)711- 37-AAA** Traffic Stripe Solid, White GM (GK)
- **(2)711- 38-AAA** Traffic Stripe Solid, Yellow GM (GK)

The following items will be valid, effective July 1, 2006:

- **(2)711- 1A-BCD** Thermoplastic

  A=Class
  - 1 (Standard)
  - 2 (Refurbishment)
  - 3 (Hot Spray)
  - 4 (Preformed)
  - 7 (Remove) SF Note: when A=7, BCD=blank

  B= Color
  - 1 (White)
  - 2 (Yellow)
  - 3 (Black)
  - 4 (Blue)

  C=Type of Marking
  - 1 (Solid) NM
  - 2 (Solid) LF
  - 3 (Skip) GM
  - 4 (Skip) LF
  - 5 (Dotted /Guideline) LF
  - 6 (Messages) EA
  - 7 (Arrows) EA

  D= Width
  - 1 (6")
Central Office Design:

District Design: Update plans and Summary of Pay Items on projects which include pay items for Thermoplastic Stripe beginning with the July 2006 letting.

Specifications: Specifications will be available for the July 2006 letting.

Contact Person(s): Chester Henson, SC 994-4117, 850-414-4117

Approved: Phillip "Greg" Davis

Approved: Robert Greer

Approved: Duane F. Brautigam

Approved: David Sadler

Date 9/29/05
Date 9/30/05
Date 09/28/05
Date 9/30/05