

Chapter 3

Key Sheet

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Chapter 3

Key Sheet

3.1 General

This is the first sheet in the contract plans. It describes the project and the contents of the plans. The key sheet cell can be found in the FDOT Engineering/CADD Systems Software. Levels and fonts for additional data can be found in the FDOT **CADD Production Criteria Handbook**.

For a key sheet example, see **Exhibit KS-1**.

3.2 Project Identification

Background: On May 21, 1997, the State Highway Engineer instructed District Secretaries on the implementation of the Financial Management System. This system replaces the Work Program Administration, the Job Cost Reporting and the Federal Project Accounting systems. Once implemented, all contract documents/sheets that historically had shown project or WPI numbers were to have the new project number on every sheet. Beginning March 16, 1998, a Financial Project ID was assigned to each old project, and from then on new projects have been assigned the Financial Project ID only. In his memorandum to the District Design Engineers dated April 22, 1998, the State Roadway Design Engineer requested that, starting with the plans packages mailed to Tallahassee for the January 1999 letting, the new number be printed on all sheets. On June 30, 1998, the Secretary instructed the Department to use the Financial Project ID in all project documents.

3.2.1 Financial Project ID, Federal Funds, County Name and State Road Number

The Financial Project ID is the main number identifying each individual project within the Department. On the key sheet, this number is located immediately under the heading "CONTRACT PLANS", as shown in the exhibits. Where Federal funds are involved, the words "(Federal Funds)" are to be placed under the Financial Project ID. The county name and the state road number will be included under the Financial Project ID. Also, the "county and roadway section number" associated with Straight Line Diagrams will be placed within parentheses to the right of the county name, as shown on **Exhibit KS-1**.

Strung projects, those that are independently prepared but are to be let in the same construction contract, shall have the additional Financial Project IDs noted on the right side of the key sheet. See **Exhibits 3-1** and **KS-1** for an example of this note.

On projects which have one Contract plans set, but multiple Financial Project ID's, all of the Financial Project ID's are located immediately under the heading "CONTRACT PLANS" on the key sheet. On all other plan sheets, the lead Financial Project ID is to be shown.

The Construction Contract Number shall be indicated in the upper right corner of the Lead Key Sheet above the State Map as shown on **Exhibit KS-1**.

3.2.2 Fiscal Year and Sheet Number

The construction fiscal year to be entered in the fiscal year box on the bottom right corner is the second year in the fiscal year, e.g., enter 13 for fiscal year beginning July 2012 and ending June 2013. The key sheet of each component of the plans set will be numbered as the first sheet of that component.

3.2.3 Length of Project Box

Lengths of roadway, bridges, bridge culverts, exceptions, and net and gross lengths of the project shall be shown in a box in the center of the sheet below the location map. The length of the project is computed as follows:

1. Roadway = End Project - Begin Project - Exceptions - Bridges (not including bridge culverts) adjusted for Equations
2. Net = Roadway + Bridges (not including bridge culverts)
3. Gross = End Project - Begin Project (adjusted for Equations)

The roadway and bridge length shall be computed in feet and converted to miles, rounded to three decimal places. The survey line should be used to compute the length of the project unless: the construction line is substantially different in length (100 feet or more), or the survey line is outside the right of way, or the survey line bridge length is different from the construction line bridge length. The use of the survey line will generally result in fewer equations on the key map. If a line other than the baseline of survey is used to compute the length of a project, a note stating which line was used is to be placed adjacent to the length of the project box.

If divided highways have significantly different lengths for the left and right roadways, the project length shall be based on the longer roadway. A note stating which roadway was used shall be placed adjacent to the project length box.

The "Begin Project" and "End Project" stations are the basis for computing the length. Begin and end construction stations are not to be used in computing the length of the project.

A length of project box is not required on component key sheets.

3.3 Project Location Map

This map is placed in the center of the sheet and consists of a reproduced portion of one or more maps showing the project location. The map may be a county map or other appropriate map. County maps in Microstation (*.dgn) format are available from the Survey and Mapping Office on CD or can be individually downloaded by county and included as a reference attachment. Information on the county maps is available at:

<http://www.dot.state.fl.us/surveyingandmapping/maps.shtm>

A utility to download the county map and clip out the project location area is provided in the **FDOT CADD Software**. Requests for county maps on CD should be in writing and include the county requested, the purpose for the use, the anticipated duration of the use, the Department of Transportation project manager's name and a CD upon which to copy the data. Requests should be directed to:

Florida Department of Transportation
Survey & Mapping Office
605 Suwannee Street, MS 5L
Tallahassee, Florida 32399-0450
(850) 414-1555

The intent of the location map is to provide enough information so that the project location is easily understood. This may make it necessary to show the Section, Township, Range and County lines together with Section, Township and Range numbers to make the location clear. City and urban limits should be shown where applicable.

Streets shall be designated by name and State Road number or U.S. Highway number, if appropriate. The name of the next incorporated city to which these roads lead shall be placed at the edge of the map. Roads and topography shall be indicated by standard symbols as shown in the **Design Standards, Index 002** and FDOT Engineering/CADD Systems Software.

Project location shall be shown by a heavy solid line of substantial width. It is sometimes advantageous to show station numbers at regular intervals, particularly with city street projects. The begin and end of projects, any station equations, begin and end of proposed bridges along the state project, bridge culverts and exceptions shall be stationed and flagged. Begin stations shall be shown for each project. The begin and end milepost, correct to three decimal places shall be shown under the begin and end project stations. The end milepost is to be calculated by adding the begin milepost to the difference in stations between the begin and end project. Plans are to be prepared

using stationing in linear feet. If linear foot stationing is unavailable, project may be prepared using mileposts. All station information is to be consistent with the station information entered into the Work Program Administration system during final design. See **Volume 1, Section 14.2**.

When several projects are covered by the same set of plans, the beginning and end of each project shall be indicated clearly by the Financial Project ID and stationing. The beginning of each project shall also be indicated by a milepost correct to three decimal places.

The scale of the location map should be chosen so that it will not interfere with other features on the key sheet. A common error is to position the location map on the sheet and then discover that insufficient space remains for the index of sheets, project title or the length of project box.

A location map is not required on component key sheets.

3.4 North Arrow and Scale

The north arrow shall be placed on either side of the location map, preferably to the right. The map scale shall be shown directly below the north arrow. The scale shall be indicated by using a bar scale. The scale distance shall be shown between the ticks. The map shall be oriented so that the arrow will point toward the top of the sheet. If the arrow cannot be oriented to the top, then it must be oriented to point to the right.

3.5 Component Plans in Contract Plans Set

A list of component plans included in the contract plans set shall be shown in the upper left corner. The order of listing shall be:

1. Roadway
2. Signing and Pavement Marking
3. Signalization
4. Intelligent Transportation Systems (ITS)
5. Lighting
6. Landscape
7. Architectural
8. Structures
9. Toll Facilities

If sheets covering items such as signing and pavement markings, signalization, ITS, lighting and landscape are included and numbered consecutively within the roadway plans (or structures plans if lead project), these are not to be shown as components of the contract plans set.

If the plans are structures plans and there is no work on the approach roadway, the structures plans become the lead project. Any other sheets incidental to the project typically found within the roadway plans or other component plans (i.e., traffic control plans, signing and marking, etc.), may be included in the structures plans and numbered consecutively in accordance with the **Structures Manual, Volume 2 – Structures Detailing Manual**.

If the plans are component plans and there is no Roadway component, then those plans become the lead project. Any other sheets incidental to the project typically found within the roadway plans or other component plans (i.e., traffic control plans, signing and marking, etc.), may be included in the lead component plans and numbered consecutively. Sheet number prefixing is not required for the lead component (i.e., "IT-#" for ITS Plans).

3.6 Index of Sheets

A complete index of roadway plan sheets shall be placed on the left side of the key sheet under the heading. When projects contain component plans, each component plans set shall have an index of sheets on its respective key sheet.

Roadway plans sheets shall be assembled as follows:

1. Key Sheet
2. Signature Sheet
3. Summary of Pay Items
4. Drainage Map (optional)
5. Interchange Drainage Map
6. Typical Section
7. Summary of Quantities
8. Summary of Drainage Structures
9. Optional Materials Tabulation
10. Project Layout (optional)
11. Project Notes (optional)
12. Roadway Plan-Profiles
13. Special Profiles
14. Back-of-Sidewalk Profiles (optional)
15. Interchange Layout
16. Ramp Terminal Details
17. Intersection Layout/Detail
18. Drainage Structures
19. Three-Sided/Box Culvert Details
20. Outfall/Lateral Ditch Plan-Profiles
21. Outfall/Lateral Ditch Cross Sections
22. Special Details
23. Cross Section Pattern
24. Roadway Soil Survey
25. Cross Sections
26. Stormwater Pollution Prevention Plans (SWPPP)

27. Temporary Traffic Control Plan
28. Utility Adjustments
29. Project Network Control Sheet
30. Selective Clearing and Grubbing
31. Developmental Design Standards
32. Signing and Pavement Marking Plans*
33. Signalization Plans*
34. ITS Plans*
35. Lighting Plans*
36. Landscape Plans*
37. Mitigation Plans
38. Miscellaneous Structures Plans
39. Toll Facilities*

* When not separate component plans.

Summary of Quantity Sheets shall remain in the order listed above. These sheets will be identified with the prefix SQ - #.

In addition, the roadway plans may contain sheets which were prepared separately (perhaps by a sub-consultant) and incorporated into the roadway plans early in the design process (prior to the establishment of sheet numbering). As an option, these may be identified with the following prefixes and placed at the end of the numbered sequence of the roadway plans:

- CTL-# Project Survey Control Sheets
- GR-# Soil Survey and Report of Core Borings normally associated with the roadway plans set (including miscellaneous structures but excluding bridges and walls)
- TR-# Tree Survey Sheets
- UTV-# Verified Utility Locate Sheets

Note: Other component plans may also utilize the sheet prefixes defined in their respective chapters.

3.6.1 Revised Index Drawings

When Design Standards Revisions (DSR) are released by Design Bulletin, the engineer shall determine which revised Index drawings apply to the project and shall incorporate those Index drawings into the plan set. Those revised Index drawings shall be listed on the lead Key Sheet beneath the “List of Revised Index Drawings” header as follows:

LIST OF REVISED INDEX DRAWINGS

INDEX NO. *SHEET NO.*

The header shown above is available as a Cell in the Roadway cell library. If no applicable revised index drawings are included in the plans, the header of List of Revised Index Drawings on the Key Sheet is not required.

See ***Exhibit KS-1*** for examples on how to complete the List of Revised Index Drawings when applicable to the project.

3.7 Professional Responsibility

The name of the Engineer of Record, Architect or Landscape Architect of Record and registration number shall be included on the right side of the sheet. For specific instructions on sealing plans see ***Volume 1, Chapter 19***.

For plans prepared by a consulting firm, the name, address, consultant contract number, certificate of authorization number and vendor number of the firm shall be shown on the right side of the sheet.

The Department Project Manager's name shall be shown below the length of project box for consultant and Department prepared plans. For key sheets where length of project is not required, the Department Project Manager's name shall be shown in the same relative location on the sheet.

If shop drawings are anticipated for a project, the name(s) and address(es) of the Delegated Engineer(s) for shop drawing review(s) shall be shown on the right side of the sheet.

3.8 Governing Standards and Specifications

The year of the governing **Design Standards** and the **Standard Specifications for Road and Bridge Construction** shall be inserted in a note at the lower left corner of the contract plans lead key sheet.

The **Design Standards** are published and released on July 1, each year as an annual **eBooklet** posted on the Roadway Design Office web site. The release of the **Design Standards eBooklet (DSeB)** is announced by **Design Bulletin** which specifies the effective date for implementation of January 1, each year.

Revisions to the **DSeB** produced by the Department between regularly scheduled releases are implemented by issuing **Design Bulletins** for all applicable revised **Index Drawings**. The appropriate revised Index drawing number with associated sheet number shall be listed on the lead key sheet as shown in **Section 3.6.1**.

Revisions to the **DSeB** will be issued by Design Bulletin on an “as needed” basis to affect changes of immediate concern. The Design Bulletin will specify effective date of implementation. The revised **Index Drawings**, any applicable **Instructions for Design Standards (IDS)** and the **Design Bulletin** which implement these revisions are issued in Portable Document Format (PDF) and posted on the Roadway Design Office web site under the **Design Standards** webpage and under the Design Standards Revisions (DSR).

Developmental Design Standards (DDS) are to be inserted at the end of each component plan sets as applicable. When they are included in bridge plan sets, **DDSs** are to be inserted before existing bridge plans if they are present. **DDSs** are to be listed in the index of sheets for the plans component in which they are included. Follow the process shown in the “Developmental Design Standards Usage Process for Design-Bid-Build Projects” located in the link provided on the top of the DDS Webpage for requesting and using a **DDS**.

<http://www.dot.state.fl.us/rddesign/DesignStandards/Standards.shtm>

The Governing Specifications and Standards note shall not be shown on the key sheets of component plans that are listed on the lead key sheet of each plan set. The note is only to be shown on the lead key sheet and the Structures General Notes (see the **Structures Detailing Manual, Section 5.2 Typical General Notes**). **Exhibits 3-1** and **KS-1** give examples on how this note is shown on the key sheet.

3.9 State Map

A small-scale state map shall be shown at the upper right portion of the key sheet. The location of the project shall be indicated thereon.

3.10 Railroad Crossing

The location of any railroad crossing within the limits of construction will be identified on the key sheet as follows: DOT/AAR crossing number, railroad milepost, name of railroad, and the highway project station number.

3.11 Revisions

The lead key sheet (usually roadway) shall show a complete record of all plans revisions. The component (such as roadway, structures, signing and pavement marking), the sheet numbers involved, and the date when the sheet was revised shall be listed. The unique numbered symbol that corresponds to the Revision Number on the Revision Memo and modified sheets shall be listed here as well.

Due to the implementation of electronic delivery, revisions to any sheet in the plans, components, or strung projects will require electronic modification and re-sealing of the Lead key sheet.

Revisions shall be shown in the lower left corner of the key sheet in the “Revisions” area. Revisions to strung project sheets shall be listed here, under the respective Financial Project ID. If there are no revisions to the plans, the “Revisions” Header is not required.

A Key Sheet Revisions Block shall be shown on the right side of each component key sheet that shall contain a record of all revisions particular to that sheet. It shall list the revision date and a brief description of the revision. These revisions will also be noted in the “Revisions” area. If there are no Key Sheet revisions, the Key Sheet Revisions Block is not required.

If the changes to a key sheet only involve notes in the “Revisions” area, no entry is made in the Key Sheet Revisions Block in the lower right corner. The Key Sheet Revisions Block is only used to record changes other than “Revisions” area notes.

Exhibit 3-1 Standard Key Sheet Notes

The following are standard Key Sheet notes that shall be shown as applicable:

1. The following note should be used on all strung jobs:

NOTE: THIS PROJECT TO BE LET TO CONTRACT WITH FINANCIAL PROJECT ID(S) _____.

2. The following note to be used on all jobs:

NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

3. The following shall be used on all projects:

GOVERNING STANDARDS AND SPECIFICATIONS:

Florida Department of Transportation, 20__ Design Standards and revised Index Drawings as appended herein, and ___ 20__ Standard Specifications for Road and Bridge Construction, as amended by Contract Documents.

For Design Standards click on the “Design Standards” link at the following web site:

<http://www.dot.state.fl.us/rddesign/>

For the Standard Specifications for Road and Bridge Construction click on the “Standard Specifications” link at the following web site:

<http://www.dot.state.fl.us/specificationsoffice/>