

**VIRGINIA DEPARTMENT OF TRANSPORTATION**  
**CONSTRUCTION DIVISION (CD)**

**INSTRUCTIONAL AND INFORMATIONAL MEMORANDUM (IIM)**

<b>GENERAL SUBJECT:</b>  <b>FIELD CHANGE DOCUMENTATION</b>	<b>NUMBER: IIM-CD-2013-12.01</b>
<b>SPECIFIC SUBJECT: DOCUMENTATION OF FIELD CHANGES</b>	<b>DATE: August 1, 2013</b>
	<b>SUPERCEDES: CD-2009-2</b>
<b>APPROVED:</b>  <p style="text-align: center;"><b>Signature On File</b> ----- <b>Mark E. Cacamis, P.E., CCM</b> <b>State Construction Engineer</b></p> <b>DATE: <u>August 1, 2013</u></b>	

DIRECTED TO - **DISTRICT ADMINISTRATORS**

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**I. PURPOSE**

The purpose of this memorandum is to establish a process for changing engineered elements of project design beyond the contract execution date.

This process shall be followed for all construction and maintenance funded contracts that are advertised, awarded, and executed through the Construction Division and that incorporate the Road and Bridge Specifications. This document sets forth the different methods of making field changes to project design elements and it also details how to successfully accomplish each method. This memorandum should be used in conjunction with CD 2006-2 as field changes may impact project budgets.

**II. INTRODUCTION**

Any revision affecting the original plat, design, drawings, specification or work in construction project documents will require documentation as set forth in this directive.

### **DEFINITIONS**

While specific terminology and definitions may be found in both the Code of Virginia Title 54.1 and 18VAC10-20-10 related to this subject, the following shall be used throughout this policy as described.

**Field Change** is a revision to the design, survey and specification elements that require a field change seal. This type of revision includes those design elements initially sealed by the Design Engineer that may have an impact on the general public's health, safety and welfare, whether of a permanent or temporary manner associated with the construction of a contract that constitutes the practice of engineering. The application of the criteria provided in the Geometric Design Guidelines must be made in conjunction with sound engineering judgment to affect a proper design change. The economic, environmental, and social factors involved in highway design changes shall also be considered. The Construction Engineer and/or Design Engineer should always attempt to provide for the highest degree of safety and best level of service that is economically feasible in any design. "Minimum" design criteria should be used only when overriding economic or environmental considerations preclude a feasible design using values greater than the minimum design criteria.

**Design Engineer (DE)** is the licensed professional engineer, or responsible person as defined by DPOR Regulations, that sealed the original set of design plans and/or contract documents.

**Design Project Manager** is the individual responsible for the assembly of the contract documents that may or may not be the Design Engineer as well.

**Construction Engineer (CE)** is the licensed professional engineer, or responsible person as defined by DPOR regulations, providing responsible administration of the construction and/or maintenance contract.

**Field Change Seal** is the professional engineering or land surveying seal affixed to contract documents after execution by the DE, Land Surveyor or the CE. Crimp style seals will not be allowed on Agency documents.

**Project Owner** is the party that will take ownership of the facility upon completion of the contract which may include, but not limited to, District Maintenance Engineer, District Bridge Engineer, Residency Administrator, or Regional Operations Director.

**Long-term retention value** is when original and/or field changed designs will possess historical, legal, business or fiscal value to the Project Owner, or the Agency, beyond the retention schedule associated with contract administration documents after final payment to the Contractor.

### **III. GENERAL PROCEDURES**

From the date of advertisement to the date of contract execution, all design changes shall follow the Electronic Plan Submission Process as found at:

[http://www.extranet.vdot.state.va.us/locdes/reference-guides/ElectronicPlan\\_Submission.pdf](http://www.extranet.vdot.state.va.us/locdes/reference-guides/ElectronicPlan_Submission.pdf)

From the date of contract execution to the date of final acceptance, all field changes shall adhere to the following procedures.

Full Plan, Minimum and No Plan (C, M, & N) Project plan sheets may be revised via the Formal Plan Revision process or by manual markups to be scanned and digitally sealed. Manual revisions may be made to full or half scale drawings; however, the field change digital seal may not be sealed to

match the original DE's seal. Subsequent revisions to the same plan sheet may be marked on the original plan sheet or on the previously field changed sheet.

#### **A. Full Plan and Minimum Plan Projects**

Since field changes modify the original sealed design, it is important that we record those modifications for long-term retention value. The method that shall be utilized to record the modifications is as follows.

1. The modification(s) shall be identified on the plan sheet by drawing an inverted triangle adjacent to the modification. The inverted triangle(s) will have a number written inside to serve as a unique identifier for the modification.
2. The modified plan sheet will be digitally sealed with the standard seal template as shown in Appendix A. The standard digital seal template has a fill-it field titled "Reason." The only information to be placed in this field will be "For Field Change # XX" with the XX replaced by the number in the inverted triangle adjacent to the modification(s).
3. The DE, or CE, will describe the modification(s) on the Plan Revision Sheet.

#### **B. No Plan Projects**

As field changes modify details provided within the No Plan assembly or require additional details, the specific page(s)/plan sheet(s) shall be revised as follows.

1. For detailed No Plans that possess long-term retention value, the following process shall govern:
  - a. The modification(s) shall be identified on the page by drawing an inverted triangle adjacent to the modification. Each inverted triangle will have a number written inside serve as a unique identifier for the modification.
  - b. Each modified page/plan sheet shall be digitally sealed with the standard seal template as shown in Appendix A. The standard digital seal template has a fill-it field titled "Reason." The only information to be placed in this field will be "For Field Change # XX" with the XX replaced by the number in the inverted triangle adjacent to the modification(s).
2. For less detailed No Plans that do not possess long-term retention value, the following process shall govern:
  - a. The modification(s) shall be identified on the page by drawing an inverted triangle adjacent to the modification. Each inverted triangle will have a number written inside serve as a unique identifier for the modification.
  - b. As an alternative to digital sealing, each modified page/plan sheet may be manually (i.e. rubber stamp) sealed with an original signature and date written on the seal with a subnote stating "For Field Change # XX" replacing the XX by the number in the inverted triangle adjacent to the modification.

#### **C. Locally Administered Contracts**

For locally administered projects, please refer to the *Guide for Local Administration of Virginia Department of Transportation Projects*. This document can be found on the Local Assistance Division webpage at: <http://www.virginiadot.org/business/local-assistance.asp>.

#### **D. Approval of Field Changes**

The appropriate authority level, as outlined in "Responsibilities & Approval Authority" within this directive shall be required to approve and seal field changes.

#### **IV. RESPONSIBILITIES & APPROVAL AUTHORITY**

Field changes must be signed, dated, and sealed by a licensed Professional as defined by 18 VAC 10-20 and in accordance with **18 VAC 10-20-730, 18 VAC 10-20-740, and 18 VAC 10-20-760.**

##### **A. DISTRICT ADMINISTRATOR**

The District Administrator is responsible for compliance with this policy. Should the District Administrator choose to allow a CE (i.e. District Construction Engineer, Area Construction Engineer, etc.) to modify contract design elements, he shall document his approval in a letter that will be kept on file in the District Office. This letter will denote the CE's areas of expertise allowed to modify such design elements.

The District Administrator (or designee) is responsible to ensure complete, accurate, and timely communication of the proposed and final field changes.

The District Administrator (or designee) is responsible to ensure the final field change package is distributed according to the appropriate Divisions' policies and procedures.

The District Administrator (or designee) is responsible to ensure that Consultant designs are not modified without first notifying the Consultant DE in accordance with the Consultant procurement contracts. Failure to notify the Consultant DE prior to modifying plan design elements adversely impacts the Department's ability to pursue reimbursement from the Consultant for errors and omissions when the errors and omissions damage the Department.

The District Administrator (or designee) is responsible for reviewing each No Plan contract and designating whether or not it possesses historical, legal, fiscal or business value for long-term records retention. The Project Owner shall be included in establishing that decision prior to or in conjunction with the Preconstruction Meetings. This designation shall be noted in the Preconstruction Meeting minutes.

##### **B. CONSTRUCTION ENGINEER**

The CE, as designated by the District Administrator in the letter kept on file at the District office, may modify contract design elements identified in the aforementioned letter and only after a thorough review of the design, drawings, specifications, or work to the extent that they are prepared to assume full responsibility for the modified elements and their impacts on other affected design elements.

While the CE may perform design engineering functions as described above to resolve field related issues expeditiously, he should contact the DE to ensure there is no loss of intent or scope of design that may not be evident within construction documents. This communication with the DE is considered to be part and parcel of the thorough review process to be performed by the CE. Additionally, this communication and feedback provides lessons learned to the DE.

If the DE is unavailable, their Section Manager should be contacted to provide assistance as appropriate. The results of any communication with the DE shall be documented within project records.

The CE should proactively review Contractor schedules and plan design elements to anticipate and resolve potential issues prior to their resulting in delays to the Contractor.

The Design Project Manager shall be copied on all pending and final field changes.

### **C. DESIGN ENGINEER**

The DE is responsible for timely issue resolution by making projects under construction their first priority in an effort to meet contract requirements. The DE may provide an initial response verbally, via sketch or via email; however, revised plan sheet documents shall follow with the appropriate field change seals.

The Design Project Manager shall be copied on all pending and final field changes.

### **D. DESIGN PROJECT MANAGER**

The Design Project Manager will notify the appropriate project team members, including the Project Owner, of all pending field changes to ensure well-informed decisions are made by the DE and/or the CE.

The Design Project Manager is responsible to ensure all project team members (i.e. design, contract management, and Project Owner) will be advised as to the location and filename of the revised plan sheets.

## **V. DISTRIBUTION OF SEALED FIELD CHANGES**

### **A. Full and Minimum Plans**

As field changes modify plan sheet details, plans sheets shall be distributed as follows.

1. Once plan sheets have either been revised following the Formal Plan Revision process or by manually marking plan changes to be scanned and digitally sealed, they shall be forwarded to the Design Project Manager.
2. The Design Project Manager shall post all field changes to the appropriate plan file room server with digital seals in accordance with the specific Division's (i.e. L&D's, Structure & Bridges, etc.) policies and procedures for filenames, etc.
3. All project team members (i.e. design, contract management, and Project Owner) will be advised as to the location and filename of the revised plan sheet by the Design Project Manager.

### **B. No Plans**

As field changes modify details provided within the No Plan assembly or require additional details, the specific pages shall be distributed as follows.

1. For detailed No Plans that possess long-term retention value, page or plan sheet revisions shall follow the distribution procedures identified for the Construction and Minimum Plans.
2. For less detailed No Plans that do not possess long-term retention value, the following process shall govern:
  - a. Once pages/plan sheets have been revised by either the Formal Plan Revision process or by manual markups, copies shall be forwarded to the Design Project Manager.
  - b. All project team members (i.e. design, construction, and Project Owner) will be provided hard copies or advised as to the location and filename of the revised pages/plan sheets by the Design Project Manager.

- c. Whether modified by either the Formal Plan Revision process or by manual markups, all field change documentation shall be placed within the Final Records box for storage until the specific Division's records retention timeframe expires. Neither electronic nor hard copy originally sealed documents should be retained after such periods.

**C. Locally Administered Contracts**

For locally administered projects, please refer to the *Guide for Local Administration of Virginia Department of Transportation Projects*. This document can be found on the Local Assistance Division webpage at: <http://www.virginiadot.org/business/local-assistance.asp>.

**D. Change Orders**

Any field changes resulting in a Change Order shall follow the distribution referenced in CD 2006-2, Contract Change Management: Change Orders, Force Accounts, Contract Expenditures.

Attachment

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Appendix A

