

## **ENGINEERING DIRECTIVE**

Tom Broderick (signature on original)

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ACTING CHIEF ENGINEER

### **Electronic Utility Plan Submissions**

This Directive supersedes Engineering Directive E-10-003, “Electronic Utility Plan Submissions”, dated May 5, 2010. Effective immediately, Utility Plan submissions required during the project design phase shall be made in accordance with the following guidelines:

#### **Transmittal of Materials**

- For the purpose of this Directive, “Utility Plans” shall be electronic documents in both AutoCAD format (current version used by MassDOT) and Portable Document Format (PDF) saved on compact disks (CDs).
  - PDF files shall include all sheets/drawings included in the design submission, which may include the title sheet, typical sections, bridge plans (if applicable), cross-sections, etc.
  - AutoCAD files do not have to contain every sheet/drawing included in the design submission. However, they should contain all sheets/drawings involving utilities, such as utility relocation plans, utility section drawings and bridge plans that show utility relocations or fittings.
- Designers shall submit Utility Plans saved on CDs as specified later in this Directive to the MassDOT Project Manager, at each design submission phase. The Project Manager will forward the submitted items to the Utility Engineer, who will distribute the CDs to the involved Utility Companies.
- If a Utility Company (or Railroad Company) needs printed sheets, they shall request the sheets through the Utility Engineer or the MassDOT Project Manager. The Designer shall forward the requested paper sheets either directly to the Utility/Railroad, or through the Project Manager to be forwarded to the Utility/Railroad.
- Utility/Railroad Companies shall return mark-ups to the Utility Engineer in either AutoCAD format or PDF saved on CDs. Utility/Railroad Companies may submit paper mark-ups in lieu of electronic documents. See the requirements below for direction on the manner in which Utility Companies are to provide their electronic information. **Utility Companies shall not alter the Designer’s file.**

#### **General Requirements**

- AutoCAD drawing files shall contain existing and/or proposed utilities, with each utility having its own layer name by the type of utility (for example: ExistElect.)
- Designers shall use the following color guide for representation of utilities in AutoCAD drawing files and in PDF files. The color guide is consistent with DIG SAFE's color code for marking underground utility lines. This information shall be included on the drawings as part of a legend.

<u>Utility</u>	<u>Line Color</u>
Electric	Red
Gas-Oil-Steam	Brown
Communication/CATV	Orange
Potable Water	Blue
Sewer	Green
Drainage	Traditional Grayscale

- Utility/Railroad Companies shall use the guidelines above when returning or providing AutoCAD drawings with updated/modified existing utility information or recommendations for proposed utility alignments. Proposed utility alignments shall be shown using a **heavier line weight (or thickness)** than existing.
- Although AutoCAD drawing files are to be provided to the Utility/Railroad Companies for their information and review, the Utility/Railroad Companies shall not make any alterations to the Designer's files. Utility/Railroad Companies shall create new drawing layers using the respective utility colors to show proposed facilities and/or make changes to existing facilities. If existing utility/railroad information is to be edited, the Utility/Railroad Company should copy the existing information in the Designer's respective layer to a new layer and make all edits in this new layer. Names of new layers should include the utility name. (For example: the current "ExistElect" layer should be duplicated and renamed "NSTAR-ExistElect.")
- Drawing files submitted to the Utility Engineer should be accompanied by an outline of all changes and new layers created.

### Submissions

- The following guide shall be used to determine the number of CDs to be submitted:
  - Electric: 2 CDs
  - Telephone: 1 CD
  - Gas: 1 CD
  - Cable TV: 1 CD
  - Fire Alarm: 1 CD
  - Sewer\*: 1 CD
  - Water\*: 1 CD (except MWRA: 1 paper set)
  - DPW/Municipal Highway Department\*: 1 CD for each city/town
  - Railroad: 1 CD (except MBTA: 2 CDs)
  - RCN, AT&T, MCI, Sprint, Qwest, Fibertech,

Lighttower, Nstar Communications, AboveNet,  
or other long distance utility: \_\_\_\_\_ 1 CD

- Tennessee Gas, Buckeye Pipeline, Mobil Gas,  
or other long distance gas pipeline: \_\_\_\_\_ 1 CD

*\* Some Cities/Towns may have the same office review these plans. Therefore, each department may not require an individual CD. The Designer should determine if each department's review and subsequent plans submittal is applicable.*

- Each CD shall have the following information printed on it:
  - MassDOT Logo
  - City/Town
  - Project Description
  - Project File Number
  - Design Phase Submission
  - Date of Submission
  - For bridge projects, indicate if the CD contains highway plans, bridge plans, or both
- Some Utility Companies may require a set of prints instead of CDs. Requests for plan sets shall be directed to the MassDOT Highway Division Utility Engineer, Ten Park Plaza, Room 6340, Boston, MA 02116.
- One full paper set of plans (24" x 36") shall be submitted for the District Utility/Constructability Engineer (DUCE.) This set shall contain every sheet/drawing included in the design submission, including cross-sections and bridge plans (if applicable.) All utilities (existing and proposed) shall be shown in the color format contained in the General Requirements portion of this Directive.
- In accordance with current MassDOT policy, all Utility Plan submissions should have a list of the names of the actual Utility Companies to which the CDs are to be forwarded to. For a current list of Utility Company contacts, refer to MassDOT's website.